TOSHIBA

SERVICE MANUAL

MULTIFUNCTIONAL DIGITAL COLOR SYSTEMS

e-STUDIO5520C/6520C/6530C

Model: FC-5520C/6520C/6530C
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GENERAL PRECAUTIONS REGARDING THE SERVICE FOR e-STUDIO5520C/6520C/6530C

The installation and service should be done by a qualified service technician.

1. **Transportation/Installation**
   - When transporting/installing the equipment, employ four persons and be sure to move it by the casters while lifting the stoppers.
     The equipment is quite heavy and weighs approximately 245 kg (540.12 lb) or 246 kg (542.33 lb), therefore pay full attention when handling it.
   - Be sure not to hold the movable parts or units (e.g. the control panel, ADU or RADF) when transporting the equipment.
   - It is recommended to plug two power cables into two separate outlets. Be sure to use a dedicated outlet with AC 115 V / 20 A <for NAC/NAD>, 127 V / 20 A <for SAD>, 220-240 V / 10 A <for ASU, ASD, ARD, AUC/AUD, CND>, 220-240 V / 13 A <for <MJC/MJD> for its power source. If two power cables are plugged into a single outlet, be sure to use at least a 20A dedicated outlet.
   - The equipment must be grounded for safety.
   - Select a suitable place for installation. Avoid excessive heat, high humidity, dust, vibration and direct sunlight.
   - Provide proper ventilation since the equipment emits a slight amount of ozone.
   - To insure adequate working space for the copying operation, keep a minimum clearance of 80 cm (32”) on the left, 80 cm (32”) on the right and 10 cm (4”) on the rear.
   - The equipment shall be installed near the socket outlet and shall be easily accessible.
   - Be sure to fix and plug in the power cable securely after the installation so that no one trips over it.
   - If the unpacking place and where the equipment is to be installed differ, perform image quality adjustment (automatic gamma adjustment) according to the temperature and humidity of the place of installation and the paper to be used.
   - When the equipment is used after the option is removed, be sure to install the parts or the covers which have been taken off so that the inside of the equipment is not exposed.

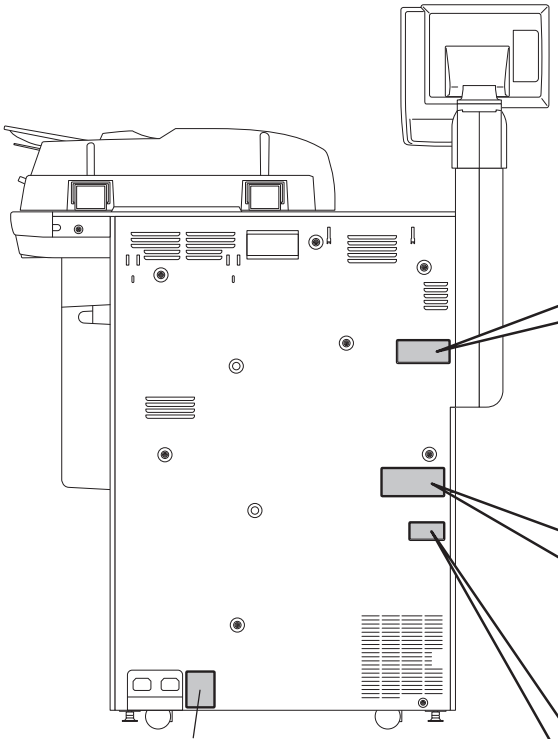
2. **General Precautions at Service**
   - Be sure to turn the power OFF and unplug the power cables during service (except for the service should be done with the power turned ON).
   - Unplug the power cable and clean the area around the prongs of the plug and socket outlet once a year or more. A fire may occur when dust lies on this area.
   - When the parts are disassembled, reassembly is the reverse of disassembly unless otherwise noted in this manual or other related documents. Be careful not to install small parts such as screws, washers, pins, E-rings, star washers, harnesses in the wrong places.
   - Basically, the equipment should not be operated with any parts removed or disassembled.
   - The PC board must be stored in an anti-electrostatic bag and handled carefully using a wristband since the ICs on it may be damaged due to static electricity.
     Caution: Before using the wristband, unplug the power cable of the equipment and make sure that there are no charged objects which are not insulated in the vicinity.
   - Avoid expose to laser beam during service. This equipment uses a laser diode. Be sure not to expose your eyes to the laser beam. Do not insert reflecting parts or tools such as a screwdriver on the laser beam path. Remove all reflecting metals such as watches, rings, etc. before starting service.
   - Be sure not to touch high-temperature sections such as the exposure lamp, fuser unit, damp heater and areas around them.

- Be sure not to touch high-voltage sections such as the chargers, transfer belt, 2nd transfer roller, developer, high-voltage transformer, exposure lamp control inverter, inverter for the LCD backlight and power supply unit. Especially, the board of these components should not be touched since the electric charge may remain in the capacitors, etc. on them even after the power is turned OFF.
- Make sure that the equipment will not operate before touching potentially dangerous places (e.g. rotating/operating sections such as gears, belts pulleys, fans and laser beam exit of the laser optical unit).
- Be careful when removing the covers since there might be the parts with very sharp edges underneath.
- When servicing the equipment with the power turned ON, be sure not to touch live sections and rotating/operating sections. Avoid exposing your eyes to laser beam.
- Use designated jigs and tools.
- Use recommended measuring instruments or equivalents.
- Return the equipment to the original state and check the operation when the service is finished.
- Be very careful to treat the touch panel gently and never hit it. Breaking the surface could cause malfunctions.

3. **General operations**
   - Check the procedures and perform them as described in the Service Manual.
   - Make sure you do not lose your balance.
   - Avoid exposure to your skin and wear protective gloves as needed.

4. **Important Service Parts for Safety**
   - The breaker, door switch, fuse, thermostat, thermofuse, thermistor, batteries, IC-RAMs including lithium batteries, etc. are particularly important for safety. Be sure to handle/install them properly. If these parts are short-circuited and their functions become ineffective, they may result in fatal accidents such as burnout. Do not allow a short-circuit or do not use the parts not recommended by Toshiba TEC Corporation.

5. **Cautionary Labels**
   - During servicing, be sure to check the rating plate and cautionary labels such as “Unplug the power cable during service”, “CAUTION. HOT”, “CAUTION. HIGH VOLTAGE”, “CAUTION. LASER BEAM”, etc. to see if there is any dirt on their surface and if they are properly stuck to the equipment.



Warning for grounding wire

Identification label

For U.S.A. and Canada

TOSHIBA
MULTIFUNCTIONAL DIGITAL COLOR SYSTEMS e-STUDIO6530C
MODEL FC-6530C
115V ~
50/60Hz 9.3A+9.2A(IH)
NO.
C UL US LISTED I.T.E. E201821
TOSHIBA TEC CORPORATION TC
MADE IN CHINA

For EU

TOSHIBA
MULTIFUNCTIONAL DIGITAL COLOR SYSTEMS
/SYSTEME MULTIFONCTION NUMERIQUE COULEUR e-STUDIO6530C
MODEL/MODELE FC-6530C
220-240V ~
50/60Hz 13A
NO.
TOSHIBA TEC CORPORATION TC
MADE IN CHINA/FABRIQUE EN CHINE

Explanatory label

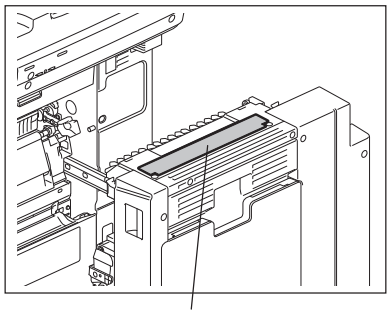
CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1
LASER KLASSE 1
PRODUCTO DE LASER DE CLASE 1
クラス1レーザー製品
>PS<

Certification label (For U.S.A. and Canada)

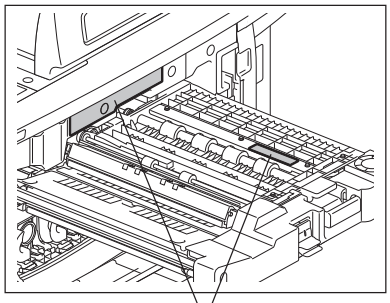
Product is certified by the manufacturer to comply with DHHS Rule 21 CFR subchapter J applicable at the date of Manufacture.

Manufactured: TC

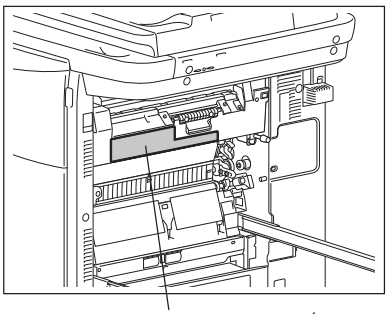
TOSHIBA TEC CORPORATION
2-17-2 Higashigotanda. Shinagawa-ku. Tokyo. Japan



Warning for high temperature area
(Duplexing unit / Fuser unit)



Warning for high temperature area (Bridge unit)



Warning for high temperature area (Fuser unit)

6. **Disposal of the Equipment, Supplies, Packing Materials, Used Batteries and IC-RAMs**
   - Regarding the recovery and disposal of the equipment, supplies, packing materials, used batteries and IC-RAMs including lithium batteries, follow the relevant local regulations or rules.

7. **When the option has been installed:**
   When the EFI printer board has been installed, be sure to unplug the power cable before performing maintenance and inspection, otherwise troubles such as a communication error may occur.

Caution:
Dispose of used batteries and IC-RAMs including lithium batteries according to this manual.
Attention:
Se débarrasser de batteries et IC-RAMs usés y compris les batteries en lithium selon ce manuel.
Vorsicht:
Entsorgung der gebrauchten Batterien und IC-RAMs (inclusive der Lithium-Batterie) nach diesem Handbuch.

1. Precautions for Transporting Equipment Once Unpacked

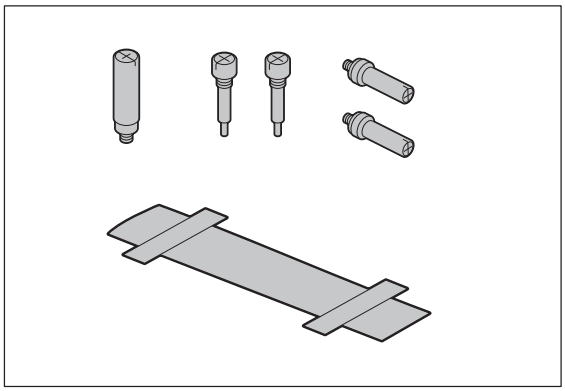
1 General Description

It is recommended to follow the procedure below when you transport equipment that has already been unpacked but has not been packed again. Note that the following procedure cannot guarantee the operation of the transported equipment.

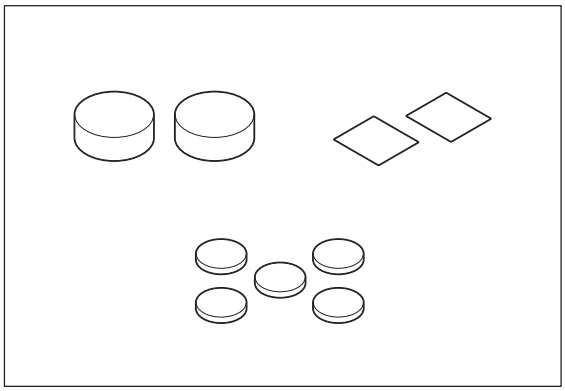
Item		Content
(1)	Gasket in Reversing Automatic Document Feeder (RADF)	Check that gaskets are not installed in the RADF. (If they are installed, remove them.)
(2)	Scanning section	Fix the scanning section.
(3)	Drum	Install a drum protection sheet.
(4)	Toner	Install sealing material on the toner supply opening of each toner cartridge.

Remarks:

- Keep packing material removed at unpacking to reuse it in steps (2) and (3) above.



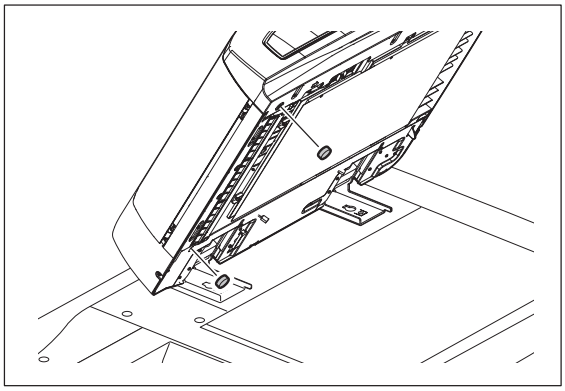
- Use a service jig PLATE-TONER-SEAL-4P (6LH035950, 4 pieces in 1 set) as sealing material to be used in step (4) above.
- Do not install the accessories shown below when unpacking the equipment.



2 Precautions and Procedures for Transporting Equipment

2.1 Checking gaskets in the RADF

The installation of gaskets to the RADF, which is described in the Unpacking Instructions, must not be performed when the equipment is unpacked but must be when it is reinstalled at a user's office. Do not install the gaskets in the equipment before transporting it because if it is transported with the gaskets installed, the screws fixing the scanner may contact with the gaskets and thus damage them.



2.2 Fixing the scanning section

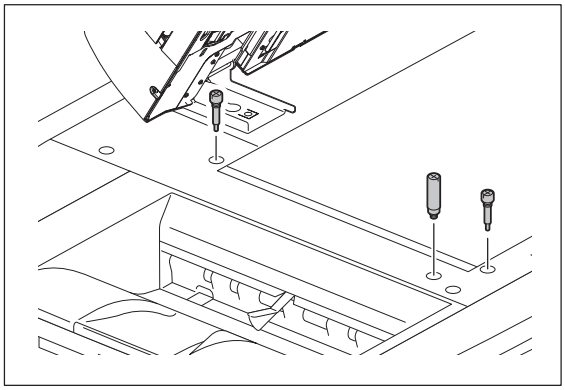
1. Move carriage-1 until it touches the left side of the frame. Then move it back to the right for 3 mm.

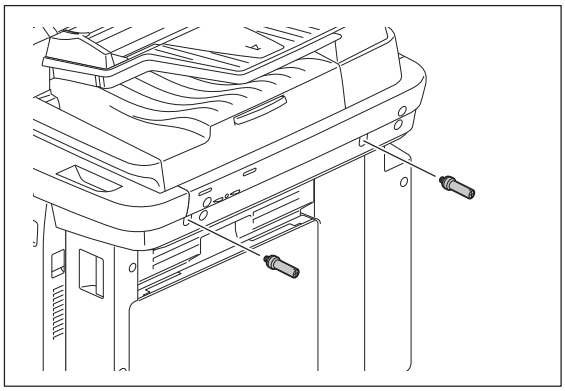
Note:

Rotate a drive pulley by hand to move carriage-1.

📖 P.7-18 "7.6 Disassembly and Replacement"

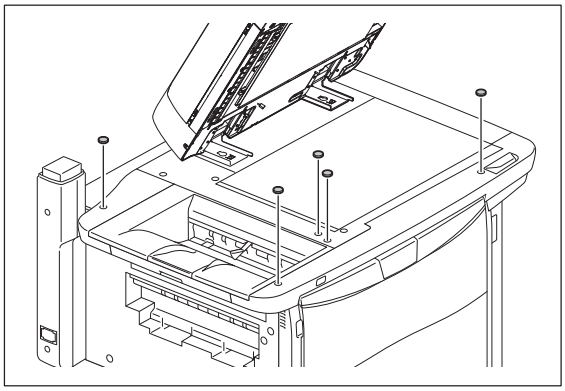
2. Reinstall 5 screws that were removed when unpacking the equipment.

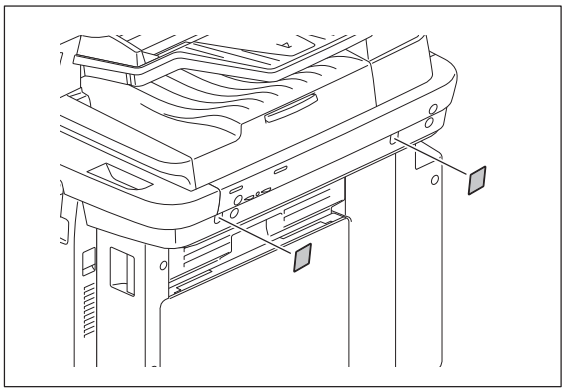




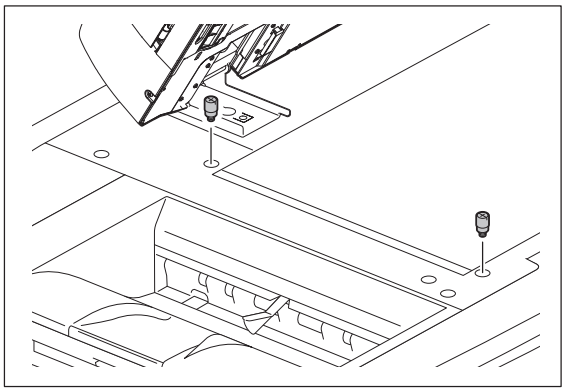
Notes:

- The installation of materials for covering the holes of the scanner fixing screws (e.g. rubber cap, blind seal), which is described in the Unpacking Instructions, must not be performed when the equipment is unpacked but must be when it is reinstalled at a user's office.





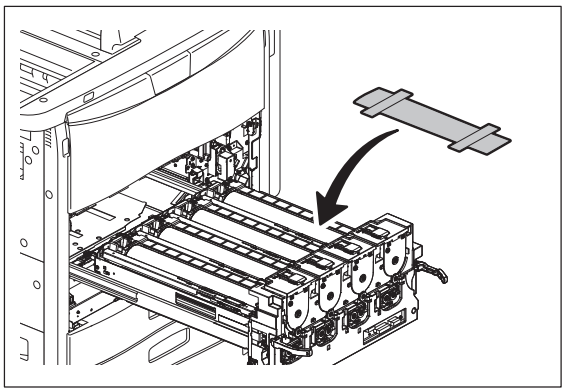
- The installation of grounding screws in the RADF, which is described in the Unpacking Instructions, must not be performed when the equipment is unpacked but must be when it is reinstalled at a user’s office. Install them after you have removed the screws reinstalled in step (2).



2.3 Installing a drum protection sheet

1. Pull out the EPU tray.
   📖 P.11-24 "11.5 Disassembly and Replacement"

2. Install a drum protection sheet on the K drum.



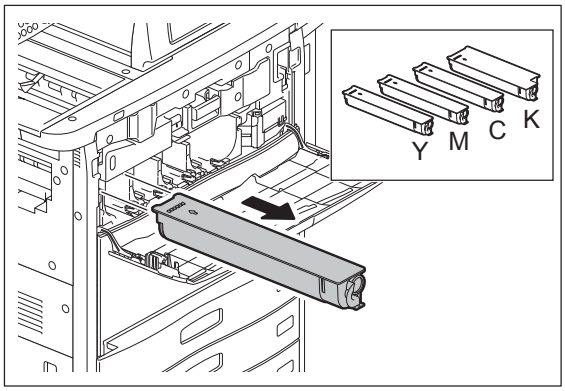
3. Push the EPU tray in, and then reassemble the equipment in the procedure reverse to disassembly.

Notes:

- It is recommended to keep the drum protection sheet removed at unpacking.
- Store the drum protection sheet in a place without high temperature and humidity, direct sunlight or dust.
- Do not scratch or bend the drum protection sheet. Avoid adhesion of dust, dirt or foreign matter, especially things that may damage the surface of the drums or the transfer belt (e.g. hard matter or matter that is highly adhesive, organic or chemical matter, grease) to the drum protection sheet.
- Do not use a drum protection sheet that is damaged or deformed, or one with any abnormality.

2.4 Installing the sealing material in toner supply opening

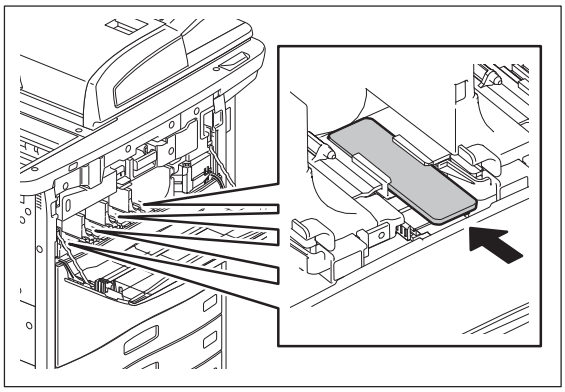
1. Open the front cover and then take off the toner cartridges (Y, M, C and K).



Note:

The toner cartridges must not be installed while the equipment is being transported. Pack them separately from the equipment.

2. Install PLATE-TONER-SEAL-4P (6LH035950) in the toner supply opening of each toner cartridge. Then close the front cover.



Notes:

- Pay attention to prevent dust from entering into the toner supply openings.
- When installing PLATE-TONER-SEAL-4P (6LH035950), be careful not to scratch or remove the sponge that is already attached to the toner supply openings.

ALLEGEMEINE SICHERHEITSMASSNAHMEN IN BEZUG AUF DIE WARTUNG FÜR e-STUDIO5520C/6520C/6530C

Die Installation und die Wartung sind von einem qualifizierten Service-Techniker durchzuführen.

1. Transport/Installation
   - Zum Transportieren/Installieren des Gerätes werden 4 Personen benötigt. Bewegen Sie es mit den Rollen, während Sie die Absperrvorrichtungen heben. Das Gerät ist sehr schwer und wiegt etwa 245 kg oder 246 kg; deshalb muss bei der Handhabung des Geräts besonders aufgepasst werden
   - Beim Transportieren des Geräts nicht an den beweglichen Teilen oder Einheiten (z.B. das Bedienungsfeld, die Duplexeinheit oder die automatische Dokumentenzuführung) halten.
   - Es empfiehlt sich, zwei Stromkabel in zwei getrennten Steckdosen einzustecken. Eine spezielle Steckdose mit Stromversorgung von AC 115 V / 20 A (für NAC/NAD), 220-240 V / 10 A (für ASU, ASD, ARD, AUC/AUD, CND), 220-240 V /13 A (für MJC/MJD) als Stromquelle verwenden. Mindestens eine 20A-Steckdose verwenden, wenn zwei Stromkabel in der selben Steckdose eingesteckt werden sollen.
   - Das Gerät ist aus Sicherheitsgründen zu erden.
   - Einen geeigneten Standort für die Installation wählen. Standorte mit zuviel Hitze, hoher Luftfeuchtigkeit, Staub, Vibrieren und direkter Sonneneinstrahlung sind zu vermeiden.
   - Für ausreichende Belüftung sorgen, da das Gerät etwas Ozon abgibt.
   - Um einen optimalen Kopierbetrieb zu gewährleisten, muss ein Abstand von mindestens 80 cm links, 80 cm rechts und 10 cm dahinter eingehalten werden.
   - Das Gerät ist in der Nähe der Steckdose zu installieren; diese muss leicht zu erreichen sein.
   - Nach der Installation muss das Netzkabel richtig hineingesteckt und befestigt werden, damit niemand darüber stolpern kann.
   - Falls der Auspackungsstandort und der Installationsstandort des Geräts verschieden sind, die Bildqualitätsjustierung (automatische Gammajustierung) je nach der Temperatur und Luftfeuchtigkeit des Installationsstandorts und der Papiersorte, die verwendet wird, durchführen.
   - Wenn das Gerät nach der Entfernung der Extras verwendet wird, die entfernten Teile oder Abdeckungen anbringen, damit das Innere des Gerät nicht freiliegt.

2. Allgemeine Sicherheitsmassnahmen in bezug auf die Wartung
   - Während der Wartung das Gerät ausschalten und das Netzkabel herausziehen (ausser Wartung, die bei einem eingeschalteten Gerät, durchgeführt werden muss).
   - Das Netzkabel herausziehen und den Bereich um die Steckerpole und die Steckdose die Umgebung in der Nähe von den Steckerzacken und der Steckdose wenigstens einmal im Jahr reinigen. Wenn Staub sich in dieser Gegend ansammelt, kann dies ein Feuer verursachen.
   - Wenn die Teile auseinandergenommen werden, wenn nicht anders in diesem Handbuch usw erklärt, ist das Zusammenbauen in umgekehrter Reihenfolge durchzuführen. Aufpassen, dass kleine Teile wie Schrauben, Dichtungsringe, Bolzen, E-Ringe, Stern-Dichtungsringe, Kabelbäume nicht an den verkehrten Stellen eingebaut werden.
   - Grundsätzlich darf das Gerät mit enfernten oder auseinandergenommenen Teilen nicht in Betrieb genommen werden.
   - Das PC-Board muss in einer Anti-elektrostatischen Hülle gelagert werden. Nur Mit einer Manschette bei Betätigung eines Armbandes anfassen, sonst könnte es sein, dass die integrierten Schaltkreise durch statische Elektrizität beschädigt werden.

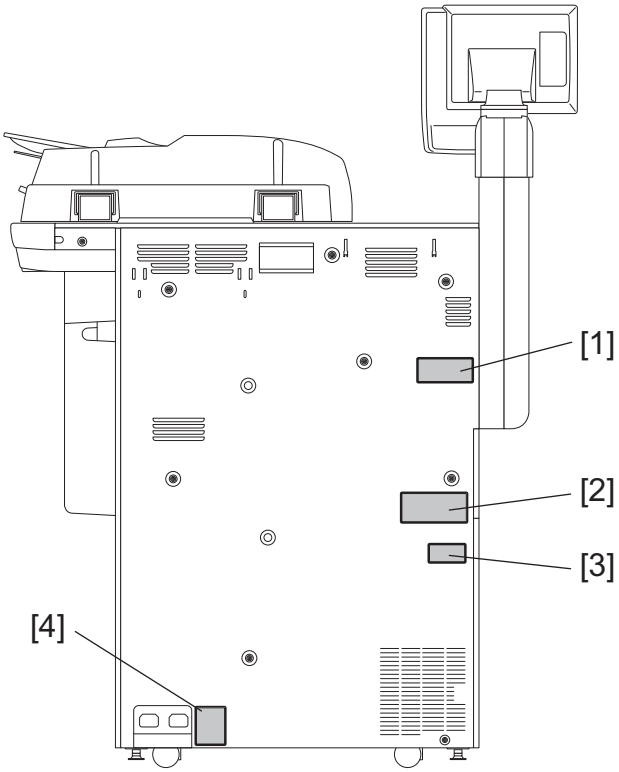
Vorsicht: Vor Benutzung der Manschette der Betätigung des Armbandes, das Netzkabel des Gerätes herausziehen und prüfen, dass es in der Nähe keine geladenen Gegenstände, die nicht isoliert sind, gibt.

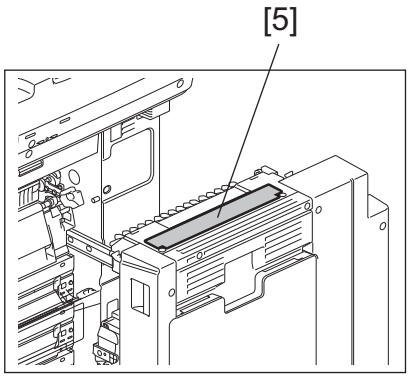
- Setzen Sie sich während der Wartungsarbeiten nicht dem Laserstrahl aus. Dieses Gerät ist mit einer Laserdiode ausgestattet. Es ist unbedingt zu vermeiden, direkt in den Laserstrahl zu blicken. Keine reflektierenden Teile oder Werkzeuge, wie z. B. Schraubendreher, in den Pfad des Laserstrahls halten. Vor den Wartungsarbeiten sämtliche reflektierenden Metallgegenstände, wie Uhren, Ringe usw., entfernen.
- Auf keinen Fall Hochtemperaturbereiche, wie die Belichtungslampe, die Fixiereinheit, die Heizquelle und die umliegenden Bereiche, berühren.
- Auf keinen Fall Hochspannungsbereiche, wie die Ladeeinheiten, das Transferband, die zweite Transferwalze, die Entwicklereinheit, den Hochspannungstransformator, den Steuerumrichter für die Belichtungslampe, den Umrichter für die LCD-Hintergrundbeleuchtung und das Netzgerät, berühren. Insbesondere sollten die Platinen dieser Komponenten nicht berührt werden, da die Kondensatoren usw. auch nach dem Ausschalten des Geräts noch elektrisch geladen sein können.
- Vor dem Berühren potenziell gefährlicher Bereiche (z. B. drehbare oder betriebsrelevante Bereiche, wie Zahnräder, Riemen, Riemenscheiben, Lüfter und die Laseraustrittsöffnung der optischen Lasereinheit) sicherstellen, dass das Gerät sich nicht bedienen lässt.
- Beim Entfernen von Abdeckungen vorsichtig vorgehen, da sich darunter scharfkantige Komponenten befinden können.
- Bei Wartungsarbeiten am eingeschalteten Gerät dürfen keine unter Strom stehenden, drehbaren oder betriebsrelevanten Bereiche berührt werden. Nicht direkt in den Laserstrahl blicken.
- Ausschließlich vorgesehene Werkzeuge und Hilfsmittel verwenden.
- Empfohlene oder gleichwertige Messgeräte verwenden.
- Nach Abschluss der Wartungsarbeiten das Gerät in den ursprünglichen Zustand zurück versetzen und den einwandfreien Betrieb überprüfen.
- Das berührungsempfindliche Bedienungsfeld stets vorsichtig handhaben und keinen Stößen aussetzen. Wenn die Oberfläche beschädigt wird, kann dies zu Funktionsstörungen führen.

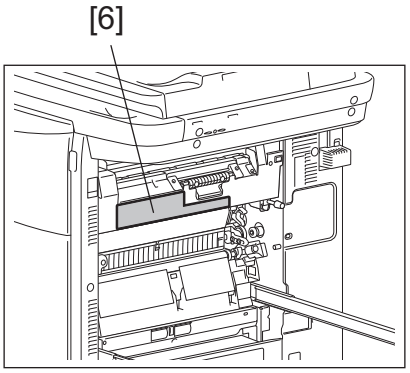
3. Allgemeine Sicherheïtsmassnahmen
   - Die Verfahren sind zu überprufen und wie im Wartungshandbuch beschrieben durchzuführen.
   - Vorsichtig, dass Sie nicht umfallen.
   - Um Aussetzung zur Haut zur vermeiden, tragen Sie wenn nötig Schutzhandschuhe.

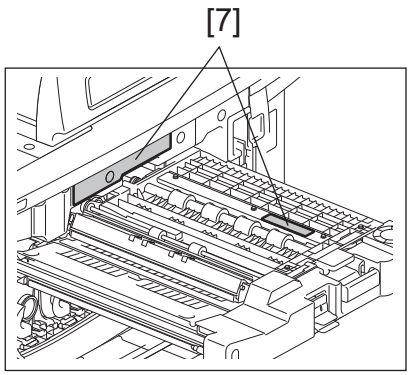
4. Sicherheitsrelevante Wartungsteile
   - Der Leistungsschutzschalter, der Türschalter, die Sicherung, der Thermostat, die Thermosicherung, der Thermistor, die IC-RAMs einschließlich der Lithium-Batterie sind besonders sicherheitsrelevant. Sie müssen unbedingt korrekt gehandhabt und installiert werden. Wenn diese Teile kurzgeschlossen und funktionsunfähig werden, kann dies zu schwerwiegenden Schäden, wie einem Abbrand, führen. Kurzschlüsse sind zu vermeiden, und es sind ausschließlich Teile zu verwenden, die von der Toshiba TEC Corporation empfohlen sind.

5. Warnetiketten
   - Im Rahmen der Wartung unbedingt das Leistungsschild und die Etiketten mit Warnhinweisen überprüfen, um sicherzustellen, dass sie nicht verschmutzt sind und korrekt am Gerät angebracht sind.









1) Erkennungsetikett
2) Erklärungsetikett
3) Klassifizierungsetikett
4) Warnung für Erdungskabel
5) Warnung für Bereiche mit höhen Temperaturen (Duplexeinheit / Fixiereinheit)
6) Warnung für Bereiche mit höhen Temperaturen (Fixiereinheit)
7) Warnung für Bereiche mit höhen Temperaturen (Brückeneinheit)

6. Entsorgung des Geräts, der Verbrauchs- und Verpackungsmaterialien, alter Akkus und IC-RAMs
   - In Bezug auf die Entsorgung und Wiederverwertung des Geräts, der Verbrauchs- und Verpackungsmaterialien, alter Akkus und IC-RAMs, einschließlich Lithiumakkus, sind die einschlägigen nationalen oder regionalen Vorschriften zu befolgen.

Caution:
Dispose of used batteries and IC-RAMs including lithium batteries according to this manual.
Attention:
Se débarrasser de batteries et IC-RAMs usés y compris les batteries en lithium selon ce manuel.
Vorsicht:
Entsorgung der gebrauchten Batterien und IC-RAMs (inclusive der Lithium-Batterie) nach diesem Handbuch.

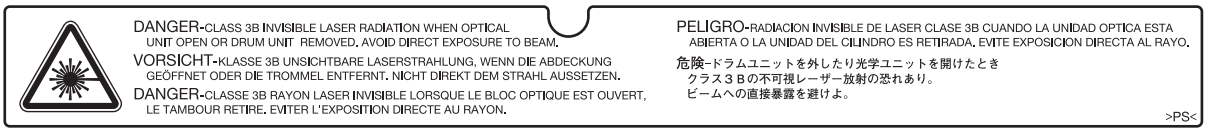
- Laseremissionseinheit

  Diese Einheit besteht aus der Laserdiode, dem Fokussierungsobjektiv, der Blende und dem Zylinderobjektiv.

Laserdiode
Diese Laserdiode zeichnet sich durch eine geringe Regeldifferenz, eine kleine Laservariation und einen niedrigen Schwellenstrom aus.
Die Blende der Laseremissionseinheit ist unter dem Fokussierobjektiv angeordnet, um die Form der Laserstrahlen in der primären und sekundären Scanrichtung festzulegen.
Die Laserdiode gibt Laserstrahlen als Reaktion auf die Signale der Laseremissionssteuerung (ein/aus) von der Lasertreiber-PC-Platine (LDR) aus. Die durch das Fokussierobjektiv geführten Laserstrahlen werden auf die Trommeloberfläche fokussiert.

Vorsichtsmaßnahmen im Zusammenhang mit Lasern
Dieses Gerät enthält eine Laserdiode, die einen unsichtbaren Laserstrahl emittiert.
Da man diesen Laserstrahl nicht sehen kann, ist bei der Handhabung der Komponenten der optischen Lasereinheit, bei der Durchführung von Arbeiten und bei der Justierung des Laserstrahls äußerste Vorsicht geboten. Arbeiten dürfen niemals anhand anderer als den vorgeschriebenen Anleitungen durchgeführt werden; andernfalls kann es zu einer Schädigung Exposition durch Laserstrahlung kommen.
Die Lasereinheit ist vollständig mit einer Schutzabdeckung versiegelt. Solange ausschließlich die Arbeitsschritte der vorgeschriebenen Anleitungen durchgeführt werden, tritt der Laserstrahl nicht aus, und es besteht keine Gefahr, der Laserstrahlung ausgesetzt zu werden.

Das folgende Laser-Warnetikett ist an der Abdeckung vorne rechts angebracht.



Warnhinweise:
Setzen Sie sich während der Wartungsarbeiten nicht dem Laserstrahl aus.
Dieses Gerät ist mit einer Laserdiode ausgestattet. Es ist unbedingt zu vermeiden, direkt in den Laserstrahl zu blicken. Keine reflektierenden Teile oder Werkzeuge, wie z. B. Schraubendreher, in den Pfad des Laserstrahls halten. Vor den Wartungsarbeiten sämtliche reflektierenden Metallgegenstände, wie Uhren, Ringe usw., entfernen.
Bei Wartungsarbeiten am eingeschalteten Gerät dürfen keine unter Strom stehenden, drehbaren oder betriebsrelevanten Bereiche berührt werden. Nicht direkt in den Laserstrahl blicken.
Im Rahmen der Wartung unbedingt das Leistungsschild und die Etiketten mit Warnhinweisen überprüfen [z. B. „Unplug the power cable during service“ („Netzkabel vor Beginn der Wartungsarbeiten abziehen“), „CAUTION. HOT“ („VORSICHT, HEISS“), „CAUTION. HIGH VOLTAGE“ („VORSICHT, HOCHSPANNUNG“), „CAUTION. LASER BEAM“ („VORSICHT, LASER“) usw.], um sicherzustellen, dass sie nicht verschmutzt sind und korrekt am Gerät angebracht sind.

CONTENTS

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1. FEATURE

1.1 Main Feature of e-STUDIO5520C/6520C/6530C

- **By means of the STF fusing system, the highest copying speed can be attained in the full color mode on A4 size paper: 55 copies per minute for e-STUDIO5520C, 65 copies per minute for e-STUDIO6520C/6530C.**
- **Adopting the new toner fusing at low temperature expands the color reproduction range and improves the gloss of the toner.**
- **The life of the developer material is lengthened and the service cost for the replacement is reduced due to the new self-refreshing development system.**
- **Replacing toner cartridges and supplying paper to the tandem LCF can be performed while the equipment is being operated.**
- **The SVGA large color LCD (10.4 inches) is adopted for the touch panel.**
- **A maximum of 256 g/m^2 (94.5 lb. Cover) thick paper for the drawers, LCF and tandem LCF, and 300 g/m^2 (165.7 lb. Index) for the bypass tray can be accepted.**
- **Special paper, such as long size (length: 484 - 1200mm), waterproof and tab paper is available.**

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2. SPECIFICATIONS/ACCESSORIES/OPTIONS/SUPPLIES

2.1 Specifications

2.1.1 General

Type		Console
Original glass		Fixed
Color		Full color, Twin color
Copy process		Indirect electrophotographic process
Developing system		2-component magnetic brush developing (Self-refreshing development)
Fixing method		External heating STF fusing system
Photosensor type		OPC
Original scanning sensor		Linear CCD sensor
Scanning light source		Xenon lamp
Resolution	Scanning	600 dpi × 600 dpi
	Writing	2400 dpi × 600 dpi (Black-and-white) 600 dpi × 600 dpi (Color, Gray scale)
Gradation		256
Paper feeding		4 drawers + Bypass feeding + LCF (optional) 2 drawers + Bypass feeding + Tandem LCF + LCF (optional)
Paper supply	Drawers	Stack height 60 mm, equivalent to 540 sheets; 80 g/m^2 (23 lb. Bond)
	Bypass feeding	Stack height 11 mm, equivalent to 100 sheets; 80 g/m^2 (23 lb. Bond)
	LCF (optional)	Stack height 290 mm, equivalent to 2500 sheets; 80 g/m^2 (23 lb. Bond)
	Tandem LCF	Stack height 270 mm, equivalent to 2360 sheets; 80 g/m^2 (23 lb. Bond)
Paper size	Drawers	A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, A3Wide (305 x 457 mm), SRA3 (320 x 450 mm), 320 x 460 mm, LD, LG, LT, LT-R, ST-R, COMPUTER, 13"LG, 8.5" x 8.5", Full Bleed (12" x 18")
	Bypass feeding	A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, A3Wide (305 x 457 mm), SRA3 (320 x 450 mm), 320 x 460 mm, 330 x 483mm*, LD, LG, LT, LT-R, ST-R, COMPUTER, 13"LG, 8.5" x 8.5", Full Bleed (12" x 18"), 13" x 19"*, Non-standard (Copy): Width 100 - 297 mm (3.9 - 11.7"), Length 148 - 432 mm (5.8 - 17") Non-standard (Print): Width 100 - 313.4 mm (3.9 - 12.34), Length 148 - 1200 mm (5.8 - 47.24")* * Note that black streaks may appear on the edge of the printed paper.
	LCF (optional)	A4, LT, B5, A5-R, ST-R
	Tandem LCF	A4, LT
Paper type	Drawers	Plain paper, Recycled paper, Thick 1, Thick 2, Thick 3
	Bypass feeding	Plain paper, Recycled paper, Thick 1, Thick 2, Thick 3, Thick 4, Sticker labels, OHP film, Tab paper, Water proof paper, Extra large paper
	LCF (optional)	Plain paper, Recycled paper, Thick 1, Thick 2, Thick 3
	Tandem LCF	
Paper weight	Drawers	64 g/m^2 to 256 g/m^2 (17 lb. Bond to 80 lb. Cover)
	Bypass feeding	64 g/m^2 to 300 g/m^2 (17 lb. Bond to 110 lb. Cover)
	LCF (optional)	64 g/m^2 to 256 g/m^2 (17 lb. Bond to 80 lb. Cover)
	Tandem LCF	

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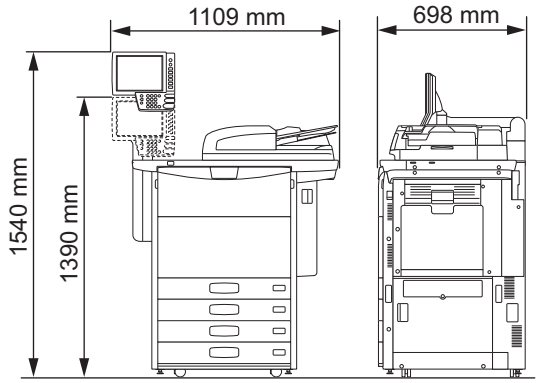
Automatic duplexing unit		Stackless, Switchback type
	Acceptable paper size	A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, A3Wide (305 x 457mm), SRA3 (320 x 450mm), 320 x 460mm, LD, LG, LT, LT-R, ST-R, COMPUTER, 13"LG, 8.5" x 8.5", Full Bleed (12" x 18")
	Acceptable paper weight	64 g/m^2 to 256 g/m^2 (17 lb. Bond to 80 lb. Cover)
Toner supply		Cartridge Type
Toner density adjustment		Magnetic auto-toner system + Pixel counter control system
Total counter		Electronical counter
Memory (RAM)	Main memory	1 GB
	Page Memory	1 GB
HDD		80GB (For hard drives, GB means 1 billion bytes.)
Account Codes		10,000 codes
Department Codes		1,000 codes
Warm-up time		Approx. 180 sec. (Stand-alone, temperature: 20 °C)
Dimensions of the equipment		W 1109 x D 698 x H 1540 (mm) <max.> W 1109 x D 698 x H 1390 (mm) <min.> 
Weight	4 drawers model	Approx. 246 kg (542.33 lb.) (equipment including drum)
	Tandem LCF model	Approx. 245 kg (540.12 lb.) (equipment including drum)

Power requirements

		NAC/NAD	SAD	ASU, ASD, ARD, AUC/AUD, CND	MJC/MJD
Rated voltage		AC 115 V	AC 127 V	AC 220-240 V	AC 220-240 V
		* The acceptable value of each voltage is ±10%.			
Rated frequency		50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated current	e-STUDIO5520C	16 A	16 A	10 A	13 A
	e-STUDIO6520C	18.5 A	18.5 A		
	e-STUDIO6530C				
Power consumption	e-STUDIO5520C	2.0 kW or less	2.1 kW or less	2.4 kW or less	3.2 kW or less
	e-STUDIO6520C	2.2 kW or less	2.4 kW or less		
	e-STUDIO6530C				
	* The electric power is supplied to the Finisher and LCF through the equipment.				

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2.1.2 Copy

[1] Copy specifications

Storage capacity		Max. 1000 sheets or until the memory is full
Original glass	Original scanning system	Flat surface scanning system (the left rear corner used as guide to place originals)
	Original type	Sheets, books and 3-dimensional objects
	Original size	Max. A3/LD
Reversing Automatic Document Feeder	Original scanning system	Fixed scanning system by feeding the original (the center used as guide to place originals)
	Original type	Sheets (carbon, bounded or stapled originals cannot be accepted)
	Original size	A3, A4, A4-R, A5-R, B4, B5, B5-R LD, LG, LT, LT-R, ST-R
	Original paper weight	Single-sided copy: 35-209 g/m^2 (9.3 lb. Bond -110 lb. Index)* Double-sided copy: 50-157 g/m^2 (13.3 lb. Bond -40 lb. Bond) * You may not obtain enough image quality when an original with a paper weight of more than 157 g/m^2 (41.8 lb.) is used.
	Original capacity	Max. 100 sheets (80 g/m^2) (Stack height 16 mm)
Eliminated portion	Black copy	Leading edges: 3.0 (±2.0) mm, Trailing edges: 3.0 (±2.0) mm, Side edges: 2.0 (±2.0) mm
	Color copy	Leading edges: 5.0 (±2.0) mm, Trailing edges: 3.0 (±2.0) mm, Side edges: 2.0 (±2.0) mm
Multiple copying		Up to 9999 copies; Key in set numbers
Type		Desktop type (Console type: when optional Paper Feed Pedestal (PFP) or optional Large Capacity Feeder (LCF) is installed.)
Original table		Fixed type (the left rear corner used as guide to place originals)

[2] First copy time

e-STUDIO5520C	Black	Approx. 5.3 sec.
	Color	Approx. 6.5 sec.
e-STUDIO6520C	Black	Approx. 5.3 sec.
	Color	Approx. 6.5 sec.
e-STUDIO6530C	Black	Approx. 4.6 sec.
	Color	Approx. 6.5 sec.

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[3] Copy speed (Copies/min.)

* "-" means "Not acceptable".
* When originals are manually placed for single-sided, continuous copying.
* The values in ( ) can be realized in the color mode.

[3-1] Plain paper1 / Plain paper2

- Plain paper1: 64 g/m^2 to 80 g/m^2 / 17 lb. Bond to 21.3 lb. Bond
- Plain paper2: 81 g/m^2 to 105 g/m^2 / 21.6 lb. Bond to 28 lb. Bond

e-STUDIO5520C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	55 (55)	46 (46)	17 (17)	55 (55)	55 (55)
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	38 (38)	35 (35)	17 (17)	-	-
B4, LG, FOLIO, COMPUTER	29 (29)	27 (27)	17 (17)	-	-
A3, LD	27 (27)	24 (24)	17 (17)	-	-
305 x 457mm, SRA3 (320 x 450mm)	25 (25)	20 (20)	-	-	-

e-STUDIO6520C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	65 (65)	48 (48)	18 (18)	65 (65)	65 (65)
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	46 (46)	36 (36)	18 (18)	-	-
B4, LG, FOLIO, COMPUTER	31 (31)	28 (28)	18 (18)	-	-
A3, LD	30 (30)	25 (25)	18 (18)	-	-
305 x 457mm, SRA3 (320 x 450mm)	27 (27)	21 (21)	-	-	-

e-STUDIO6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	75 (65)	52 (48)	20 (18)	75 (65)	75 (65)
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	54 (46)	38 (36)	20 (18)	-	-
B4, LG, FOLIO, COMPUTER	39 (31)	30 (28)	20 (18)	-	-
A3, LD	37 (30)	27 (25)	20 (18)	-	-
305 x 457mm, SRA3 (320 x 450mm)	31 (31)	23 (21)	-	-	-

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[3-2] Thick 1 / Thick 2

- Thick 1: 106 g/m^2 to 163 g/m^2 / 28 lb. Bond to 60 lb. Cover (90 lb. Index)
- Thick 2: 164 g/m^2 to 209 g/m^2 / 61 lb. Cover to 77.3 lb. Cover (115.7 lb. Index)

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	32 (32)	26 (26)	8 (8)	32 (32)	32 (32)
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	23 (23)	20 (20)	8 (8)	-	-
B4, LG, FOLIO, COMPUTER	15.5 (15.5)	13 (13)	8 (8)	-	-
A3, LD	13.5 (13.5)	11 (11)	8 (8)	-	-
305 x 457mm, SRA3 (320 x 450mm)	12 (12)	9 (9)	-	-	-

[3-3] Thick 3

- Thick 3: 210 g/m^2 to 256 g/m^2 / 77.3 lb. Cover to 94.5 lb. Cover (141.4 lb. Index)

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	32 (21)	26 (17)	8 (5)	32 (21)	32 (21)
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	23 (15)	20 (13)	8 (5)	-	-
B4, LG, FOLIO, COMPUTER	15.5 (10.5)	13 (9.5)	8 (5)	-	-
A3, LD	13.5 (9)	11 (8)	8 (5)	-	-
305 x 457mm, SRA3 (320 x 450mm)	12 (8)	9 (6)	-	-	-

[3-4] Thick 4

- Thick 4: 257 g/m^2 to 280 g/m^2 / 94.5 lb. Cover to 110 lb. Cover

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	-	26 (17)	8 (5)	-	-
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	-	20 (13)	8 (5)	-	-
B4, LG, FOLIO, COMPUTER	-	13 (9.5)	8 (5)	-	-
A3, LD	-	11 (8)	8 (5)	-	-
305 x 457mm, SRA3 (320 x 450mm)	-	9 (6)	-	-	-

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[3-5] Special paper 1

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	-	6 (6)	1.5 (1.5)	-	-
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	-	4.5 (4.5)	1.5 (1.5)	-	-
B4, LG, FOLIO, COMPUTER	-	3 (3)	1.5 (1.5)	-	-
A3, LD	-	2.5 (2.5)	1.5 (1.5)	-	-
305 x 457mm, SRA3 (320 x 450mm)	-	2 (2)	1.5 (1.5)	-	-

[3-6] Special paper 2

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	-	17 (17)	5 (5)	-	-
B5, A5-R, ST-R					-
A4-R, B5-R, LT-R	-	13 (13)	5 (5)	-	-
B4, LG, FOLIO, COMPUTER	-	9.5 (9.5)	5 (5)	-	-
A3, LD	-	8 (8)	5 (5)	-	-
305 x 457mm, SRA3 (320 x 450mm)	-	6 (6)	-	-	-

[3-7] OHP film

e-STUDIO5520C/6520C/6530C

Paper supply / Paper size	Drawer	Bypass feed		Option LCF	Tandem LCF
		Size specified	Size not specified		
A4, LT	-	17 (17)	5 (5)	-	-

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[4] System copy speed

Copy mode		Sec.		
		e-STUDIO5520C	e-STUDIO6520C	e-STUDIO6530C
Single-sided originals ↓ Single-sided copies	1 set	17.49 (18.69)	16.84 (17.22)	14.05 (17.22)
	3 sets	36.10 (40.28)	35.20 (35.39)	30.01 (35.39)
	5 sets	60.74 (61.79)	53.52 (53.67)	45.84 (53.67)
Single-sided originals ↓ Double-sided copies	1 set	22.00 (23.18)	20.51 (22.01)	22.15 (22.01)
	3 sets	43.62 (44.76)	38.85 (40.27)	38.05 (40.27)
	5 sets	65.20 (66.25)	57.13 (58.50)	53.90 (58.50)
Double-sided originals ↓ Double-sided copies	1 set	39.90 (41.32)	38.73 (40.29)	37.52 (40.29)
	3 sets	83.15 (84.46)	75.34 (76.81)	69.24 (76.81)
	5 sets	126.32 (127.44)	112.03 (113.28)	100.88 (113.28)
Double-sided originals ↓ Single-sided copies	1 set	34.60 (35.93)	34.50 (35.70)	33.71 (35.70)
	3 sets	77.84 (78.99)	71.15 (72.18)	65.45 (72.18)
	5 sets	121.12 (122.20)	107.81 (108.57)	97.08 (108.57)

* Shows the period of time from when the [START] button is pressed until the message “Ready” is displayed. (10 sheets of A4/LT size original are set on the RADF and one of the copy modes above is selected.)
* Setting: when in the Text/Photo mode with Automatic density and APS/AMS set to OFF, or when in the sort mode with paper fed from the 1st drawer.
* The Saddle Stitch Finisher and hole punch unit not installed.
* The values in ( ) are the speeds of when in the color mode.

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2.1.3 Print

Page Description Language (Printer Driver)		PCL6, PostScript 3 emulation, XPS
Page Description Language (RIP)		PCL6, PostScript 3 emulation, XPS, PCL5e, PCL5c, PDF (emulation)
Supported OS		Windows 2000 / XP / Vista / 7 / Server 2003 / Server 2008 Mac OS X (Ver.10.2 or higher) Solaris (SUN) / HP-UX / AIX (IBM) / Linux / SCO
Resolution	Black	600 x 600 dpi, 8bit 1200 x 1200 dpi, 2bit (PS only)
	Color	600 x 600 dpi, 8bit 1200 x 1200 dpi, 2bit (PS only)
Eliminated portion	Black print / Color print	Leading edges: 4.2 (+2.8 / -1.2) mm, Trailing edges: 4.2 (+1.2 / -2.8) mm, Side edges: 4.2 (±2.0) mm
Interface	Standard	USB 2.0 (High Speed), Ethernet (10BASE-T/100BASE-TX/1000BASE-T)
	Optional	WLAN (IEEE 802.11b/g), Bluetooth (HCRP and BIP)

2.1.4 Scan

Scanning speed	Black	62 sheets/min. (Text/Photo: 600 x 600 dpi) 62 sheets/min. (Gray scale: 600 x 600 dpi)
	Color	53 sheets/min. (Text/Photo)
Resolution		100, 150, 200, 300, 400 and 600 dpi
Color mode		BLACK, GRAY SCALE, FULL COLOR, AUTO COLOR
Original mode		[TEXT], [TEXT/PHOTO], [PHOTO], [PRTD IMAGE]
File formats		JPEG, Multi/Single page TIFF, Multi/Single page PDF, Slim PDF, Multi/Single page XPS

* When scanning single-sided A4/LT landscape originals using RADF

2.1.5 e-Filing

Number of Boxes	Public Box	1
	User Box	200
Number of Folder		100 folders per box
Number of Document		400 documents per box/folder
Number of Page		200 pages per document
Capacity of HDD	e-Filing	14 GB

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2.1.6 Internet Fax

[1] Internet FAX transmission

Resolution	TX Resolution < dots/mm >	Standard (8 x 3.85), Fine (8 x 7.7), U-Fine (16 x 15.4)* * If U-Fine is selected in TX resolution, data is converted to Fine resolution in RX.
Scanning	Original Document Size	A3, B4, A4, A4-R, A5, B5, B5-R, A5-R, LT, LT-R, LG, LD, ST, ST-R, Computer, Folio
	Speed	0.7sec. (per page/A4) Max.50 spm (ITU-T No.1, A4, 8 x 3.85,Text mode)
	Gray scale	256 levels (Error Diffusion)
Address book	Address Book	1000 stations
	Group	Max. 200 stations
Transmission Features	Broadcast transmission	Max. 400 destinations/job. (Fax number and E-mail address are available to registered in same job.)
	Message size limitation	Max. 100 M Byte
	Message division	Page by page

[2] Internet FAX receiving

Format of receive attachment	TIFF-FX (Profile S, F, J)

2.1.7 Network Fax

Compatibility		Super G3, G3 (ITU-T.30) Internet Fax (Simple mode) (ITU-T.37)
TX Resolution	PSTN	Standard: 200 x 100 dpi, Fine: 200 x 200 dpi, Super Fine: 200 x 400 dpi, Ultra Fine: 400 x 400 dpi
	Internet Fax	200 dpi x 200 dpi
Original Document Size		A3, B4, A4, B5, A5, LT, LG, LD, ST, Folio, Computer
Mail Box	User defined	Max. 300 boxes
Routed document format	Send to e-Filing	MMR
	Send to File (SMB)	Single TIFF, Multi-TIFF, Single PDF, Multi PDF
	Send to FTP	Single TIFF, Multi-TIFF, Single PDF, Multi PDF
	Send to E-mail	Single TIFF, Multi-TIFF, Single PDF, Multi PDF
	Send to I-Fax	TIFF-S
	Send to PSTN-FAX	MMR

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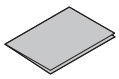
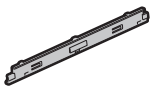
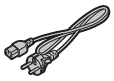
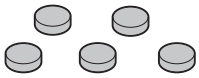
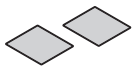
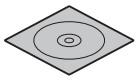
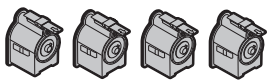
2.2 Accessories

Unpacking/Setup instruction		1 set
Operator’s manual		1 set
Operator's manual pocket		1 pc.
Original feeding tray spacer		1 pc.
Power cable		MJC / MJD 1 pc. <e-STUDIO5520C> 2 pcs. <e-STUDIO6520C/6530C> ASU, ASD, ARD, AUC / AUD, CND 1 pc.
Warranty sheet		1 pc. (for NAC / NAD)
Setup report		1 set (for NAC / NAD, MJC / MJD, CND)
PM sticker		1 pc. (for MJC / MJD)
Cleaning cloth		1 pc.
Cloth case		1 pc.
Rubber plug		5 pcs.
Gasket		2 pcs.
Blind seal		2 pcs.
CD-ROM		2 pcs.
Developer material (Y, M, C, K)		1 pc. each

* Machine version

NAC / NAD:	North America, Brazil	SAD:	Saudi Arabia
MJC / MJD:	Europe	ASU:	Saudi Arabia, Asia
AUC / AUD:	Australia	ARD:	Argentina
ASD:	Asia, Hong Kong, Latin America	CND:	China

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2.3 Options

Large Capacity Feeder (LCF)	MP-2501L/A
Finisher	MJ-1103
Saddle stitch finisher	MJ-1104
Hole punch unit	MJ-6102N/E/F/S (for MJ-1103/1104)
Staple cartridge	STAPLE-2400 (for MJ-1103/1104) STAPLE-3100 (for MJ-1104)
FAX unit	GD-1270NA/EU/AU/AS/C
2nd line for fax unit	GD-1260NA/EU/AU/C
Wireless LAN module	GN-1050
Bluetooth module	GN-2010
Antenna	GN-3010
Data Overwrite Enabler	GP-1070
Meta Scan Enabler	GS-1010
External Interface Enabler	GS-1020
IPSec Enabler	GP-1080
e-BRIDGE ID Gate (HID)	KP-2004
e-BRIDGE ID Gate (MIFARE)	KP-2005
EFI Printer Board	GA-1310
Imaging Acceleration Board	GE-1170
Finisher Guide Rail	KN-1103
Damp Heater Kit	MF-5520E/U
Harness kit for coin controller	GQ-1200

Note:
The antenna (GN-3010) is necessary to enable the wireless LAN module (GN-1050) and the bluetooth module (GN-2010).

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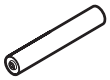
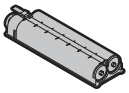
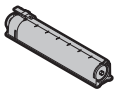
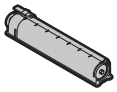
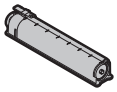
2.4 Supplies

Drum 	OD-FC55
Toner cartridge (K) 	PS-ZTFC55K (for North America, Central and South America) PS-ZTFC55EK (for Europe) PS-ZTFC55DK (for Australia and Asia) PS-ZTFC55CK (for China)
Toner cartridge (Y) 	PS-ZTFC55Y (for North America, Central and South America) PS-ZTFC55EY (for Europe) PS-ZTFC55DY (for Australia and Asia) PS-ZTFC55CY (for China)
Toner cartridge (M) 	PS-ZTFC55M (for North America, Central and South America) PS-ZTFC55EM (for Europe) PS-ZTFC55DM (for Australia and Asia) PS-ZTFC55CM (for China)
Toner cartridge (C) 	PS-ZTFC55C (for North America, Central and South America) PS-ZTFC55EC (for Europe) PS-ZTFC55DC (for Australia and Asia) PS-ZTFC55CC (for China)
Waste toner box 	PS-TBFC55 (expect for Europe) PS-TBFC55E (for Europe) PS-TBFC55C (for China)

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2.5 System List

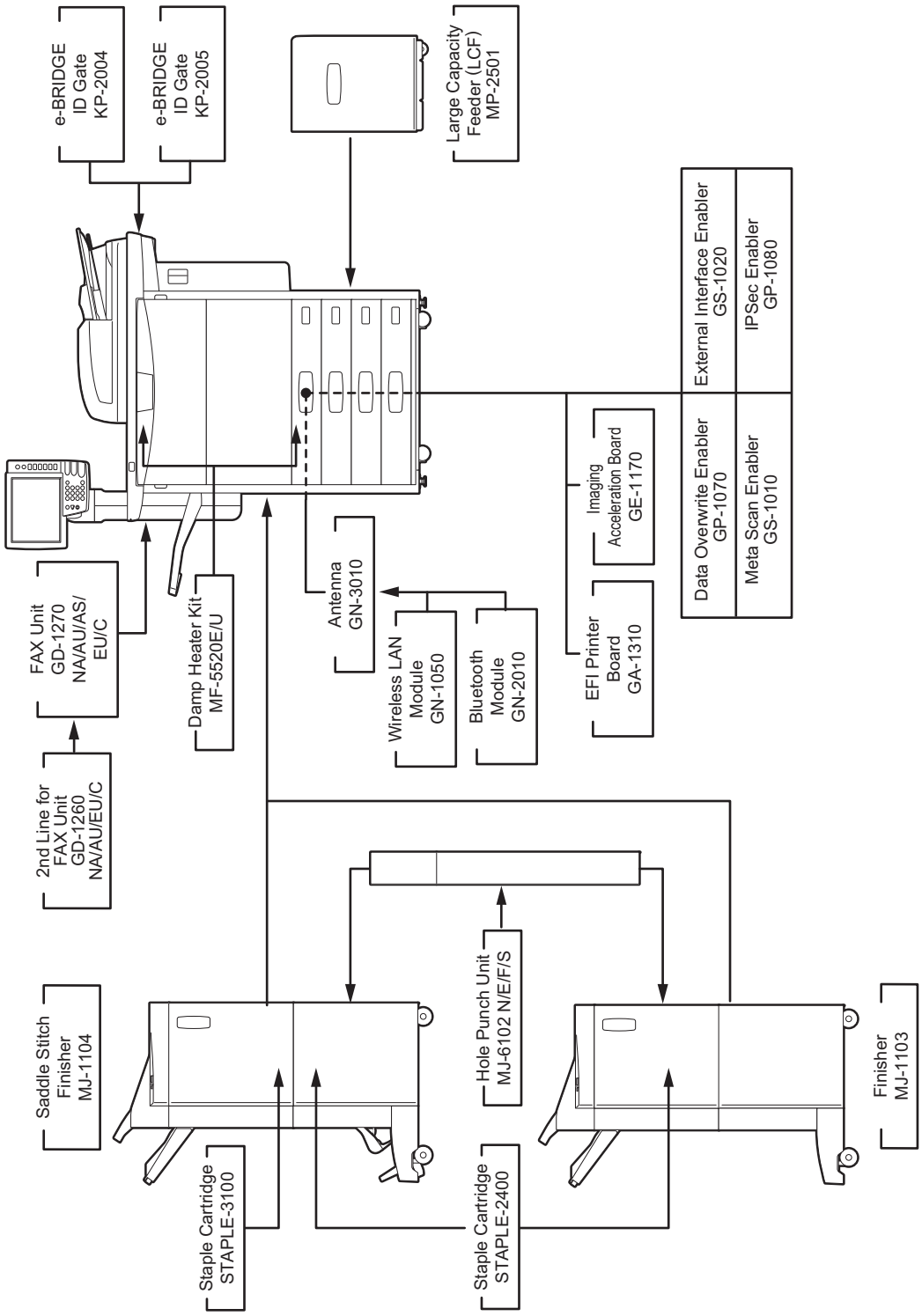

Fig. 2-1

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3. OUTLINE OF THE MACHINE

3.1 Sectional View

3.1.1 Front side

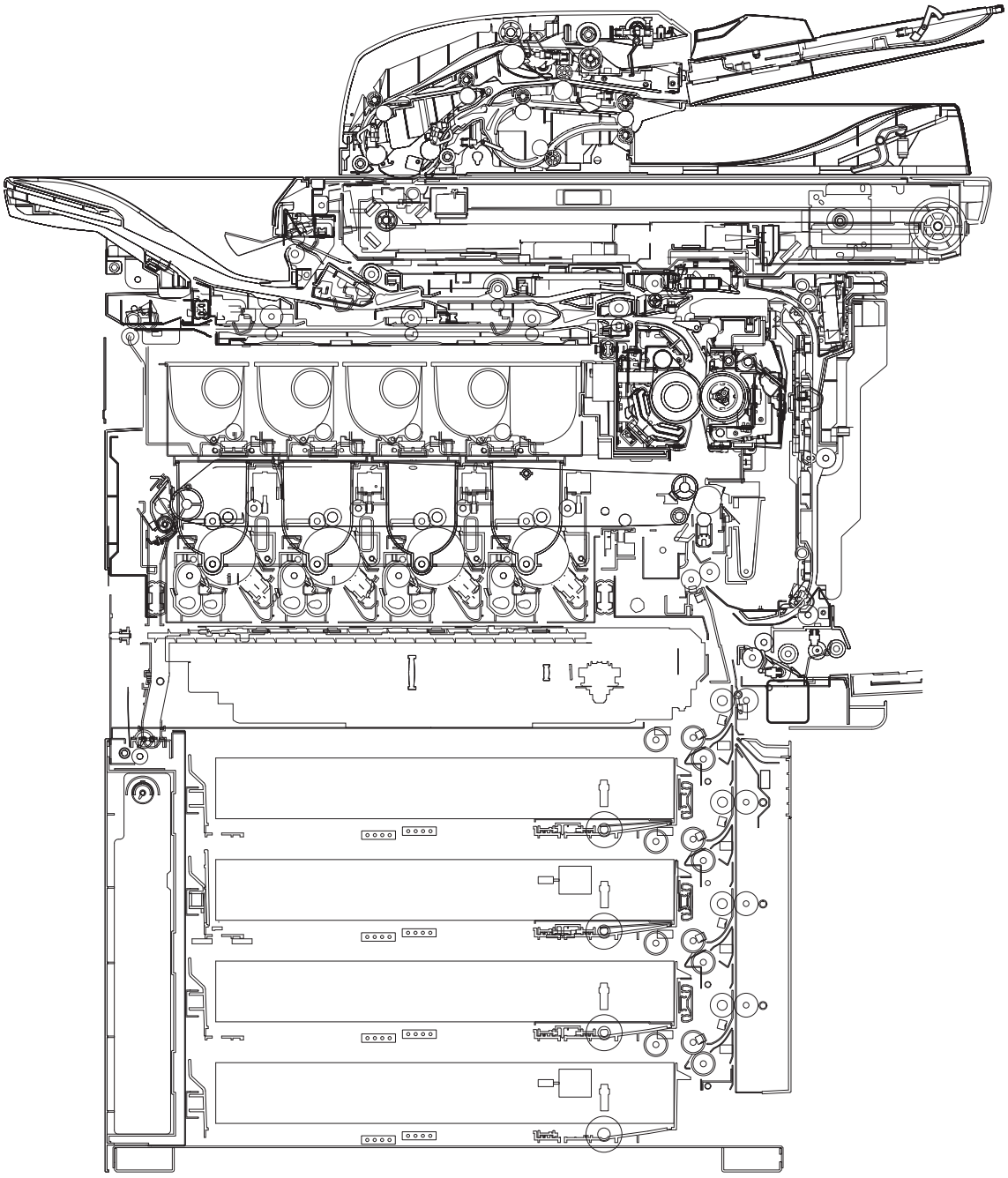

Fig. 3-1

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3.1.2 Rear side

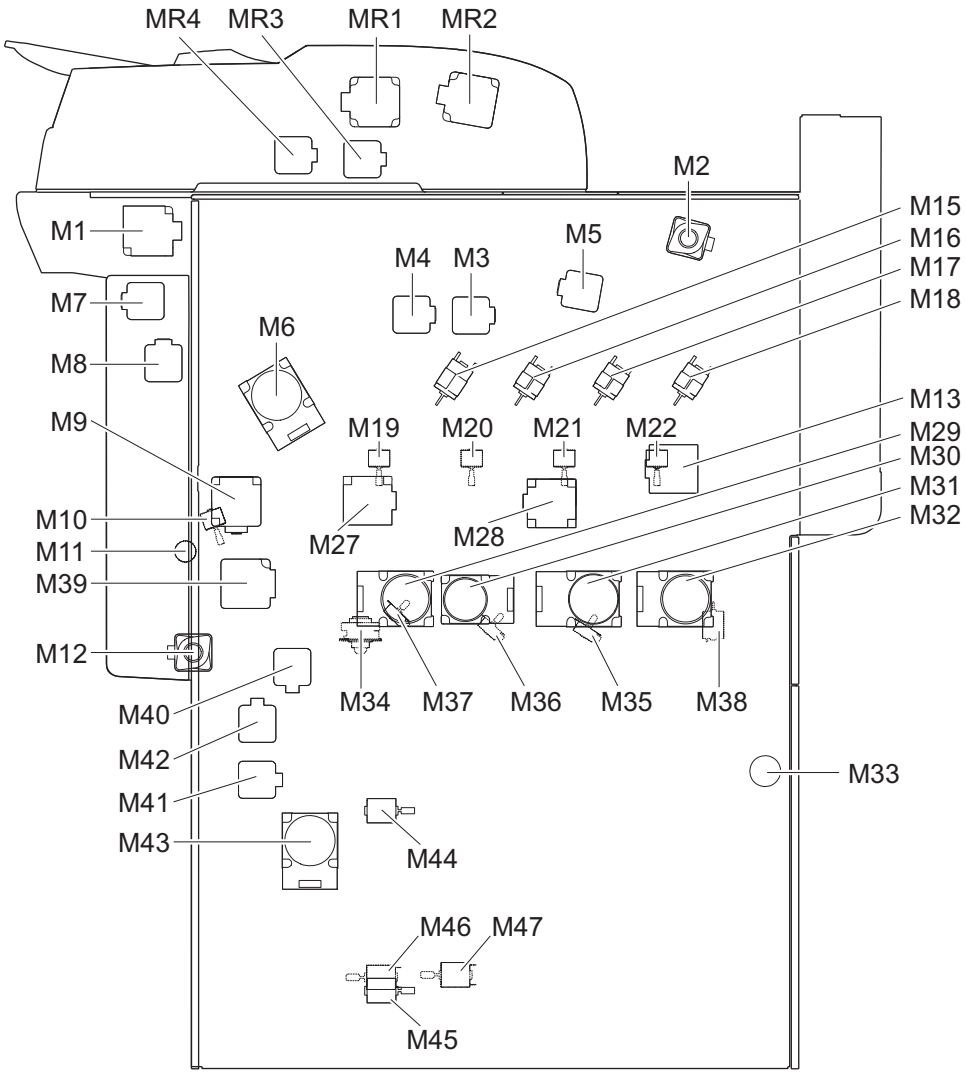

Fig. 3-2

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3.2 Electric Parts Layout

[A] Reversing Automatic Document Feeder (RADF)

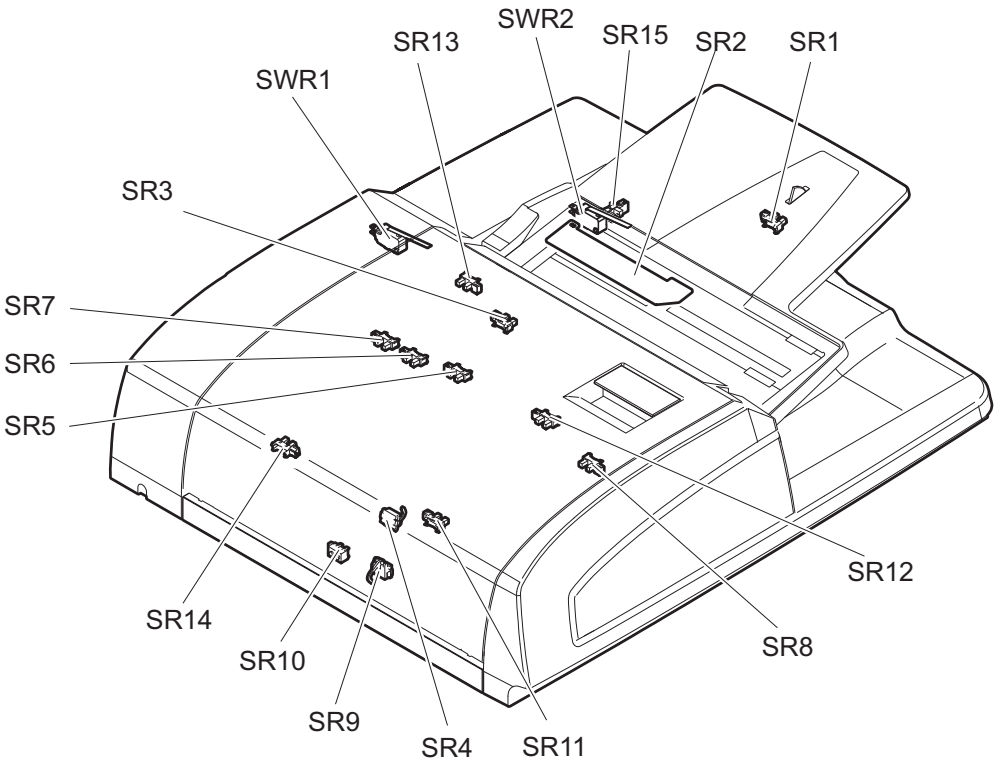

Fig. 3-3

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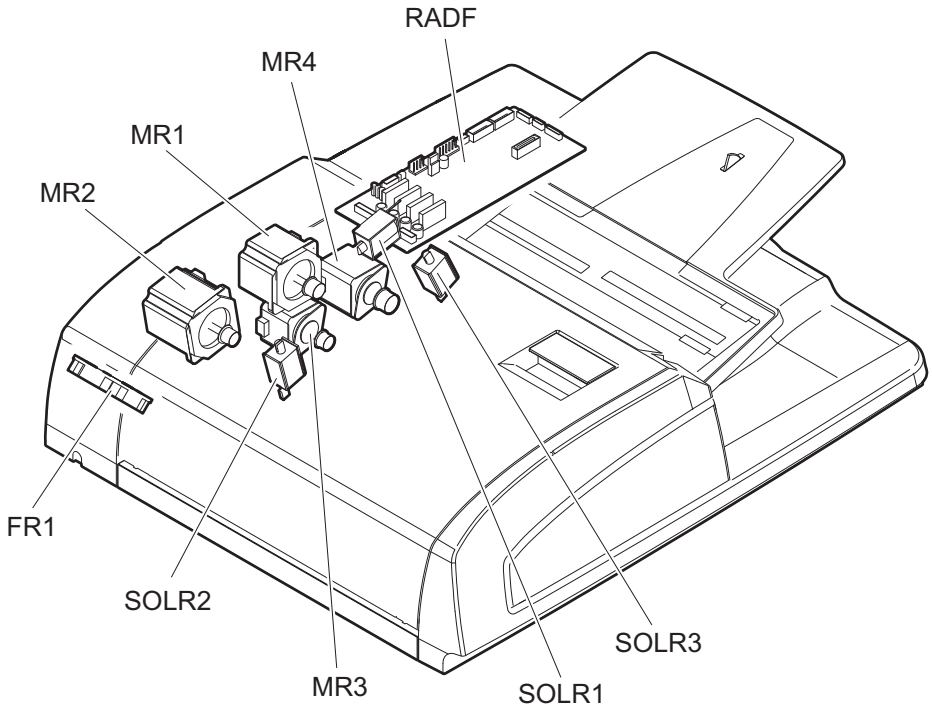

Fig. 3-4

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[B] Scanner unit

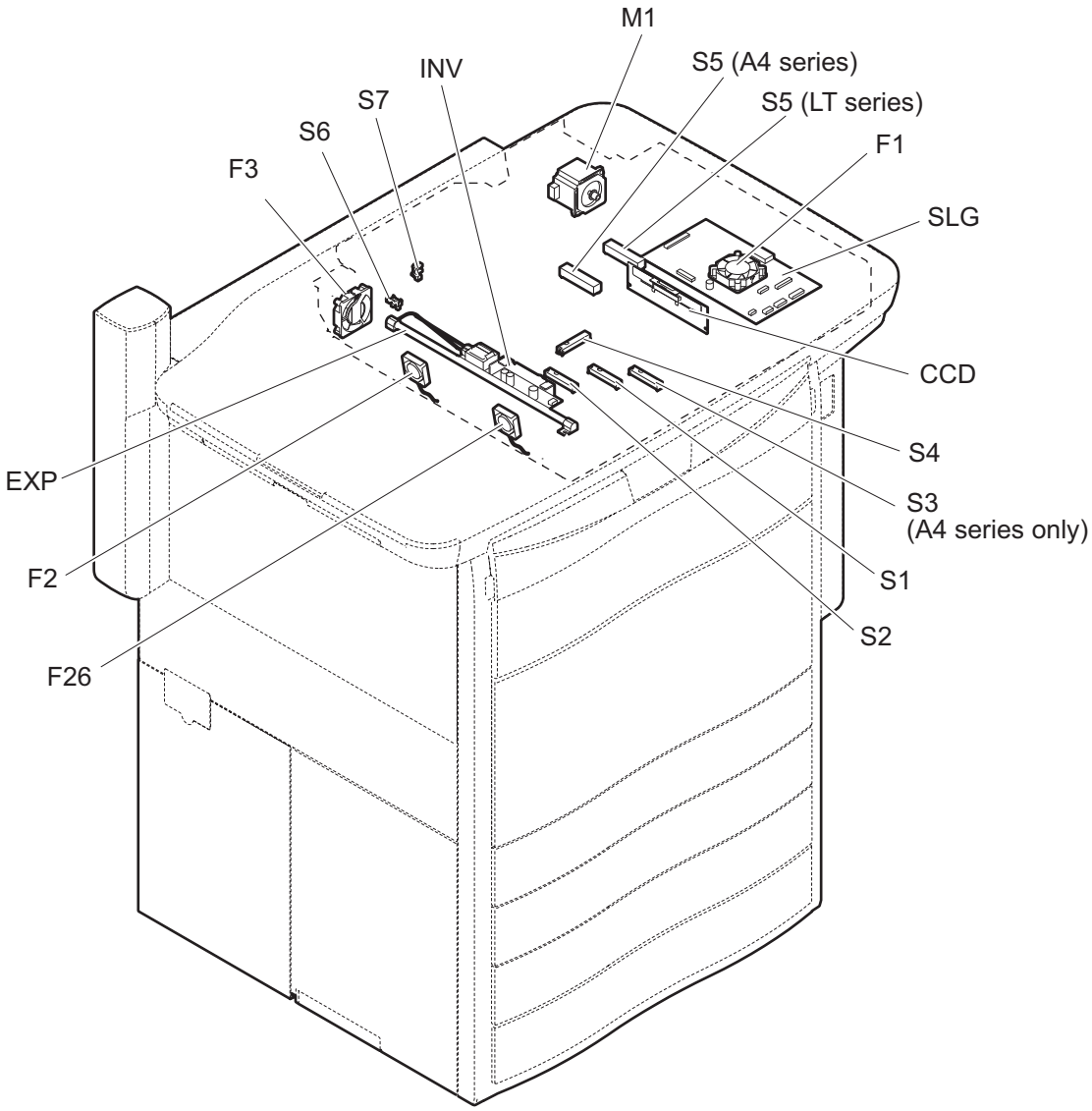

Fig. 3-5

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[C] Bridge unit/Paper exit

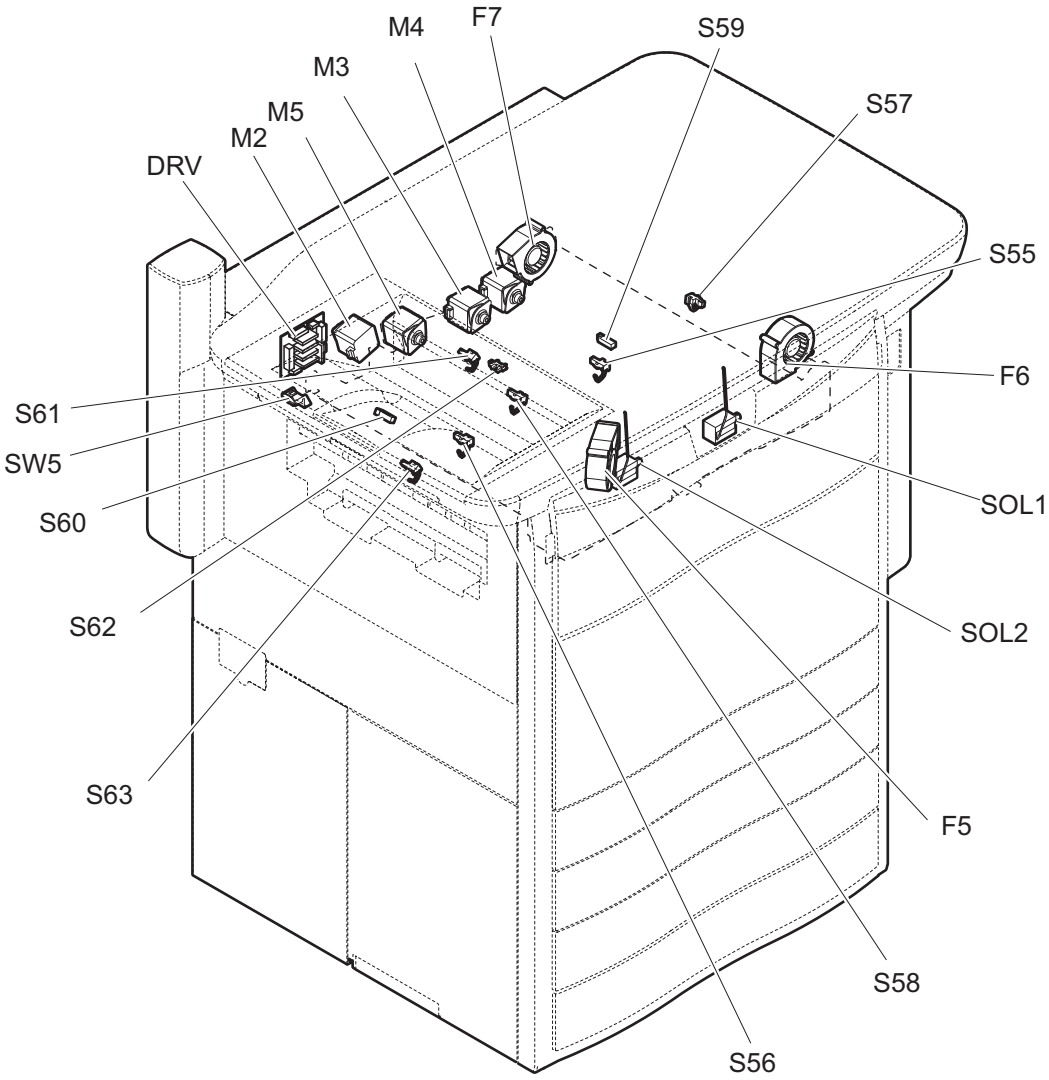

Fig. 3-6

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[D] Fuser related section

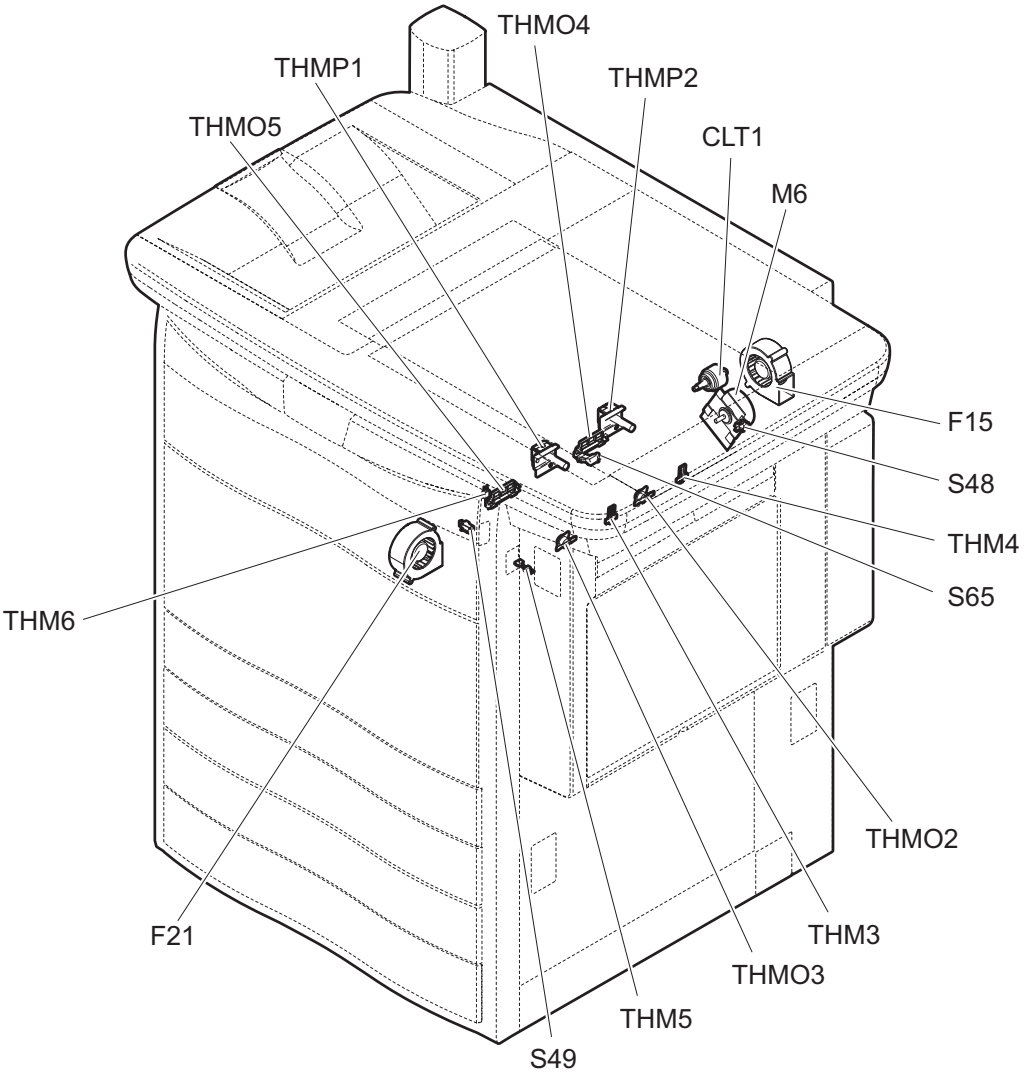

Fig. 3-7

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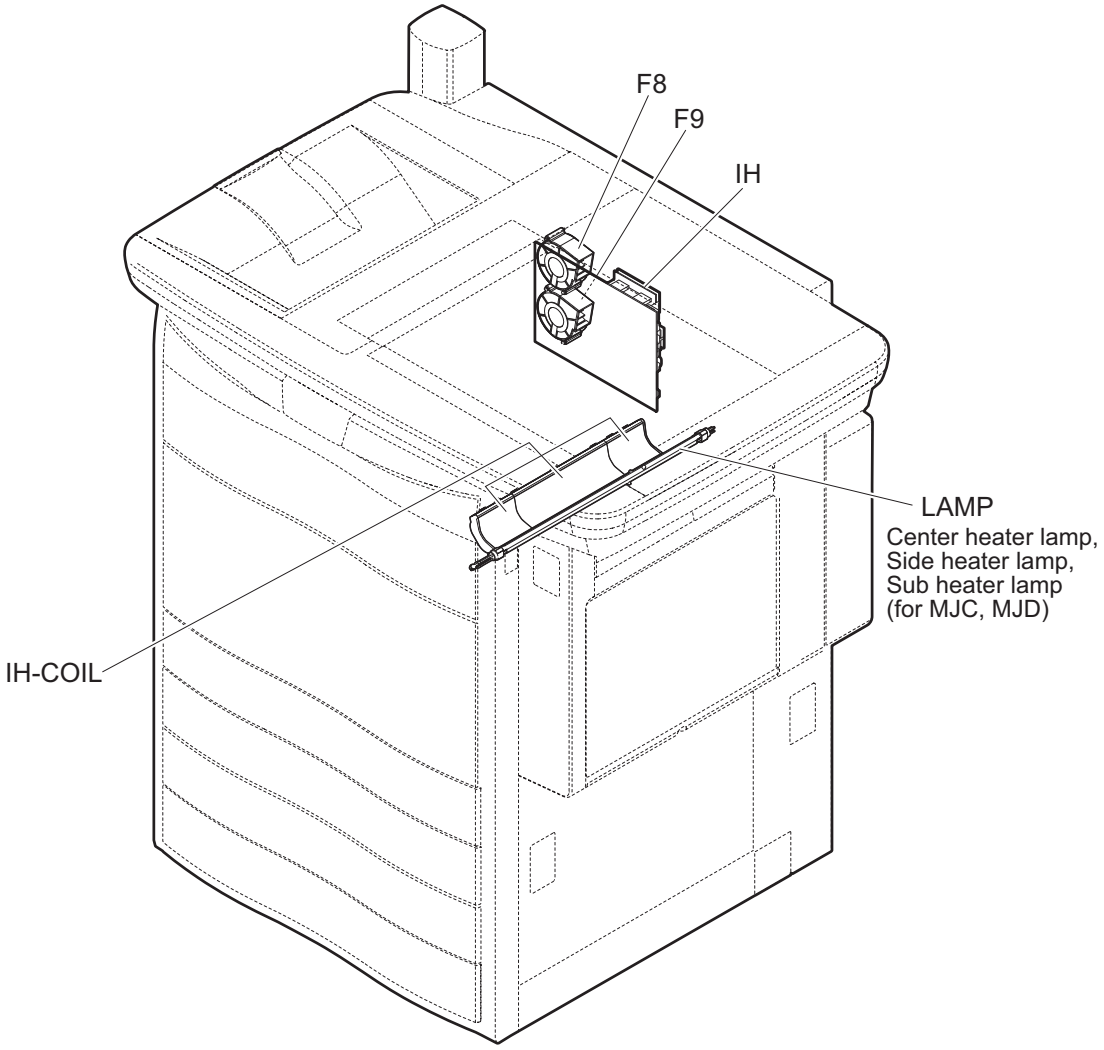

Fig. 3-8

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[E] Developer unit

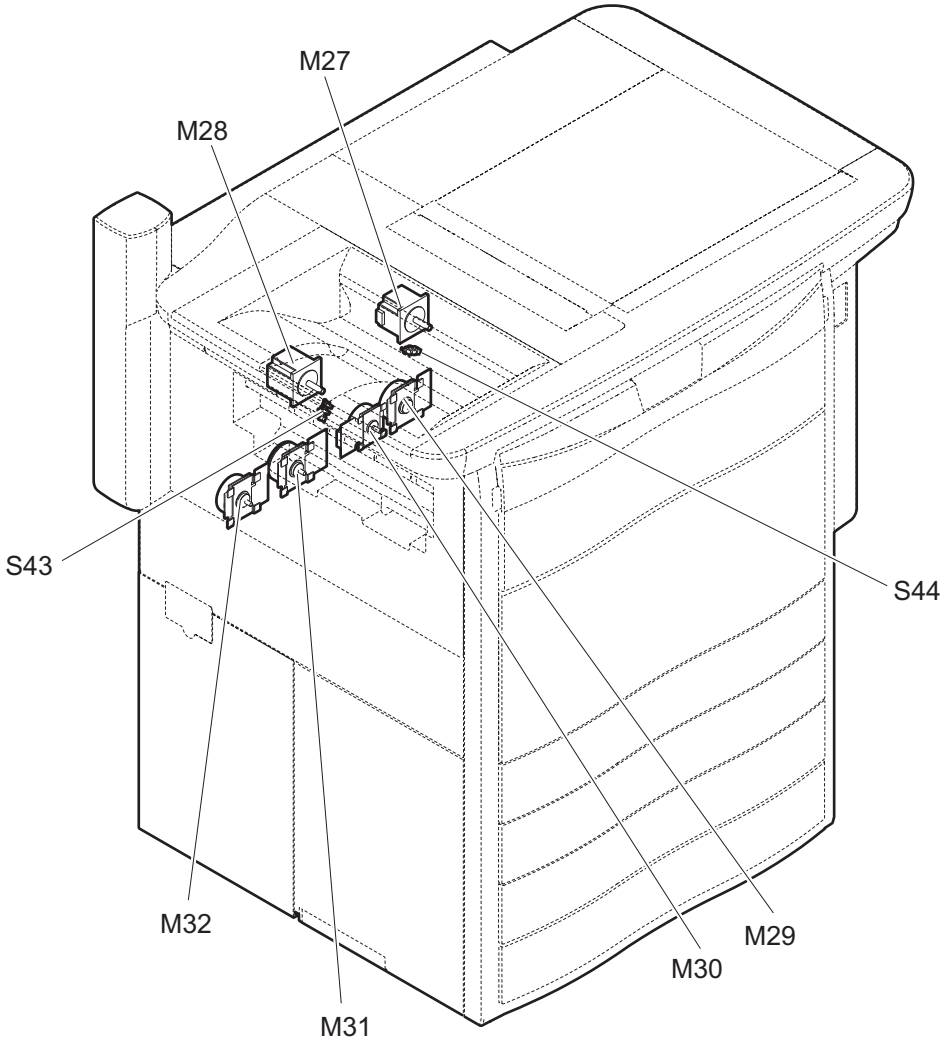

Fig. 3-9

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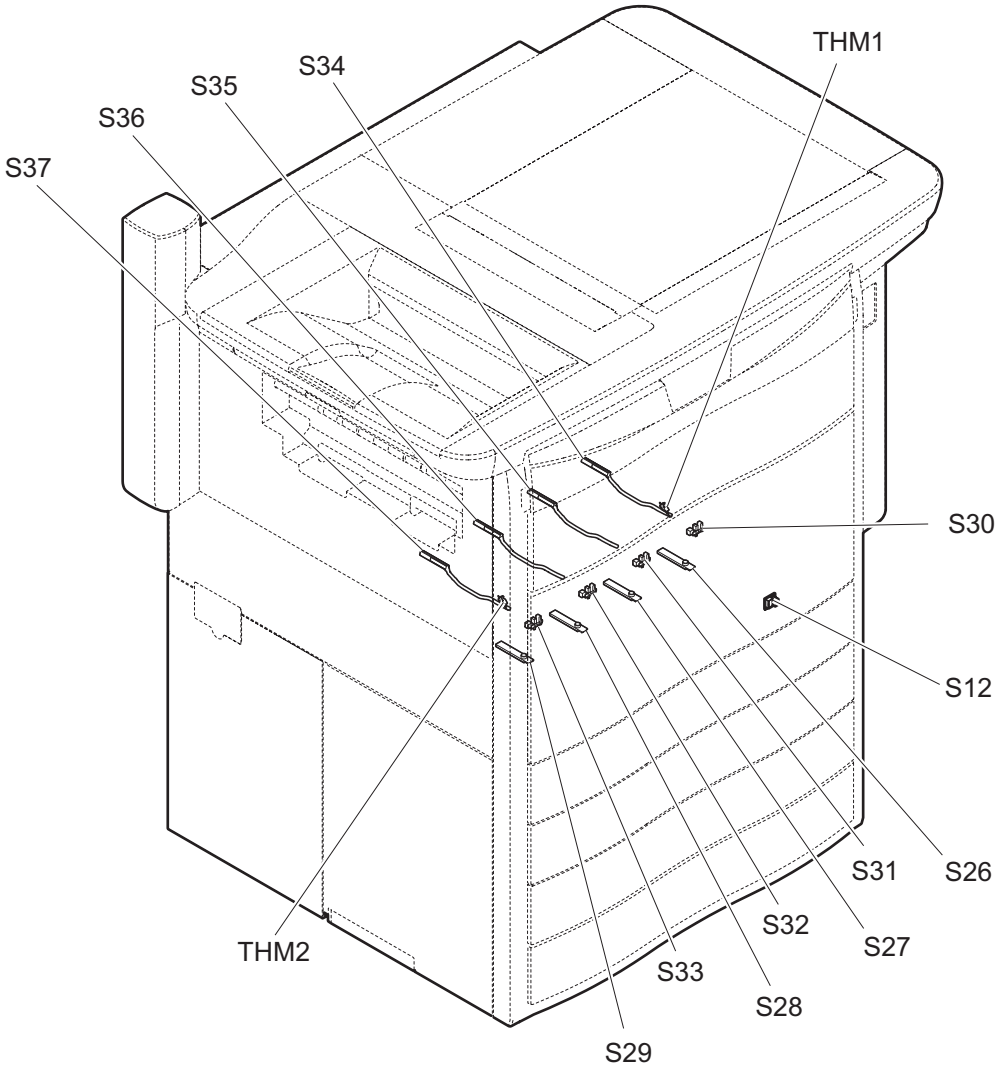

Fig. 3-10

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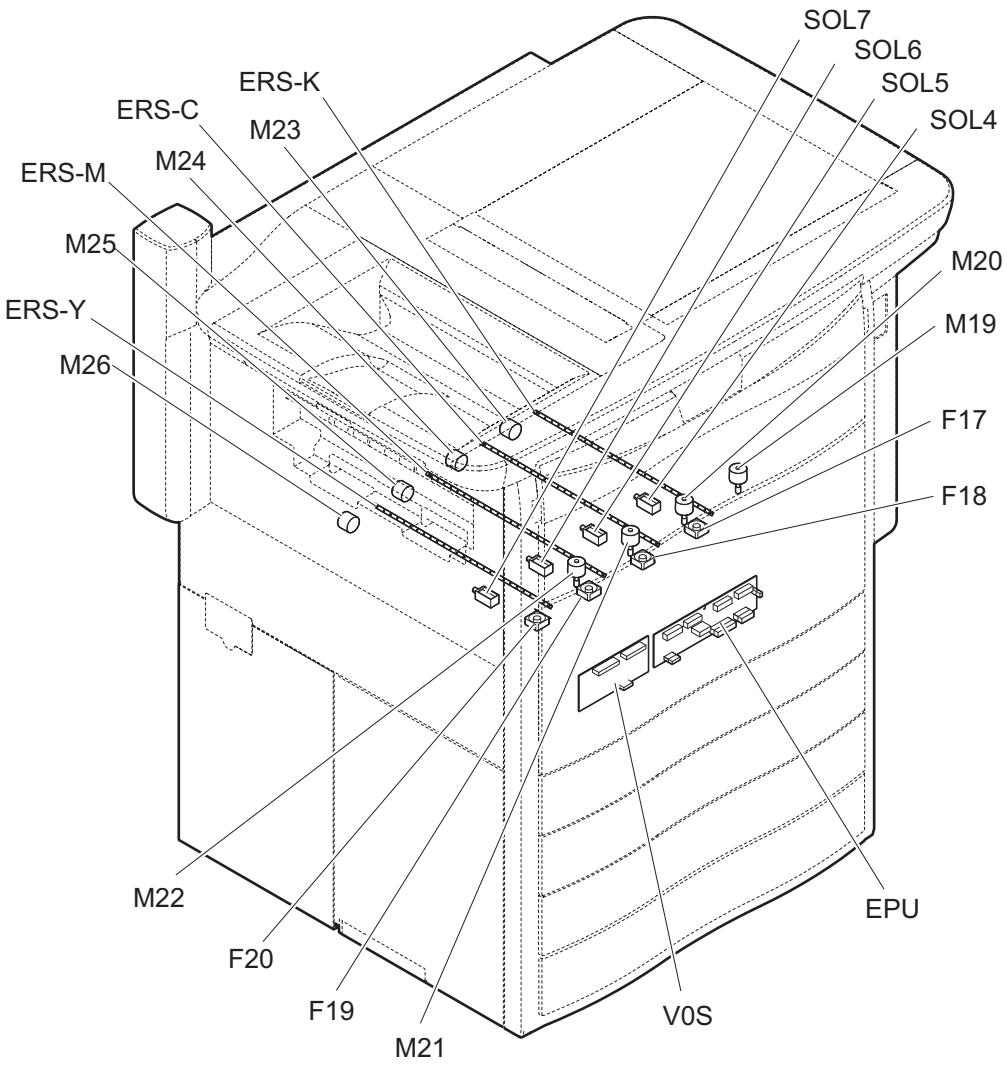

Fig. 3-11

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[F] Transfer belt unit

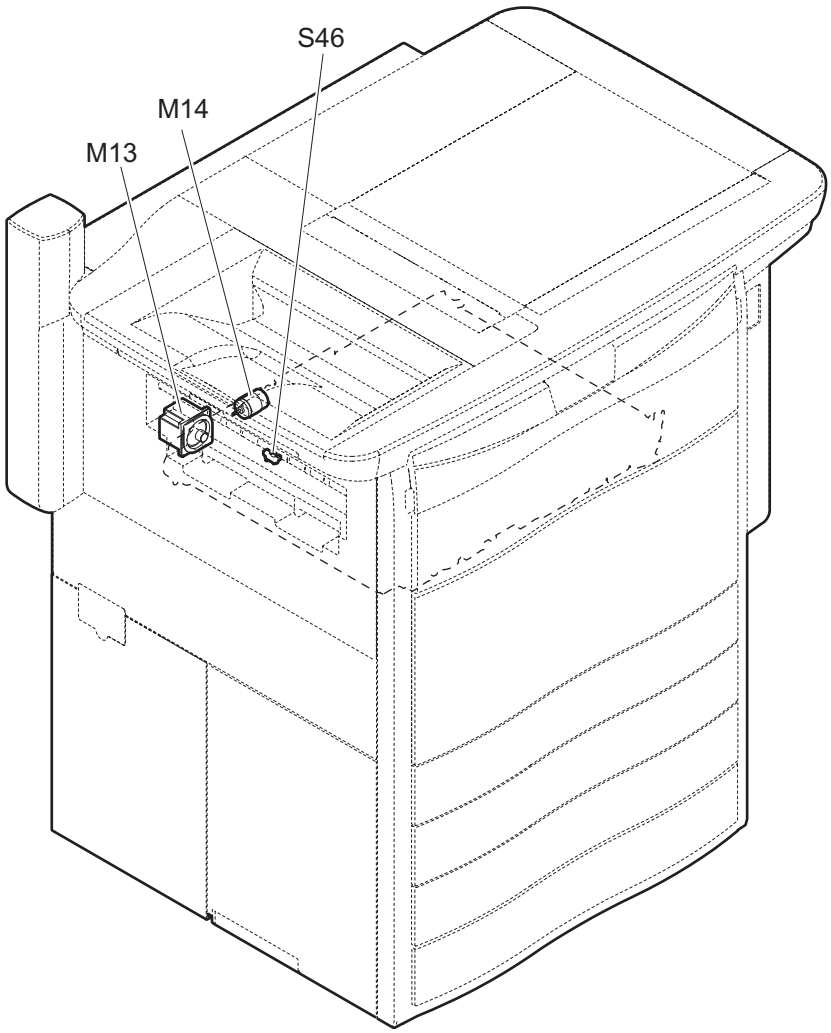

Fig. 3-12

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[G] Transfer unit

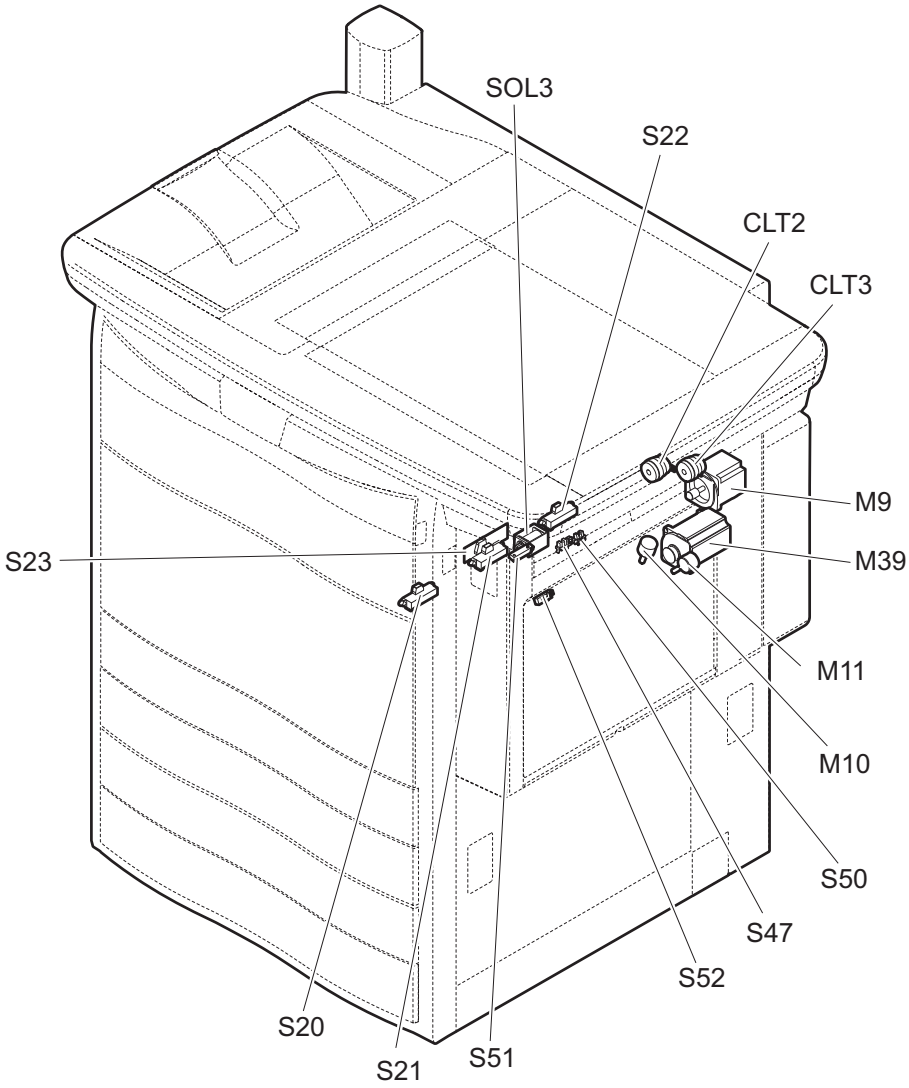

Fig. 3-13

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[H] Laser unit

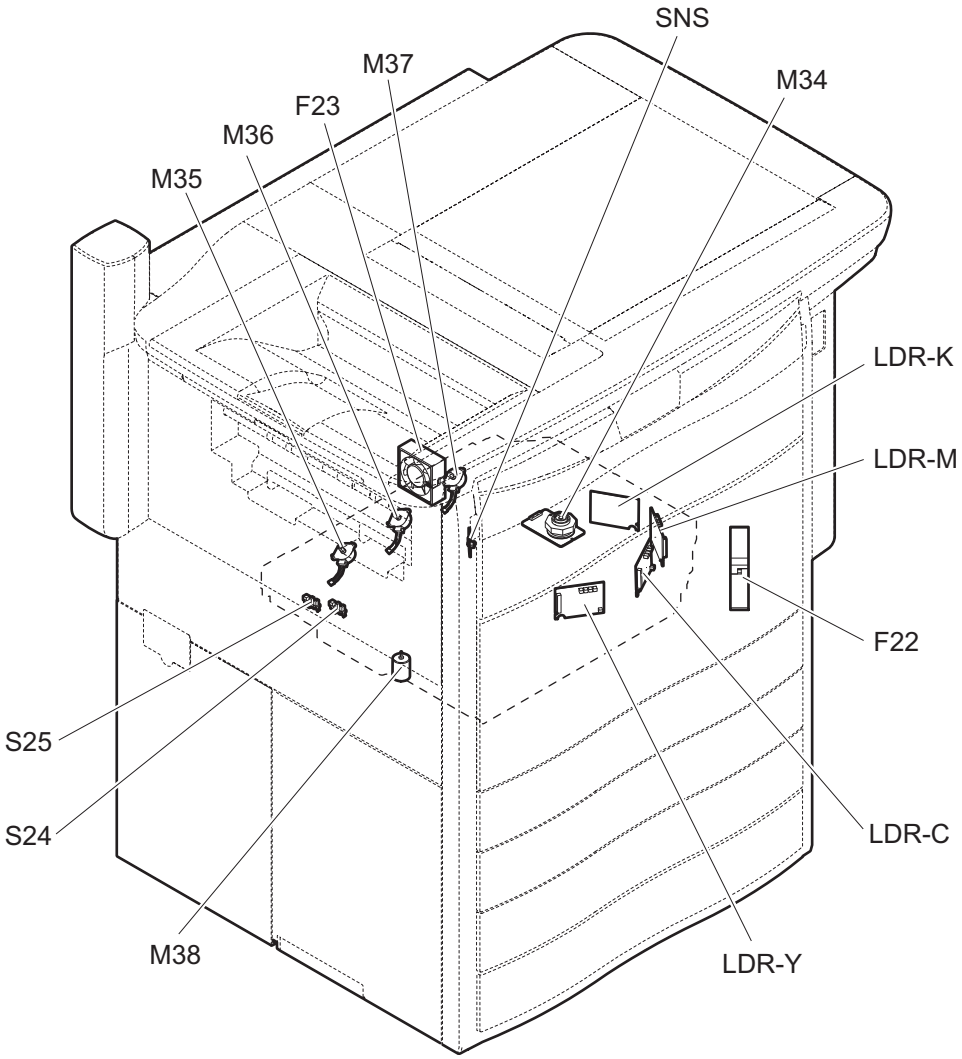

Fig. 3-14

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[I] Toner cartridge/Waste toner box

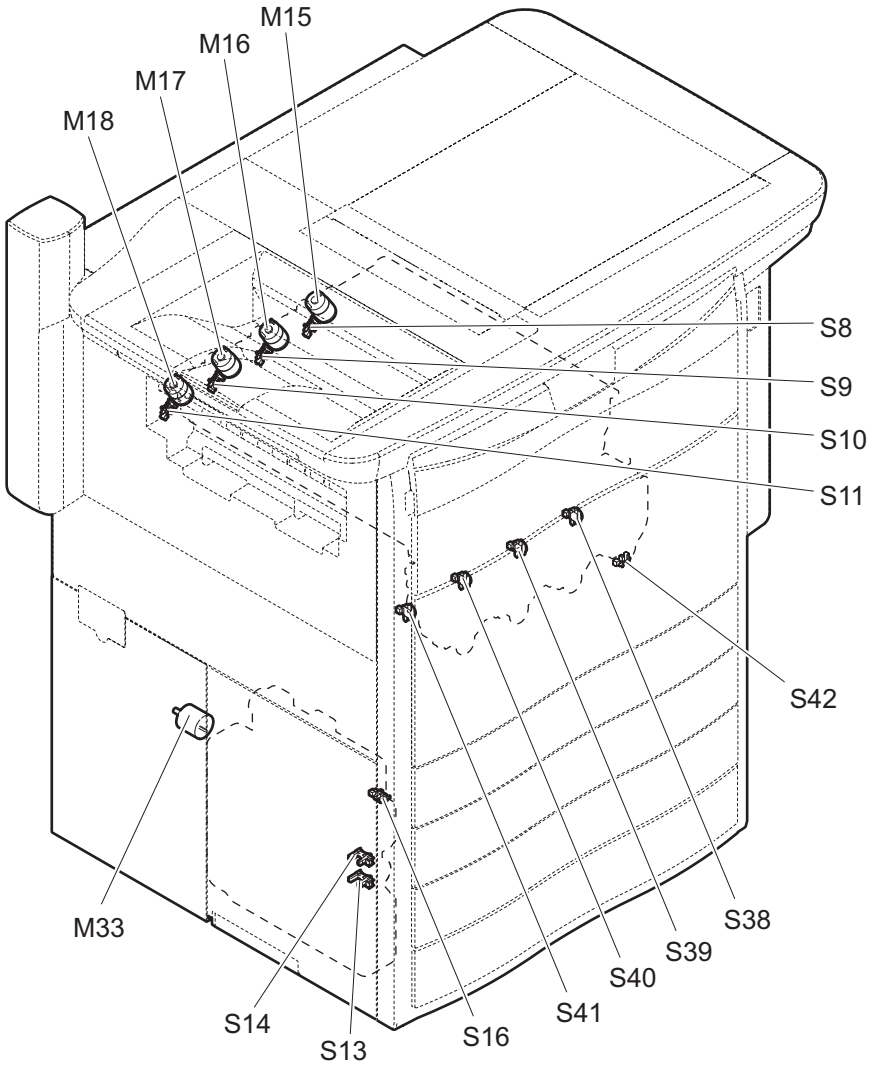

Fig. 3-15

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[J] Automatic duplexing unit

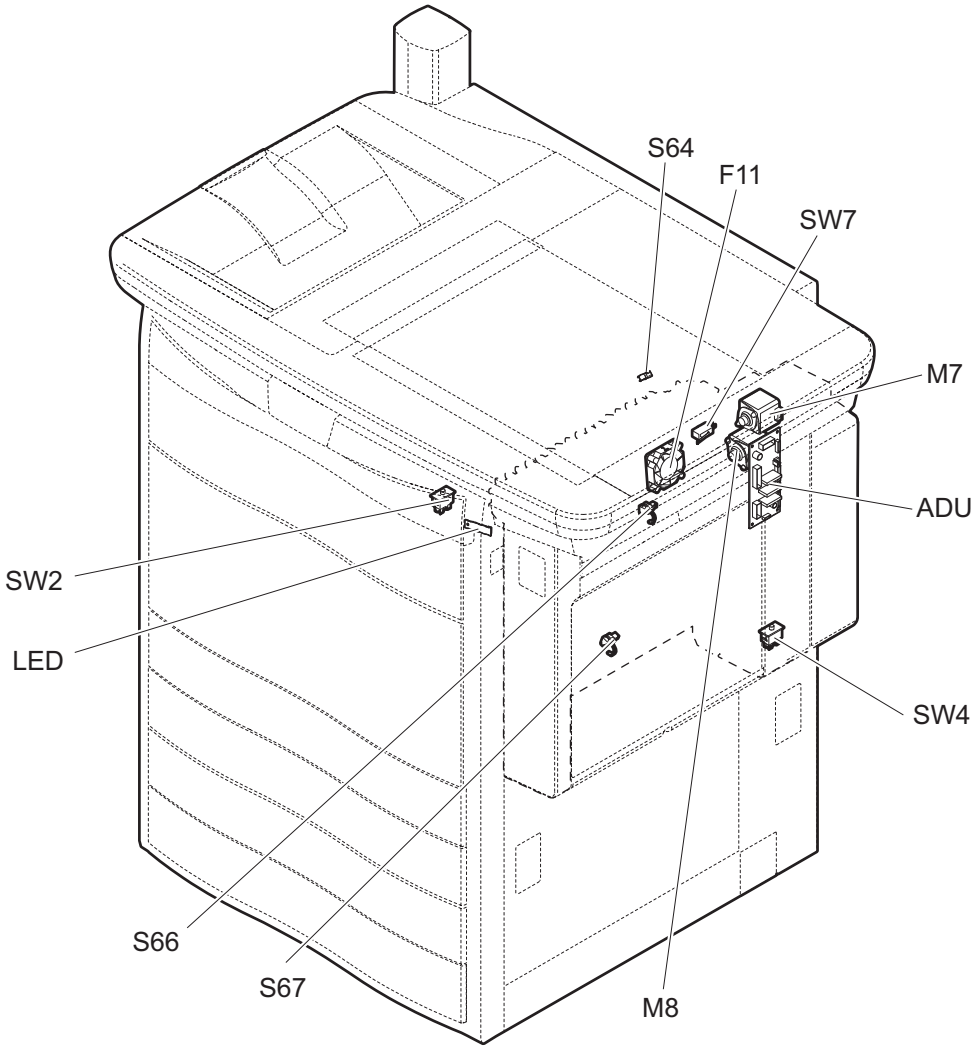

Fig. 3-16

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[K] Cover switches/Cover sensor/TRU waste toner box

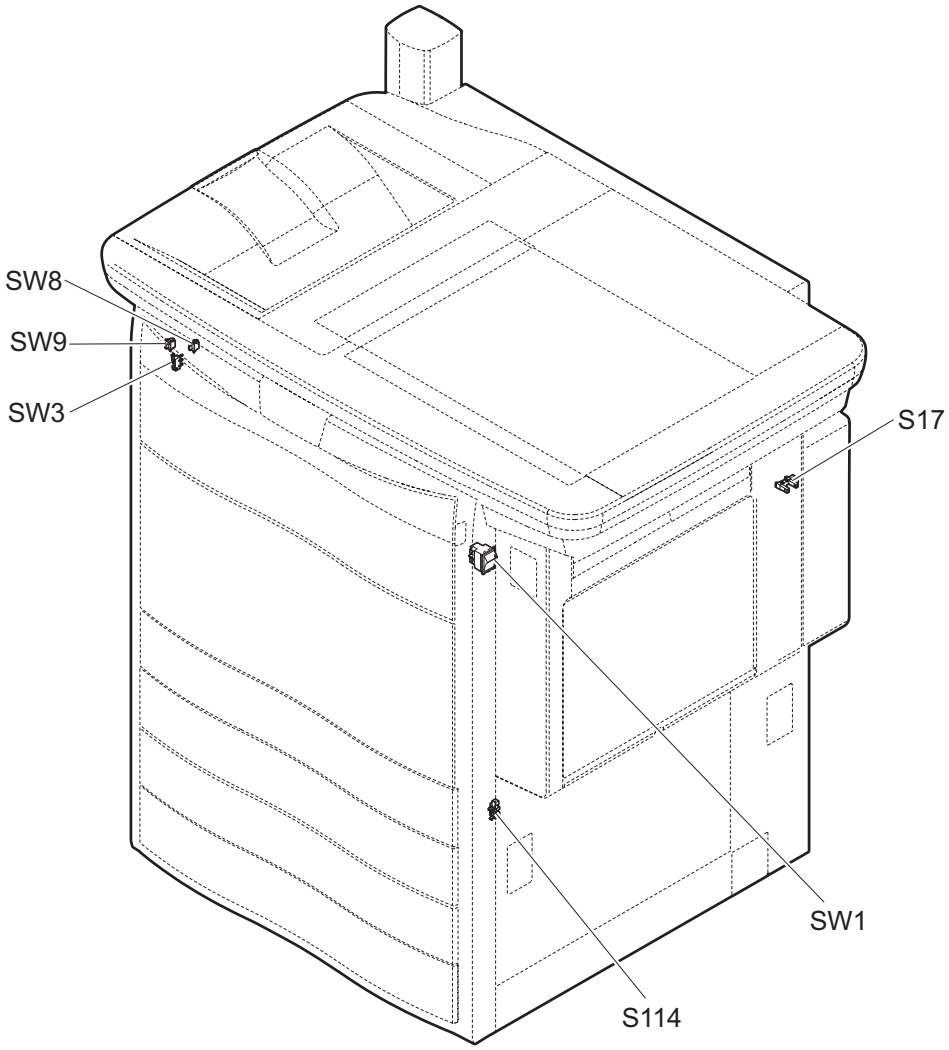

Fig. 3-17

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[L] Bypass feed unit

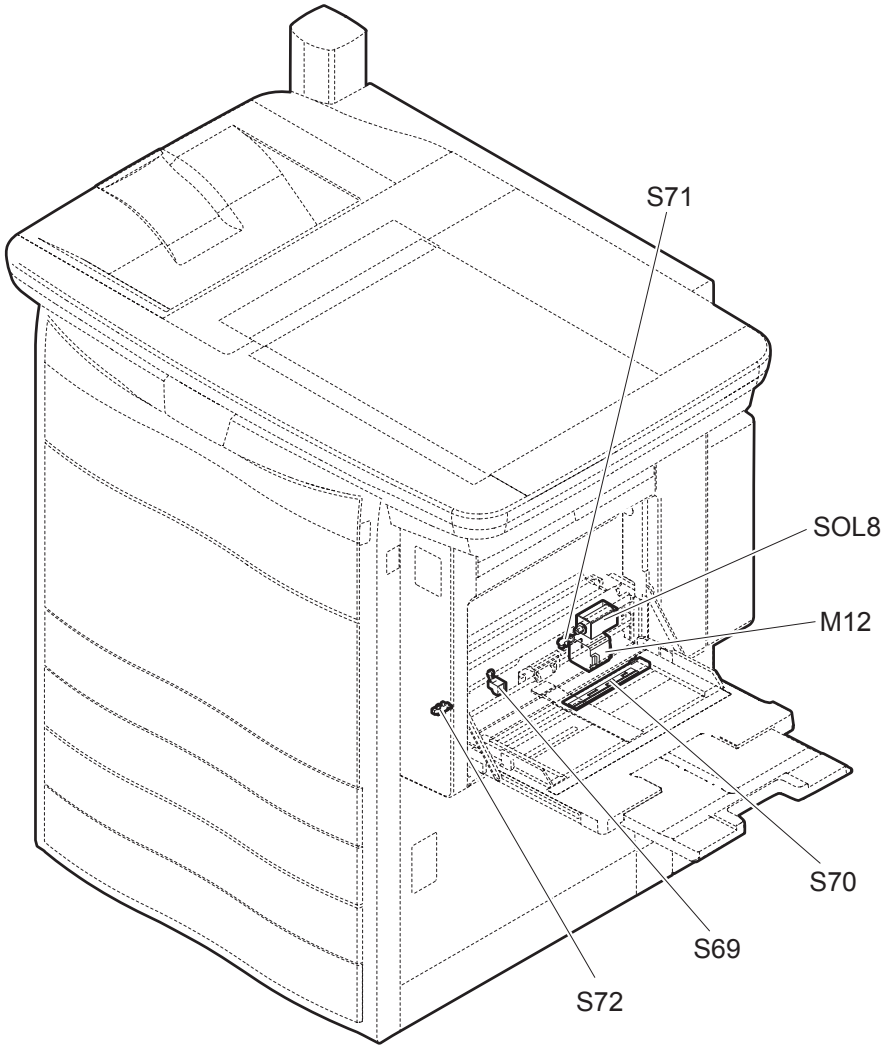

Fig. 3-18

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[M] Paper feeding section

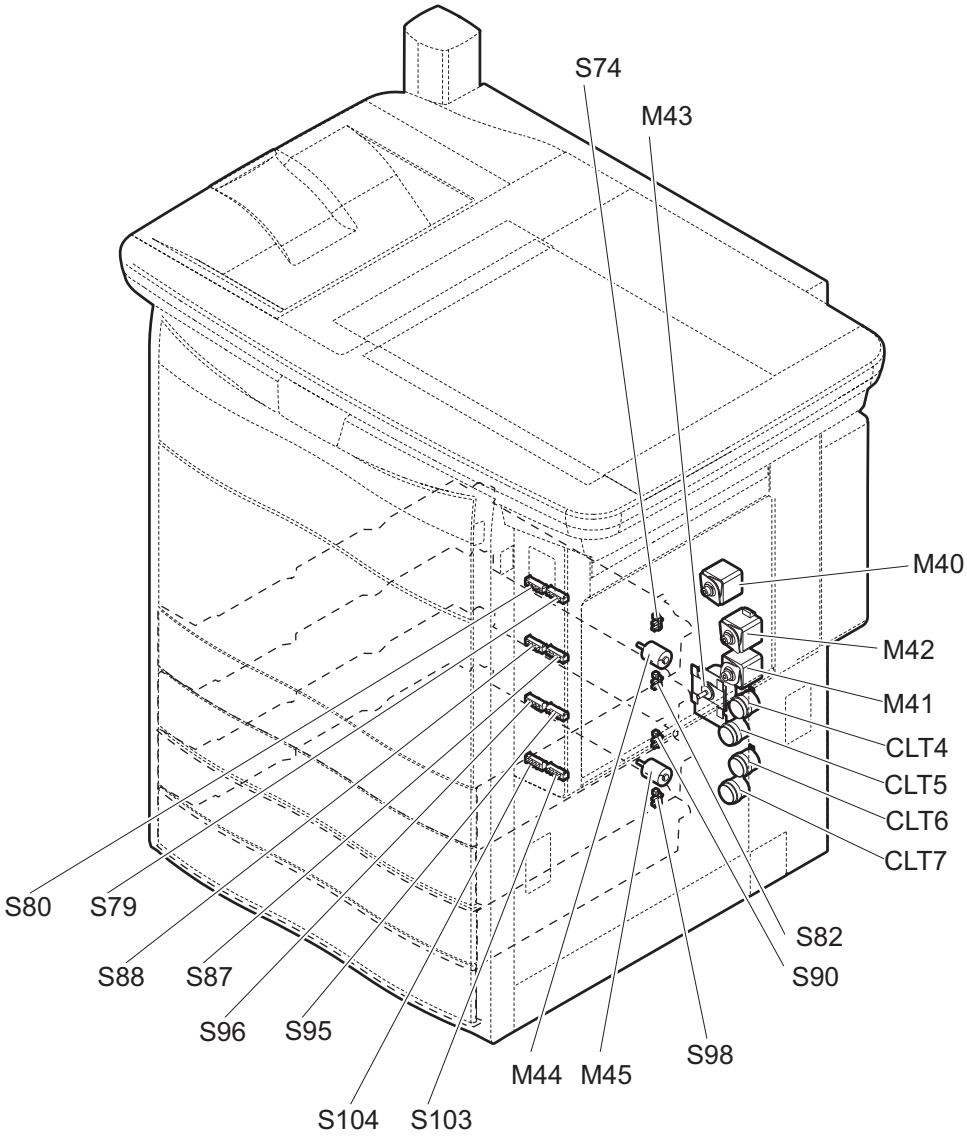

Fig. 3-19

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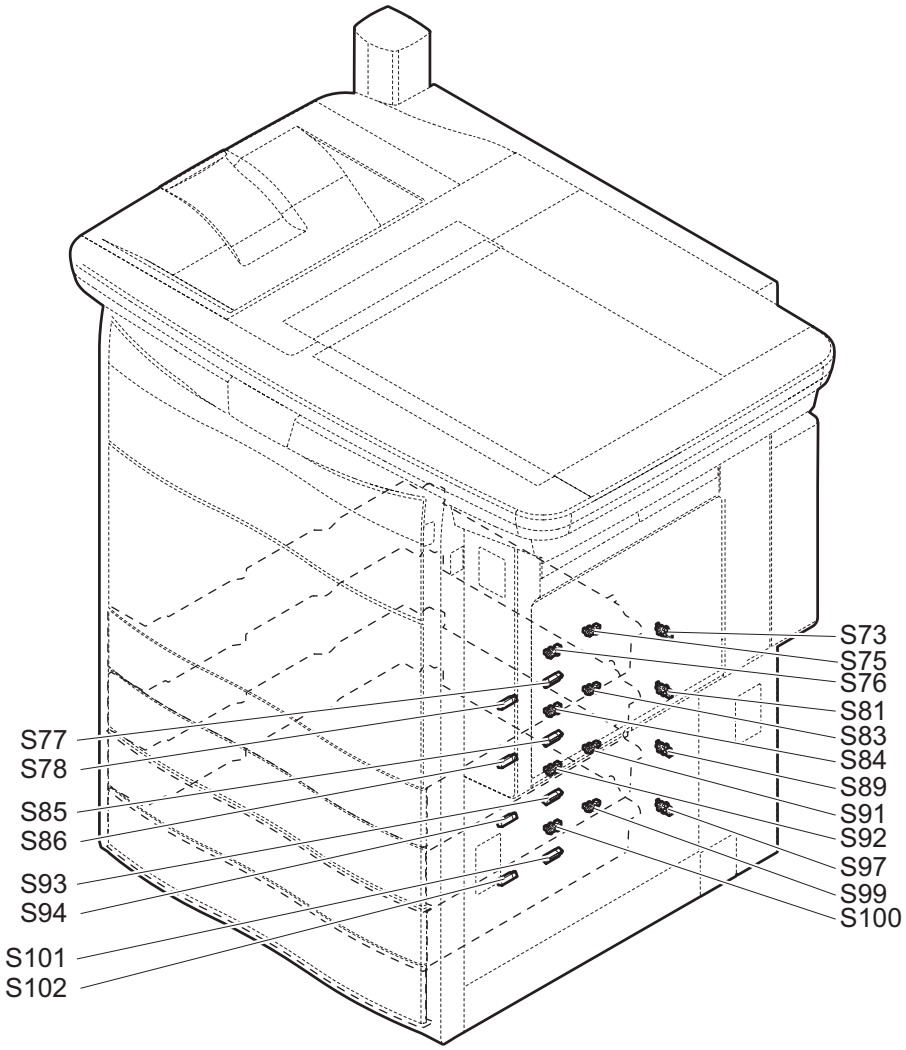

Fig. 3-20

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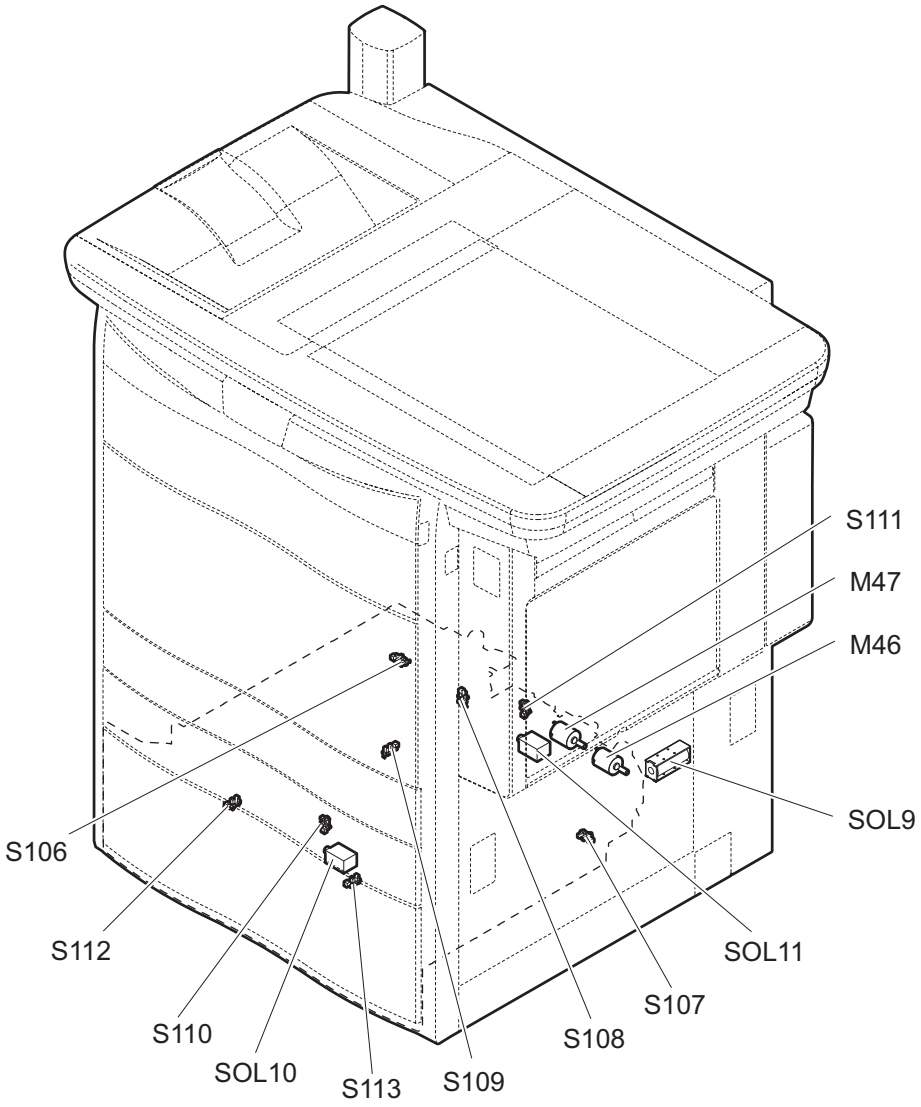

Fig. 3-21

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[O] PC boards

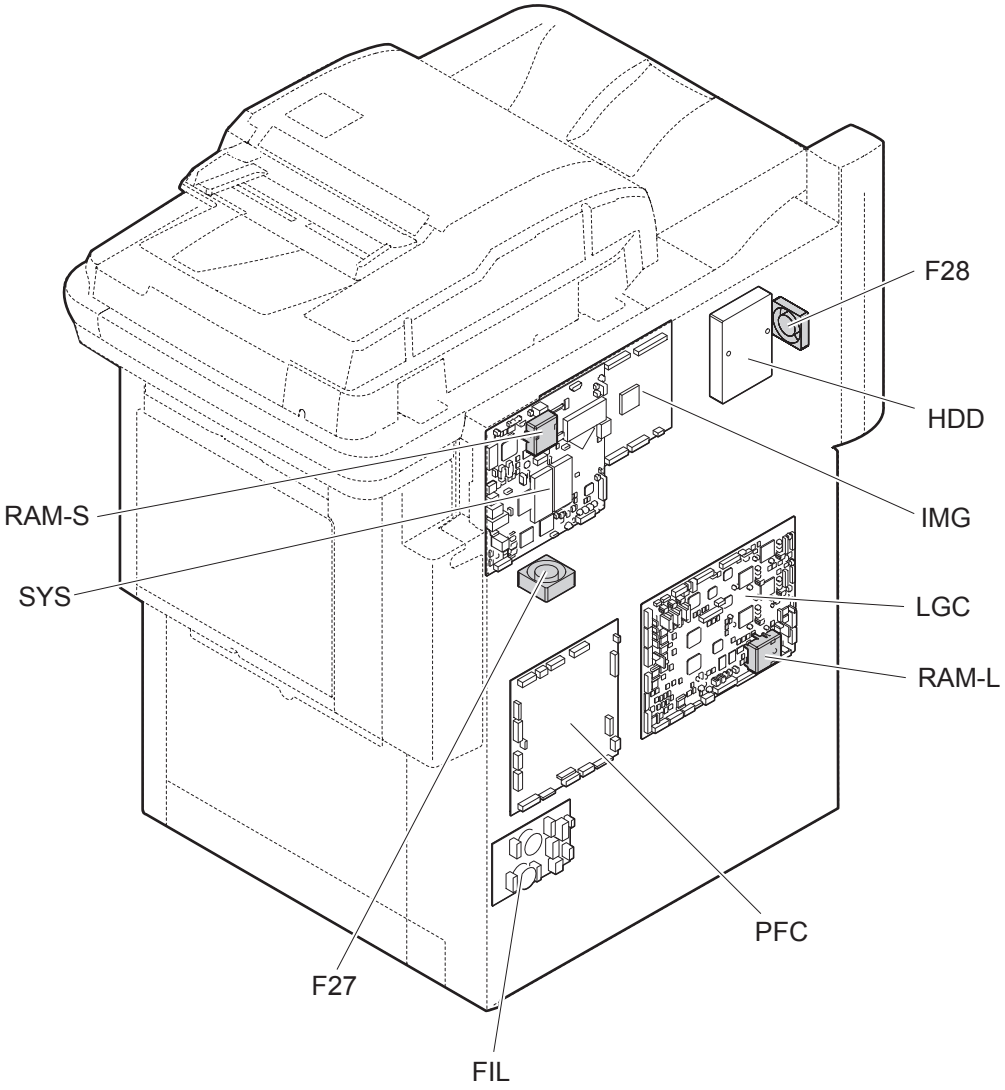

Fig. 3-22

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[P] Power supply

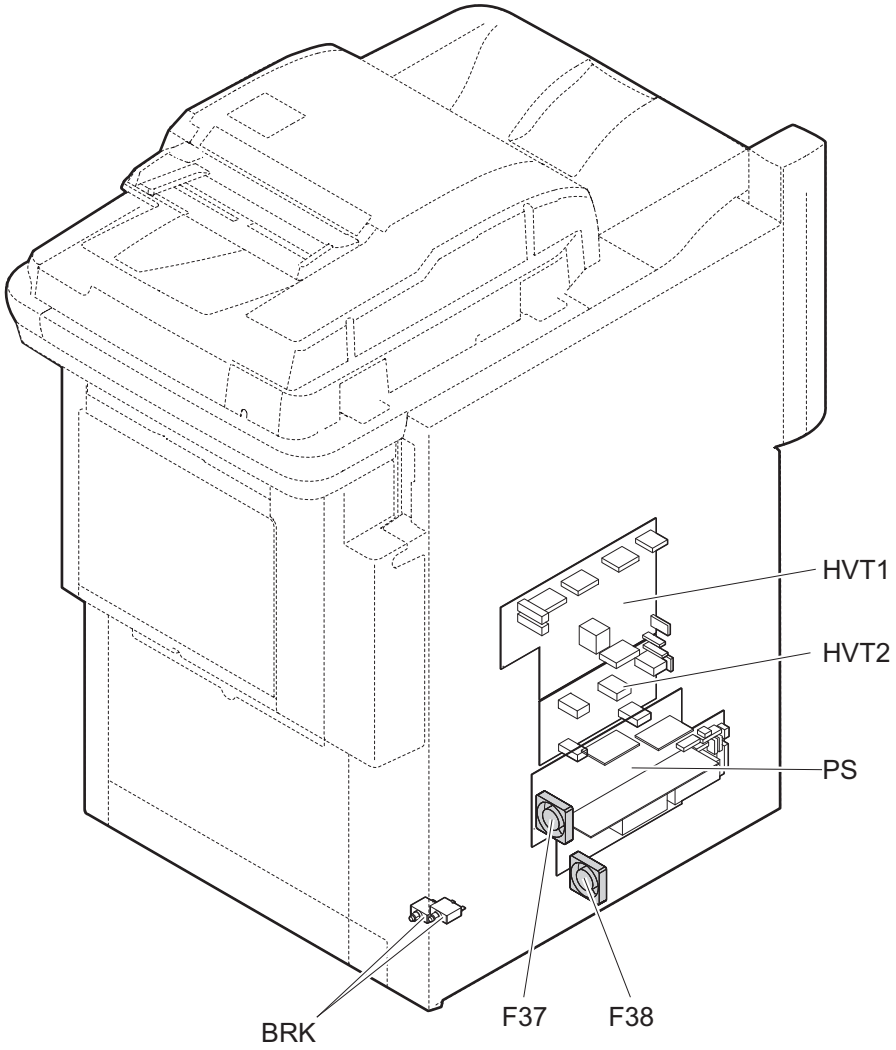

Fig. 3-23

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[Q] Fans

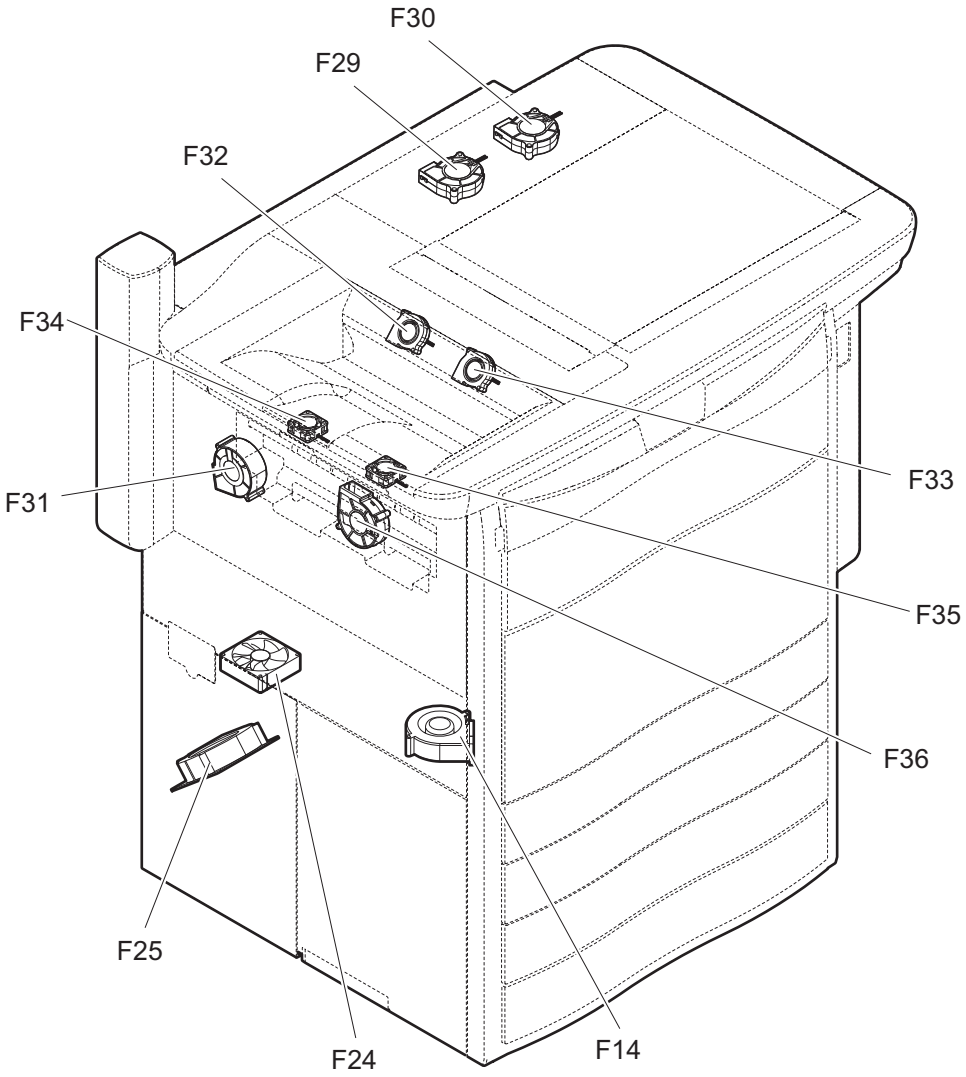

Fig. 3-24

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[R] Damp heater

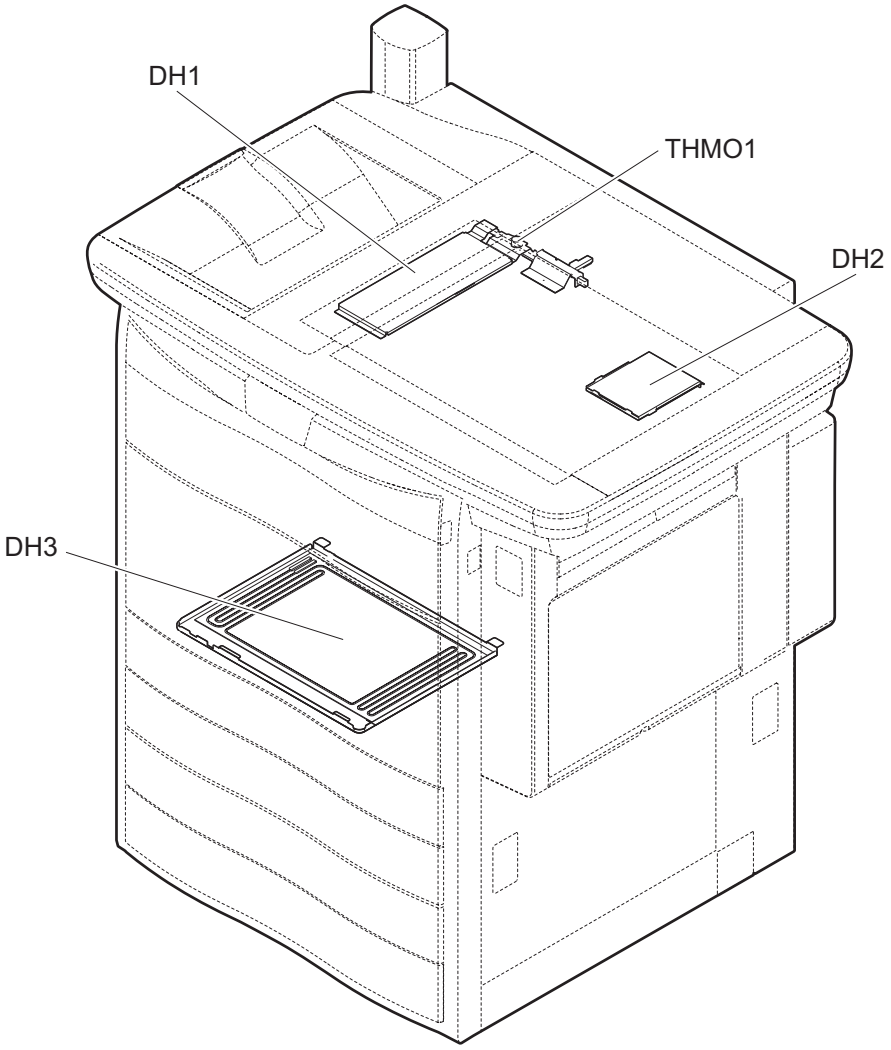

Fig. 3-25

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[S] Control panel

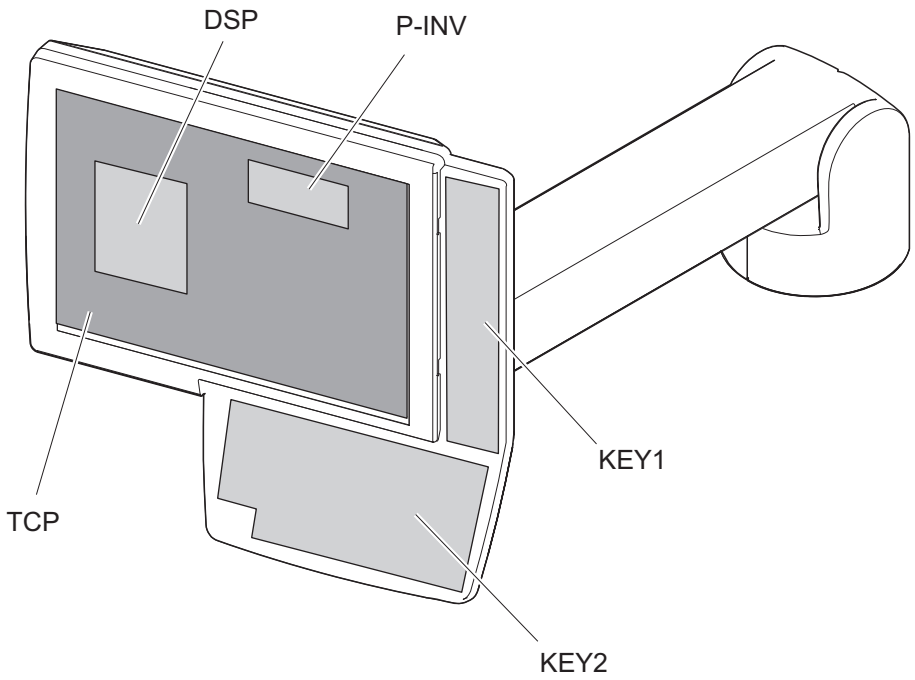

Fig. 3-26

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3.3 Symbols and Functions of Various Components

The column “P-I” shows the page and item number in the parts list.

3.3.1 Motors

Symbol	Name	Function	Remarks	P-I
MR1	Original feed motor	Driving the original feed roller, pickup roller and registration roller	Fig. 3-4	87-14
MR2	Read motor	Transporting originals by driving the intermediate transport roller, front read roller, rear read roller and reverse registration roller	Fig. 3-4	87-7
MR3	Original reverse motor	Driving the original reverse roller	Fig. 3-4	87-28
MR4	Original exit motor	Driving the original exit roller	Fig. 3-4	87-9
M1	Scan motor	Driving the carriages	Fig. 3-5	51-9
M2	Exit motor	Driving the exit roller	Fig. 3-6	37-6
M3	Reverse motor	Driving the reverse section	Fig. 3-6	23-36
M4	Bridge unit transport entrance motor	Driving the entrance transport roller of the bridge unit	Fig. 3-6	23-36
M5	Bridge unit transport exit motor	Driving the bridge unit exit transport roller of the bridge unit	Fig. 3-6	23-36
M6	Fuser motor	Driving the fuser	Fig. 3-7	39-42
M7	ADU motor-1	Driving the automatic duplexing unit	Fig. 3-16	18-2
M8	ADU motor-2	Driving the automatic duplexing unit	Fig. 3-16	18-2
M9	2nd transfer motor	Driving the 2nd transfer roller	Fig. 3-13	28-29
M10	TRU waste toner motor	Flat (horizontal) transporting waste toner in the TRU	Fig. 3-13	21-13
M11	TRU waste toner transport motor	Vertical transporting waste toner in the TRU	Fig. 3-13	27-55
M12	Bypass motor	Feeding/transporting paper in bypass unit	Fig. 3-18	15-77
M13	Transfer belt motor	Driving the transfer belt	Fig. 3-12	32-23
M14	Transfer belt cam motor	Driving the contact/release movement of the transfer belt	Fig. 3-12	32-18
M15	Toner motor-K	Toner supply from the K toner cartridge to the K sub-hopper	Fig. 3-15	45-8
M16	Toner motor-C	Toner supply from the C toner cartridge to the C sub-hopper	Fig. 3-15	45-9
M17	Toner motor-M	Toner supply from the M toner cartridge to the M sub-hopper	Fig. 3-15	45-9
M18	Toner motor-Y	Toner supply from the Y toner cartridge to the Y sub-hopper	Fig. 3-15	45-9
M19	Sub-hopper toner motor-K	Normal rotation: Toner supply from the K sub-hopper to the K developer unit and mixing toner in the K sub-hopper Reverse rotation: Mixing toner in the K sub-hopper	Fig. 3-11	60-13
M20	Sub-hopper toner motor-C	Normal rotation: Toner supply from the C sub-hopper to the C developer unit and mixing toner in the C sub-hopper Reverse rotation: Mixing toner in the C sub-hopper	Fig. 3-11	60-13

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Symbol	Name	Function	Remarks	P-I
M21	Sub-hopper toner motor-M	Normal rotation: Toner supply from the M sub-hopper to the M developer unit and mixing toner in the M sub-hopper Reverse rotation: Mixing toner in the M sub-hopper	Fig. 3-11	60-13
M22	Sub-hopper toner motor-Y	Normal rotation: Toner supply from the Y sub-hopper to the Y developer unit and mixing toner in the Y sub-hopper Reverse rotation: Mixing toner in the Y sub-hopper	Fig. 3-11	60-13
M23	Needle electrode cleaner motor-K	Driving the needle electrode cleaner-K	Fig. 3-11	59-11
M24	Needle electrode cleaner motor-C	Driving the needle electrode cleaner-C	Fig. 3-11	59-11
M25	Needle electrode cleaner motor-M	Driving the needle electrode cleaner-M	Fig. 3-11	59-11
M26	Needle electrode cleaner motor-Y	Driving the needle electrode cleaner-Y	Fig. 3-11	59-11
M27	Drum motor-K	Driving the K drum	Fig. 3-9	56-3
M28	Drum motor-YMC	Driving the Y, M and C drums	Fig. 3-9	56-2
M29	Developer unit motor-K	Driving the K developer sleeve (magnetic roller) and toner recovery auger	Fig. 3-9	55-21
M30	Developer unit mixer motor-K	Mixing the K developer material	Fig. 3-9	55-20
M31	Developer unit motor-YMC	Driving the Y, M and C developer sleeve (magnetic roller) and toner recovery auger	Fig. 3-9	55-22
M32	Developer unit mixer motor-YMC	Mixing the Y, M and C developer materials	Fig. 3-9	55-21
M33	Waste toner transport motor	Transporting waste toner	Fig. 3-15	65-37
M34	Polygonal motor	Driving the polygonal mirror	Fig. 3-14	48-1
M35	Mirror motor-M	Adjusting the irradiation angle of the M laser	Fig. 3-14	48-1
M36	Mirror motor-C	Adjusting the irradiation angle of the C laser	Fig. 3-14	48-1
M37	Mirror motor-K	Adjusting the irradiation angle of the K laser	Fig. 3-14	48-1
M38	Shutter motor	Driving the laser emission outlet (slit glass) protective shutter	Fig. 3-14	48-1
M39	Registration motor	Driving the registration roller	Fig. 3-13	10-22
M40	Transport motor-1	Driving the intermediate transport roller-1	Fig. 3-19	8-3
M41	Transport motor-2	Driving the intermediate transport roller-2	Fig. 3-19	8-3
M42	Feed motor	Driving the feed roller and pickup roller of the 1st and 2nd drawers	Fig. 3-19	8-3
M43	Feed/transport motor	Driving the feed roller and the transport roller of the 3rd and 4th drawers	Fig. 3-19	9-50
M44	Tray-up motor-1	Lifting up the trays in the 1st and 2nd drawers	Fig. 3-19	66-7
M45	Tray-up motor-2	Lifting up the trays in the 3rd and 4th drawers	Fig. 3-19	66-7
M46	Tandem LCF tray-up motor	Lifting up the tray in the tandem LCF	Fig. 3-21	12-19
M47	Tandem LCF end fence motor	Driving the end fence in the tandem LCF	Fig. 3-21	12-19

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3.3.2 Fans

Symbol	Name	Function	Remarks	P-I
FR1	RADF cooling fan	Cools off the RADF drive section.	Fig. 3-4	89-16
F1	SLG board cooling fan	Cooling down the SLG board	Fig. 3-5	54-28
F2	Exposure lamp cooling fan-1	Cooling down the exposure lamp	Fig. 3-5	50-25
F3	Scanner unit cooling fan-1	Cooling down the scanner unit	Fig. 3-5	50-15
F5	Exit paper cooling fan (front)	Cooling down the exiting/reversed paper and scanner unit, and avoiding exposure to water	Fig. 3-6	49-56
F6	Bridge unit cooling fan (front)	Cooling down the exiting/reversed paper and scanner unit, and avoiding exposure to water	Fig. 3-6	44-62
F7	Bridge unit cooling fan (rear)	Cooling down the exiting/reversed paper, scanner unit, bridge unit transport motor and reverse motor, and avoiding exposure to water	Fig. 3-6	45-66
F8	IH board cooling fan-1	Cooling down the IH board	Fig. 3-8	38-29
F9	IH board cooling fan-2	Cooling down the IH board	Fig. 3-8	38-29
F11	Reversed paper cooling fan	Cooling down the reversed paper	Fig. 3-16	18-26
F14	EPU cooling fan	Cooling down the developer unit (EPU)	Fig. 3-24	49-27
F15	Exit paper cooling fan (rear)	Cooling down the exiting/reversed paper and scanner unit, and avoiding exposure to water	Fig. 3-7	49-43
F17	Main charger blowing fan-K	Preventing the main charger unit-K from being stained	Fig. 3-11	59-2
F18	Main charger blowing fan-C	Preventing the main charger unit-C from being stained	Fig. 3-11	59-2
F19	Main charger blowing fan-M	Preventing the main charger unit-M from being stained	Fig. 3-11	59-2
F20	Main charger blowing fan-Y	Preventing the main charger unit-Y from being stained	Fig. 3-11	59-3
F21	Toner cartridge heat insulation fan	Insulating and cooling down the toner cartridge	Fig. 3-7	49-48
F22	Laser optical unit cooling fan (Front)	Cooling down the laser optical unit	Fig. 3-14	48-8
F23	Laser optical unit cooling fan (Rear)	Cooling down the laser optical unit, transport motor and feed motor	Fig. 3-14	49-21
F24	Ozone suctioning fan	Suctioning ozone generated at charging	Fig. 3-24	49-2
F25	Scattered toner suctioning fan	Suctioning toner scattering from the developer sleeve	Fig. 3-24	49-7
F26	Exposure lamp cooling fan-2	Cooling down the exposure lamp	Fig. 3-5	50-25
F27	SYS board cooling fan	Cooling down the SYS board	Fig. 3-22	68-9
F28	HDD cooling fan	Cooling down the hard disk	Fig. 3-22	68-8
F29	Upper exhaust fan (left)	Exhausting the heat inside (upper) the equipment	Fig. 3-24	49-101
F30	Upper exhaust fan (right)		Fig. 3-24	49-101
F31	Toner cooling exhaust fan	Exhausting the heat inside the equipment so as not to conduct it to the toner	Fig. 3-24	47-29
F32	Upper exit section cooling fan-1	Cooling the paper which exits in the upper exit section	Fig. 3-24	36-101
F33	Upper exit section cooling fan-2		Fig. 3-24	36-101
F34	Lower exit section cooling fan-1	Cooling the paper which exits in the lower exit section	Fig. 3-24	35-45
F35	Lower exit section cooling fan-2		Fig. 3-24	35-45
F36	Lower exit section cooling fan-3		Fig. 3-24	49-60

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Symbol	Name	Function	Remarks	P-I
F37	Power supply unit cooling fan-1	Cooling down the power supply unit	Fig. 3-23	70-26
F38	Power supply unit cooling fan-2		Fig. 3-23	70-26

3.3.3 Sensors

Symbol	Name	Function	Remarks	P-I
SR1	Original tray sensor	Detects the length of the original set on the original tray.	Fig. 3-3	93-2
SR2	Original tray width sensor	Detects the width of the original set on the original tray.	Fig. 3-3	93-12
SR3	Original empty sensor	Detects the original set on the original tray.	Fig. 3-3	81-3
SR4	Original reading end sensor	Detecting the trailing edge of the original at the original scanning section	Fig. 3-3	85-5
SR5	Original registration sensor	Detects transport of the original at the registration roller section.	Fig. 3-3	82-14
SR6	Original width detection sensor-1	Detects the width of the original.	Fig. 3-3	82-14
SR7	Original width detection sensor-2	Detects the width of the original.	Fig. 3-3	82-14
SR8	Original width detection sensor-3	Detects the width of the original.	Fig. 3-3	82-14
SR9	Original intermediate transport sensor	Detects the original transported to the pre-scanning section.	Fig. 3-3	85-25
SR10	Original reading start sensor	Detects the leading edge of the original at the original scanning section.	Fig. 3-3	85-23
SR11	Original exit/reverse sensor	Detects the stop reference position for an original when in reverse.	Fig. 3-3	86-14
SR12	Original exit sensor	Detects the exit (transit) of an original.	Fig. 3-3	83-10
SR13	Original jam access cover opening/ closing sensor	Detects opening/closing of the Jam access cover.	Fig. 3-3	81-3
SR14	Original reverse unit opening/closing sensor	Detecting the opening/closing status of the original reverse unit.	Fig. 3-3	85-6
SR15	RADF opening/closing sensor	Detecting the opening/closing status of the RADF.	Fig. 3-3	88-2
S1	Automatic original detection sensor (APS-2)	Detecting original size (only for A4 series models)	Fig. 3-5	54-11
S2	Automatic original detection sensor (APS-C)	Detecting original size	Fig. 3-5	54-11
S3	Automatic original detection sensor (APS-1)	Detecting original size	Fig. 3-5	54-11
S4	Automatic original detection sensor (APS-3)	Detecting original size	Fig. 3-5	54-11
S5	Automatic original detection sensor (APS-R)	Detecting original size	Fig. 3-5	54-14
S6	Carriage home position sensor	Detecting the carriage home position	Fig. 3-5	54-18
S7	Platen sensor	Detecting the opening/closing status of the RADF	Fig. 3-5	51-23
S8	Toner cartridge paddle rotation detection sensor-K	Detecting the paddle rotation in the K toner cartridge	Fig. 3-15	45-11
S9	Toner cartridge paddle rotation detection sensor-C	Detecting the paddle rotation in the C toner cartridge	Fig. 3-15	45-11
S10	Toner cartridge paddle rotation detection sensor-M	Detecting the paddle rotation in the M toner cartridge	Fig. 3-15	45-11
S11	Toner cartridge paddle rotation detection sensor-Y	Detecting the paddle rotation in the Y toner cartridge	Fig. 3-15	45-11
S12	Temperature/humidity sensor	Detecting the ambient temperature/ humidity of the equipment	Fig. 3-10	48-12

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Symbol	Name	Function	Remarks	P-I
S13	Waste toner amount detection sensor	Detecting the amount of waste toner in the waste toner box	Fig. 3-15	65-45
S14	Waste toner box full detection sensor	Detecting the full status of waste toner in the waste toner box	Fig. 3-15	65-45
S16	Waste toner detection sensor	Detecting the presence of the waste toner box and the opening/closing status of the waste toner box cover	Fig. 3-15	5-17
S17	TRU waste toner amount detection sensor	Detecting the amount of waste toner in the TRU waste toner box	Fig. 3-17	27-46
S20	Image position aligning sensor (front)	Detecting the front side position of a toner image (test pattern) developed on the transfer belt	Fig. 3-13	6-5
S21	Image position aligning sensor (center)	Detecting the center position of a toner image (test pattern) developed on the transfer belt	Fig. 3-13	6-5
S22	Image position aligning sensor (rear)	Detecting the rear side position of a toner image (test pattern) developed on the transfer belt	Fig. 3-13	6-5
S23	Image quality sensor	Detecting the density of a toner image (test pattern) developed on the transfer belt surface	Fig. 3-13	6-6
S24	Shutter sensor (home position)	Detecting the home position of the laser emission outlet (slit glass) protective shutter	Fig. 3-14	48-1
S25	Shutter sensor (end position)	Detecting the end position of the laser emission outlet (slit glass) protective shutter	Fig. 3-14	48-1
S26	Auto-toner sensor-K	Detecting the toner density in the K developer unit	Fig. 3-10	62-20
S27	Auto-toner sensor-C	Detecting the toner density in the C developer unit	Fig. 3-10	62-20
S28	Auto-toner sensor-M	Detecting the toner density in the M developer unit	Fig. 3-10	62-20
S29	Auto-toner sensor-Y	Detecting the toner density in the Y developer unit	Fig. 3-10	62-20
S30	Needle electrode cleaner detection sensor-K	Detecting the cleaning operation for the needle electrode (Detecting that the needle electrode cleaner has reached the limit position)	Fig. 3-10	59-4
S31	Needle electrode cleaner detection sensor-C	Detecting the cleaning operation for the needle electrode (Detecting that the needle electrode cleaner has reached the limit position)	Fig. 3-10	59-4
S32	Needle electrode cleaner detection sensor-M	Detecting the cleaning operation for the needle electrode (Detecting that the needle electrode cleaner has reached the limit position)	Fig. 3-10	59-4
S33	Needle electrode cleaner detection sensor-Y	Detecting the cleaning operation for the needle electrode (Detecting that the needle electrode cleaner has reached the limit position)	Fig. 3-10	59-4
S34	Drum surface potential (V0) sensor-K	Detecting the K drum surface potential at charging	Fig. 3-10	59-22
S35	Drum surface potential (V0) sensor-C	Detecting the C drum surface potential at charging	Fig. 3-10	59-22
S36	Drum surface potential (V0) sensor-M	Detecting the M drum surface potential at charging	Fig. 3-10	59-22
S37	Drum surface potential (V0) sensor-Y	Detecting the Y drum surface potential at charging	Fig. 3-10	59-22

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Symbol	Name	Function	Remarks	P-I
S38	Sub-hopper toner sensor-K	Detecting the toner amount in the K sub-hopper	Fig. 3-15	58-23
S39	Sub-hopper toner sensor-C	Detecting the toner amount in the C sub-hopper	Fig. 3-15	58-23
S40	Sub-hopper toner sensor-M	Detecting the toner amount in the M sub-hopper	Fig. 3-15	58-23
S41	Sub-hopper toner sensor-Y	Detecting the toner amount in the Y sub-hopper	Fig. 3-15	58-23
S42	Auger lock detection sensor	Detecting the auger operation in the waste toner transport unit	Fig. 3-15	61-19
S43	Color drum phase sensor	Detecting the rotation phase of Y, M and C drums	Fig. 3-9	56-7
S44	K drum phase sensor	Detecting the rotation phase of K drum	Fig. 3-9	56-7
S46	Transfer belt contact/release detection sensor	Detecting the contact/release status of the transfer belt	Fig. 3-12	33-2
S47	Transfer belt paper clinging detection sensor	Detecting paper clinging underneath the transfer belt	Fig. 3-13	28-4
S48	Pressure roller contact/release detection sensor	Detecting the contact/release status of the fuser unit	Fig. 3-7	40-36
S49	Fuser belt rotation detection sensor	Detecting the rotation of the fuser belt	Fig. 3-7	40-30
S50	2nd transfer roller contact/release detection sensor	Detecting the contact/release status of the 2nd transfer roller	Fig. 3-13	28-4
S51	2nd transfer side paper clinging detection sensor	Detecting paper clinging on the 2nd transfer roller side	Fig. 3-13	-
S52	Registration sensor	Detecting paper transport at the registration roller section	Fig. 3-13	10-13
S55	Bridge unit path entrance sensor	Detecting the transporting status of paper at the entrance of the bridge unit	Fig. 3-6	23-7
S56	Bridge unit path exit sensor	Detecting the transporting status of paper inside of the bridge unit	Fig. 3-6	23-7
S57	Reverse path sensor	Detecting the transporting status of the reversed paper	Fig. 3-6	20-28
S58	Reverse section stationary jam detection sensor	Detecting jams at the reverse section	Fig. 3-6	25-8
S59	Reverse sensor	Detecting the reversed paper	Fig. 3-6	26-25
S60	Reverse section paper transport detection sensor	Detecting the transporting status of paper at the reverse section	Fig. 3-6	37-16
S61	Upper paper exit sensor	Detecting the exiting status of paper on the upper exit tray	Fig. 3-6	36-11
S62	Upper exit tray paper full detection sensor	Detecting the full status of paper exited on the upper exit tray	Fig. 3-6	36-10
S63	Lower paper exit sensor	Detecting the exiting status of paper on the side exit tray	Fig. 3-6	35-11
S64	Duplexing unit opening/closing detection sensor	Detecting the opening/closing status of the automatic duplexing unit	Fig. 3-16	20-28
S65	Fuser transport sensor	Detecting the transporting status of paper at the fuser unit	Fig. 3-7	22-19
S66	Duplexing unit path entrance sensor	Detecting the transporting status of paper at the entrance of the automatic duplexing unit	Fig. 3-16	21-45
S67	Duplexing unit path exit sensor	Detecting the transporting status of paper inside of the automatic duplexing unit	Fig. 3-16	21-45
S69	Media sensor	Detecting thick paper	Fig. 3-18	22-6
S70	Bypass paper size detection sensor	Detecting the width of paper on the bypass feed unit	Fig. 3-18	17-14
S71	Bypass paper sensor	Detecting the presence of paper on the bypass feed unit	Fig. 3-18	15-65

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Symbol	Name	Function	Remarks	P-I
S72	Bypass feed sensor	Detecting transported paper fed from the bypass feed unit	Fig. 3-18	16-65
S73	1st drawer detection sensor	Detecting the presence of the 1st drawer	Fig. 3-20	11-7
S74	1st drawer bottom sensor	Detecting the lowering status of the tray in the 1st drawer	Fig. 3-19	47-7
S75	1st drawer empty sensor	Detecting the presence of the paper in the 1st drawer	Fig. 3-20	11-7
S76	1st drawer tray-up sensor	Detecting the lifting status of the tray in the 1st drawer	Fig. 3-20	11-7
S77	1st drawer transport sensor	Detecting the paper transport at the paper feeding system of the 1st drawer	Fig. 3-20	11-45
S78	1st drawer feed sensor	Detecting the paper feeding status of the1st drawer	Fig. 3-20	11-45
S79	1st drawer paper size detection sensor-1	Detecting the size of paper in the 1st drawer	Fig. 3-19	46-20
S80	1st drawer paper size detection sensor-2	Detecting the size of paper in the 1st drawer	Fig. 3-19	46-20
S81	2nd drawer detection sensor	Detecting the presence of the 2nd drawer	Fig. 3-20	11-7
S82	2nd drawer bottom sensor	Detecting the lowering status of the tray in the 2nd drawer	Fig. 3-19	47-7
S83	2nd drawer empty sensor	Detecting the presence of the paper in the 2nd drawer	Fig. 3-20	11-7
S84	2nd drawer tray-up sensor	Detecting the lifting status of the tray in the 2nd drawer	Fig. 3-20	11-7
S85	2nd drawer transport sensor	Detecting the paper transport at the paper feeding system of the 2nd drawer	Fig. 3-20	11-45
S86	2nd drawer feed sensor	Detecting the paper feeding status of the 2nd drawer	Fig. 3-20	11-45
S87	2nd drawer paper size detection sensor-1	Detecting the size of paper in the 2nd drawer	Fig. 3-19	46-20
S88	2nd drawer paper size detection sensor-2	Detecting the size of paper in the 2nd drawer	Fig. 3-19	46-20
S89	3rd drawer/tandem LCF detection sensor	Detecting the presence of the 3rd drawer or the tandem LCF	Fig. 3-20	11-7
S90	3rd drawer bottom sensor	Detecting the lowering status of the tray in the 3rd drawer	Fig. 3-19	47-7
S91	3rd drawer/tandem LCF empty sensor	Detecting the presence of the paper in the 3rd drawer or the tandem LCF	Fig. 3-20	11-7
S92	3rd drawer/tandem LCF tray-up sensor	Detecting the lifting status of the tray in the 3rd drawer or the tandem LCF	Fig. 3-20	11-7
S93	3rd drawer/tandem LCF transport sensor	Detecting the paper transport at the paper feeding system of the 3rd drawer or the tandem LCF	Fig. 3-20	11-45
S94	3rd drawer/tandem LCF feed sensor	Detecting the paper feeding status of the 3rd drawer or the tandem LCF	Fig. 3-20	11-45
S95	3rd drawer paper size detection sensor-1	Detecting the size of paper in the 3rd drawer	Fig. 3-19	46-20
S96	3rd drawer paper size detection sensor-2	Detecting the size of paper in the 3rd drawer	Fig. 3-19	46-20
S97	4th drawer detection sensor	Detecting the presence of the 4th drawer	Fig. 3-20	11-7
S98	4th drawer bottom sensor	Detecting the lowering status of the tray in the 4th drawer	Fig. 3-19	47-7
S99	4th drawer empty sensor	Detecting the presence of the paper in the 4th drawer	Fig. 3-20	11-7

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Symbol	Name	Function	Remarks	P-I
S100	4th drawer tray-up sensor	Detecting the lifting status of the tray in the 4th drawer	Fig. 3-20	11-7
S101	4th drawer transport sensor	Detecting the paper transport at the paper feeding system of the 4th drawer	Fig. 3-20	11-45
S102	4th drawer feed sensor	Detecting the paper feeding status of the 4th drawer	Fig. 3-20	11-45
S103	4th drawer paper size detection sensor-1	Detecting the size of paper in the 4th drawer	Fig. 3-19	46-20
S104	4th drawer paper size detection sensor-2	Detecting the size of paper in the 4th drawer	Fig. 3-19	46-20
S106	Standby side tray paper amount detection sensor	Detecting the remaining amount of paper on the standby side tray in the tandem LCF	Fig. 3-21	13-15
S107	Tandem LCF bottom sensor	Detecting the descending status of the trays in the tandem LCF	Fig. 3-21	14-32
S108	Standby side tray detection sensor	Detecting the presence of the standby side tray in the tandem LCF	Fig. 3-21	46-26
S109	Standby side empty sensor	Detecting the presence of the paper at the standby side of the tandem LCF	Fig. 3-21	13-15
S110	Stopper opening/closing detection sensor (front)	Detecting the opening/closing status of the front stopper in the tandem LCF	Fig. 3-21	14-32
S111	Stopper opening/closing detection sensor (rear)	Detecting the opening/closing status of the rear stopper in the tandem LCF	Fig. 3-21	14-32
S112	End fence home position sensor	Detecting the end fence home position in the tandem LCF	Fig. 3-21	13-15
S113	End fence stop position sensor	Detecting the end fence stop position in the tandem LCF	Fig. 3-21	13-15
S114	Feed cover sensor	Detecting the opening/closing status of the feed cover	Fig. 3-17	7-4

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3.3.4 Switches

Symbol	Name	Function	Remarks	P-I
SWR1	Jam access cover opening/closing switch	Switches between cutoff and supply state of the 24 V power by opening/closing of the jam access cover.	Fig. 3-3	81-1
SWR2	RADF opening/closing switch	Detecting the opening/closing status of the RADF	Fig. 3-3	88-9
SW1	Main power switch	Turning the main power of the equipment ON/OFF	Fig. 3-17	44-41
SW2	Interlock switch	Supplying or shutting down the AC power to the switching regulator (Cover interlock system voltage generation circuit) by opening/closing the front cover or duplexing unit (Cover/unit open: Shutdown)	Fig. 3-16	44-10
SW3	Toner motor interlock switch	Supplying or shutting down the power to the toner motor by opening/closing the front cover (Cover open: Shutdown)	Fig. 3-17	44-14
SW4	Duplexing unit interlock switch	Supplying or shutting down the IH power by opening/closing the duplexing unit (Unit open: Shutdown)	Fig. 3-16	46-6
SW5	Reverse path cover switch	Switching the opening/closing of the reverse path cover	Fig. 3-6	37-13
SW7	Duplexing unit cover opening/closing detection switch	Detecting the opening/closing status of the cover of the automatic duplexing unit	Fig. 3-16	18-40
SW8	Bridge unit connecting detection switch	Detecting the connection of the bridge unit	Fig. 3-17	44-13
SW9	Front cover opening/closing detection switch	Detecting the opening/closing of the front cover	Fig. 3-17	44-13

3.3.5 Electromagnetic spring clutches

Symbol	Name	Function	Remarks	P-I
CLT1	Pressure roller contact/release clutch	Driving the contacting/releasing operation of the pressure roller	Fig. 3-7	39-7
CLT2	2nd transfer roller contact/release clutch	Driving the contacting/releasing operation of the 2nd transfer roller	Fig. 3-13	28-37
CLT3	2nd transfer roller drive clutch	Driving the 2nd transfer roller	Fig. 3-13	28-37
CLT4	3rd drawer transport clutch	Driving the transport roller of the 3rd drawer or the tandem LCF	Fig. 3-19	9-42
CLT5	3rd drawer feed clutch	Driving the separation roller, feed roller and pickup roller of the 3rd drawer or the tandem LCF	Fig. 3-19	9-42
CLT6	4th drawer transport clutch	Driving the transport roller of the 4th drawer	Fig. 3-19	9-42
CLT7	4th drawer feed clutch	Driving the separation roller, feed roller and pickup roller of the 4th drawer	Fig. 3-19	9-42

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3.3.6 Solenoids

Symbol	Name	Function	Remarks	P-I
SOLR1	Original pickup solenoid	Drives up and down the original pickup roller.	Fig. 3-4	89-10
SOLR2	Original reverse solenoid	Drives the reverse flapper. (Switches the flapper to the reverse side when turned to ON.)	Fig. 3-4	89-13
SOLR3	Original exit solenoid	Drives the exit flapper. (Switches the flapper to the original reverse tray side when turned to ON.)	Fig. 3-4	89-13
SOL1	Transport path switching solenoid-1	Driving the switching operation of the bridge unit transport paths	Fig. 3-6	24-28
SOL2	Transport path switching solenoid-2	Driving the switching operation of the bridge unit transport paths	Fig. 3-6	24-28
SOL3	Image quality shutter solenoid	Driving the sensor shutter of the image position aligning sensor (front / center / rear) and image quality sensor	Fig. 3-13	6-11
SOL4	V0 sensor shutter solenoid-K	Driving the opening/closing operation of the shutter of the drum surface potential (V0) sensor-K	Fig. 3-11	59-33
SOL5	V0 sensor shutter solenoid-C	Driving the opening/closing operation of the shutter of the drum surface potential (V0) sensor-C	Fig. 3-11	59-33
SOL6	V0 sensor shutter solenoid-M	Driving the opening/closing operation of the shutter of the drum surface potential (V0) sensor-M	Fig. 3-11	59-33
SOL7	V0 sensor shutter solenoid-Y	Driving the opening/closing operation of the shutter of the drum surface potential (V0) sensor-Y	Fig. 3-11	59-33
SOL8	Bypass pickup solenoid	Driving the lifting movement of the bypass pickup roller	Fig. 3-18	15-5
SOL9	Tandem LCF solenoid	Driving the lifting movement of the tandem LCF pickup roller	Fig. 3-21	11-62
SOL10	Stopper opening/closing solenoid (front)	Driving the opening/closing operation of the front stopper in the tandem LCF	Fig. 3-21	14-28
SOL11	Stopper opening/closing solenoid (rear)	Driving the opening/closing operation of the rear stopper in the tandem LCF	Fig. 3-21	14-28

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3.3.7 PC boards

Symbol	Name	Function	Remarks	P-I
RADF	RADF control PC board	Controls the RADF.	Fig. 3-4	88-23
CCD	CCD driving PC board (CCD board)	Scanning originals with CCD	Fig. 3-5	54-15
SLG	Scanning section control PC board (SLG board)	Controlling the scanning section	Fig. 3-5	54-9
INV	Lamp inverter board	Controlling the exposure lamp	Fig. 3-5	52-4
DSP	Display PC board (DSP board)	Controlling the whole control panel	Fig. 3-26	3-32
KEY1	Key PC board-1 (KEY-1 board)	Controlling the key switches and LEDs	Fig. 3-26	3-31
KEY2	Key PC board-2 (KEY-2 board)	Controlling the key switches and LEDs	Fig. 3-26	3-30
P-INV	Panel inverter board (P-INV board)	Controlling the LCD backlight	Fig. 3-26	3-33
IMG	Image processing PC board (IMG board)	Controlling the image processing	Fig. 3-22	68-13
SYS	System control PC board (SYS board)	Controlling the whole system and image processing	Fig. 3-22	68-29
LGC	Logic PC board (LGC board)	Controlling the print engine section	Fig. 3-22	69-18
SNS	H-sync detection PC board (SNS board)	Detecting the laser beam position	Fig. 3-14	48-1
LDR-Y	Laser driving PC board-Y (LDR-Y board)	Driving the Y laser diode	Fig. 3-14	48-1
LDR-M	Laser driving PC board-M (LDR-M board)	Driving the M laser diode	Fig. 3-14	48-1
LDR-C	Laser driving PC board-C (LDR-C board)	Driving the C laser diode	Fig. 3-14	48-1
LDR-K	Laser driving PC board-K (LDR-K board)	Driving the K laser diode	Fig. 3-14	48-1
EPU	EPU PC board (EPU board)	Storing information of the developer unit (EPU)	Fig. 3-11	61-24
V0S	Drum surface potential sensors control PC board (V0S board)	Controlling the drum surface potential (V0) sensors	Fig. 3-11	61-25
PFC	Paper feeding control PC board (PFC board)	Controlling paper feeding	Fig. 3-22	69-23
ADU	ADU control PC board (ADU board)	Controlling the automatic duplexing unit	Fig. 3-16	18-35
DRV	DRV PC board	Controlling bypass unit, transfer belt unit and paper exiting	Fig. 3-6	46-35
IH	Heater control PC board (IH board)	Controlling the IH coil of the fuser unit	Fig. 3-8	38-34
FIL	Filter PC board (FIL board)	• Filtering out the AC power noise • Power supplying to each damp heater	Fig. 3-22	70-6
RAM-S	SRAM board <for SYS board>	Storing the setting or adjustment value, etc. used for the control by the system control PC board	Fig. 3-22	68-30
RAM-L	SRAM board <for LGC board>	Storing the setting or adjustment value, etc. used for the control by the logic PC board	Fig. 3-22	69-20

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3.3.8 Lamps, coils, and heaters

Symbol	Name	Function	Remarks	P-I
EXP	Exposure lamp	Exposing originals	Fig. 3-5	52-9
ERS-K	Discharge LED-K	Eliminating residual charge on the K drum surface	Fig. 3-11	64-20
ERS-C	Discharge LED-C	Eliminating residual charge on the C drum surface	Fig. 3-11	64-20
ERS-M	Discharge LED-M	Eliminating residual charge on the M drum surface	Fig. 3-11	64-20
ERS-Y	Discharge LED-Y	Eliminating residual charge on the Y drum surface	Fig. 3-11	64-20
LED	Fuser unit jam releasing LED	Illuminating the exit roller section of the fuser unit for releasing paper jams	Fig. 3-16	44-55
LAMP	Pressure roller heater lamp	Heating of the pressure roller • Center heater lamp • Side heater lamp • Sub heater lamp (for MJC, MJD)	Fig. 3-8	42-30
IH-COIL	IH coil	Heating of the fuser belt	Fig. 3-8	43-13
DH1	Scanner damp heater (Left)	Preventing condensation of the mirrors of the carriage	Fig. 3-25	-
DH2	Scanner damp heater (Right)	Preventing condensation of the lens	Fig. 3-25	54-34
DH3	Drum damp heater	Preventing condensation of the drum	Fig. 3-25	5-20

3.3.9 Thermistors, thermopiles, and thermostats

Symbol	Name	Function	Remarks	P-I
THM1	Drum thermistor-K	Detecting the surface temperature of the drum for K	Fig. 3-10	59-27
THM2	Drum thermistor-Y	Detecting the surface temperature of the drum for Y	Fig. 3-10	59-27
THM3	Pressure roller center thermistor	Detecting the surface temperature of the center of the pressure roller	Fig. 3-7	42-15
THM4	Pressure roller side thermistor	Detecting the surface temperature of the side of the pressure roller	Fig. 3-7	42-15
THM5	Pressure roller edge thermistor	Detecting the surface temperature of the front edge of the pressure roller	Fig. 3-7	42-15
THM6	Fuser belt edge thermistor	Detecting the surface temperature of the front edge of the fuser belt	Fig. 3-7	40-23
THMP1	Fuser belt center thermopile	Detecting the surface temperature of the center of the fuser belt	Fig. 3-7	38-2
THMP2	Fuser belt side thermopile	Detecting the surface temperature of the side of the fuser belt	Fig. 3-7	38-2
THMO1	Scanner damp heater thermostat	Controlling the temperature of the scanner damp heater	Fig. 3-25	-
THMO2	Pressure roller center thermostat	Controlling the temperature of the center of the pressure roller	Fig. 3-7	42-16
THMO3	Pressure roller side thermostat	Controlling the temperature of the side of the pressure roller	Fig. 3-7	42-17
THMO4	Fuser belt center thermostat	Controlling the temperature of the center of the Fuser belt	Fig. 3-7	43-42
THMO5	Fuser belt side thermostat	Controlling the temperature of the side of the Fuser belt	Fig. 3-7	43-42

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3.3.10 Transformer

Symbol	Name	Function	Remarks	P-I
HVT1	PS-HVT1 High-voltage transformer-1	Generating high-voltage and supplying it to the following sections • Main charger needle electrode • Main charger grid • Developer bias	Fig. 3-23	71-1
HVT2	PS-HVT1 High-voltage transformer-2	Generating high-voltage and supplying it to the following sections • 1st transfer bias • 2nd transfer bias	Fig. 3-23	71-4

3.3.11 Others

Symbol	Name	Function	Remarks	P-I
TCP	TCP Touch panel	Displaying and entering various kinds of information	Fig. 3-26	3-23
HDD	HDD Hard disk	Saving program data and image data	Fig. 3-22	68-24
PS	PS-ACC Switching regulator	Generating DC voltage and supplying it to each section of the equipment	Fig. 3-23	70-26
BRK	BRK Breaker	Preventing overcurrent to the equipment	Fig. 3-23	70-7

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3.4 System Block Diagram

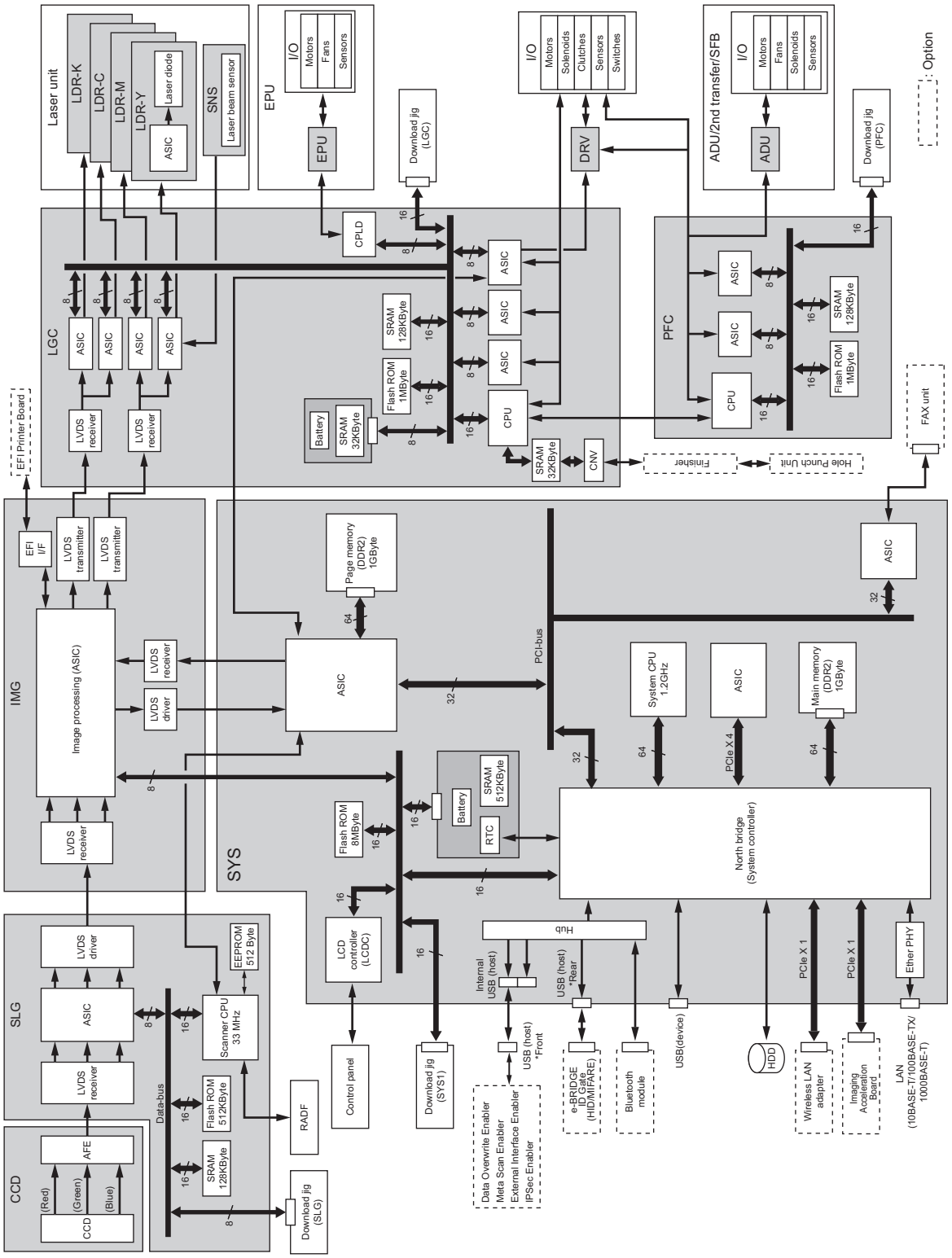

Fig. 3-27

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3.5 Disassembly and Replacement of Covers

3.5.1 Front lower cover

(1) Pull out the 1st drawer.
(2) Loosen 2 screws.
(3) Take off the front lower cover.

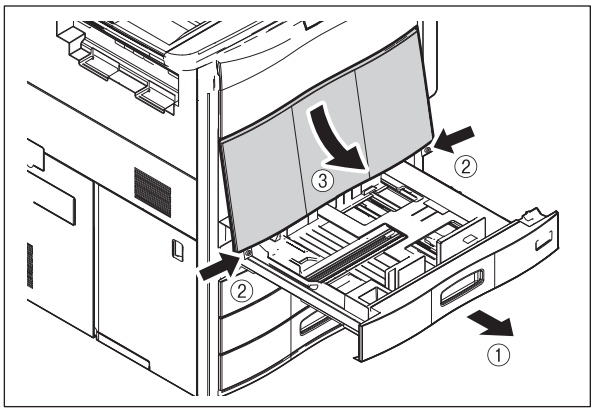

Fig. 3-28

3.5.2 Front cover

(1) Take off the front lower cover.
📖 P.3-41 "3.5.1 Front lower cover"
(2) Open the front cover.
(3) Remove 2 screws and take off the cover support.
(4) Remove 1 clip.
(5) Lift up the supporting point of the left side hinge and move the front cover to the right side to take it off.

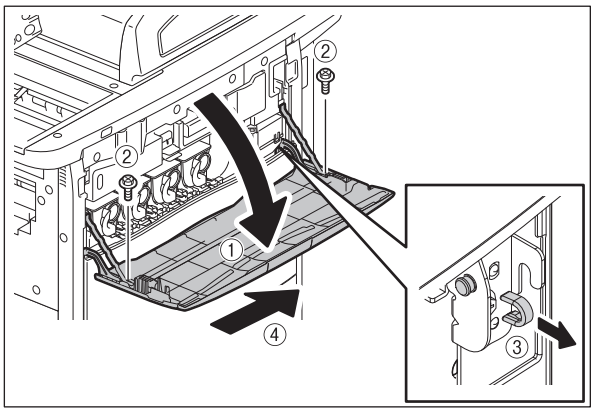

Fig. 3-29

3.5.3 Top right cover

(1) Remove 3 screws and take off the top right cover.

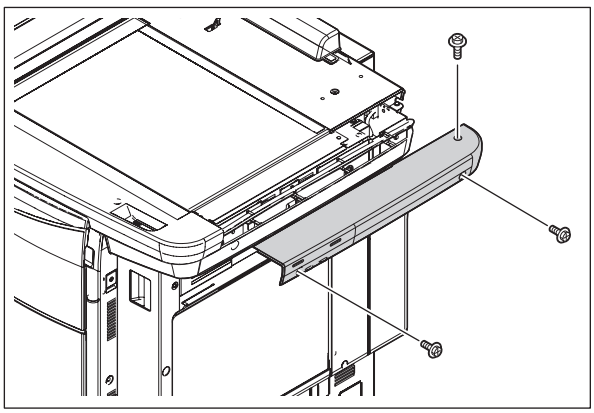

Fig. 3-30

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3.5.4 Right top cover

(1) Take off the top right cover.
P.3-41 "3.5.3 Top right cover"
(2) Open the duplexing unit.
(3) Remove 2 screws and take off the right top cover.

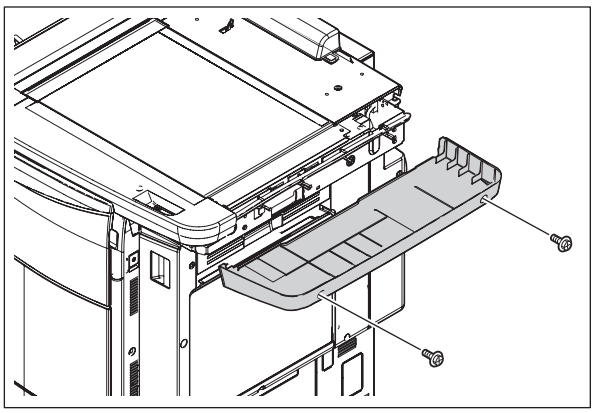

Fig. 3-31

3.5.5 Top front cover

(1) Take off the right top cover.
P.3-42 "3.5.4 Right top cover"
(2) Open the front cover.
(3) Remove 3 screws and take off the top front cover.

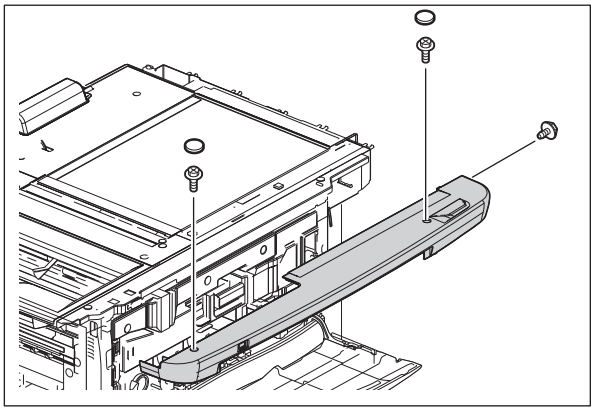

Fig. 3-32

3.5.6 Top left cover

(1) Remove 2 screws and take off the filter cover and top left cover.

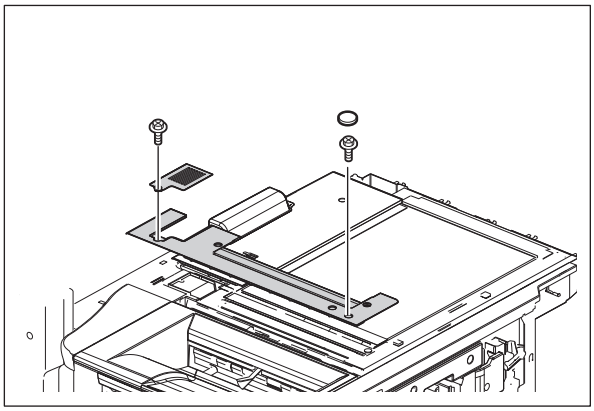

Fig. 3-33

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3.5.7 FAX cover

(1) Remove 1 screw and take off the FAX cover.

Note:
When the optional FAX Unit (GD-1270) has been installed, take off the modular cable cover before the FAX cover.

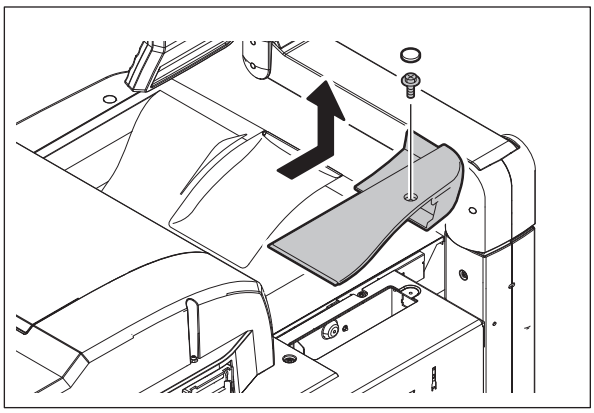

Fig. 3-34

3.5.8 Receiving tray

(1) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(2) Take off the top left cover.
📖 P.3-42 "3.5.6 Top left cover"
(3) Take off the FAX cover.
📖 P.3-43 "3.5.7 FAX cover"
(4) Open the reverse path cover.
(5) Remove 2 screws and take off the receiving tray.

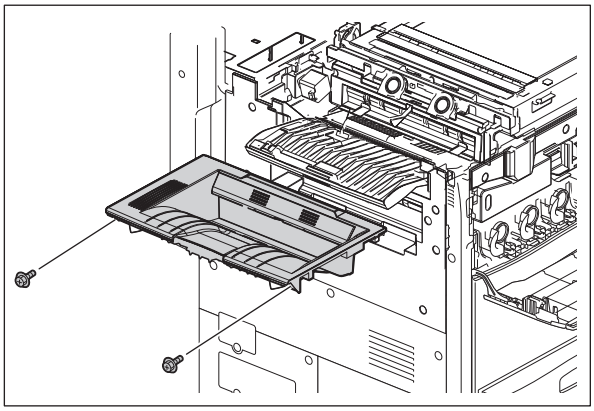

Fig. 3-35

3.5.9 Left middle cover

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Remove 1 shield seal.
(3) Remove 3 screws to take off the left middle cover.

Note:
When installing the left middle cover, be sure to attach the shield seal back in its original position.

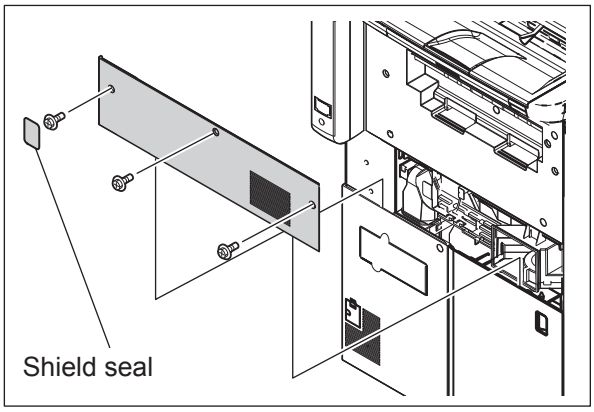

Fig. 3-36

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3.5.10 Left top cover

(1) Take off the receiving tray.
🕮 P.3-43 "3.5.8 Receiving tray"
(2) Take off the left middle cover.
🕮 P.3-43 "3.5.9 Left middle cover"
(3) Remove 2 screws and take off the fan cover.
(4) Remove 6 screws and take off the left top cover.

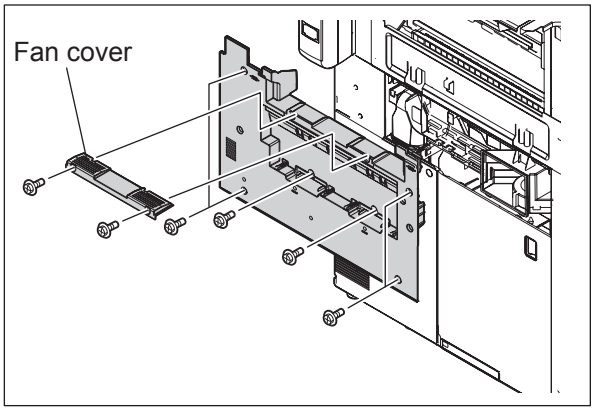

Fig. 3-37

3.5.11 Left lower cover

(1) Remove 2 screws and take off the filter cover.
(2) Remove 1 screw and take off the left lower cover.

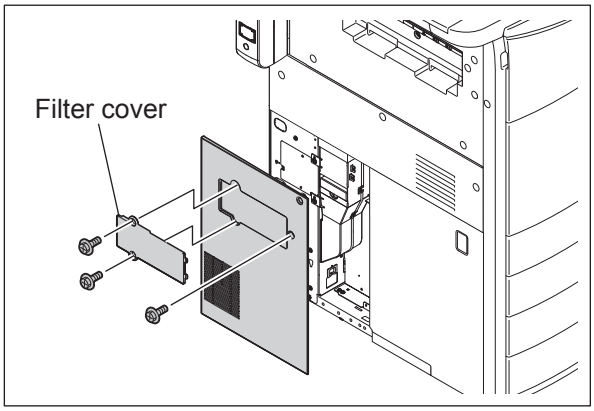

Fig. 3-38

3.5.12 Bypass tray unit (Removing tray arm)

(1) Secure the sliding section of the tray arm, and then remove the tray arm by pulling its joint up.
The tray can be easily taken out by lifting up its leading edge with the sliding section secured.

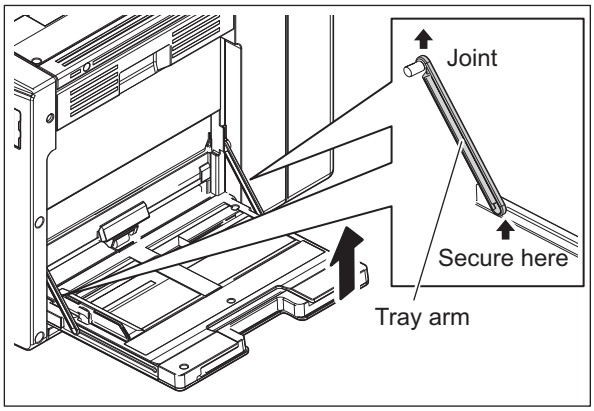

Fig. 3-39

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3.5.13 Duplexing unit front cover

(1) Open the duplexing unit.
(2) Remove the tray arms.
📖 P.3-44 "3.5.12 Bypass tray unit (Removing tray arm)"
(3) Remove 3 screws and take off the duplexing unit front cover.

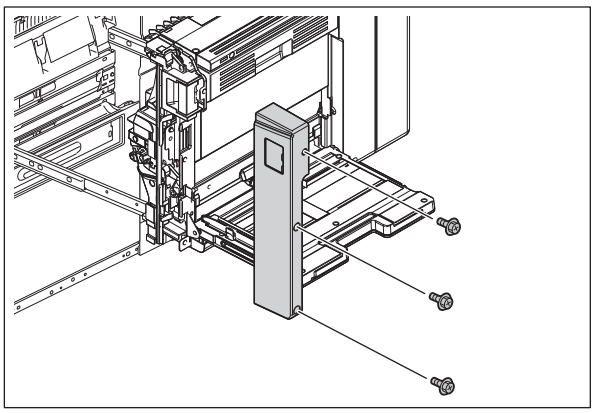

Fig. 3-40

3.5.14 Duplexing unit rear cover

(1) Open the duplexing unit.
(2) Remove the tray arms.
📖 P.3-44 "3.5.12 Bypass tray unit (Removing tray arm)"
(3) Remove 3 screws and take off the duplexing unit rear cover.

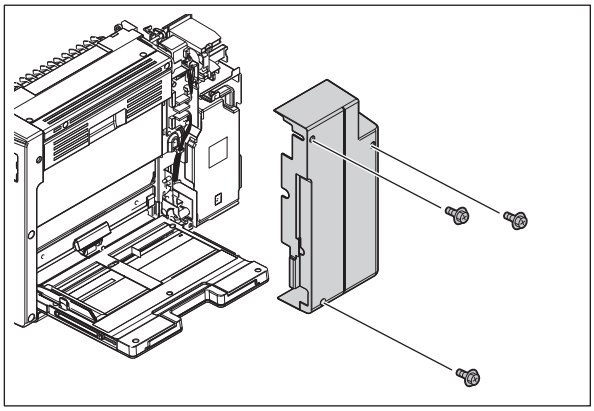

Fig. 3-41

3.5.15 Paper feed cover

(1) Open the duplexing unit.
(2) Open the paper feed cover.
(3) Remove 1 clip to take off the paper feed cover.

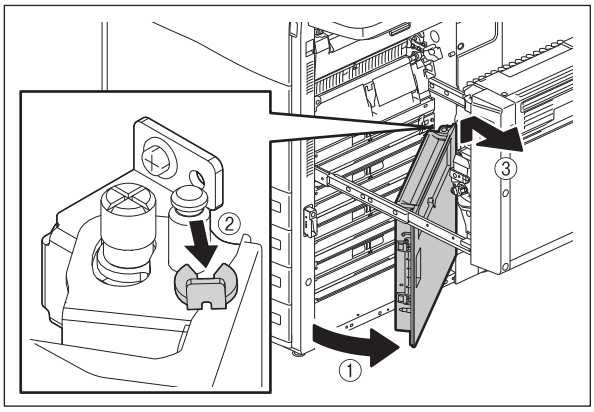

Fig. 3-42

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3.5.16 RADF connector cover

(1) Remove 1 screw and take off the RADF connector cover.

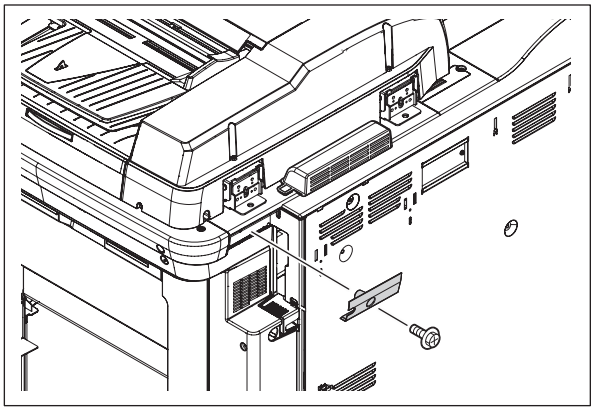

Fig. 3-43

3.5.17 Right rear cover

(1) Take off the right top cover.
P.3-42 "3.5.4 Right top cover"
(2) Take off the RADF connector cover.
P.3-46 "3.5.16 RADF connector cover"
(3) Take off the LAN cable cover.
(4) Remove 1 screw and take off the filter cover.
(5) Remove 3 screws and take off the right rear cover.

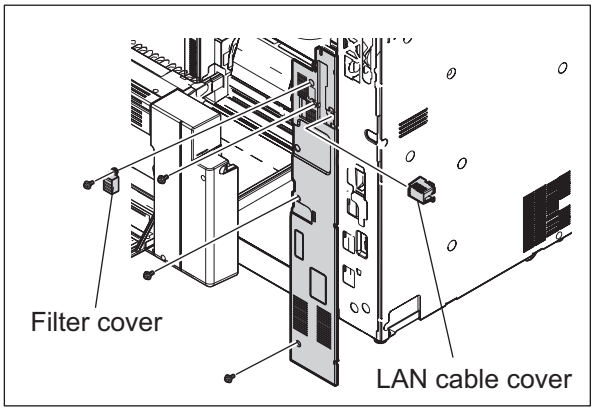

Fig. 3-44

3.5.18 Rear cover

(1) Remove 10 screws and take off the rear cover.

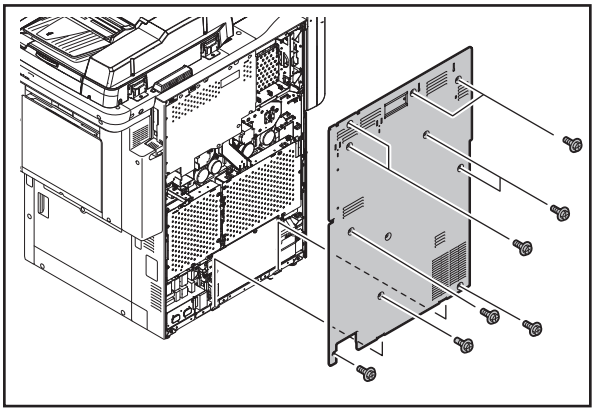

Fig. 3-45

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3.5.19 Upper exhaust fan cover

(1) Remove 1 screw and take off the upper exhaust fan cover.

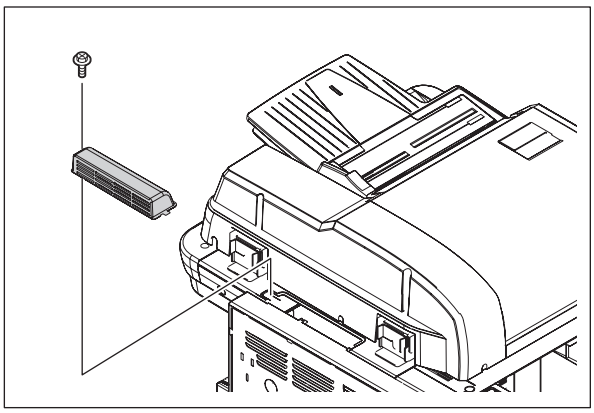

Fig. 3-46

3.5.20 Top rear cover

(1) Take off the RADF.
P.16-14 "16.5.1 RADF"
(2) Take off the top left cover.
P.3-42 "3.5.6 Top left cover"
(3) Take off the upper exhaust fan cover.
P.3-47 "3.5.19 Upper exhaust fan cover"
(4) Remove 2 screws and take off the top rear cover.

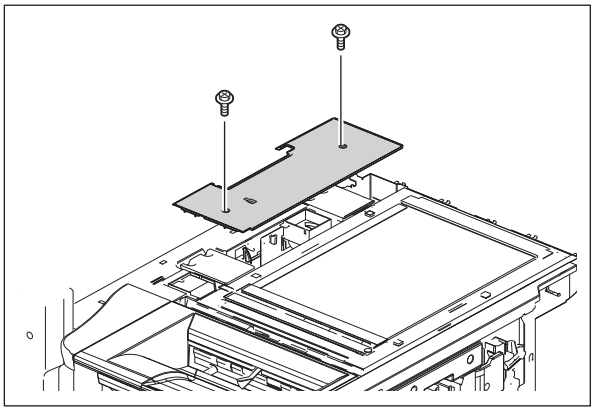

Fig. 3-47

3.5.21 Left corner cover

(1) Take off the top right cover.
P.3-41 "3.5.3 Top right cover"
(2) Pull out all the drawers.
(3) Open the front cover.
(4) Remove 2 screws and take off the left corner cover.

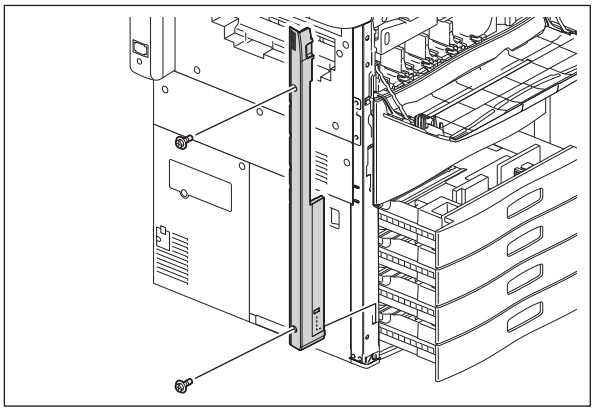

Fig. 3-48

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3.5.22 Right corner cover

(1) Pull out all the drawers.
(2) Take off the front lower cover.
🕮 P.3-41 "3.5.1 Front lower cover"
(3) Open the front cover.
(4) Take off the right top cover.
🕮 P.3-42 "3.5.4 Right top cover"
(5) Open the paper feed cover.
(6) Remove 2 screws and take off the right corner cover.

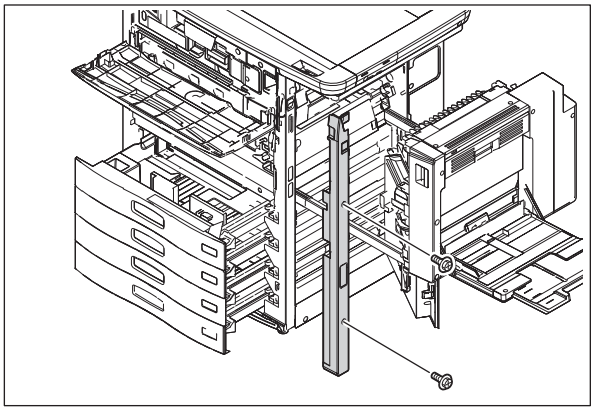

Fig. 3-49

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4. COPY PROCESS

4.1 General Description

4.1.1 Expression of Colors

A variety of colors can be expressed by mixing the three primary colors: Yellow, magenta and cyan. Red can be created by mixing yellow and magenta; blue can be created by mixing magenta and cyan; green is created by mixing cyan and yellow; and mixing all the three primary colors allows you to obtain black.

This equipment has accomplished to improve reproducibility by adding black toner to the mixture of the above three colors at proper ratio.

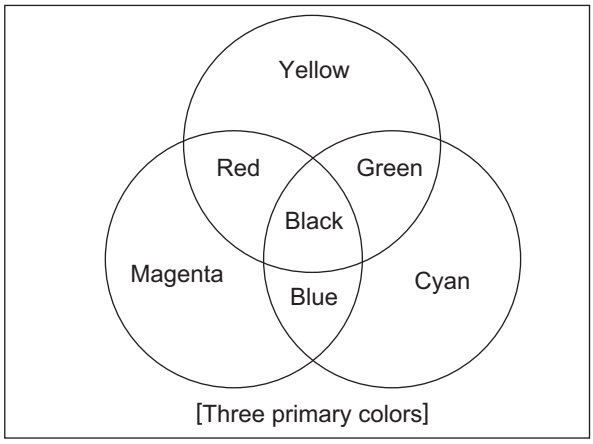

Fig. 4-1

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4.1.2 4-Step Copy Process

In this equipment, 4 color process units (EPU), which include a drum, a developer unit and a main charger, for yellow, magenta, cyan and black are placed in parallel. Colors are developed in the order of Yellow (Y) → Magenta (M) → Cyan (C) → Black (K). An image with the 4 developed colors is transferred on the transfer belt by layering the colors one by one (1st transfer). Then the image is formed on a sheet by being transferred from the transfer belt by the 2nd transfer roller (2nd transfer).

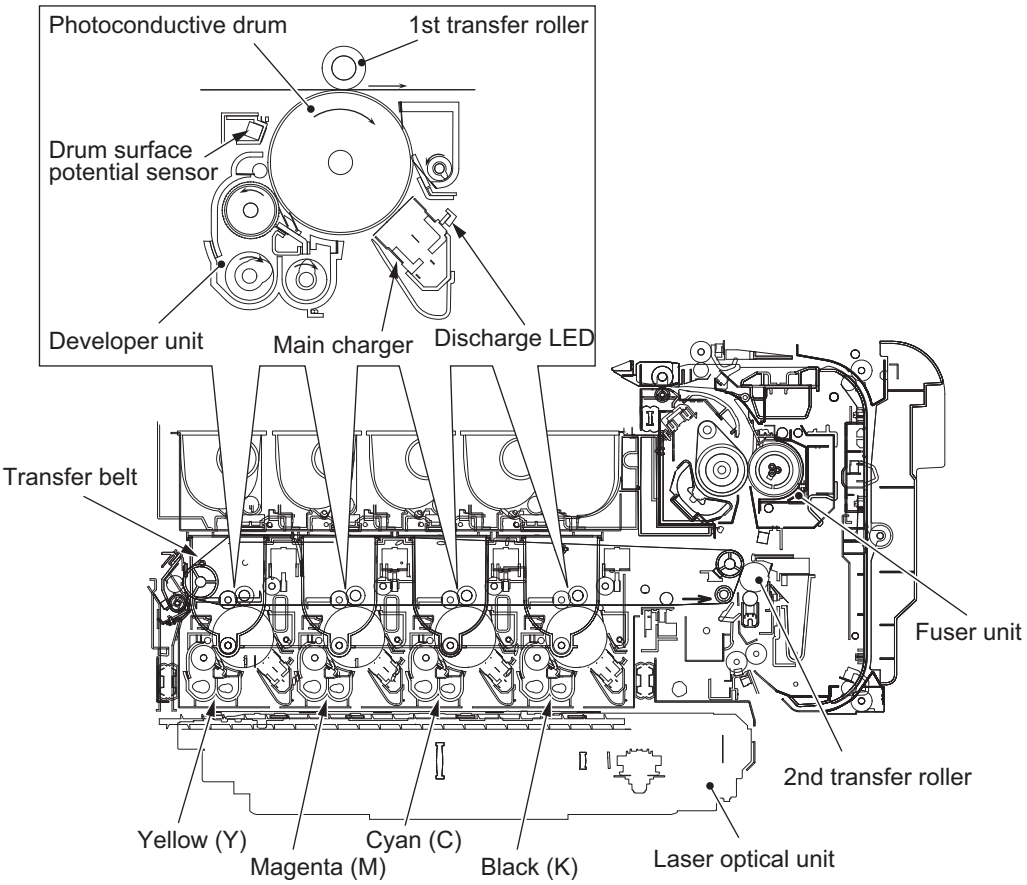

Fig. 4-2

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4.2 Description of Operation

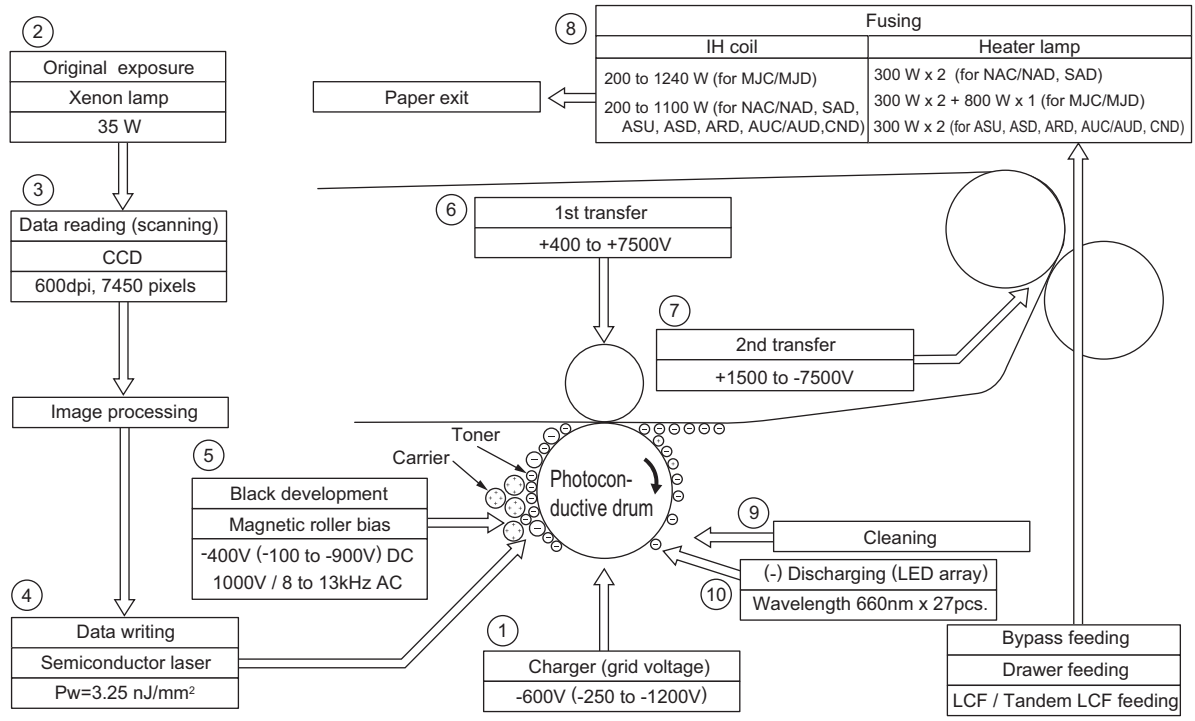

Fig. 4-3

(1) Charging: Places a negative charge on the surface of the photoconductive drum.

↓

(2) Original exposure: Converts images on the original into optical signals.

↓

(3) Data reading: The optical image signals are read into CCD and converted into electrical signals.

↓

(4) Data writing: The electrical image signals are changed to light signals (by laser emission) which expose the surface of the photoconductive drum.

↓

(5) Development: Negatively-charged toner is made to adhere to the photoconductive drum, producing a visible image.

↓

(6) 1st transfer: Transfers the visible image (toner) on photoconductive drum to the transfer belt.

↓

(7) 2nd transfer: Transfers the visible image (toner) on the transfer belt to paper.

↓

(8) Fusing: Fuses the toner image to the paper by applying heat and pressure.

↓

(9) Blade cleaning: While scraping off the residual toner from the drum by the blade.

↓

(10) (–) Discharging: Eliminates the residual (–) charge from the surface of the photoconductive drum.

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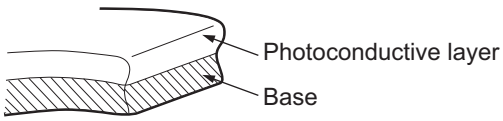
4.3 Functions

[A] Photoconductive drum

The photoconductive drum consists of two layers.
The outer layer is a photoconductive layer made of an organic photoconductive carrier (OPC), and the inner layer is an aluminum conductive base in a cylindrical form.
The photoconductive carrier has a special property: when it is exposed to light, the electrical resistance it possesses increases or decreases with the strength of the light.
Example:

- Strong incident light→Decreases resistance (works as a conductor.)
- Weak incident light→Increases resistance (works as an insulator.)

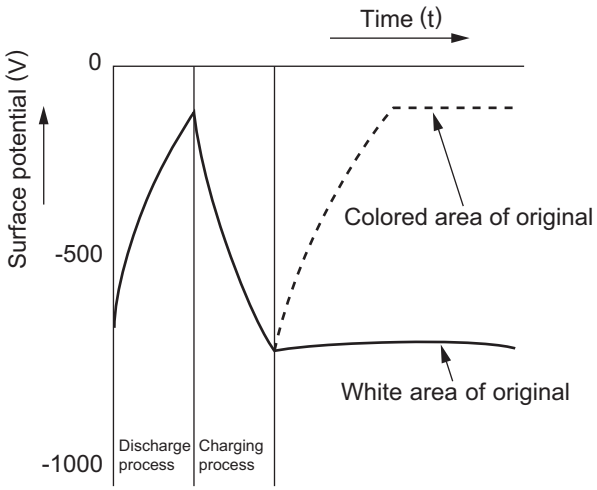


Structure of the photoconductive drum
(Example of OPC)

Fig. 4-4

[A-1] Formation of electrostatic latent images

In the processes of charging, data reading, data writing, and discharging described below, the areas on the drum corresponding to colored areas on the original are deprived of negative charge, while the areas on the drum corresponding to white areas retain the negative charge. Thus it forms a negative charge image on the drum surface.
As this negative charge image on the drum is not visible to the human eye, it is called an “electrostatic latent image.”



Electric potential of the photoconductive drum

Fig. 4-5

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[B] Charging

Charging is a process to apply charge evenly to the drum surface.
The needle electrode produces negative corona discharge, which is controlled by the grid so that the drum surface is evenly charged with negative potential.
The surface potential on the drum is determined by the grid potential and is controlled to a fixed value by the grid control circuit.

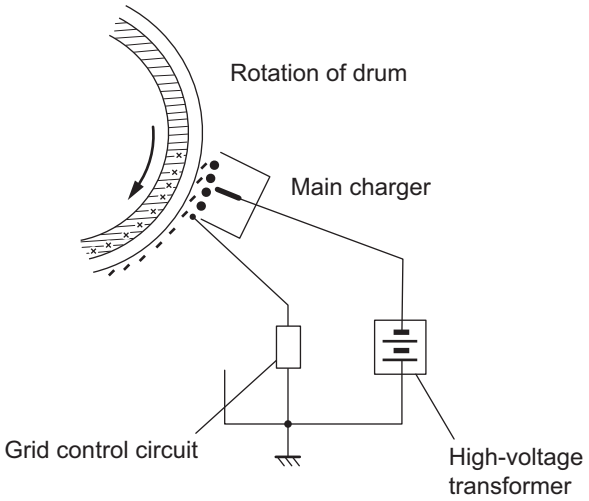

Fig. 4-6

[C] Data reading (scanning)

Data reading is a process of illuminating the original with light and converting the reflected light into electrical signals.
The light reflected from the original is directed to the Charge Coupled Device (CCD) and this optical image information is converted to electrical signals (image signals), which are then transmitted to the image processing section via the scanning section control PC board.
The CCD for color processing has RGB filters provided over its surface, which allow the CCD to read the light amount in the respective ranges of wavelength. The image data corresponding to the respective RGB colors is then transmitted to the image processing section.

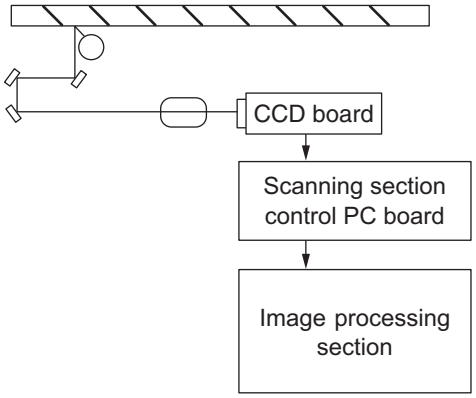

Fig. 4-7

(Example)

CCD light receiving amount	Value of image signals to be output
Light	255
	Difference between "light " and "dark" is divided into 256 steps.
Dark	0

Fig. 4-8

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[D] Data writing

Data writing is a process of converting the image signals transmitted from the image processing section into light signals and exposing the drum surface with the light signal.
Namely, the image signals transmitted from the image processing section are converted into optical signals (laser emission) by the semiconductor laser element, which are then used to expose the drum surface, thus forming an electrostatic latent image there.

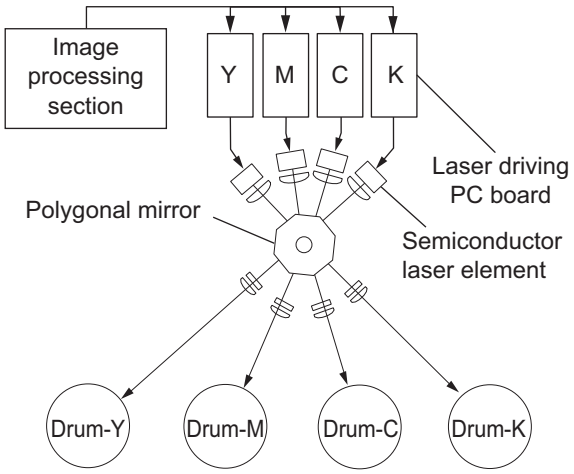

Fig. 4-9

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[E] Development

Development is a process of making the electrostatic latent images visible to the eye (visible image). Developer material is supplied to the photoconductive drum surface by means of a magnetic roller, allowing the toner in the developer material to adhere to the areas on the drum surface where the potential is lower than the developer bias which is applied to the magnetic roller (reverse development).

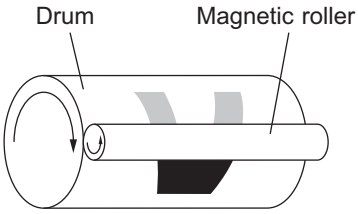

Fig. 4-10

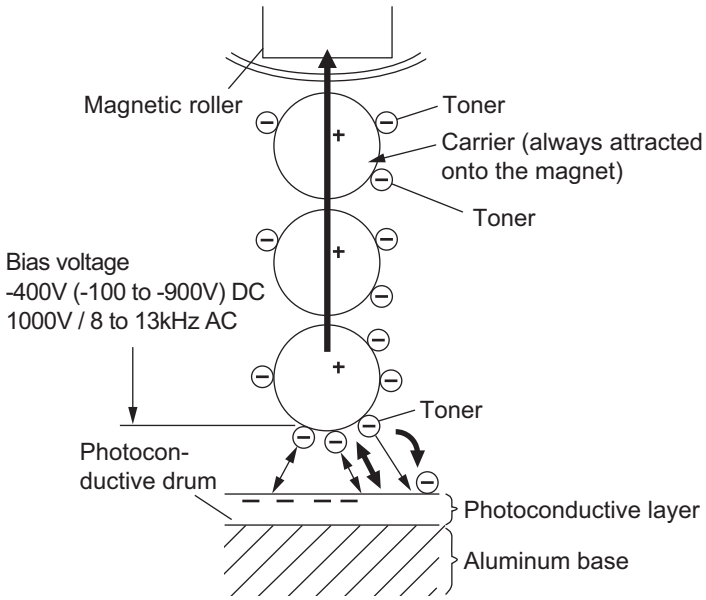

Fig. 4-11

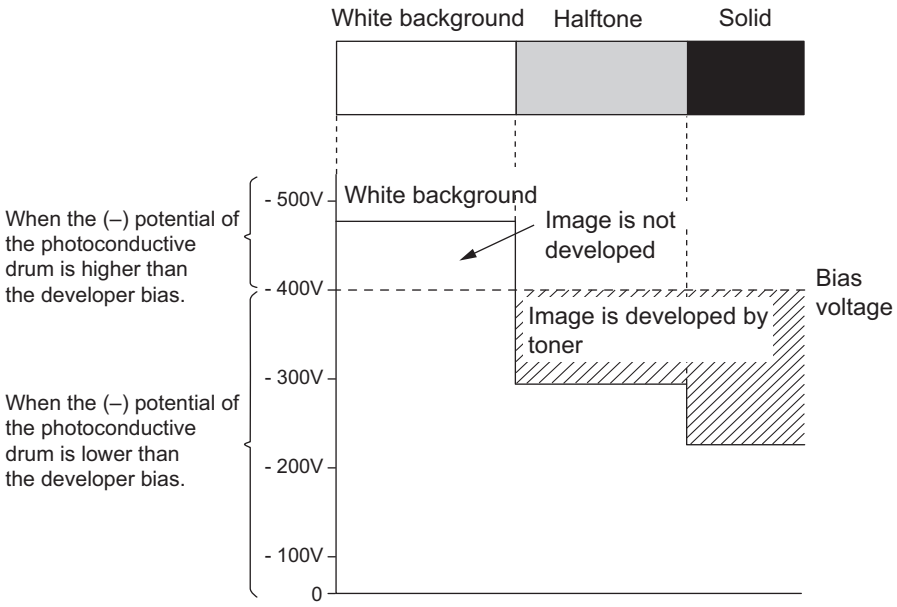

Fig. 4-12

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[E-1] About developer material

The developer material is comprised of a mixture of toner and carrier. The toner is charged to a negative polarity and the carrier to a positive polarity, due to the friction with each other caused by mixing.

Toner: Mainly consists of resin and coloring.

Carrier: Consists of ferrite, and over its surface resin coating to provide consistent frictional electrification.

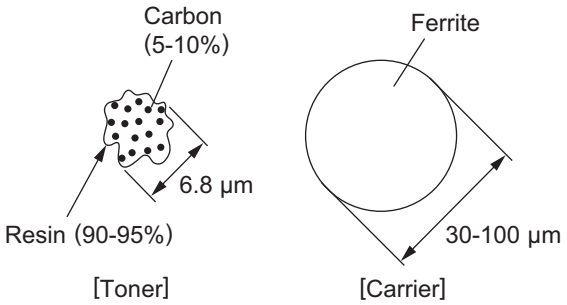

Fig. 4-13

Self-refreshing development:

This reduces deterioration of the developer material by automatically exchanging carrier in use for new carrier supplied with toner in a small amount at a time.

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[E-2] Magnetic roller

- Magnetic brush development technique

Inside magnetic rollers, the south and north poles are arranged as shown in the figure below. The developer material forms a brush-like fluff which contacts the photoconductive drum surface.

↓

This is caused by the lines of magnetic force between the south and north poles.

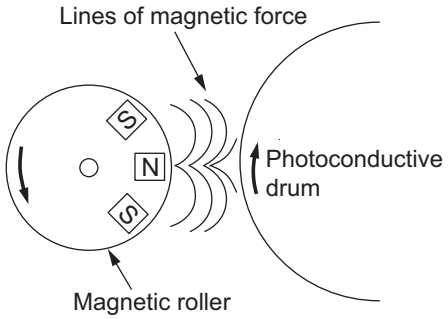

Fig. 4-14

[F] 1st transfer

1st transfer is a process of transcribing the toner image (visible image) formed on the photoconductive drum to the transfer belt. A positive bias is applied to the 1st transfer roller, causing the transfer belt to be positively charged. This in turn helps to form an electric field E between the transfer belt (positive) and the photoconductive layer of the photoconductive drum (grounded), thus making the toner image transferred to the transfer belt. In the copy process of this equipment, images are transferred in the order of Y→M→C→K on the transfer belt.

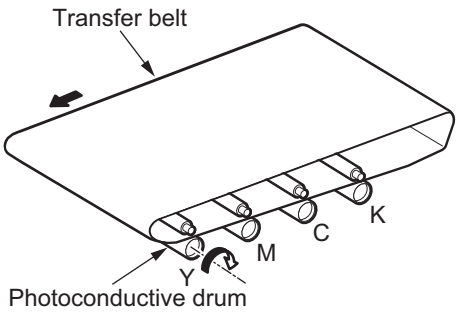

Fig. 4-15

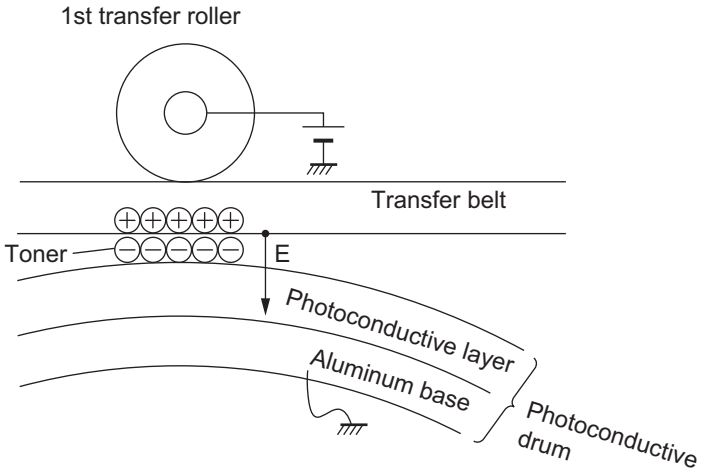

Fig. 4-16

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[G] 2nd transfer

An electric field is formed between the 2nd transfer roller and the 2nd transfer facing roller, which generates a paper polarization and thus the toner is transferred from the belt to the paper.
When the negative bias is applied to the 2nd transfer facing roller, the 2nd transfer roller is charged (positive), and thus the toner is transferred from the belt to paper.

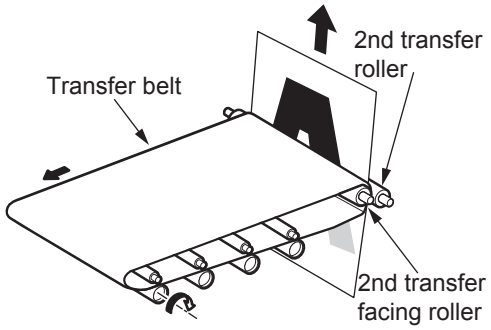

Fig. 4-17

[H] Fusing process

Fusing is a process of melting the toner on the paper and fixing it firmly onto the paper.
Method:
The softening point of the toner (main component: resin) is 105-120°C.

↓

(Heat) Toner is melted by the fuser belt.

+

(Pressure) The fuser belt is pressed against the pressure roller by the springs to increase adherence of the melted toner to the paper.

↓

The paper is subjected to the heat and pressure when passing through the fuser belt and the pressure roller.

↓

(Fusing) The toner on the paper is fused to it.

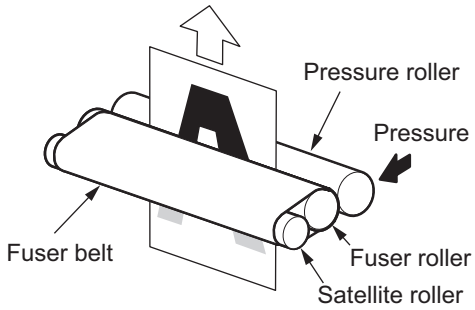

Fig. 4-18

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[I] Cleaning

The edge of the cleaning blade is pressed against the photoconductive drum surface to scrape off residual toner.

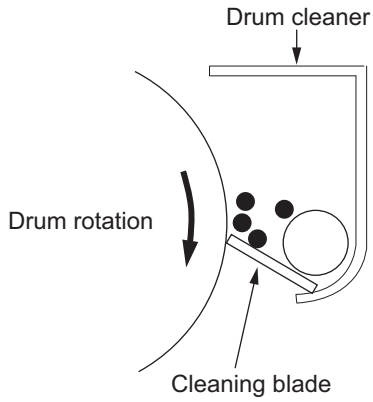

Fig. 4-19

[J] (–) Discharging process

Discharging is a process of eliminating the (–) charge remaining on the photoconductive drum before the next charging process.
If the charge remaining on the photoconductive drum is not eliminated, the following phenomenon would occur:

(–) charge remaining on the photoconductive drum surface causes uneven application of the charge for the next copying.
↓
The next copy obtains a double image. (The preceding image remains.)

To prevent this:
The entire surface of the photoconductive drum is flooded with light by the discharge LED array.
↓
The photoconductive drum becomes electrically conductive.
↓
All of the (–) charge remaining on the photoconductive drum is conducted away to ground.
↓
Preparation for the next copying process is completed.

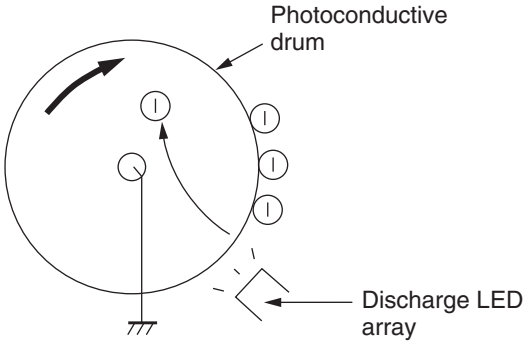

Fig. 4-20

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4.4 Comparison with e-STUDIO2500C/3500C/3510C

Process		e-STUDIO2500C/3500C/3510C	e-STUDIO5520C/6520C/6530C
1. Photoconductive drum	Drum	OD-FC35 (OPC drum)	OD-FC55 (OPC drum)
	Sensitivity	Highly sensitized drum (ø30)	Highly sensitized drum (ø60)
2. Charging		Scorotron type -300 to -1200 V (grid voltage) (adjusting by image quality control)	Scorotron type -250 to -1200 V (grid voltage) (adjusting by image quality control)
3. Data writing	Light source	Semiconductor laser	←
	Light amount	3.5 nJ/mm^2	3.25 nJ/mm^2
4. Image control		Image quality control by detecting toner adhesion amount	←
5. Development	Magnetic roller	One magnetic roller	←
	Auto-toner detection	Magnetic bridge-circuit method	←
	Toner supply	Toner cartridge replacing method	←
	Toner-empty detection	Density detection method	←
	Cartridge-empty detection	Density detection method	Sub-hopper toner remaining amount detection method
	Toner	NAD T-FC35-K, T-FC35-Y T-FC35-M, T-FC35-C MJD T-FC35E-K, T-FC35E-Y T-FC35E-M, T-FC35E-C TWD T-FC35T-K, T-FC35T-Y T-FC35T-M, T-FC35T-C CND T-FC35C-K, T-FC35C-Y T-FC35C-M, T-FC35C-C Others T-FC35D-K, T-FC35D-Y T-FC35D-M, T-FC35D-C (K: Black, Y: Yellow, M: Magenta, C: Cyan)	NAC/NAD T-FC55-K, T-FC55-Y T-FC55-M, T-FC55-C MJC/MJD T-FC55-EK, T-FC55-EY T-FC55-EM, T-FC55-EC CND T-FC55-CK, T-FC55-CY T-FC55-CM, T-FC55-CC Others T-FC55-DK, T-FC55-DY T-FC55-DM, T-FC55-DC (K: Black, Y: Yellow, M: Magenta, C: Cyan)
	Developer material	D-FC35K (black) D-FC35Y (yellow) D-FC35M (magenta) D-FC35C (cyan)	D-FC55-K (black) D-FC55-Y (yellow) D-FC55-M (magenta) D-FC55-C (cyan)
	Developer bias	DC -200 to -900V (adjusting by image quality control) AC 1100 V / 7.5 to 10 kHz	DC -100 to -900V (adjusting by image quality control) AC 1000 V / 8 to 13kHz
6. Transfer	1st transfer	Transfer belt method	←
	2nd transfer:	Transfer roller method	←
7. Separation		Self-separation by transfer belt and 2nd transfer roller	←
8. Photoconductive drum cleaning	Method	Blade cleaning	←
	Recovered toner	Non-reusable	←
	Transfer charge removal	Discharging by the conductive recovery blade	-
9. Transfer belt cleaning		Blade cleaning	←
10.Discharge		LED array (red)	←

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Process		e-STUDIO2500C/3500C/3510C	e-STUDIO5520C/6520C/6530C
11.Fusing	Method	Belt fusing system	External heating STF fusing system
	Fuser roller side	Heat roller: Aluminum roller (ø30) Heater lamp: 600 W x 2	Satellite roller: Aluminum roller (ø17)
		Fuser roller: Sponge roller (ø38)	Fuser roller: Sponge roller (ø48.5)
		Fuser belt: PFA tube belt (ø60)	←
		-	IH coil: • 200 to 1240W (for MJC/MJD) • 200 to 1100W (for NAC/NAD, SAD, ASU, ASD, ARD, AUC/AUD, CND)
	Pressure roller side	Pressure roller: Silicon rubber roller, (Surface-PFA tube)(ø40) Heater lamp: 300 W x 1	Pressure roller: Silicon rubber roller, (Surface-PFA tube)(ø50) Heater lamp: • 300 W x 2 (for NAC/NAD, SAD) • 300 W x 2 + 800 W x 1 (for MJC/MJD) • 300 W x 2 (for ASU, ASD, ARD, AUC/AUD, CND)
	Cleaning	None	←
	Heater temperature	ON/OFF control and power control by thermistor	ON/OFF control and power control by thermopile/thermistor
	Heater	Heater lamp	IH coil + Heater lamp

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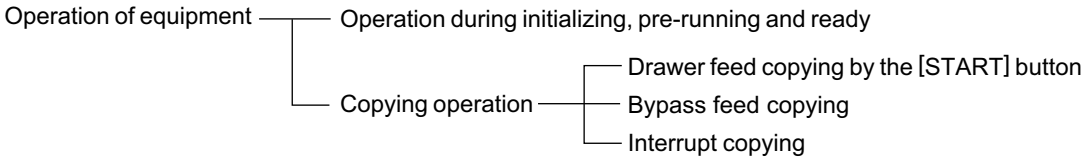
5. GENERAL OPERATION

5.1 Overview of Operation



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5.2 Description of Operation

5.2.1 Warming-up

1. Initialization
   → Power ON
   → IH coils (IH-COIL) / Heater lamps (LAMP) ON
   → The set number “1”, reproduction ratio “100%” and “Wait Warming Up” are displayed.
   → Fan motors ON
   → Initialization of laser optical system
   - The polygonal motor (M34) rotates at high speed.

   → Initialization of feeding system
   - Each drawer tray goes up.
   - Tandem LCF tray goes up.

   → The pre-running operation is stopped after five seconds.
   → Initialization of process unit system (process unit related section)
   - The 2nd transfer roller moves to the releasing position.
   - The transfer belt moves to the releasing position.
   - The needle electrode cleaner moves to the home position.

   → Drum phasing
   - The drum motor (M27, M28) is turned ON.
   - The transfer belt motor (M13) is turned ON.

   → Cleaning of transfer belt
   - (Performs color registration control.)*1
   - (Performs drum surface potential sensors control.)*1
   - (Performs image quality control.)*1

   → Initialization of scanning system
   - The carriage moves to the home position.
   - The carriage moves to the peak detection position.
   - The exposure lamp (EXP) is turned ON.
   - Peak detection (the white color is detected by the shading correction plate)
   - The exposure lamp (EXP) is turned OFF.

   → The polygonal motor (M34) rotates at low speed.
   → “READY (WARMING UP)” is displayed.

2. Pre-running operation
   The pre-running operation is started at the corresponding starting timing or when the temperature of the pressure roller surface becomes pre-running.
   → The fuser motor (M6) is turned ON.
   - Fuser roller rotation.

3. When the temperature of the fuser belt and pressure roller surfaces becomes sufficient for fusing,
   → The IH coil (IH-COIL) / Heater lamps (LAMP) is turned OFF.
   → “READY” is displayed.
   → The polygonal motor (M34) rotates at high speed for 30 seconds.

*1: Image quality control and color registration control should be performed only at a change of environment or at periodical maintenance.

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5.2.2 Ready (ready for copying)

→ Buttons on the control panel enabled
→ When no button is pressed for a certain period of time,
- The set number “1” and reproduction ratio “100%” are displayed. The equipment returns to the normal ready state.

→ The fuser unit repeats rotation and stopping

5.2.3 Drawer feed copying (1st drawer paper feeding)

1. Press the [START] button.
   → “READY” changes to “COPYING”.
   → The exposure lamp (EXP) is turned ON
   → The scan motor (M1) is turned ON. → Carriages-1 and -2 move forward.
   → The polygonal motor (M34) rotates at high speed.
   → The drum motor (M27, M28), transport motor (M40, M41), transfer belt motor (M13), 2nd transfer motor (M9), developer unit motor (M29, M31), developer unit mixer motor (M30, M32), fuser motor (M6) and exit motor (M2) are turned ON.
   - The drum, transfer belt, fuser unit, developer unit and exit roller are driven.

2. Drawer paper feeding
   → The fans are rotated at high speed and feed motor (M42) is turned ON.
   - The pickup roller, feed roller, separation roller and transport roller start to rotate.
   → Paper reaches the 1st drawer feed sensor (S78).
   - The 1st drawer feed sensor (S78) is turned ON.
   → Paper reaches the registration roller
   - The registration sensor (S52) is turned ON and aligning is performed.
   → The feed motor (M42) is turned OFF after a certain period of time.

3. After a certain period of time passed from the carriage operation
   → The registration motor (M39) is turned ON after a certain period of time. → Paper is transported to the transfer area.
   → The copy counter operates.

4. Completion of scanning
   → The exposure lamp (EXP) is turned OFF.
   → The Scan motor (M1) is turned OFF.
   → The Registration motor (M39) is turned OFF (after the trailing edge of the paper passed the registration roller).
   → “READY (PRINTING)” is displayed.

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5. Printing operation

1) Color printing operation

→ The drum motor (M27, M28), transfer belt motor (M13), 2nd transfer motor (M9) and discharge LED-Y, -M, -C, -K (ERS) ON.

→ The main charger bias is turned ON.

→ The transfer belt cam motor (M14) is turned ON.

- The 1st transfer rollers (Y, M and C) contact the transfer belt.

→ The YMCK developer bias (DC), developer unit motor (M29, M31) and developer unit mixer motor (M30, M32) are turned ON.

→ The 2nd transfer motor (M9) is turned ON. → The clutches are turned ON/OFF.

- The 2nd transfer roller contact the transfer belt.

→ The 2nd transfer bias is turned ON.

→ The YMC and K developer bias (AC) are turned ON.

→ Laser emission (yellow image)

→ The 1st transfer bias (Y) is turned ON.

- 1st transfer of yellow image (The yellow image is transferred to the transfer belt.)

→ The 1st transfer bias (Y) is turned OFF.

→ Laser emission (magenta image)

→ The 1st transfer bias (M) is turned ON.

- 1st transfer of magenta image (The magenta image is transferred to the transfer belt.)

→ The 1st transfer bias (M) is turned OFF.

→ Laser emission (cyan image)

→ The 1st transfer bias (C) is turned ON.

- 1st transfer of cyan image (The cyan image is transferred to the transfer belt.)

→ The 1st transfer bias (C) is turned OFF.

→ Laser emission (black image)

→ The 1st transfer bias (K) is turned ON.

- 1st transfer of black image (The black image is transferred to the transfer belt.)

→ The 1st transfer bias (K) is turned OFF.

→ The transfer belt cam motor (M14) is turned OFF.

- The 1st transfer rollers (Y, M and C) are released from the transfer belt.

→ 2nd transfer of YMCK image (The YMCK image on the transfer belt is transferred to the paper.)

→ The main charger is turned OFF.

→ The developer unit motor (M29, M31), developer unit mixer motor (M30, M32) and developer bias (YMC and K) are turned OFF.

→ The 2nd transfer motor (M9) is turned ON. → The clutches are turned ON/OFF.

- The 2nd transfer roller is released from the transfer belt.

→ The 2nd transfer bias is turned OFF.

→ Drum phasing

→ The drum motor (M27, M28), transfer belt motor (M13), 2nd transfer motor (M9) and discharge LED-Y, -M, -C, -K (ERS) OFF.

→ 2nd transfer roller reverse rotating

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2) Black printing operation
→ The drum motor (M27), transfer belt motor (M13), 2nd transfer motor (M9) and discharge LED-K (ERS) ON.
→ The main charger bias is turned ON.
→ The K developer bias (DC), developer unit motor (M29) and developer unit mixer motor (M30) are turned ON.
→ The 2nd transfer motor (M9) is turned ON. → The clutches are turned ON/OFF.
- The 2nd transfer roller contacts the transfer belt.
→ The 2nd transfer bias is turned ON.
→ The K developer bias (AC) is turned ON.
→ Laser emission (black image)
→ The 1st transfer bias (K) is turned ON.
- 1st transfer of black image (The black image is transferred to the transfer belt.)
→ The 1st transfer bias (K) is turned OFF.
→ 2nd transfer of K image (The K image on the transfer belt is transferred to the paper.)
→ The main charger is turned OFF.
→ The developer unit motor (M29), developer unit mixer motor (M30) and developer bias (K) are turned OFF.
→ The 2nd transfer motor (M9) is turned ON. → The clutches are turned ON/OFF.
- The 2nd transfer roller is released from the transfer belt.
→ The 2nd transfer bias is turned OFF.
→ Drum phasing
→ The Drum motor (M27), transfer belt motor (M13), 2nd transfer motor (M9) and discharge LED-K (ERS) OFF.
→ 2nd transfer roller reverse rotating

6. Paper exiting
→ The exit sensor (S61, S63) detects the trailing edge of the paper.
→ The toner recovery auger and discharge LED (ERS) OFF.
→ The drum motor (M27, M28), developer unit mixer motor (M30, M32), transfer belt motor (M13), 2nd transfer motor (M9), transport motor (M40, 41), developer unit motor (M29, M31), fuser motor (M6) and exit motor (M2) are turned OFF.
→ The polygonal motor (M4) rotates at low speed.
→ The drum, fuser unit and developer unit are stopped.
- The fans return to rotate at the normal rotation speed.
→ “READY” is displayed and the equipment enters into the ready mode.

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Timing chart for copying (A4/LT size, 1 sheet from 1st drawer, Upper exit tray)

1. Color copy

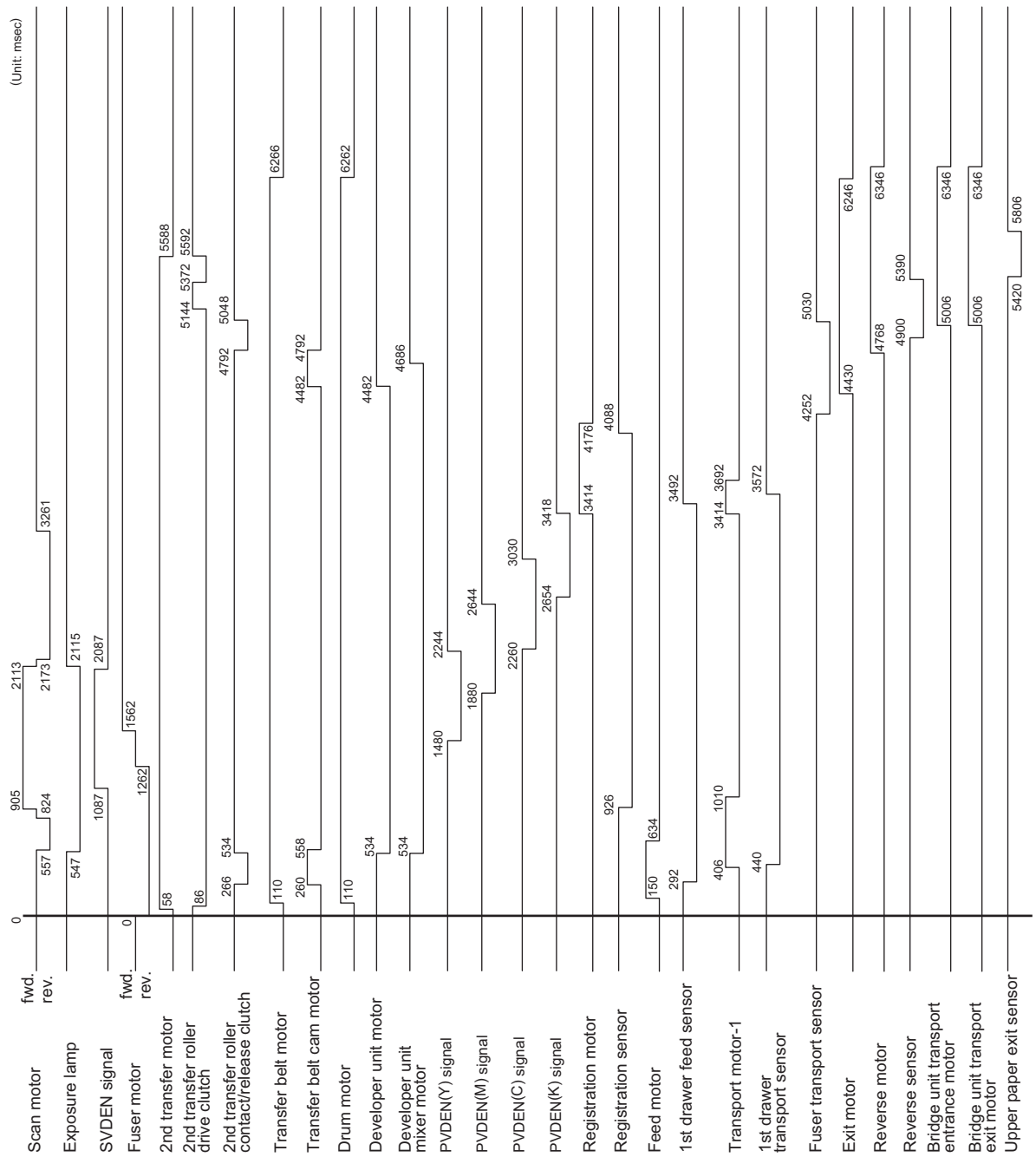

Fig. 5-1

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2. Black copy (e-STUDIO6530C)

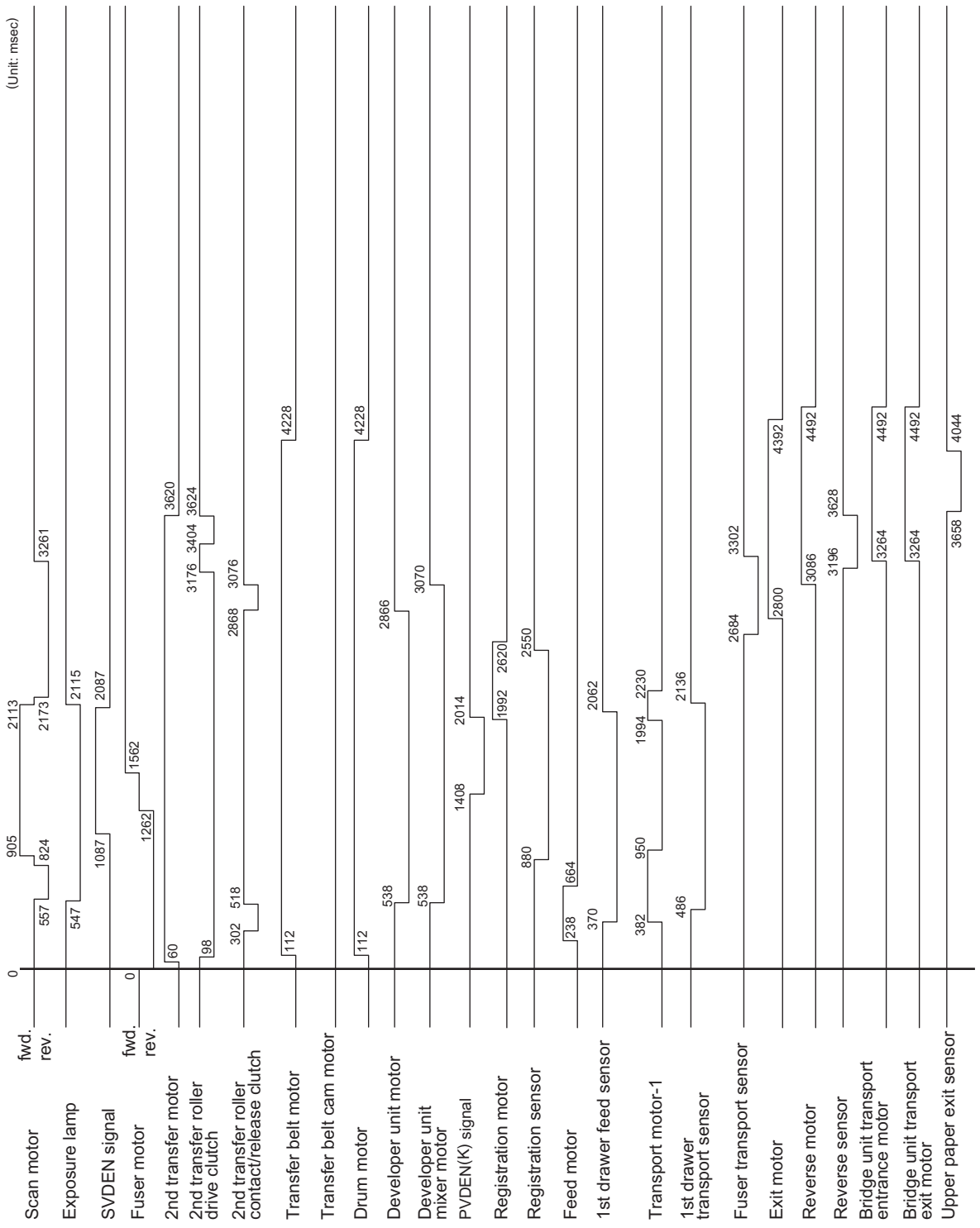

Fig. 5-2

5

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3. Black copy (e-STUDIO5520C/6520C)

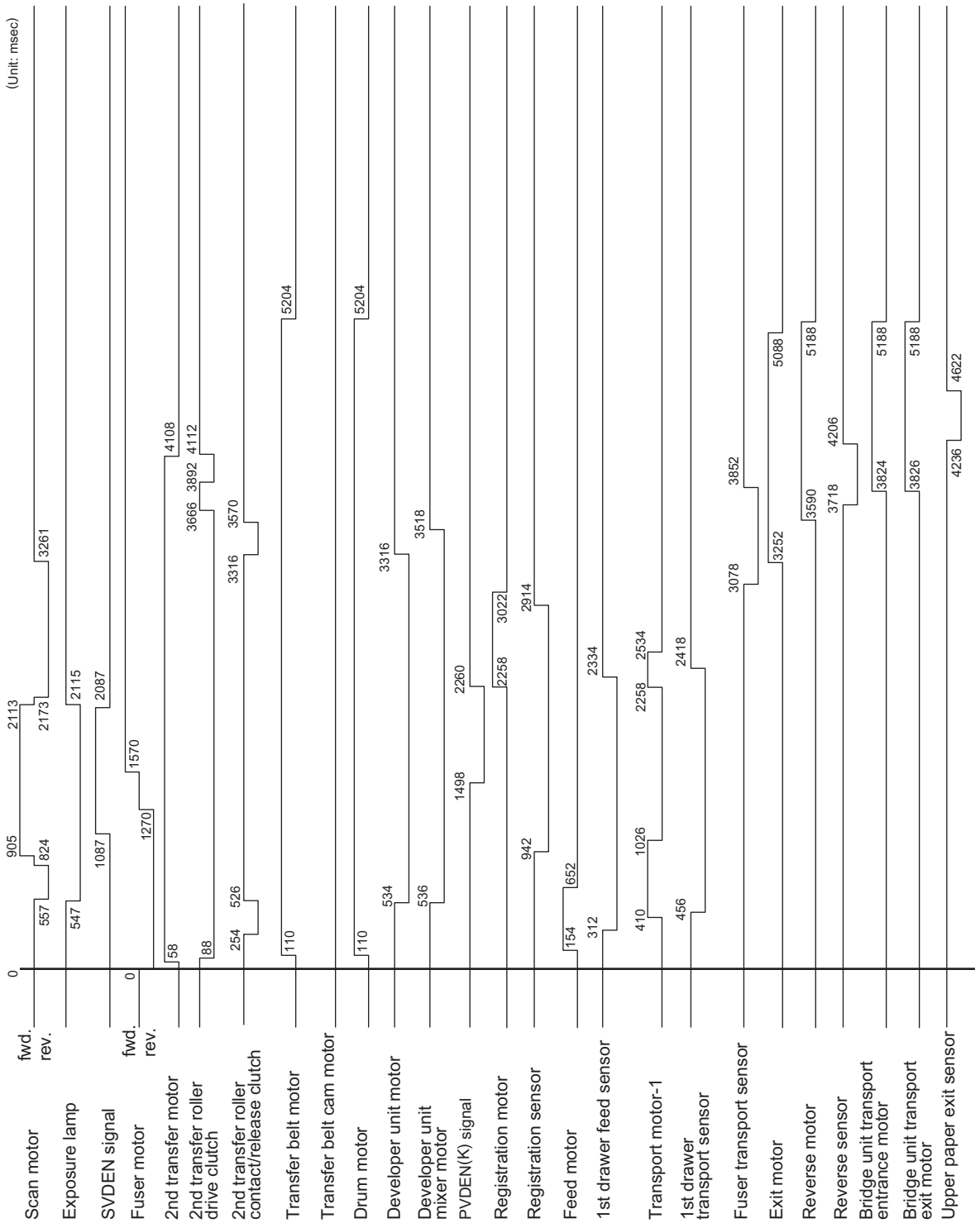

Fig. 5-3

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5.2.4 Bypass feed copying

1. Place paper on the bypass tray.
   → The bypass paper sensor (S71) is turned ON.
   - "Ready for bypass feeding" is displayed.
   → The carriages move to their home position.

2. Press the [START] button.
   → "Ready for bypass feeding" changes to "COPYING".
   → Exposure lamp (EXP) ON
   → Scan motor (M1) ON → Carriages-1 and -2 move forward.
   → The drum motor (M27, M28), transfer belt motor (M13), 2nd transfer motor (M9), transport motor (M40, 41), developer unit motor (M29, M31), developer unit mixer motor (M30, M32), fuser motor (M6) and exit motor (M2) are turned ON.
   - The drum, transfer belt, fuser unit, developer unit and exit roller are driven.

3. Bypass feeding
   → The fans rotate at high speed.
   → The bypass motor (M12) is turned ON.
   - The bypass pickup roller is lowered.
   → The bypass pickup solenoid (SOL8) is turned ON.
   - The bypass pickup roller, feed roller and separation roller start to rotate.
   → Aligning operation
   → Paper reaches the registration roller.
   → After a certain period of time, the bypass motor (M12) is turned OFF.

4. Hereafter, operations (3) through (6) of "5.2.3Drawer feed copying (1st drawer paper feeding)" are repeated.

5.2.5 Interruption copying

1. Press the [INTERRUPT] button
   → LED "INTERRUPT" is turned ON.
   → Copying operation in progress is temporarily stopped, and the carriages-1 and -2 return to their appropriate positions.
   → "Job interrupted job 1 saved" is displayed.
   → Automatic density and reproduction ratio 100% are set. The set number remains the same.

2. Select the desired copy condition

3. After interruption copying is finished:
   → "Press interrupt to resume job 1" is displayed.
   → LED "INTERRUPT" is turned OFF by pressing the [INTERRUPT] button, and the equipment returns to the status before the interruption.
   → "Ready to resume job 1" is displayed.

4. Press the [START] button
   The copying operation before the interruption is resumed.

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5.3 Detection of Abnormality

When something abnormal has occurred in the equipment, symbols corresponding to the type of abnormality are displayed.

5.3.1 Types of abnormality

1. Abnormalities cleared without turning OFF the door switch
   (A) Add paper
   (B) Paper misfeed in bypass
   (C) No toner in the cartridge

2. Abnormalities not cleared without turning OFF the door switch
   (D) Misfeed in equipment
   (E) Waste toner box replacement

3. Abnormality not cleared without turning OFF the main switch
   (F) Call for service

5.3.2 Description of abnormality

[A] Add paper

- [In case of the equipment drawer or PFP drawer] (When no drawer is installed)

  Drawer not detected

  ↓

  Drawer is not installed:
  Drawer is installed but there is no paper in it:

  ↓

  No paper

  ↓

  A signal sent to the control circuit

  ↓

  Drawer area of the control panel blinks
  (When the drawer is selected)

  ↓

  [START] button is disabled.

[In case of the equipment, tandem LCF] (When a drawer is installed)
Based on the combination of the tray-up motor (M44, M45) movement and the status of the tray-up sensor and empty sensor, The CPU detects the presence of paper.

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- When the power is turned ON or tandem LCF drawer is inserted (When the power is turned ON or The equipment drawers are inserted).
  LCF performs initialization.

  ↓

  Detects the presence of paper
  Tray-up motor ON - The tray goes up

  ↓

  At this time, the tray-up sensor and LCF empty sensor are OFF.

  → When the tray-up sensor is not turned ON within a fixed period of time, it means that the tray is in an abnormal condition
  "Add paper" is displayed regardless of the presence/absence of paper.

  → Cleared by turning the power ON/OFF

  → The tray-up sensor is turned ON within a fixed period of time
  - The tray-up motor stops.

  At this time, if the empty sensor is
  ON: It is judged that there is paper.
  OFF: It is judged that there is no paper.

  ↓

  The drawer area of the control panel blinks.
  (When the drawer is selected)

- When the paper in the drawer runs short during copying,
  → The tray-up sensor is turned OFF.
  → The tray-up motor is turned ON. - The tray goes up.
  → The tray-up sensor is turned ON.
  → The tray-up motor is stopped.

- The empty sensor is turned OFF during copying in spite of the tray-up sensor being ON

  ↓

  It is judged that there is no paper.

  ↓

  The drawer area of the control panel blinks.
  (When the drawer is selected)

  ↓

  The copying operation is stopped.

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[B] Paper misfeed in bypass

- During bypass feeding
  The bypass motor (M12) is turned ON

  ↓

  The registration sensor (S52) is turned ON
  * The registration sensor (S52) is not turned ON within a fixed period of time (E120).

  ↓

  Bypass misfeeding

  ↓

  The bypass misfeed symbol is displayed.

  ↓

  The copying operation is disabled.

  ↓

  Solution: The bypass sensor (S71) is turned OFF when you remove the paper from the bypass tray.

[C] No toner in the cartridge

- Toner density becomes low
  Auto-toner sensor (S26, S27, S28, S29) detects the absence of toner

  ↓

  Fixed time toner supplying: Sub-hopper toner motor (M19, M20, M21, M22) ON

  ↓

  Not reaching the specified toner density: Auto toner sensor (S26, S27, S28, S29)

  ↓

  Control circuit → Toner cartridge replacement display: Color copying is not accepted if the Y/M/C toner cartridge replacement display appears.(Black copying is accepted.)
  Copying is not accepted if the toner K cartridge replacement display appears.

  Solution: Replace the toner cartridge with new one.
  Toner is supplied → copying operation enabled

- Sub-hopper toner remaining amount decreased
  Sub-hopper toner remaining amount decreasing detection: Sub-hopper toner sensor (S38, S39, S40, S41)

  ↓

  Toner supplying for a specified time: Toner motor (M15, M16, M17, M18) and sub-hopper toner motor (M19, M20, M21, M22) ON

  ↓

  Sub-hopper toner sensor (S38, S39, S40, S41) does not detect “full”.

  ↓

  Control circuit → Toner cartridge empty display: The auto toner sensor detects that the density is not reached and color/black copies can be made until the toner cartridge empty status is determined

  Solution: Replace the toner cartridge with new one.

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[D] Misfeed in equipment

- The exit sensor (S61, S63) detects jamming of the leading edge of the paper.

  ↓

  The registration motor (M39) is turned ON

  ↓ Approx. 1.6 sec.

  Exit sensor (S61, S63) turned ON
  If the exit sensor (S61, S63) is not turned ON after approx. 1.6 seconds,

  ↓

  Paper jam (E010) → The copying operation is stopped.

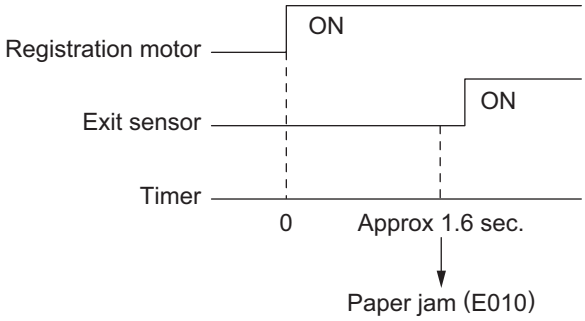

Fig. 5-4

- The exit sensor (S61, S63) detects jamming of the trailing edge of the paper.

  The registration motor (M39) is turned OFF

  ↓ Approx. 1.7 sec.

  The exit sensor (S61, S63) turned OFF
  If the exit sensor (S61, S63) is not turned OFF after approx. 1.7 seconds,

  ↓

  Paper jam (E020) → The copying operation is stopped.

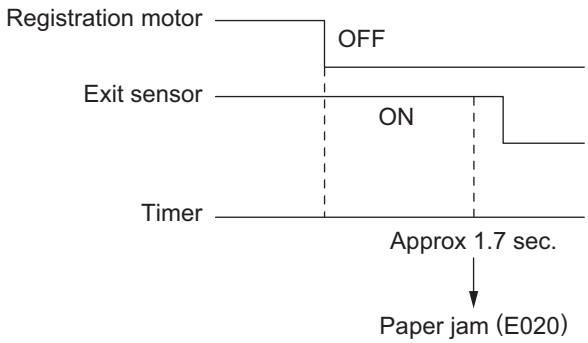

Fig. 5-5

- The 2nd transfer side paper clinging detection sensor (S51) detects jamming of the paper.

  The registration motor (M39) is turned ON

  The transfer belt paper clinging detection sensor (S47) is turned ON

  ↓

  If the 2nd transfer side paper clinging detection sensor (S51) is not turned ON in a fixed period of time,

  ↓

  Paper jam (E011) → The copying operation is stopped.

- Immediately after the power is turned ON

  ↓

  Any of the sensors on the paper transport path detects paper (ON).

  ↓

  Paper jam (E030)

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- The registration sensor (S52) detects jamming of the leading edge of the paper:
  The registration sensor (S52) is not turned ON within a fixed period of time after the leading edge of the paper passed the transport roller.

  ↓

  Paper jam (E120, E200, E210, E300, E330 and E3C0)
- During paper feeding from the ADU:
  The registration sensor (S52) is not turned ON within a fixed period of time after the ADU motor (M7, 8) is turned ON.

  ↓

  Paper jam (E110)

- During paper transporting from the ADU:
  The duplexing unit path sensor (S66, S67) do not detect the paper at the fixed timing.

  ↓

  Paper jam (E510 and E520)

- During paper feeding from the equipment or the PFP:
  The registration sensor (S52) is not turned ON within a fixed period of time after the feed clutch is turned ON.

  ↓

  Paper jam (E220, E310, E320, E340 to E360, E3D0 and E3E0: The error code differs depending on the paper source.)

[E] Waste toner box replacement

- The waste toner box is full of used toner

  ↓

  Waste toner box full detection sensor (S14) ON

  ↓

  “Dispose of used toner” is displayed

- The waste toner box full detection sensor (S14) is turned ON during printing

  ↓

  Printing is stopped after the paper being printed has exited
  Solution: Replace the waste toner box with a new one and close the waste toner box cover.

[F] Call for service

Check the error code displayed on the control panel when “Call for service” appears, and deal with the abnormality referring to the error code table.

📖 P.25-2 "25.2 Error Code List"

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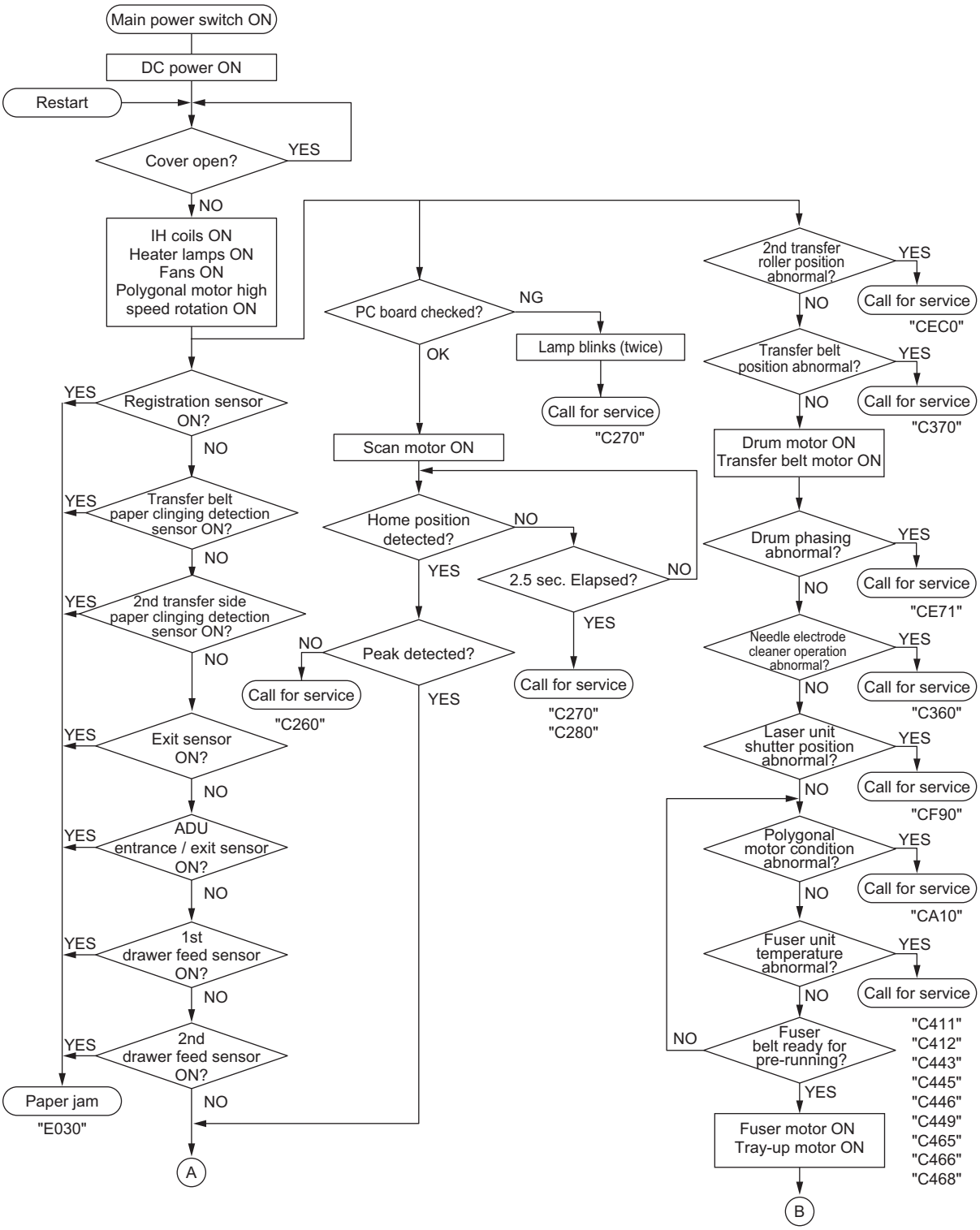
5.4 Flow Chart

5.4.1 Power ON to ready



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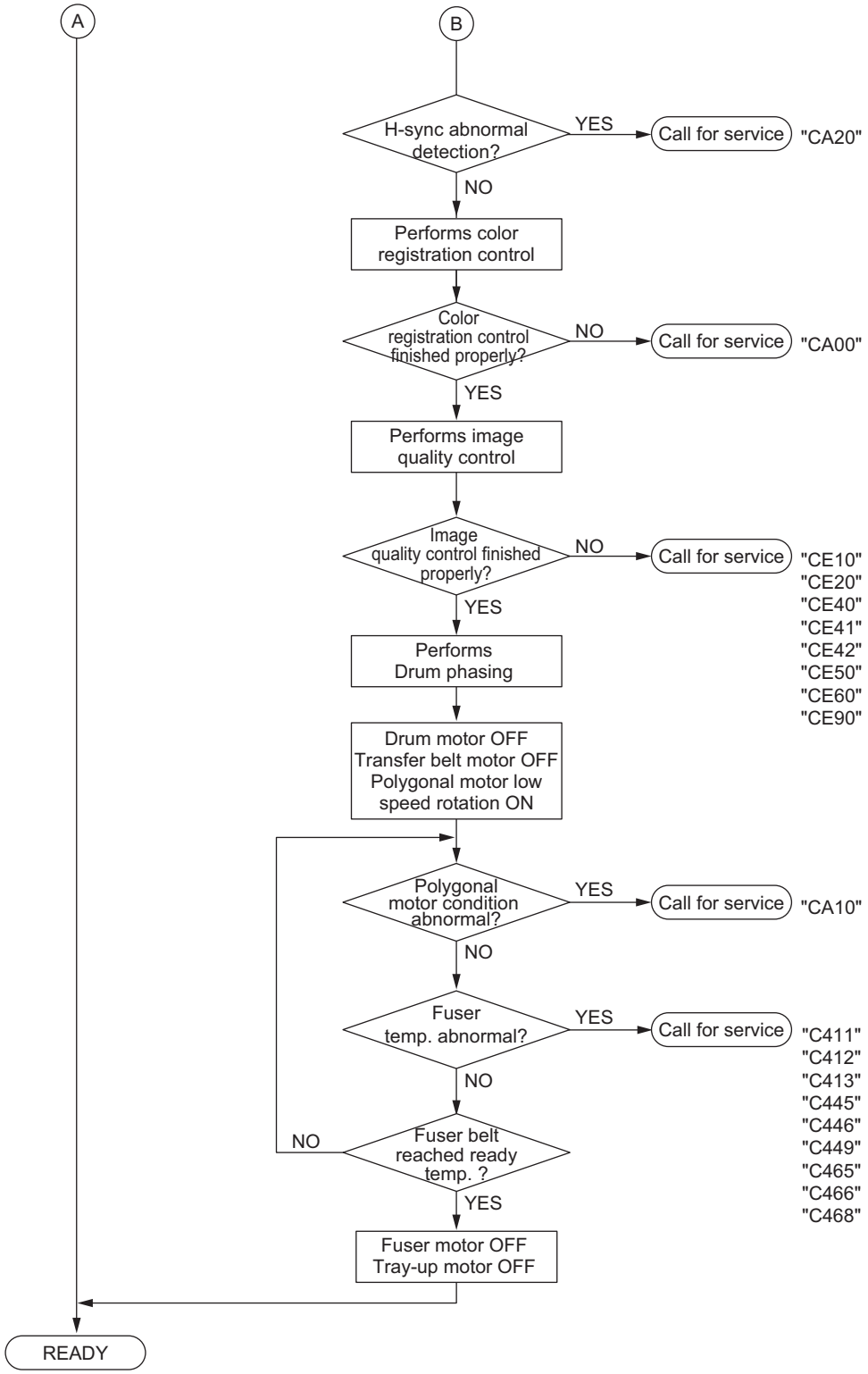

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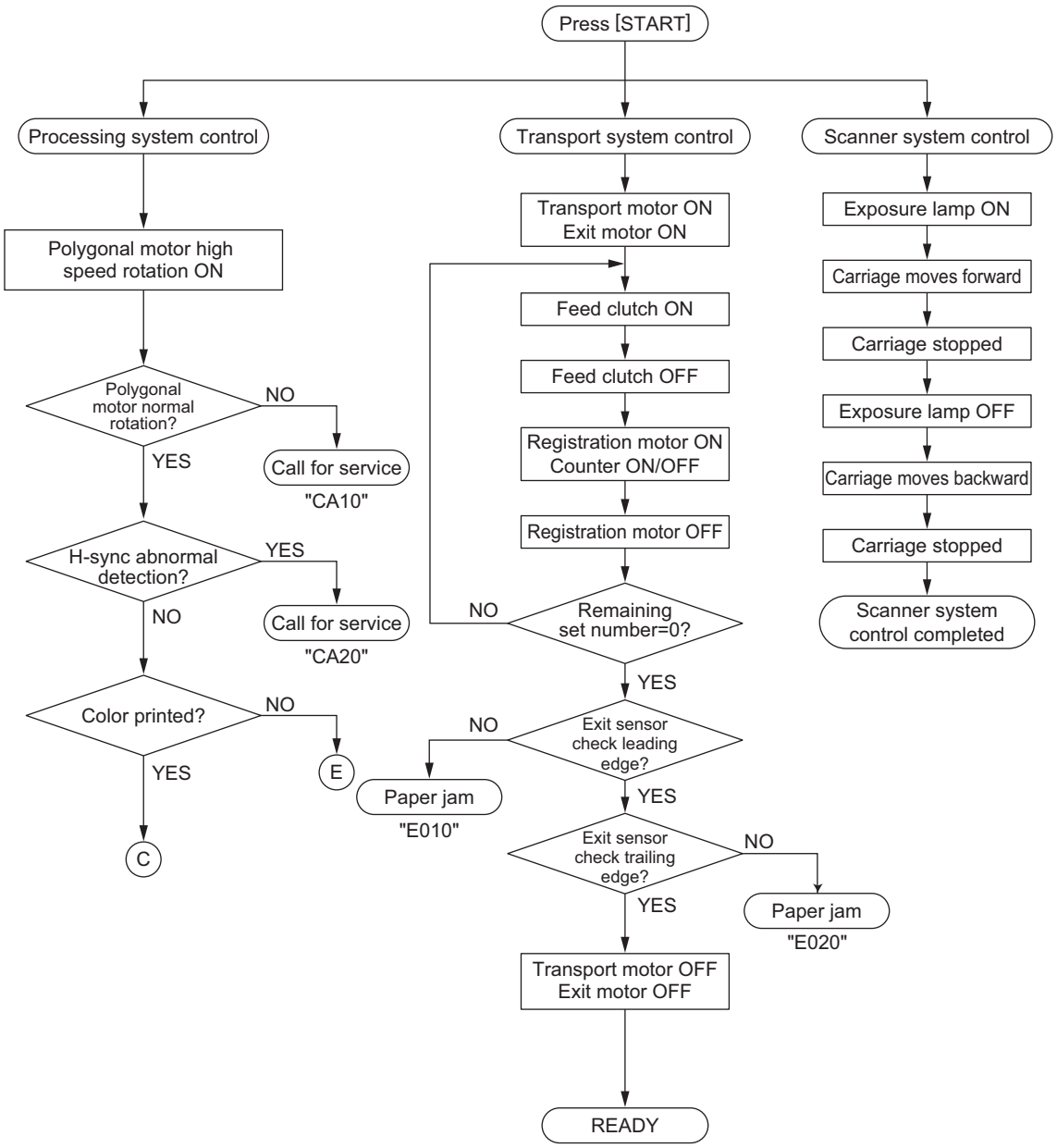
5.4.2 Automatic feed copying



5

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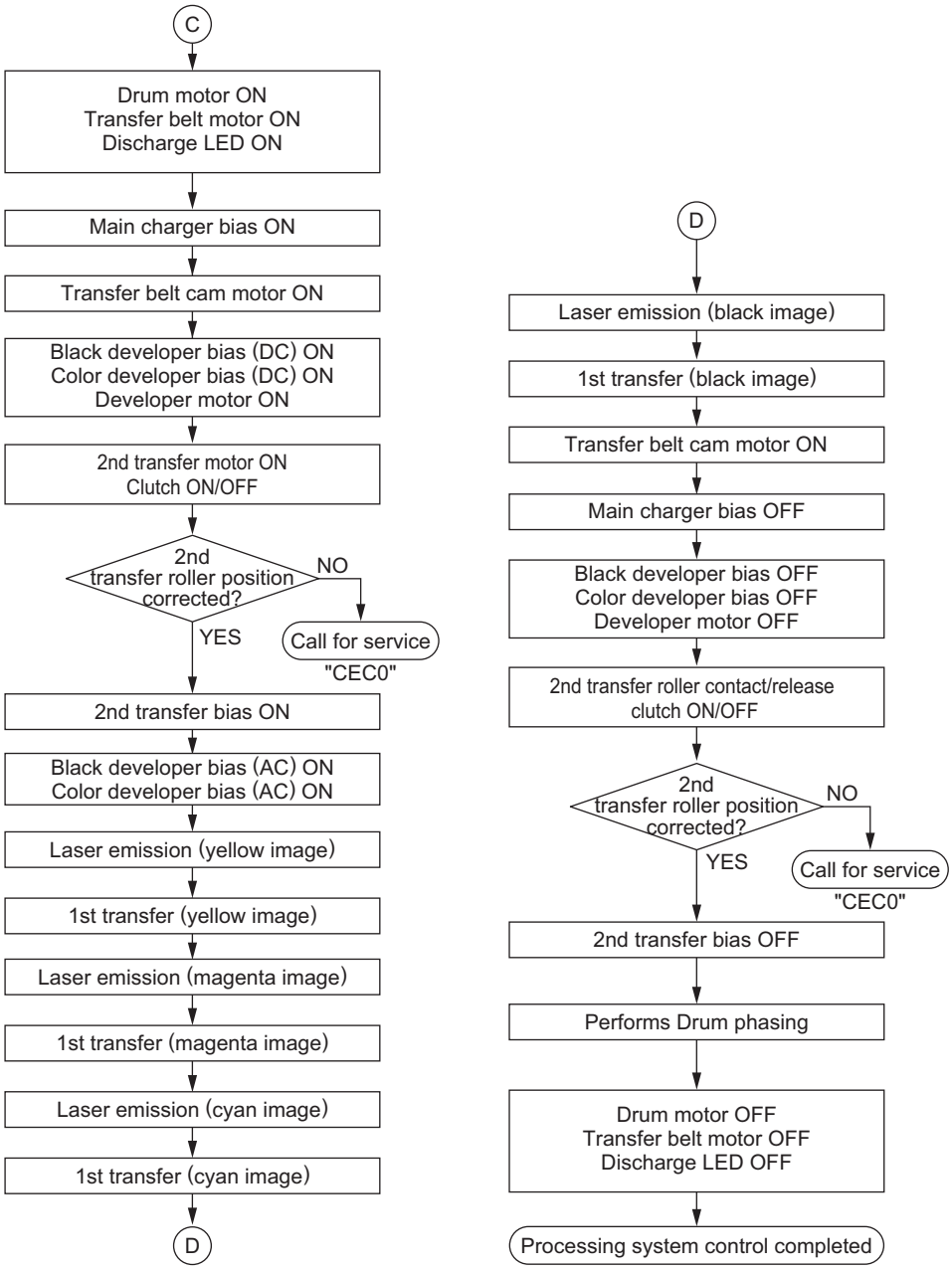

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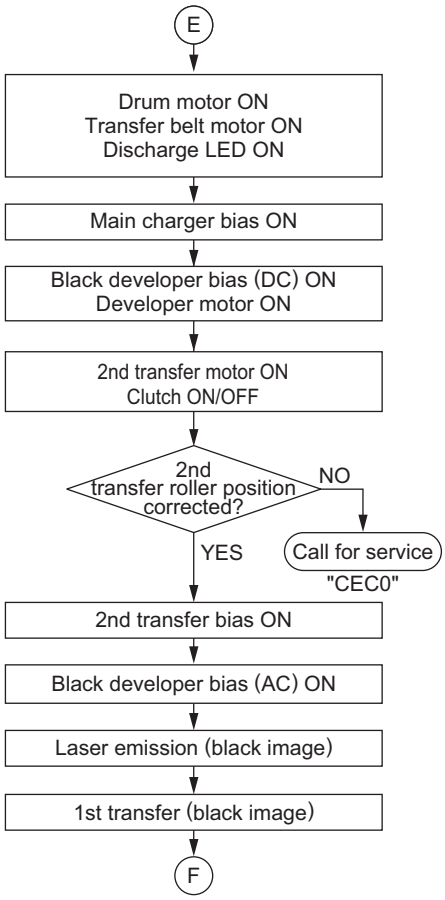

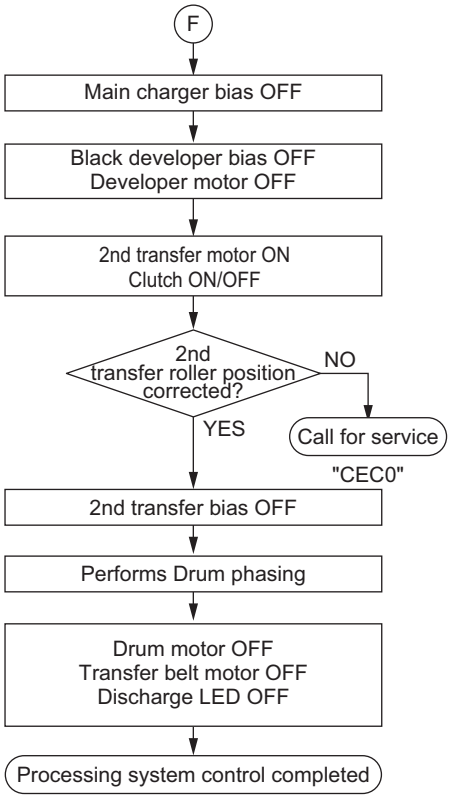

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6. CONTROL PANEL

6.1 General Description

The control panel consists of button switches and touch-panel switches to operate the equipment and select various modes, and LEDs and an LCD to display the state of the equipment or the messages. When the operator's attention is required, graphic symbols light or blink with messages explaining the condition of the equipment in the LCD panel. When paper jams and "Call for service" occur, error codes are also displayed to notify users of the problem.
A color LCD is used in this equipment so that visibility and operability are improved.
This equipment has an LCD larger than those of our existing models and an arm to attach the control panel. This arm enabled the height adjustment and the angular adjustment in both vertical and horizontal directions of the control panel so visibility and operability of the control panel has been greatly improved.
And the [ON/OFF] button is placed on the control panel of this equipment. Use this button instead of the main power switch to turn ON/OFF the power.
Press the [ON/OFF] button for 1 second or more to turn ON/OFF the power of the equipment.
Also, the [ON/OFF] button can be used in the following manner for example: press the [ON/OFF] button while holding down the [0] and [5] buttons simultaneously to activate the Adjustment Mode (05).

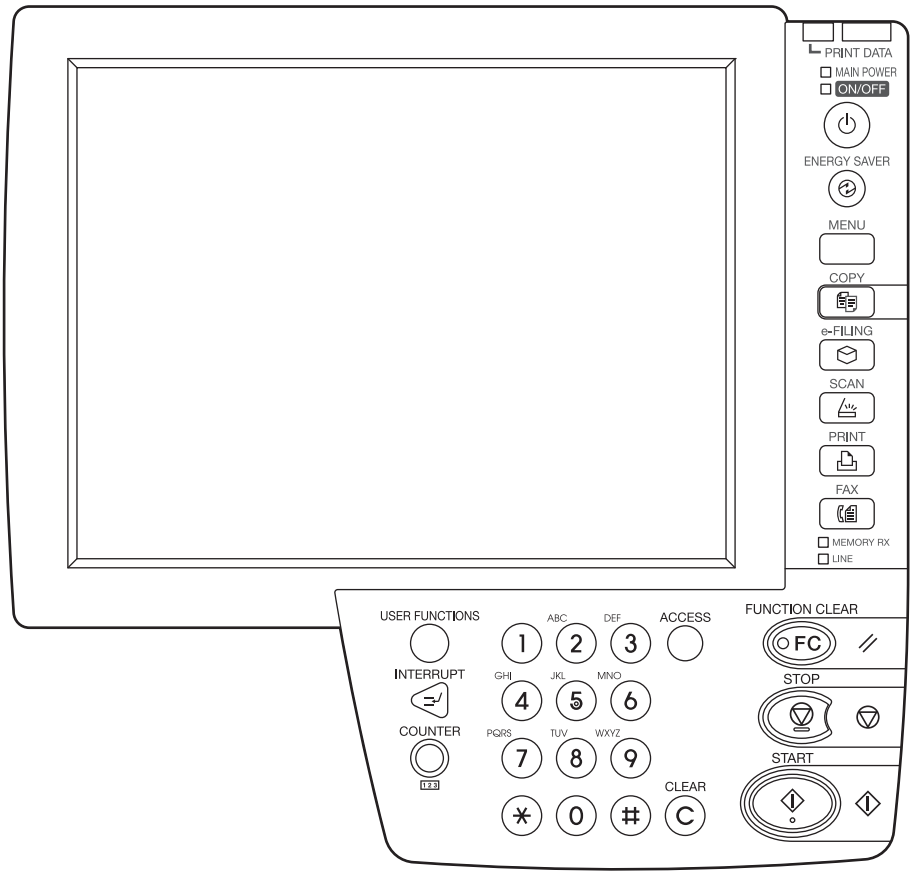

Fig. 6-1

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6.2 Items Shown on the Display Panel

6.2.1 Display

1. Basic display
   Displays buttons and messages.

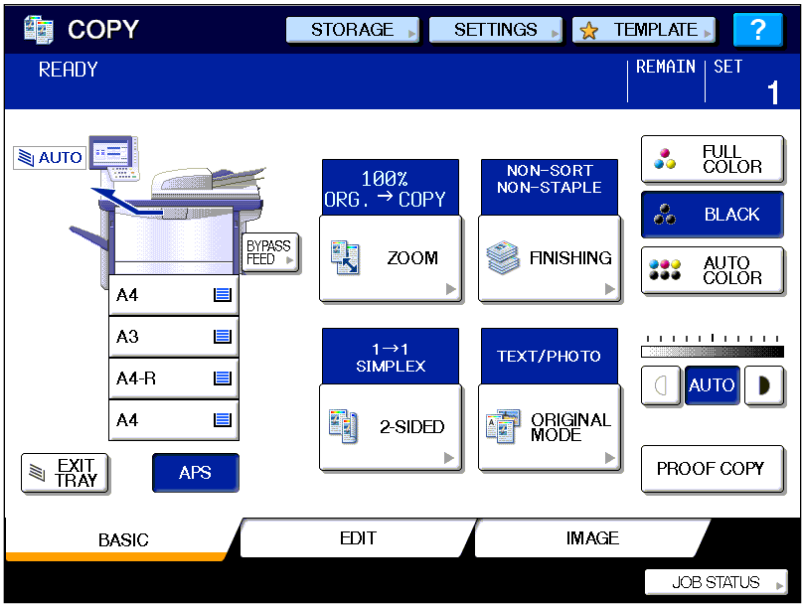

Fig. 6-2

2. Paper jam / service call display
   Displays error code, paper jam position and guidance for cleaning paper jams, etc.

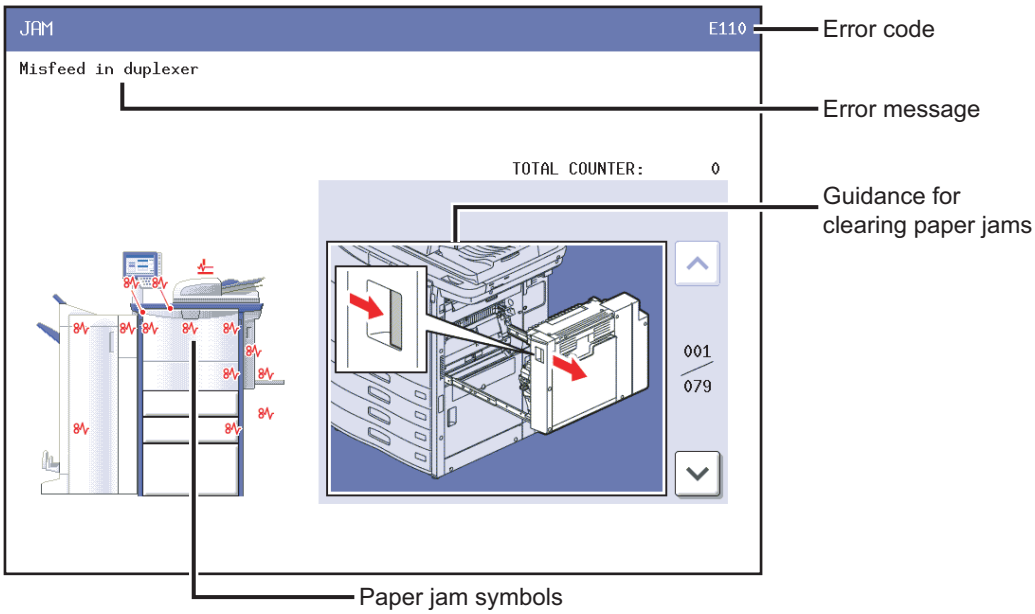

Fig. 6-3

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6.2.2 Message

No.	Message	State of equipment	Note
1	-	Power is OFF (at Sleep Mode)	Press the [START] button or function button to clear
2	Saving energy - press START button	At Energy Saving Mode	Press the [START] button to clear
3	Wait Warming Up	Scanner warming up • Displayed until the equipment becomes ready to start scanning	Auto Start can be set
4	Wait Warming Up Auto Start	Scanner warming up • Displayed when Auto Start is set	Press the [STOP] button to clear the Auto Start.
5	WAIT	Displayed when performing the controlling function to keep the equipment at the best condition	
6	Wait adding toner	Supplying toner • Equipment becomes the toner supply state	Recovers when the toner supply has finished
7	Performing Auto Calibration	Displayed at image quality control	Recovers when the image quality control has finished
8	READY	Ready for copying • Waiting for the operation	
9	READY Press START button to copy	Copying job interrupted	Press the [START] button to resume copying or press [MEMORY CLEAR] button to delete the job
10	READY (WARMING UP)	Scanner warming up • Ready to scan the original	
11	READY (PRINTING)	Printing out the data • Scanning is enabled	
12	READY (ADDING TONER)	Supplying toner • Scanning is enabled	
13	READY (INNER TRAY FULL)	Inner tray in the equipment is full • Scanning is enabled	• When the bridge unit is installed • Resumes printing by removing paper from the tray
14	READY (CHECK STAPLER)	No staples in finisher • Scanning is enabled	Cleared by supplying staples
15	READY (CHECK STAPLER)	Stapling jam occurred in finisher	
16	READY (CHECK SADDLE STITCH STAPLER)	No staples in saddle stitcher • Scanning is enabled	Cleared by supplying staples
17	READY (ADD PAPER) Press JOB STATUS button	No paper in drawer • Scanning is enabled	Cleared by supplying papers
18	READY (FINISHER FULL)	Finisher is full of paper • Scanning is enabled	Resumes printing by removing paper from the finisher
19	READY (HOLE PUNCH DUST BIN IS FULL)	Punching dust box is full • Scanning is enabled	Resumes printing by removing punching dust from the dust box
20	READY (SADDLE STITCH TRAY FULL)	Saddle stitcher tray is full of paper • Scanning is enabled	
21	READY (CHANGE DRAWER TO CORRECT PAPER SIZE)	Incorrect paper size setting	
22	READY (Performing Auto Calibration)	Displayed during image quality control adjustment • Scanning is enabled.	
23	Ready for bypass feeding	Paper is set on the bypass tray	
24	COPYING	At the copying state	

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No.	Message	State of equipment	Note
25	Auto Start	Auto Start is set during printing	Cleared by pressing the [FUNCTION CLEAR] button
26	Close Large Capacity Feeder	LCF drawer is not installed when feeding from LCF is set	Cleared by installing LCF drawer
27	Close Large Capacity Feeder Door	LCF cover is open when feeding from LCF is set	Cleared by closing the cover
28	Place Doc. Feeder in the down position	RADF is open when original is placed on RADF	Cleared by closing RADF
29	Place originals in the document feeder	Displayed when the conditions are set and the [START] button is pressed with no original placed	Cleared by setting the original
30	Change direction of original	Displayed when the direction of original placed is different from the setting	
31	Place last %d originals in doc. feeder entrance tray	Paper jam occurred during copying (RADF scanning)	
32	Cannot copy this original	Displayed when the original which is not allowed to be copied is placed	Not printed out
33	Add paper	Displayed when the paper in selected drawer is running out	
34	Cannot duplex this size	Displayed when the paper size which is not specified for duplex copying is set	
35	Cannot use this media type	Displayed when the paper size which is not specified for the functions such as stapling or hole punching is set	
36	Copy size: A4/LT only	Displayed when the paper size which is not specified for “Book-type duplex copying” or “Dual-page” is set	
37	Copy size: A4/LT and A4-R/LT-R	Displayed when the paper size which is not specified for “Rotate Sort”	
38	CHANGE DRAWER TO CORRECT PAPER SIZE	Displayed when the selected paper size is not in the drawer	
39	Change drawer to correct media type	Displayed when the selected media type is not in the drawer	
40	Select a paper size for bypass feeding	Displayed when paper size needs to be specified for bypass feeding such as duplex copying	
41	Place the blank sheets in bypass tray and select the paper size	Displayed when no paper is in the selected feeder at Cover Copying Mode	
42	Place the blank sheets in the same direction as the originals	Displayed when the direction of cover page is different from that of other pages at Cover Copying Mode	
43	Place the same size blank sheets as the originals	Displayed when the paper size of cover page is different from that of other pages at Cover Copying Mode	
44	Place insertion sheets in the bypass tray and select the paper size	Displayed when no insertion sheet is in the selected drawer at Sheet Insertion Mode	
45	Select the same size insert1 sheets as the originals	Displayed when the size of insertion sheet (sheet 1) is different from that of other pages at Sheet Insertion Mode	
46	Select the same size insert2 sheets as the originals	Displayed when the size of insertion sheet (sheet 2) is different from that of other pages at Sheet Insertion Mode	

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No.	Message	State of equipment	Note
47	Set insert1 sheets in the same direction as the originals	Displayed when the direction of insertion sheet (sheet 1) is different from that of other pages at Sheet Insertion Mode	
48	Set insert2 sheets in the same direction as the originals	Displayed when the direction of insertion sheet (sheet 2) is different from that of other pages at Sheet Insertion Mode	
49	Set transparency film in A4/ LT direction	Displayed when the selected paper size is other than A4/LT at OHP mode	
50	CHECK PAPER IN LARGE CAPACITY FEEDER	Papers in LCF are set incorrectly	
51	CANNOT PUNCH THIS SIZE PAPER	Displayed when the selected paper size is not specified for hole punching	
52	Remove paper from the finisher	Displayed when the paper sizes are mixed at Staple Sorting Mode	
53	Cannot staple this size	Displayed when the paper size is not specified for stapling at Staple Sorting Mode	
54	Remove paper from the saddle stitch unit	Finisher is full of papers	
55	Examine stapler	Trouble in the stapler unit in finisher	
56	Check staple cartridge	No stapler in finisher section	
57	Check staple cartridge in the saddle stitch unit	No stapler in saddle stitch unit	
58	Job interrupted job 1 saved	Interrupt copying is accepted	
59	Ready to resume job 1	Interrupt copying is cancelled (finished)	
60	Cannot use AMS mode	Displayed when reproduction ratio is set to be over 200% at AMS Mode on RADF	Set the reproduction ratio 200% or below manually
61	More than 200% is not available	Displayed when reproduction ratio is set manually to be over 200% on RADF	Set the reproduction ratio 200% or below
62	Updated the template setting	Displayed when the template stored is recalled by pressing [TEMPLATE] button	
63	Enter Department Code	Displayed when a button is pressed while the department management setting is available	
64	Cannot copy BLACK mode Check DEPARTMENT COUNTER	Displayed when the number of printouts exceeds the limit number of department counter	
65	Cannot copy FULL COLOR mode Check DEPARTMENT COUNTER	Displayed when the number of printouts exceeds the limit number of department counter	
66	Cannot copy TWIN COLOR mode Check DEPARTMENT COUNTER	Displayed when the number of printouts exceeds the limit number of department counter	
67	Cannot copy Check DEPARTMENT COUNTER	Displayed when the number of printouts exceeds the limit number of department counter	
68	Not enough memory to store original(s) Will you print out stored originals?	Displayed for confirming with the user whether to copy the data stored in the memory in its full state	

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No.	Message	State of equipment	Note
69	Not enough memory to store original(s) Will you send stored originals in?	Displayed for confirming with the user whether to send the FAX data stored in the memory in its full state	Displayed only in FAX Function
70	Not enough memory to store original(s) Will you save stored originals in?	Displayed for confirming with the user whether to save the scanning data stored in the memory in its full state	Displayed only in FAX Function
71	The number of originals exceeds the limits Will you copy stored originals?	Displayed for confirming with the user whether to copy the data stored in the memory when the number of originals exceeds 1000 sheets	
72	The number of originals exceeds the limits. Will you send stored originals?	Displayed for confirming with the user whether to send the FAX data stored in the memory when the number of originals exceeds 1000 sheets	Displayed only in FAX Function
73	The number of originals exceeds the limits. Will you save stored originals?	Displayed for confirming with the user whether to save the scanning data stored in the memory when the number of originals exceeds 1000 sheets	Displayed only in Scanning Function
74	Install new Black toner cartridge	No black toner in the cartridge	Displayed when black toner is running out even if other toner still remain. Copying not enabled
75	Install new Yellow toner cartridge	No yellow toner in the cartridge	Black copying is available Other button functions are available
76	Install new Magenta toner cartridge	No magenta toner in the cartridge	Black copying is available Other button functions are available
77	Install new Cyan toner cartridge	No cyan toner in the cartridge	Black copying is available Other button functions are available
78	Install new Y and M toner cartridge	No yellow and magenta toner in the cartridges	Black copying is available Other button functions are available
79	Install new Y and C toner cartridge	No yellow and cyan toner in the cartridges	Black copying is available Other button functions are available
80	Install new M and C toner cartridge	No magenta and cyan toner in the cartridges	Black copying is available Other button functions are available
81	Install new color toner cartridge	Three colors of toner are running out in the cartridges	Black copying is available Other button functions are available
82	Time for periodic maintenance ****	PM cycle • Displayed at the time for maintenance • Copying is available	For the details, see the following page: 📖 P.18-2 "18.2.3 PM Display Contents"
83	READY (CHANGE DRAWER TO CORRECT MEDIA TYPE)	Displays when the printing is stopped because of media type mismatch	
84	PRESS [BASIC] and select normal paper size	Displays the warning that the copy is not enabled when any drawer but bypass feed is selected at Cover Sheet Mode or Sheet Insertion Mode.	
85	Misfeed in copier Press [HELP]	Paper jam in the equipment • Displayed when paper jam occurred in the equipment	Remove the paper in the equipment according to the messages displayed on the panel.
86	Call for service	Displayed when motor, sensor, switch, etc. do not work properly	Turn OFF the power and solve the problem, then turn ON the power.
87	Please try again after a while	Displayed when the Department Code can no be keyed in immediately after power-ON.	Leave it for a while and key in the code again

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No.	Message	State of equipment	Note
88	Set standard size	Displayed when the paper size which is not acceptable is set (depends on the setting)	Reset the paper size
89	Change from this mode Count over, cannot store anymore	Displayed for confirming with the user whether to copy the data stored in the memory when the number of originals exceeds 1000 sheets in copying one set of originals using the ADF in the non-sort or sort mode; paper exits on the tray except finisher tray 2 in the sort mode.	Reduce the number of the originals to be scanned so as to be less than 1000, and then try again
90	TRU Box needs to be replaced (Please make a service call)	The TRU waste toner box is full	Replace it with a new TRU waste toner box 📖 P.12-33 "12.6.20 TRU waste toner box"
91	Time for Developer (*) Maintenance (Please make a service call)	The color developer material indicated by an asterisk deteriorates and needs to be replaced.	Check the present number of the performance index in the PM support mode and replace the corresponding color developer material. (Fig. 18-10)
92	Readjust from IQC-Adjustment	Appears when performing image quality control is required	Perform “Automatic initialization of image quality control (05-396)”

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6.3 Relation between the Equipment State and Operator's Operation

	During READY status	During warming-up	Auto job start reserved	Scanning original/ Scanning original and printing out the copy
Press [ENERGY SAVER] button	Switches to energy saving mode	Display not changed	Display not changed	Display not changed
Press [INTERRUPT] button	Switches to interrupt mode	Display not changed	Display not changed	Display not changed (LED blinking)
Press [FUNCTION CLEAR] button after setting the copy mode	Copy mode is cleared after the copy mode is set	Copy mode is cleared after the copy mode is set	Auto job start cancelled	Display not changed
Press [STOP] button	Display not changed	Display not changed	Auto job start cancelled	Scanning or printing out stops, and "READY Press START to copy" and "MEMORY CLEAR" are displayed
Press [CLEAR] button after setting the copy mode	Number of printouts changes to 1 while the setting remains unchanged after the copy mode is set	Number of printouts changes to 1 while the setting remains unchanged after the copy mode is set	Display not changed	Display not changed
Press [CLEAR] button after keying in numbers (digital keys)	Number keyed in changes to 1 after being entered	Number keyed in changes to 1 after being entered	Display not changed	Display not changed
Press [FAX] button	Displays FAX screen	Display not changed	Display not changed	Display not changed
Press [COPY] button	Display not changed	Display not changed	Display not changed	Display not changed
Press [SCAN] button	Displays SCAN screen	Display not changed	Display not changed	Display not changed
Press [USER FUNCTIONS] button	Displays USER FUNCTIONS screen	Display not changed	Display not changed	Display not changed
Press [START] button with the original set on RADF	Displays "COPYING"	"Wait Warming Up Auto Start" is displayed	Display not changed	Display not changed

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	Printing out the copy	During paper jam	When interrupting	When displaying HELP screen	During energy saving mode
Press [ENERGY SAVER] button	Display not changed	Display not changed	Display not changed	Switches to energy saving mode	Energy saving mode is cleared and displays BASIC screen
Press [INTERRUPT] button	Display not changed (LED blinking)	Display not changed	Returns to the status before interrupting	Switches to interrupting mode	Display not changed
Press [FUNCTION CLEAR] button after setting the copy mode	Copy mode is cleared after the copy mode is set	Display not changed	Copy mode is cleared after the copy mode is set	Displays BASIC screen after the copy mode is set and then cancelled	Display not changed
Press [STOP] button	Printing out stops, and “READY Press START to copy” and “MEMORY CLEAR” are displayed	Display not changed	Display not changed	Display not changed	Display not changed
Press [CLEAR] button after setting the copy mode	Number of printouts changes to 1 while the setting remains unchanged after the copy mode is set	Display not changed	Number of printouts changes to 1 while the setting remains unchanged after the copy mode is set	Number of printouts changes to 1 while the setting remains unchanged after the copy mode is set	Display not changed
Press [CLEAR] button after keying in numbers (digital keys)	Number keyed in changes to 1 after being entered	Display not changed	Number keyed in changes to 1 after being entered	Number keyed in changes to 1 after being entered	Display not changed
Press [FAX] button	Displays FAX screen	Display not changed	Display not changed	Displays FAX screen	Displays FAX screen
Press [COPY] button	Display not changed	Display not changed	Display not changed	Display not changed	Displays COPY screen
Press [SCAN] button	Displays SCAN screen	Display not changed	Display not changed	Displays SCAN screen	Displays SCAN screen
Press [USER FUNCTIONS] button	Displays USER FUNCTIONS screen	Display not changed	Display not changed	Displays USER FUNCTIONS screen	Display not changed
Press [START] button with the original set on RADF	Displays “COPYING” and RADF starts feeding	Display not changed	Displays “COPYING” and RADF starts feeding	Displays “COPYING” and RADF starts feeding	Energy saving mode is cleared and displays BASIC screen

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6.4 Description of Operation

6.4.1 Dot matrix LCD circuit

1. Structure

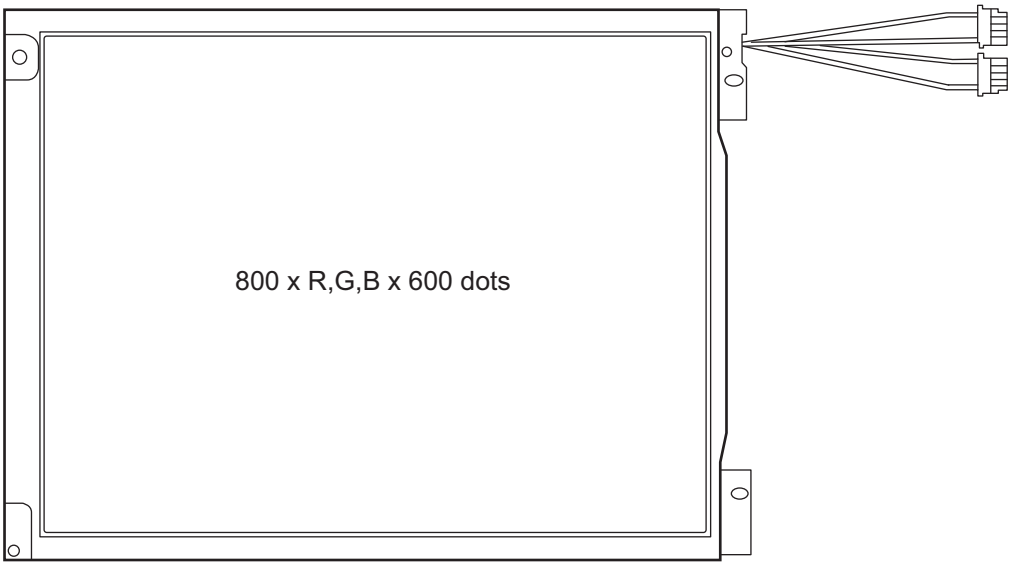

Fig. 6-4

The DSP-LCD-430 is an SVGA TFT type LCD with (800 x R, G, B) x 600-dot display capacity. It consists of a driver LSI, frame, printed circuit board, and lateral type CCFL backlight.

* SVGA: Super Video Graphics Array
* TFT: Thin Film Transistor
* CCFL: Cold Cathode Fluorescent Lamp

2. Block diagram

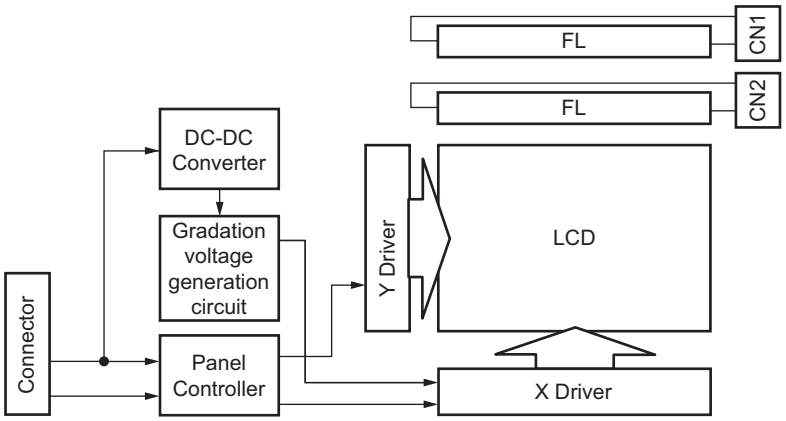

Fig. 6-5

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3. System diagram

Signals flowing between the control panel and the SYS board are indicated in the chart below. When the panel processing CPU detects that the control panel is operated, the operational contents are transmitted to the SYS board through the serial data. Information from the SYS board, such as the state of the equipment and messages, is received by the LCD controller and displayed on the LCD via the LVDS transceiver. The LED and buzzers are switched to ON/OFF with the signals output from the panel processing CPU, based on serial data transmitted from the SYS board. The panel processing CPU controlled by the touch panel operation performs the brightness adjustment.

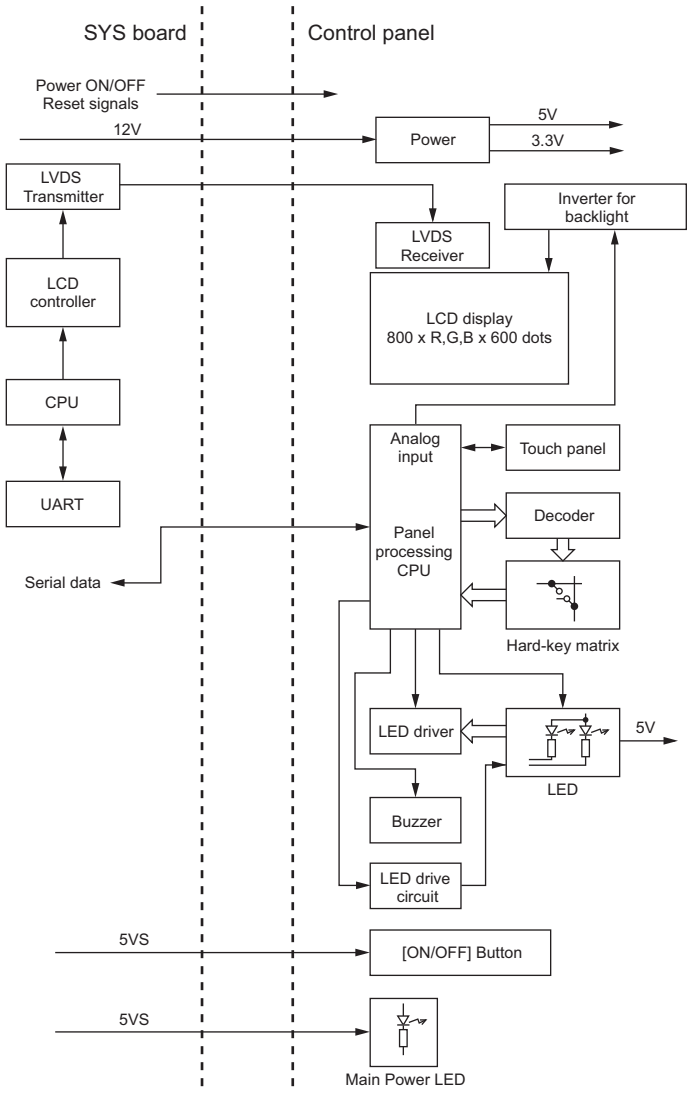

Fig. 6-6

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6.4.2 LED display circuit

Method of LED display
Example: Displaying “COPY”

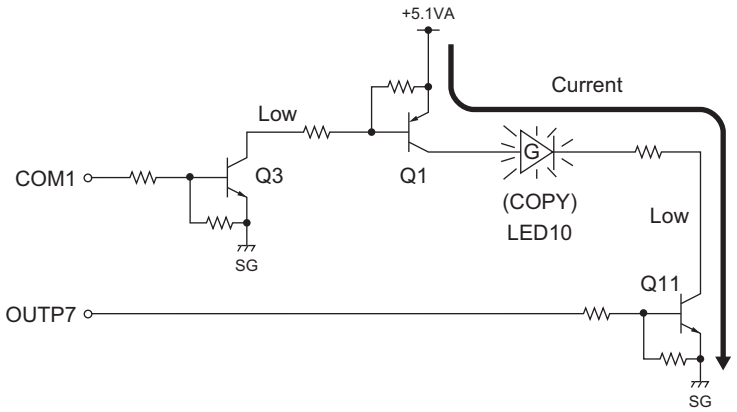

Fig. 6-7

The transistors (Q3 and Q1) are turned ON when the COM1 signal becomes Low level.
Also, when OUTP7 signal changes to Low level, the current flows from +5.1VA via the transistor (Q1) to the LED5 (COPY) to turned ON the LED10.

Conditions to turn ON the LED
1. The transistor (Q1) connected to the LED anode is ON.
2. The transistor (Q11) connected to the LED cathode side is ON.

The LED is turned ON when 1) and 2) are satisfied.

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6.5 Disassembly and Replacement

6.5.1 Control panel unit

(1) Release 4 latches and then take off the control panel hinge cover.

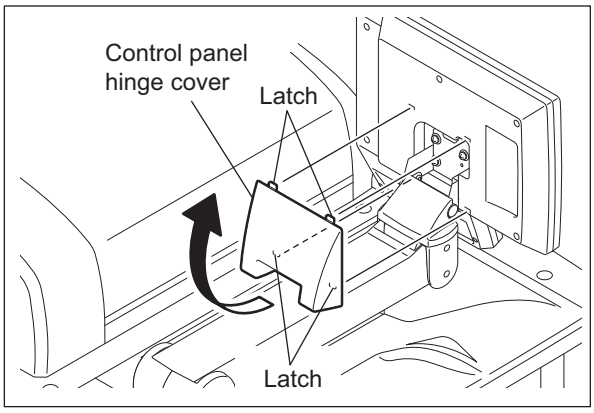

Fig. 6-8

(2) Disconnect 1 connector and release 1 clamp.

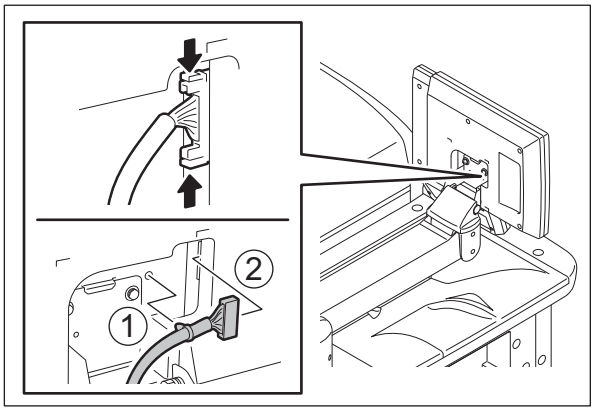

Fig. 6-9

(3) Remove 4 screws.
(4) Take off the control panel unit by lifting it up.

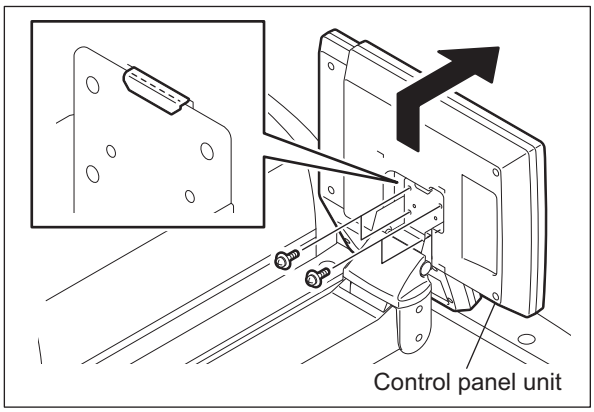

Fig. 6-10

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6.5.2 Control panel rear cover

(1) Take off the control panel unit.
🕮 P.6-13 "6.5.1 Control panel unit"
(2) Remove 8 screws and then take off the control panel rear cover.

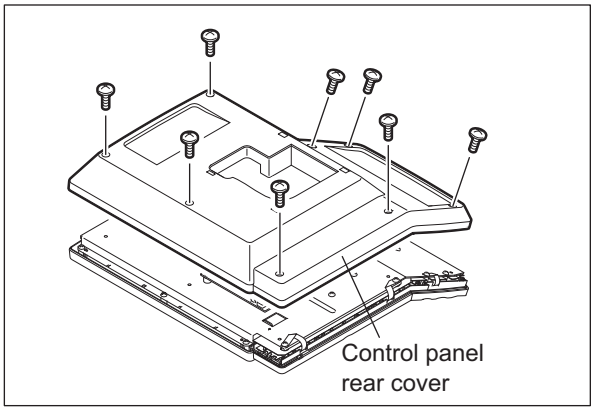

Fig. 6-11

6.5.3 Display PC board (DSP)

(1) Take off the control panel rear cover.
🕮 P.6-14 "6.5.2 Control panel rear cover"
(2) Disconnect 5 connectors.

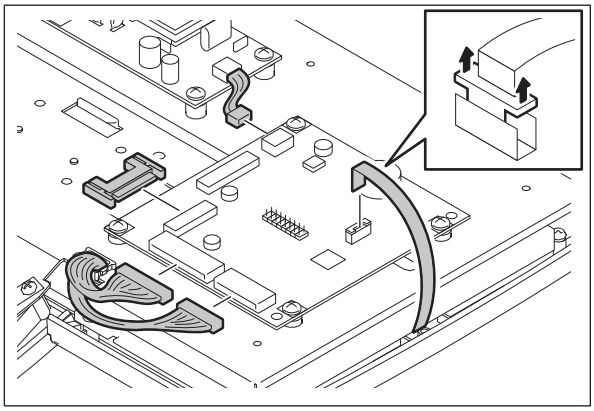

Fig. 6-12

(3) Remove 4 screws and then take off the display PC board.

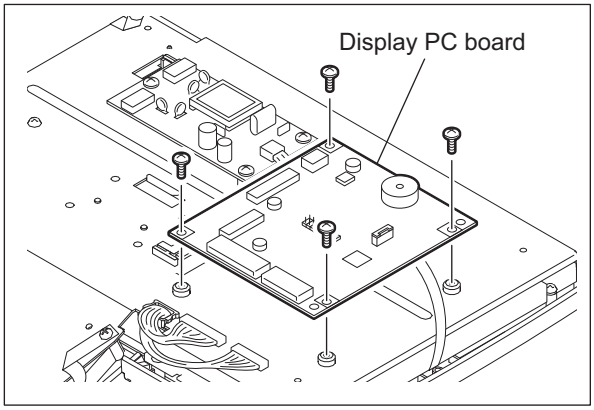

Fig. 6-13

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6.5.4 Panel inverter board (P-INV)

(1) Take off the control panel rear cover.
P.6-14 "6.5.2 Control panel rear cover"
(2) Disconnect 3 connectors.

Note:
Be sure to use the correct cable (white or blue) when assembling.

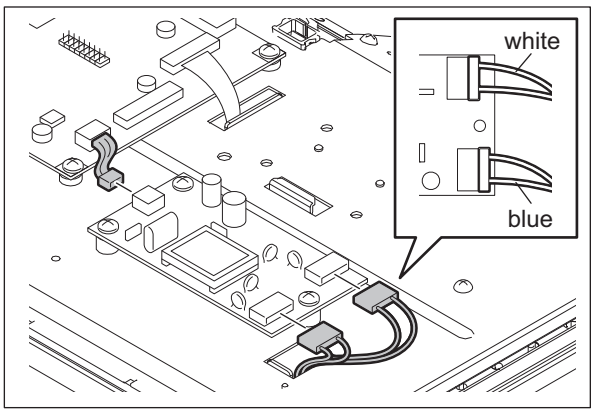

Fig. 6-14

(3) Remove 3 screws and then take off the panel inverter board.

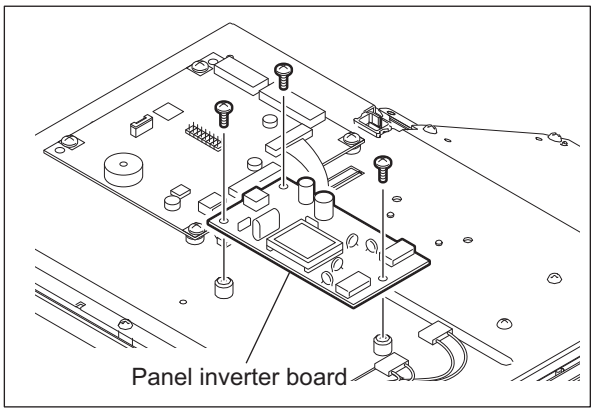

Fig. 6-15

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6.5.5 Shielding plate

(1) Disconnect 6 connectors.

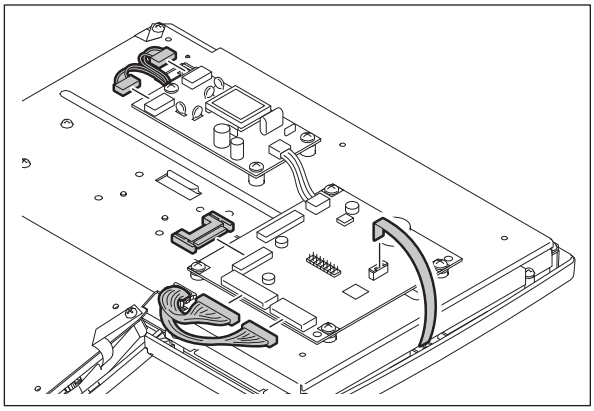

Fig. 6-16

(2) Release the harness from 1 harness clamp.

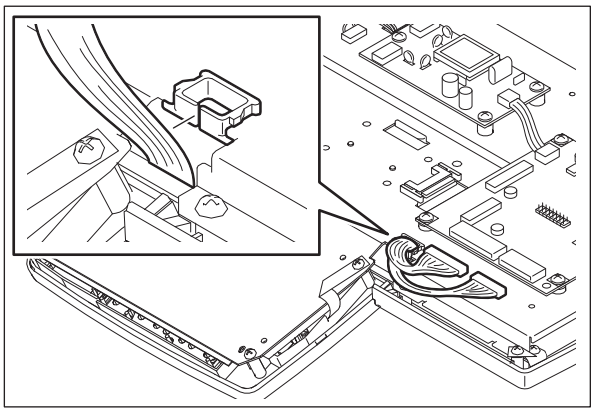

Fig. 6-17

(3) Remove 5 screws.

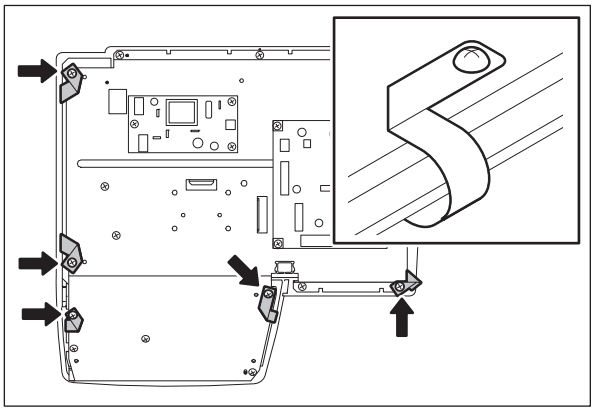

Fig. 6-18

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(4) Remove 9 screws.

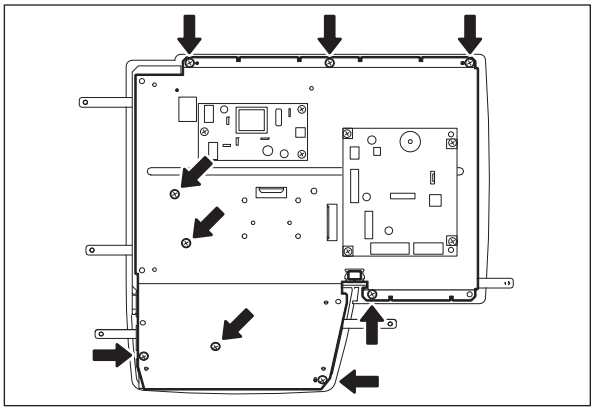

Fig. 6-19

(5) Release the harness clamp from 1 harness clamp and take off the shielding bracket.

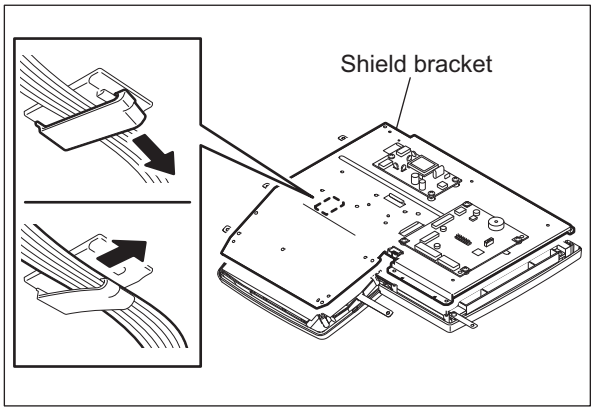

Fig. 6-20

Note:
When installing the shield bracket, pass the harness through its hole.

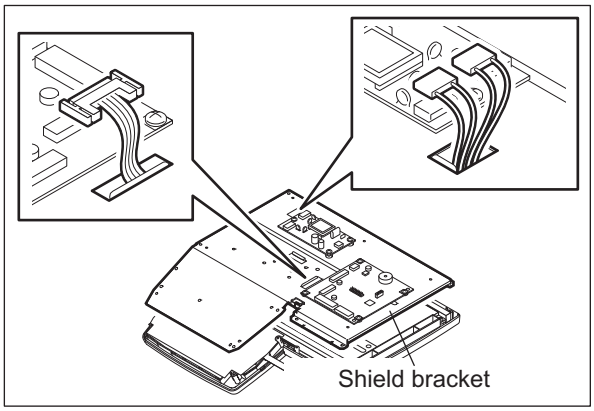

Fig. 6-21

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6.5.6 Key PC board-1 (KEY1)

(1) Take off the shielding plate.
P.6-16 "6.5.5 Shielding plate"
(2) Remove a sheet.
(3) Remove 9 screws and then take off the key PC board-1.

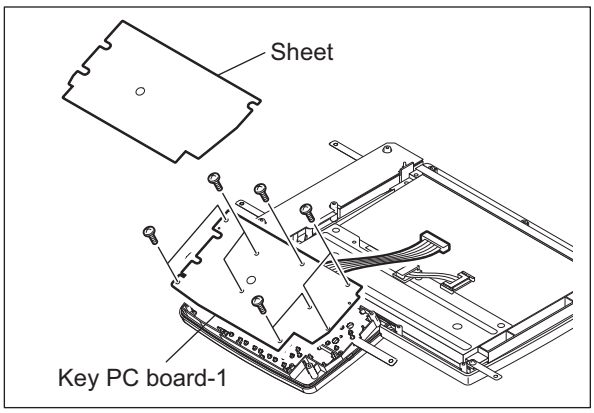

Fig. 6-22

6.5.7 Key PC board-2 (KEY2)

(1) Take off the shielding plate.
P.6-16 "6.5.5 Shielding plate"
(2) Remove a sheet.
(3) Remove 6 screws and then take off the key PC board-2.

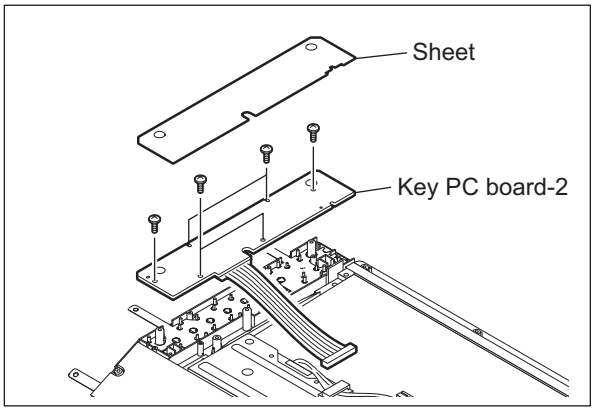

Fig. 6-23

6.5.8 Touch panel (TCP)

(1) Take off the shielding plate.
P.6-16 "6.5.5 Shielding plate"
(2) Remove 4 screws and then take off the touch panel.

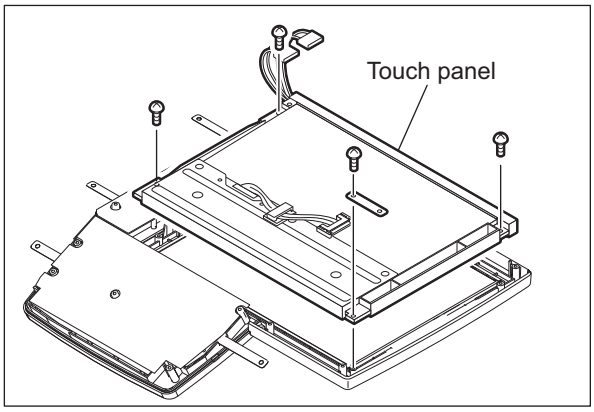

Fig. 6-24

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6.5.9 Control panel cover

(1) Release 4 latches and then take off the control panel cover.

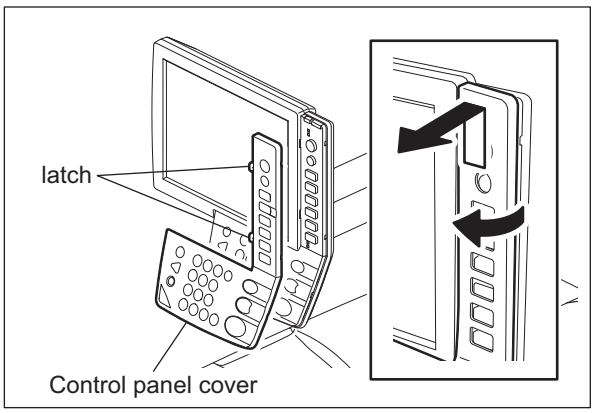

Fig. 6-25

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7. SCANNER

7.1 General Description

In the scanning section of this equipment, the surface of an original is irradiated with a direct light and the reflected light is led through mirrors, a lens and a slit to CCD where optical-to-electrical conversion is performed, converting the optical image data into an electrical (analog) signal. This analog signal is changed to a digital signal, which then undertakes various corrective processes necessary for image formation. After that, arithmetic operation is performed on the digital signal, which is then transmitted to the data writing section.
The color high-speed-drive CCD sensor is used in the equipment to make high-speed-drive and high-resolution for scanning originals possible.

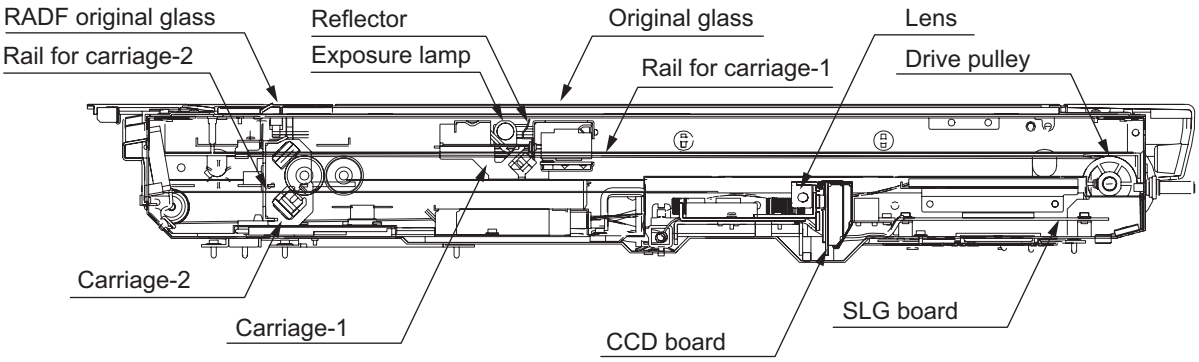

Fig. 7-1

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7.2 Construction

Scanner		
Original glass	Original glass	
	RADF original glass	
Carriage-1	Exposure lamp (EXP)	Xenon lamp (35W)
	Inverter board (INV)	
	Reflector	
	Mirror-1	
Carriage-2	Mirror-2	
	Mirror-3	
Lens unit		
CCD driving PC board (CCD)		
Automatic original detection sensor (S1-5)		
Driving section	Scan motor (M1)	• 2-phase stepping motor • Wire drive • Driving the carriage-1 and carriage-2
Other	Scanning section control PC board (SLG)	
	Carriage home position sensor (S6)	
	Platen sensor (S7)	
	Rubber damper	
	SLG board cooling fan (F1)	
	Exposure lamp cooling fan-1 (F2)	
	Scanner unit cooling fan-1 (F3)	
	Exposure lamp cooling fan-2 (F26)	

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7.3 Functions

The following shows the construction and purpose of the scanning system:

1. Original glass
   This is a glass for placing original. The light from the exposure lamp (EXP) is irradiated to the original through this glass.
   The ADF original glass is used when original is read with the Automatic Document Feeder. Original is transported on the ADF original glass by the Automatic Document Feeder, and the transported original is read under the ADF original glass by the carriage. Do not use such solvents as alcohol when cleaning the surface of the ADF original glass, because it is coated so as not to be scratched by originals.

2. Carriage-1
   Carriage-1 consists of the exposure lamp (EXP), Inverter board (INV), reflector, mirror-1, etc. It is driven by the scan motor (M1) and scans an original on the glass.

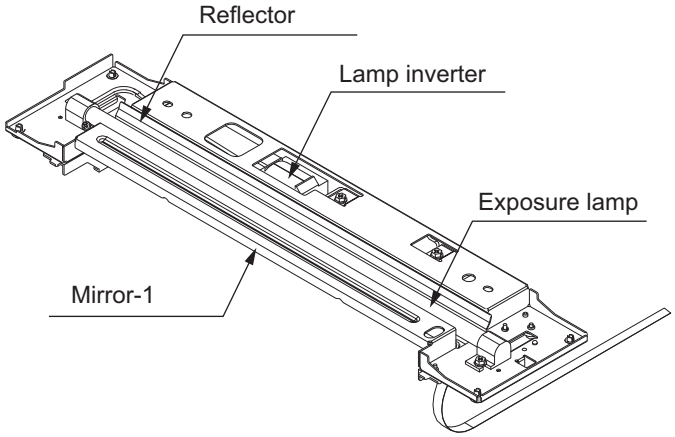

Fig. 7-2

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- Exposure lamp (EXP)
  This lamp is the light source to irradiate the original on the glass. (One 35 W xenon lamp)

- Inverter board (INV)
  Controls lighting of the exposure lamp (EXP).

- Reflector
  This is a plate to efficiently direct the light from the exposure lamp (EXP) to the surface of the original on the glass.

- Mirror-1
  This mirror directs the light reflected from the original to the mirror-2 described later.

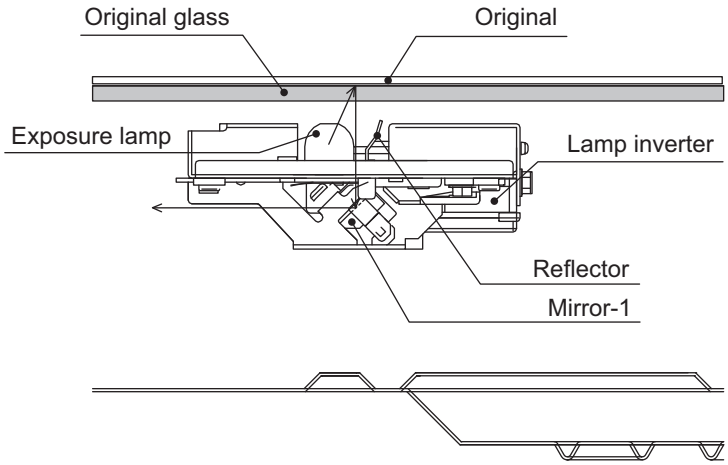

Fig. 7-3

3. Carriage-2
   Carriage-2 mainly consists of the mirror-2, mirror-3, etc. and directs the reflected light from the mirror-1 through the mirrors-2 and -3 to the lens.
   This carriage is driven by the same scan motor (M1) as that for the carriage-1 at half the scanning speed of the carriage-1 (The scanning distance is also half that of the carriage-1).

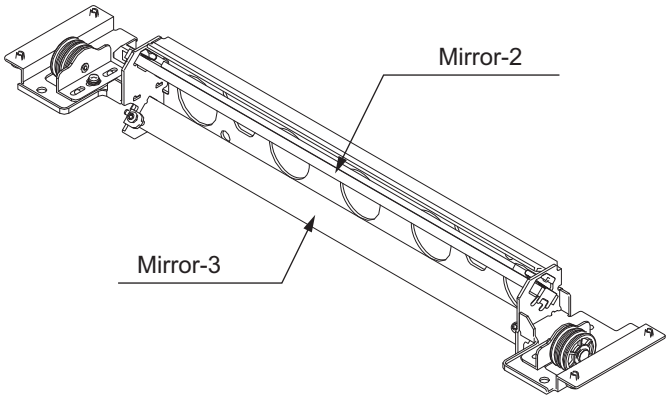

Fig. 7-4

4. Lens unit
   The light reflected from the mirror-3 is led to the CCD placed at the focal point of the lens which is fixed in a position.

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5. CCD driving PC board (CCD)
   Processes such as signal amplification, signal integration and A/D conversion are applied on the electrical signal which was converted by CCD.

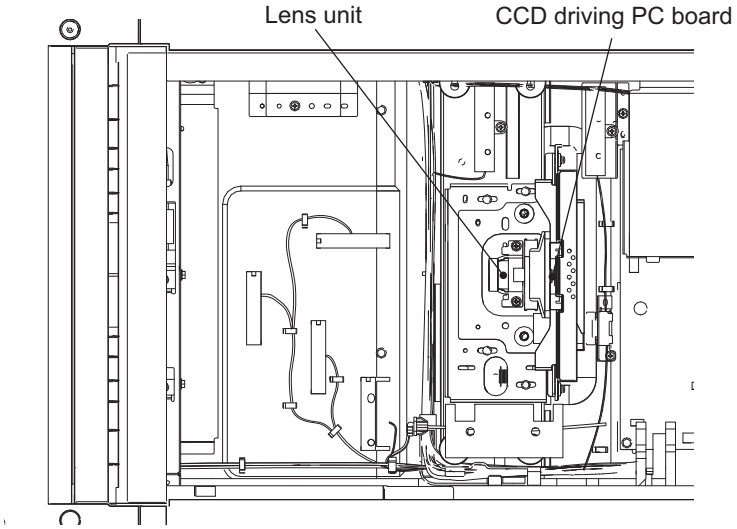

Fig. 7-5

6. Scanning section control PC board (SLG)
   This is a board to perform the image correction, such as the shading correction and 3-line correction, and control the scan motor (M1) and exposure lamp (EXP).

7. Automatic original detection sensor (S1-5)
   The size of an original placed on the glass is instantly detected using the automatic original detection sensors (S1-5) fixed on the base frame without moving the carriage-1.

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7.4 Description of Operation

7.4.1 Scanning operation

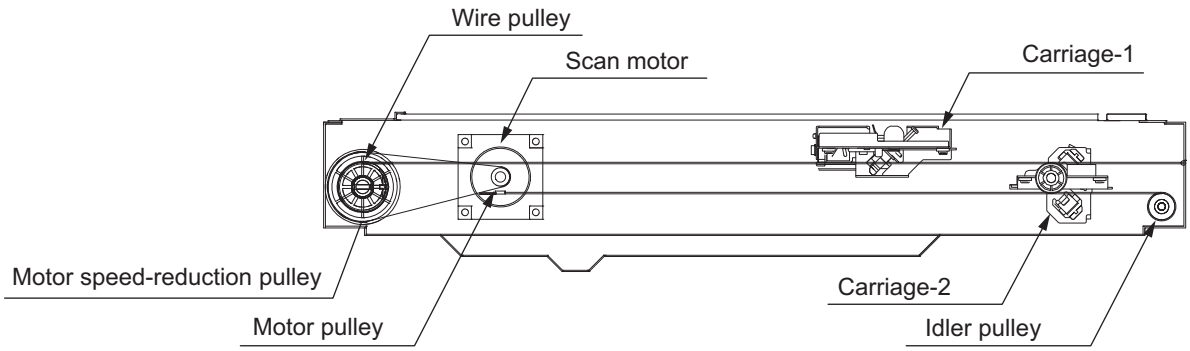

Fig. 7-6

- Scanning of an original placed on the original glass
  This motor drives the carriages-1 and -2 through the timing belt and carriage wire. First, the scan motor drives the carriages-1 and -2 to their respective home positions. The home positions are detected when the carriage-1 passes the home position sensor (S6). When the [START] button is pressed, the both carriages start to move and scan the original on the glass.

- Scanning of an original placed on the RADF
  The carriage-1 stays at the shading position during shading correction, and at the scanning position during scanning operation.

- Carriage speed
  The carriage speed of the original placed on the original glass in the color mode is the same as that in the black mode.

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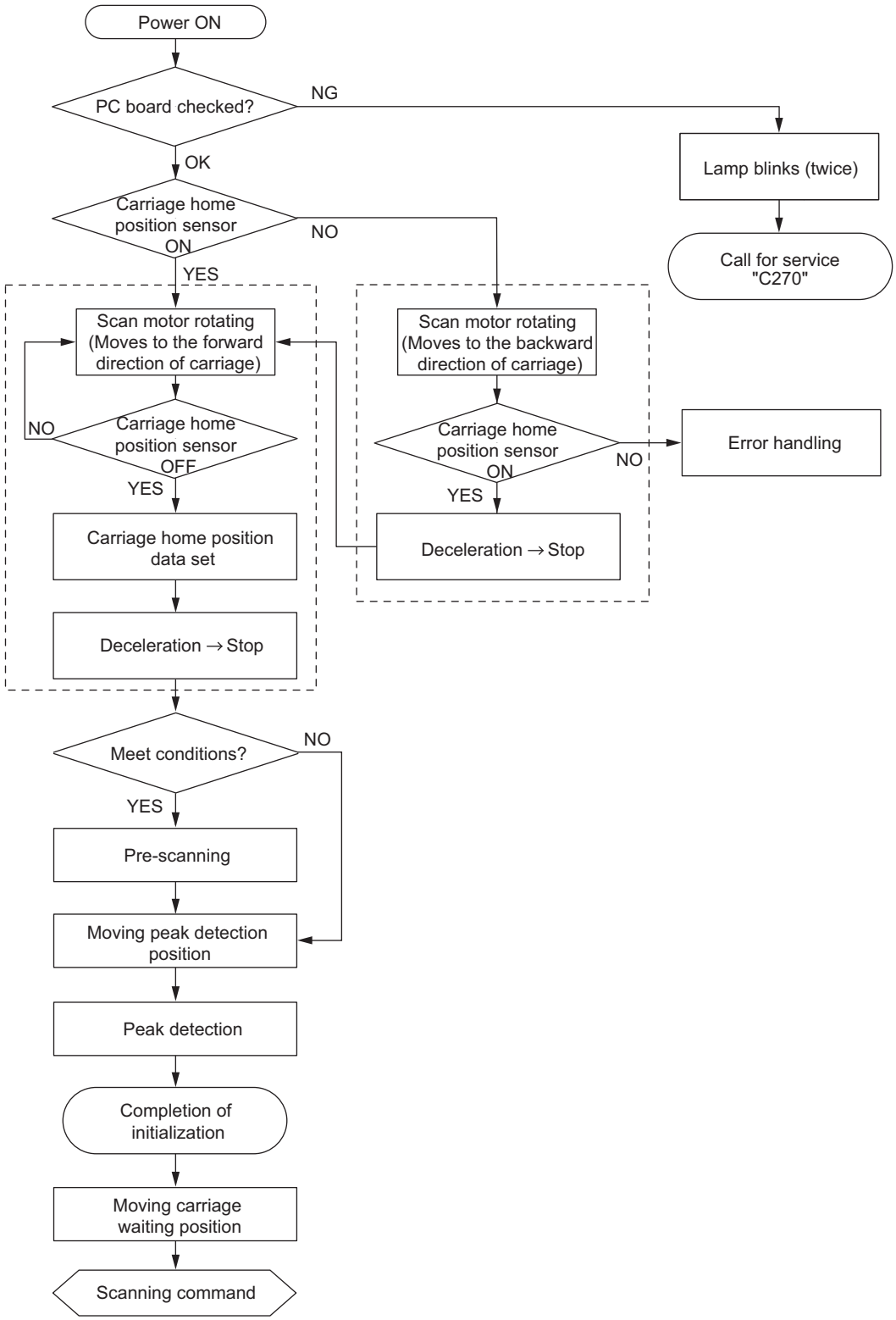
7.4.2 Initialization at power-ON

The carriage moves to its home position and performs the peak detection.
Then it moves to the carriage waiting position and waits.



7

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7.5 Electric Circuit Description

7.5.1 Scan motor control circuit

The scan motor is a stepping motor driven by the control signal output from the scanner CPU on the SLG board and drives carriage-1 and -2.
The scan motor is driven by the pulse signal (SCNM-A, SCNM-AB, SCNM-B, SCNM-BB) output from the motor driver. These pulse signals are formed based on the reference clock (MOTCLK) and output only when the enable signal (MOTEN) is a low level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

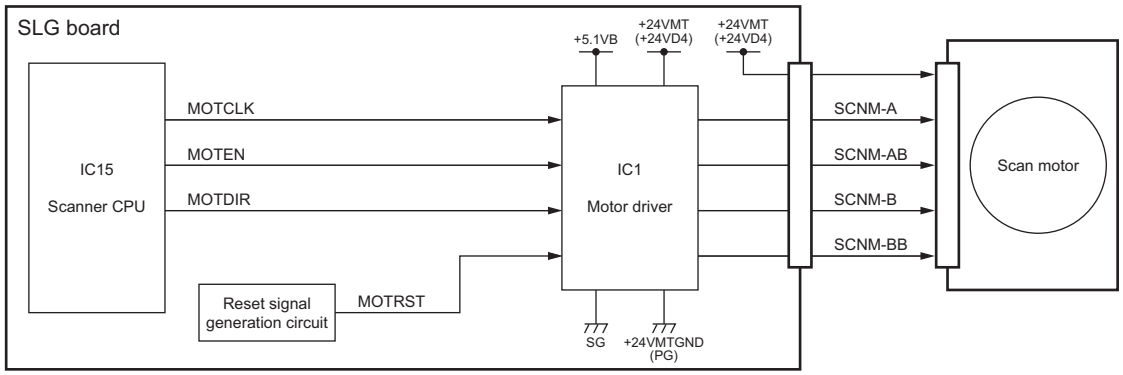

Fig. 7-7

Control signal

Signal	Function	Status	
		High level	Low level
MOTCLK	Reference clock	---	---
MOTEN	Enable signal	ON	OFF
MOTDIR	Rotation direction signal	CCW	CW
MOTRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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7.5.2 Exposure Lamp Control Circuit

[1] General description

Control circuit for the exposure lamp consists of the following two blocks:

1. Lighting device for the exposure lamp (Inverter board)
   Turns ON/OFF the exposure lamp.

2. CCD board
   This circuit converts the reflected light amount from the original surface and the shading correction plate to electrical signals. The exposure amount is controlled in two ways:
   - White reference formation - reads the reflected light amount from the white shading correction plate
   - Black reference formation - reads the light amount at the regulation position with the exposure lamp lights OFF

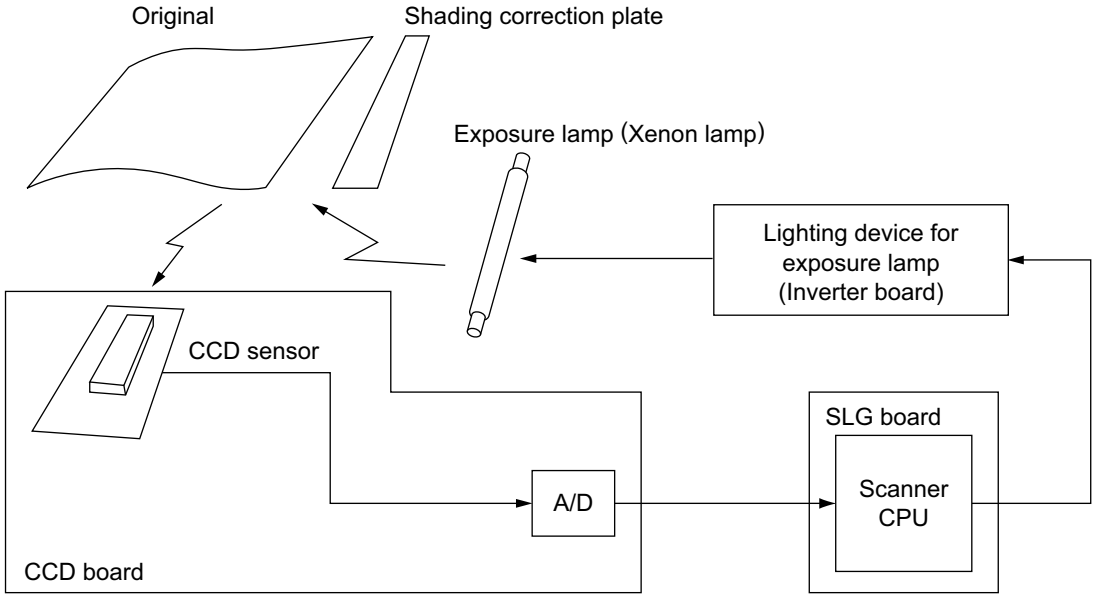

Fig. 7-8

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[2] Exposure lamp

External electrode type xenon fluorescent lamp is used as an exposure lamp in this equipment.

1. Structure

   Fluorescer is applied on the inside surface of the lamp pipe (except a part to be an opening) which is filled with the xenon gas.

   A pair of the external electrodes covered by the film with the adhesive agent is attached over the pipe.

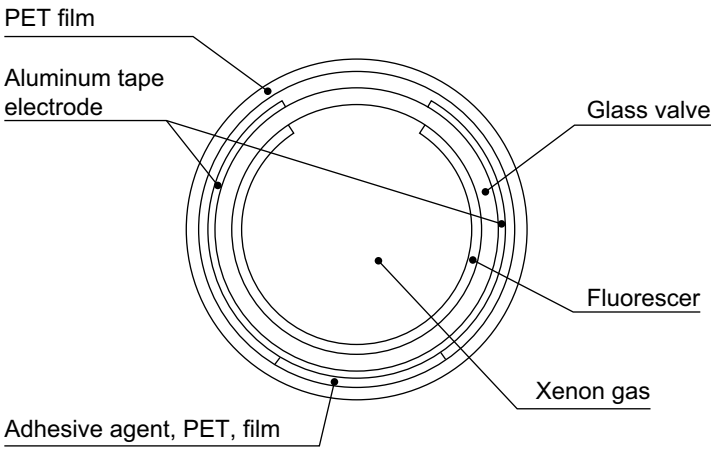
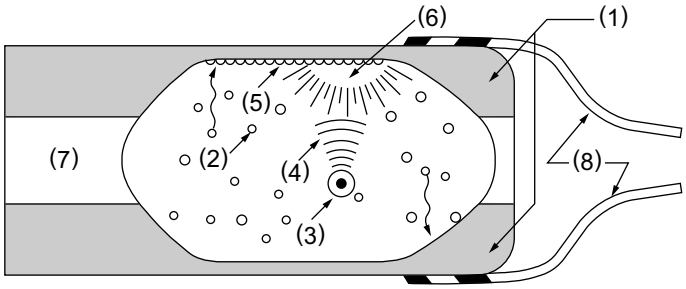


Fig. 7-9

2. Behavior inside the lamp

   The electron inside the pipe is led to the electric field by applying voltage to the pair of the external electrodes, and discharge is started. Electrons then flow and clash with the xenon atoms inside the pipe to excite them, and generate ultraviolet rays. These ultraviolet rays excite the fluorescent substance to generate visible light.



(1) Electrode (2) Electron (3) Xenon atom
(4) Ultraviolet lay (5) Fluorescer
(6) Visible light (irradiated from the opening to outside the pipe)
(7) Opening (8) Harness

Fig. 7-10

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[3] Exposure lamp control circuit

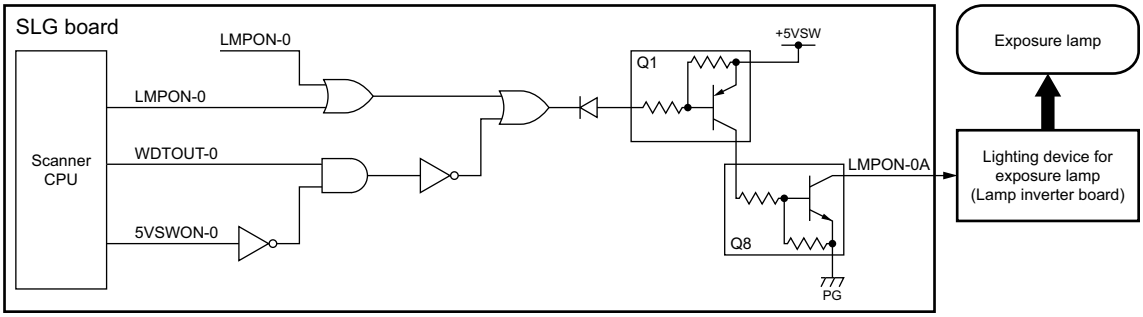

Fig. 7-11

Control signal

Signal	Function
LMPON-0	Exposure lamp ON signal
WDTOUT-0	Watchdog timer signal
5VSOW-0	+5VSW ON signal
LMPEN-0	Exposure lamp enable signal

Condition

LAMPON-0	WDTOUT-0	5VSOW-0	LMPEN-0	+5VSW	Q8	Exposure lamp	State of equipment
L	H	L	L	ON	ON	ON	Normal operation
H	H	L	L	ON	OFF	OFF	
---	L	---	---	OFF	OFF		Scanner CPU overdriving
---	H	H	---	OFF	OFF		Call for service
---	---	---	H	---	OFF		Abnormality detected (Check sum error)

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7.5.3 General Description of CCD Control

[1] Opto-electronic conversion

A CCD (Charge-Coupled Device) is used to produce electrical signal corresponding to the reflected light amount from the original. CCD is a one-chip opto-electronic conversion device, comprised of several thousand light-receiving elements arranged in a line, each one of them is a few micron square. This equipment includes a CCD which has 7,450 light-receiving elements.
Each element of the light-receiving section consists of semiconductive layers P and N. When the light irradiates the element, light energy produces a (-) charge in the layer P; the amount of the charge produced is proportional to the energy and irradiating time. The charges produced in the light-receiving section are then sent to the transfer section where they are shifted by transfer clock from left to right as shown in the figure below, and are finally output from the CCD. At this time, to increase the transfer speed of the CCD, image signals in the even-number and odd-number elements are separated and output in parallel via two channels.

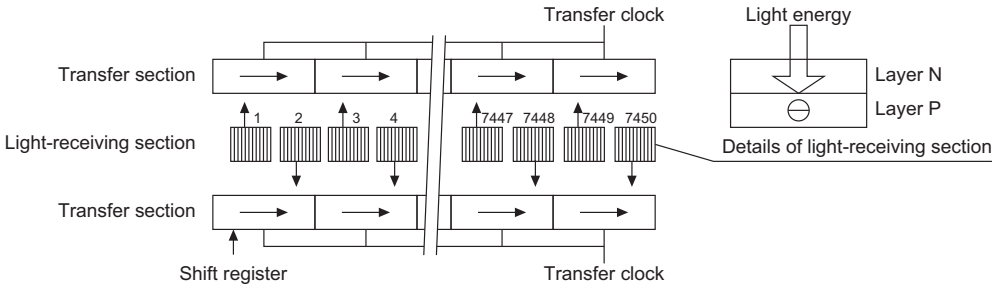

Fig. 7-12

[2] Shading correction

Signal voltages read by the CCD have the following characteristics:

1. Light source has a variation in its light distribution.

2. Since the light beam reflected from the original is converged using a lens, the light path is the shortest at the center of the CCD and the longest at ends. This causes difference in the amount of light reaching the CCD (i.e. the light amount is maximum at the CCD center, gradually decreases toward ends).

3. Each of the 7,450 elements varies in opto-electronic conversion efficiency.

These variation need to be corrected and this correction is referred to as shading correction. Shading correction is performed by applying normalization process using the following formula on the black and white data obtained in advance to correct lighting variance and element variation of the image data.

$$I = k \times \frac{(S-K)}{(W-K)}$$

k: Coefficient
S: Image data before correction
K: Black data (stored in "Black" memory)
W: White data (stored in "White" memory)

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7.5.4 Automatic Original Size Detection Circuit

This circuit detects the size of original (standard sizes only) using the reflection type photosensors arranged on the base frame of the scanner unit.

[1] Principle of original size detection

Reflection type photosensors are placed on the base frame of the scanner unit as shown in the figure below. Each sensor consists of an infrared Light Emitting Diode (LED) on the light emitting side, and a phototransistor on the light receiving side.
When there is an original on the original glass, light beams from the LEDs are reflected by the original and led to the phototransistors. This means that the presence of the original is detected by the presence of reflection (when scanning black image).

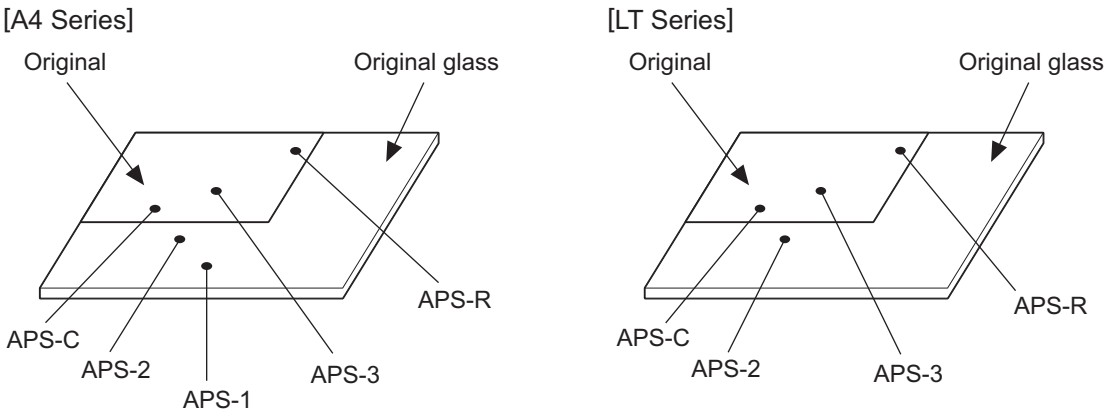

Fig. 7-13

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[2] Process of detection of original size

1. When the equipment is in the original size detection mode, carriage-1 is set at its home position.

2. When the RADF is opened, the sensors receive the light reflected from the original and if one of the matrix conditions shown in 4) for original sizes are met, the size of the original is instantly detected.

3. The output signal from each sensor is input to Scanner CPU on the SLG board to determine the size of the original.

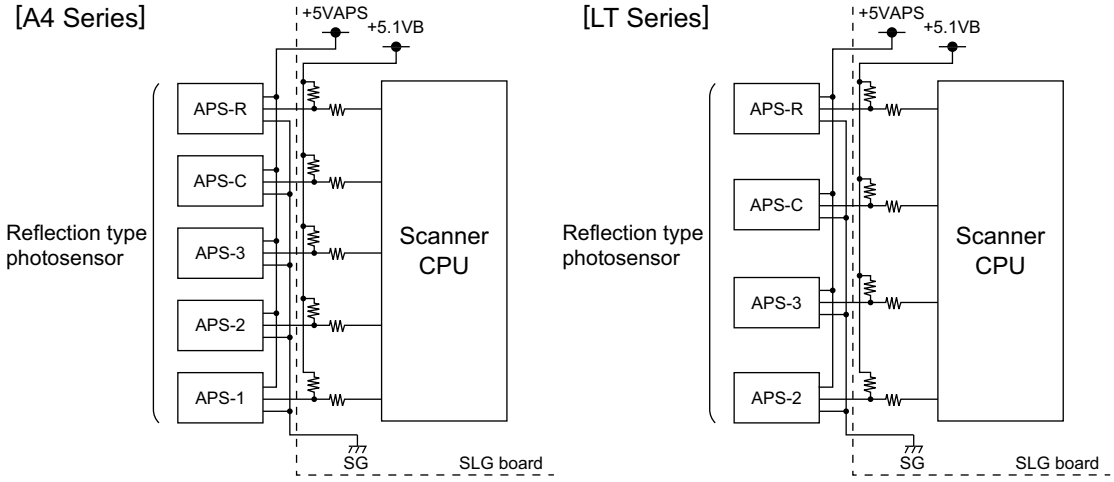

Fig. 7-14

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Sensor detection points
[A4 Series]

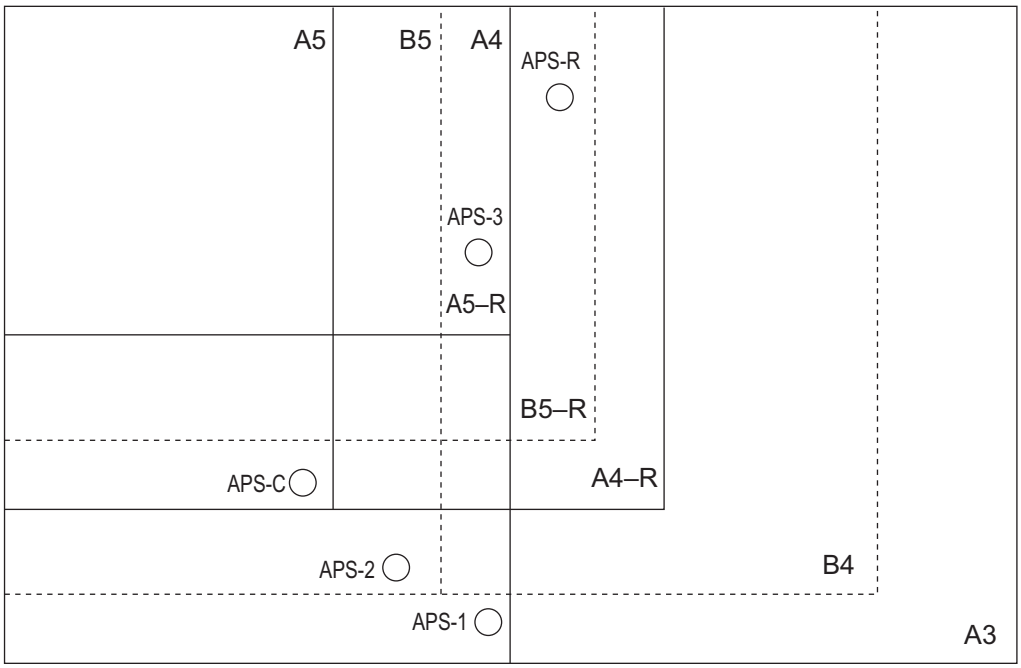

Fig. 7-15

[LT Series]

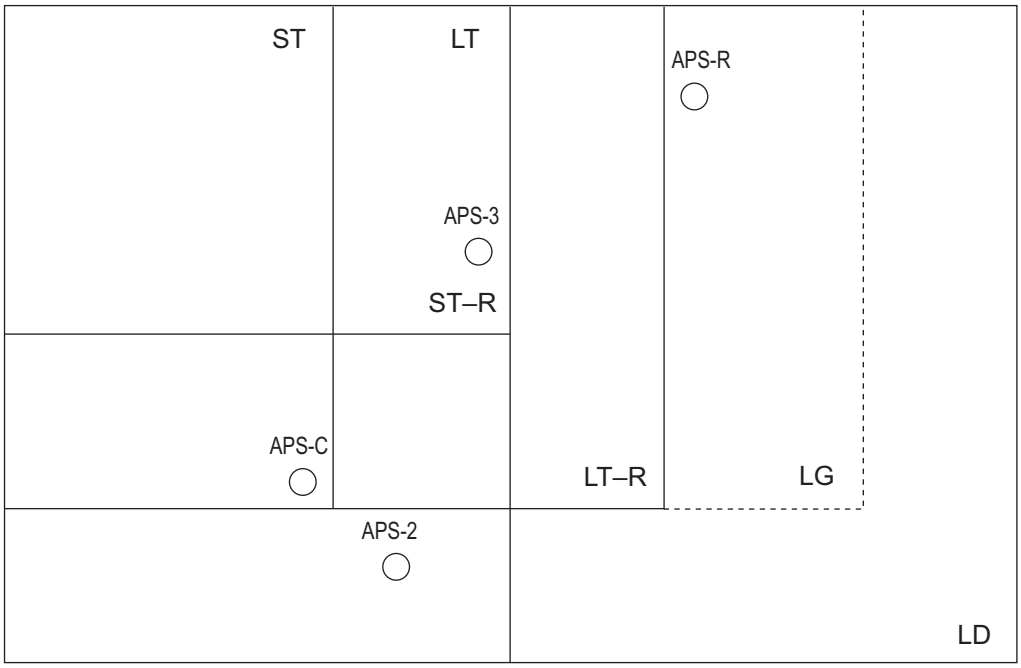

Fig. 7-16

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4. Original size is determined by the combination of the signals output from each detection point. Combination charts for size determination of A4 series and LT series are as follows.

[A4 Series]

Size judgement	APS-3	APS-R	APS-2	APS-1	APS-C
A3	0	0	0	0	0
A4	0	1	0	0	0
B4	0	0	0	1	0
B5	0	1	0	1	0
A4-R	0	0	1	1	0
A5	1	1	1	1	0
B5-R	0	0	1	1	1
A5-R	0	1	1	1	1

[LT Series]

Size judgement	APS-C	APS-R	APS-2	APS-3
LD	0	0	0	0
LT	0	1	0	0
LG	0	0	1	0
LT-R	0	1	1	0
ST	1	1	1	0
ST-R	0	1	1	1

Code	Output signal	Original
1	H	Not available
0	L	Available

* When the platen sensor (S7) is OFF;
- The followings are determined by output signals from the APS sensors.
  - Size (The combination of the signals satisfy any in the above chart)
    Size is displayed on the control panel and a specific paper or reproduction ratio is selected.
  - Size retention (The combination of the signals do not satisfy the above chart)
    The latest original size recognized (or no original state) until new paper size is recognized.
  - No original (Output from all the sensors are “1”.)
    Reproduction ratio and paper are not selected.
- Size change is always observed and detected.
- The carriage-1 stays at the standby position even if the reproduction ratio changes corresponding to the change of the original size.

* When the platen sensor (S7) is ON;
The latest original size (or no original state) recognized right before the platen sensor (S7) is turned ON is retained regardless of the status the APS sensor output signals.

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About reflection type photosensor

The reflection type photosensor is comprised of an infrared light emitting diode and a phototransistor. It uses pulse modulation to detect an original.

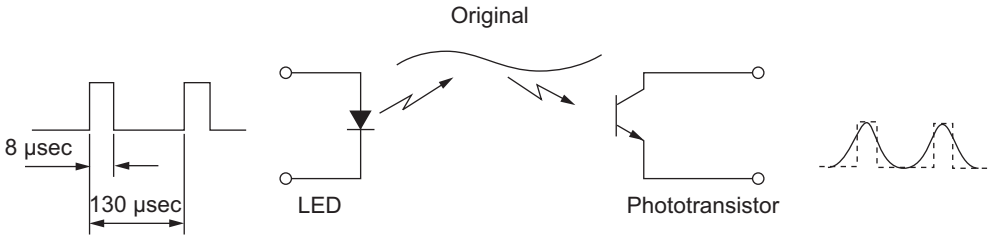

Fig. 7-17

The light emitting diode is driven by a pulse having a 130 µsec. cycle and an 8 µsec. ON time. When the phototransistor receives the same signal as this pulse, it is determined that there is an original. The pulse modulation is performed inside the reflection type phototransistor.

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7.6 Disassembly and Replacement

7.6.1 Original glass

(1) Open the RADF.
(2) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(3) Remove 1 screw and take off the bracket.

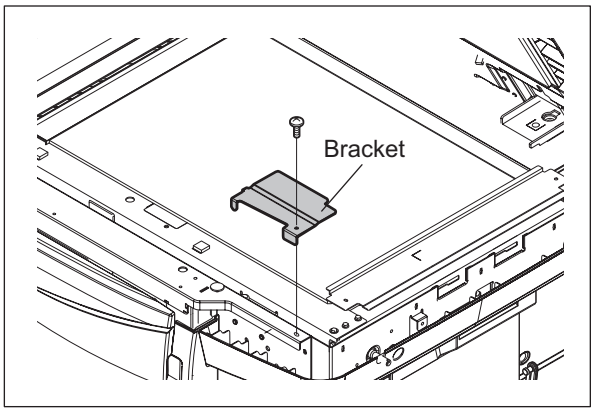

Fig. 7-18

(4) Remove 2 screws and take off the fixing bracket.

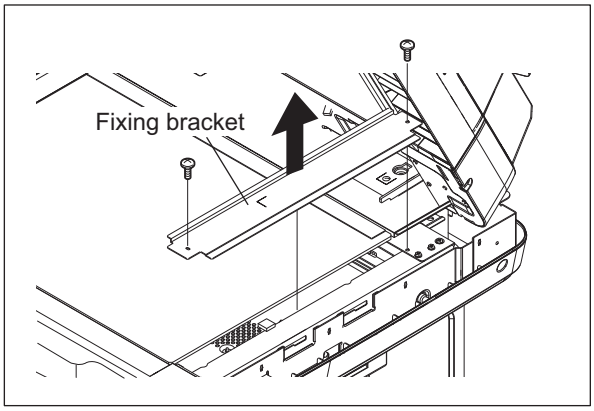

Fig. 7-19

(5) Take off the original glass.

Note:
When installing, fit 2 small protrusions of the original glass in the groove of the equipment and fix the original glass with the fixing bracket by pushing it to the left rear direction.

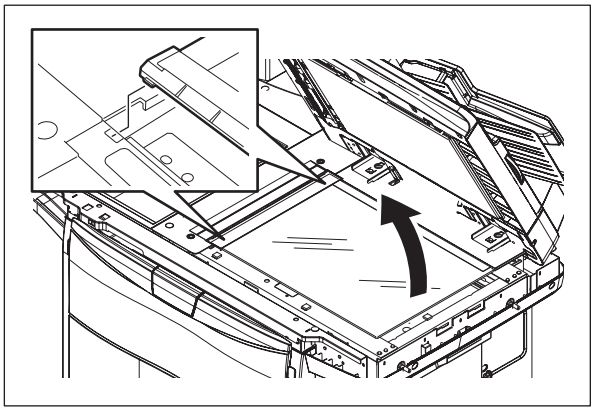

Fig. 7-20

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7.6.2 Lens cover

(1) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(2) Release 1 clamp and disconnect 1 connector.

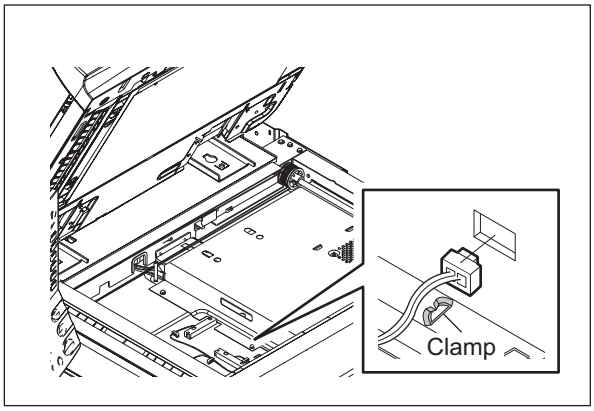

Fig. 7-21

(3) Remove 5 screws and take off the lens cover.

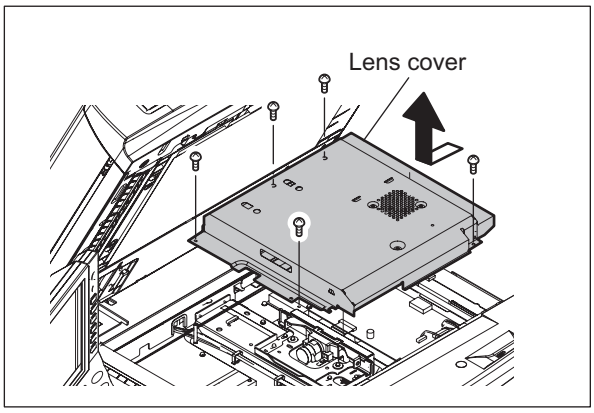

Fig. 7-22

7.6.3 SLG board cooling fan (F1)

(1) Take off the lens cover.
📖 P.7-19 "7.6.2 Lens cover"
(2) Remove 2 screws and disconnect 1 connector.
(3) Take off the SLG board cooling fan.

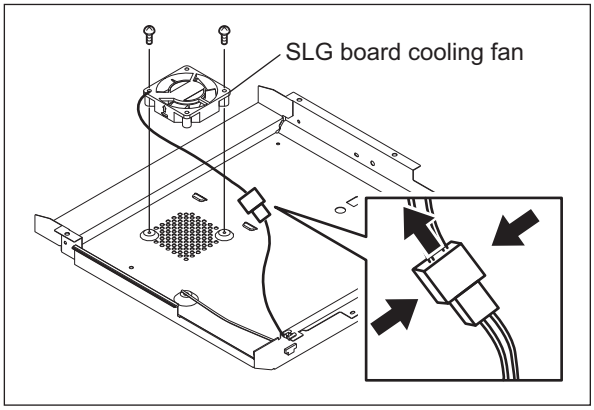

Fig. 7-23

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7.6.4 Automatic original detection sensor <APS sensor> (S1-5)

[A] A4 series (APS-1, -2, -3, -C, -R)

(1) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(2) Take off the lens cover.
📖 P.7-19 "7.6.2 Lens cover"
(3) Disconnect 1 connector, remove 1 screw and take off the APS sensor.

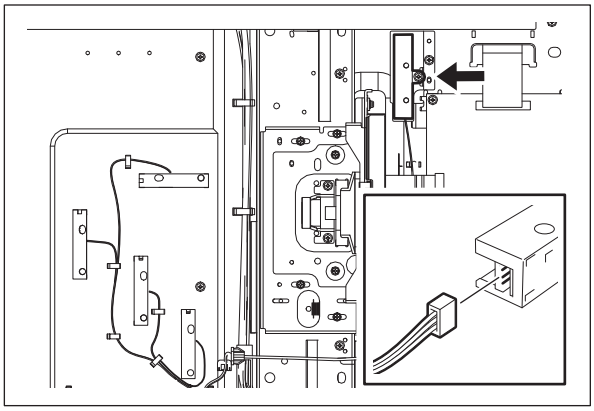

Fig. 7-24

(4) Disconnect 1 connector each, release 2 latches each and take off 4 APS sensors.

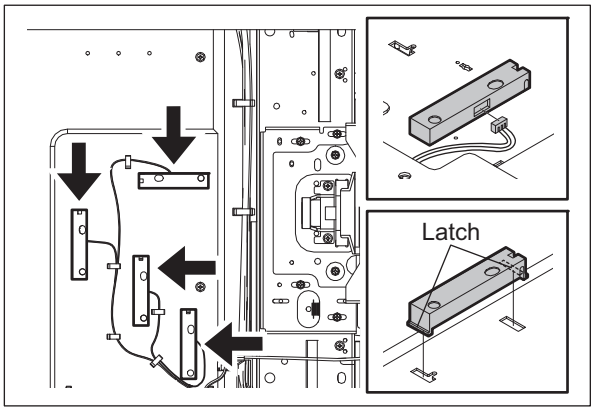

Fig. 7-25

[B] LT series (APS-2, -3, -C, -R)

(1) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(2) Take off the lens cover.
📖 P.7-19 "7.6.2 Lens cover"
(3) Disconnect 1 connector, remove 1 screw and take off the APS sensor.

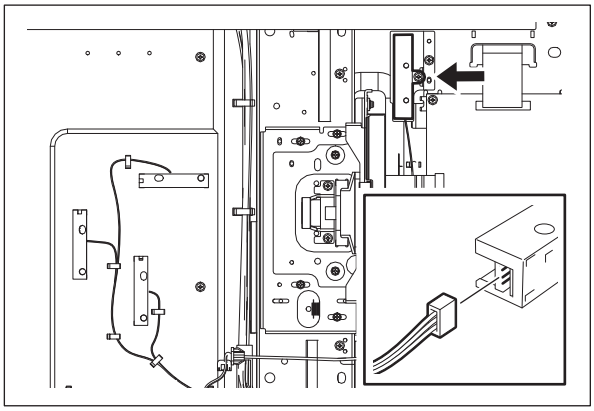

Fig. 7-26

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(4) Disconnect 1 connector each, release 2 latches each and take off 3 APS sensors.

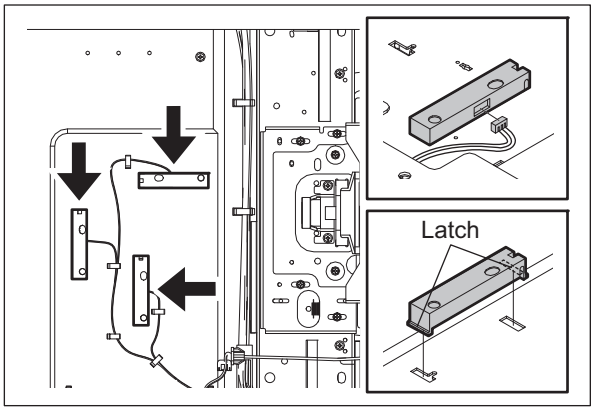

Fig. 7-27

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7.6.5 Exposure lamp (EXP)

(1) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(2) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(3) Move the carriage-1 to the center position.

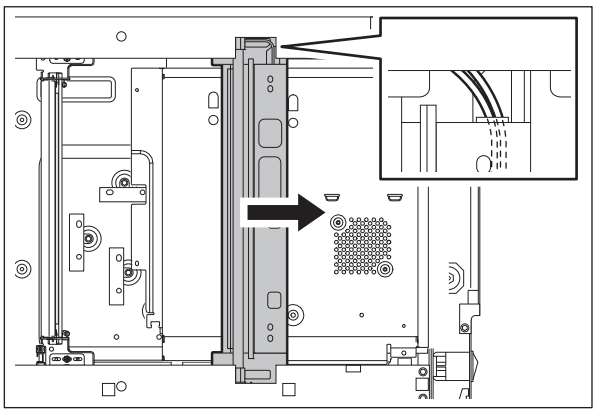

Fig. 7-28

Note:
Rotate the drive pulley to move the carriage.

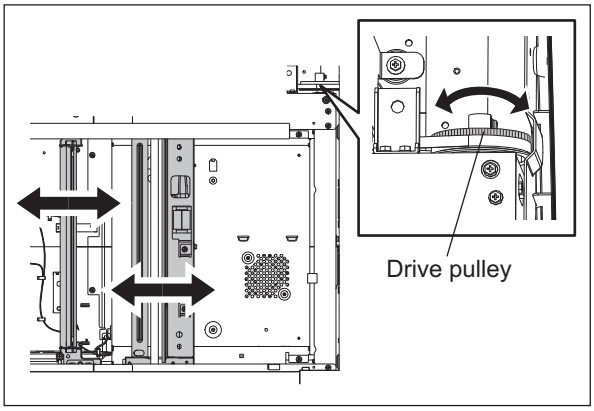

Fig. 7-29

(4) Disconnect the connector of the exposure lamp.

Note:
When disconnecting the connector, pay attention not to give load to the carriage frame.

(5) Release the harness from the harness clamp.

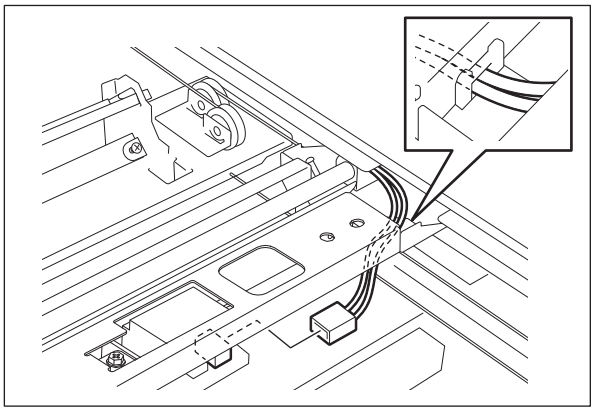

Fig. 7-30

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(6) Move the carriage-1 to the position where the side of the frame is cut out.

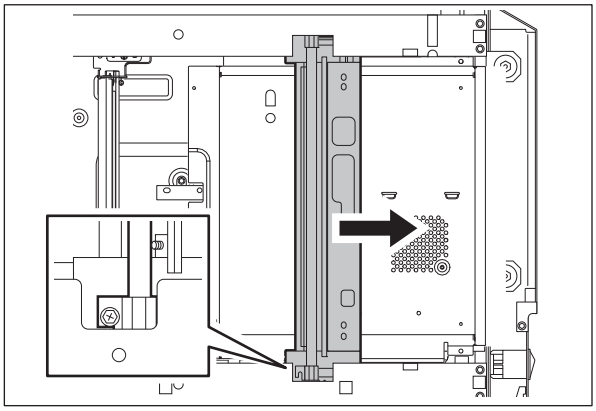

Fig. 7-31

(7) Remove 1 screw.
(8) Lift up the front side of the exposure lamp and take off by sliding it.

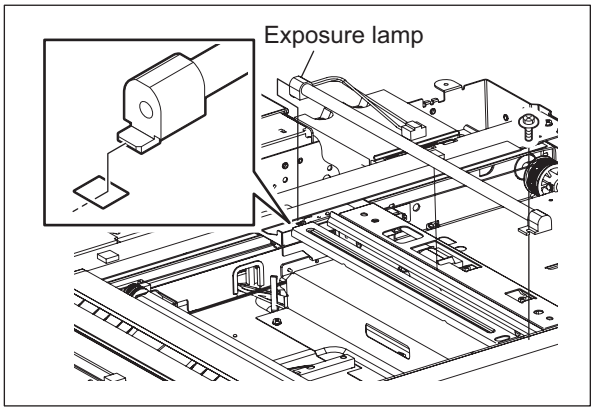

Fig. 7-32

7.6.6 Exposure lamp cooling fan-1 (F2)

(1) Open the RADF.
(2) Take off the original glass.
P.7-18 "7.6.1 Original glass"
(3) Move the carriage-1 to the right side.

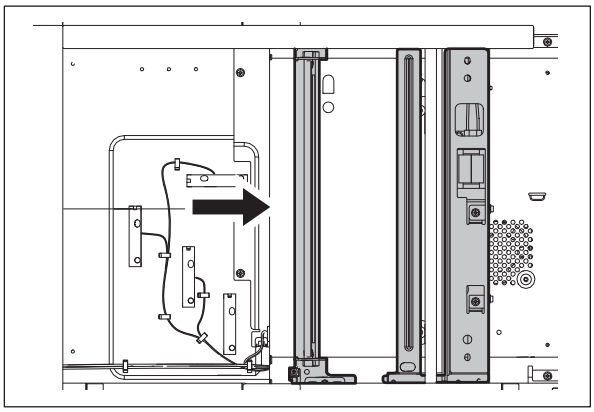

Fig. 7-33

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Note:
Rotate the drive pulley to move the carriage.

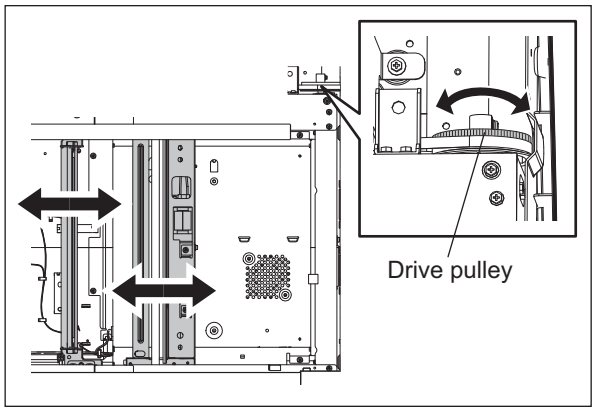

Fig. 7-34

(4) Disconnect 1 connector.
(5) Remove 3 screws, and take off the Exposure lamp cooling fan-1.

Note:
When installing the fan, do not tighten the screw too much.

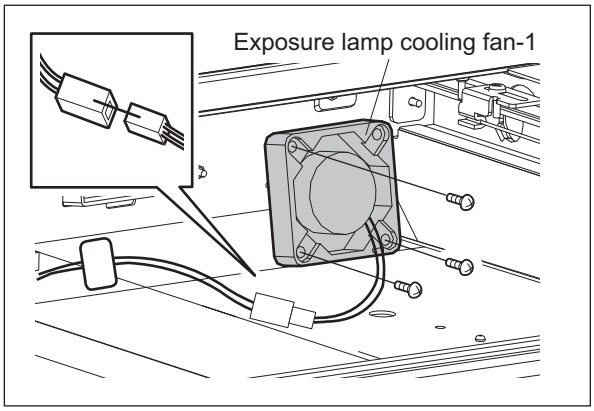

Fig. 7-35

7.6.7 Scanner unit cooling fan-1 (F3)

(1) Take off the top rear cover.
📖 P.3-47 "3.5.20 Top rear cover"
(2) Remove 3 screws and take off the duct cover.

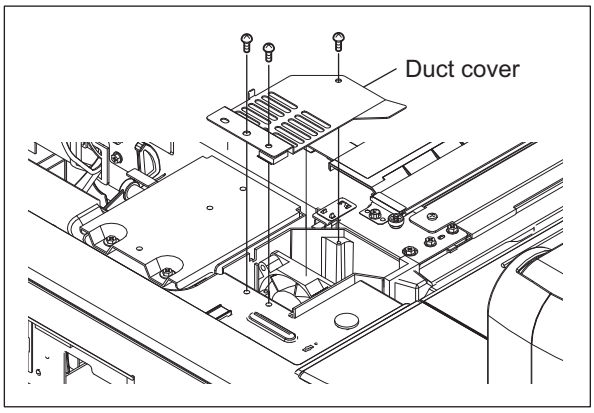

Fig. 7-36

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(3) Lift the duct.

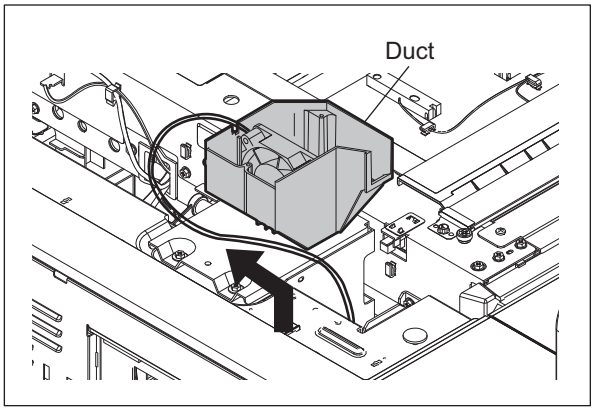

Fig. 7-37

Note:
Pass the cable through cutout of the duct to install it in the equipment.

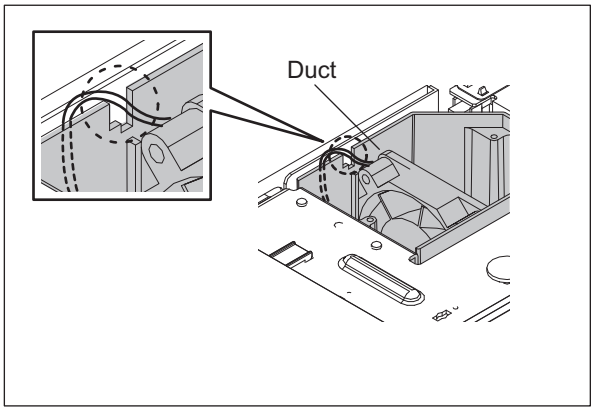

Fig. 7-38

(4) Disconnect 1 connector and take off the scanner unit cooling fan-1.

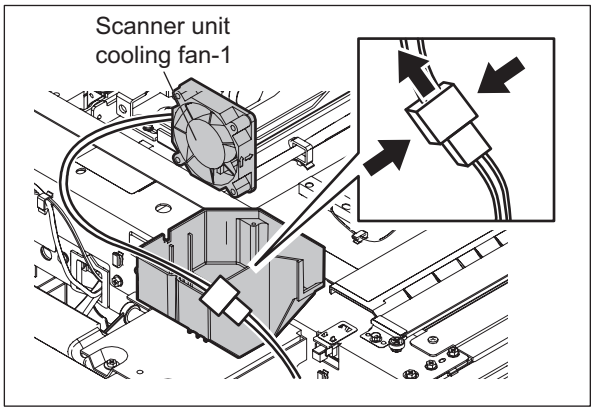

Fig. 7-39

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7.6.8 Exposure lamp cooling fan-2 (F26)

(1) Open the RADF.
(2) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(3) Move the carriage-1 to the right side.

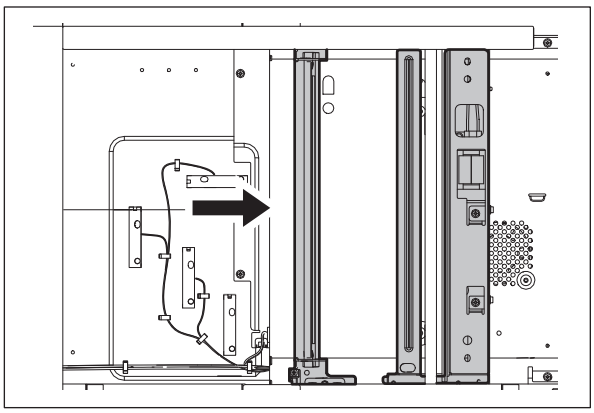

Fig. 7-40

Note:
Rotate the drive pulley to move the carriage.

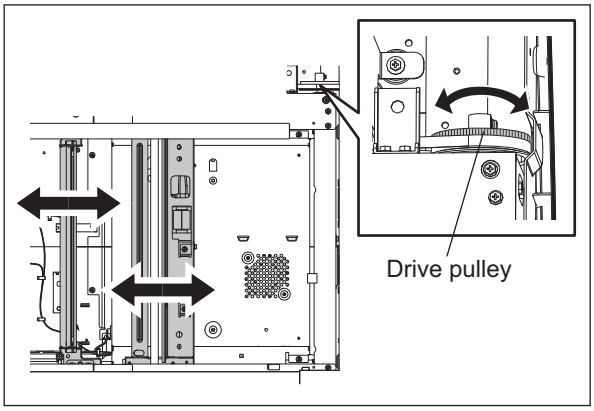

Fig. 7-41

(4) Remove the seal and then disconnect 1 connector.

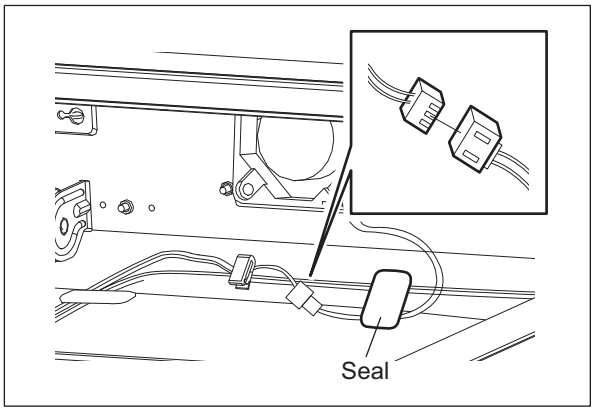

Fig. 7-42

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(5) Remove 3 screws, and take off the Exposure lamp cooling fan-2.

Note:
When installing the fan, do not tighten the screw too much.

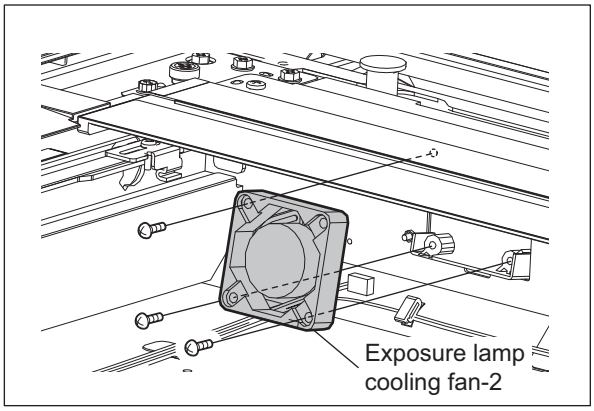

Fig. 7-43

7.6.9 Upper exhaust fan (left) (F29)

(1) Take off the top rear cover.
P.3-47 "3.5.20 Top rear cover"
(2) Disconnect 1 connector.

Note:
When connecting the connector of the upper exhaust fan (left), be sure that you do not use the wrong one.

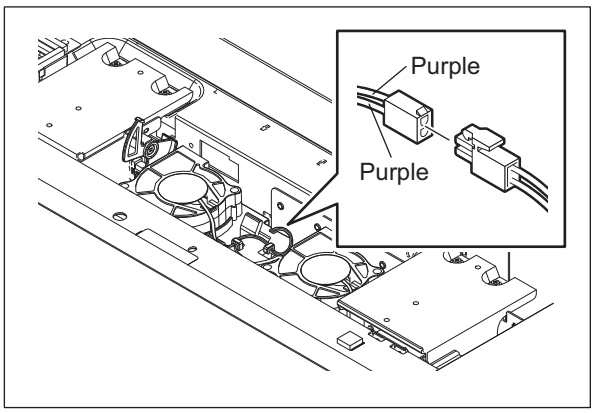

Fig. 7-44

(3) Take off the upper exhaust fan (left).

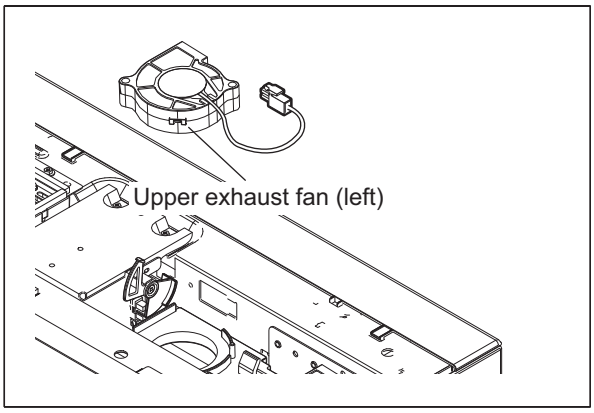

Fig. 7-45

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7.6.10 Upper exhaust fan (right) (F30)

(1) Take off the top rear cover.
P.3-47 "3.5.20 Top rear cover"
(2) Disconnect 1 connector.

Note:
When connecting the connector of the upper exhaust fan (right), be sure that you do not use the wrong one.

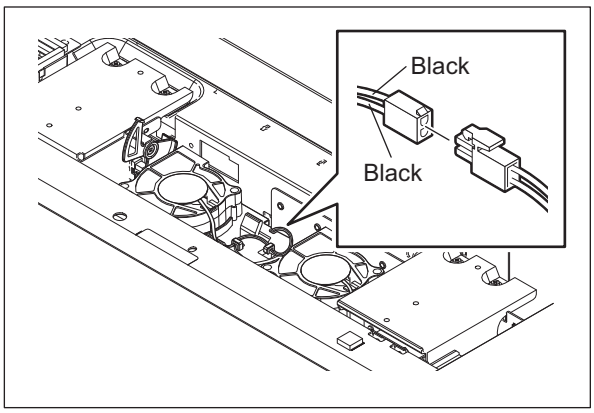

Fig. 7-46

(3) Take off the upper exhaust fan (right).

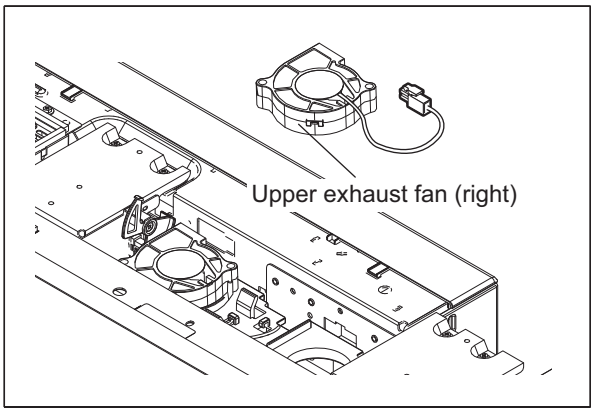

Fig. 7-47

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7.6.11 Lens unit

[A] Lens unit

(1) Remove the lens cover.
P.7-19 "7.6.2 Lens cover"
(2) Disconnect 1 connector and remove 4 screws, then take off the lens unit.

Notes:

1. When installing the lens unit, fix it while pushing it to the rear direction.
2. The lens unit must not be readjusted and some part of its components must not be replaced in the field since the unit is precisely adjusted. If any of the components is defective, replace the whole unit.

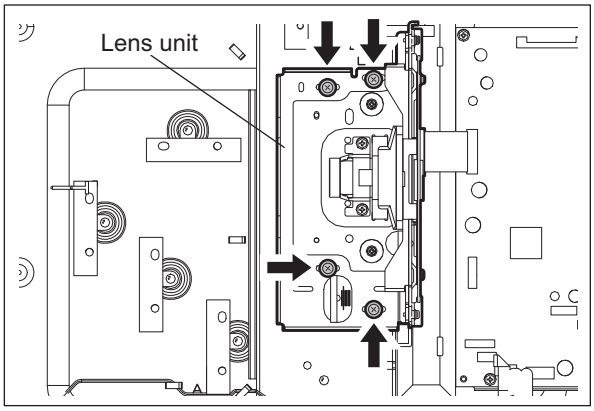

Fig. 7-48

3. Do not touch 8 screws shown with the arrows when replacing the lens unit.

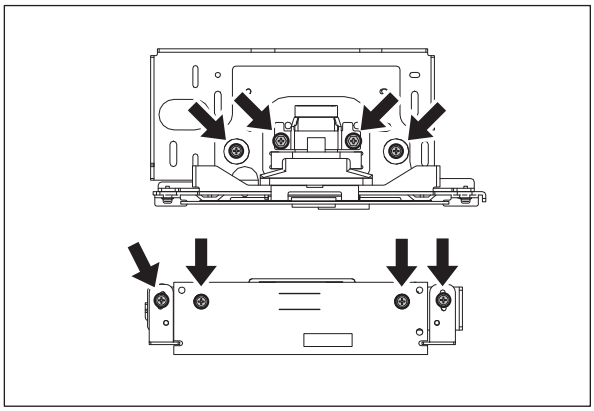

Fig. 7-49

4. Handle the unit with care. Do not touch the adjusted area and lens. (Hold the unit as the right figure.)

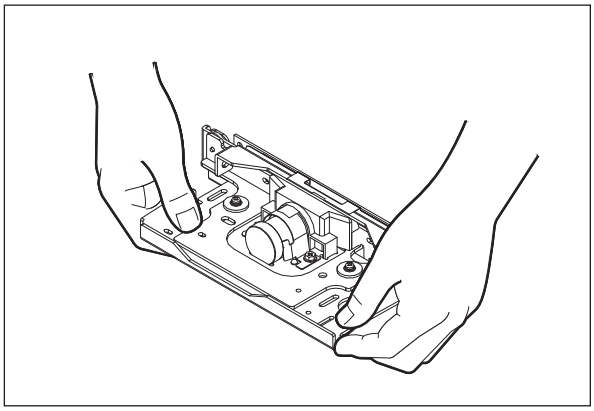

Fig. 7-50

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[B] Installation of lens unit

(1) Attach the lens unit and fix it temporarily with 2 screws.
(2) Match the center scale of the plate in which the unit is to be installed and the rightmost scale of the adjusting hole on the lens unit plate.

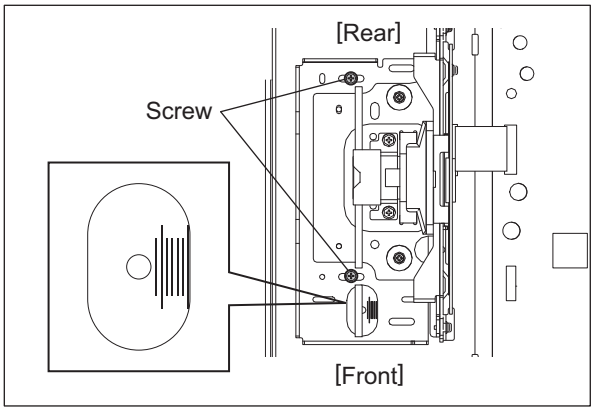

Fig. 7-51

(3) Tighten 4 screws securely to fix the lens unit while pushing it to the rear side.

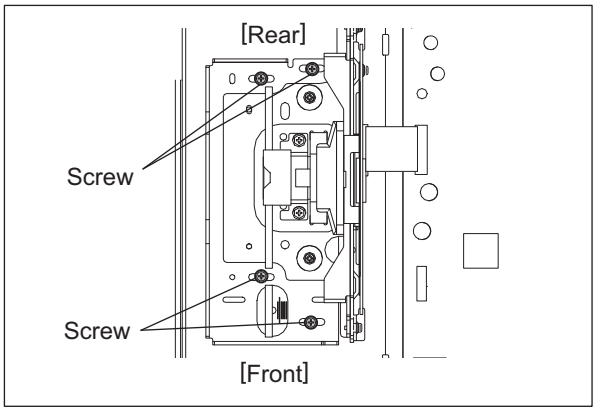

Fig. 7-52

7.6.12 Scan motor (M1)

(1) Remove the RADF.
(2) Take off the top rear cover.
📖 P.3-47 "3.5.20 Top rear cover"
(3) Remove 4 screws and take off the blacket.

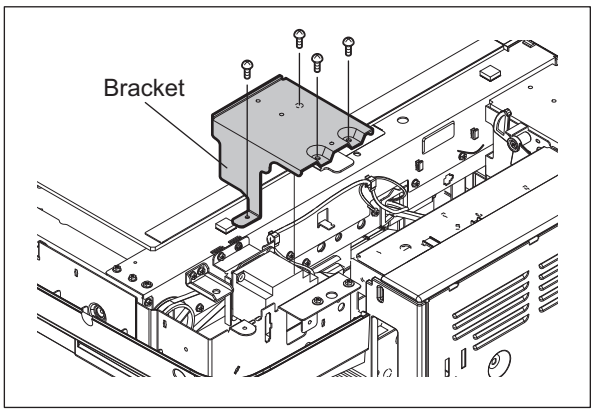

Fig. 7-53

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(4) Release the harness from the harness clamp.
(5) Remove 3 screws and take off the scan motor with the whole bracket.

Note:
When installing the scan motor, be sure to perform the belt tension adjustment.
📖 P.7-39 "7.7.2 Belt tension adjustment of the Scan motor"

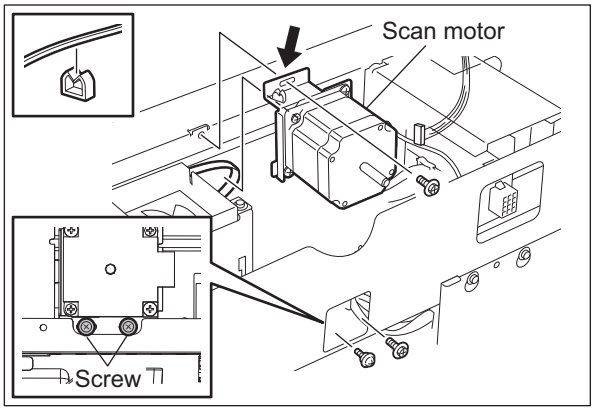

Fig. 7-54

7.6.13 Carriage-1

(1) Take off the original glass.
📖 P.7-18 "7.6.1 Original glass"
(2) Take off the top rear cover-1.
📖 P.3-47 "3.5.20 Top rear cover"
(3) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(4) Move the carriage and position the holes of the carriage to the holes of the frame.
(5) Remove 2 screws and take off the brackets fixing the carriage-1 to the wire.

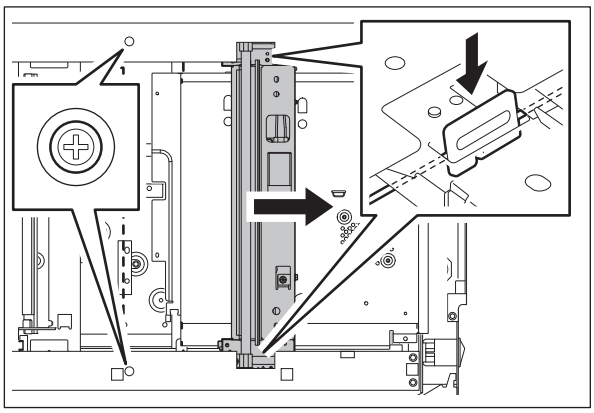

Fig. 7-55

(6) Remove the square seal fixing the lamp harness to the base. Disconnect the connector of the lamp harness from the SLG board

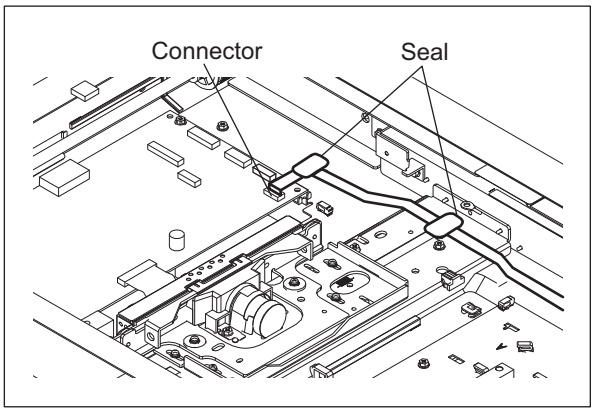

Fig. 7-56

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Notes:

Be sure to install the lamp harness by following the procedure below.

1. Clean the seal adhering surface with alcohol.
2. Align the black line on the lamp harness with the position as shown in the figure, and fix it with a seal.

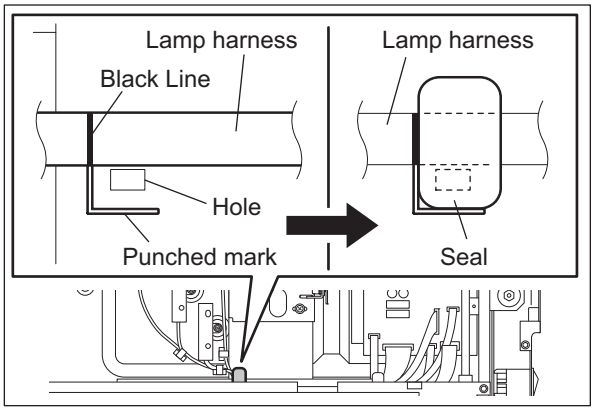

Fig. 7-57

3. Align the bent portion of the lamp harness with the position as shown in the figure, and fix it with a seal.
4. After the installation, move carriage-1 towards the left and confirm that there is no abnormality in the lamp harness, such as twisting.

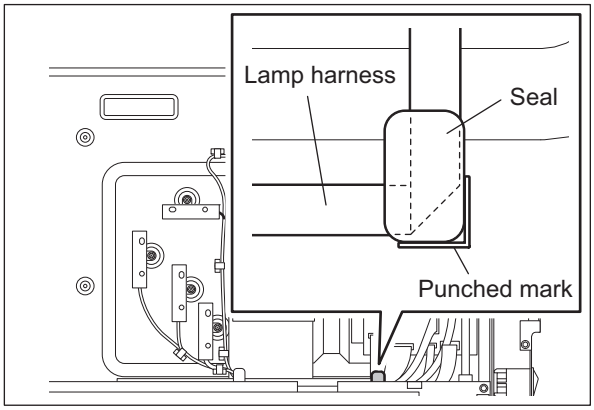

Fig. 7-58

(7) Rotate the carriage-1 in the direction shown in the figure at right, not to touch the mirror. Then take off the carriage-1.

Note:

When replacing the mirror-1, replace the carriage-1 together with mirror-1.
Mirror-1 should not be removed.

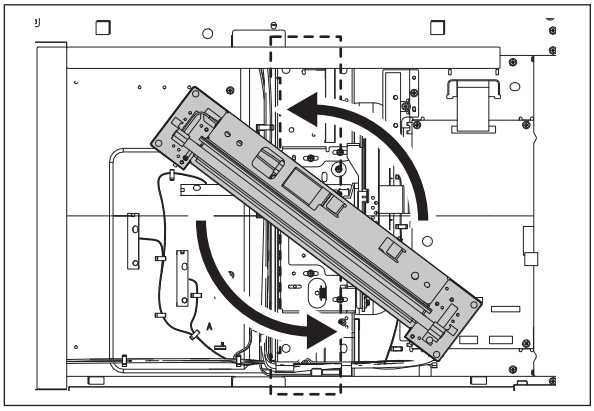

Fig. 7-59

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Note:

When installing carriage-1, fix the bracket temporarily at the position (A). Then move it to the direction (B), push it to the end and fix securely.

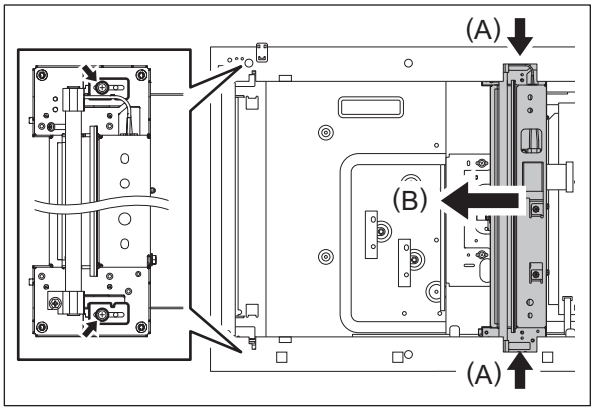

Fig. 7-60

7.6.14 Inverter board (INV)

(1) Take off the carriage-1.
📖 P.7-31 "7.6.13 Carriage-1"
(2) Disconnect 2 connectors.
(3) Remove 4 screws and take off the inverter cover and inverter board.

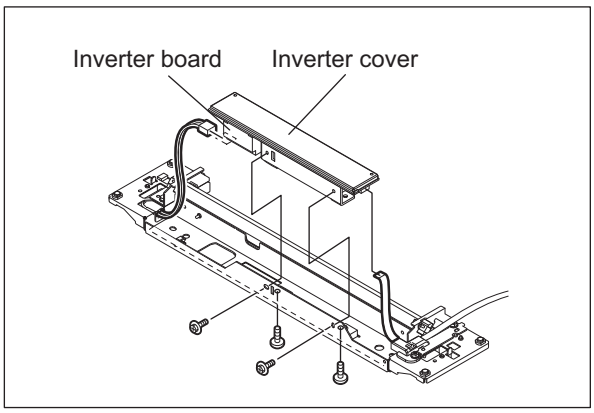

Fig. 7-61

(4) Remove 2 screws and take off the inverter board.

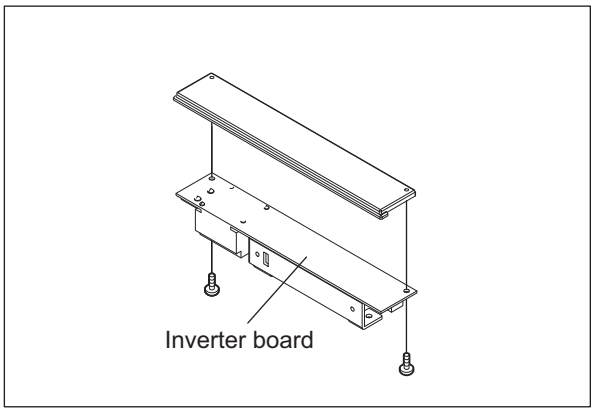

Fig. 7-62

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7.6.15 Carriage wire / carriage-2

[A] Carriage wire / carriage-2

(1) Take off the carriage-1.
📖 P.7-31 "7.6.13 Carriage-1"
(2) Attach the wire holder jigs to the pulleys to prevent the wires from loosening.

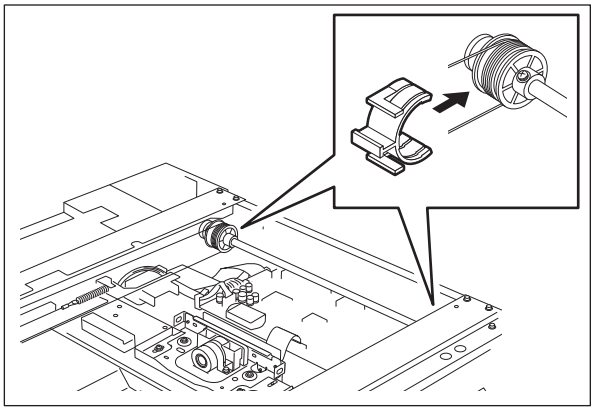

Fig. 7-63

Notes:
1. When the wire holder jig is attached, make sure that the wire is not shifted or loosened.
2. The wire should come out of the slot of the wire holder jig and be passed under the arm of it.

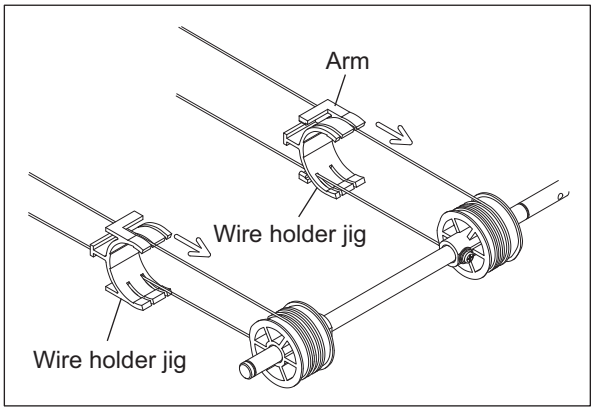

Fig. 7-64

(3) Detach the tension springs of the front and rear sides.
(4) Remove the carriage wires.

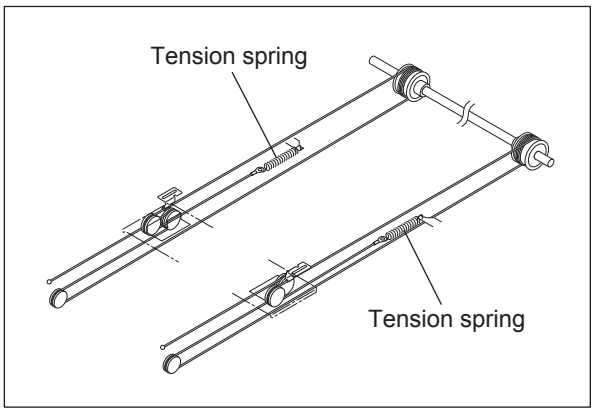

Fig. 7-65

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(5) Rotate the carriage-2 in the direction where the inside of the frame is dented shown in the figure at right, not to touch the mirrors. Then take off the carriage-2.

Notes:

1. When replacing the mirrors-2 and -3, replace the carriage-2 together with mirrors-2 and -3. Mirrors-2 and -3 should not be removed.
2. When installing carriage-2, fix the bracket temporarily at the position (A). Then move it to the direction (B), push it to the end and fix securely.
(📖 P.7-33 "Fig. 7-60 ")

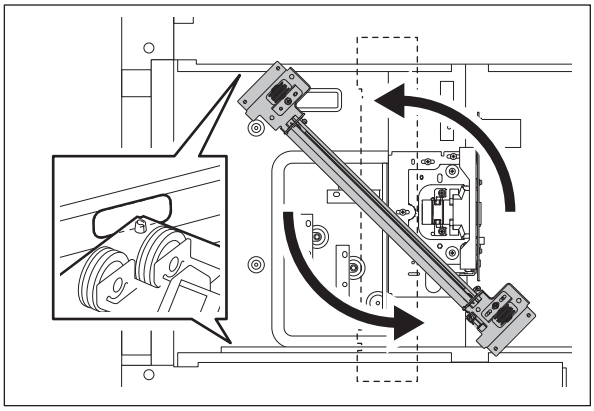

Fig. 7-66

[B] Installing carriage wires

(1) When replacing the carriage wires, refer illustrations below:

Note:

Adjustment of the carriage wire tension is not necessary since a certain tension is applied to the carriage wires by the tension springs.Make sure the tension applied to the wire is normal.

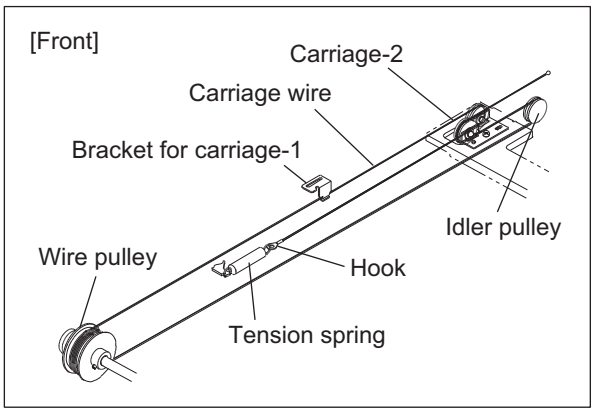

Fig. 7-67

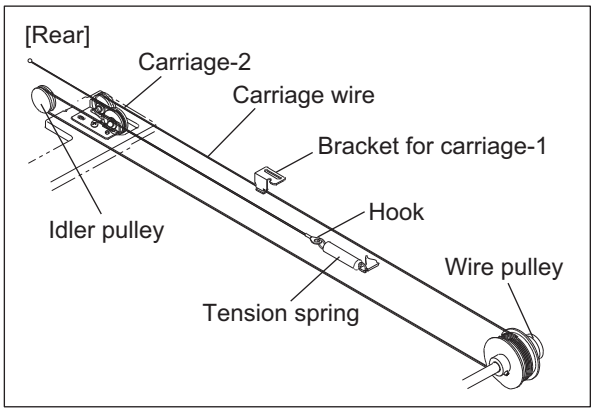

Fig. 7-68

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[C] Winding the wires around the wire pulley

(1) Pull the Ø3 ball terminal located at the center of the wire into a hole on the wire pulley. One end of the wire with a hook attached comes to the outside.

(2) Wind the wires around the wire pulleys of the front and rear sides. The number of turns to be wound are as follows:
- 2 turns toward the opposite side of the boss
- 4 turns toward the boss side

Notes:

Pay attention to the followings when the wires are wound around the pulleys:
- Do not twist the wire.
- Wind the wires tightly so that they are in complete contact with the surface of the pulleys.
- Each turn should be pushed against the previously wound turn so that there is no space between them.

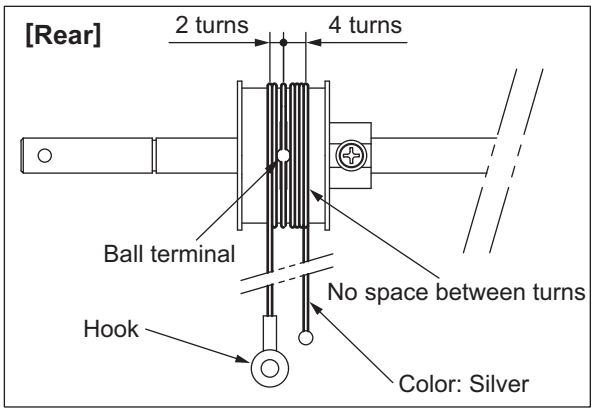

Fig. 7-69

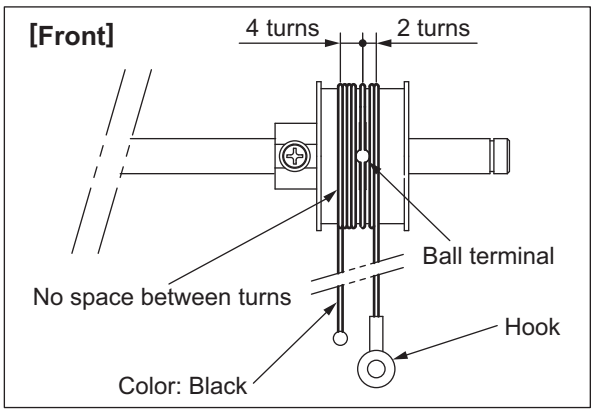

Fig. 7-70

(3) After winding the wires around the pulleys, attach the wire holder jigs not to loosen the wires.

Notes:
1. When the wire holder jig is attached, make sure that the wire is not shifted or loosened.
2. The wire should come out of the slot of the wire holder jig and be passed under the arm of it.

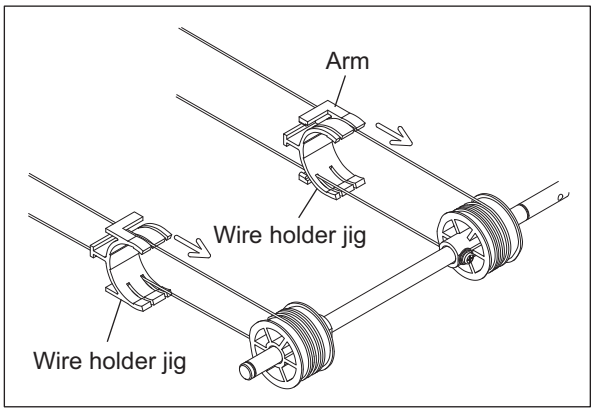

Fig. 7-71

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7.6.16 Carriage home position sensor (S6)

(1) Take off the top rear cover.
📖 P.3-47 "3.5.20 Top rear cover"
(2) Remove the seal.
(3) Disconnect 1 connector. Release the latches and take off the carriage home position sensor.

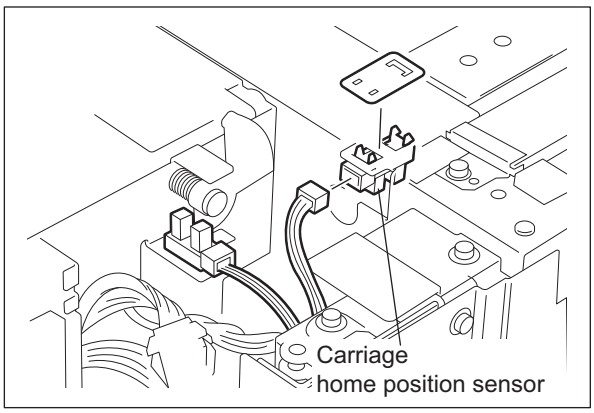

Fig. 7-72

7.6.17 Platen sensor (S7)

(1) Remove the RADF.
(2) Take off the top rear cover.
📖 P.3-47 "3.5.20 Top rear cover"
(3) Disconnect 1 connector. Release the latches and take off the platen sensor.

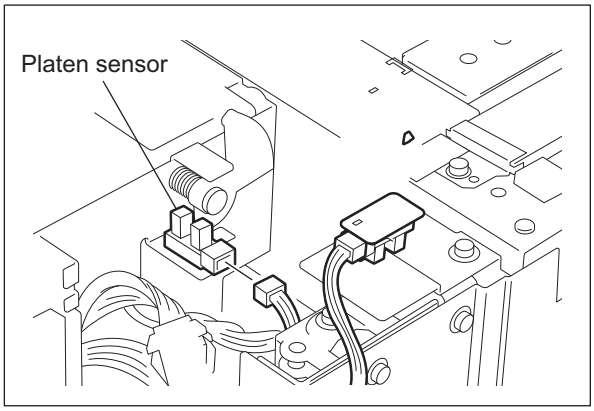

Fig. 7-73

7.6.18 SLG board (SLG)

(1) Open the RADF.
(2) Take off the lens cover.
📖 P.7-19 "7.6.2 Lens cover"
(3) Disconnect 10 connectors, remove 4 screws and take off the SLG board.

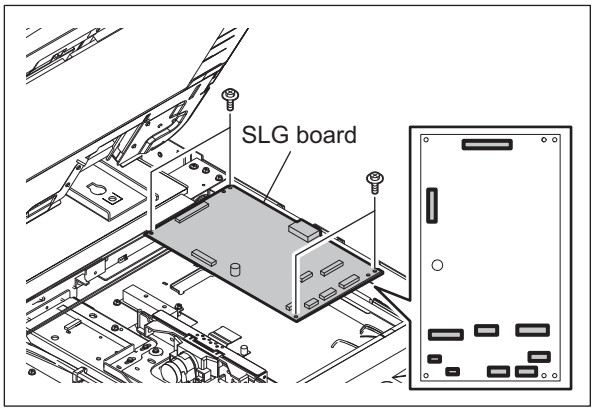

Fig. 7-74

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7.7 Adjustment of the Scanner Section

7.7.1 Adjustment carriages-1 and -2 positions

(1) Move the carriage-2 toward the exit side.
(2) Loosen the screws fixing the front side pulley bracket, make the sections A and B of the carriage-2 touch with the inside of the exit side frame and screw them up.

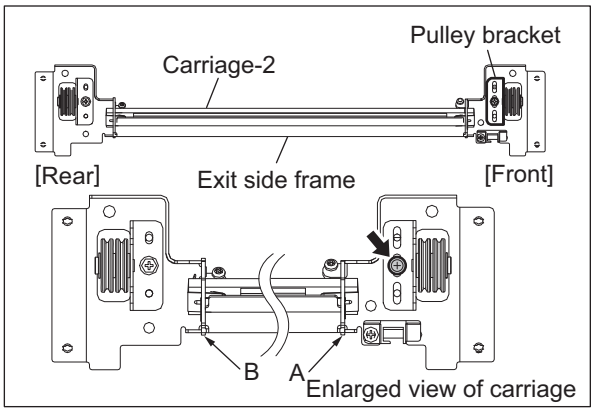

Fig. 7-75

(3) Put the carriage-1 on the rail, make the sections C and D of it touch with the inside of the exit frame and screw up the front/rear side of the bracket to fix it.

Note:
Make sure that the sections A and B of the carriage-2 touch with the exit side frame.

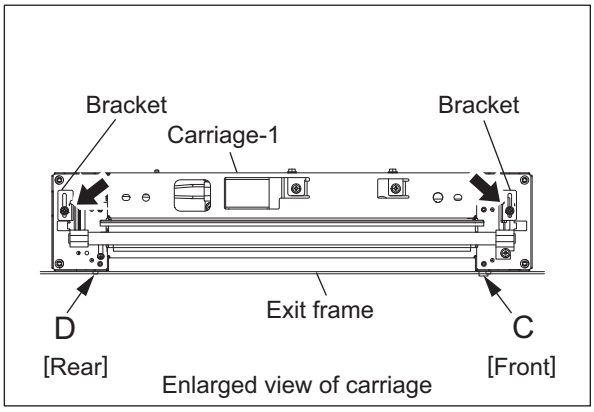

Fig. 7-76

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7.7.2 Belt tension adjustment of the Scan motor

(1) Hook the belt tension jig to the motor bracket and the flame.
(2) Loosen screw-A and -C. (There is no need to loosen screw-B, since it is a shoulder screw.)
(3) The scan motor is pulled by the belt tension jig. Fix screw-A and then -C at the stopped position.
(4) Remove the belt tension jig.

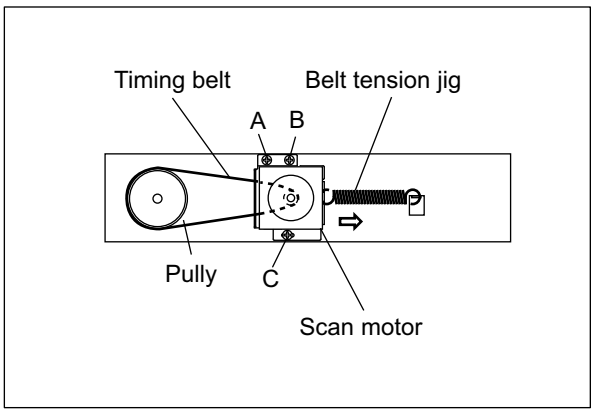

Fig. 7-77

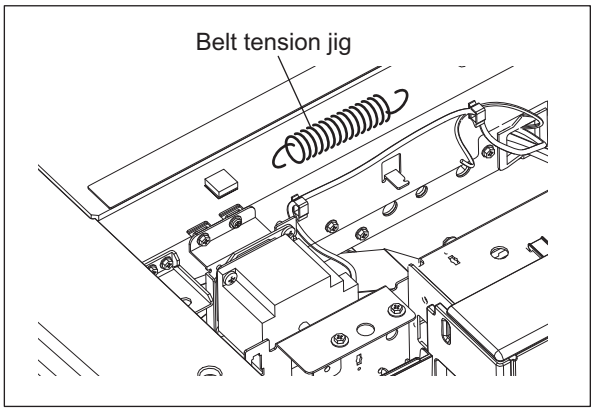

Fig. 7-78

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8. IMAGE PROCESSING

8.1 General Description

The following diagram shows the process of this equipment from the input data to writing data on the photoconductive drum surface.
Image processing is performed on the IMG and SYS boards in this equipment.

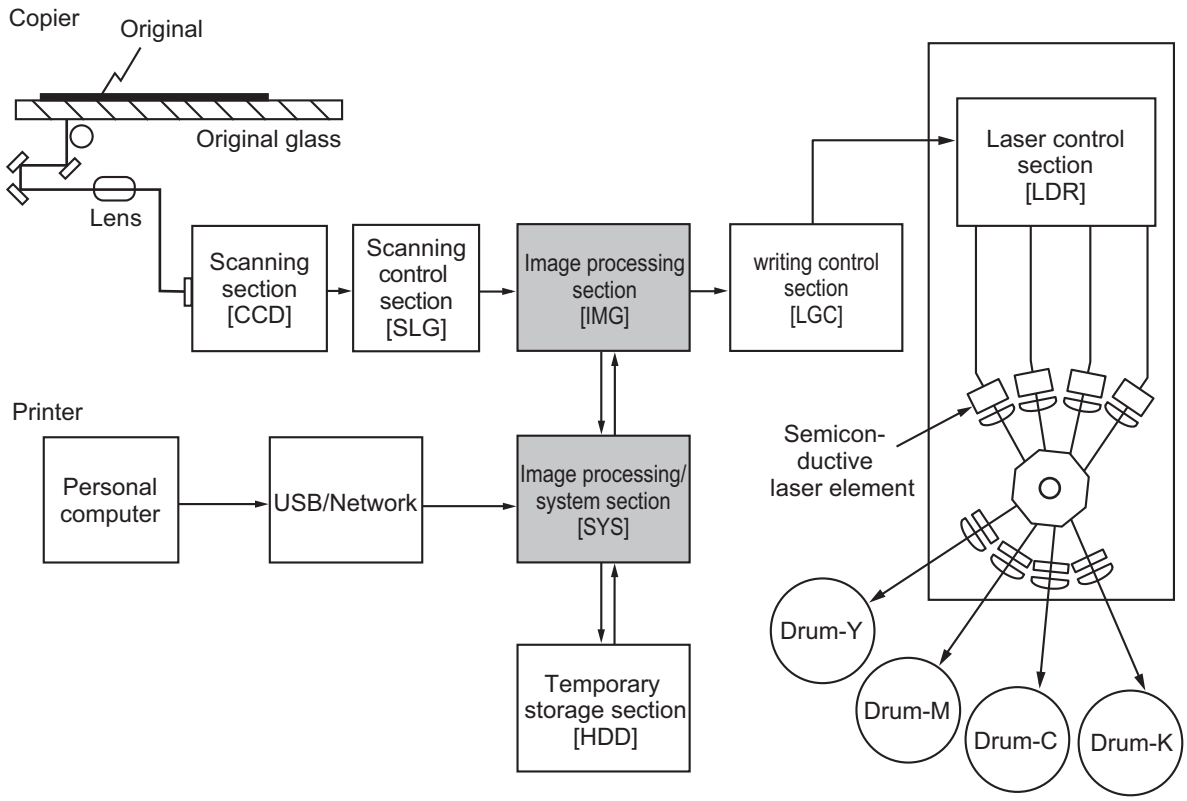

Fig. 8-1

The followings are the boards used for image processing.

Board	Function
IMG board	ACS, color conversion, high quality image processing, image memory editing, rectangular area signal generation, editing processing, gamma correction, gradation processing, compression/expansion, black component generation, blank page detection, outside erase, smoothing processing, scanner high quality image processing and printer high quality image processing
SYS board	Black over print, pure black / pure gray, chroma adjustment, brightness adjustment and contrast adjustment

Image of an original placed on the original glass is scanned by the optical system. The CCD (Charge Coupled Device) reads the optical image signals and converts them into the electrical signals. The electrical signals are amplified and undergo analog-to-digital conversion, then are changed into digital signals. Shading correction (correction of variance in CCD elements and the light source) is performed and the digital signal is output as an image signal from the scanning control section.
The image processing section inputs the image signal from the scanning control section and applies various image processing on the signal, then transmits the output result to the writing control section.

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8.2 Configuration

The following diagram shows the image processing section of this equipment.

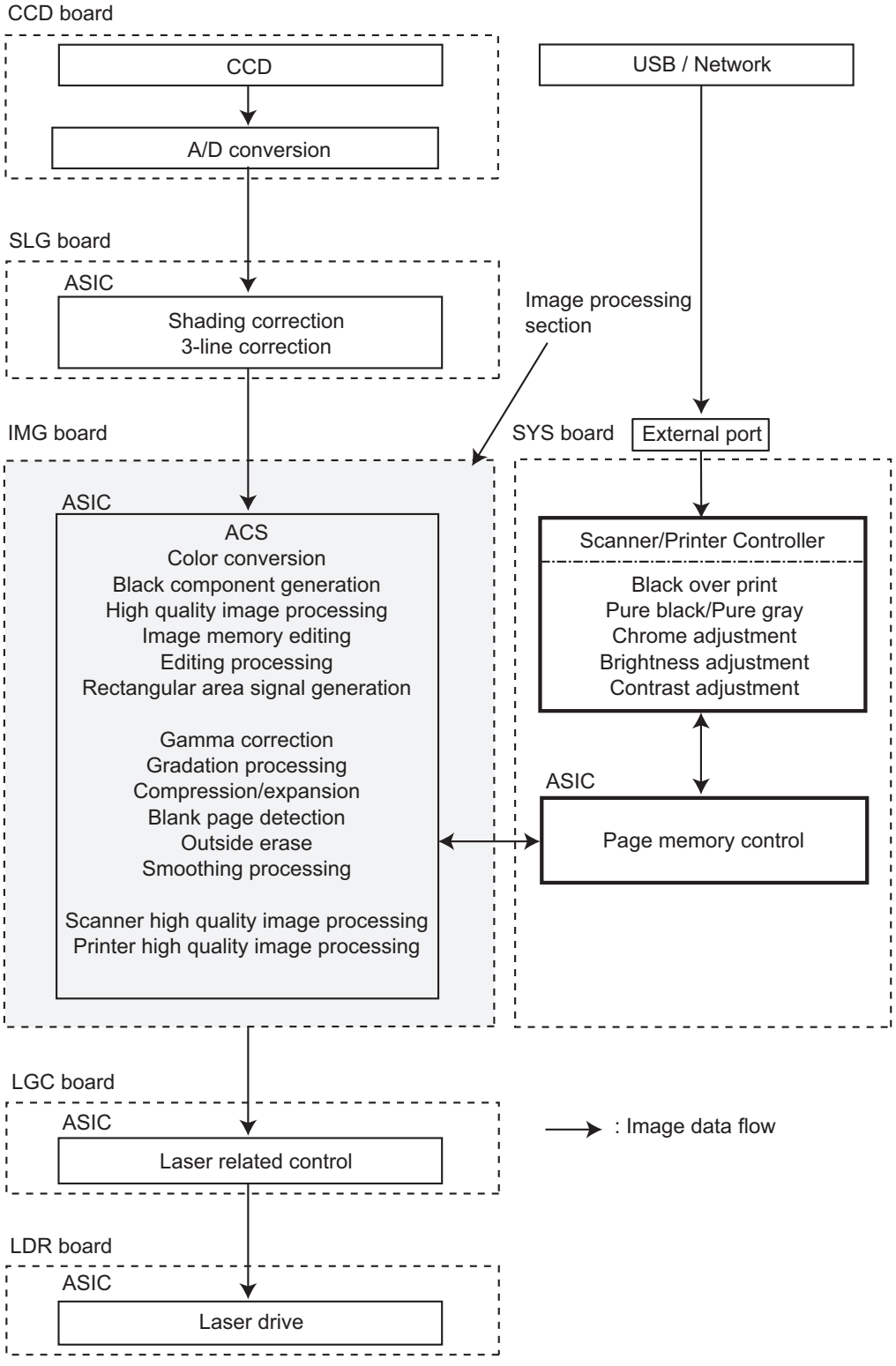

Fig. 8-2

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8.3 Image Processing PC Board (IMG)

8.3.1 Features

1. The image processing section is controlled by the CPU on the SYS board.

2. The image processing PC board realizes the following functions:
   - ACS
   - Color conversion (CMY image data processing)
   - Black component generation
   - High quality image processing
   - Image memory editing
   - Rectangular area signal generation
   - Editing processing
   - Gamma correction
   - Gradation processing
   - Compression/expansion
   - Blank page detection
   - Outside erase
   - Smoothing processing
   - Scanner high quality image processing
   - Printer high quality image processing

8.3.2 Functions of image processing circuit

1. ACS (Auto Color Selection)
   This function determines whether the original to be scanned is colored or monochrome, based on the analysis of the R, G and B signals output from the CCD.

2. Color conversion (CMY image data processing)
   When functioning the copier, the RGB image data is converted to CMY image data. (When functioning the scanner, it is converted to RGB image data.)
   The image data taken in by the scanner represents the intensities of reflection from the three primary colors of light (Red, Green and Blue). These RGB values are then color-converted to the respective amounts of toners corresponding to the three colors (Yellow, Magenta and Cyan) for printing (=CMY image data processing).

3. Black component generation
   K (Black) signal is generated from the CMY image data. Based on this K signal, the CMY image data is corrected to suppress hue on reproducing grays or to make the black look more real.

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4. High quality image processing
   - Background processing function
     By using the background adjustment function while manually adjusting the image density, undesirable background of the original can be removed if any, and some necessary but disappeared background can be recovered. By using this function, it is possible to cut the background density down when copying originals which have a certain level of background density, such as newspapers.

     <Example>

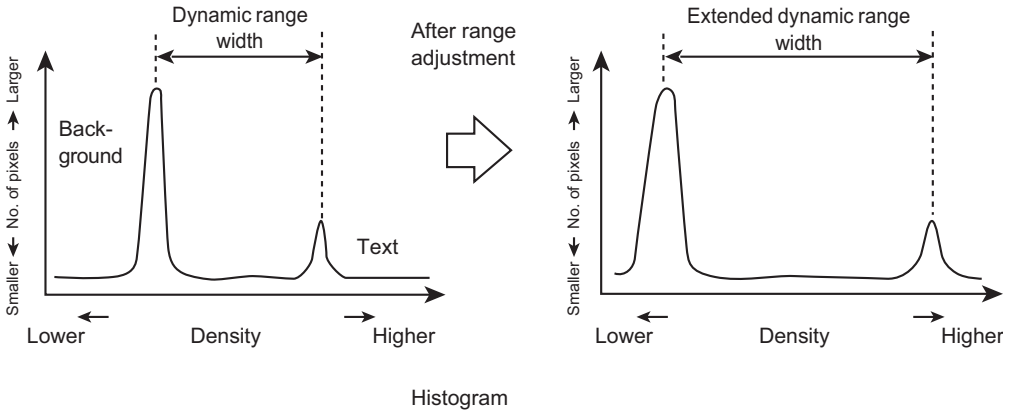

Fig. 8-3

   - Image discrimination
     By determining the magnitude of density variation in a block (n x n dot), the target pixels are judged whether they are text or photograph. If they are determined to be text, they are further judged whether they are black or color text, using the differences in the levels of CMY signals.

   - Filtering
     This function is enabled by low-pass filter processing and high-pass filter processing.
     Low-pass filter processing
     This processing removes image/electrical noise and decreases moire by performing averaging operation between the image signals of the targeted pixel and those of the neighboring pixels to enhance the reproducibility of original.

     <Example>
     Density of the targeted pixel position is X. Density of pixel positions at front and back of the targeted pixel are “a” and “b” respectively. X is converted to X’ through the low pass filtering.

     When the matrix is (3 x 1):

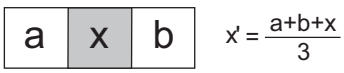

Fig. 8-4

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The above averaging operation is performed for all the pixels to accomplish the high reproducibility of original.
(The following is the case that the low pass filtering is applied on the primary scanning pixel.)

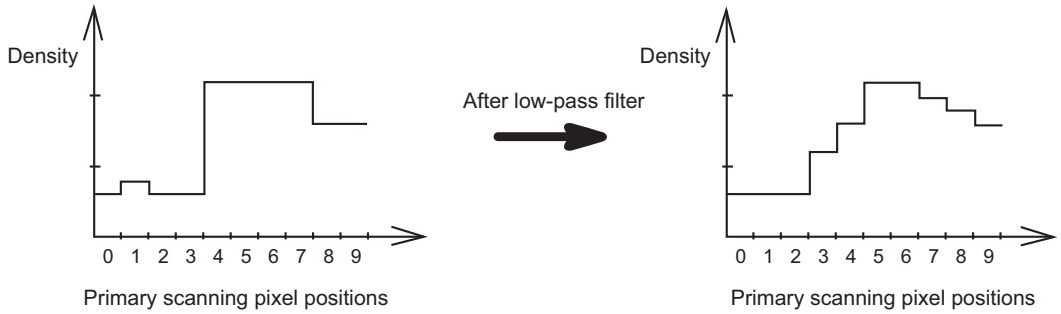

Fig. 8-5

High-pass filter processing

Character outline blurs when the original, such as text, with big difference in density among the pixels is optically scanned and output from the CCD. Characteristic of the lens and other factors cause this phenomenon. In this equipment, processing such as edge enhancement is applied between the targeted pixel and the neighboring pixels to eliminate this phenomenon and realize high reproducibility of original.

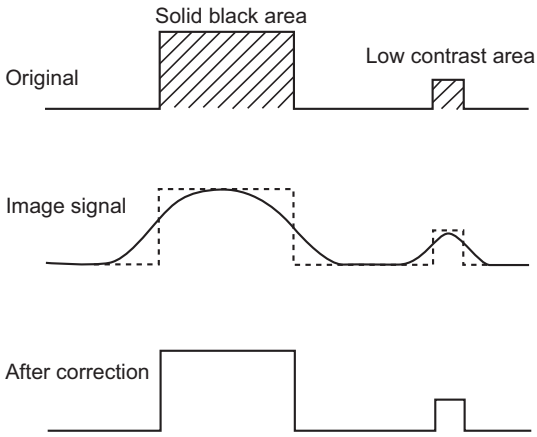

Fig. 8-6

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5. Image memory editing
   This function performs editing such as enlargement/reduction, mirror imaging, etc., by using a line memory. Pixel data for one line in the primary scanning direction is stored in the line memory and the memory is renewed at each line.

   - Enlargement/Reduction
     Enlargement/Reduction is accomplished by using the line memory control function in the process of the image processing operation.

   - Mirror image
     This is accomplished by reading and outputting data from its end.

6. Rectangular area signal generation
   When a rectangular coordinate position is selected, the corresponding rectangular area signals are generated. Using these signals, various edit processing related to the area specification can be performed.

7. Editing processing
   This function performs trimming and masking.
   - Trimming
     Using rectangular area signals, the image signals inside the rectangular area are left and the other image signals are eliminated.
   - Masking
     Using rectangular area signals, the image data inside the rectangular area are erased.

8. Gamma correction
   This function corrects the input/output characteristics of the scanner/printer and adjusts the image signals so that the input/output characteristics would match with the copy mode.

9. Gradation processing
   In case of color copying, this function switches the type of gradation processing depending on the copy mode: A type which selects the printer characteristics giving the priority to resolution such as for text data, and another which selects the printer characteristics giving the priority to reproducibility of gradation such as for photographic images.
   In case of black copying, this function selects the gradation processing which reproduces the halftone image such as photograph more precisely. Also the gradation processing which makes text data clearer is selected in black copying mode.

10. Compression/expansion
    To lessen the data amount of the color image signals, this function effects the compression/expansion on the data.

11. Blank page detection
    This function determines whether an original is blank or not with the pixel colors of its image data input by the scanner or the printer. If the original is determined as blank, it is printed out as a blank page.

12. Outside erase
    When a thick original such as a book is copied, a shade-like dark area appears around the copied image because the RADF is not fully closed. This function erases this area and prints only the required image data.

13. Smoothing processing
    This function removes jaggy and smooths character outline of images and output them.

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14. Scanner high quality image processing
    This function corrects the image signals scanned by the scanner and reproduces them in a higher image quality.

15. Printer high quality image processing
    This function reproduces the image signals output from the printer controller in a higher image quality.

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8.4 System Control PC Board (SYS)

8.4.1 Features

1. Image processing functions realized on the SYS board are controlled by the CPU on the SYS board.
2. The image processing functions of the SYS board realizes the followings:
   - Black over print (PostScript)
   - Pure black / Pure gray (PostScript) / Pure gray (PCL6C)
   - Chroma adjustment (PCL6C)
   - Brightness adjustment (PCL6C)
   - Contrast adjustment (PostScript / PCL6C)

8.4.2 Functions of image processing circuit

On the SYS board, the following image processing functions are realized.

1. Black over print (PostScript)
   When black data of text or graphic object are formed on a certain background with no written data underneath them, the color of the paper comes out around the black data when “out-of-color registration” is occurring. To prevent this phenomenon, this process enables to keep the background color around the black data formed as a part of the text or the graphic object on the printer data.

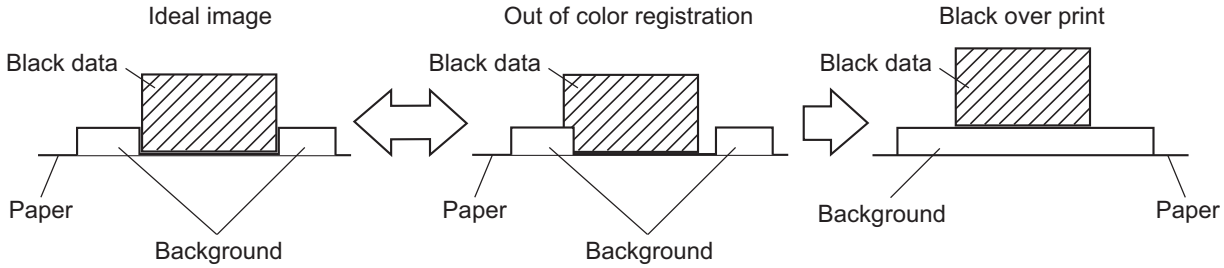

Fig. 8-7

2. Pure black / Pure gray (PostScript) / Pure gray (PCL6C)
   This function is to printout the text and graphics formed as black data with black toner only on the printer data, not using 4 color toner. The gray text/graphics are also printed out with black toner only.

3. Chroma adjustment (PCL6C)
   This function adjusts chromaticness of the printer data.

4. Brightness adjustment (PCL6C)
   This function adjusts brightness of the printer data.

5. Contrast adjustment (PostScript, PCL6C)
   The contrast adjustment is applied to the print data.

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8.5 Image Related Adjustment

8.5.1 Adjustment Order

This chapter mainly explains the procedures for image related adjustment. When replacing components which have other specified instructions for adjustment, those specified instructions are to be obeyed in priority.
In the following diagram, the solid lines with arrow lead to essential adjustments, while the dotted lines lead to adjustments to be performed if necessary.

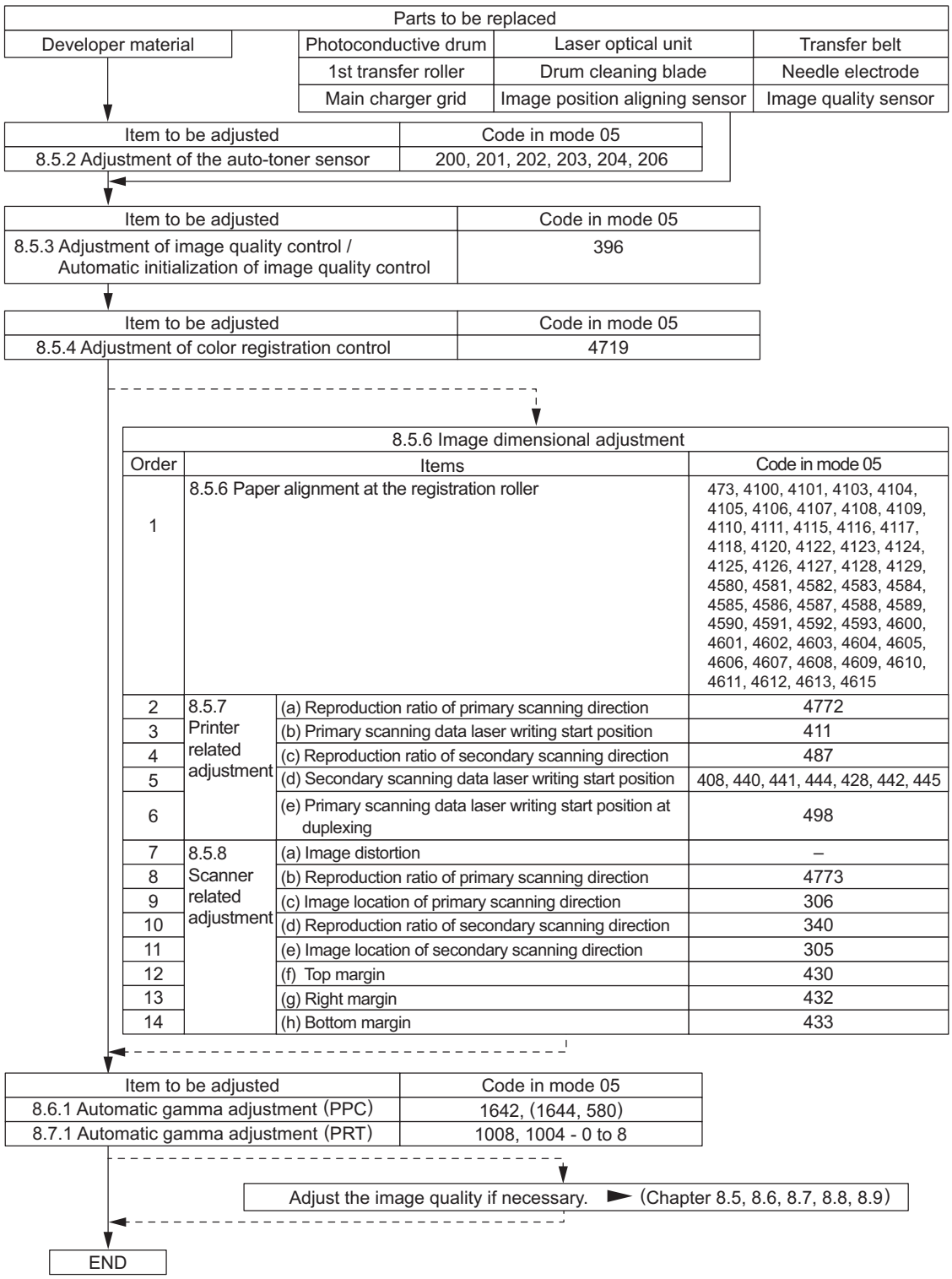

Fig. 8-8

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8.5.2 Adjustment of the Auto-Toner Sensor

When the developer material is replaced, adjust the auto-toner sensor in the following procedure.

(1) Install the cleaner and developer unit.
Take off the sub-hopper unit and install the developer cartridge.

Note:
Adjustment cannot be done if the sub-hopper unit is installed.

(2) While pressing [0] and [5] simultaneously, turn the power ON. The following message will be displayed.

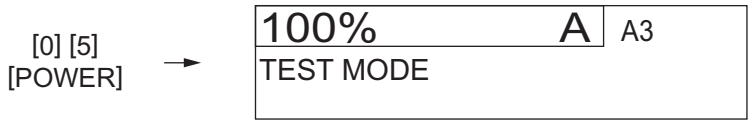

Fig. 8-9

(3) Key in a code and press the [START] button.
Code 200: All developer materials 201: Developer material (Y) 202: Developer material (M)
203: Developer material (C) 204: Developer material (K) 206: Developer materials (Y, M, C)

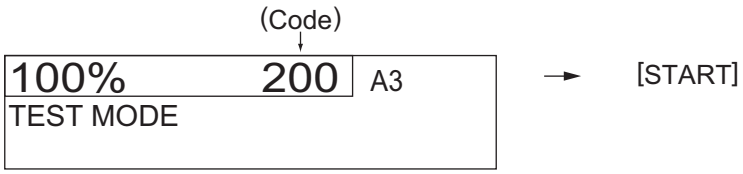

Fig. 8-10

(4) The message “Has developer in the developer unit run out?” appears on the display.
If there is no problem, press the [Yes] button on the display.

(5) The message “Have the [**] developer cartridges been installed?” appears on the display. If there is no problem, press the [Yes] button on the display. Tip: “**” varies as follows depending on the code you have entered.

Code	200: 4 colors (Y, M, C, K)	201: Yellow	202: Magenta
	203: Cyan	204: Black	206: 3 colors (Y, M, C)

Note:
Be sure that the developer cartridge is completely empty before you press [Yes]. If you press [Yes] while developer material still remains in the developer cartridge, it will overflow and thus may lock the developer unit.

(6) The message “Supplying developer.” appears on the display and developer material is filled in the developer unit for approx. 90 sec.

Remark:
For example, if the filling of the Y and M color developer materials fails, the following screen is displayed. Press the [OK] button, turn the power OFF and check the developer unit.

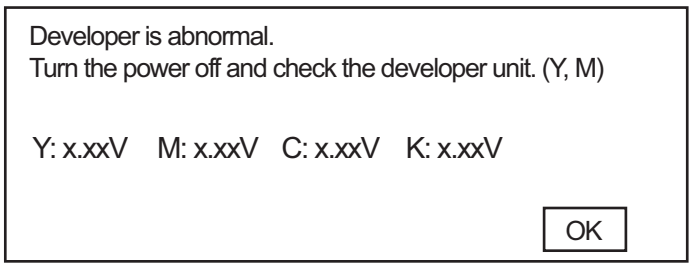

Fig. 8-11

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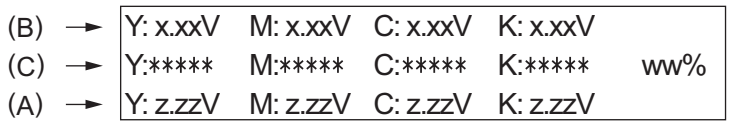
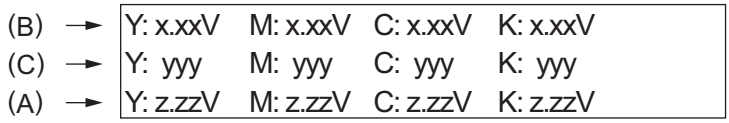
(7) After 2 min. have passed, the following screen is displayed and the auto-toner adjustment starts. During the adjustment, “Current sensor voltage (V)” shown in B automatically changes and gradually approaches the “Target value (V) for the adjustment reference voltage” shown in A.



(B): Current sensor voltage (V)
(C): Adjustment value, Humidity (%)
(A): Target value (V) for adjustment reference voltage

Fig. 8-12

(8) When the “Current sensor voltage (V)” in (B) is converged and the “Sensor output control value (bit value)” corresponding to the value for initial developer material is displayed in (C), the adjustment is completed.
When the adjustment is completed, the [ENTER] button is displayed on the screen.



(B): Current sensor voltage (V)
(C): Sensor output control value (bit value)
(A): Target value (V) for adjustment reference voltage

Fig. 8-13

Note:
The values in (A), (B) and (C) vary with humidity.

(9) Press the [ENTER] button to store the adjustment result in the memory.

Note:
If you enter any of the codes 200, 201, 202, 203, 204 or 206 after pressing the [CANCEL] button without pressing the [ENTER] button, or after auto-toner adjustment has failed, the operation in step (7) starts without that in step (4) to (6).

(10) Turn the power OFF.

(11) Take out the developer cartridge.

(12) Install the sub-hopper unit to the equipment.

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8.5.3 Performing Image Quality Control (IQC)

(1) When unpacking
Prior to image dimensional adjustment, perform the “Automatic initialization of image quality control (05-396)” procedure.

(2) When any of the following parts is replaced, be sure to perform the “Automatic initialization of image quality control (05-396)” procedure.

- Photoconductive drum
- Developer material
- Laser optical unit
- Transfer belt
- 1st transfer roller
- Drum cleaning blade
- Needle electrode
- Main charger grid
- Image position aligning sensor
- Image quality sensor

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Notes:

- When performing “Automatic gamma adjustment” in addition, “Automatic initialization of image quality control (05-396)” should be done.
  An adjustment error may occur when you perform “Automatic initialization of image quality control (05-396)”.
  See “[4] Image quality control initialization (05-396) / check the controlling status” in 🕮 P.25-145 "25.4.1 Drum surface potential sensor control related troubleshooting" to clear the error.
- If “Readjust from IQC-Adjustment” is displayed, perform “Automatic initialization of image quality control (05-396)”.

Code	Item to be adjusted	Contents
396	Automatic initialization of image quality control	<Procedure> (A) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment ModeP (B) Key in [396] and press the [START] button. (C) “WAIT” is displayed. (D) When the adjustment finishes normally, the equipment will return to initial state of the Adjustment Mode. When an error occurs <When “Waste toner box replacement” is displayed> (See 🕮 P.5-14 "[E] Waste toner box replacement") 1. Replace the waste toner box with a new one and close the waste toner box cover. 2. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 3. Turn the power ON. 4. Release the waste toner box full status by the warming-up operation. 5. Check that “Ready” is displayed. 6. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 7. Perform steps (A) to (D) in <Procedure>. <When “ERROR” is displayed>> (1)“ERROR” which occurs when toner is supplied (See 🕮 P.5-12 "[C] No toner in the cartridge" 1. Press the [CANCEL] button to return to the original state in the adjustment mode in order to check the toner low status. 2. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 3. Turn the power ON. 4. Check that the toner is being added properly in the warming-up status. When a message prompts you to replace the toner cartridge, open the front cover and replace the cartridge with a new one so that toner-empty status will be released. 5. Check that “Ready” is displayed. 6. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 7. Perform steps (A) to (D) in <Procedure>. (2)“ERROR” which occurs in the surface potential sensor control 1. Specify the colors (Y,M,C,K) corresponding to 1 or 2 from the numbers displayed in “ERROR”. 2. Press the [CANCEL] button to return to the initial state of the Adjustment mode. 3. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 4. Clear the error following the procedure on 🕮 P.25-145 "25.4.1 Drum surface potential sensor control related troubleshooting" or 🕮 P.25-150 "25.4.3 Drum surface potential sensor control related troubleshooting when setting up the equipment at unpacking". 5. Perform steps (A) to (D) in <Procedure>. <Other abnormalities> Take the appropriate action described in Troubleshooting. 🕮 P.25-1 "25. ERROR CODE and TROUBLESHOOTING"

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8.5.4 Adjustment of Color Registration Control

After having finished the “Automatic initialization of image quality control (05-396)” procedure, perform the “Forced performing of color registration control adjustment (05-4719)” procedure.

Code	Item to be adjusted	Contents
4719	Forced performing of color registration control	<Procedure> (A) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment ModeP (B) Key in [4719] and press the [START] button. (C) “WAIT” is displayed. (D) When the adjustment finishes normally, the equipment will return to initial state of the Adjustment Mode. When an error occurs <When “Waste toner box replacement” is displayed> (See 🕮 P.5-14 "[E] Waste toner box replacement") 1. Replace the waste toner box with a new one and close the waste toner box cover. 2. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 3. Turn the power ON. 4. Release the waste toner box full status by the warming-up operation. 5. Check that “Ready” is displayed. 6. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 7. Perform steps (A) to (D) in <Procedure> <When “ERROR” is displayed>> (1)“ERROR” which occurs when toner is supplied (See 🕮 P.5-12 "[C] No toner in the cartridge" 1. Press the [CANCEL] button to return to the original state in the adjustment mode in order to check the toner low status. 2. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 3. Turn the power ON. 4. Check the toner adding status in the warming-up operation. When a message prompts you to replace the toner cartridge, open the front cover and replace the cartridge with a new one. (“Adding Toner” is displayed.) 5. Check that “Ready” is displayed. 6. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 7. Perform steps (A) to (D) in <Procedure>. (2)“ERROR” which occurs in the surface potential sensor control 1. Specify the colors (Y,M,C,K) corresponding to 1 or 2 from the numbers displayed in “ERROR”. 2. Press the [CANCEL] button to return to the initial state of the Adjustment mode. 3. Press and hold the [ON/OFF] button for a few seconds to shut down the equipment. 4. Clear the error following the procedure on 🕮 P.25-145 "25.4.1 Drum surface potential sensor control related troubleshooting" or 🕮 P.25-150 "25.4.3 Drum surface potential sensor control related troubleshooting when setting up the equipment at unpacking" 5. Perform steps (A) to (D) in <Procedure>. <Other abnormalities> Take the appropriate action described in Troubleshooting. 🕮 P.25-1 "25. ERROR CODE and TROUBLESHOOTING"

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8.5.5 Image Dimensional Adjustment (General description)

There are several adjustment items in the image dimensional adjustment, as listed below. Prior to this image dimensional adjustment, perform the “Automatic initialization of image quality control (05-396)”. When adjusting these items, the following adjustment order should strictly be observed.

Item to be adjusted		Code in mode 05
1. Paper alignment an the registration roller		473, 4100, 4101, 4103, 4104, 4105, 4106, 4107, 4108, 4109, 4110, 4111, 4115, 4116, 4117, 4118, 4120, 4122, 4123, 4124, 4125, 4126, 4127, 4128,4129, 4580, 4581, 4582, 4583, 4584, 4585, 4586, 4587, 4588, 4589, 4590, 4591, 4592, 4593, 4600, 4601, 4602, 4603, 4604, 4605, 4606, 4607, 4608, 4609, 4610, 4611, 4612, 4613, 4615
2. Printer-related image dimensional adjustment	Reproduction ratio of primary scanning direction (Image clock fine adjustment (Printer))	4772
	Primary scanning data laser writing start position	411
	Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed)	487
	Secondary scanning data laser writing start position	408, 440, 441, 444, 428, 442, 445
	Primary scanning data laser writing start position at duplexing	498
3. Scanner-related image dimensional adjustment	Image distortion	-
	Reproduction ratio of primary scanning direction	4773
	Image location of primary scanning direction	306
	Reproduction ratio of secondary scanning direction	340
	Image location of secondary scanning direction	305
	Top margin	430
	Right margin	432
	Bottom margin	433

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[Procedure to key in adjustment values]

In accordance with the procedure described below, make adjustment of each adjustment item so that the measured values obtained from test copies satisfy the specification. By pressing the [FAX] button, immediately after starting the Adjustment Mode (05), single-sided test copying can be performed (normal copy mode).

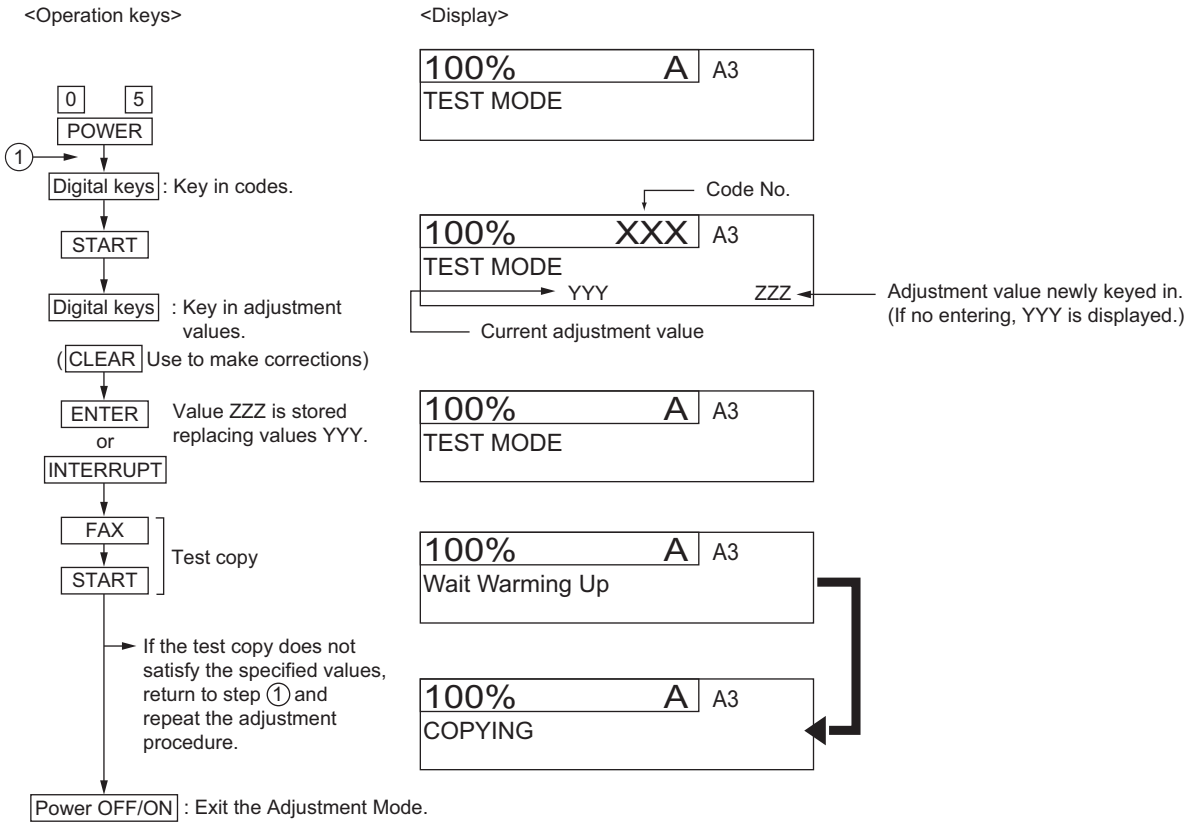

Fig. 8-14

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8.5.6 Paper alignment at the registration roller

[A] Adjustment with touch panel

Paper alignment at the registration roller can be adjusted in the following procedure by performing the code 05-480.

1. Select the drawer.

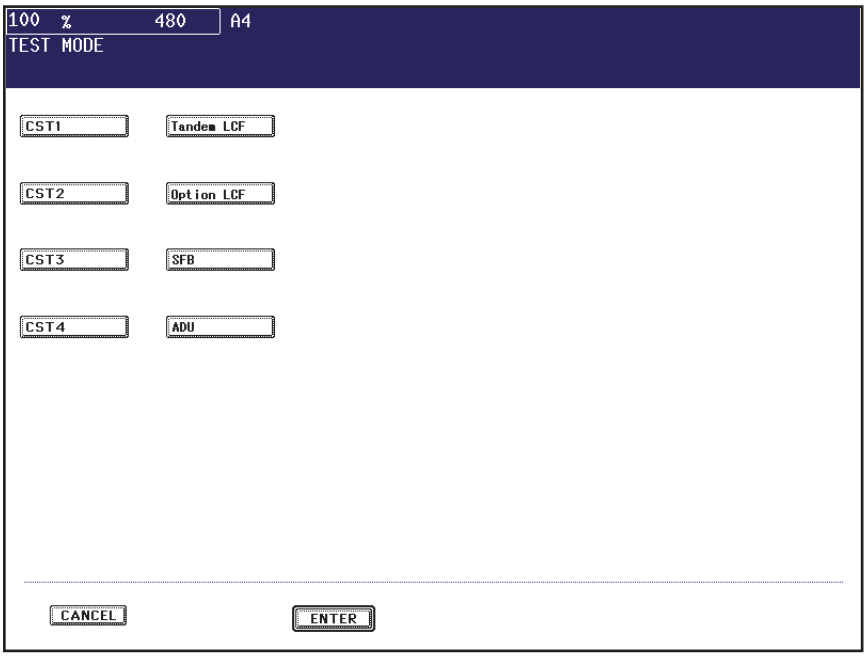

Fig. 8-15

2. Select the paper size.

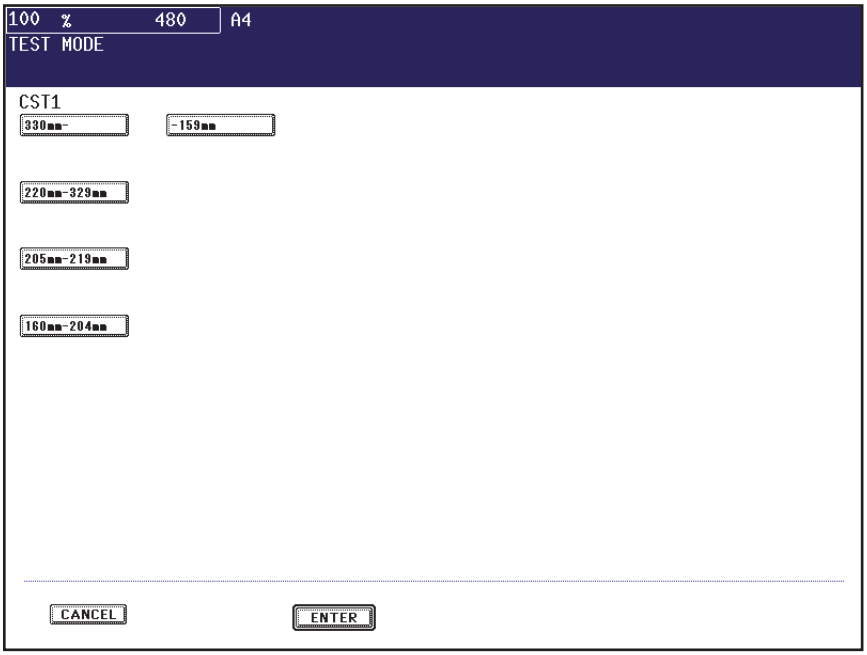

Fig. 8-16

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3. Select the media type.

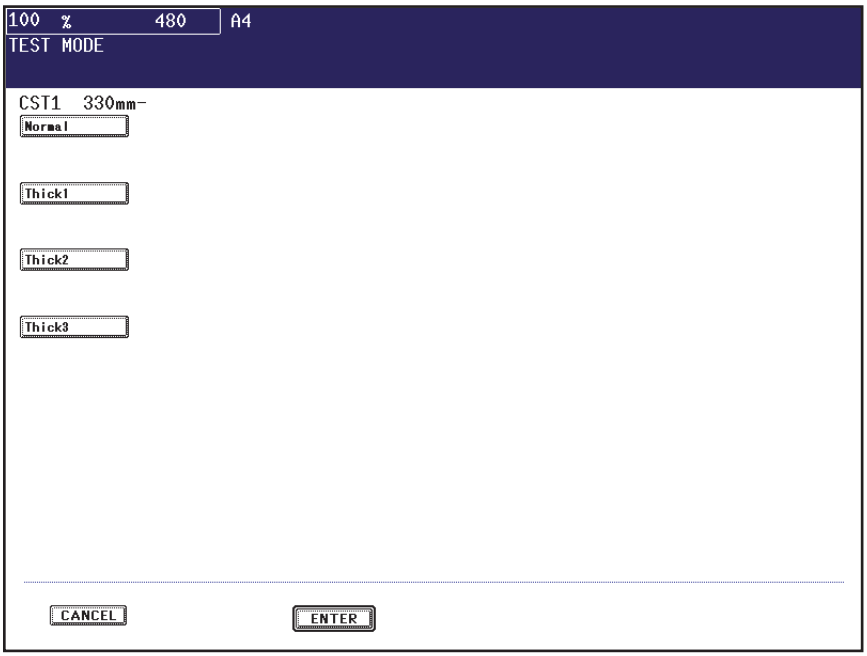

Fig. 8-17

4. Select the copy speed.
   ("75ppm" for the black copying in e-STUDIO6530C or "Other" for others)

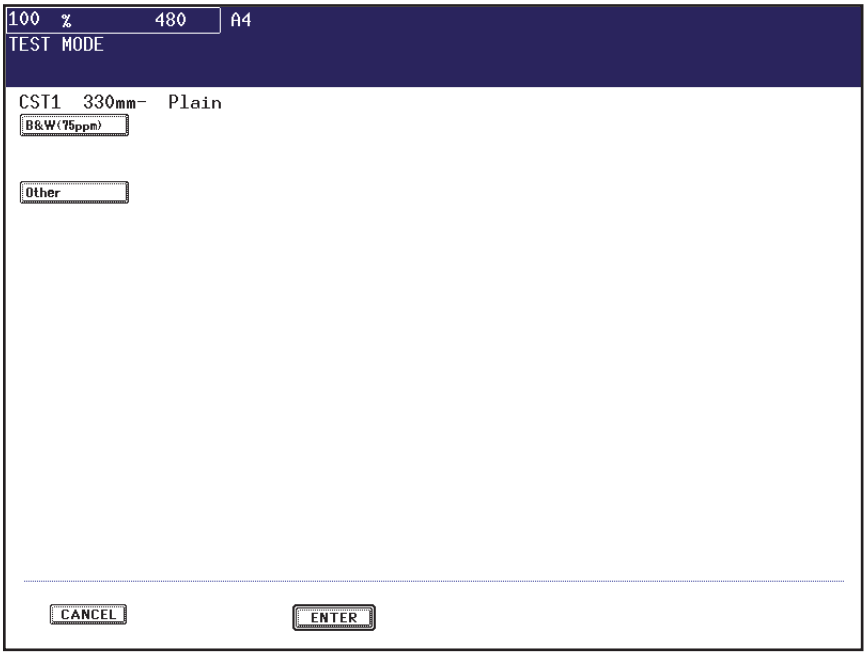

Fig. 8-18

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5. Key in the adjustment value.

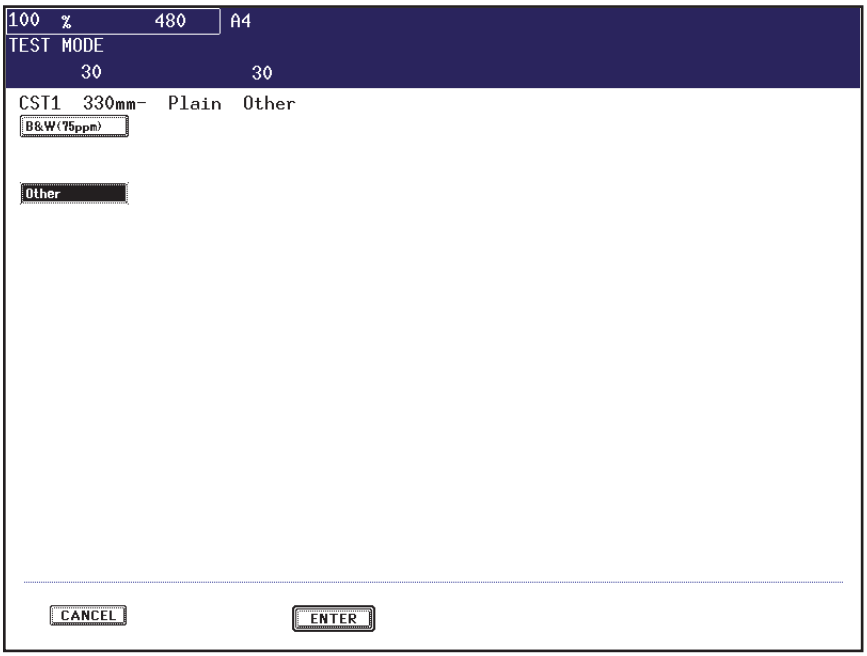

Fig. 8-19

6. Press the [ENTER] button to finish the adjustment.
   * Press the [FUNCTION CLEAR] button to return to the previous menu.

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[B] Adjustment by direct code entry

The aligning amount is adjusted by using the following codes in Adjustment Mode (05).

Drawer	Code	Sub code	Paper size (Select the paper size with the sub code.)	Paper type[*1]
1st drawer (CST1)	4100	0, 1, 2, 3, 4	0: 330 mm or longer (13.0 inches or longer) 1: 220–329 mm (8.7–12.9 inches) 2: 205–219 mm (8.1–8.6 inches) 3: 160-204 mm (6.3–8.0 inches) 4: 159 mm or shorter (6.26 inches or shorter)	Plain paper
	4115	0, 1, 2, 3, 4		Thick paper 1
	4122	0, 1, 2, 3, 4		Plain paper (High speed/black)
	4582	0, 1, 2, 3, 4		Thick paper 2
	4588	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4605	0, 1, 2, 3, 4		Thick paper 3 (Color)
2nd drawer (CST2)	4101	0, 1, 2, 3, 4		Plain paper
	4116	0, 1, 2, 3, 4		Thick paper 1
	4123	0, 1, 2, 3, 4		Plain paper (High speed/black)[*2]
	4583	0, 1, 2, 3, 4		Thick paper 2
	4589	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4606	0, 1, 2, 3, 4		Thick paper 3 (Color)
3rd drawer (CST3)	4108	0, 1, 2, 3, 4		Plain paper
	4117	0, 1, 2, 3, 4		Thick paper 1
	4124	0, 1, 2, 3, 4		Plain paper (High speed/black)[*2]
	4584	0, 1, 2, 3, 4		Thick paper 2
	4590	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4607	0, 1, 2, 3, 4		Thick paper 3 (Color)
4th drawer (CST4)	4109	0, 1, 2, 3, 4		Plain paper
	4118	0, 1, 2, 3, 4		Thick paper 1
	4125	0, 1, 2, 3, 4		Plain paper (High speed/black)[*2]
	4585	0, 1, 2, 3, 4		Thick paper 2
	4591	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4608	0, 1, 2, 3, 4		Thick paper 3 (Color)
Bypass feed	4103	0, 1, 2, 3, 4		Plain paper
	4104	0, 1, 2, 3, 4		Thick paper 1
	4105	0, 1, 2, 3, 4		Thick paper 2
	4106	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4107	0, 1, 2, 3, 4		OHP
	4127	0, 1, 2, 3, 4		Plain paper (High speed/black)[*2]
	4128	0, 1, 2, 3, 4		Special paper 1
	4129	0, 1, 2, 3, 4		Special paper 2
	4601	0, 1, 2, 3, 4		Thick paper 4 (Black)
	4612	0, 1, 2, 3, 4		Thick paper 3 (Color)
	4613	0, 1, 2, 3, 4		Thick paper 4 (Color)
Tandem LCF	473	0	-	Thick paper 1
		1	-	Thick paper 2
		2	-	Thick paper 3 (Black)
		3	-	Thick paper 3 (Color)
	4111	-	-	Plain paper
	4126	-	-	Plain paper (High speed/black)[*2]

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Drawer	Code	Sub code	Paper size (Select the paper size with the sub code.)	Paper type*1
Option LCF	4580	0, 1, 2, 3, 4	0: 330 mm or longer (13.0 inches or longer) 1: 220-329 mm (8.7-12.9 inches) 2: 205-219 mm (8.1-8.6 inches) 3: 160-204 mm (6.3-8.0 inches) 4: 159 mm or shorter (6.26 inches or shorter)	Plain paper
	4581	0, 1, 2, 3, 4		Thick paper 1
	4586	0, 1, 2, 3, 4		Thick paper 2
	4592	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4600	0, 1, 2, 3, 4		Plain paper (High speed/black)*2
	4609	0, 1, 2, 3, 4		Thick paper 3 (Color)
ADU	4110	0, 1, 2, 3, 4		Plain paper
	4120	0, 1, 2, 3, 4		Thick paper 1
	4587	0, 1, 2, 3, 4		Plain paper (High speed/black)*2
	4593	0, 1, 2, 3, 4		Thick paper 3 (Black)
	4602	0, 1, 2, 3, 4		Thick paper 4 (Black)
	4603	0, 1, 2, 3, 4		Special paper 1
	4604	0, 1, 2, 3, 4		Special paper 2
	4610	0, 1, 2, 3, 4		Thick paper 3 (Color)
	4611	0, 1, 2, 3, 4		Thick paper 4 (Color)
	4615	0, 1, 2, 3, 4		Thick paper 2

*1: Weight:
Plain paper: 64 to 105 g/m^2 (17 lb. Bond to 28 lb. Bond)
Thick paper 1: 106 to 163 g/m^2 (28 lb. Bond to 60 lb. Cover (90 lb. Index))
Thick paper 2: 164 to 209 g/m^2 (61 lb. Cover to 77.3 lb. Cover (115.7 lb. Index))
Thick paper 3: 210 to 256 g/m^2 (77.3 lb. Cover to 94.5 lb. Cover (141.4 lb. Index))
Thick paper 4: 257 to 300 g/m^2 (94.5 lb. Cover to 110 lb. Cover (150 lb. Index))

*2: e-STUDIO6530C: Black only

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<Procedure>

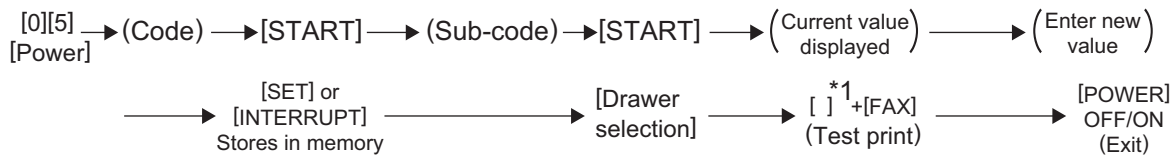

Fig. 8-20

(*1) 1: Single-sided grid pattern in Black Mode
3: Double-sided grid pattern in Black Mode
55: Grid pattern of thick paper 2 in Full Color Mode
56: Grid pattern of thick paper 3/thick paper 4 in Full Color Mode
57: Grid pattern of OHP film in Full Color Mode
58: Single-sided grid pattern of thick paper 2 in Black Mode
59: Single-sided grid pattern of thick paper 3 / thick paper 4 in Black Mode
60: Single-sided grid pattern of OHP film in Black Mode
98: Single-sided grid pattern in K(4) Mode

K(4) : System in which the test pattern is printed only in the black mode, though the four color developers (Y, M, C, K) are contacted to the transfer belt.

Note:

If the aligning amount is too large, abnormal noise (paper-folding noise) or actual paper folding may occur during paper feeding. If the aligning amount is too small, on the other hand, a skew, an image dislocation in feeding direction or a paper exit jam (E010) may occur. Pay attention to the above and select the appropriate value.

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8.5.7 Printer-related image dimensional adjustment

The printer related adjustment is performed by using the printed out grid pattern.

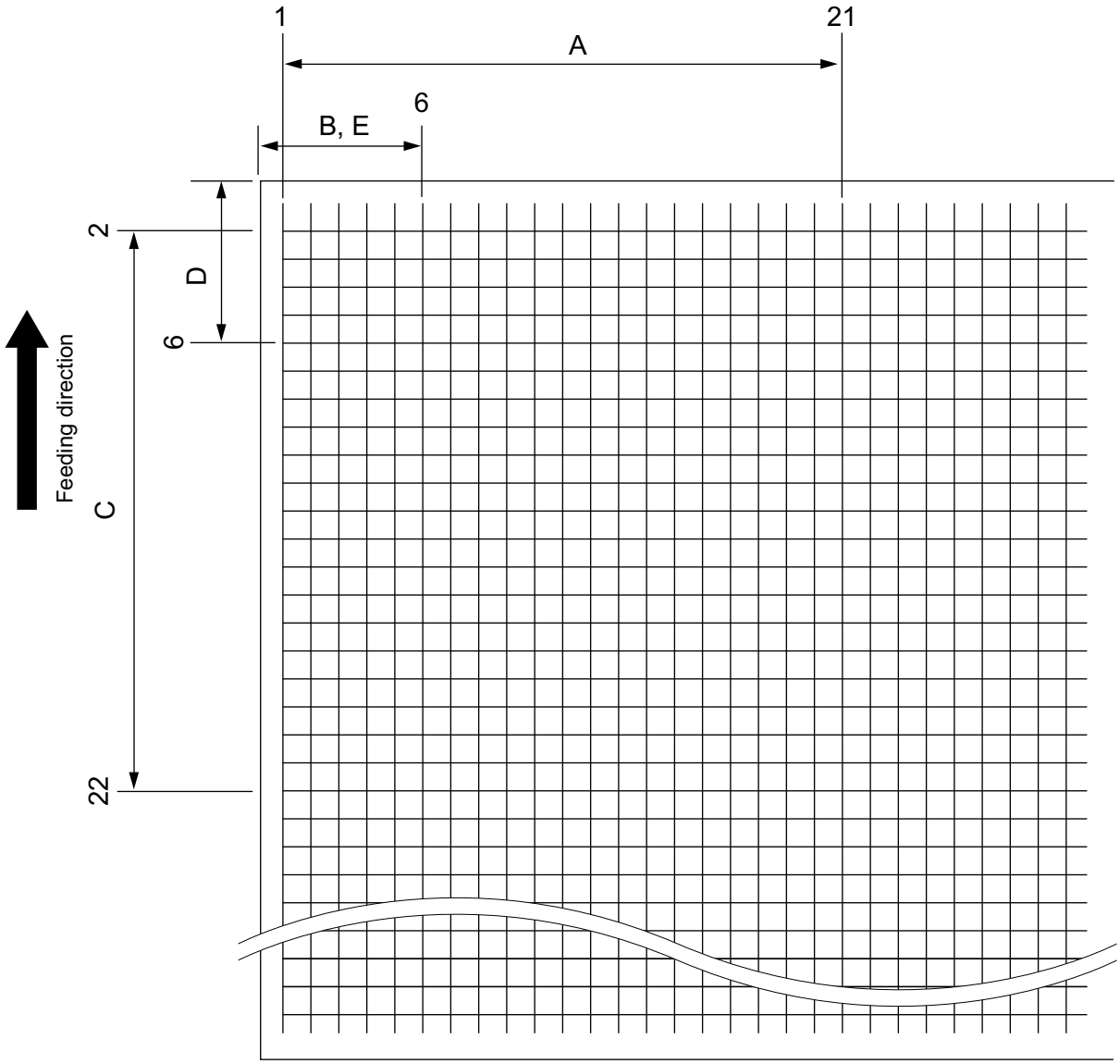

Fig. 8-21

	Adjustment Tolerance	Detail of adjustment
A	200 ± 0.5mm	Refer to “[A] Reproduction ratio of primary scanning direction (Image clock fine adjustment (Printer))”
B	52 ± 0.5mm	Refer to “[B] Image position of primary scanning direction (Laser writing start position (Printer))”
C	200 ± 0.5mm	Refer to “[C] Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed (Printer))”
D	52 ± 0.5mm	Refer to “[D] Image position of secondary scanning direction (Laser writing start position)”
E	52 ± 0.5mm	Refer to “[E] Primary scanning data laser writing start position at duplexing”

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[A] Reproduction ratio of primary scanning direction (Image clock fine adjustment (Printer))

(1) While pressing [0] and [5] simultaneously, turn the power ON.→ (Adjustment Mode)
(2) Press [98] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the 2nd drawer.)
(3) Measure the distance A from the 1st line to the 21st line of the grid pattern.
(4) Check if the distance A is within 200±0.5 mm.
(5) If not, use the following procedure to change values and measure the distance A again.
<Procedure>
(Adjustment Mode) → (Key in the code [4772]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ "100% A" is displayed.
→ Press [98] → [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance A becomes (approx. 0.1 mm/step).

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[B] Primary scanning data laser writing start position (Laser writing start position (Printer))

Performing the code 05-411 covers this adjustment for all paper sources.
The adjustment for each paper source is also available. Be sure to perform the code 05-411 (for all paper sources) before doing 05-497 or 05-498 (for each paper source).

For all paper sources

Code	Paper size	Acceptable value	Remarks	Reference value
411	A3/LD (Recommended)	0 to 255	Performs the adjustment for all paper sources.	70 to 128

For each paper source
<4-drawer model>

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	1st drawer	497-0	A4/LT	0 to 255	
2	2nd drawer	497-1	A3/LD	0 to 255	
3	3rd drawer	497-2	A4/LT	0 to 255	
4	4th drawer	497-3	A4/LT	0 to 255	
5	Bypass feed	497-5	A4/LT	0 to 255	
6	Duplex feeding	498-*	A3/LD (A4/LT)	0 to 255	P.8-29 "[E] Primary scanning data laser writing start position at duplexing"
7	Option LCF	497-6	A4/LT	0 to 255	Only when the optional LCF is installed

<Tandem LCF model>

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	1st drawer	497-0	A4/LT	0 to 255	
2	2nd drawer	497-1	A3/LD	0 to 255	
3	Tandem LCF	497-4	A4/LT	0 to 255	
4	Bypass feed	497-5	A4/LT	0 to 255	
5	Duplex feeding	498-*	A3/LD (A4/LT)	0 to 255	P.8-29 "[E] Primary scanning data laser writing start position at duplexing"
6	Option LCF	497-6	A4/LT	0 to 255	Only when the optional LCF is installed

1. Perform "Adjustment of drawer sideways deviation (05-497)" and set "128" for the sub code "1".
2. Perform "Primary scanning data laser writing start position (05-411)".
3. Key in "98" and then press the [FAX] button.
4. Measure the distance B from the left edge of the paper to the 6th line of the grid pattern.
5. If the distance B is not within 52±0.5 mm, use the following procedure to change values and measure it again.
6. Perform adjustment for each paper source following the procedure below.

Note:
Do not change the value "128" for the 05-497 sub code "1".

<Procedure>
(Adjustment Mode) → (Key in the code shown above) → [START]
→ (Key in an acceptable value shown above)
→ [ENTER] or [INTERRUPT] (Stored in memory) → “100% A” is displayed →
→ Press [98] ([3] for duplexing) → [FAX] → (A grid pattern is printed out.)

* The larger the adjustment value is, the longer the distance B becomes (approx. 0.04 mm/step).

Note:
Make sure the first line of the grid pattern is printed out since the line is occasionally vanished.

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[C] Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed)

Code	Sub code	Function	Remarks
487	0	PRT	When the value increases, the reproduction ratio in the secondary scanning direction becomes larger. (Approx. 0.1 mm/1steps)
	1	FAX	
	2	PPC	
	3	PRT	
	4	FAX	
	5	PPC	
	6	PRT	
	7	FAX	
	8	PPC	
	9	PRT	
	10	FAX	
	11	PPC	

When the sub code “0” is performed in the code “05-487”, the proper value is automatically calculated for the size of an image from the sub code 1 to 11. Due to this, the speed of the transfer belt motor is also adjusted. Therefore, use the above default value other than the sub code “0”, unless otherwise required.

[C-1] Confirmation of 05-487-0

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [98] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the 2nd drawer.)
3. Measure the distance C from the 2nd line at the leading edge of the paper to the 22nd line of the grid pattern.
   * Normally, the 1st line of the grid pattern is not printed.
4. Check if the distance C is within 200±0.5 mm.
5. If not, perform the procedure in “[C-2] Adjustment of 05-487-0” to change the values and measure the distance C again.
6. Perform the color registration (4719) after the adjustment.

[C-2] Adjustment of 05-487-0

(Adjustment Mode) → (Key in the code [487]) → [START] → (Key in the sub-code [0])
→ [START] → (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)

* When the value is not within the recommended values, the trailing edge area of the image may be out of position for the paper length or the density at the trailing edge area of the image may become lighter. Perform the adjustment confirming the image.
  → “100% A” is displayed
  → Press [98] → [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance C becomes (approx. 0.1 mm/ step).
  → (Key in the code [4719]) → [START] → (Enforced color registration)

Note:
The grid pattern outputted by pressing [0][5] → [98] → [FAX] is the one of PRT (05-487-0). Even though the sub codes “1” to “11” are adjusted, the result cannot be confirmed in the grid pattern outputted by pressing [0][5] → [98] → [FAX].

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Remark:

For long paper (length: 484 mm to 1,200 mm) and A3/LD, it is recommended to adjust the distance C above within the range of 199.5 mm and 200 mm otherwise the margin of the trailing edge may be deleted.

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[D] Image position of secondary scanning direction (Laser writing start position)

Performing the code 05-408 covers this adjustment for all paper sources.
The adjustment for each paper source is also available.

For all paper sources

Code	Paper size	Acceptable value	Remarks
408	A3/LD	0 to 200	Performs the adjustment for all paper sources.

For each paper source
<4-drawer model>

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	1st drawer	440	A4/LT	0 to 100	
2	2nd drawer	441	A3/LD	0 to 100	
3	3rd drawer	444	A4/LT	0 to 100	
4	4th drawer	428	A4/LT	0 to 100	
5	Bypass feed	442	A4/LT	0 to 100	
6	Duplex feeding	445	A3/LD	0 to 100	Paper fed from the 2nd drawer
7	Option LCF	443	A4/LT	0 to 100	Only when the optional LCF is installed

<Tandem LCF model>

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	1st drawer	440	A4/LT	0 to 100	
2	2nd drawer	441	A3/LD	0 to 100	
3	Tandem LCF	429	A4/LT	0 to 100	
4	Bypass feed	442	A4/LT	0 to 100	
5	Duplex feeding	445	A3/LD	0 to 100	Paper fed from the 2nd drawer
6	Option LCF	443	A4/LT	0 to 100	Only when the optional LCF is installed

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Press [98] ([3] for duplexing) → [FAX]. (A grid pattern with 10 mm squares is printed out.)
(3) Measure the distance D from the leading edge of the paper to the 6th line of the grid pattern.
    * Normally, the 1st line of the grid pattern is not printed.
    * At the duplexing, measure it on the top side of the grid pattern.
(4) Check if the distance D is within 52±0.5 mm.
(5) If not, use the following procedure to change values and measure the distance D again.

<Procedure>
(Adjustment Mode) → (Key in the code shown above) → [START]
→ (Key in an acceptable value shown above)
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ "100% A" is displayed
→ Press [98] ([3] for duplexing)
→ [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance D becomes (approx. 0.10 mm/step).

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[E] Primary scanning data laser writing start position at duplexing

Note:
Make sure the first line of the grid pattern is printed out since the line is occasionally vanished.

[E-1] Adjustment for long-sized paper (Length: 330 mm or more)

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Press [3] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the 2nd drawer.)
(3) Check the grid pattern on the test print and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.
(4) Check if the distance E is within 52±0.5 mm.
(5) If not, use the following procedure to change values and measure the distance E again.
<Procedure>
(Adjustment Mode) → (Key in the code [498]) → [START] → [0] → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ "100% A" is displayed.
→ Press [3] → [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

[E-2] Adjustment for short-sized paper (Length: 219 mm or less)

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Press [3] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the 1st drawer.)
(3) Check the grid pattern on the test print and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.
(4) Check if the distance E is within 52±0.5 mm.
(5) If not, use the following procedure to change values and measure the distance E again.
<Procedure>
(Adjustment Mode) → (Key in the code [498]) → [START] → [1] → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ "100% A" is displayed
→ Press [3] → [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

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[E-3] Adjustment for medium-sized paper (Length: 220 mm to 329 mm)

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Press [3] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A4-R/LT-R from the 1st drawer.)
(3) Check the grid pattern on the test print and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.
(4) Check if the distance E is within 52±0.5 mm.
(5) If not, use the following procedure to change values and measure the distance E again.
<Procedure>
(Adjustment Mode) → (Key in the code [498]) → [START] → [2] → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ "100% A" is displayed
→ Press [3] → [FAX] → (A grid pattern is printed out.)
* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

Note:
When the laser writing start position (05-498-0) for long-sized paper is changed, the one for medium-sized paper is also altered. (However, the value of 05-498-2 is not changed.)
If 05-498-0 is changed, check it with A4-R/LT-R paper and adjust the value of 05-498-2 again as required.

<Adjustment procedure summarization for A to E>

[0] [5] [Power ON] → [98] ([3] (05-445, 498) for duplexing) → [FAX]

A: 05-4772 (2nd drawer, A3/LD) → 200±0.5 mm (0.1 mm/step)
B: 05-411 (2nd drawer, A3/LD) → 52±0.5 mm (0.04 mm/step)
05-497-0 (1st drawer, A4/LT)
05-497-1 (2nd drawer, A3/LD)
05-497-2 (3rd drawer, A4/LT)
05-497-3 (4th drawer, A4/LT)
05-497-4 (2nd drawer, A4/LT)
05-497-5 (Bypass feed, A4/LT)
05-497-6 (2nd drawer, A4/LT)
C: 05-487-0 to 11 (2nd drawer, A3/LD) → 200±0.5 mm (0.1 mm/step)
D: 05-408 (2nd drawer, A3/LD) → 52±0.5 mm (0.10 mm/step)
05-440 (1st drawer, A4/LT)
05-441 (2nd drawer, A3/LD)
05-444 (3rd drawer, A4/LT)
05-428 (4th drawer, A4/LT)
05-442 (Bypass feed, A4/LT)
05-445 (Duplex feeding, A3/LD)
05-429 (2nd drawer, A4/LT) → 52±0.5 mm (0.10 mm/step)
05-443 (2nd drawer, A4/LT) → 52±0.5 mm (0.10 mm/step)
E: 05-498-0 (2nd drawer, A3/LD), → 52±0.5 mm (0.04 mm/step)
05-498-1 (1st drawer, A4/LT)
05-498-2 (A4-R/LT-R)

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8.5.8 Scanner-related image dimensional adjustment

[A] Image distortion

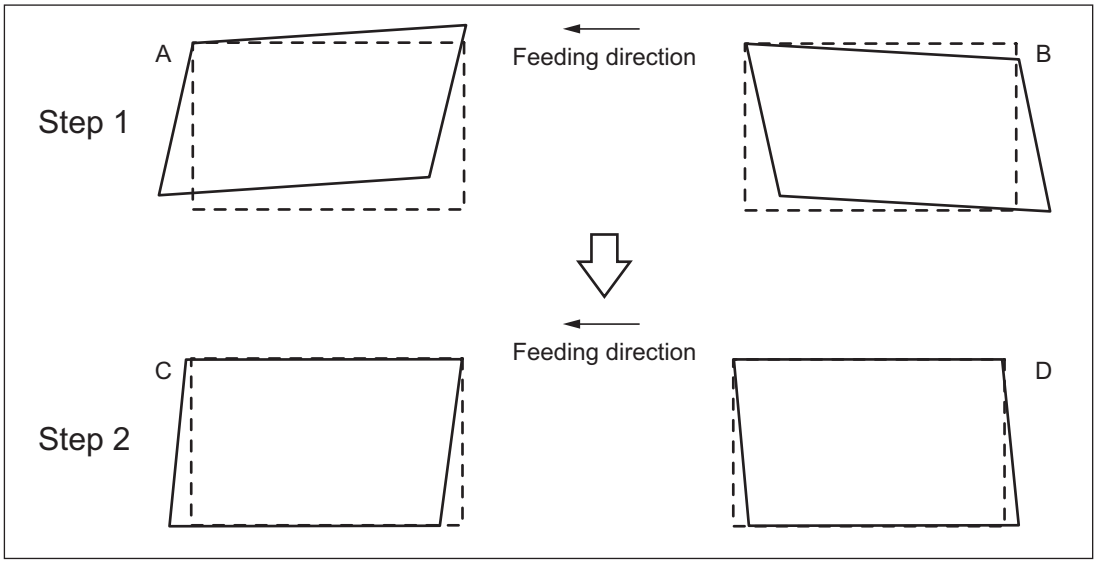

Fig. 8-22

(1) While pressing [0] and [5] simultaneously, turn the power ON.

(2) Press [FAX] to make a copy of any image on a sheet of A3/LD paper.

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(3) Key in [308] and press the [START] button to move the carriage to the adjustment position.

(4) Make an adjustment in the order of step 1 and 2.

Step 1

In case of A:
Tighten the mirror-3 adjustment screw (CW).
In case of B:
Loosen the mirror-3 adjustment screw (CCW).

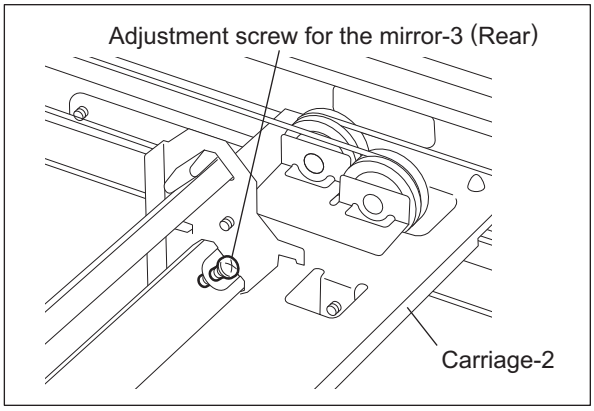

Fig. 8-23

Step 2

In case of C:
Tighten the mirror-1 adjustment screw (CW).
In case of D:
Loosen the mirror-1 adjustment screw (CCW).

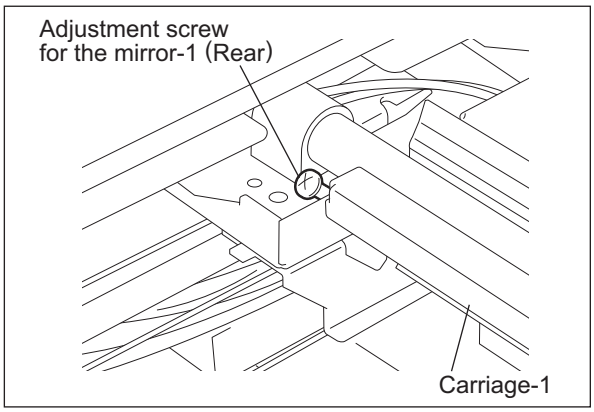

Fig. 8-24

(5) Apply the screw locking agents to the adjustment screws. (2 areas)
- Recommended screw lock agent
  Manufacturer: Three Bond
  Product name: 1401E

The following adjustments (b) to (e) should be performed with Test Chart No. TCC-1.
📖 P.8-38 " Adjustments and Checks using Test Chart No. TCC-1"

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[B] Reproduction ratio adjustment of primary scanning direction

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
(3) Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
(4) Measure the distance A between M1 and M2 on the copy with a ruler.
(5) Check if the distance A is within 200±0.5 mm.
(6) If not, use the following procedure to change values and repeat step 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [4773]) → [START]
→ (Key in a value (acceptable values: 0 to 255) with digital keys)
→ [ENTER] or [INTERRUPT] (Stored in memory)
* The larger the adjustment value is, the longer the distance A becomes (approx. 0.1 mm/step).

[C] Image location of primary scanning direction

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
(3) Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
(4) Measure the distance B from the left paper edge to the 5 mm line of left grid pattern on the copy with a ruler.
(5) Check if the distance B is within 5±0.5 mm.
(6) If not, use the following procedure to change values and repeat step 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in code [306]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
* The larger the adjustment value is, the longer the distance B becomes (approx. 0.04 mm/step).

[D] Reproduction ratio of secondary scanning direction

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
(3) Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
(4) Measure the distance C between M3 and M4 on the copy with a ruler.
(5) Check if the distance C is within 150±0.5 mm.
(6) If not, use the following procedure to change values and repeat step 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [340]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
* The larger the adjustment value is, the longer the distance C becomes (approx. 0.02 mm/step).

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[E] Image location of secondary scanning direction

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
(3) Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
(4) Measure the distance D from the top paper edge to the 10 mm line of top grid pattern on the copy with a ruler.
(5) Check if the distance D is within 10±0.5 mm.
(6) If not, use the following procedure to change values and repeat step 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [305]) → [START]
→ (Key in a value (acceptable values: 68 to 188))
→ [ENTER] or [INTERRUPT] (Stored in memory)
* The larger the adjustment value is, the longer the distance D becomes (approx. 0.09 mm/step).

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[F] Top margin

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Open the RADF.
(3) Press [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Full color, Text/Photo and 2nd drawer.
(4) Measure the blank area E at the leading edge of the copied image.
(5) Check if the blank area E is within the range.

Function	Black	Color
Copy	3±2.0 mm	5-1.0 mm, 5+2.0 mm (4.0 to 7.0 mm)

(6) If not, use the following procedure to change values and repeat the steps 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [430]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory)
→ ("100% A" is displayed.)
* The larger the adjustment value is, the wider the blank area becomes (approx. 0.04 mm/step).

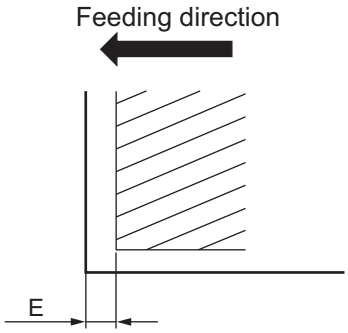

Fig. 8-25

Note:

Paper jams tend to occur in equipment in which thin paper such as 64g/m^2 (17lb. Bond) paper is used or a large amount of high density images such as pictures are output. For this equipment, we recommend that you adjust the top margin "in the plus direction" in order to prevent paper jamming.

Range of top margin adjustment (e.g.)

Function	Black	Color
Copy	3.0 - 5.0 mm	5.0 - 7.0 mm

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[G] Right margin

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Open the RADF.
(3) Press [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Full color, Text/Photo and 2nd drawer.
(4) Measure the blank area F at the right side of the copied image.
(5) Check if the blank area F is within the range.

Function	Black	Color
Copy	2±2.0 mm	2±2.0 mm

(6) If not, use the following procedure to change values and repeat the steps 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [432]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (Stored in memory).
→ ("100% A" is displayed.)
* The larger the adjustment value is, the wider the blank area at the right side becomes (approx. 0.04 mm/step).

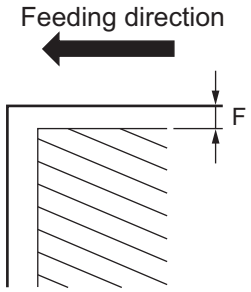

Fig. 8-26

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[H] Bottom margin

(1) While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
(2) Open the RADF.
(3) Press the [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Full color, Text/Photo and 2nd drawer.
(4) Measure the blank area G at the trailing edge of the copied image.
(5) Check if the blank area G is within the range.

Function	Black	Color
Copy	3±2.0 mm	3±2.0 mm

(6) If not, use the following procedure to change values and repeat the steps 3. to 5. above.
<Procedure>
(Adjustment Mode) → (Key in the code [433]) → [START]
→ (Key in value (acceptable values: 0 to 255))
→ [ENTER] or [INTERRUPT] (stored in memory)
→ ("100% A" is displayed.)
* The larger the adjustment value is, the wider the blank area at the trailing edge becomes (approx. 0.04 mm/step).

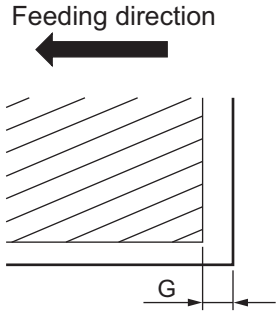

Fig. 8-27

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Adjustments and Checks using Test Chart No. TCC-1

Following items can be checked with the Test Chart No. TCC-1.

1. Points to be measured in the chart

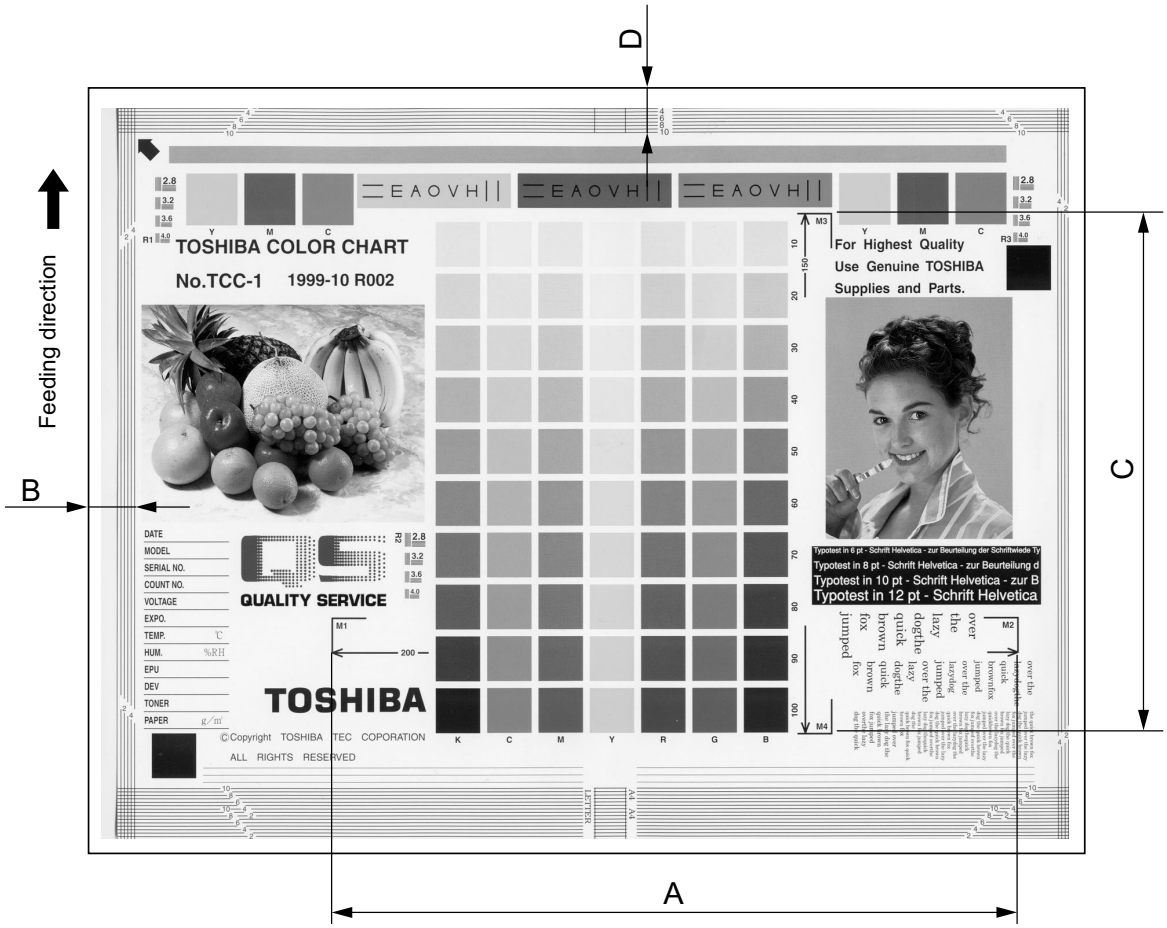

Fig. 8-28

<Adjustment order>

[0] [5] [Power ON] → (Chart TCC-1) → [FAX] → [START] (A3/LD, 100%, Full color and Text/Photo)

A: 05-4773 → 200±0.5 mm (0.1 mm/step)

B: 05-306 → 5±0.5 mm (0.04 mm/step)

C: 05-340 → 150±0.5 mm (0.02 mm/step)

D: 05-305 → 10±0.5 mm (0.08 mm/step)

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2. Checking areas of the chart and their descriptions

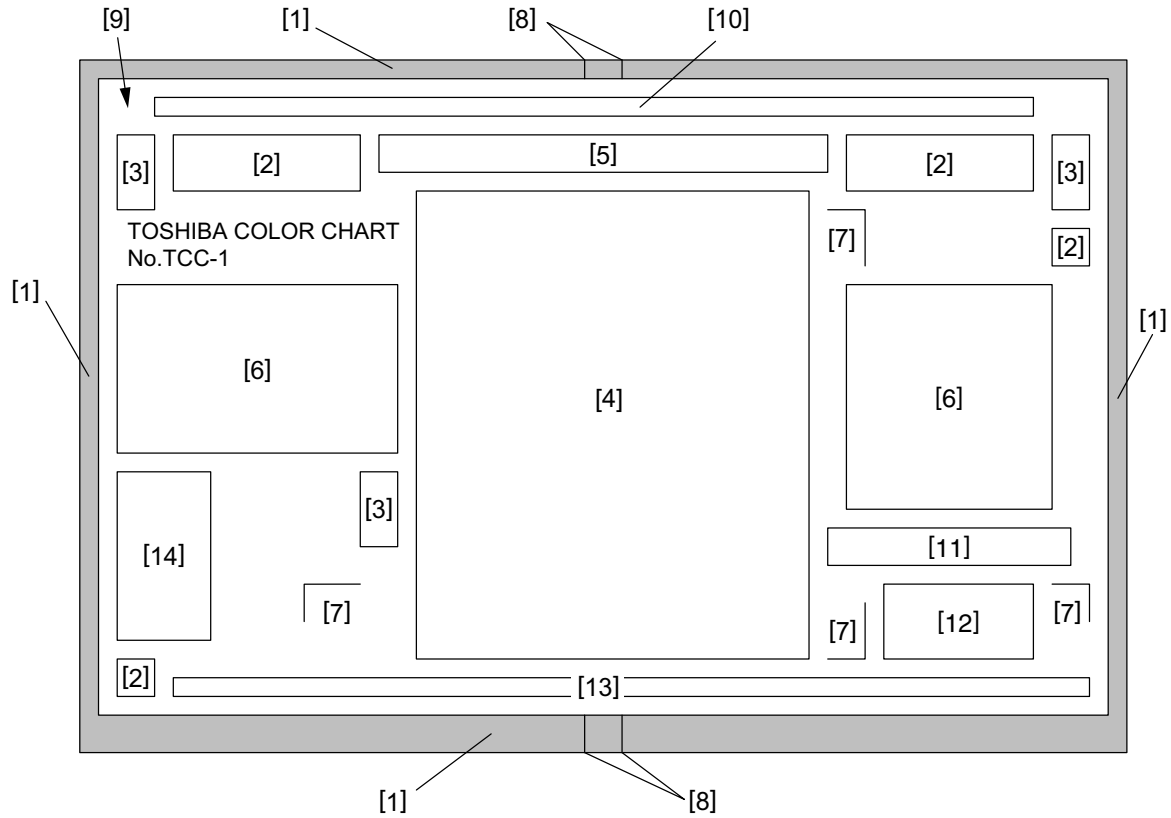

Fig. 8-29

[1]	Grid patterns	: For adjusting margin (void) and scanner section
[2]	YMCK patches	: For checking uniformity
[3]	Resolution patterns	: For checking resolution
[4]	Gradation pattern	: Gradation pattern of seven colors (Y, M, C, R, G, B and K) Coverage: 10-100% For adjusting the halftone reproduction and gray balance
[5]	Color registration pattern	: For checking color registration
[6]	Pictures	: For checking color reproduction and moire
[7]	Magnification lines	: For checking the magnification error of primary and secondary scanning directions
[8]	Center lines	: Center lines for A4/LT sizes
[9]	Arrow	: A mark for placing the chart properly onto the original glass (place it to the left rear corner of the original glass.)
[10]	Halftone band	: For checking uniformity
[11]	White text on the black solid	: For checking the reproduction of white text on black solid
[12]	Text	: For checking reproduction of text
[13]	Thin lines	: For checking reproduction of the thin lines (line width: 100µm)
[14]	Note area	: For recording the date, conditions, etc.

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8.6 Image Quality Adjustment (Copying Function)

8.6.1 Automatic gamma adjustment

When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment. In case the gradation reproduction of the image checked is not satisfactory, make this adjustment as described below at parts replacement.

(1) When unpacking or any of the following parts has been replaced, be sure to make this adjustment:
- Photoconductive drum
- Developer material
- Laser optical unit
- Transfer belt
- 1st transfer roller
- Drum cleaning blade
- Needle electrode
- Main charger grid
- Image position aligning sensor
- Image quality sensor
- SRAM board (LGC board, SYS board)

(2) When any of the following parts are replaced or adjusted, make a copy and check the image to determine if adjustment is necessary:
- 2nd transfer roller

Notes:
1. Be sure that this adjustment be made after performing the image adjustment in 📖 P.8-12 "8.5.3 Performing Image Quality Control (IQC)" and 📖 P.8-15 "8.5.5 Image Dimensional Adjustment (General description)".
2. Normally, only the adjustment of color/black integrated pattern is needed. When the adjustment of 📖 P.8-50 "8.6.11 Beam level conversion setting" is made, color pattern and black pattern need to be adjusted individually.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents
1642 (1644) (580)	Automatic gamma adjustment	When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment. The result will be applied to all paper sizes.

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<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.→ Adjustment Mode
(2) Select the A4/LT drawer. Key in the pattern number and press the [FAX] button to output a “Patch chart for gamma adjustment”.

Pattern No.	Pattern	Remark	Paper type
4	Color/black integrated	When performing code 05-1642	All paper types
10	Black	When performing code 05-580	All paper types
200	Color/black integrated	When performing code 05-1644-0	Plain paper1
202	Color/black integrated	When performing code 05-1644-1	Plain paper2
204	Color/black integrated	When performing code 05-1644-2	Recycled paper
206	Color/black integrated	When performing code 05-1644-3	Thick paper1
208	Color/black integrated	When performing code 05-1644-4	Thick paper2
210	Color/black integrated	When performing code 05-1644-5	Thick paper3
212	Color/black integrated	When performing code 05-1644-6	Thick paper4
214	Color/black integrated	When performing code 05-1644-7	Special paper 1
216	Color/black integrated	When performing code 05-1644-8	Special paper 2

(3) Place the patch chart for adjustment printed in step (2) face down on the original glass.
Place the chart aligning its side with 2 black squares against the original scale.
(4) Key in a code and press the [START] button.
→ The scanner reads the chart automatically and performs automatic gamma adjustment calculation (approx. 30 sec.).
(5) When the adjustment has finished normally, “ENTER” is shown. Press the [ENTER] button to have the adjustment results reflected.
(To cancel the reflection of adjustment results, press the [CANCEL] button.)
In the case of an abnormal ending, “ADJUSTMENT ERROR” is shown.
Press the [CANCEL] button to clear the error display. When it is cleared, the control panel display will return to the ready state. Then, check if the patch chart on the original glass is placed in the wrong direction or if it is placed inclined on the original glass, and then repeat step (3) and afterward.

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8.6.2 Density adjustment

The center density and the density variation controlled by density adjustment keys can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	Original mode					Item to be adjusted	Remarks
	Text/ Photo*	Text*	Printed Image*	Photo	Map		
mono Color	1585	1586	1587	1588	1589	center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

* If this setting has been changed, the density levels of “Gray scale” or “Photo” in the black mode may be affected.

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	User custom		
Black	503	504	931	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	508	510	937	Manual density mode dark step value	The larger the value is, the darker the dark side becomes. Acceptable values: 0 to 255 (Default: 20)
	505	507	934	Manual density mode light step value	The larger the value is, the lighter the light side becomes. Acceptable values: 0 to 255 (Default: 20)
	514	515	940	Automatic density mode	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustments according to the following procedure.

Note:
Be sure that this adjustment is made after performing 📖 P.8-40 "8.6.1 Automatic gamma adjustment".

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in an adjustment value.
(To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
(5) Press the [FAX] button and then press the [START] button to make a test copy.
(6) If the desired image quality has not been attained, repeat step (2) to (5).

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8.6.3 Color balance adjustment

The color balance is adjusted by adjusting the density of each color at the Full Color Mode. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color	Original mode						Item to be adjusted	Remarks
	Text/ Photo	Text	Printed Image	Photo	Map	User Custom		
Yellow	1779-0	1780-0	1781-0	1782-0	1783-0	7980-0	Low density	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128)
	1779-1	1780-1	1781-1	1782-1	1783-1	7980-1	Medium density	
	1779-2	1780-2	1781-2	1782-2	1783-2	7980-2	High density	
Magenta	1784-0	1785-0	1786-0	1787-0	1788-0	7981-0	Low density	
	1784-1	1785-1	1786-1	1787-1	1788-1	7981-1	Medium density	
	1784-2	1785-2	1786-2	1787-2	1788-2	7981-2	High density	
Cyan	1789-0	1790-0	1791-0	1792-0	1793-0	7982-0	Low density	
	1789-1	1790-1	1791-1	1792-1	1793-1	7982-1	Medium density	
	1789-2	1790-2	1791-2	1792-2	1793-2	7982-2	High density	
Black	1794-0	1795-0	1796-0	1797-0	1798-0	7983-0	Low density	
	1794-1	1795-1	1796-1	1797-1	1798-1	7983-1	Medium density	
	1794-2	1795-2	1796-2	1797-2	1798-2	7983-2	High density	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustments according to the following procedure.

Notes:

- Be sure that this adjustment is made after performing 📖 P.8-40 "8.6.1 Automatic gamma adjustment".
- Changing the adjustment setting influences the adjacent density area slightly.
  E.g.: When the value of the medium density is larger, the adjacent areas in the low density and high density range will become slightly darker.

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the code of the mode to be adjusted (color and original mode) and press the [START] button.
(3) Select the density area to be adjusted with digital keys (0, 1 or 2), and press the [START] button.
  0: Low density (L)
  1: Medium density (M)
  2: High density (H)
(4) Key in an adjustment value. (To correct the value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value in memory.
  → The equipment goes back to the ready state.
(6) For resetting the value, repeat step (2) to (5).
(7) Press the [FAX] button and then press the [START] button to make a test copy.
(8) If the desired image quality has not been attained, repeat step (2) to (7).

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<Range of the density area (low density, medium density, high density)>

The color from 10 to 30 (low density), from 40 to 70 (medium density) and from 80 to 100 (high density) in No. TCC-1 chart can be used as a guide for the range of the density area influenced by the change of the adjustment value (low density, medium density, high density).

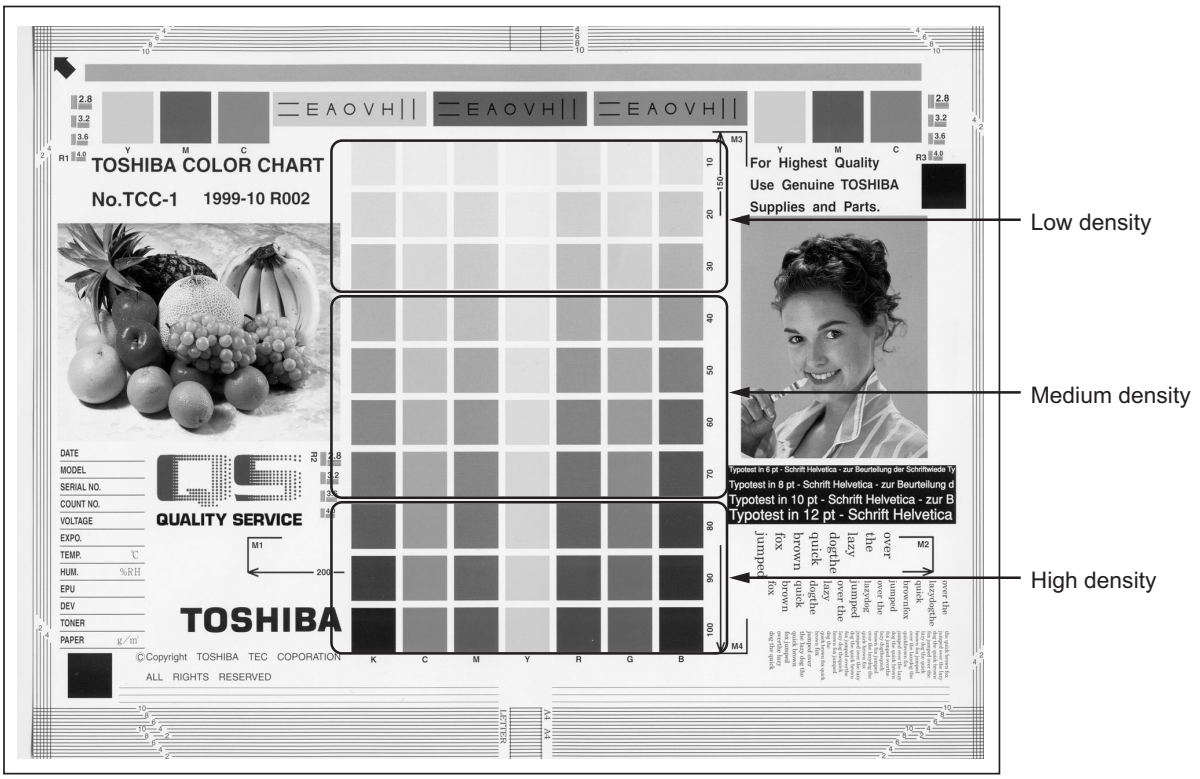

Fig. 8-30

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8.6.4 Gamma balance adjustment

The density adjustment at the Black Mode is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Original mode								Item to be adjusted	Remarks
Text/ Photo	Text	Photo	Gray Scale	ACS/ Black/ Text/ Photo	ACS/ Black/ Text	ACS/ Black/ Photo	User custo m		
590-0	591-0	592-0	7956-0	7957-0	7958-0	7959-0	949-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
590-1	591-1	592-1	7956-1	7957-1	7958-1	7959-1	949-1	Medium density	
590-2	591-2	592-2	7956-2	7957-2	7958-2	7959-2	949-2	High density	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustments according to the following procedure.

Note:

Be sure that this adjustment is made after performing 📖 P.8-40 "8.6.1 Automatic gamma adjustment".

<Procedure>

The procedure is the same as that of 📖 P.8-43 "8.6.3 Color balance adjustment".

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8.6.5 Background adjustment

The density of background can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	Original mode							Item to be adjusted	Remarks
	Text/ Photo	Text	Printed Image	Photo	Map	user custo m	Gray scale		
Full Color	1688	1689	1690	1691	1692	7762	---	Automatic density adjustment for background	The larger the value is, the lighter the background becomes. Acceptable values: 0 to 255 (Default: 128)
	1698	1699	1700	1701	1702	7763	---	Manual density adjustment for background	
Mono Color	7754	7755	7756	7757	7758	---	---	Automatic density adjustment for background	
Twin color mode	7759	7760	7761	---	---	---	---	Manual density adjustment for background	
ACS black	7676	7677	---	---	---	---	---	Automatic density adjustment for background	
	7678	7679	---	---	---	---	---	Manual density adjustment for background	
Black	7033	7034	7043	---	---	7279	7044	Automatic density adjustment for background	
	7041	7042	7048	---	---	7280	7049	Manual density adjustment for background	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

<Procedure>

The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

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8.6.6 Judgment threshold for ACS (common for copy & network scan)

The judgment level is adjusted for the automatic identification of whether the original set on the glass is black or color. Namely, this is to adjust the judgment level used when “Auto Color” is selected at a color mode. The same adjustment value will be applied to all cases of the copying, network scanning, RADF scanning and manual scanning (using the original glass) simultaneously.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents
1675	Judgment threshold for ACS	The larger the value is, the more an original tends to be judged as black even at the Auto Color Mode. The smaller value is, the more it tends to be judged as color. Acceptable values: 0 to 255 (Default: 70)

Make a test copy and compare the image obtained with the current settings; if necessary and make adjustment.

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

8.6.7 Sharpness adjustment

If you want to make copy images look softer or sharper, perform the following adjustment. The adjustment can be made for each of the color modes and original modes independently.

<Adjustment Mode (05)>

Code	Color mode	Original mode	Contents
1737	Full Color	Text/Photo	The larger the value is, the sharper the image becomes; while the smaller the value is, the softer the image becomes. The smaller the value is, the less moire tends to appear. Acceptable values: 0 to 255 (Default: 128)
1738		Text	
1739		Printed Image	
1740		Photo	
1741		Map	
7795		User custom	
604	Black	Text/Photo	
605		Text	
606		Photo	
922		User custom	
7809		Gray scale	
1757	Auto Color	Text/Photo	
7807		Text	
7808		Photo	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

Note:
You have to make adjustment by balancing between moire and sharpness.

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

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8.6.8 Setting range correction

The values of the background peak in the range correction at the Black Mode can be switched to “varied” or “fixed” in the following codes.
If they are fixed, the range correction is performed with standard values.
The values of the background peak affects the reproduction of the background density, and the values of the text peak affects that of the text density.

<Adjustment Mode (05)>

Color mode	Original mode							Item to be adjusted	Remarks
	Text/ Photo	Text	Printed Image	Photo	Map	User Custom	Gray Scale		
Full color	7767	7768	7769	7770	7771	7777	---	Automatic density mode	0:Background peak/fixed 1:Background peak/varied
	7772	7773	7774	7775	7776	7778	---	Manual density mode	
ACS black mode	7667	7668	---	---	---	---	---	Automatic density mode	
	7669	7670	---	---	---	---	---	Manual density mode	
Black	7283	7284	---	---	---	7236	7295	Automatic density mode	
	7286	7287	---	---	---	7237	7296	Manual density mode	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

<Procedure>
The procedure is the same as that of 🕮 P.8-42 "8.6.2 Density adjustment".

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8.6.9 Adjustment of smudged/faint text

The smudge/faint text at a Black Mode can be set at the following codes.

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/ Photo	Text	User custom		
Black	648	649	925	Adjustment of smudged/ faint text	When the value decreases, the faint text is improved. When the value increases, the smudged text is improved. Acceptable values: 0 to 4 (Default: 2)
ACS black	7102	7103	---		

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

Note:

Remember the image specifications and life span of the replacing parts may not meet the standard when the setting value is changed from the default value.

<Procedure>

The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

8.6.10 Color Adjustment of Marker

The color of the one touch adjustment “MARKER” can be adjusted so that any marker colors already on the original can be distinguished.

<Adjustment Mode (05)>

Code	Item to be adjusted	Relation between the adjustment value and the color (Acceptable values: 0 to 6)		
		0 to 2	3 (Default)	4 to 6
1769-0	Yellow	The smaller the value is, the more reddish the color becomes.	Yellow	The larger the value is, the more greenish the color becomes.
1769-1	Magenta	The smaller the value is, the more bluish the color becomes.	Magenta	The larger the value is, the more reddish the color becomes.
1769-2	Cyan	The smaller the value is, the more greenish the color becomes.	Cyan	The larger the value is, the more bluish the color becomes.
1769-3	Red	The smaller the value is, the closer to Magenta the color becomes.	Red	The larger the value is, the more yellowish the color becomes.
1769-4	Green	The smaller the value is, the more yellowish the color becomes.	Green	The larger the value is, the closer to Cyan the color becomes.
1769-5	Blue	The smaller the value is, the closer to Cyan the color becomes.	Blue	The larger the value is, the closer to Magenta the color becomes.

Note:

The color may not always be reproduced precisely due to the characteristics of the fluorescent ink.

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<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in a sub-code and press the [START] button.
(4) Key in an adjustment value.
(To correct a value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
(6) Turn the power OFF and back ON in the normal mode. Then make a copy in the one touch adjustment “MARKER” mode.
(7) If the desired image quality has not been attained, repeat step (1) to (6).

8.6.11 Beam level conversion setting

The beam level for 4 divided smoothing is set at the Black Mode. This adjustment enables to adjust the dot size.

<Adjustment Mode (05)>

Code	Item to be adjusted	Remarks
667-0	Beam level 0/4	The smaller the value is, the smaller the beam width becomes. Therefore, the smaller dot is reproduced accordingly. Acceptable values: 0 to 255 (Default: Level 0/4: 0, Level 1/4: 63, Level 2/4: 127, Level 3/4: 191, Level 4/4: 255)
667-1	Beam level 1/4	
667-2	Beam level 2/4	
667-3	Beam level 3/4	
667-4	Beam level 4/4	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustments according to the following procedure.

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in a sub-code and press the [START] button.
(4) Key in an adjustment value.
(To correct a value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
(6) Press the [FAX] button and then press the [START] button to make a test copy.
(7) If the desired image quality has not been attained, repeat step (2) to (6).

Notes:

1. When this adjustment was performed, perform “Automatic gamma adjustment (black) (05-580)” as well because the density reproduction level in the black mode will vary. In addition to performing the code 05-580, perform the code 05-1642 or 05-1644 individually because the result of this adjustment will not be reflected to the color & black integrated pattern.
2. After this adjustment, set “1” in 08-595 so that the correction result of the Black Mode is not reflected on “Automatic Calibration”.
3. The setting value must increase as the beam level number (0 to 4) becomes higher. Do not increase this order when setting the values.
4. Usually, beam level 4 / 4 is most effective on black mode.

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8.6.12 Maximum toner density adjustment to paper type

The maximum toner amount adhering to the paper can be controlled.

<Adjustment Mode (05)>

Code	Paper type	Remarks
1612	Plain paper 1	The smaller the value is, the toner amount adhered decreases of the high density area (ex. prevention of fusing offsetting, etc.). Acceptable values: 0 to 255 (Default: Plain paper: 255, Recycled paper: 255, Thick paper 1: 255, Thick paper 2: 255, Thick paper 3: 255, Thick paper 4: 255, special paper 1: 255, special paper 2: 255, OHP film: 240)
7903	Plain paper 2	
1619	Recycled paper	
1613	Thick paper 1	
1614	Thick paper 2	
1615	Thick paper 3	
1620	Thick paper 4	
1617	Special paper 1	
1618	Special paper 2	
1616	OHP film	

Note:
The larger the value is, the more frequently fusing offsetting occurs.

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

8.6.13 Maximum text density adjustment

The maximum text density of each color at Full Color Mode can be adjusted as follows.

<Adjustment Mode (05)>

Color	Code	Item to be adjusted	Remarks
Yellow	1630	Maximum text density	The larger the value is, the darker the maximum text density of each color to be adjusted becomes. Acceptable values: 0 to 10 (Default: 5)
Magenta	1631		
Cyan	1632		
Black	1633		

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustments according to the following procedure.

Note:
Be sure that this adjustment is made after performing 📖 P.8-40 "8.6.1 Automatic gamma adjustment".

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

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8.6.14 Text/Photo reproduction level adjustment

Text/Photo reproduction level at the Full color mode, Auto color mode and Gray scale mode can be adjusted.
Text/Photo reproduction level adjustment can be switched to “Photo oriented 1”, “Photo oriented 2”, “Text oriented 1” or “Text oriented 2” in the following codes.

<Adjustment Mode (05)>

Mode	Mode	Item to be adjusted	Contents
Text/Photo	User custom		
1725	7841	Text/Photo reproduction level adjustment	0: Default 1: Photo oriented 2 (The printed image reproduction level higher than that of the Photo oriented 1) 2: Photo oriented 1 (The printed image reproduction level higher than that of the Default) 3: Equivalent to the Default 4: Text oriented 1 (The text reproduction level higher than that of the Default) 5: Text oriented 2 (The text reproduction level higher than that of the Text oriented 1)

Notes:

- The text reproduction level is lower when the mode is switched from the default value to the Photo oriented 1 or Photo oriented 2. (The text reproduction level in Photo oriented 2 is lower than that in Photo oriented 1.)
- Changing the setting value from default value to the Text oriented 1 or Text oriented 2 causes image noise in the printed photo image with few lines per inch. (Photo oriented 2 causes more image noise than Photo oriented 1.)

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

8.6.15 Black reproduction switching at the Twin color copy mode

Black reproduction can be switched at the Twin color (Black/Red) copy mode.

<Adjustment Mode (05)>

Mode	Code	Item to be adjusted	Remarks
Twin color copy mode (Black/Red)	1761	Black reproduction switching	0: Default 1: Black reproduction oriented

Note:

The boundary between Red and Black may not be smooth when the setting value is “1”.

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

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8.6.16 Black header density level adjustment

The density level of headers in the black mode is adjusted.

<Adjustment Mode (05)>

Mode	Code	Original mode	Remarks
Full Color/ ACS color	7811	Text/Photo	The larger the value is, the darker the headers become. However, the density level differs depending on the modes. Acceptable values: 0 to 8 (Default: 0) Refers to the table specified by default when 0 is set. The default table is: Text/Photo:4 Text:5 User custom:4
	7812	Text	
Full Color	7816	User custom	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

<Procedure>
The procedure is the same as that of 📖 P.8-42 "8.6.2 Density adjustment".

8.6.17 Black area adjustment in twin color copy mode

<Adjustment Mode (05)>

Mode	Code	Item to be adjusted	Remarks
Twin color mode with selected colors	7641-0	High density	The larger the value is, the larger the area recognized as black in the original becomes. The smaller the value is, the larger the area recognized as the color other than black becomes. Acceptable values: 0 to 255 (Default: 128)
	7641-1	Medium density	
	7641-2	Low density	
Twin color mode (Black and red)	7642-0	High density	The larger the value is, the larger the black area becomes. The smaller the value is, the larger the red area becomes. Acceptable values: 0 to 255 (Default: 128)
	7642-1	Medium density	
	7642-2	Low density	

<Procedure>
The procedure is the same as that of 📖 P.8-43 "8.6.3 Color balance adjustment".

8.6.18 Judgment threshold adjustment for blank original

The judgment level is adjusted for automatic identification of whether the original set is blank or not. This adjustment is made when “Omit Blank Page” is selected on the control panel.
The adjustment value is simultaneously applied to all modes at PPC and NW scanning.

<Adjustment Mode (05)>

Code	Item to be adjusted	Remarks
7618	Judgment threshold adjustment for blank original	The larger the value is, the more an original tends to be judged as a bank sheet. Acceptable values: 0 to 255 (Default: 128)

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8.6.19 Background offsetting adjustment for ADF

The background level for scanning originals with the ADF is adjusted when the background fogging at the scanning of the manually-set original and the original used with the ADF is different.This is to adjust the level of the background image removed when the scanning of the originals with the ADF is performed.

<Adjustment Mode (05)>

Color mode	Code	Remarks
Full Color	7764	The larger the value is, the lighter the background density becomes. Acceptable values: 0 to 255 (Default: 128)
Mono Color	7765	
Twin Color mode	7766	
ACS Black	7675	
Black	7025	

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8.7 Image Quality Adjustment (Printing Function)

8.7.1 Automatic gamma adjustment

When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment. In case the gradation reproduction of the image checked is not satisfactory, make this adjustment as described below at parts replacement.

1. When unpacking or any of the following parts has been replaced, be sure to make this adjustment:
   - Photoconductive drum
   - Developer material
   - Laser optical unit
   - Transfer belt
   - 1st transfer roller
   - Drum cleaning blade
   - Needle electrode
   - Main charger grid
   - Image position aligning sensor
   - Image quality sensor
   - SRAM board (LGC board, SYS board)

2. When any of the following parts are replaced or adjusted, make a print and check the image to determine if adjustment is necessary:
   - 2nd transfer roller

   Note:
   Be sure that this adjustment be made after performing the image adjustment in 📖 P.8-12 "8.5.3 Performing Image Quality Control (IQC)" and 📖 P.8-15 "8.5.5 Image Dimensional Adjustment (General description)".

<Adjustment Mode (05)>

Code (600dpi)	Code (1200dpi)	Paper type	Remarks
1004-0	1005-0	Plain paper 1	When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment.
1004-1	1005-1	Plain paper 2	
1004-2	1005-2	Recycled paper	
1004-3	1005-3	Thick paper 1	
1004-4	1005-4	Thick paper 2	
1004-5	1005-5	Thick paper 3	
1004-6	1005-6	Thick paper 4	
1004-7	1005-7	Special paper 1	
1004-8	1005-8	Special paper 2	
1008	1009	All type paper*	

* If the code 1008 (600dpi) or 1009 (1200dpi) is performed, the adjustment will be applied to all paper types.

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<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode

(2) Select the A4/LT drawer. Key in the pattern number and press the [FAX] button to output a “Patch chart for gamma adjustment”

Pattern No.	Paper type	Remarks
70	Plain paper 1	Used when the code 1004-0 is performed (600dpi)
72	Plain paper 2	Used when the code 1004-1 is performed (600dpi)
74	Recycled paper	Used when the code 1004-2 is performed (600dpi)
76	Thick paper 1	Used when the code 1004-3 is performed (600dpi)
78	Thick paper 2	Used when the code 1004-4 is performed (600dpi)
80	Thick paper 3	Used when the code 1004-5 is performed (600dpi)
82	Thick paper 4	Used when the code 1004-6 is performed (600dpi)
84	Special paper 1	Used when the code 1004-7 is performed (600dpi)
86	Special paper 2	Used when the code 1004-8 is performed (600dpi)
230	Plain paper 1	Used when the code 1005-0 is performed (1200dpi)
232	Plain paper 2	Used when the code 1005-1 is performed (1200dpi)
234	Recycled paper	Used when the code 1005-2 is performed (1200dpi)
236	Thick paper 1	Used when the code 1005-3 is performed (1200dpi)
238	Thick paper 2	Used when the code 1005-4 is performed (1200dpi)
240	Thick paper 3	Used when the code 1005-5 is performed (1200dpi)
242	Thick paper 4	Used when the code 1005-6 is performed (1200dpi)
244	Special paper 1	Used when the code 1005-7 is performed (1200dpi)
246	Special paper 2	Used when the code 1005-8 is performed (1200dpi)

Note:
However, this is applied to all paper types when 05-1008 (600dpi) or 05-1009 (1200dpi) is performed.

Code	Remarks
08-9059	0: No paper selecting buttons displayed 1: Paper selecting buttons displayed. (For both Copy and Printer)

(3) Place the patch chart for adjustment printed in step (2) face down on the original glass, with its side, on which two black squares are present, aligned against the original scale.

(4) Key in a code and press the [START] button. → The scanner reads the chart automatically and performs automatic gamma adjustment calculation.

(5) When the adjustment has finished normally, “ENTER” is shown.
Press the [ENTER] button to have the adjustment results reflected.
(To cancel the reflection of adjustment results, press the [CANCEL] button.)
In the case of an abnormal ending, “ADJUSTMENT ERROR” is shown. Press the [CANCEL] button to clear the error display.
When it is cleared, the control panel display will return to the ready state. Then, check if the patch chart on the original glass is placed in the wrong direction or if it is placed inclined on the original glass, and then repeat step (3) and afterward.

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8.7.2 Gamma balance adjustment (Black Mode)

The gamma balance is adjusted by adjusting the density at the Black Mode. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color mode	Smooth (PS)	Detail (PS)	Smooth (PCL)	Detail (PCL)	Smooth (XPS)	Detail (XPS)	Item to be adjusted	Remarks
Black (600dpi)	7315-0	7316-0	7317-0	7318-0	7319-0	7320-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7315-1	7316-1	7317-1	7318-1	7319-1	7320-1	Medium density	
	7315-2	7316-2	7317-2	7318-2	7319-2	7320-2	High density	
Black (1200dpi)	7309-0	7310-0	---	---	---	---	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7309-1	7310-1	---	---	---	---	Medium density	
	7309-2	7310-2	---	---	---	---	High density	

Notes:

- Be sure that this adjustment be made after performing 📖 P.8-55 "8.7.1 Automatic gamma adjustment".
- Changing the adjustment setting influences the adjacent density area slightly.
  E.g.: When the value of the medium density is larger, the adjacent areas in the low density and high density range will become slightly darker.

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes to be adjusted (language and screen) and press the [START] button.
(3) Key in the value corresponding to the density area to be adjusted (0, 1 or 2) and press the [START] button.
  0: Low density (L) 1: Medium density (M) 2: High density (H)
(4) Key in the adjustment value. (To correct the value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(6) For resetting the value, repeat step (2) to (5).
(7) Let the equipment restart and perform the printing job.
(8) If the image density has not been attained, repeat step (1) to (7).

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<Range of the density area (low density, medium density, high density)>
The color from the 1st to the 7th stage (low density), from the 8th to the 11th stage (medium density) and from the 12th to the 13th stage (high density) in “Patch chart for gamma adjustment ([71] [FAX])” output in “8.7.1Automatic gamma adjustment” can be used as a guide for the range of the density area influenced by the adjustment with the change of the adjustment value (low density, medium density, high density).

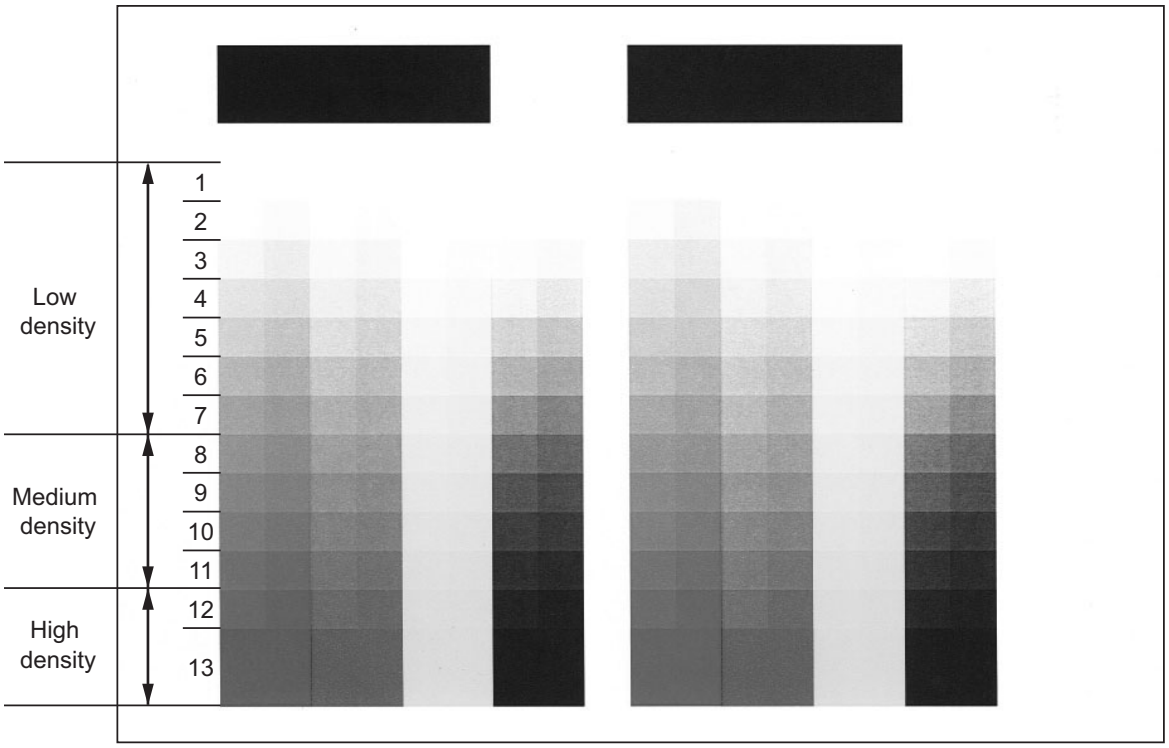

Fig. 8-31

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8.7.3 Color balance adjustment

The color balance is adjusted by adjusting the density of each color. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color	PS		PCL		XPS		Density	Remarks
	Smooth	Detail	Smooth	Detail	Smooth	Detail		
Yellow (600dpi)	8050-0	8054-0	8058-0	8062-0	8042-0	8046-0	Low	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128)
	8050-1	8054-1	8058-1	8062-1	8042-1	8046-1	Medium	
	8050-2	8054-2	8058-2	8062-2	8042-2	8046-2	High	
Magenta (600dpi)	8051-0	8055-0	8059-0	8063-0	8043-0	8047-0	Low	
	8051-1	8055-1	8059-1	8063-1	8043-1	8047-1	Medium	
	8051-2	8055-2	8059-2	8063-2	8043-2	8047-2	High	
Cyan (600dpi)	8052-0	8056-0	8060-0	8064-0	8060-0	8048-0	Low	
	8052-1	8056-1	8060-1	8064-1	8060-1	8048-1	Medium	
	8052-2	8056-2	8060-2	8064-2	8060-2	8048-2	High	
Black (600dpi)	8053-0	8057-0	8061-0	8065-0	8061-0	8049-0	Low	
	8053-1	8057-1	8061-1	8065-1	8061-1	8049-1	Medium	
	8053-2	8057-2	8061-2	8065-2	8061-2	8049-2	High	
Yellow (1200dpi)	8268-0	8272-0	---	---	---	---	Low	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128)
	8268-1	8272-1	---	---	---	---	Medium	
	8268-2	8272-2	---	---	---	---	High	
Magenta (1200dpi)	8269-0	8273-0	---	---	---	---	Low	
	8269-1	8273-1	---	---	---	---	Medium	
	8269-2	8273-2	---	---	---	---	High	
Cyan (1200dpi)	8270-0	8274-0	---	---	---	---	Low	
	8270-1	8274-1	---	---	---	---	Medium	
	8270-2	8274-2	---	---	---	---	High	
Black (1200dpi)	8271e-0	8275-0	---	---	---	---	Low	
	8271-1	8275-1	---	---	---	---	Medium	
	8271-2	8275-2	---	---	---	---	High	

Notes:

- Be sure that this adjustment be made after performing 📖 P.8-55 "8.7.1 Automatic gamma adjustment".
- Changing the adjustment setting influences the adjacent density area slightly.
  E.g.: When the value of the medium density is larger, the adjacent areas in the low density and high density range will become slightly darker.

<Procedure>
The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

<Range of the density area (low density, medium density, high density)>
The color from the 1st to the 7th stage (low density), from the 8th to the 11th stage (medium density) and from the 12th to the 13th stage (high density) in “Patch chart for gamma adjustment ([71] [FAX])” output in “8.7.1Automatic gamma adjustment” can be used as a guide for the range of the density area influenced by the adjustment with the printer driver and the change of the adjustment value (low density, medium density, high density (Refer to P.8-58 "Fig. 8-31").

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8.7.4 Adjustment of faint text

The faint text can be improved in the following codes.

<Adjustment Mode (05)>

Black mode			Color mode			Remarks
PS	PCL	XPS	PS	PCL	XPS	
7340	7341	7342	8130	8131	8132	When the small characters or fine lines in a halftone image are faint, they can be improved by increasing the value to raise the density level. Acceptable values: 0 to 8 (Default: 0)

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes to be adjusted and press the [START] button.
(3) Key in the adjustment value. (To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(5) For resetting the value, repeat step (2) to (4).
(6) Let the equipment restart and perform the printing job.
(7) If the desired image has not been attained, repeat step (1) to (6).

8.7.5 Upper limit value at Toner Saving Mode

The upper limit value is adjusted at the Toner Saving Mode.

<Adjustment Mode (05)>

Color	PS	PCL	XPS	Remarks
Black mode (600dpi)	664-0	664-1	664-2	The smaller the value is, the lighter the density of image becomes. Acceptable values: 0 to 255
Color mode (600dpi)	1055-0	1055-1	1055-2	
Black mode (1200dpi)	7302-0	7302-1	7302-2	
Color mode (1200dpi)	8161-0	8161-1	8161-2	

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

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8.7.6 Maximum toner density adjustment (OHP)

The maximum toner amount adhering can be controlled.

<Adjustment Mode (05)>

Code	Paper type	Remarks
1050	OHP film (600dpi)	The smaller the value is, the toner amount adhered decreases of the high density area (ex. prevention of fusing offsetting, etc.). Acceptable values: 0 to 255
8149	OHP film (1200dpi)	

<Procedure>

The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

Note:

The larger the value is, the more frequently fusing offsetting occurs.

8.7.7 Fine line enhancement switchover

<Adjustment Mode (05)>

<e-Bridge>

Black mode			Color mode			Remarks
PS	PCL	XPS	PS	PCL	XPS	
7322-0	7322-1	7322-2	8102-0	8102-1	8102-2	Whether fine lines are enhanced or not can be switched. 0: OFF 1: ON (default)

<EFI>

Black mode			Color mode			Remarks
PS	PCL	XPS	PS	PCL	XPS	
7323-0	7323-1	7323-2	8103-0	8103-1	8103-2	Whether fine lines are enhanced or not can be switched. 0: OFF 1: ON (default)

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

8.7.8 “PureBlack/PureGray” threshold adjustment (PS)

<Adjustment Mode (05)>

Original mode					Item to be adjusted	Remarks
General	Photographic	Presentation	Line art	Advanced		
8252-0	8252-1	8252-2	8252-3	8252-4	Text	The larger the value is, the wider the color range to be printed only with the black toner becomes. The smaller the value is, the narrower this color range becomes. Acceptable values: 1 to 255
8253-0	8253-1	8253-2	8253-3	8253-4	Graphics	
8254-0	8254-1	8254-2	8254-3	8254-4	Image	

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

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8.7.9 “PureBlack/PureGray” threshold adjustment (PCL)

<Adjustment Mode (05)>

Original mode				Item to be adjusted	Remarks
General	Photographic	Presentation	Line art		
8210-0	8210-1	8210-2	8210-3	Text	The larger the value is, the wider the color range to be printed only with the black toner becomes. The smaller the value is, the narrower this color range becomes. Acceptable values: 1 to 255
8211-0	8211-1	8211-2	8211-3	Graphics	
8212-0	8212-1	8212-2	8212-3	Image	

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

8.7.10 “PureBlack/PureGray” threshold adjustment (XPS)

<Adjustment Mode (05)>

Original mode					Item to be adjusted	Remarks
General	Photographic	Presentation	Line art	Advanced		
8249-0	8249-1	8249-2	8249-3	8249-4	Text	The larger the value is, the wider the color range to be printed only with the black toner becomes. The smaller the value is, the narrower this color range becomes. Acceptable values: 1 to 255
8250-0	8250-1	8250-2	8250-3	8250-4	Graphics	
8251-0	8251-1	8251-2	8251-3	8251-4	Image	

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

8.7.11 “PureBlack/PureGray” threshold adjustment (Twin color print)

<Adjustment Mode (05)>

Code	Paper type	Remarks
8213	Text	The larger the value is, the wider the color range to be printed only with the black toner becomes. The smaller the value is, the narrower this color range becomes. Acceptable values: 1 to 255
8214	Graphics	
8215	Image	

<Procedure>

The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

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8.7.12 Toner limit threshold adjustment

<Adjustment Mode (05)>

<600dpi>

Smooth (PS/PCL/XPS)	Detail (PS/PCL/XPS)	Paper type	Remarks
8071-0	8070-0	Plain paper 1	The larger the value is, the darker the image in the high density area becomes. Acceptable values: 0 to 255
8071-1	8070-1	Plain paper 2	
8071-2	8070-2	Recycled paper	
8071-3	8070-3	Thick paper 1	
8071-4	8070-4	Thick paper 2	
8071-5	8070-5	Thick paper 3	
8071-6	8070-6	Thick paper 4	
8071-7	8070-7	Special paper 1	
8071-8	8070-8	Special paper 2	
8071-9	8070-9	OHP film	

<1200dpi>

Smooth (PS)	Detail (PS)	Paper type	Remarks
8090-0	8089-0	Plain paper 1	The larger the value is, the darker the image in the high density area becomes. Acceptable values: 0 to 255
8090-1	8089-1	Plain paper 2	
8090-2	8089-2	Recycled paper	
8090-3	8089-3	Thick paper 1	
8090-4	8089-4	Thick paper 2	
8090-5	8089-5	Thick paper 3	
8090-6	8089-6	Thick paper 4	
8090-7	8089-7	Special paper 1	
8090-8	8089-8	Special paper 2	
8090-9	8089-9	OHP film	

8.7.13 Screen switchover

<Adjustment Mode (05)>

Code	Remarks
8176	The level of screen ruling shown in the screen selecting menu of the printer driver can be switched. 0: High screen ruling value (smoother image) 1: Low screen ruling value (rougher image)
8179 (EFI Printer Board)	

<Procedure>

The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

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8.7.14 Sharpness adjustment

This adjustment is applied when images need to be softer or sharper.
The adjustment is available for each original mode.

<Adjustment Mode (05)>

Black	General	Photo	Present ation	Line art	EFI	Item to be adjusted	Remarks
8118-0	8110-0	8111-0	8112-0	8113-0	8119-0	Text	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes. Acceptable values: 0 to 255 (Default: 128)
8118-1	8110-1	8111-1	8112-1	8113-1	8119-1	Graphics	
8118-2	8110-2	8111-2	8112-2	8113-2	8119-2	Image	

<Procedure>
The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

8.7.15 Adjustment of smudged text (1200 dpi)

The smudged text can be improved in the following codes.

<Adjustment Mode (05)>

Code	Remarks
654	The larger the value is, the lighter the small text and fine lines become and the more smudged text is suppressed. 0: Smudged text is suppressed most 9: Faint text is suppressed most Acceptable values: 0 to 9

<Procedure>
The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

8.7.16 Thin line width lower limit adjustment

<Adjustment Mode (05)>

Code	Remarks
8240 (600dpi)	Sets the lower limit value of the thin line width when “Distinguish Thin Lines” is selected in the screen selecting menu of the printer driver. The larger the value is, the thicker (darker) the thin line becomes. Acceptable values: 1 to 9 (Default: 2(600dpi), 4(1200dpi))
8241 (1200dpi)	

<Procedure>
The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

8.7.17 Color/black judgment setting for twin color printing images

<Adjustment Mode (05)>

Code	Remarks
8218	Sets whether or not to replace the image object with black at the time of twin color printing. 0: OFF 1: ON (replacing with black)

<Procedure>
The procedure is the same as that of 📖 P.8-60 "8.7.4 Adjustment of faint text".

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8.7.18 Background adjustment

The density of background can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	PS		PCL		XPS		Remarks
	Smooth	Detail	Smooth	Detail	Smooth	Detail	
Color (600dpi)	8010-0	8013-0	8010-1	8013-1	8010-2	8013-2	The larger the value, the darker the background becomes. The smaller the value, the lighter the background becomes. Acceptable value: 0 to 255 (Default: 128)
Twin color (600dpi)	8011-0	8014-0	8011-1	8014-0	8011-2	8014-2	
Black (600dpi)	8012-0	8015-0	8012-1	8015-1	8012-2	8015-2	
Color (1200dpi)	8016-0	8019-0	8016-1	8019-1	8016-2	8019-2	
Twin color (1200dpi)	8017-0	8020-0	8017-1	8020-1	8017-2	8020-2	
Black (1200dpi)	8018-0	8021-0	8018-1	8021-1	8018-2	8021-2	

<Procedure>

The procedure is the same as that of 📖 P.8-57 "8.7.2 Gamma balance adjustment (Black Mode)".

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8.8 Image Quality Adjustment (Scanning Function)

8.8.1 Gamma balance adjustment

The gamma balance at the Black Mode is adjusted by adjusting the density. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Black				Gray Scale	Item to be adjusted	Remarks
Original mode						
Text/ Photo	Text	Photo	User custom			
880-0	881-0	882-0	7480-0	883-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
880-1	881-1	882-1	7480-1	883-1	Medium density	
880-2	881-2	882-2	7480-2	883-2	High density	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the code corresponding to the desired original mode and press the [START] button.
(3) Key in the value corresponding to the density area to be adjusted (0, 1 or 2) and press the [START] button.
0: Low density (L), 1: Medium density (M), 2: High density (H)
(4) Key in the adjustment value. (To correct the value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(6) For resetting the value, repeat step (2) to (5).
(7) Let the equipment restart and perform the scanning job.
(8) If the desired image has not been attained, repeat step (1) to (7).

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8.8.2 Density adjustment

Adjusts the center density and the variation of density adjustment buttons.

<Adjustment Mode (05)>

Color Mode	Original mode				Item to be adjusted	Remarks
	Text	Photo	Printed image	User custom		
Color	8340	8341	8342	8380	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	8344	8345	8346	8381	Manual density light step value	Sets the changing amount by 1 step at the density adjustment on the control panel. The larger the value is, the lighter the light side becomes. Acceptable values: 0 to 255 (Default: 20)
	8348	8349	8350	8382	Manual density dark step value	Sets the changing amount by 1 step at the density adjustment on the control panel. The larger the value is, the darker the dark side becomes. Acceptable values: 0 to 255 (Default: 20)

<Adjustment Mode (05)>

Black				Gray Scale	Item to be adjusted	Remarks
Original mode						
Text/ Photo	Text	Photo	User custom			
845	846	847	7475	848	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
860	861	862	7478	863	Automatic density	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in an adjustment value (acceptable values: 0 to 255).
(To correct a value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(5) Let the equipment restart and perform the scanning.
(6) If the desired image quality has not been attained, repeat step (1) to (5).

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8.8.3 Background adjustment (Color Mode)

The adjustment level of background center value is adjusted. The control value of background adjustment button is automatically adjusted to the same level as the adjusted center value.
For example, when the control value of background adjustment key ranges from 0 to 6, the background center value (-2 to +2) is used to be the range from 6 to 14 accordingly.

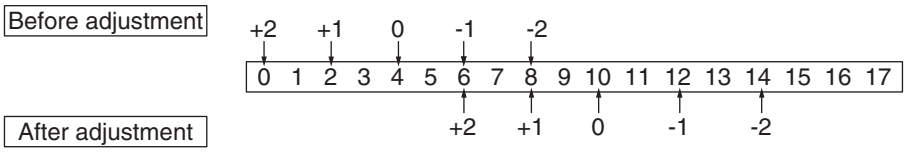

Fig. 8-32

<Adjustment Mode (05)>

Code	Original mode	Remarks
1070	Text	The smaller the value is, the background becomes lighter. Acceptable values: 0 to 50 (Default: 50)
1071	Printed Image	
1072	Photo	
8370	User custom	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes and press the [START] button.
(3) Key in the adjustment values. Acceptable values: 0 to 50. (To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(5) Let the equipment restart and perform the scanning job.
(6) If the desired image has not been attained, repeat step (1) to (5).

8.8.4 Judgment threshold for ACS (common for copy & network scan)

The judgment level is adjusted for the automatic identification of whether the original set on the glass is black or color. Namely, this is to adjust the judgment level used when “Auto Color” is selected at color modes. The same adjustment value will be applied to all cases of the copying, network scanning, RADF scanning and manual scanning (using the original glass) simultaneously.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents
1675	Judgment threshold for ACS	The larger the value is, the more an original tends to be judged as black even at the Auto Color Mode. The smaller the value is, the more it tends to be judged as color. Acceptable values: 0 to 255 (Default: 70)

<Procedure>:
The procedure is the same as that of 🕮 P.8-67 "8.8.2 Density adjustment".

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8.8.5 Sharpness adjustment

If you want to make scan images look softer or sharper, perform the following adjustment. The adjustment can be made for each of the color modes and original modes independently.

<Adjustment Mode (05)>

Code	Color mode	Original mode	Contents
1086	Full Color	Text	• The larger the value is, the sharper the image becomes; while the smaller the value is, the softer the image becomes. • The smaller the value is, the less moire tends to appear. • The acceptable values are 0 to 255. The center value is 128.
1087		Printed Image	
1088		Photo	
8375		User custom	
840	Black	Text/Photo	
841		Text	
842		Photo	
7470		User custom	
843	Gray Scale	-	

Note:
You have to make adjustment by balancing between moire and sharpness.

<Procedure>
The procedure is the same as that of 📖 P.8-67 "8.8.2 Density adjustment".

8.8.6 Setting range correction

The values of the background peak in the range correction can be switched to “varied” or “fixed” in the following codes.
If they are fixed, the range correction is performed with standard values.

<Adjustment Mode (05)>

Color mode	Original mode				Gray Scale	Item to be adjusted	Remarks
	Text/ Photo	Text	Photo	User custom			
Black	7416	7417	7418	7425	7419	Range correction (Automatic density adjustment)	0: Background peak - fixed 1: Background peak - varied
	7421	7422	7423	7426	7424	Range correction (Manual density adjustment)	

Color mode	Original mode				Item to be adjusted	Remarks
	Text	Printed image	Photo	User custom		
Color	8330	8331	8332	8334	Range correction (Automatic density adjustment)	0: Background peak - fixed 1: Background peak - varied
	8361	8362	8363	8365	Range correction (Manual density adjustment)	

<Procedure>
The procedure is the same as that of 📖 P.8-67 "8.8.2 Density adjustment".

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8.8.7 Fine adjustment of black density

The density of black side on scanned image is adjusted at color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
1075	Text	The larger the value is, the black side of the image becomes darker. Acceptable values: 0 to 4 (Default: 0)
1076	Printed Image	
1077	Photo	
8371	User custom	

Note:

Be careful for the value not to be too large since the gradation is reproduced worse in darker side.

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes and press the [START] button.
(3) Key in the adjustment values. Acceptable values: 0 to 4. (To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
(5) Let the equipment restart and perform the scanning job.
(6) If the desired image has not been attained, repeat step (1) to (5).

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8.8.8 RGB conversion method selection

The color space conversion method of image is decided at color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
1080	Text	0: sRGB, 1: AppleRGB, 2: ROMMRGB, 3: AdobeRGB (Default: 0)
1081	Printed Image	
1082	Photo	
8372	User custom	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes and press the [START] button.
(3) Key in the adjustment values. Acceptable values: 0 to 3. (To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in memory.→ The equipment goes back to the ready state.
(5) Let the equipment restart and perform the scanning job.
(6) If the desired image has not been attained, repeat step (1) to (5).

8.8.9 Adjustment of saturation

The brightness of the scanned image is adjusted at color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
8325	Text	The larger the value is, the brighter the image becomes. The smaller the value is, the duller the image becomes. Acceptable values: 0 to 255 (Default: 128)
8326	Printed Image	
8327	Photo	
8373	User custom	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in the codes and press the [START] button.
(3) Key in the adjustment values. Acceptable values: 0 to 255.
(To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value in the memory. → The equipment goes back to the ready state.
(5) Let the equipment restart and perform the scanning job.
(6) If the desired image has not been attained, repeat step (1) to (5).

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8.8.10 Background processing offset adjustment

The density of background is adjusted.

<Adjustment Mode (05)>

Black				Item to be adjusted	Remarks
Original mode					
Text/ Photo	Photo	Gray Scale	User Custom		
8400	8402	8403	8404	Background density adjustment / Automatic density adjustment	The larger the value is, the lower the density of the image background (low density section) becomes.The smaller the value is, the higher the density of the image background (low density section) becomes. Acceptable values: 0 to 255 (Default: 128)
8405	8407	8408	8409	Background density adjustment / Manual density adjustment	

Color				Item to be adjusted	Remarks
Original mode					
Text	Photo	Printed Image	User Custom		
8385	8386	8387	8389	Background density adjustment / Automatic density adjustment	The larger the value is, the lower the density of the image background (low density section) becomes.The smaller the value is, the higher the density of the image background (low density section) becomes. Acceptable values: 0 to 255 (Default: 128)
8390	8391	8392	8394	Background density adjustment / Manual density adjustment	

ADF		Item to be adjusted	Remarks
Black/ Gray Scale	Color		
7468	8395	Background density processing / ADF scanning	Adjusts the density of background for ADF scanning. The larger the value is, the lower the density of the background and the low density section (e.g. light text or lines) becomes. The smaller the value is, the higher the density of them becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of 📖 P.8-67 "8.8.2 Density adjustment".

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8.9 Image Quality Adjustment (FAX Function)

8.9.1 Density adjustment

The center density and the density variation controlled by density adjustment keys can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/ Photo	Text *	Photo		
Black	714	700	710	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	729	-	725	Automatic density mode	

* Since the gradation in this mode is reproduced in a binary image (black and white), this adjustment should be a simple binary threshold adjustment.

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in an adjustment value.
(To correct the value once keyed in, press the [CLEAR] button.)
(4) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
(5) Turn the power OFF.

<Confirmation>
If possible, perform a Fax transmission and check the adjusted density with the image on the recipient's side.

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8.9.2 Beam level conversion setting

A beam level for smoothing process (divided into 4) in the fax function can be set. In this setting the size of dots is adjusted.

<Adjustment Mode (05)>

Code	Item to be adjusted	Remarks
678-0	Beam level 0/4	The smaller the value is, the smaller the beam width becomes. Therefore, the smaller dot is reproduced accordingly. Acceptable values: 0 to 255 (Default: Level 0/4: 0, Level 1/4: 63, Level 2/4: 127, Level 3/4: 191, Level 4/4: 255)
678-1	Beam level 1/4	
678-2	Beam level 2/4	
678-3	Beam level 3/4	
678-4	Beam level 4/4	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON.
(2) Key in a code and press the [START] button.
(3) Key in a sub-code and press the [START] button.
(4) Key in an adjustment value.
(To correct a value once keyed in, press the [CLEAR] button.)
(5) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
(6) Take the POWER OFF.

<Confirmation>
Check the beam level conversion setting with the actual fax data received, if possible.

Notes:

1. The setting value must increase as the beam level number (0 to 4) becomes higher. Do not increase this order when setting the values.
2. Usually, beam level 4 / 4 is most effective on black mode.

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9. LASER OPTICAL UNIT

9.1 General Description

The laser optical unit radiates the laser beam onto the photoconductive drum responding to the digital image signals transmitted from the scanner, USB, network, etc. to create the latent image. Image signal is converted into the light emission signal of the laser diode on the laser driving PC board (LDR), then radiated on the drum through the optical elements such as cylinder lenses, polygonal mirror and fθ lens. The unit must not be disassembled in the field as they are very sensitive to dust and finely adjusted at the factory.

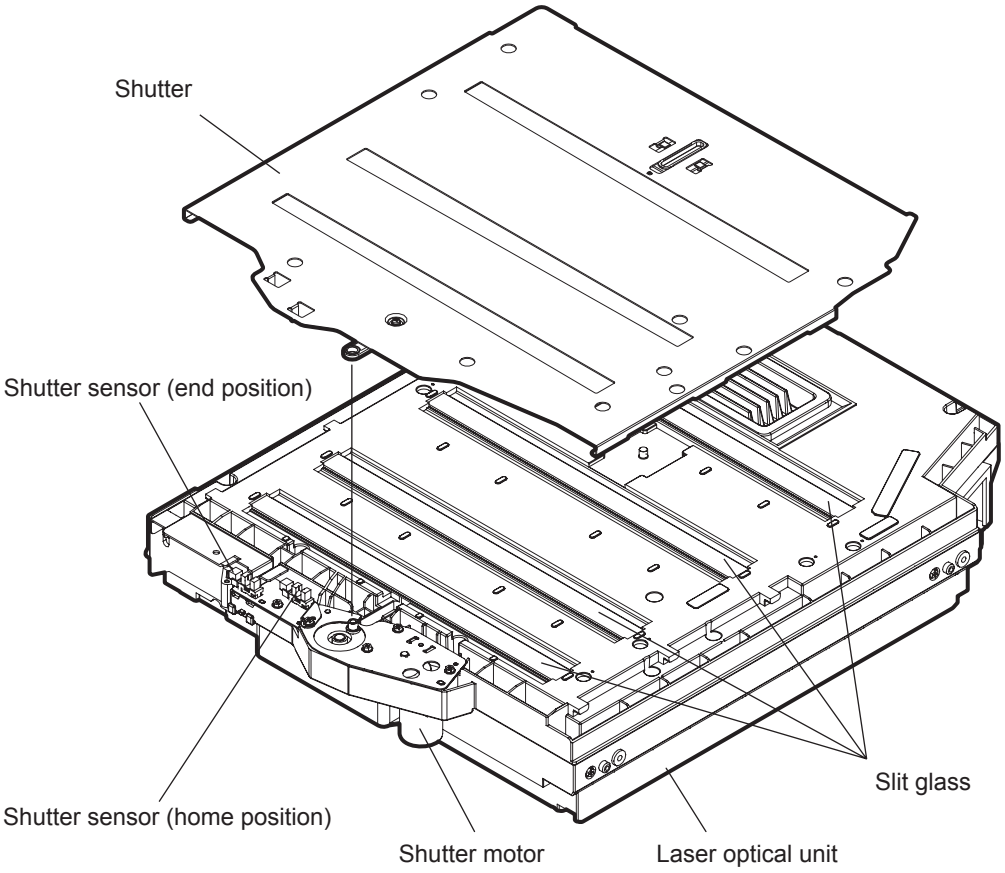

Fig. 9-1

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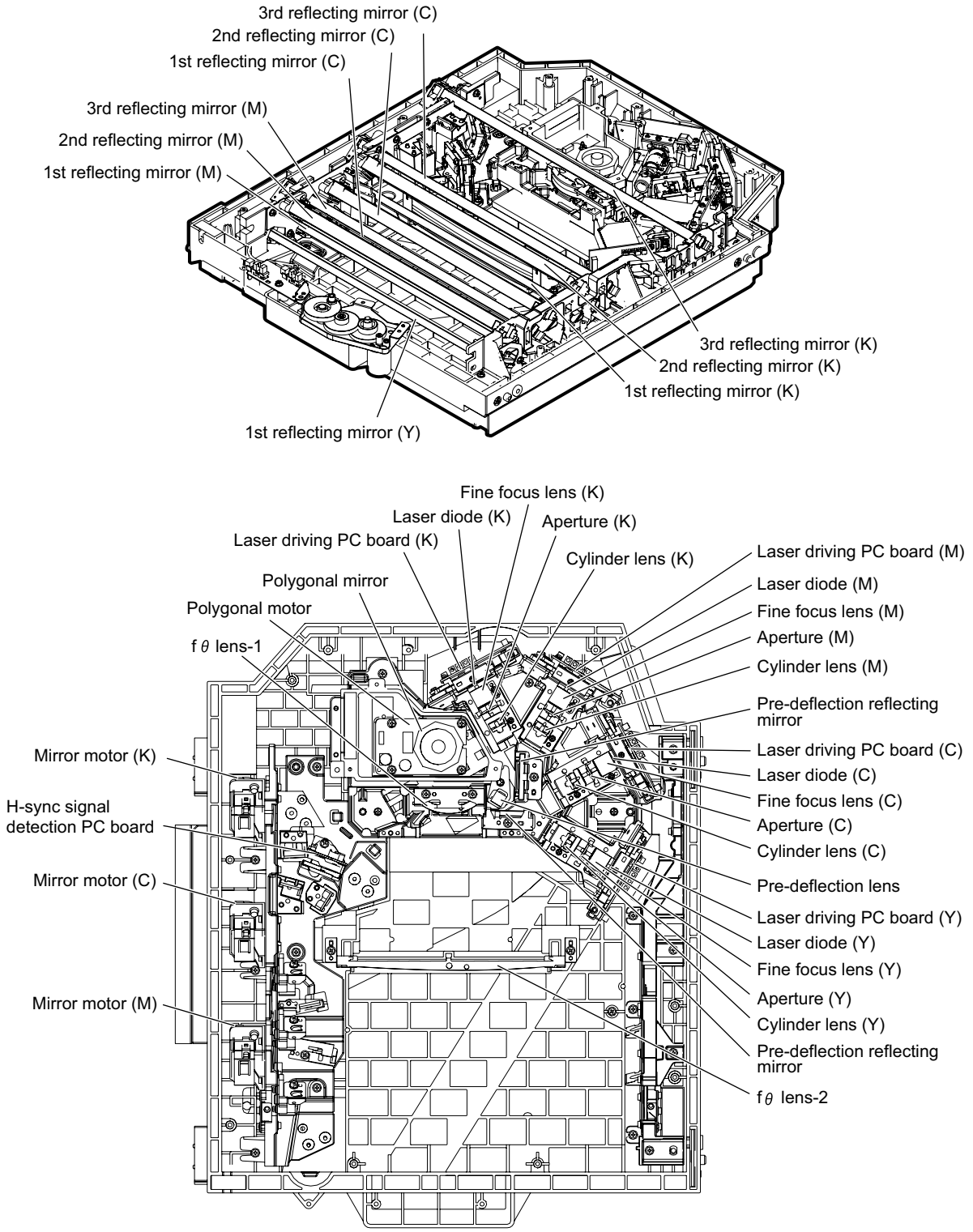

Fig. 9-2

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9.2 Structure

Laser optical unit (4 beams)		
Laser emission unit	Laser diode (4 beam array)	Wavelength: Approx. 785 nm Output power rating: 6 mW
	Fine focus lens	
	Aperture	
	Cylinder lens	
	Laser driving PC board (LDR)	
Polygonal motor unit	Polygonal motor	
	Polygonal mirror	8 planes
	Polygonal mirror cover / base	
fθ lens-1		
fθ lens-2		
Mirror		
Slit glass		
H-sync signal detection PC board (SNS)		

1. Laser emission Unit
   This unit consists of the laser diode, finite focus lens, aperture and cylinder lens.
   - Laser diode
     This laser diode features low droop, small laser variation and low threshold current.
     The aperture limits the primary and secondary scanning laser beam shapes at the laser irradiation position.
     Laser diode radiates the laser beams responding to the laser emission control (ON/OFF) signals from the laser driving PC board (LDR). Laser beams which passed through the finite focus lens are focused on the drum surface.

     This equipment also realizes an improvement in the printing speed by adopting a four beam array laser diode. Four laser beams are emitted from one color laser diode.
     The following images show the laser beam being emitted from the apertures of the laser diode.

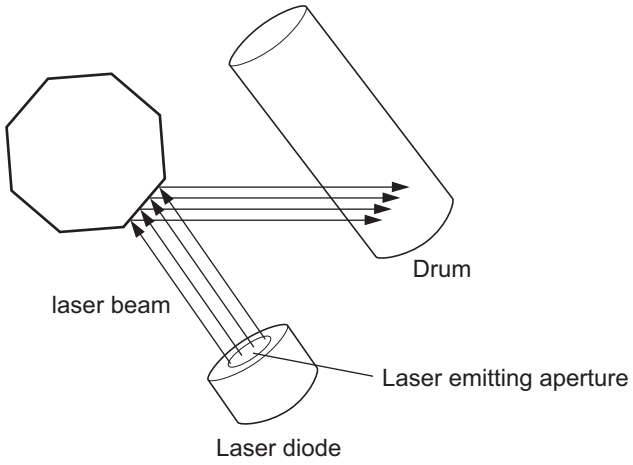

Fig. 9-3

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- Laser precautions
  A laser diode is used for this equipment and radiates an invisible laser beam.
  Since it is not visible, be extremely careful when handling the laser optical unit components, performing operations or adjusting the laser beam. Also never perform the procedure with other than the specified manuals because you could be exposed to the laser radiation.
  The laser optical unit is completely sealed with a protective cover. As long as only the operations of specified manuals are performed, the laser beam is not leaked and you are in no danger of being exposed to laser radiation.

  The following cautionary label for the laser is attached to the frame which you can see when opening the front lower cover.

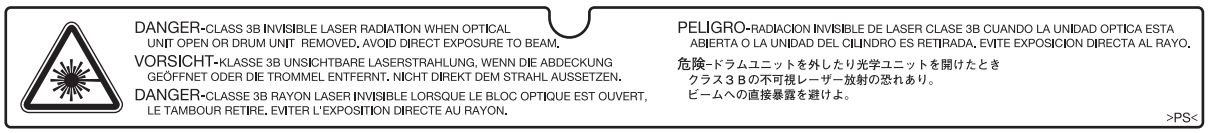

Fig. 9-4

Cautions:
- Avoid expose to laser beam during service. This equipment uses a laser diode. Be sure not to expose your eyes to the laser beam. Do not insert reflecting parts or tools such as a screwdriver on the laser beam path. Remove all reflecting metals such as watches, rings, etc. before starting service.
- When servicing the equipment with the power turned ON, be sure not to touch live sections and rotating/operating sections. Avoid exposing your eyes to laser beam.
- During servicing, be sure to check the rating plate and cautionary labels such as “Unplug the power cable during service”, “CAUTION. HOT”, “CAUTION. HIGH VOLTAGE”, “CAUTION. LASER BEAM”, etc. to see if there is any dirt on their surface and if they are properly stuck to the equipment.

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2. Polygonal motor unit
This unit consists of the polygonal motor, polygonal mirror and polygonal mirror cover.

a. Polygonal motor
This motor rotates the polygonal mirror in high speed. The DC motor controls the rotation speed of the mirror motor as follows:
- e-STUDIO5520C/6520C
  During ready: 10,000.000 rpm
  During printing
  : 23,917.000 rpm
  : 24,300.000 rpm (FAX 15.4x16.0dot/mm)
  : 23,388.700 rpm (FAX 16.0x15.4dot/mm)
- e-STUDIO6530C
  During ready: 10,000.000 rpm
  During printing (color)
  : 23,917.000 rpm
  : 24p,300.000 rpm (FAX 15.4x16.0dot/mm)
  : 23,388.700 rpm (FAX 16.0x15.4dot/mm)
  During printing (black)
  : 30,118.000 rpm
  : 30,600.000 rpm (FAX 15.4×16.0 dot/mm)
  : 29,452.500 rpm (FAX 16.0×15.4 dot/mm)

b. Polygonal mirror
This mirror reflects the emitted laser beams (four beams per color).
As the polygonal mirror is rotated by the polygonal motor, the reflected laser lights moves in sync with the rotation. The direction of the movement is the primary scanning direction of the image. One scan is performed on one plane of the polygonal mirror.
As the polygonal motor has eight planes, eight scans are performed in one rotation.

c. Polygonal mirror cover / base
Polygonal mirror cover reduces the windage loss and noise, prevents adhesion of foreign matters onto the mirror surface and releases heat.

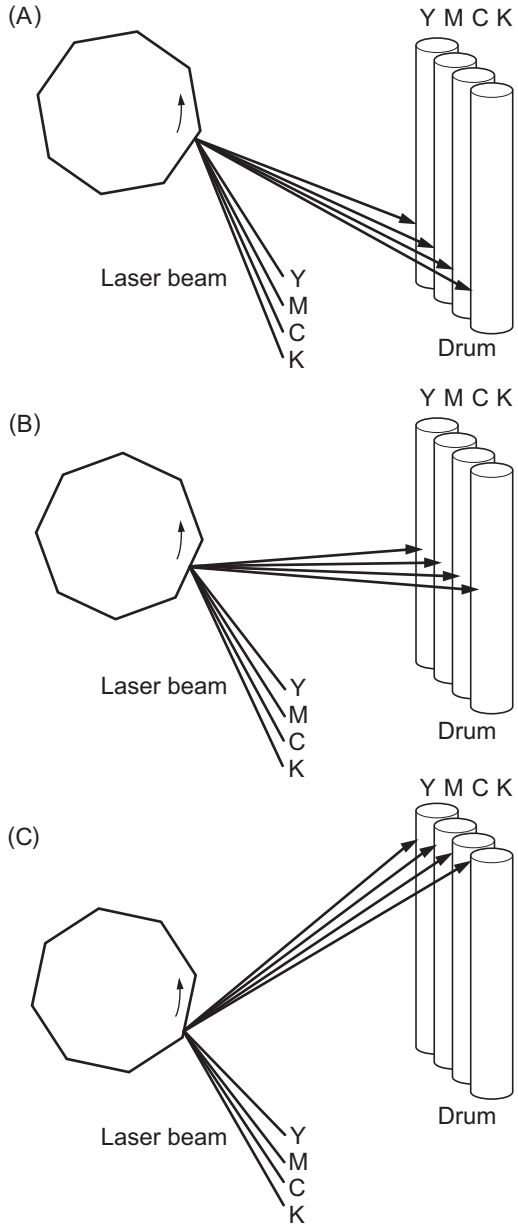

Fig. 9-5

The above images show the laser beams reflecting off the polygonal mirrors.
One scan is completed by one completion of steps (A) to (C).
One scan is performed on one plane of the polygonal mirror.
Eight scans can be performed in one rotation.

9

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3. fθ lenses-1 and -2
   These two lenses perform the following adjustment on the laser beams reflected by the polygonal mirror.

   a. Uniform-velocity scanning
      Since the polygonal mirror is rotating at a uniform velocity, the laser beam reflected from the mirror scans over the drum surface at a uniform angular velocity; namely, the pitch between the dots on the drum is wider at both ends than at the center of the scanning range. The fθ lenses help to correct this difference, making all the dot-to-dot pitches equal on the drum surface.

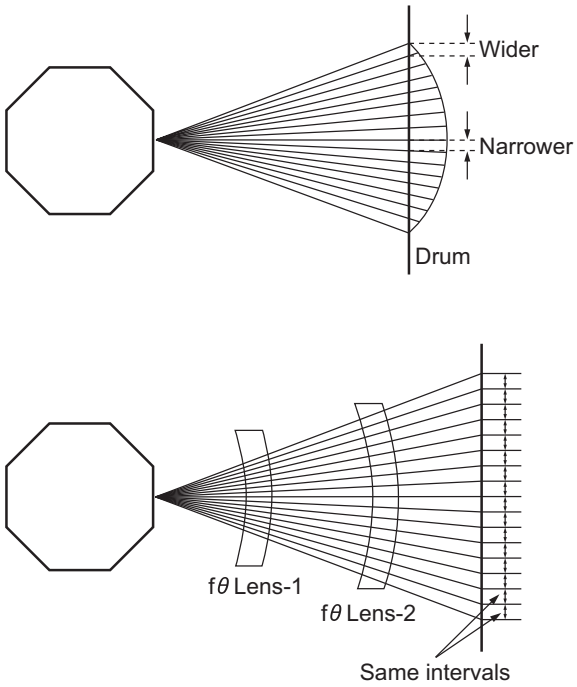

Fig. 9-6

   b. Face tilt correction
      The reflecting face of the polygonal mirror is tilted slightly to one side against the perfect vertical. Horizontal deviation of the laser light which is caused by the tilt is corrected.

   c. Sectional shape of laser beam
      The shape of the laser beam spotted on the drum is adjusted.

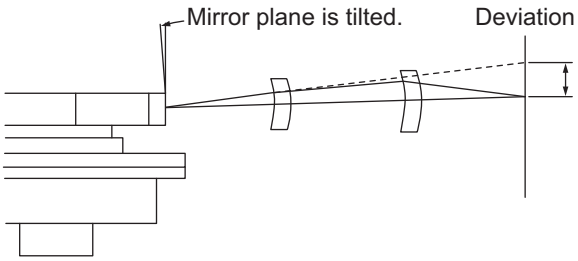

Fig. 9-7

4. H-Sync signal detection PC board (SNS)
   The laser light which is started to be scanned from one of the reflected plane of the polygonal mirror is reflected by the H-Sync detection mirror and enters the PIN diode on the H-Sync signal detection PC board (SNS). The primary scanning synchronizing signal is generated based on this reflection.

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5. Slit glass
   The slit glass is located where the laser beams are output from the laser optical unit, and it protects the unit from dust.
   Also, the shutter is attached to the upper side of the slit glass in order to prevent toner or dust from adhering to the slit glass, and it is normally closed. It is closed/opened by the shutter motor (M38). It is opened just before the laser beams are emitted and it closes just after the emission is finished.
   If toner or dust adheres to the slit glass, images are affected. Clean the slit glass with a brush attached to the shutter.

6. Reflecting mirrors
   These reflecting mirrors reflect and lead the laser beams scanned by the polygonal mirror and corrected by the fθ lenses to the drum. The laser beams of Y, M, C and K colors are directed to the drum by respectively different routes using one mirror for Y color beam and three each for M, C and K color beams.

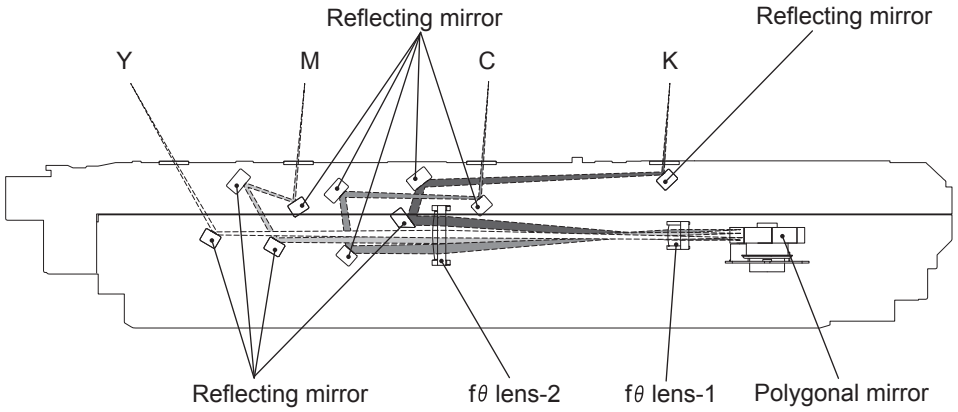

Fig. 9-8

7. Mirror motor (M35, M36, M37)
   At each of the third reflecting mirrors for M, C and K color laser beams, a mirror motor is installed to make tilt adjustment for the mirror. The parallel correction for the four scanning lines is performed by adjusting the tilt of mirrors in the following manner:
   a. A test pattern is written on the transfer belt. This is read by the Image position aligning sensors (S20, S21, S22) to recognize the error in scanning lines.
   b. With the Y color scanning line as a standard, a mirror motor installed at each of the M, C and K color beam mirrors is driven to adjust the degree of laser beam parallelization by inclining the mirror.

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8. Slit glass cleaning mechanism
   The laser optical unit has a protective shutter on its upper section. This shutter is opened or closed with the drive from the shutter motor (M38). Two shutter sensors (for home position, S24 and for end position, S25) detect the phase of the shutter when it is opened or closed. When the shutter is closed, the shutter sensor (home position, S24) is ON.
   A cleaning brush installed inside of the shutter cleans the slit glass when the shutter is opened or closed. The shutter performs cleaning by opening or closing itself every time the power is turned ON, printing starts, printing ends or image quality control is performed.

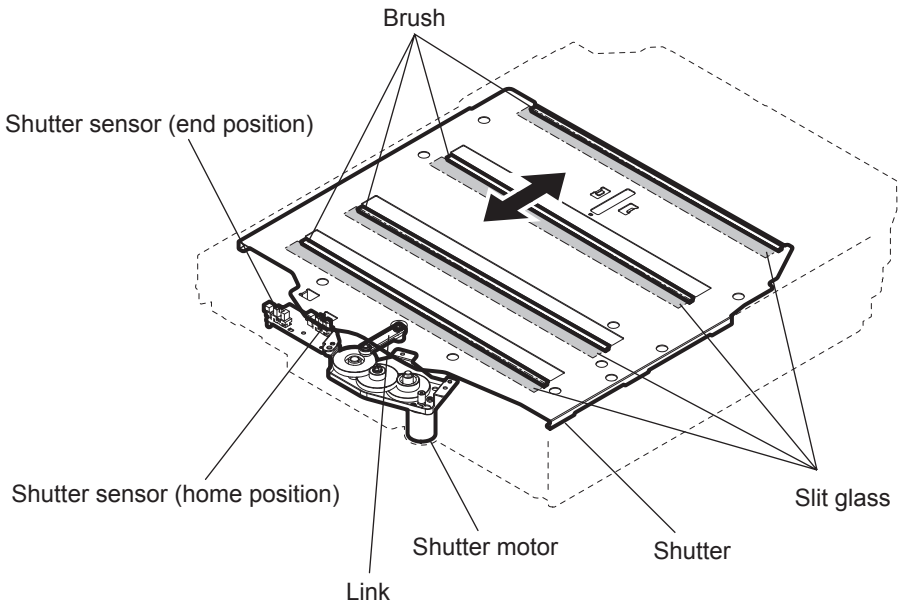

Fig. 9-9

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9.3 Electric Circuit Description

9.3.1 Laser diode control circuit

This equipment uses a semiconductive laser with 6 mW of optical output power rating. This laser emits a beam in a single transverse mode in approx. 785 nm wavelength. Photo diode for monitoring optical output in this laser controls the laser intensity.
The relation between the forward current and optical output of a semiconductive laser is as shown below. Beam emission starts when the forward current exceeds a threshold current, and then the laser outputs a monitor current which is proportionate to the optical output. Since semiconductive lasers have an individual variability in their threshold current and monitor current, the optical output needs an adjustment to be maintained at a certain value.
The optical output of a semiconductive laser decreases as the laser temperature rises. Therefore APC (Auto Power Control) needs to be performed to maintain a constant optical output.

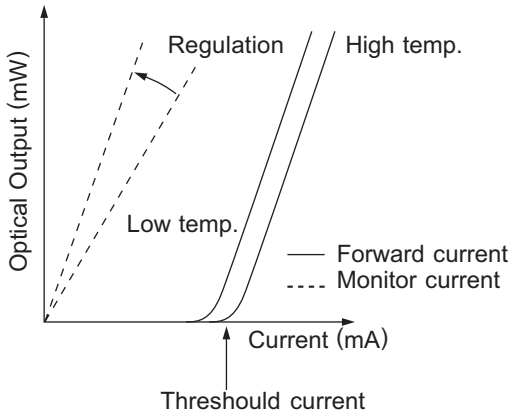

Fig. 9-10

A block diagram of the semiconductive laser control circuit is shown below. The semiconductive laser performs a monitor efficiency regulation (a process to control a monitor current for beam emission amount). The initial beam emission is adjusted to be approx. 3.5 mW (120 µW on the drum surface). The voltage of the monitor output, which has been regulated by this adjustment, is then fed back to a laser power comparison circuit.
In the laser power comparison circuit, this fed-back voltage and the laser power voltage set for the control circuit are compared.
As the result of this, a laser driver circuit increases its forward current when the laser power is insufficient and decreases it when the laser power is excessive to maintain a constant optical output.

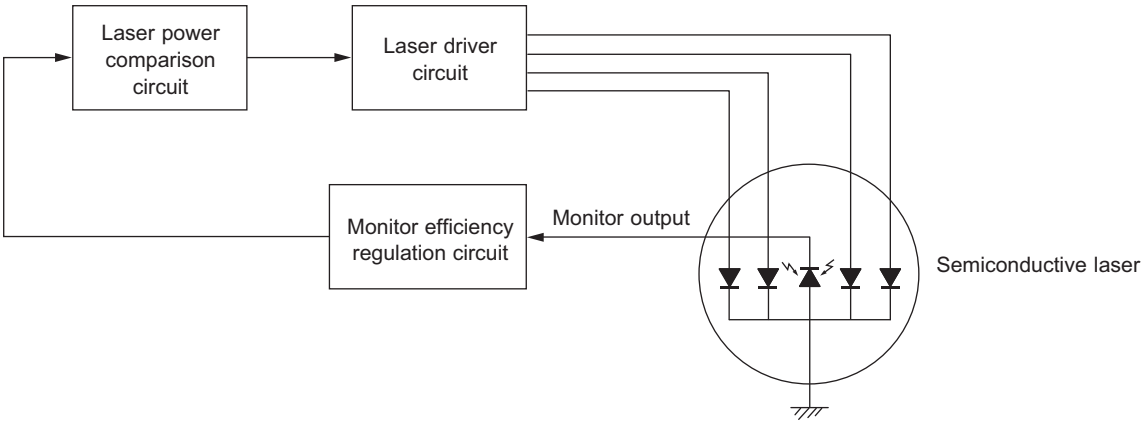

Fig. 9-11

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9.3.2 Polygonal motor control circuit

The polygonal motor is a DC motor rotated by a clock signal (PMCK) output from the ASIC. This motor is controlled under PLL (Phase Locked Loop) to realize an accurate and constant rotation. Its rotation status is converted to a status signal (PMSNC) and then output to the ASIC. PMSNC signal moves to a low level only when the rotation status of the motor is constant. The ASIC detects the rotation status with this signal, and emits a laser beam only when the rotation status is constant.

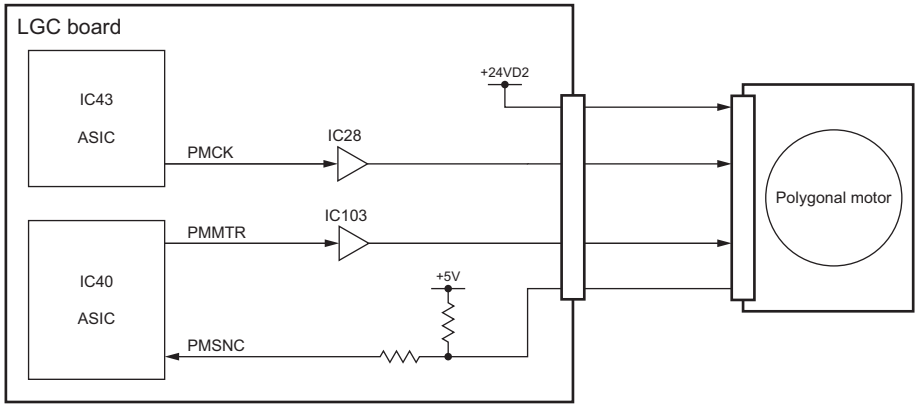

Fig. 9-12

Control signal

Signal	Function	Status	
		High level	Low level
PMMTR	Motor ON signal	OFF	ON
PMCK	Reference clock	---	---
PMSNC	Ready (PLL control) signal	Stopping or error	Locked (Rotating at a constant speed)

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9.3.3 Mirror motor control circuit

The mirror motor is a stepping motor driven by the control signal output from the ASIC on the LGC board and drives the tilt adjustment system of the reflection mirror.
The mirror motor is driven by each phase of the pulse signal (TILT0, TILT1, TILT2, TILT3) output from the ASIC. The rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.
Also, the pulse signal is used for each mirror motor of M, C and K color in common. Selecting the level of the enable signal (TILTM, TILTC, TILTK) sends the signal only to the mirror motor to be driven.

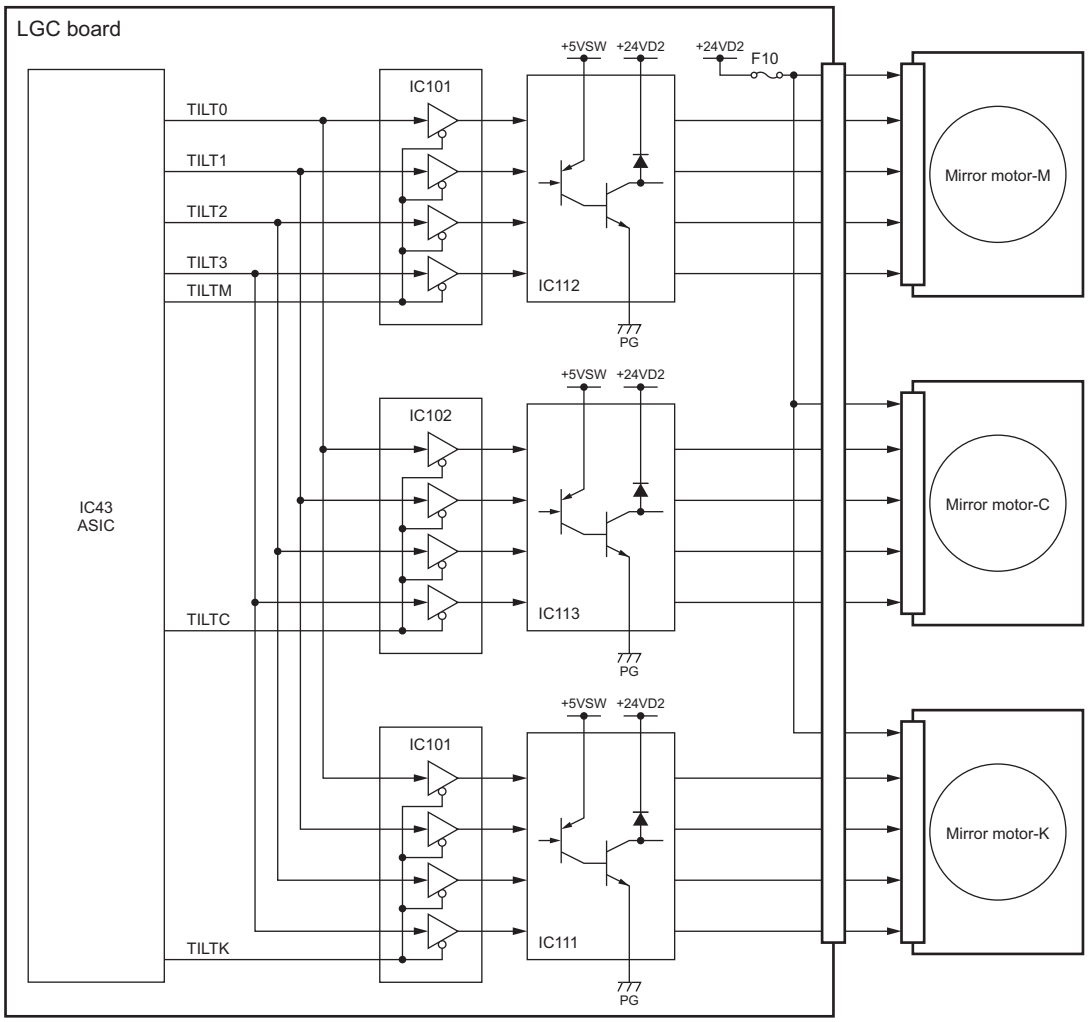

Fig. 9-13

Control signal

Signal	Function	Status	
		High level	Low level
TILT0/1/2/3	Mirror motor phase signal	---	---
TILTM/C/K	Enable signal	OFF	ON

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Relation between enable signal and motor to be driven

Signal			Motor to be driven
TILTM	TILTC	TILTK	
L	H	H	Mirror motor-M
H	L	H	Mirror motor-C
H	H	L	Mirror motor-K
H	H	H	None (No tilt adjustment)

* Not available in the above combination

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9.4 Disassembly and Replacement

9.4.1 Laser optical unit

(1) Take off the front lower cover.
P.3-41 "3.5.1 Front lower cover"
(2) Take off the left middle cover.
P.3-43 "3.5.9 Left middle cover"

Note:
When installing the laser optical unit, attach the left middle cover before the rear cover since the former may catch the flat cable.

(3) Disconnect 3 connectors and release the harness from 2 harness clamps.
(4) Remove 2 harness clamps.

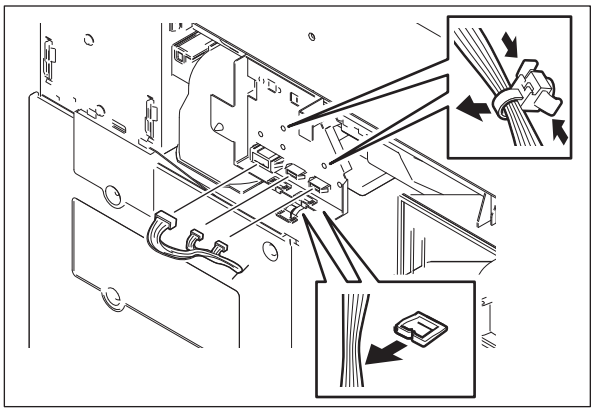

Fig. 9-14

(5) Disconnect 1 connector and remove 1 harness clamp. Then remove 1 screw and a grounding terminal to take off the bracket.

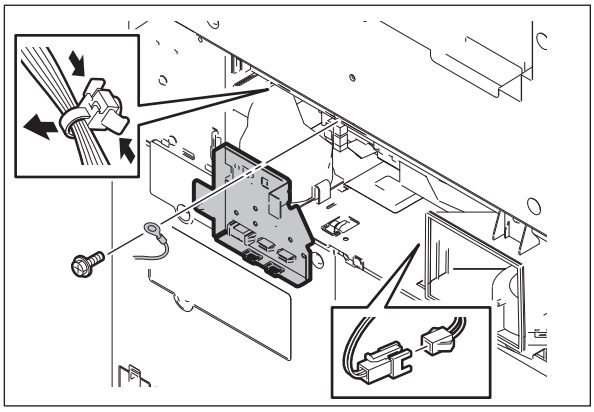

Fig. 9-15

(6) Install the removed harness clamp in the hole of the frame.

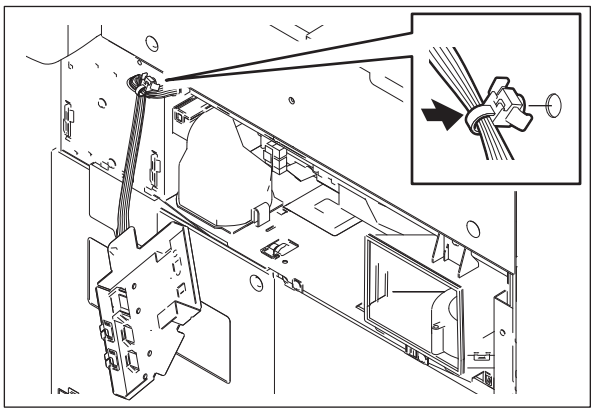

Fig. 9-16

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(7) Disconnect 4 flat cables from the LGC board. Then remove 2 flat cable clamps on the frame.

Note:
When installing, be sure to connect the flat cables at the proper positions.

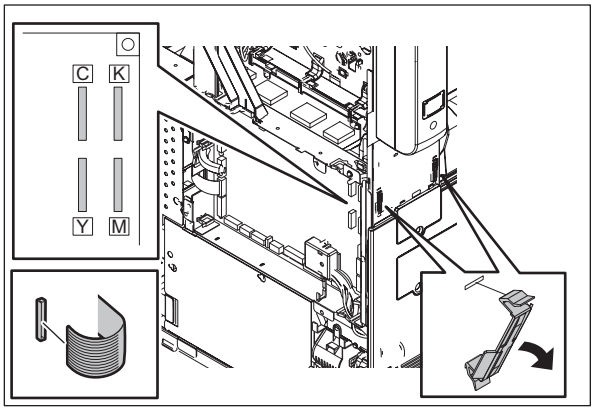

Fig. 9-17

Note:
When installing, be sure to align its black line with the edge of the equipment.

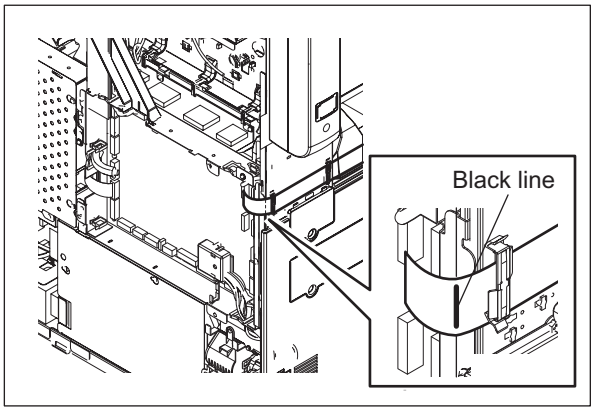

Fig. 9-18

(8) Remove 2 screws and then take off the EPU cooling fan duct.

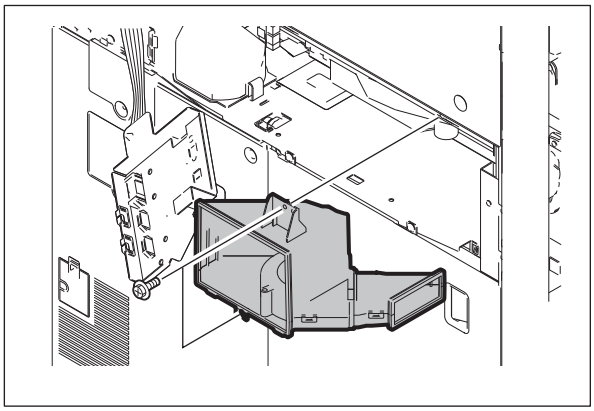

Fig. 9-19

(9) Release 1 latch and then take off the ozone suctioning fan duct.

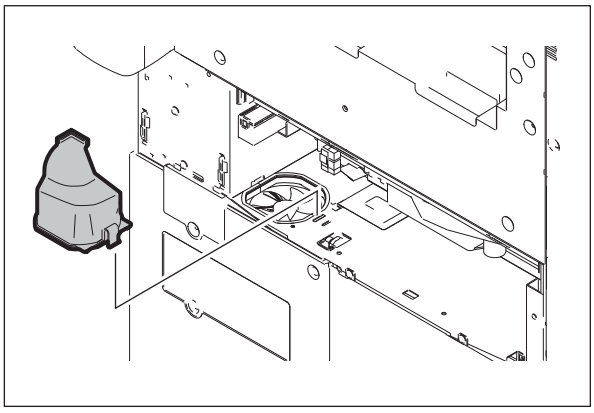

Fig. 9-20

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(10) Pull out the EPU together with the transfer belt. Then remove 2 screws.

Note:
When reassembling, make sure the bosses of the laser optical unit is securely inserted into the hole of the plate.

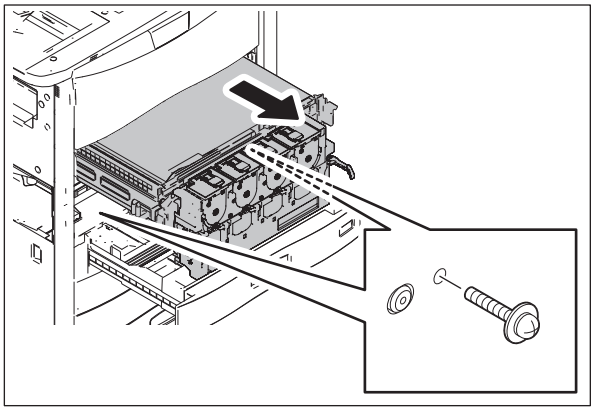

Fig. 9-21

(11) Slide the laser optical unit to the rear side and then quietly pull out the unit towards the paper exit side.

Note:
When the laser optical unit is replaced, start the equipment in the adjustment mode (05) and perform the code 4721 before the normal start-up.

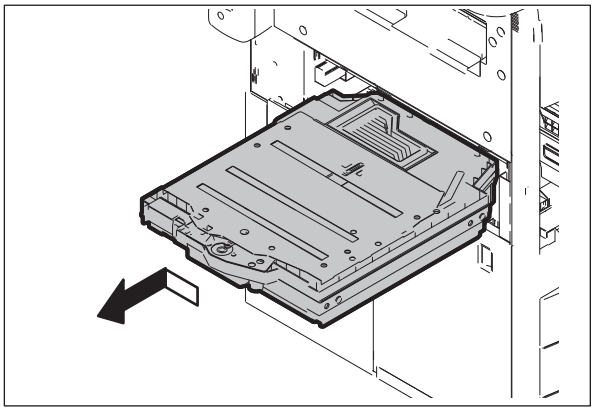

Fig. 9-22

Notes:
1. Do not leave fingerprints or stains on the slit glass of the laser optical unit.
2. Pay close attention not to cause any impact to the laser optical unit because it is a precision apparatus.
3. Place the removed laser optical unit so as not to cause any load for the polygonal motor.
4. Do not disassemble the laser optical unit in the field because it is precisely adjusted and very sensitive to dust and stains.
5. In the case of the laser optical unit, horizontally hold the parts A and B shown in the figure. Be careful not to apply pressure to the top of the unit (the cover) with your hands, etc. because the slit glass and the polygonal motor are installed in this section.
6. When the laser optical unit has been taken off, keep the shutter closed unless otherwise required.

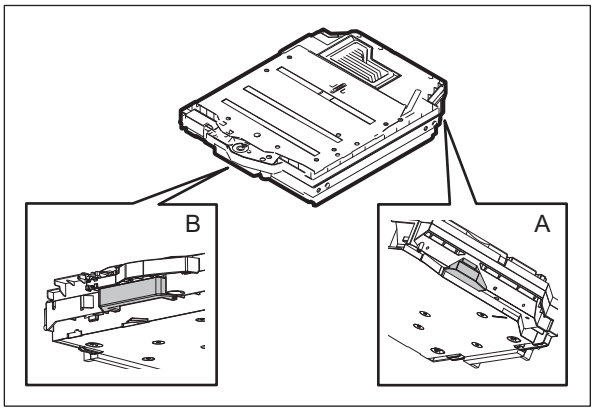

Fig. 9-23

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9.4.2 Laser optical unit cooling fan (front) (F22)

(1) Take off the front lower cover.
P.3-41 "3.5.1 Front lower cover"
(2) Pull out the process unit.
P.11-24 "11.5.1 Pulling out the process unit (EPU tray)"
(3) Disconnect 3 connectors.

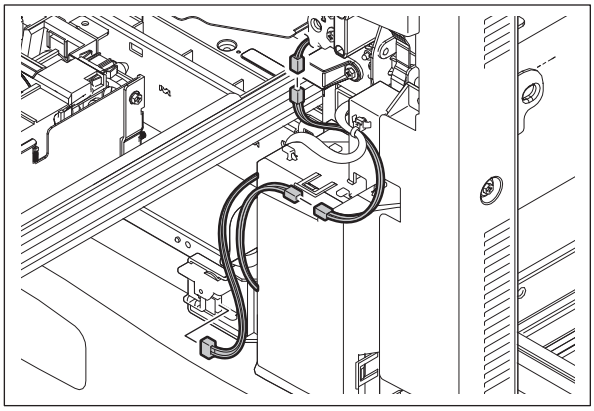

Fig. 9-24

Note:
When installing the laser optical unit cooling duct to the equipment, set its harness as shown in the figure.

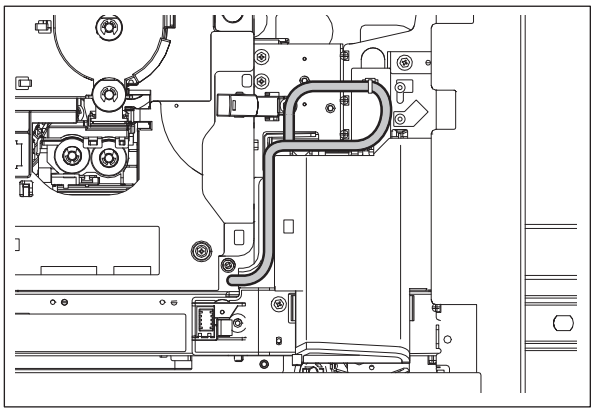

Fig. 9-25

(4) Release 1 rocking support.

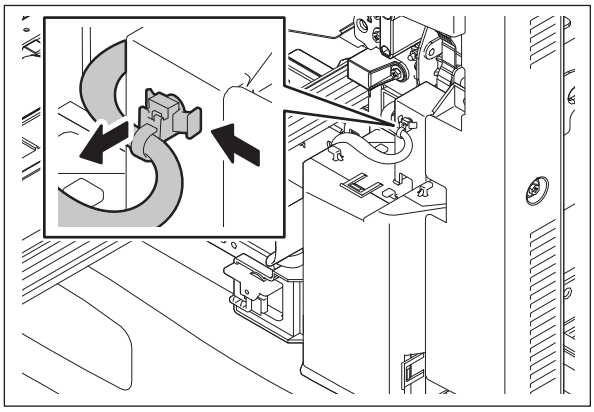

Fig. 9-26

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(5) Remove 2 screws.

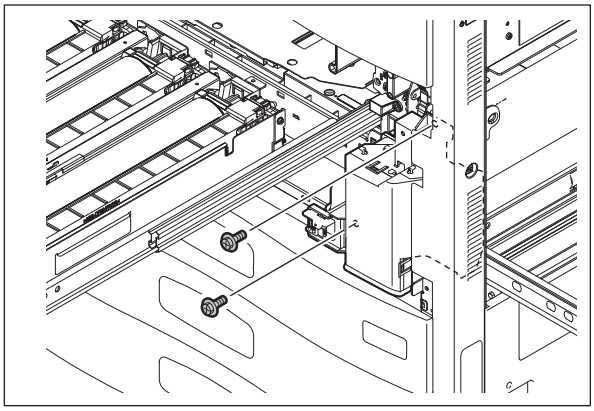

Fig. 9-27

(6) Take off the laser optical unit cooling duct by rotating it as shown in the figure.

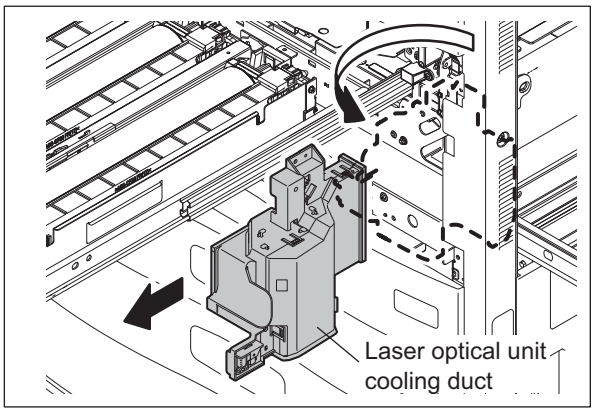

Fig. 9-28

(7) Release 4 latches and take off the case.

Note:
When taking off the case, do not pull any harness which is coming out of the hole in the case.

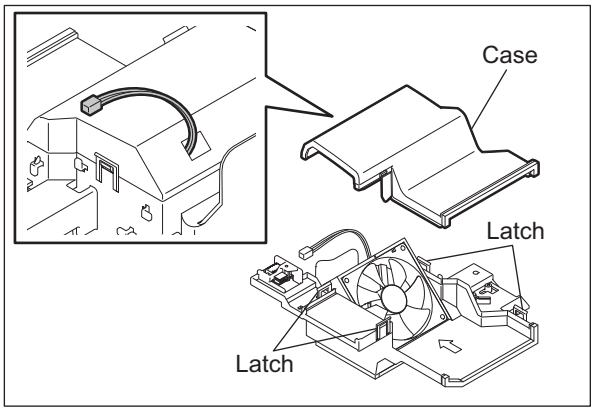

Fig. 9-29

(8) Take off the laser optical unit cooling fan (front).

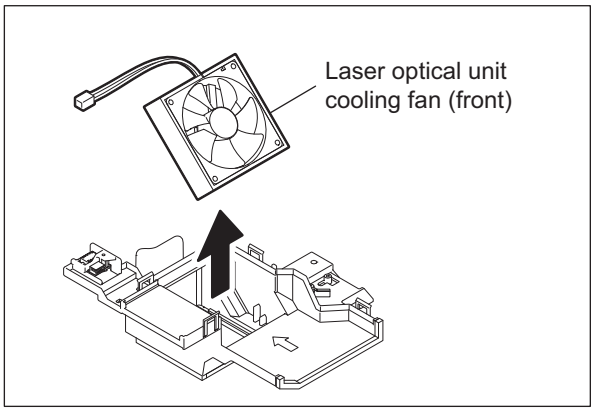

Fig. 9-30

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9.4.3 Laser optical unit cooling fan (rear) (F23)

(1) Take off the LGC board cover.
P.20-6 "20.1.7 LGC board case"
(2) Take off the PFC board cover.
P.20-8 "20.1.9 PFC board case"
(3) Release the harness from 2 harness clamps.

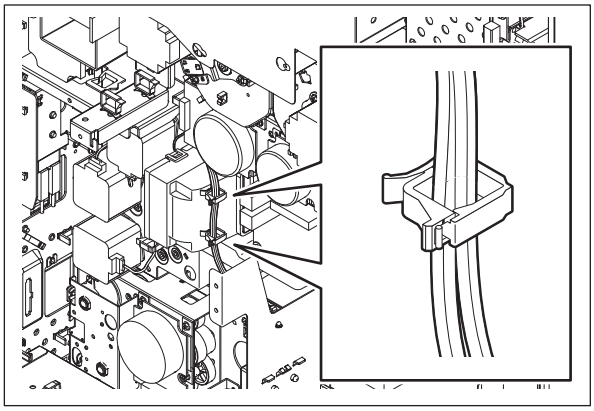

Fig. 9-31

(4) Disconnect 1 connector and remove 2 screws, and then take off the laser optical unit cooling duct.

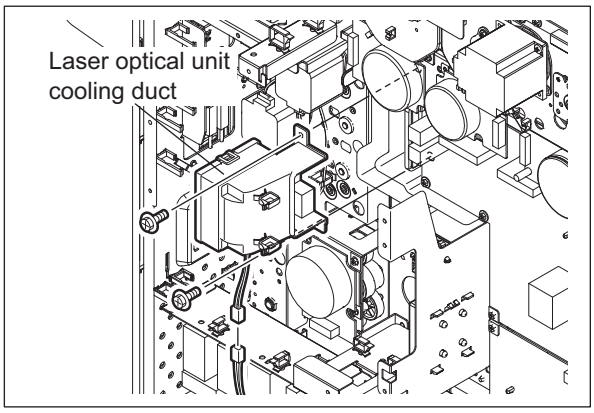

Fig. 9-32

(5) Release 2 latches and take off the duct cover.
(6) Take off the laser optical unit cooling fan (rear).

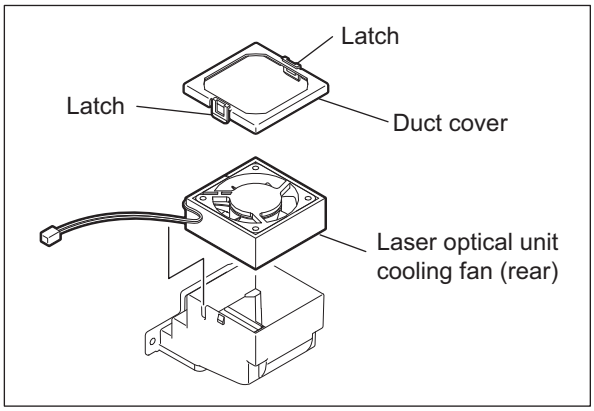

Fig. 9-33

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9.4.4 Shutter

(1) Remove the laser optical unit.
P.9-13 "9.4.1 Laser optical unit"
(2) If the shutter is closed, rotate the shutter motor section to open it.
A: Shutter closed
B: Shutter opened

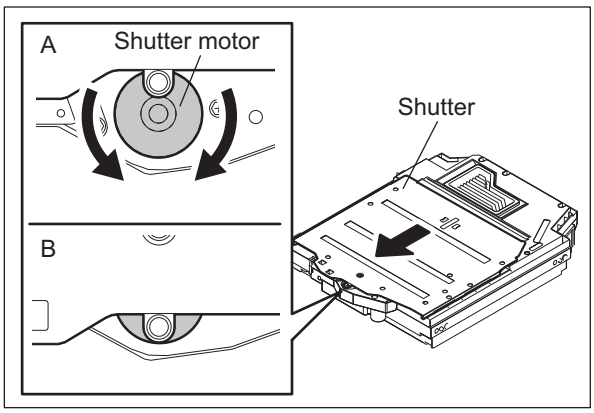

Fig. 9-34

(3) Remove the shutter.

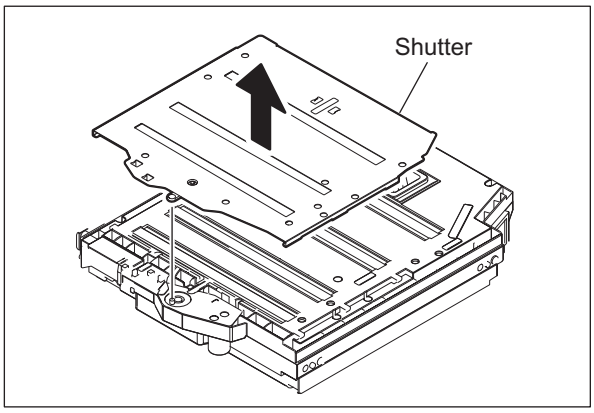

Fig. 9-35

9.4.5 Shutter motor

(1) Remove the laser optical unit.
P.9-13 "9.4.1 Laser optical unit"

Note:
Make sure that the shutter is closed.

(2) Remove 2 screws and disconnect 1 connector.
(3) Take off the shutter motor.

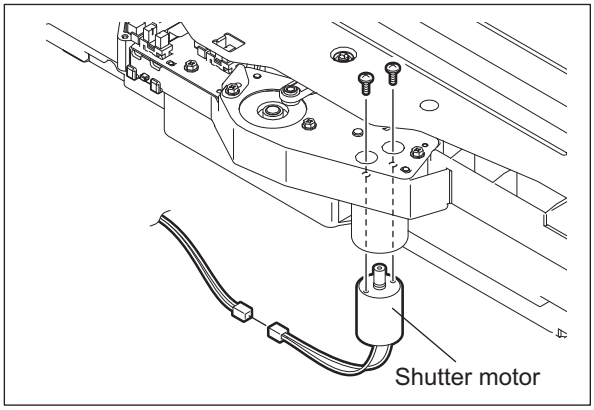

Fig. 9-36

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9.4.6 Shutter sensor (home position)

(1) Remove the laser optical unit.
📖 P.9-13 "9.4.1 Laser optical unit"
(2) Remove the shutter.
📖 P.9-19 "9.4.4 Shutter"
(3) Disconnect 1 connector.

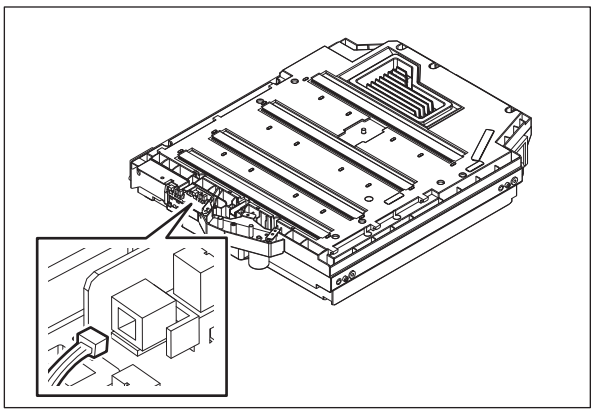

Fig. 9-37

(4) Release 2 latches and take off the shutter sensor (home position).

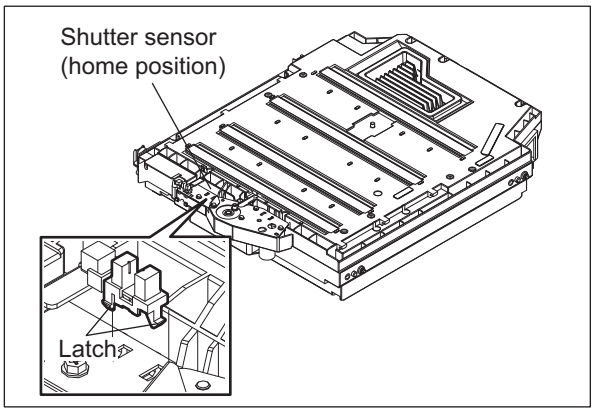

Fig. 9-38

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9.4.7 Shutter sensor (end position)

(1) Remove the laser optical unit.
P.9-13 "9.4.1 Laser optical unit"
(2) Remove the shutter.
P.9-19 "9.4.4 Shutter"
(3) Disconnect 1 connector.

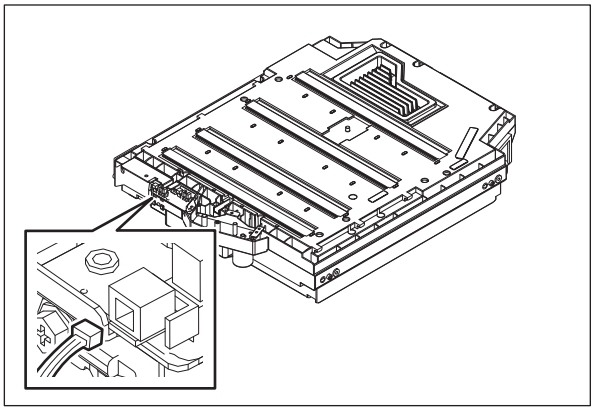

Fig. 9-39

(4) Release 2 latches and take off the shutter sensor (end position).

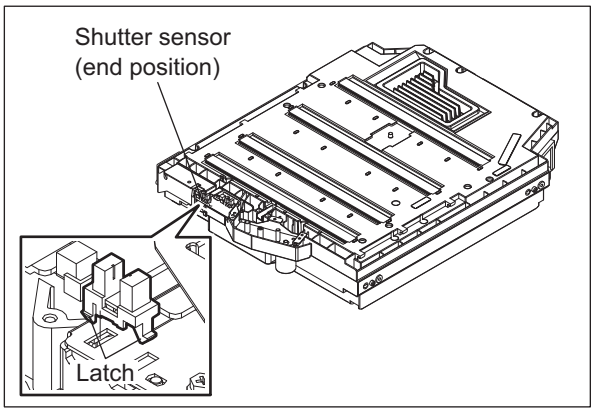

Fig. 9-40

9.4.8 Disassembly and replacement of the polygonal motor

Note:
Polygonal motor replacement is not recommended in the field; the image quality is not guaranteed in such a case.

(1) Take off the laser optical unit.
P.9-13 "9.4.1 Laser optical unit"

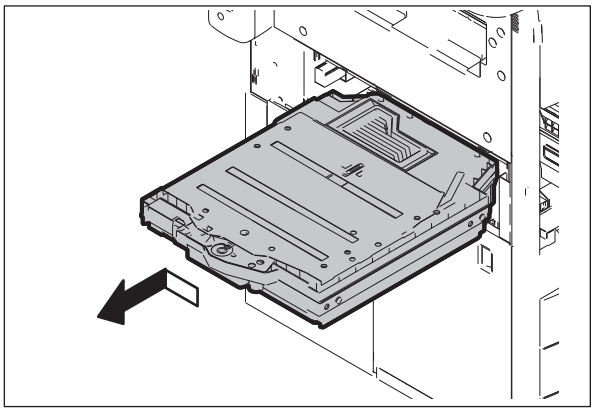

Fig. 9-41

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(2) Remove 3 screws and take off the polygonal motor cover.

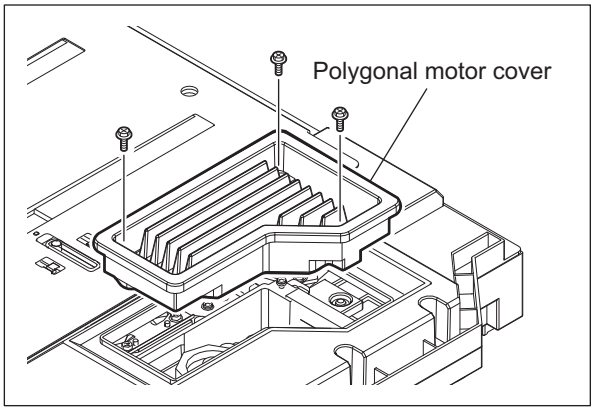

Fig. 9-42

Note:

1. Treat the polygonal motor gently.
2. Never touch the surface of the polygonal mirror or glass. If you do so, wipe the dirt off using a clean and soft cloth, taking care not to scratch the surface.

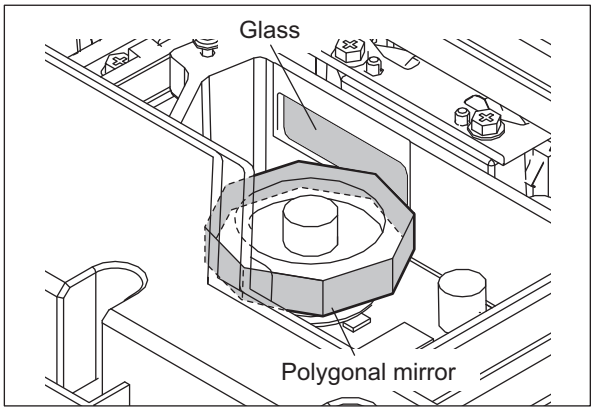

Fig. 9-43

(3) Disconnect 1 connector, remove 4 screws and then take off the polygonal motor.

Note:

1. Check that all 4 fixing screws for the polygonal motor contact the base before fixing the motor.
2. When installing the polygonal motor, neither hold the condenser (element) on the board nor damage the mirror with a screwdriver.

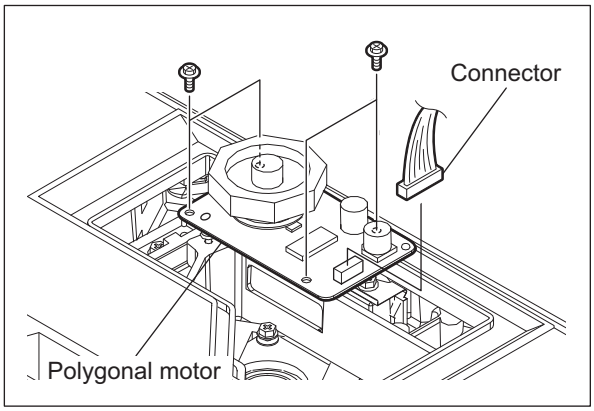

Fig. 9-44

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10. PAPER FEEDING SYSTEM

10.1 General Descriptions

This chapter explains how the system works to pick up paper from the drawer or bypass tray and transport it to the 2nd transfer position.
The paper feeding system mainly consists of the pickup roller, feed roller, separation roller, transport roller, registration roller, bypass paper sensor, drawer empty sensor, bypass feed sensor, drawer feed sensor, registration sensor and drive system for these components. The feed/transport motor, Transport motor-1,Transport motor-2, Feed motor and registration motor drives the above rollers.

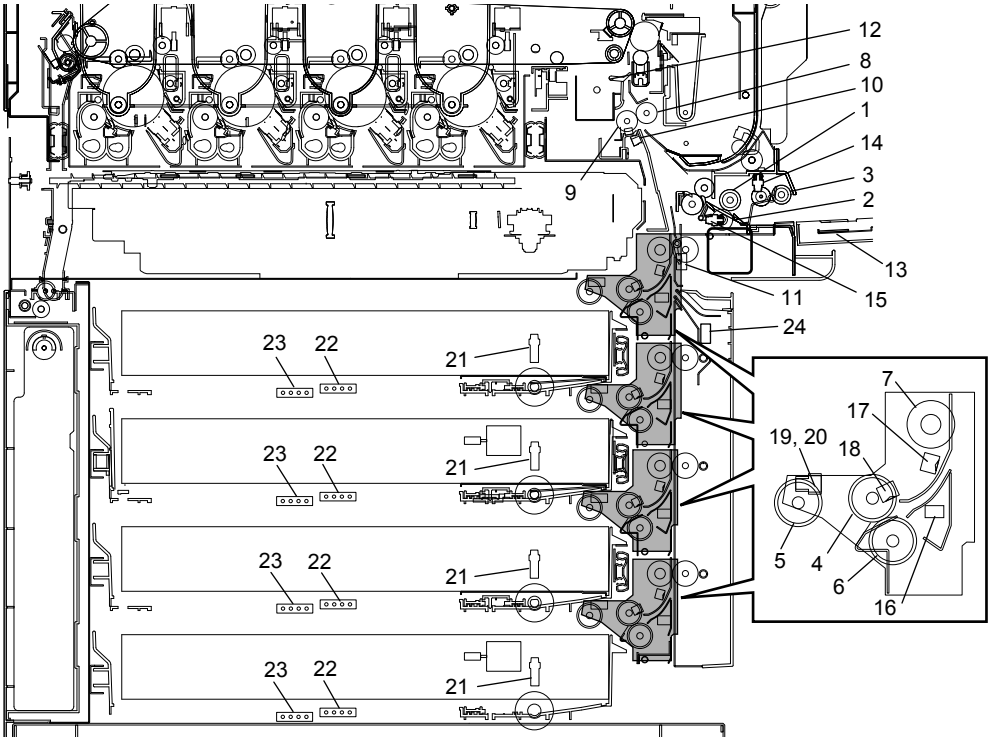

Fig. 10-1

No.	Name	No.	Name
1	Bypass feed roller	13	Bypass paper size detection sensor
2	Bypass separation roller	14	Bypass paper sensor
3	Bypass pickup roller	15	Bypass feed sensor
4	1st / 2nd / 3rd / 4th drawer feed roller	16	1st / 2nd / 3rd / 4th drawer detection sensor
5	1st / 2nd / 3rd / 4th drawer separation roller	17	1st / 2nd / 3rd / 4th drawer transport sensor
6	1st / 2nd / 3rd / 4th drawer pickup roller	18	1st / 2nd / 3rd / 4th drawer feed sensor
7	1st / 2nd / 3rd / 4th drawer transport roller	19	1st / 2nd / 3rd / 4th drawer bottom sensor
8	Registration roller (rubber roller)	20	1st / 2nd / 3rd / 4th drawer empty sensor
9	Registration roller (metal roller)	21	1st / 2nd / 3rd / 4th drawer tray-up sensor
10	Registration sensor	22	1st / 2nd / 3rd / 4th drawer paper size detection sensor-1
11	Media sensor	23	1st / 2nd / 3rd / 4th drawer paper size detection sensor-2
12	Transfer belt paper clinging detection sensor	24	Feed cover sensor

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<Tandem LCF model>

The composition of the 1st and the 2nd drawers of the Tandem LCF model is the same as that of the 4-drawer model.
The 3rd and the 4th drawers are not installed but instead the Tandem LCF is installed.

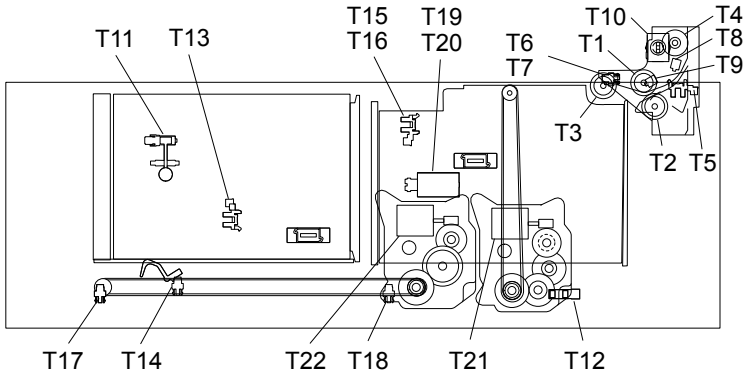

Fig. 10-2

No.	Name	No.	Name
T1	Tandem LCF feed roller	T12	Tandem LCF bottom sensor
T2	Tandem LCF separation roller	T13	Standby side tray detection sensor
T3	Tandem LCF pickup roller	T14	Standby side empty sensor
T4	Tandem LCF transport roller	T15	Stopper opening/closing detection sensor (front)
T5	Tandem LCF detection sensor	T16	Stopper opening/closing detection sensor (rear)
T6	Tandem LCF empty sensor	T17	End fence home position sensor
T7	Tandem LCF tray-up sensor	T18	End fence stop position sensor
T8	Tandem LCF transport sensor	T19	Stopper opening/closing solenoid (front)
T9	Tandem LCF feed sensor	T20	Stopper opening/closing solenoid (rear)
T10	Tandem LCF solenoid	T21	Tandem LCF tray-up motor
T11	Standby side tray paper amount detection sensor	T22	Tandem LCF end fence motor

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10.2 Composition

Feeding system		
1st / 2nd / 3rd / 4th drawer feeding unit	1st / 2nd / 3rd / 4th drawer pickup roller	PM parts
	1st / 2nd / 3rd / 4th drawer feed roller	PM parts
	1st / 2nd / 3rd / 4th drawer separation roller	PM parts
	1st / 2nd / 3rd / 4th drawer transfer roller	PM parts
	1st / 2nd / 3rd / 4th drawer feed sensor	S78/S86/S94/S102
	1st / 2nd / 3rd / 4th drawer transport sensor	S77/S85/S93/S101
	1st / 2nd / 3rd / 4th drawer tray-up sensor	S76/S84/S92/S100
	1st / 2nd / 3rd / 4th drawer empty sensor	S75/S83/S91/S99
	1st / 2nd / 3rd / 4th drawer detection sensor	S73/S81/S89/S97
Bypass feeding unit	Bypass pickup roller	PM parts
	Bypass feed roller	PM parts
	Bypass separation roller	PM parts
	Bypass paper sensor	S71
	Bypass feed sensor	S72
	Bypass pickup solenoid	SOL8
	Bypass paper size detection sensor	S70
	Bypass motor	M12
Drive section, other	3rd / 4th drawer transport clutch	CLT4/CLT6
	3rd / 4th drawer feed clutch	CLT5/CLT7
	Transport motor-1/Transport motor-2	M40/M41
	Feed motor	M42
	Feed/transport motor	M43
	Registration motor	M39
	Registration roller	
	Registration sensor	S52
	Transfer belt paper clinging detection sensor	S47
	Tray-up motor-1/Tray-up motor-2	M44/M45
Tandem LCF	Tandem LCF pickup roller	PM parts
	Tandem LCF feed roller	PM parts
	Tandem LCF separation roller	PM parts
	Tandem LCF transport roller	
	Tandem LCF feed sensor	S93
	Tandem LCF transport sensor	S94
	Tandem LCF solenoid	SOL9
	Tandem LCF end fence motor	M47
	Tandem LCF tray-up motor	M46

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10.3 Functions

1. Pickup roller (Drawers and bypass feed)
   This roller moves up and down and draws out the paper from the bypass tray or drawer and transport it to the feed roller.

2. Feed roller (Drawers and bypass feed)
   This roller is placed against the separation roller. It transports the paper from the pickup roller to the transport roller.

3. Separation roller (Drawers and bypass feed)
   This roller is placed against the feed roller. When two sheets of paper or more are transported from the pickup roller, the load of the torque limiter of the separation roller is heavier than the frictional force between the sheets. As the result, the separation roller is stopped and the lower paper is not advanced any further. When only one sheet is transported from the pickup roller, the separation roller rotates following the feed roller.

4. Transport roller (Drawers and bypass feed)
   This roller transports the paper sent from the feed roller to the registration roller.

5. Registration roller
   Paper transported from the transport roller is pushed against the registration roller which aligns the leading edge of the paper.
   Then, the registration rollers rotate to transport the paper to the transfer unit.

6. Bypass paper sensor (S71)
   This sensor detects if paper is set in the bypass tray. If it is, bypass feeding always comes before drawer feeding.

7. Media sensor (S69)
   This equipment has a media sensor to measure the thickness of copy paper.
   The media sensor detects the thickness of paper that is fed only from feeding devices other than the bypass tray. The sensor has 2 functions as follows:
   (1) The sensor classifies plain paper (16.8 to 27.6 lb.) into plain paper 1 (relatively thin plain paper) and plain paper 2 (relatively thick plain paper) and controls fusing temperature accordingly.
   (2) The sensor judges if a users media type setting is correct according to the thickness measurement result by itself. When the sensor judges that the setting is not correct, printing automatically stops. (Error code: E071-E076 (Media type mis-setting jam))
   Even though media types are classified with its paper weight in general, the thickness of paper is not always proportional to the paper weight. Therefore the sensor makes the equipment stop printing only when a users media type setting is obviously incorrect.
   Whether enabling or disabling the function (2) above can be switched in the code 08-4598.
   In case the media sensor fails, no error code is displayed. In this case, as for the function (1) above, paper set in the code 08-4599 is automatically selected, and the function (2) above is automatically disabled. Therefore the malfunction of the media sensor does not affect the equipments operation and thus printing is not disturbed.
   The media sensor malfunction is detected with the output value of the sensor. If an abnormal value is output, the sensor is judged as in a faulty condition. This status is recorded in an error history. (Error code: CFA0 or CFA1 (Media sensor detection abnormality))
   Even if the error CFA0 or CFA1 occurred, the media sensor outputs values again after the equipment was recovered from the sleep mode or its power was turned OFF and then back ON. If the output value is normal, the sensor then returns to its normal detection status.
   Do not bring a magnet or other magnetized materials closer to the media sensor because it measures minute displacement amounts with magnetoresistance change.

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8. Empty sensor (S75/S83/S91/S99)
   This is a transmissive-type sensor and detects the availability of paper in the drawer by using an actuator. When there is no paper in the drawer, the actuator blocks the light path of the sensor, and the sensor determines that there is no paper.

9. Feed sensor (S78/S86/S94/S102)
   This sensor detects if the leading edge or trailing edge of the paper has passed the feed roller. It also detects jamming such as misfeeding.

10. Transport sensor (S77/S85/S93/S101)
    This is a reflective sensor whose purpose is to directly detect if paper is set or not, without using any device such as a sensor arm. Transport sensor detects if the leading edge or trailing edge of paper passed the transport roller. They also detects jams like misfeeding.

11. Registration sensor (S52)
    This sensor detects that the leading edge of the paper has reached the registration roller and the trailing edge of the paper has passed the registration roller.

12. Drawer tray-up sensor (S76/S84/S92/S100)
    This sensor stops the tray at the predetermined height when the tray is moved up. When the tray-up sensor is turned ON, the tray-up motor is turned OFF to stop the upward movement of the tray.

13. Drawer detection sensor (S73/S81/S89/S97)
    This sensor detects if the drawer is fully inserted.

14. Feed clutch (3rd drawer (CLT5) / 4th drawer (CLT7))
    This is a clutch used to transmit the drive from the feed/transport motor to the drawer pickup roller and drawer feed roller.

15. Drawer transport clutch (3rd drawer (CLT4) / 4th drawer (CLT6))
    This is a clutch used to transmit the drive from the feed/transport motor to the transport roller. When the clutch is turned ON, the transport roller rotates at high speed to transport paper.

16. Feed/transport motor (M43)
    This motor drives the pickup rollers, feed rollers and transport rollers of the drawers and bypass tray.

17. Registration motor (M39)
    This motor drives the registration roller. This stepping motor transports paper in the transfer direction in time with the image transfer to align the paper with the leading edge of the image.

18. Tray-up motor-1/-2 (M44, M45)
    When this motor rotates normally, the tray in the 1st drawer moves up, and when the motor rotates reversely, the tray in the 2nd drawer moves up.

19. Bypass motor (M12)
    This stepping motor drives the bypass pickup roller, feed roller and transport roller.

20. Bypass pickup solenoid (SOL8)
    This is a solenoid to move down the bypass pickup roller.

21. Bypass paper size detection sensor (S70)
    This sensor works directly with the sidewalls of the bypass tray to detect the paper width on the tray.

22. Drawer paper size detection sensor-1/2 (S79/S80/S87/S88/S95/S96/S103/S104).
    These sensors detect the size of the paper placed in each drawer.
    Paper sizes can be detected with the combination of switch signals that are sent by the movement of the end and side guides in each drawer.

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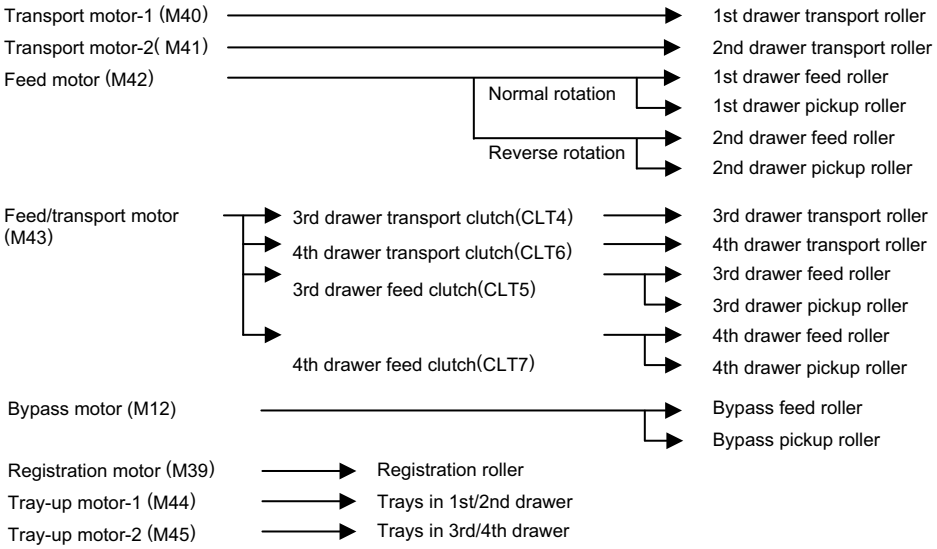
10.4 Description of Operation

10.4.1 Drive of rollers

The drive of each motor in the paper feeding area activates the paper transfer roller as follows.



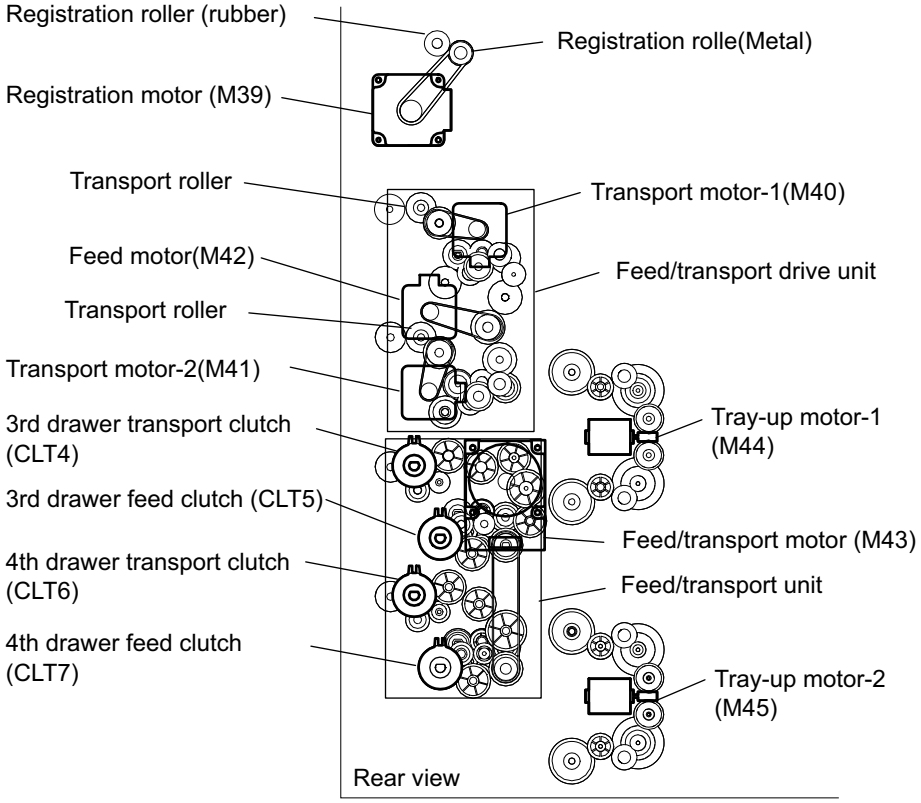


Fig. 10-3

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10.4.2 Operation of bypass pickup roller

When the bypass pickup solenoid (SOL8) is turned ON, the plunger is pulled, and then the lever is rotated. The pickup arm is then brought down with its own weight. When the bypass pickup solenoid (SOL8) is turned OFF, the pickup arm is brought up by the spring force.
The driving force transmitted through the bypass motor (M12) is transmitted to the bypass feed roller through the shaft and then to the bypass pickup roller through the timing belt. The roller is rotated by this driving force.

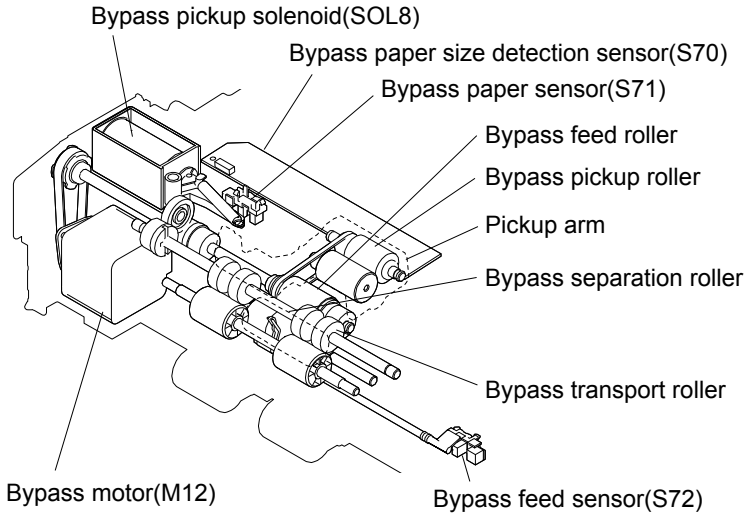

Fig. 10-4

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10.4.3 Operation of drawer pickup roller

When the drawer is inserted, the protrusion at the rear side of the drawer pushes the lever to the direction of A. Then the pickup roller and roller holder are lowered by the spring force.

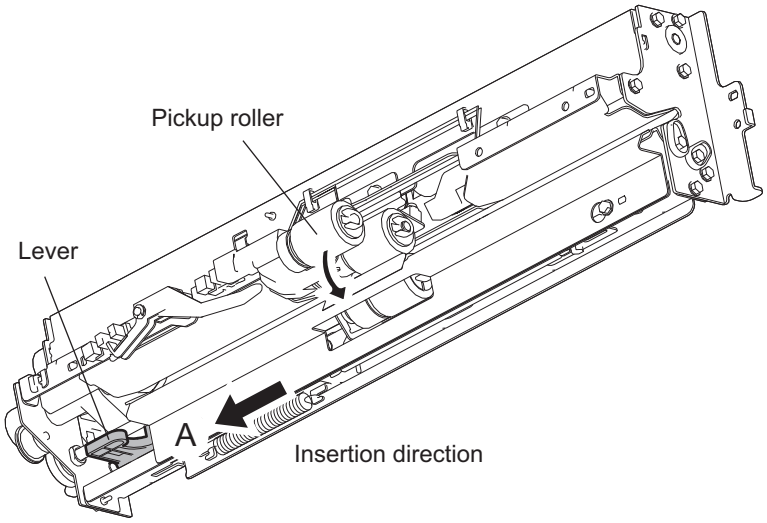

Fig. 10-5

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10.4.4 Paper size detection

This equipment automatically detects the size of the paper placed in each drawer.
The end and side guides in each drawer are moved according to the paper size and a pusher moves together with the end and side guides.
Then the protrusion of the pusher pushes each button of the drawer paper size detection sensors-1 and -2.
Thus the paper size is detected with the combination of the pushing statuses of the drawer paper size detection sensors-1 and -2.
The drawer paper size detection sensor-1 detects the movement of the side guides while the drawer paper size detection sensor-2 detects that of the end guide.

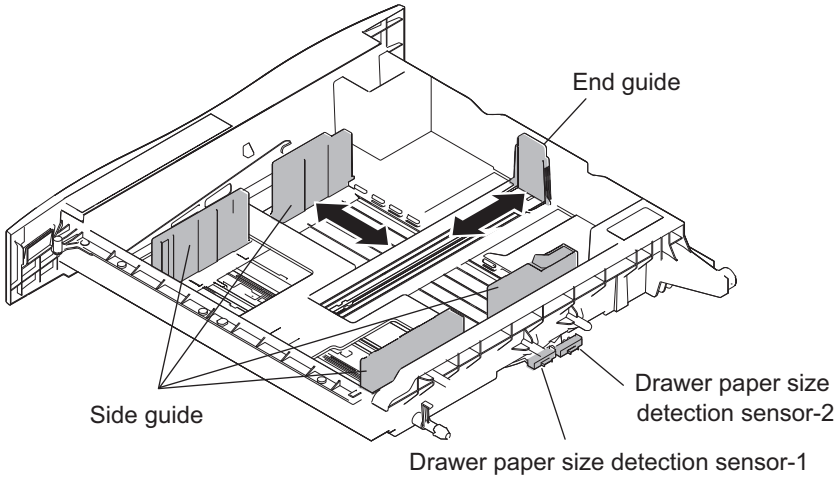

Fig. 10-6

[Example]
The positions of the guides and the pusher in cases of A3 and A4-R are shown below as examples.

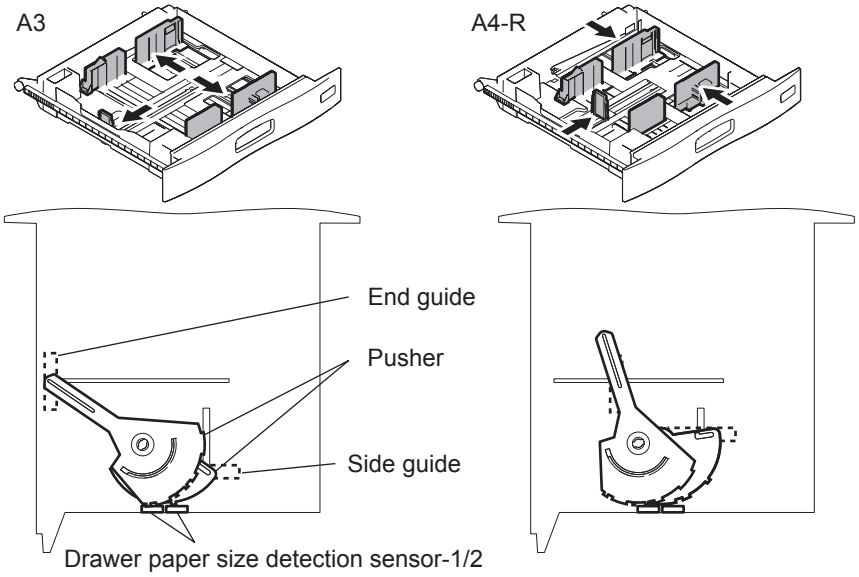

Fig. 10-7

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10.4.5 Separation of paper

The separation roller in this equipment works to separate the sheets being fed. The separation roller unit consists of the feed roller, separation roller, spring joint, etc., as shown below.
The feed roller is rotated by the feed clutch in the direction of the white arrow at the same timing as the pickup roller rotation.
The P.10-10 "Fig. 10-8" shows how duplicate feeding is prevented: Since the friction between two sheets is small, the lower sheet is not transported any further while the upper sheet is transported by the feed roller in the direction of the black arrow.

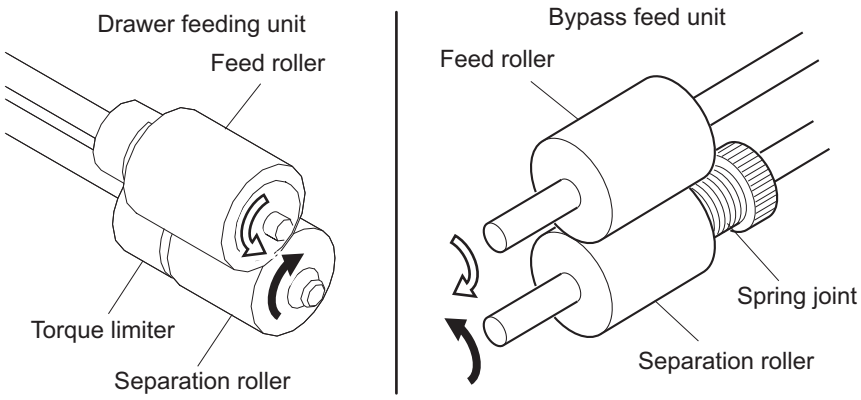

Fig. 10-8

[Example]
When only one sheet enters between the rollers: Since the transporting force of the feed roller is greater than the braking force of the separation roller, the separation roller follows the feed roller, making the sheet go forward to the registration roller.
When two sheets enter between the rollers at the same time:
Since the transporting force of the feed roller and the breaking force of the separation roller are greater than the frictional force between two sheets, the paper A is transported to the direction of the black arrow and the paper B is braked by the separation roller and is not transported any further.

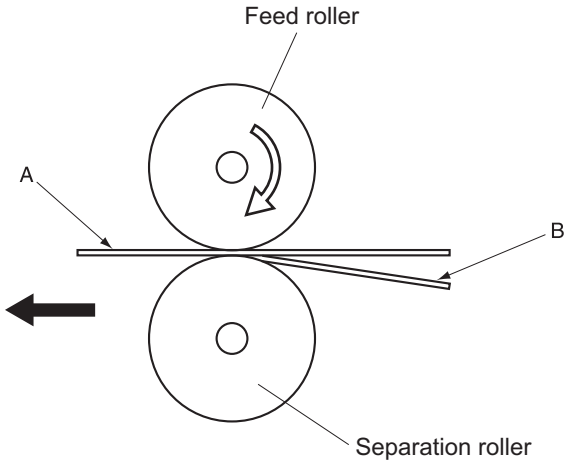

Fig. 10-9

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10.4.6 General operation

[A] From power-ON to ready status

1. When the equipment is turned ON, the tray-up motor-1 (M44) is activated and the 1st drawer tray starts to rise. When the tray-up sensor (S76) is turned ON (L→H), the tray-up motor-1 (M44) is turned OFF, and the tray is stopped. At this time, if the empty sensor (S75) is OFF (L), it is judged that there is no paper in the drawer.
   If the empty sensor (S75) is ON (H), there is paper in the drawer. The tray stops at raised position regardless of availability of paper. The tray-up motor-1 (M44) then starts to rotate in reverse and the 2nd drawer is raised. The 2nd drawer is stopped in the same manner as the 1st drawer, and the empty sensor (S75) detects if there is any paper in the drawer.

2. If the drawer is not completely inserted when the equipment is turned ON, the tray for that drawer is not raised. When the drawer is inserted completely, the tray is raised and checks the availability of the paper.

3. If either of the sensors on the transport path is ON (means there is paper on the transport path) when the equipment is turned ON, it is determined that a paper jam has occurred and no operation is enabled until the paper is removed.

[B] Ready status

1. After the tray is moved up and availability of paper is checked as described above, the equipment enters the ready status.
   At ready status, the tray remains at raised position.

2. When a drawer is inserted or removed at ready status, the tray is raised again to check the availability of paper.

[C] Bypass feeding

- The bypass paper sensor (S71) detects availability of paper.
- The bypass pickup solenoid (SOL8) is turned ON and the bypass pickup roller is lowered.
- The bypass motor (M12) is turned ON and then the bypass pickup roller, bypass feed roller and bypass transport roller are rotated and start feeding.
- The leading edge of paper turns ON the bypass feed sensor (S72) and bypass pickup solenoid (SOL8) is turned OFF. Then the bypass pickup roller is raised.
- The leading edge of paper turns ON the registration sensor (S52) and the paper is aligned by the registration roller.
- The bypass motor (M12) is turned OFF, and then the bypass pickup roller, bypass feed roller and bypass transport roller are stopped.
- The registration motor (M39) is turned ON and the paper is transported to the 2nd transfer position.

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[D] Drawer feeding

[D-1] 2nd drawer

- The feed motor and transfer motor are turned ON, and the pickup roller, feed roller and transport roller are rotated to start feeding paper.
- Passing of the leading edge of the paper turns ON the 2nd drawer feed sensor, then the 2nd transport sensor is turned ON.
- Passing of the leading edge of the paper turns ON the registration sensor and the paper is aligned by the registration roller.
- The transport motor is turned OFF and the transport roller is stopped.
- The registration motor and transport motor are turned ON and the paper is transported to the 2nd transfer position.

[D-2] 1st drawer

- The feed motor and the transport motor are turned ON, and the pickup roller, feed roller and transport roller are rotated to start feeding paper.
- Passing of the leading edge of the paper turns ON the 1st drawer feed sensor, then the 1st transport sensor is turned ON.
- Passing of the leading edge of the paper turns ON the registration sensor and the paper is aligned by the registration roller.
- The transport motor is turned OFF and the transport roller is stopped.
- The registration motor and transport motor are turned ON and the paper is transported to the 2nd transfer position.

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10.5 Electric Circuit Description

10.5.1 Registration motor control circuit

The registration motor is a stepping motor driven by the control signal output from the ASIC on the PFC board and rotates the registration roller.
The registration motor is driven by the pulse signal (RGTMA, RGTMB, RGTMC, RGTMD) output from the motor driver. These pulse signals are formed based on the reference clock (RGMCK) and output only when the enable signal (RGMEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

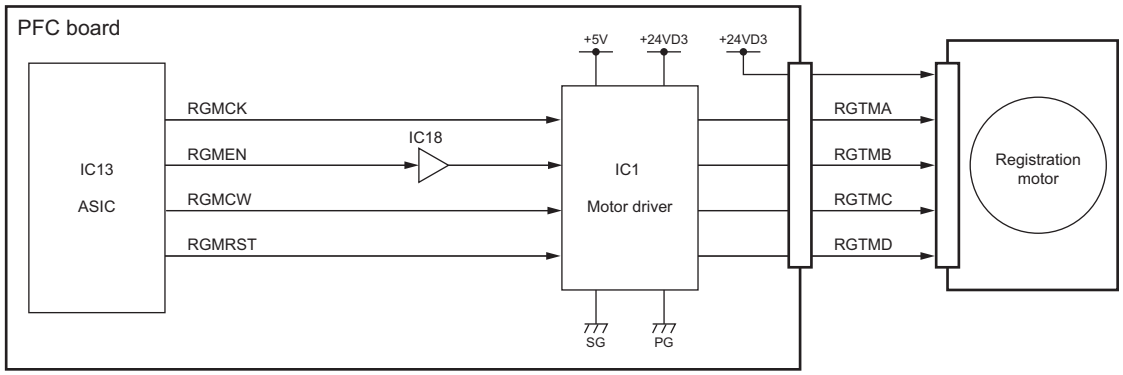

Fig. 10-10

Control signal

Signal	Function	Status	
		High level	Low level
RGMCK	Reference clock	---	---
RGMEN	Enable signal	ON	OFF
RGMCW	Rotation direction signal	CCW	CW
RGMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

10

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10.5.2 Transport motor-1 control circuit

The transport motor-1 is a stepping motor driven by the control signal output from the ASIC on the PFC board and rotates the registration roller.
The transport motor-1 is driven by the pulse signal (1TRTMA, 1TRTMB, 1TRTMC, 1TRTMD) output from the motor driver. These pulse signals are formed based on the reference clock (1TRMCK) and output only when the enable signal (1TRMEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

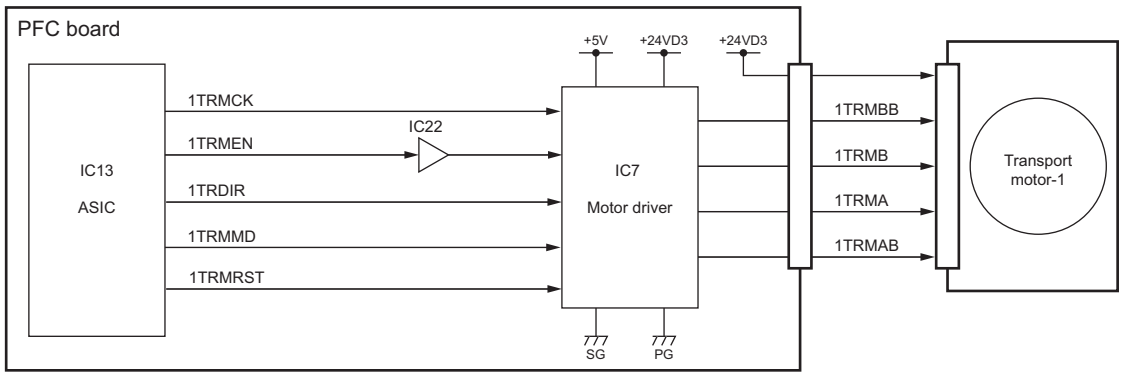

Fig. 10-11

Control signal

Signal	Function	Status	
		High level	Low level
1TRMCK	Reference clock	---	---
1TRMEN	Enable signal	ON	OFF
1TRMCW	Rotation direction signal	CCW	CW
1TRMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.3 Transport motor-2 control circuit

The transport motor-2 is a stepping motor driven by the control signal output from the ASIC on the PFC board and rotates the registration roller.
The transport motor- is driven by the pulse signal (2TRTMA, 2TRTMB, 2TRTMC, 2TRTMD) output from the motor driver. These pulse signals are formed based on the reference clock (2TRMCK) and output only when the enable signal (2TRMEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

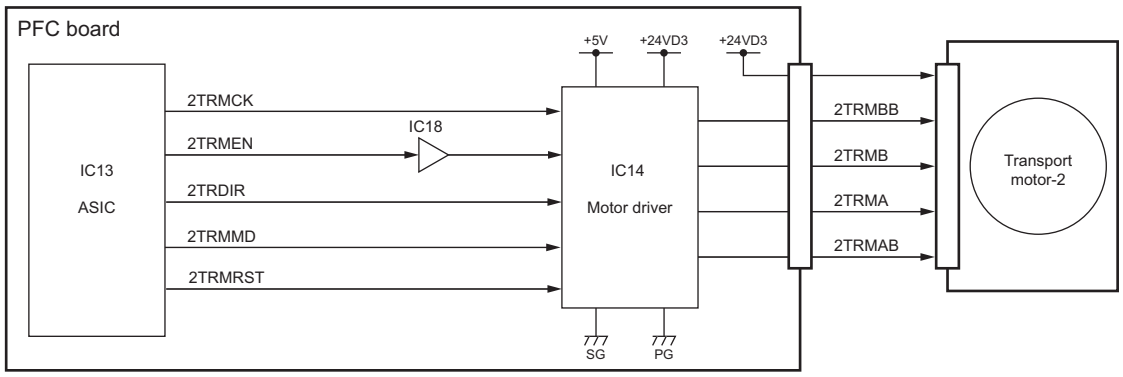

Fig. 10-12

Control signal

Signal	Function	Status	
		High level	Low level
2TRMCK	Reference clock	---	---
2TRMEN	Enable signal	ON	OFF
2TRMCW	Rotation direction signal	CCW	CW
2TRMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.4 Feed motor control circuit

The feed motor is a stepping motor driven by the control signal output from the ASIC on the PFC board and rotates the registration roller.
The feed motor is driven by the pulse signal (PFMA, PFMB, PFMC, PFMD) output from the motor driver. These pulse signals are formed based on the reference clock (PFCK) and output only when the enable signal (PFEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

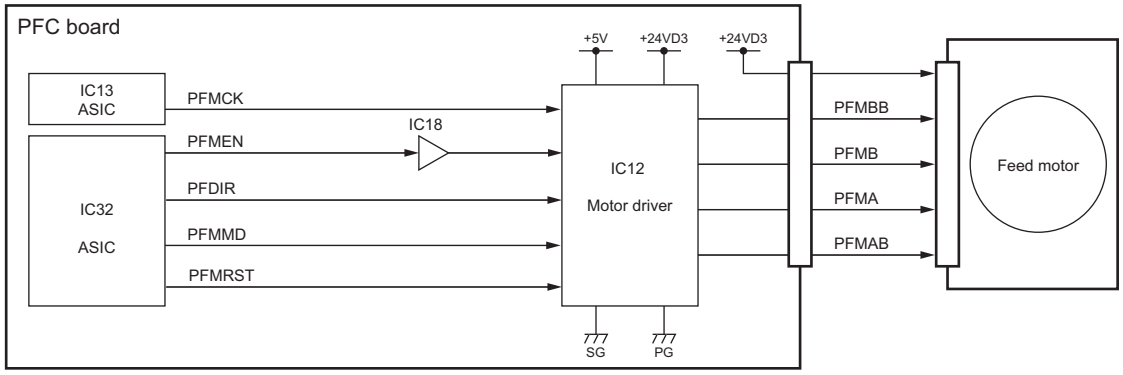

Fig. 10-13

Control signal

Signal	Function	Status	
		High level	Low level
PFMCK	Reference clock	---	---
PFMEN	Enable signal	ON	OFF
PFMCW	Rotation direction signal	CCW	CW
PFMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.5 Feed/Transport motor control circuit

The feed/transport motor, which is a brush-less DC motor driven by control signals from the ASIC on the PFC board, drives the feed roller, pickup roller and transport roller in each drawer.

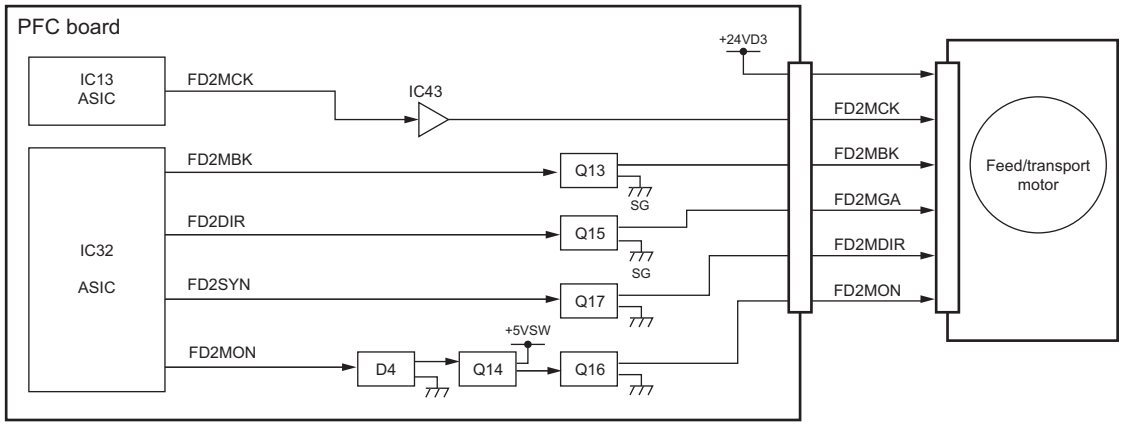

Fig. 10-14

Control signal

Signal	Function	Status	
		High level	Low level
FDMON	Motor ON signal	OFF	ON
FDMDIR	Rotation direction signal	CCW	CW (unused)
FDMGA	Speed switching signal	High speed	Low speed
FDMCK	Reference clock	---	---
FDMRDY	Rotation lock detection signal	Unlocked	Locked (Rotating at a constant speed)

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis
* FDMDIR signal is fixed at a high level and rotates only counter clockwise.
* When thick paper or OHP sheet is used, the clock frequency of FDMCK signal is changed to reduce the motor speed in half and lower the paper transport speed so that the fusibility of toner is improved.
* When the rotation speed of the motor is set to a low speed, FDMGA signal is changed to a low level to suppress the rotation fluctuation of the motor.

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10.5.6 Tray-up motor-1 control circuit

The tray-up motor-1 is a DC brush motor driven by the control signal output from the ASIC on the PFC board and moves up the tray in each drawer.
The motor driver outputs the drive signal (CS1TUMA -0A, CS1TUMB-1A) to the motor based on the control signal (CS1TUMA-0C, CS1TUMB-1C) output from the ASIC. The motor operates the rotation, stop or brake according to the status of these drive signals.

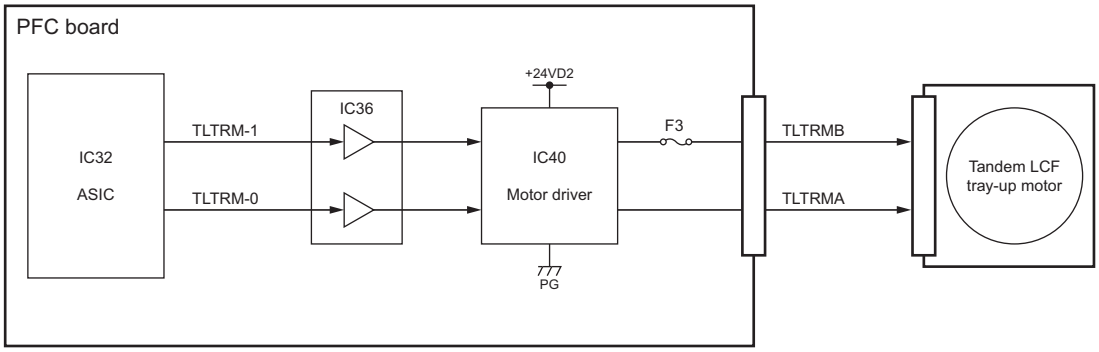

Fig. 10-15

Control signal

Signal				Motor status
ASIC output		Motor driver output		
CS1TUMA-0C	CS1TUMB-1C	CS1TUMA-0A	CS1TUMB-1A	
L	L	OFF (high impedance)		Stop
L	H	L	H	CW (Tray-up of 2nd drawer)
H	L	H	L	CCW (Tray-up of 1st drawer)
H	H	H	H	Brake

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.7 Tray-up motor-2 control circuit

The tray-up motor-2 is a DC brush motor driven by the control signal output from the ASIC on the PFC board and moves up the tray in each drawer.
The motor driver outputs the drive signal (CS1TUMA -0A, CS1TUMB-1A) to the motor based on the control signal (CS1TUMA-0C, CS1TUMB-1C) output from the ASIC. The motor operates the rotation, stop or brake according to the status of these drive signals.

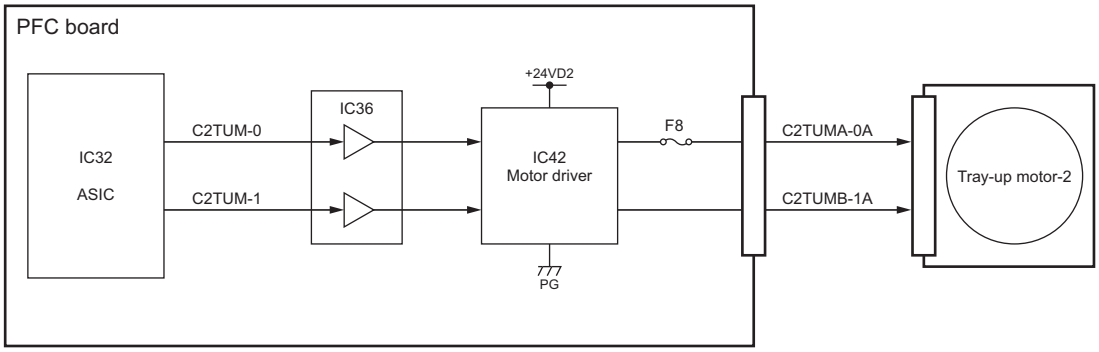

Fig. 10-16

Control signal

Signal				Motor status
ASIC output		Motor driver output		
CS1TUMA-0C	CS1TUMB-1C	CS1TUMA-0A	CS1TUMB-1A	
L	L	OFF (high impedance)		Stop
L	H	L	H	CW (Tray-up of 4th drawer)
H	L	H	L	CCW (Tray-up of 3rd drawer)
H	H	H	H	Brake

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.8 Tandem LCF tray-up motor control circuit

The tandem LCF tray-up motor is a DC brush motor driven by the control signal output from the ASIC on the PFC board and moves up the tandem LCF tray.
The motor driver outputs the drive signal (TLTRM-0, TLTRM-1) to the motor based on the control signal (TLTRMA, TLTRMB) output from the ASIC. The motor operates the rotation, stop or brake according to the status of these drive signals.

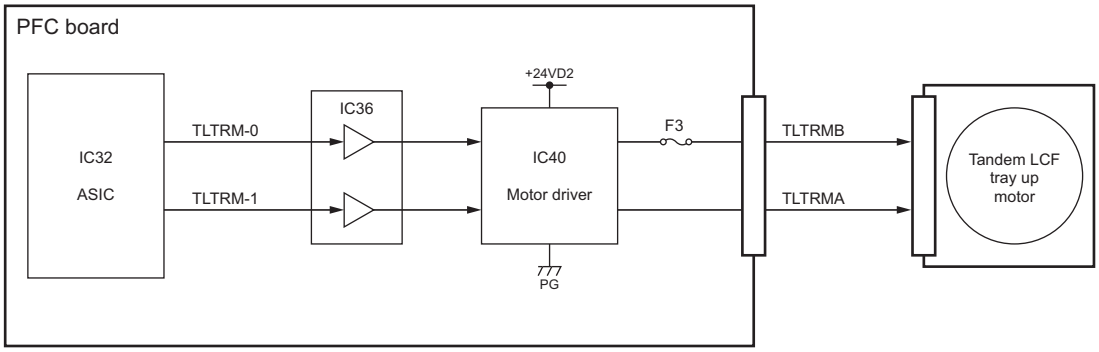

Fig. 10-17

Control signal

Signal				Motor status
ASIC output		Motor driver output		
TLTRM-0	TLTRM-1	TLTRMA	TLTRMB	
L	L	OFF (high impedance)		Stop
L	H	L	H	CCW (Tray-down)
H	L	H	L	CW (Tray-up)
H	H	L	L	Brake

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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10.5.9 Tandem LCF end fence motor control circuit

The tandem LCF end fence motor is a DC brush motor driven by the control signal output from the ASIC on the PFC board and sift the end fence.
The motor driver outputs the drive signal (TLTMM -0, TLTMM-1) to the motor based on the control signal (TLTEMA, TLTEMB) output from the ASIC. The motor operates the rotation, stop or brake according to the status of these drive signals.

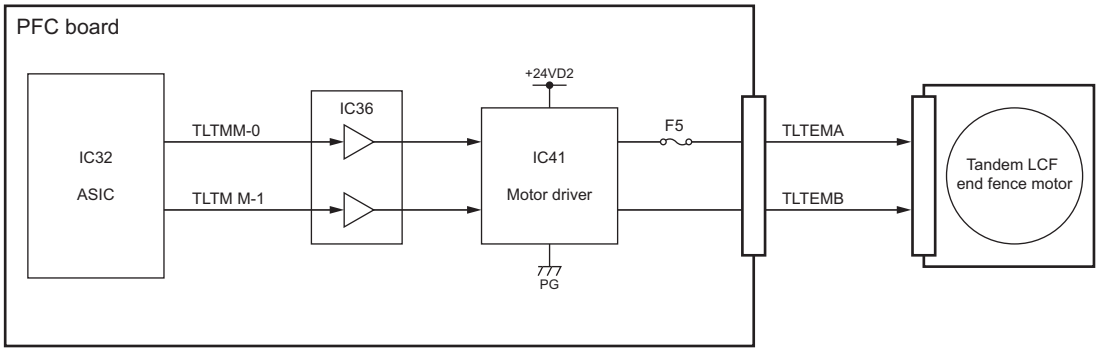

Fig. 10-18

Control signal

Signal				Motor status
ASIC output		Motor driver output		
TLTMM-0	TLTMM-1	TLTEMA	TLTEMB	
L	L	OFF (high impedance)		Stop
L	H	L	H	CCW (Transporting movement)
H	L	H	L	CW (Returning movement)
H	H	L	L	Brake

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

10

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10.6 Disassembly and Replacement

10.6.1 Bypass feed tray

(1) Take off the duplexing unit front cover.
📖 P.3-45 "3.5.13 Duplexing unit front cover"
(2) Take off the duplexing unit rear cover.
📖 P.3-45 "3.5.14 Duplexing unit rear cover"
(3) Disconnect 1 connector and remove 1 screw.

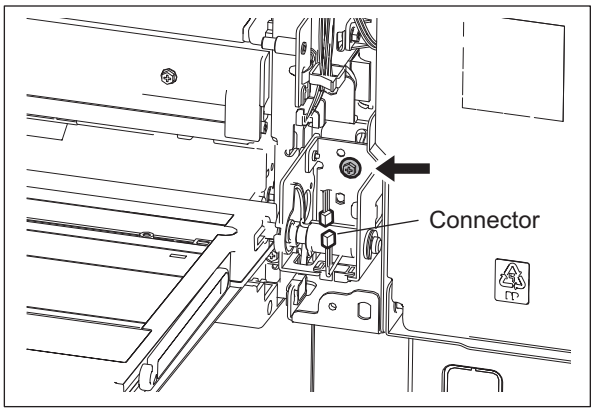

Fig. 10-19

(4) Lift up the hinge slightly and then take off the bypass tray.

Note:
When installing or taking off the bypass tray, keep it setting up because it is tensed with a spring.

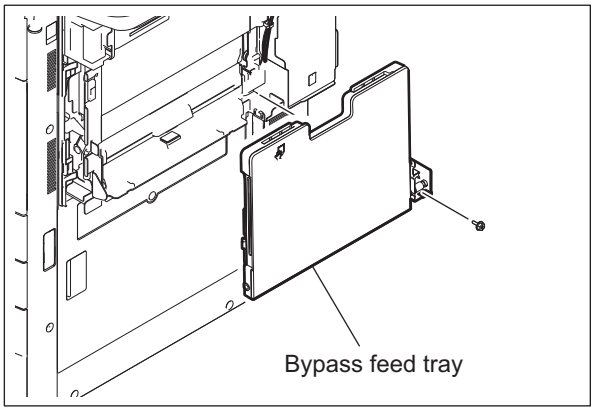

Fig. 10-20

10.6.2 Bypass feed unit

(1) Take off the bypass feed tray.
📖 P.10-22 "10.6.1 Bypass feed tray"
(2) Open the duplexing unit.
(3) Remove 1 screw and take off the SFB lower cover.

Note:
When the optional LCF is installed, be sure to install the cover with the duplexing unit opened wider than the LCF.

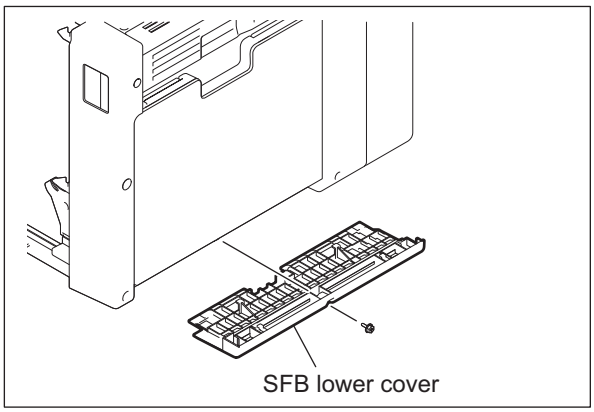

Fig. 10-21

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(4) Disconnect 4 connectors and remove 2 screws. Then take off the bypass feed unit.

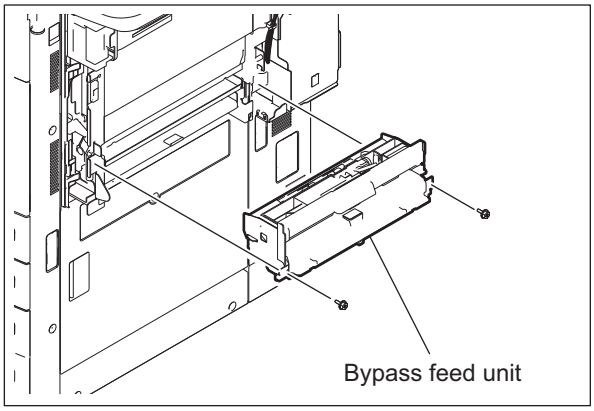

Fig. 10-22

10.6.3 Bypass pickup solenoid (SOL8)

(1) Take off the bypass feed unit.
📖 P.10-22 "10.6.2 Bypass feed unit"
(2) Remove a spring and 2 screws. Then take off the bypass pickup solenoid together with its link arm.

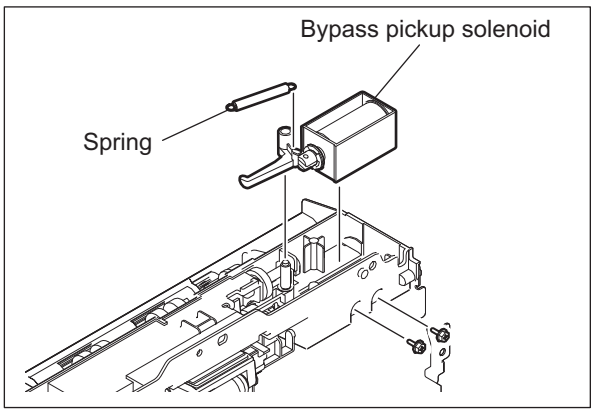

Fig. 10-23

10.6.4 Bypass paper sensor (S71)

(1) Take off the bypass pickup solenoid.
📖 P.10-23 "10.6.3 Bypass pickup solenoid (SOL8)"
(2) Take off the actuator.

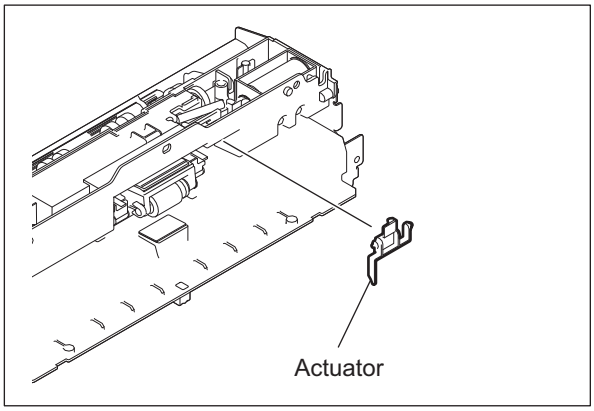

Fig. 10-24

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(3) Disconnect 1 connector and release 3 latches. Then take off the bypass paper sensor.

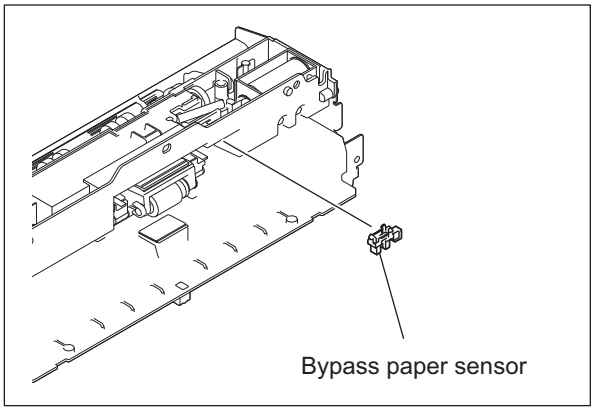

Fig. 10-25

10.6.5 Bypass pickup roller PM

(1) Remove 2 screws and then take off the SFB upper cover.

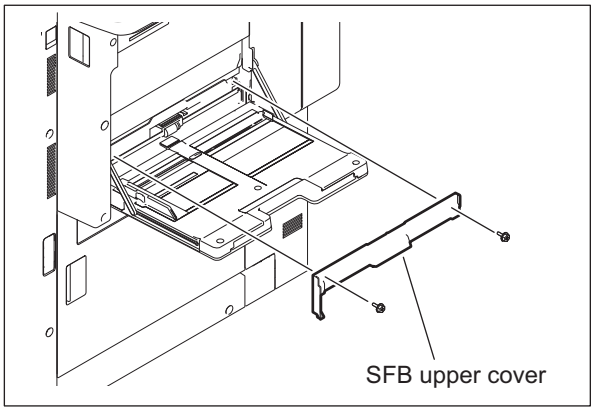

Fig. 10-26

(2) Remove 1 clip and pull out the shaft. Then take off the bypass pickup roller.

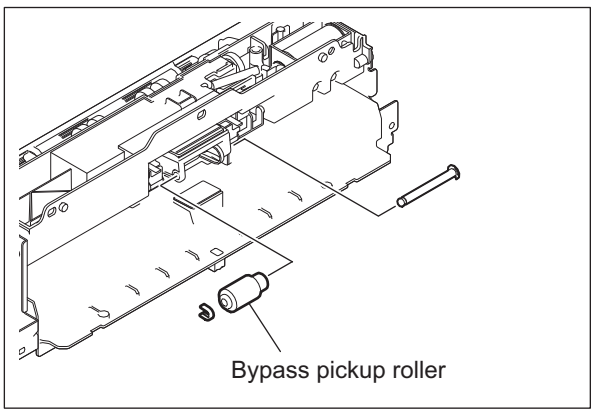

Fig. 10-27

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10.6.6 Bypass upper unit

(1) Take off the bypass feed unit.
P.10-22 "10.6.2 Bypass feed unit"
(2) Remove 5 screws, and then take off the bracket.

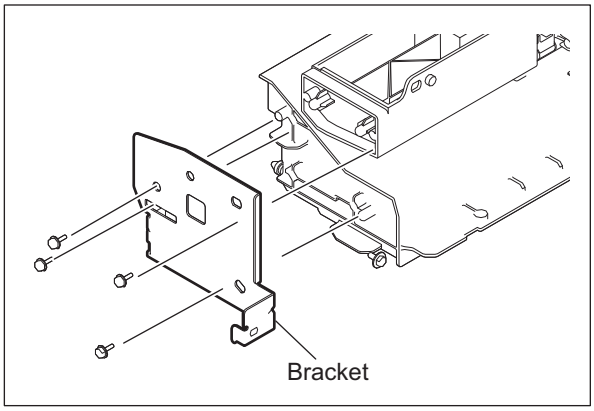

Fig. 10-28

(3) Remove 1 E-ring, 1 belt, 1 pulley and 1 bearing.

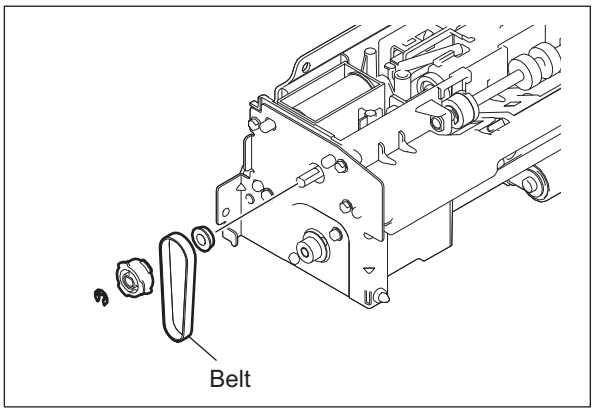

Fig. 10-29

(4) Remove 2 screws, and then take off the bypass upper unit.

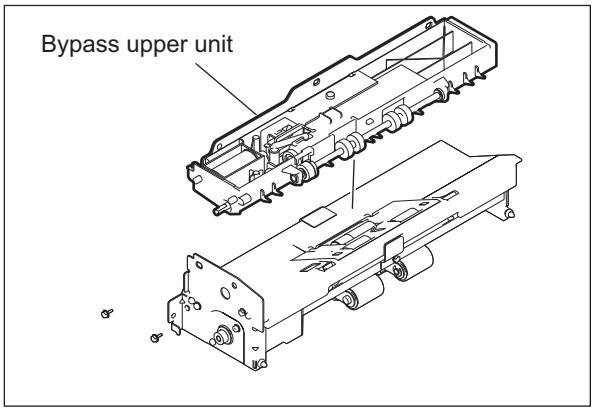

Fig. 10-30

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10.6.7 Bypass feed roller PM

(1) Take off the bypass upper unit.
P.10-25 "10.6.6 Bypass upper unit"
(2) Remove the clip and take off the bypass feed roller.

Notes:
Make sure the following items when assembling the bypass feed roller.
1. Set the timing belt to the pulley securely.
2. Do not put the wrong position when setting the timing belt.
3. Be sure to insert the clip into the groove of shaft.
4. Check that there is no stain such as oil on the surface of timing belt, the pulley and the roller.
5. Install the bypass pickup roller and the bypass feed roller in the correct direction.

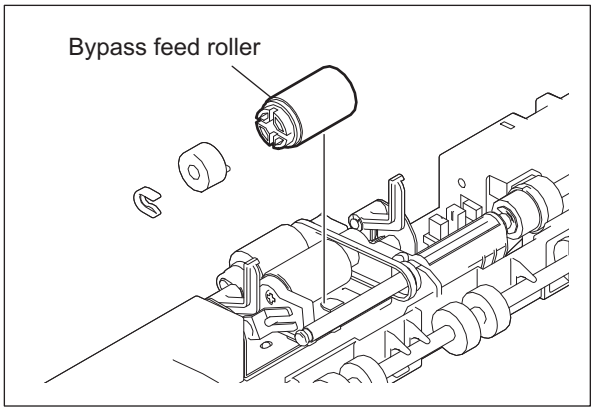

Fig. 10-31

10.6.8 Bypass transport roller

(1) Take off the bypass upper unit.
P.10-25 "10.6.6 Bypass upper unit"
(2) Remove 1 E-ring and slide the bushing to the inner side.

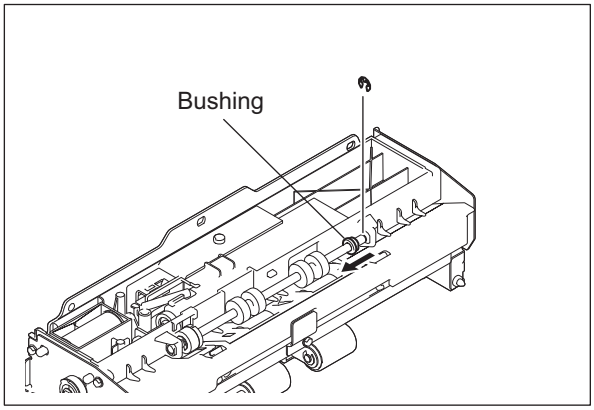

Fig. 10-32

(3) Move the shaft to the right side and remove the left bushing. Then take off the bypass transport roller.

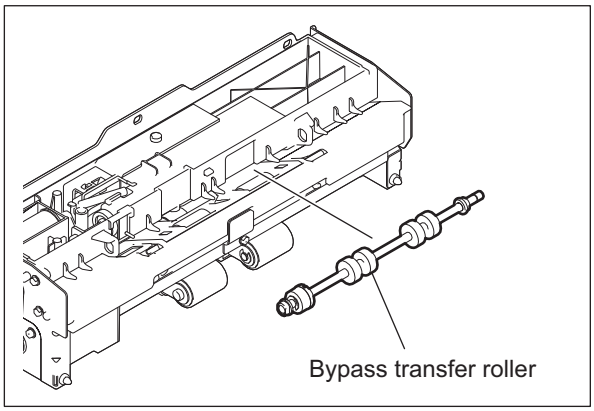

Fig. 10-33

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10.6.9 Bypass motor(M12)

(1) Take off the bypass feed unit.
📖 P.10-22 "10.6.2 Bypass feed unit"
(2) Remove 1 belt, 1 E-ring, 1 gear and 1 bearing.

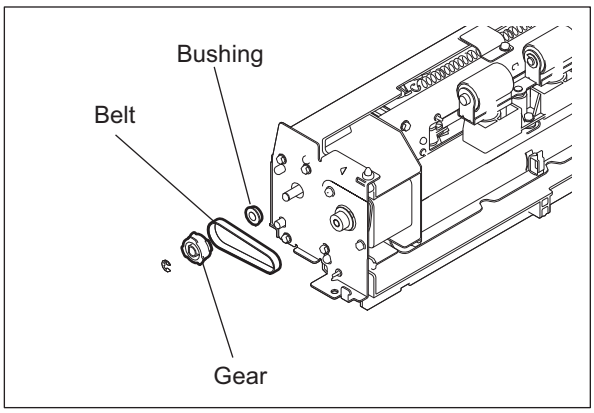

Fig. 10-34

(3) Remove 1 screw and the grounding wire.

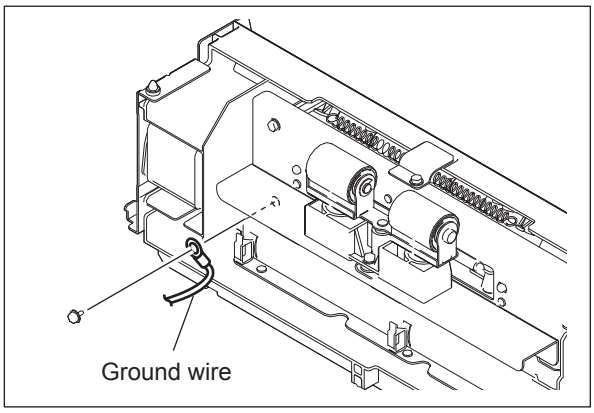

Fig. 10-35

(4) Remove 4 screws and a bracket.

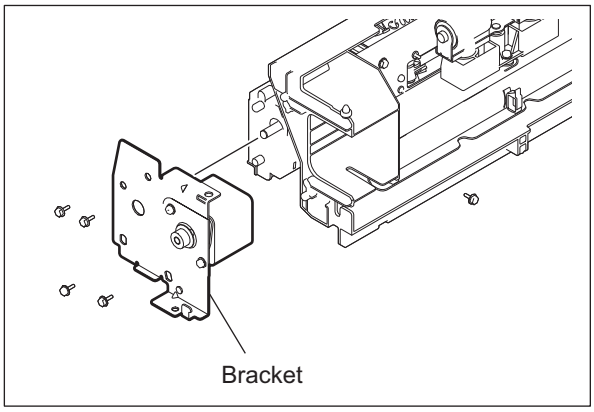

Fig. 10-36

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(5) Remove 2 screws and then take off the bypass motor.

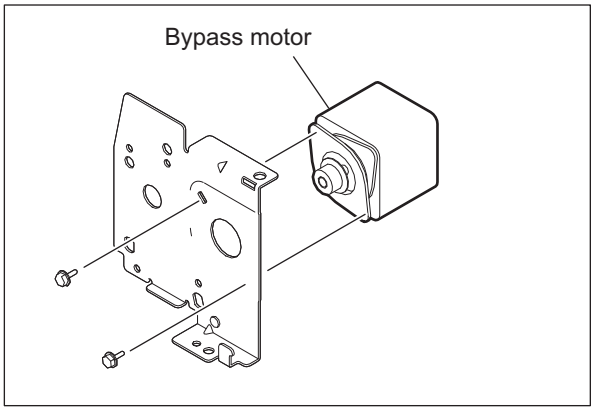

Fig. 10-37

10.6.10 1st drawer idling roller

(1) Take off the bypass feed unit.
📖 P.10-22 "10.6.2 Bypass feed unit"
(2) Remove 1 screw and take off the 1st drawer idling roller unit.

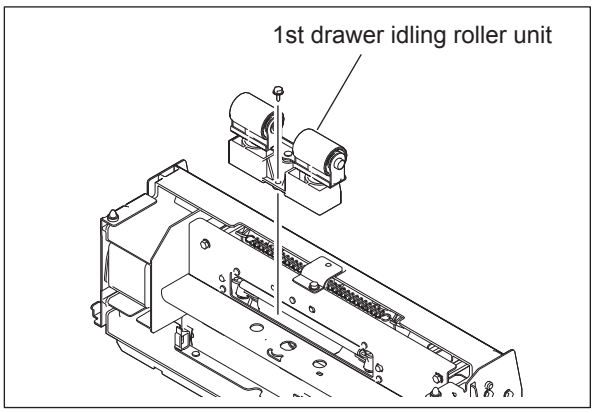

Fig. 10-38

(3) Remove 2 screws and take off the roller assembly.

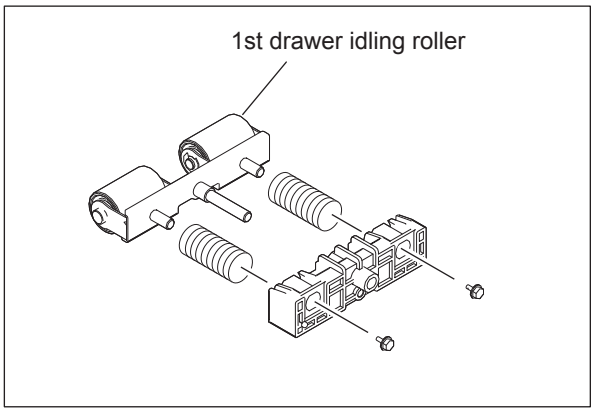

Fig. 10-39

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(4) Remove the 2 E-rings and take off the idling roller.

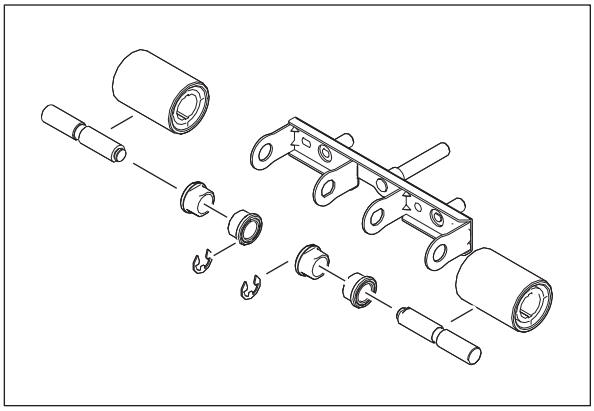

Fig. 10-40

Notes:

1. When assembling the unit, pay attention to the orientation of the bracket.
2. After the unit was assembled, perform position adjustment of the media sensor.

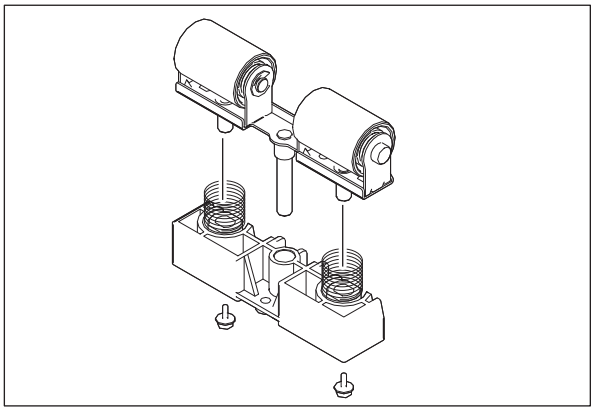

Fig. 10-41

10.6.11 Bypass separation roller PM

(1) Take off the bypass feed unit.
P.10-22 "10.6.2 Bypass feed unit"
(2) Remove 1 screw and take off the bracket.

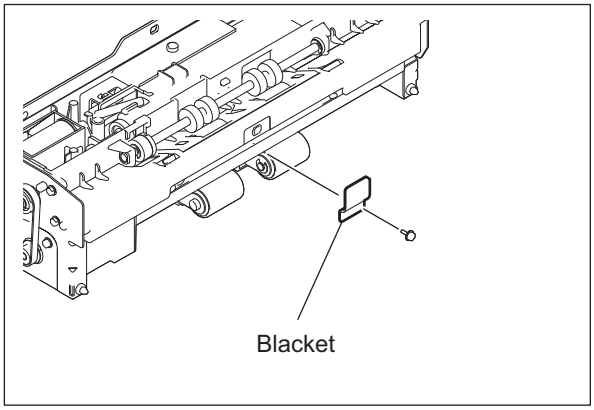

Fig. 10-42

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(3) Remove 4 screws and take off the SFB lower unit.

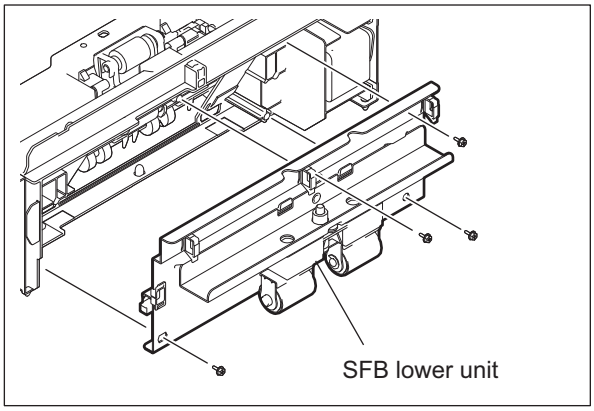

Fig. 10-43

(4) Disconnect 1 connector, remove 2 screws and take off the SFB lower guide.

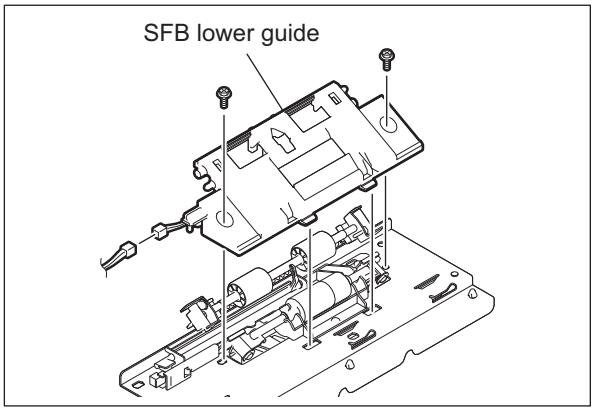

Fig. 10-44

(5) Remove 2 screws and take off the SFB lower guide.

Note:
Make sure not to damage the latch of the holder.

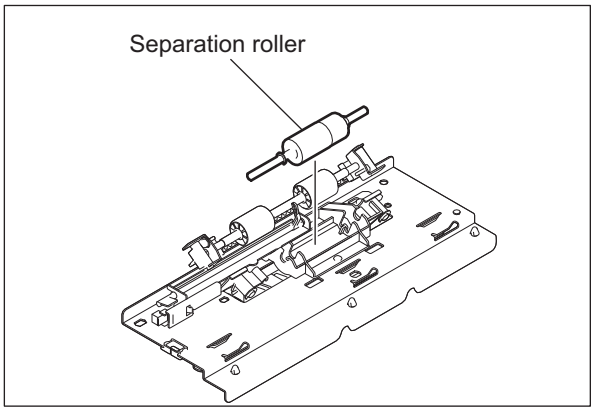

Fig. 10-45

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10.6.12 Bypass feed sensor (S72)

(1) Take off the SFB lower unit.
P.10-29 "10.6.11 Bypass separation roller"
(2) Disconnect 1 connector and release 3 latches. Then take off the bypass feed sensor by pushing its actuator.

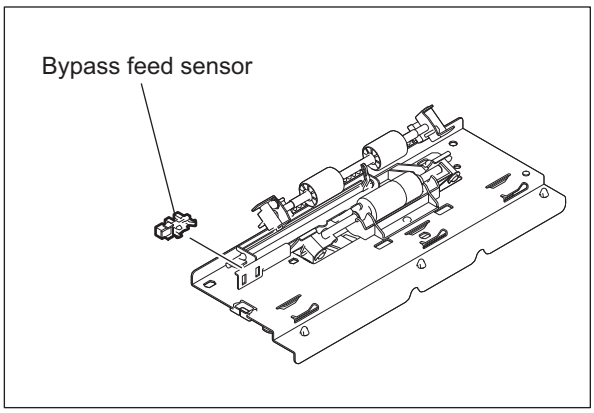

Fig. 10-46

10.6.13 Bypass paper size detection sensor (S70)

(1) Take off the bypass feed tray.
P.10-22 "10.6.1 Bypass feed tray"
(2) Remove 5 screws and take off the upper tray.

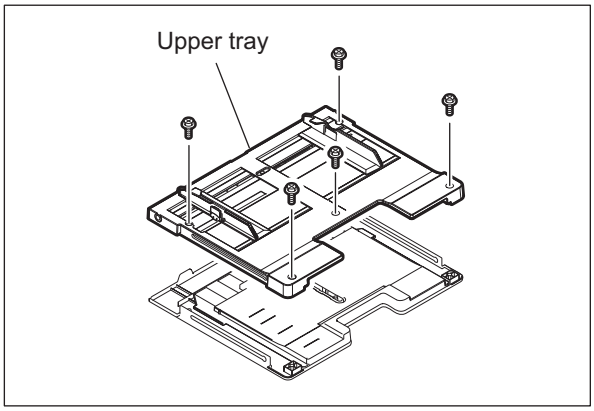

Fig. 10-47

(3) Remove 1 screw and remove a plate spring.

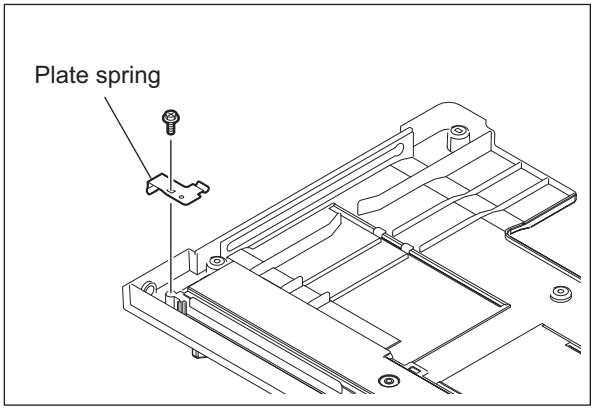

Fig. 10-48

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(4) Remove 1 screw and take off the bracket.

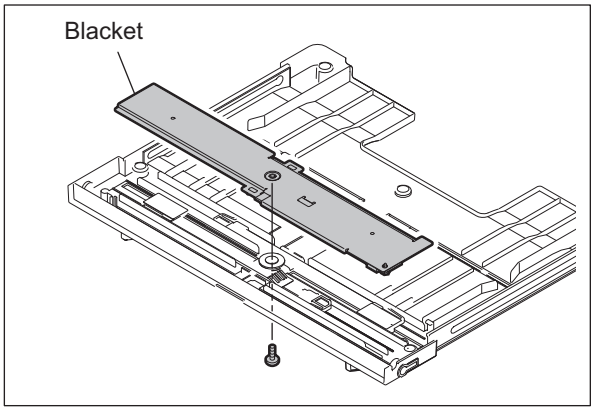

Fig. 10-49

(5) Disconnect 1 connector and remove 1 screw. Then take off the bypass paper size detection sensor.

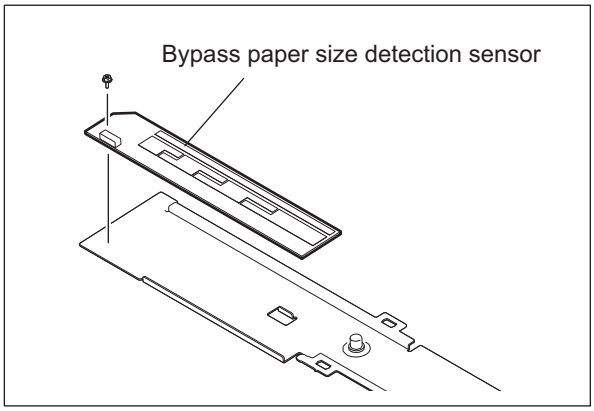

Fig. 10-50

10.6.14 Drawer feeding unit

(1) Open the duplexing unit and the feed cover.
(2) Remove 1 clip and take off the feed cover.

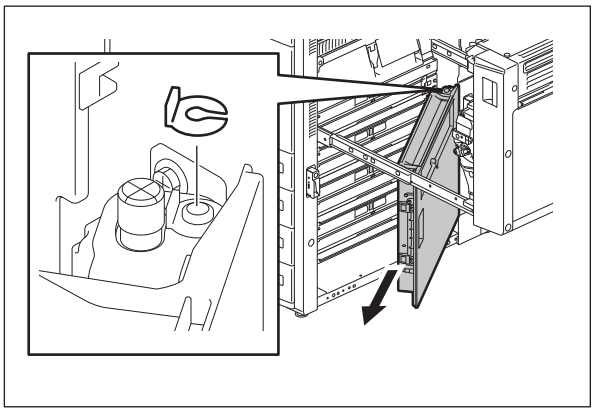

Fig. 10-51

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(3) Pull out the drawer.
(4) Disconnect 1 connector and remove 2 screws. Then take off the drawer feeding unit.

Note:
When taking off the drawer feeding unit of the 1st drawer, perform position adjustment for the media sensor after the unit was reinstalled.
📖 P.10-67 "10.7.1 Adjustment of the media sensor position"

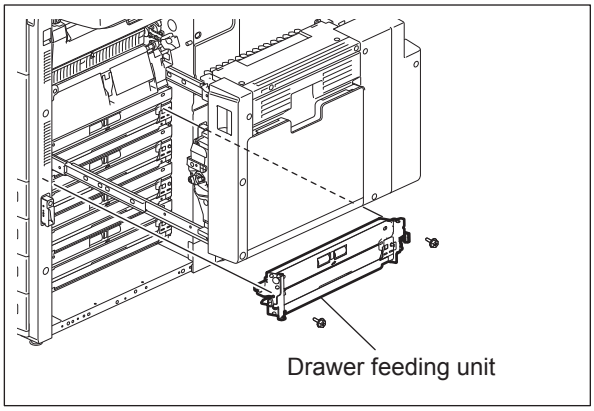

Fig. 10-52

10.6.15 Feed roller PM

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Remove 1 clip. Press down the lever and take off the feed roller.

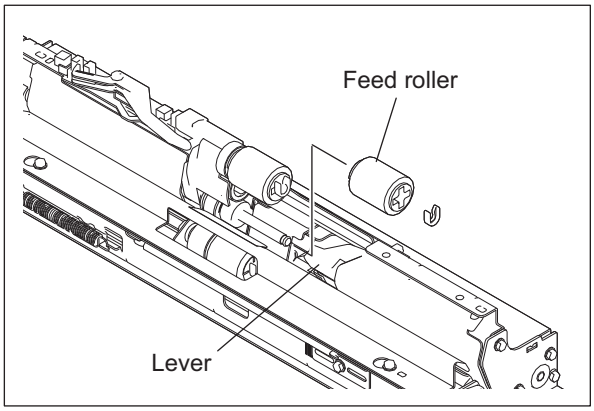

Fig. 10-53

10.6.16 Pickup roller PM

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Remove 1 clip and take off the pickup roller.

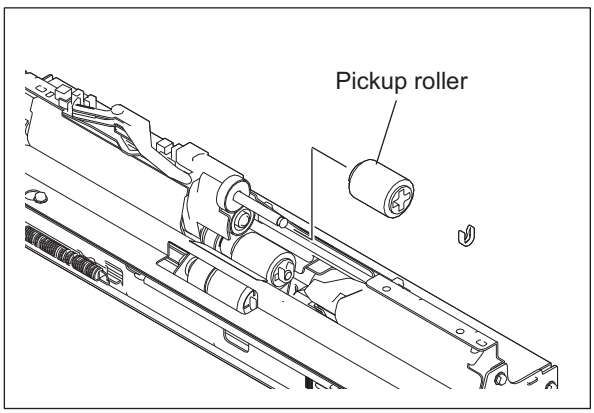

Fig. 10-54

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10.6.17 Separation roller PM

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Loosen 2 screws and take off the paper guide A.
(3) Remove 1 clip and take off the separation roller.

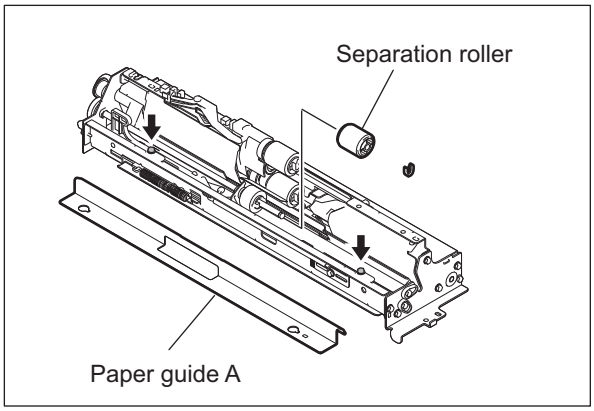

Fig. 10-55

10.6.18 Transport roller

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Loosen 2 screws and take off the paper guide A.

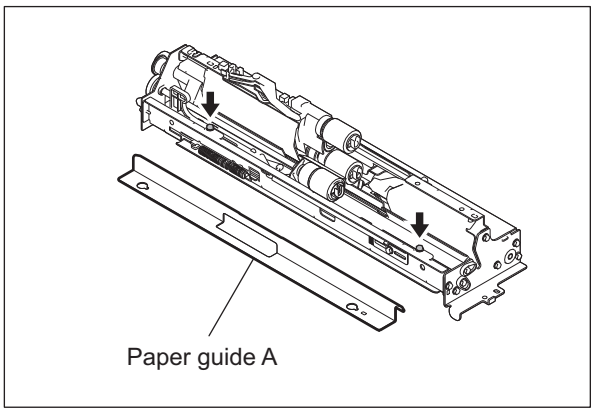

Fig. 10-56

(3) Remove 2 screws and 2 holder, and then take off the paper guide B and paper guide C.

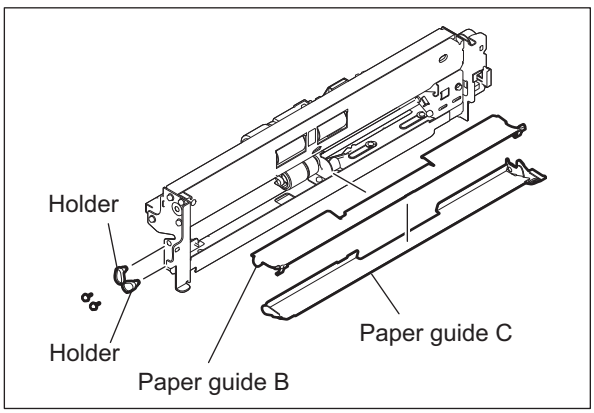

Fig. 10-57

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(4) Remove 1 screw and then take off the bracket.

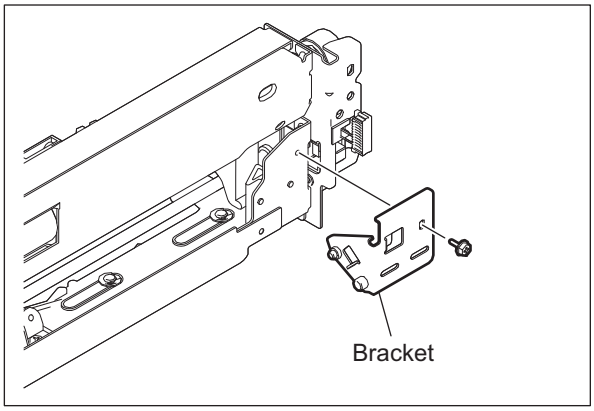

Fig. 10-58

(5) Disconnect 1 connector and remove 1 screw. Then take off the sensor cover.

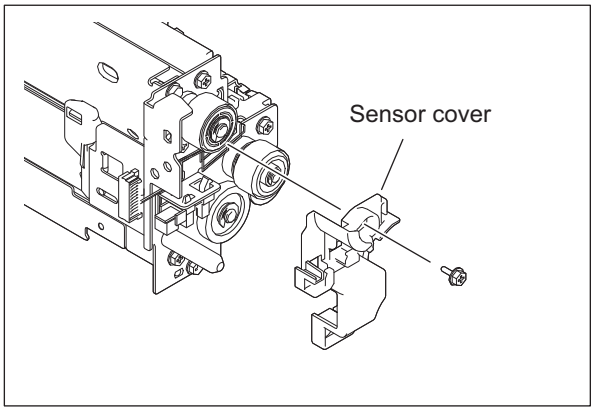

Fig. 10-59

(6) Remove 1 E-ring and the gear.

Note:
When assembling the unit, pay attention to the orientation of the gear.

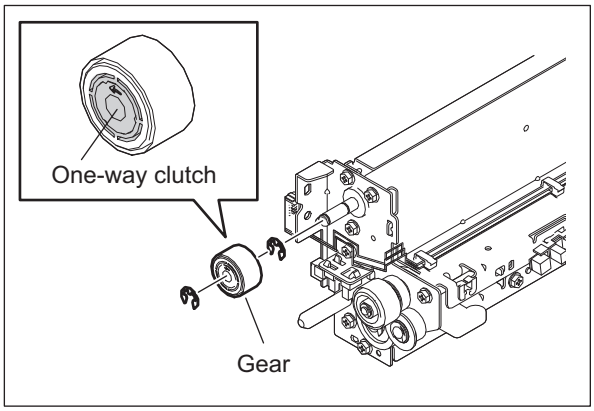

Fig. 10-60

(7) Remove 4 screws, and then take off the paper guide D.

Note:
When reassembling, make sure the boss of the paper guide is securely inserted into the hole of the plate.

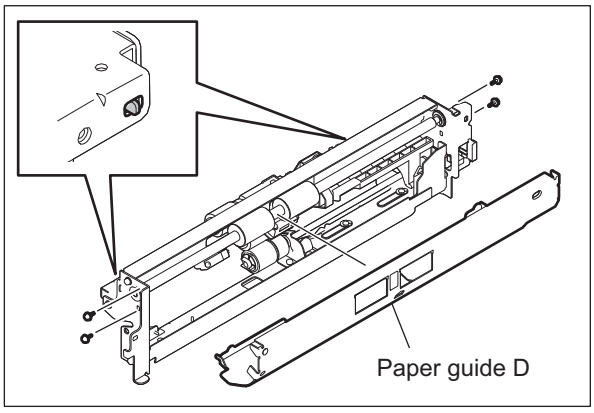

Fig. 10-61

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(8) Remove 1 E-ring and slide the bearing to the inner side. Then take off the transport roller.

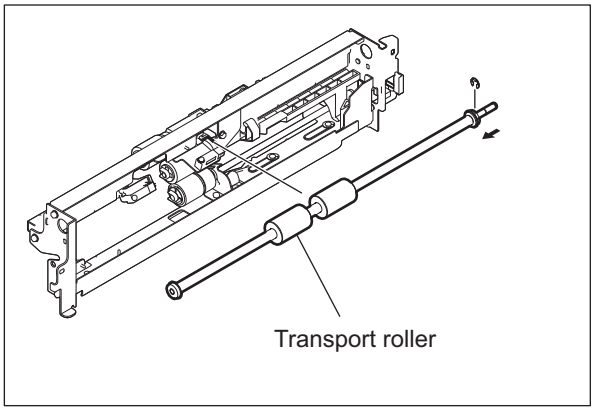

Fig. 10-62

10.6.19 Drawer detection sensor (S73/S81/S89/S97)

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Disconnect 1 connector and remove 1 screw. Then take off the sensor cover.

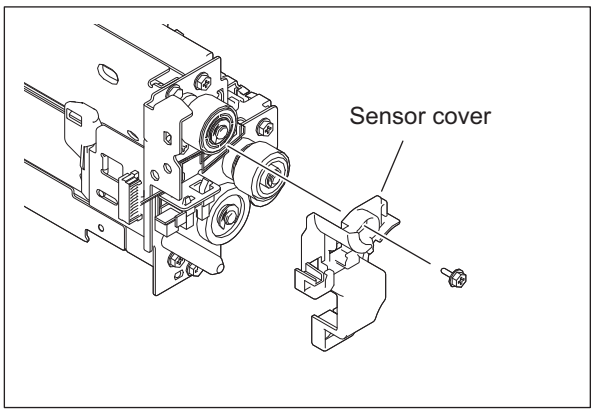

Fig. 10-63

(3) Release 3 latches and take off the drawer detection sensor.

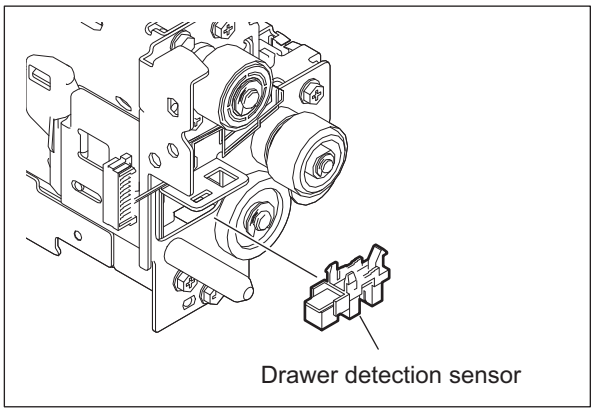

Fig. 10-64

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10.6.20 Drawer feed sensor (S78/S86/S94/S102)

(1) Take off the drawer feeding unit.
P.10-32 "10.6.14 Drawer feeding unit"
(2) Remove 1 screw and 1 clamp. Then take off the sensor bracket.

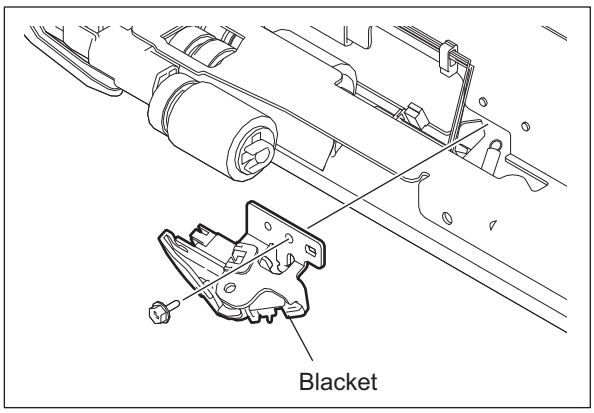

Fig. 10-65

(3) Disconnect 1 connector and remove 1 screw. Then take off the drawer feed sensor.

Note:
When installing the sensors, make sure that the protrusion of each sensor is inserted into the hole of the bracket securely.

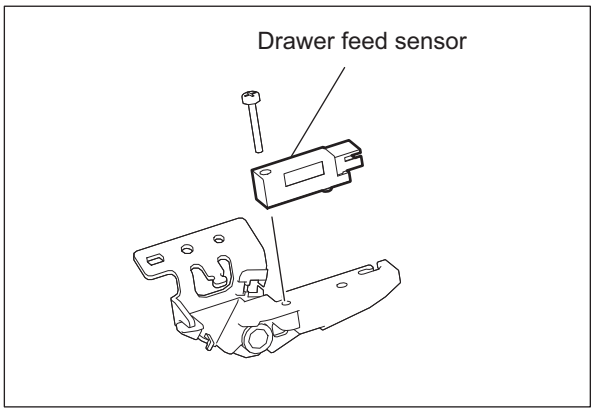

Fig. 10-66

10.6.21 Drawer transport sensor (S77/S85/S93/S101)

(1) Take off the drawer feeding unit.
P.10-32 "10.6.14 Drawer feeding unit"
(2) Disconnect 1 connector and remove 1 screw. Then take off the sensor bracket.

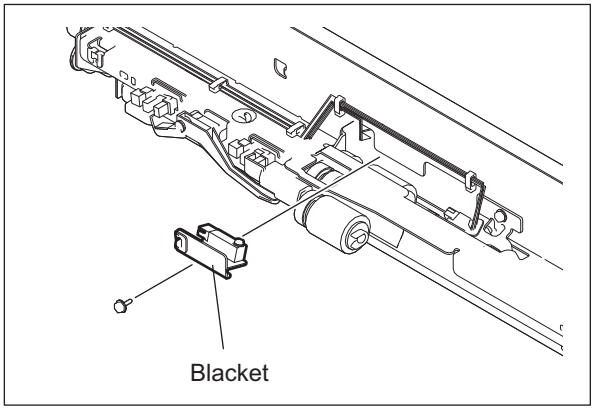

Fig. 10-67

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(3) Disconnect 1 connector and remove 1 screw. Then take off the drawer transport sensor.

Note:
When installing the sensors, make sure that the protrusion of each sensor is inserted into the hole of the bracket securely.

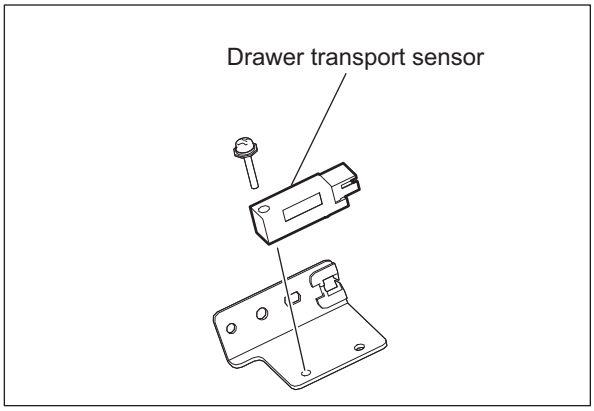

Fig. 10-68

10.6.22 Drawer empty sensor (S75/S83/S91/S99)

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Disconnect 1 connector and release 3 latches. Then take off the drawer empty sensor.

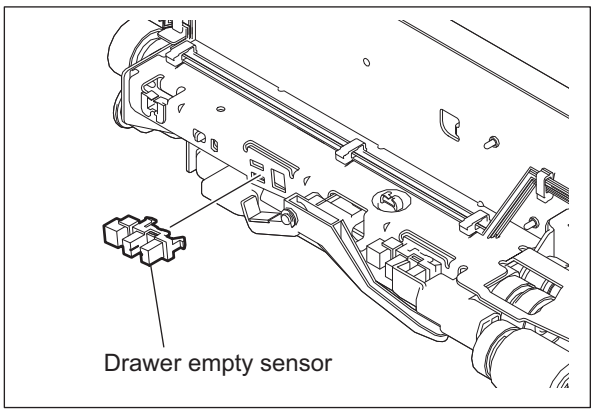

Fig. 10-69

10.6.23 Drawer tray-up sensor (S76/S84/S92/S100)

(1) Take off the drawer feeding unit.
📖 P.10-32 "10.6.14 Drawer feeding unit"
(2) Disconnect 1 connector and release 3 latches. Then take off the drawer tray-up sensor.

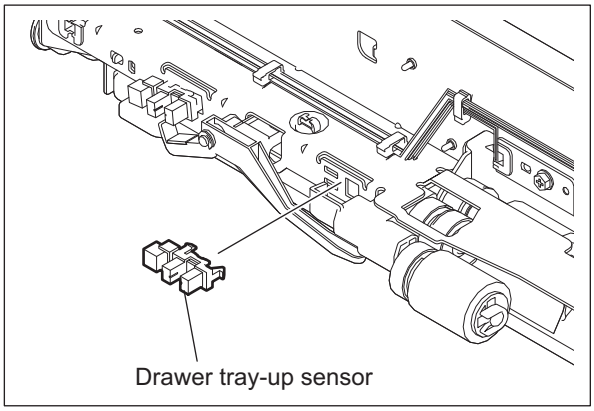

Fig. 10-70

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10.6.24 Drawer bottom sensor (S74/S82/S90/S98)

(1) Take off all the drawers.
P.10-46 "10.6.33 Drawer"
(2) Disconnect 1 connector and release 3 latches. Then take off the drawer bottom sensor.

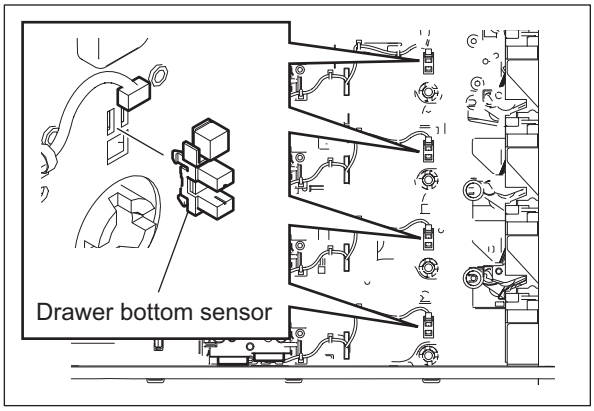

Fig. 10-71

10.6.25 Registration roller (Rubber)

(1) Take off the 2nd transfer roller front guide.
P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Remove 2 screws 2 springs and 2 holders.

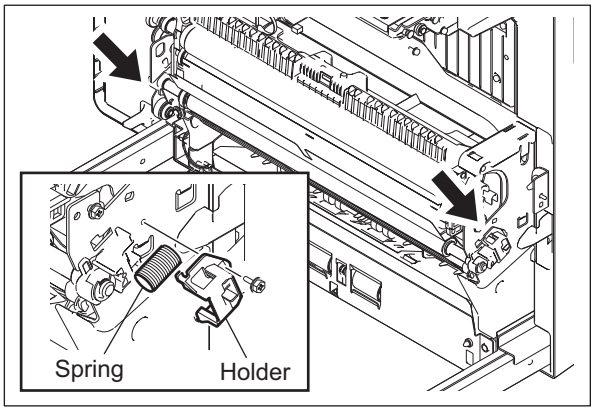

Fig. 10-72

Note:
Make sure that the springs are installed in a correct position because those for the front side differ from those for the rear side.

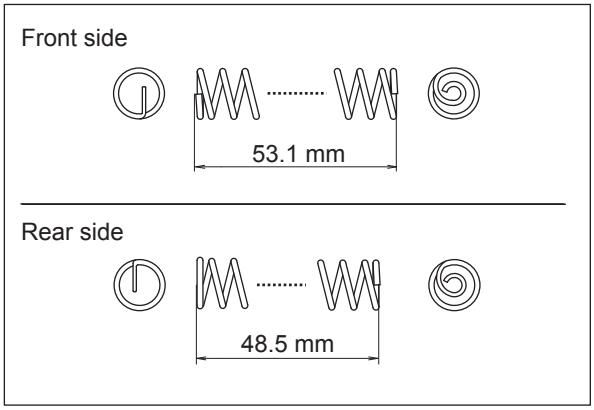

Fig. 10-73

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(3) Take off the registration roller (rubber).

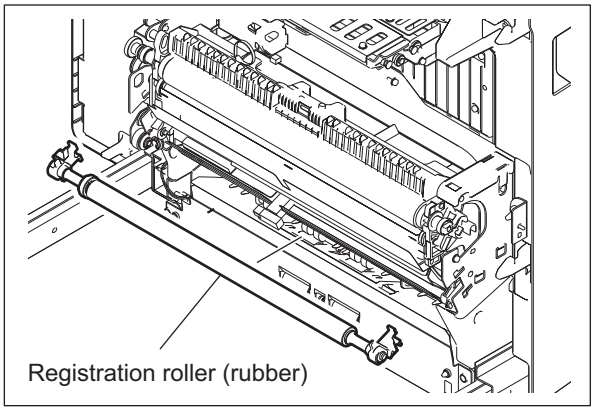

Fig. 10-74

(4) Remove 2 holders, 2 bearings, 3 E-rings, 1 gear, 1 ground plate and 1 pin from the registration roller.

Note:
Make sure that the holders and the bearings are installed in a correct position because those for the front side differ from those for the rear side.

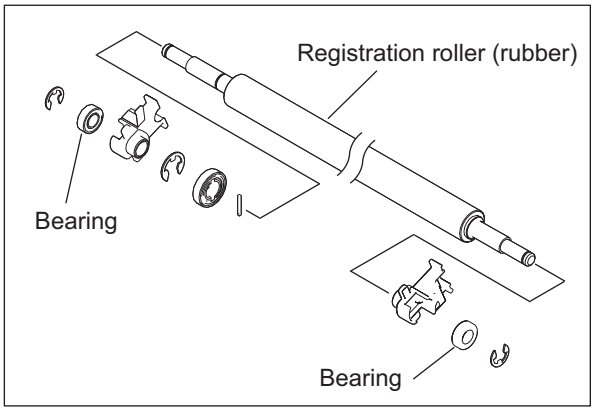

Fig. 10-75

10.6.26 Paper dust cleaning brush (registration roller)

(1) Take off the 2nd transfer unit.
📖 P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Remove 2 screws and slide the bracket of the brush toward you.
(3) Take off the paper dust cleaning brush quietly not to hit the bracket to the registration roller.

Note:
Clean paper dust on the brush, if any.

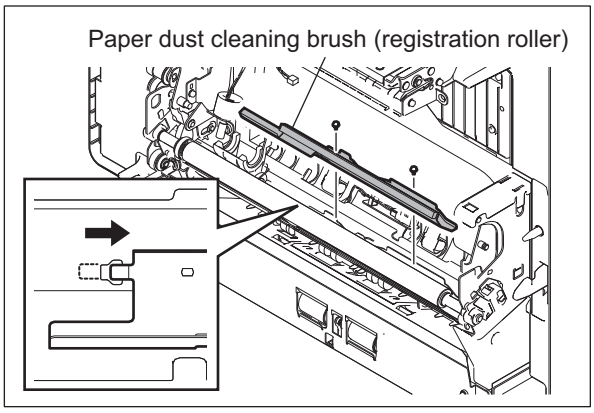

Fig. 10-76

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10.6.27 Registration guide

(1) Open the duplexing unit.
(2) Remove 3 screws and slide the registration guide slightly to the rear side to release the front hook.

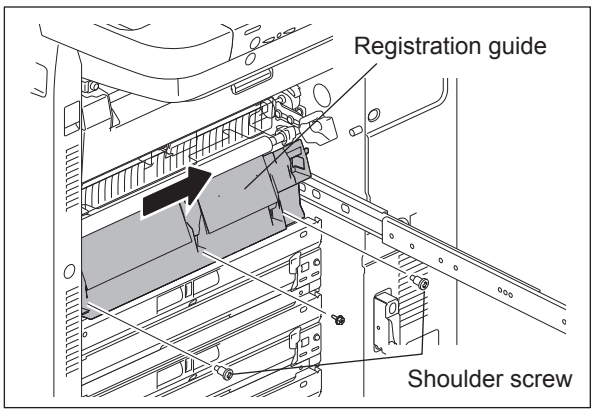

Fig. 10-77

(3) Disconnect 1 connector. Then take off the registration guide.

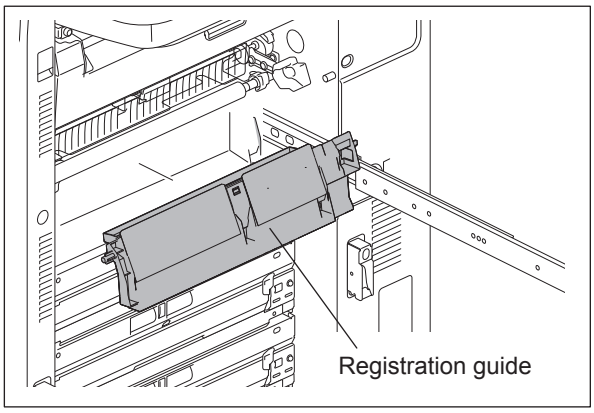

Fig. 10-78

10.6.28 Registration sensor (S52)

(1) Take off the registration guide.
📖 P.10-41 "10.6.27 Registration guide"
(2) Remove 3 screws and the paper dust receiving tray.

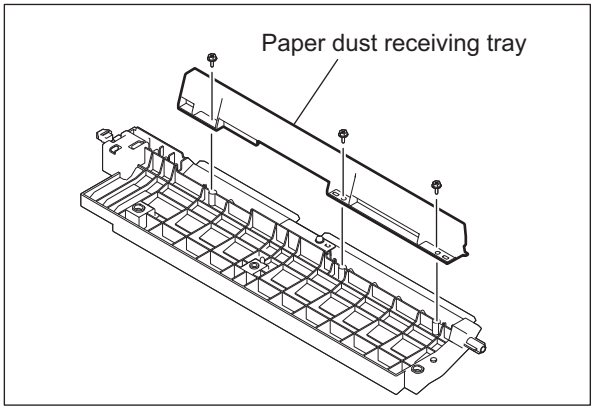

Fig. 10-79

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(3) Disconnect 1 connector and remove 1 screw. Then take off the registration sensor.

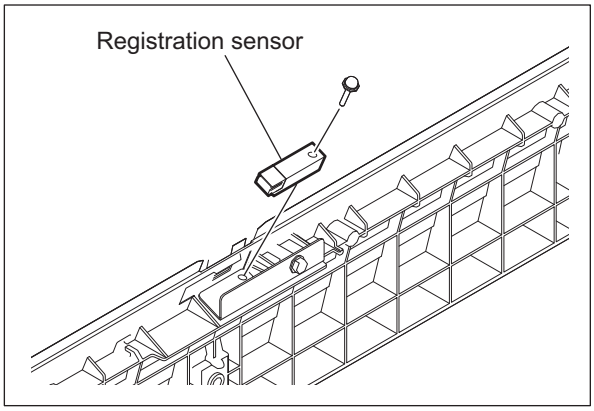

Fig. 10-80

10.6.29 Registration roller (Metal)

(1) Take off the registration guide.
📖 P.10-41 "10.6.27 Registration guide"
(2) Take off the registration motor.
📖 P.10-47 "10.6.35 Registration motor (M39)"
(3) Take off the laser unit cooling duct.
📖 P.9-16 "9.4.2 Laser optical unit cooling fan (front) (F22)"
(4) Remove 1 E-ring on the front side and remove the bearing.

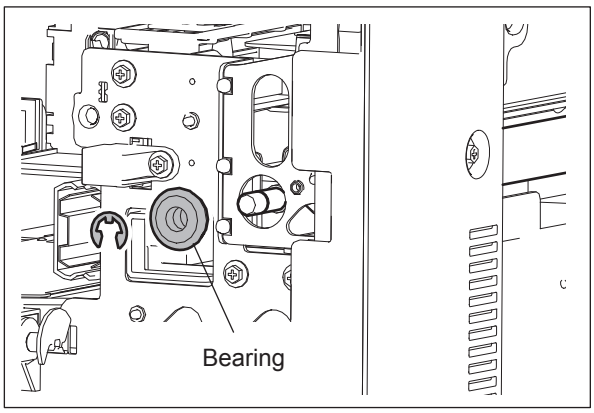

Fig. 10-81

(5) Take off the registration roller (metal) by sliding it to the rear side and pulling it out toward you.

Note:
When removing the registration roller (metal), be careful not to hit the roller gear on the rear side to the frame because it may scratch the roller.

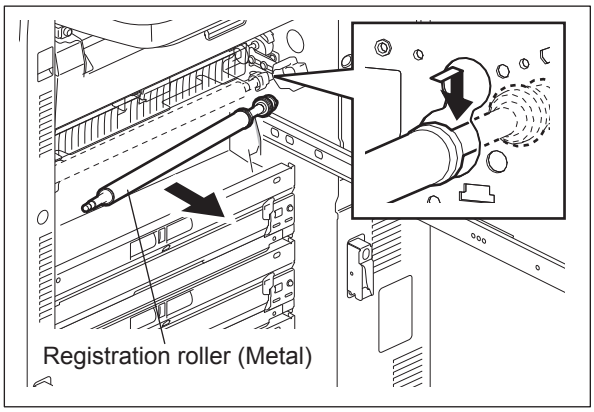

Fig. 10-82

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10.6.30 2nd transfer side paper clinging detection sensor (S51)

(1) Take off the 2nd transfer unit.
P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Disconnect 1 connector and remove 1 screw. Then take off the sensor holder.

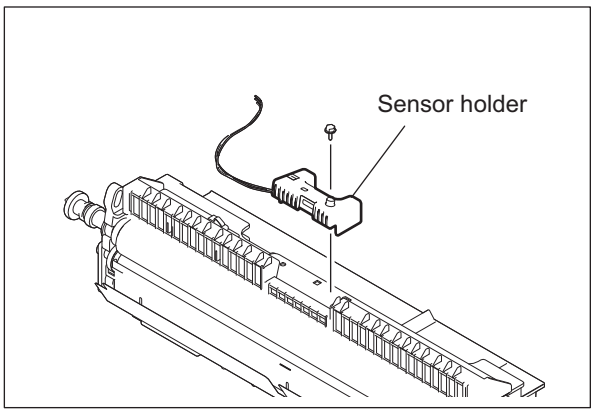

Fig. 10-83

(3) Remove 1 screw and then take off the 2nd transfer side paper clinging detection sensor.

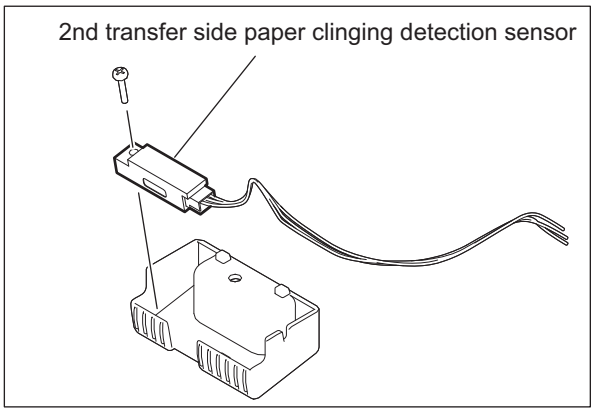

Fig. 10-84

Note:
When installing the sensor holder, screw it in while pressing it in the direction of the arrow.

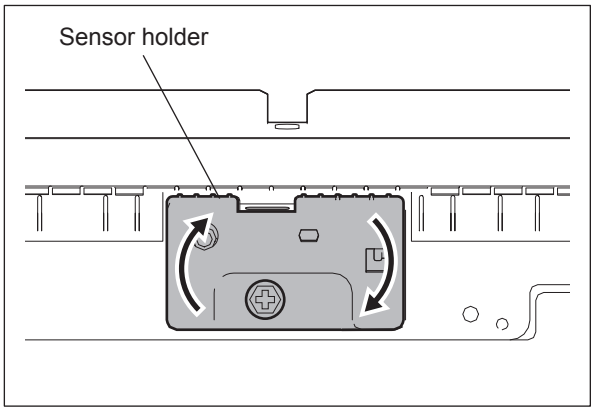

Fig. 10-85

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10.6.31 Media sensor (S69)

(1) Open the duplexing unit.
(2) Remove 1 screw and take off the SFB lower cover.

Note:
When the optional LCF is installed, be sure to install the cover with the duplexing unit opened wider than the LCF.

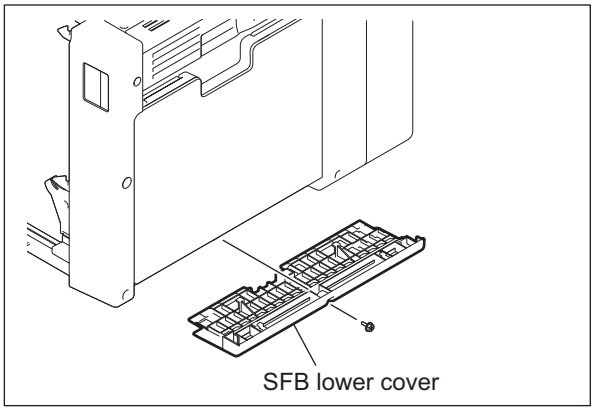

Fig. 10-86

(3) Remove or fully loosen the adjustment screw.

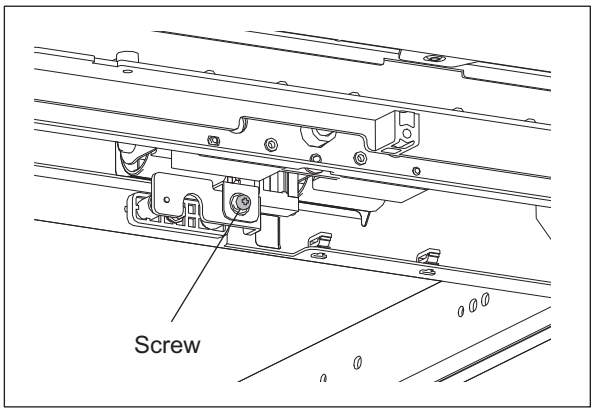

Fig. 10-87

(4) Disconnect 1 connector.
(5) Remove 1 screw and take off the media sensor by tilting it down.

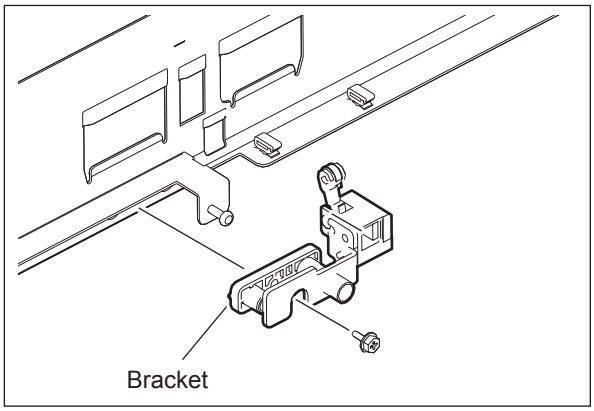

Fig. 10-88

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(6) Disconnect 1 connector.
(7) Remove 2 screw and take off the media sensor.

Notes:

1. When the media sensor (S69) is replaced, perform position adjustment for a new sensor after it was installed.
📖 P.10-67 "10.7.1 Adjustment of the media sensor position"
2. When installing, be sure that the 2 dowels of the bracket sensor are inserted correctly.

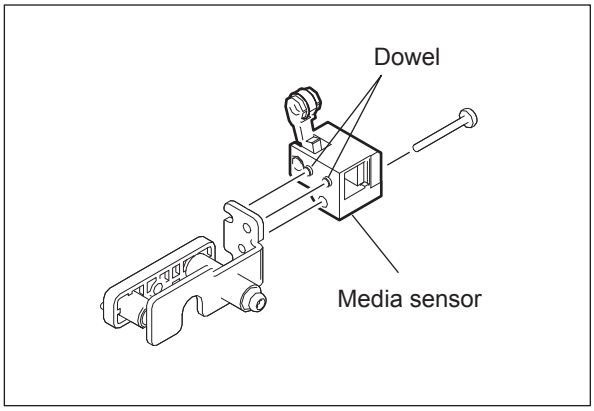

Fig. 10-89

3. After the sensor is installed, be sure that both sides of the sensor installation hole (fig. A) are not in contact with the sensor.

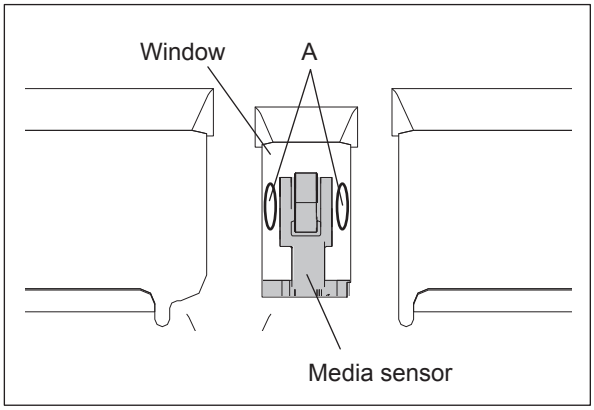

Fig. 10-90

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10.6.32 Feed cover sensor (S114)

(1) Open the feed cover.
(2) Take off the sensor cover by pushing the latch on its upper side.

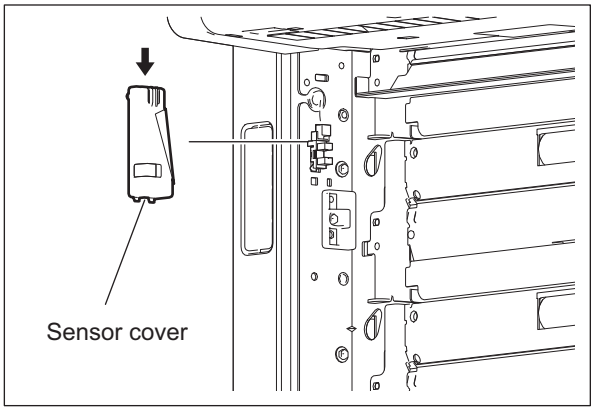

Fig. 10-91

(3) Disconnect 1 connector and release 3 latches. Then take off the feed cover sensor.

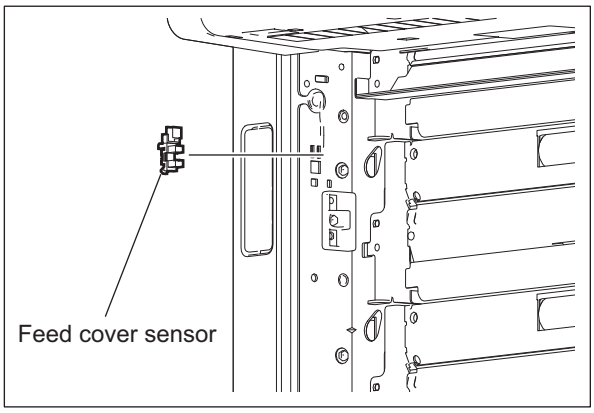

Fig. 10-92

10.6.33 Drawer

(1) Pull out the drawer and remove paper in it.
(2) Remove 3 screws and take off the drawer.

Note:
When installing, engage the left roller of the drawer with the rail of the equipment, and then place the right roller on the rail.

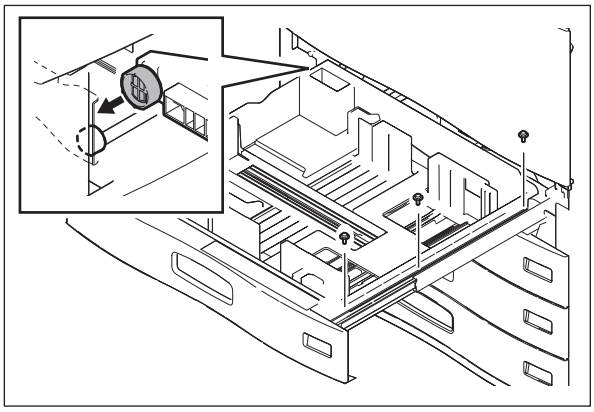

Fig. 10-93

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10.6.34 Drawer paper size detection sensor-1/2 (S79/S80/S87/S88/S95/S96/S103/S104)

(1) Take off all the drawers.
P.10-46 "10.6.33 Drawer"
(2) Disconnect 1 connector and release 2 hooks. Then take off each sensor.

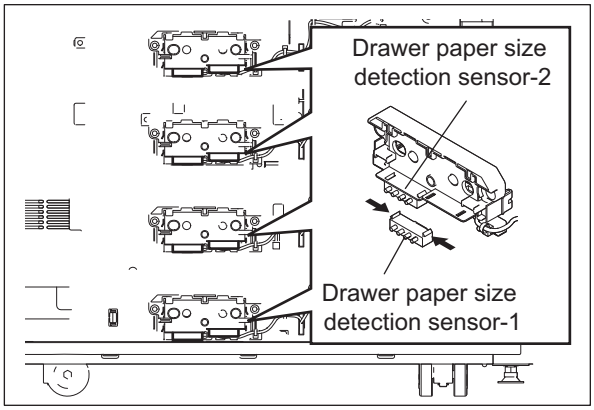

Fig. 10-94

10.6.35 Registration motor (M39)

(1) Open the SYS board case.
P.20-2 "20.1.3 SYS board case"
(2) Disconnect 1 connector and remove 3 screws. Then take off the registration motor with the bracket.

Note:
When installing the motor, make sure that the belt is hung on the gear and the pulley of the motor securely.

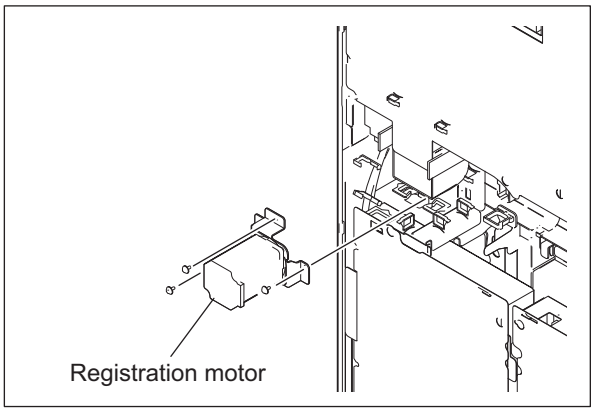

Fig. 10-95

(3) Remove 2 screws and then take off the registration motor.

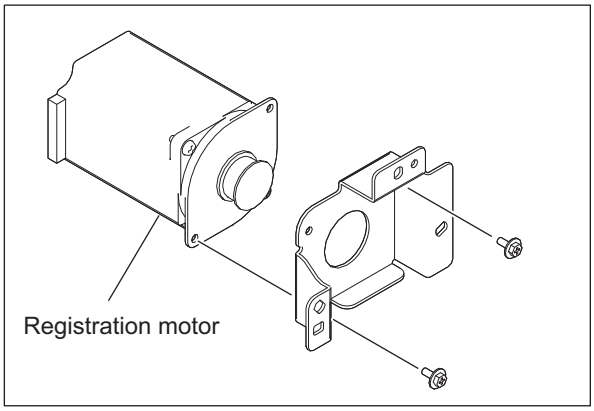

Fig. 10-96

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10.6.36 Feed/transport drive unit

(1) Open the PFC board case.
🕮 P.20-8 "20.1.9 PFC board case"
(2) Disconnect 3 connectors and remove 4 screws. Then take off the feed/transport drive unit.

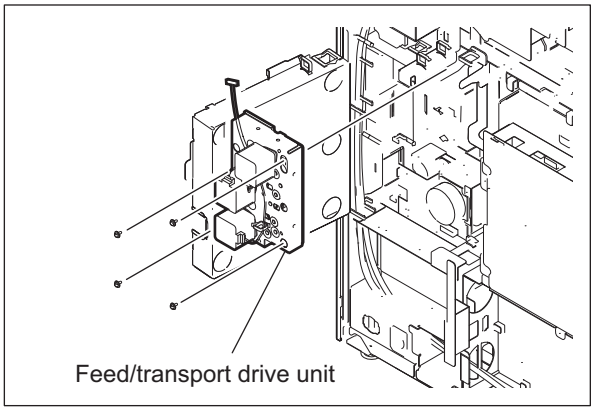

Fig. 10-97

10.6.37 Transport motor-1 (M40)

(1) Take off the feed/transport drive unit.
🕮 P.10-48 "10.6.36 Feed/transport drive unit"
(2) Remove 4 screws and a plate.

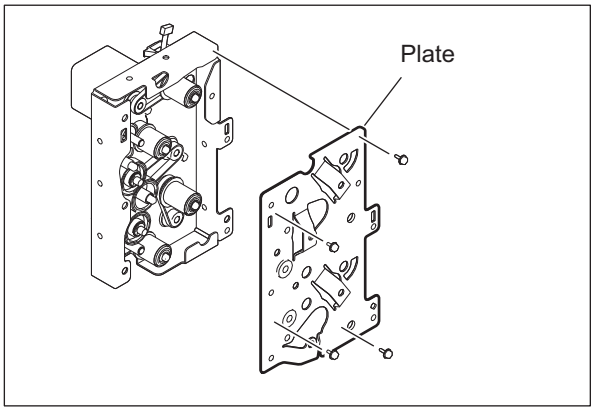

Fig. 10-98

(3) Remove 2 screws and then take off the transport motor-1.

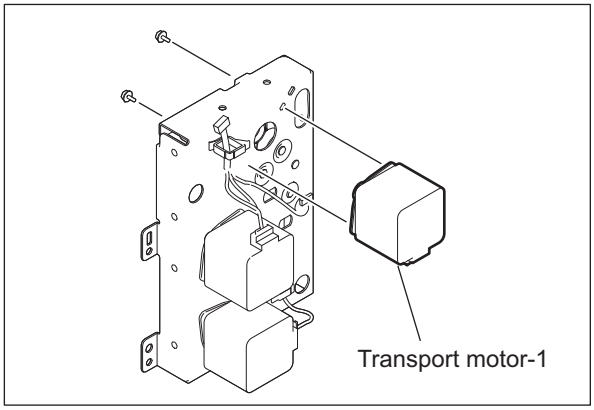

Fig. 10-99

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10.6.38 Transport motor-2 (M41)

(1) Take off a plate.
P.10-48 "10.6.37 Transport motor-1 (M40)"
(2) Remove 2 screws and then take off the transport motor-2.

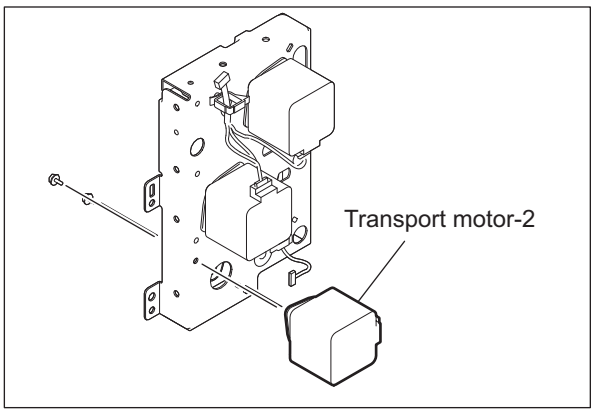

Fig. 10-100

10.6.39 Feed motor (M42)

(1) Take off a plate.
P.10-48 "10.6.37 Transport motor-1 (M40)"
(2) Remove 2 screws and then take off the feed motor.

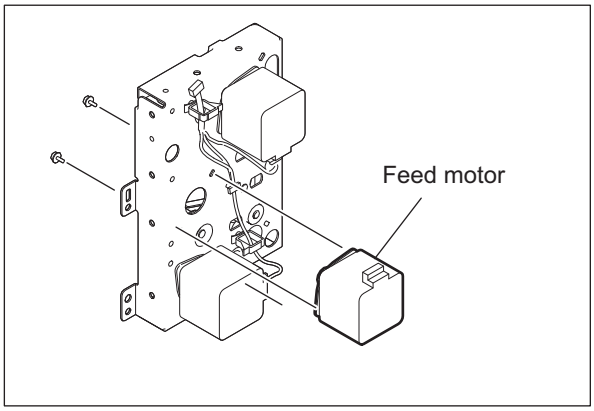

Fig. 10-101

10.6.40 Feed/transport motor (M43)

(1) Open the PFC board case.
P.20-8 "20.1.9 PFC board case"
(2) Remove 4 screws and take off the feed/ transport motor.

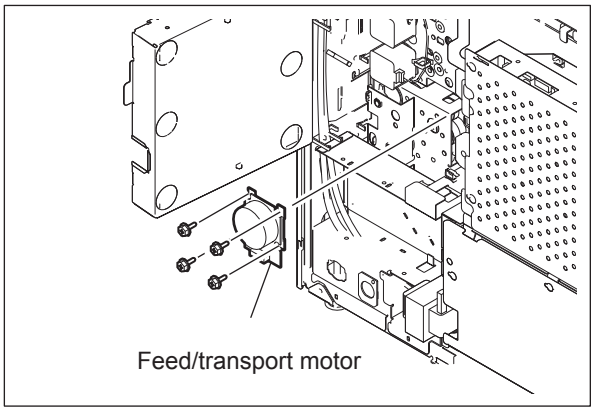

Fig. 10-102

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10.6.41 Paper feed drive unit

(1) Open the PFC board case.
P.20-2 "20.1.3 SYS board case"
(2) Disconnect 3 connectors and remove 4 screws. Then take off the paper feed drive unit.

Note:
The number of clutches in the paper feed drive unit of the Tandem LCF model differs from that of the 4-drawer model.

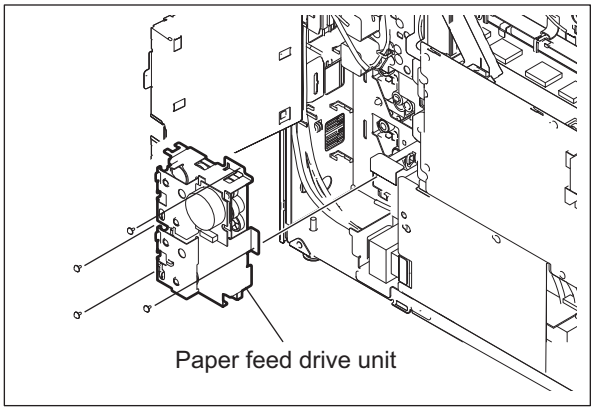

Fig. 10-103

10.6.42 3rd drawer transport clutch (CLT4)/3rd drawer feed clutch (CLT5)

(1) Take off the paper feed drive unit.
P.10-50 "10.6.41 Paper feed drive unit"
(2) Remove 2 screws and take off the bracket.

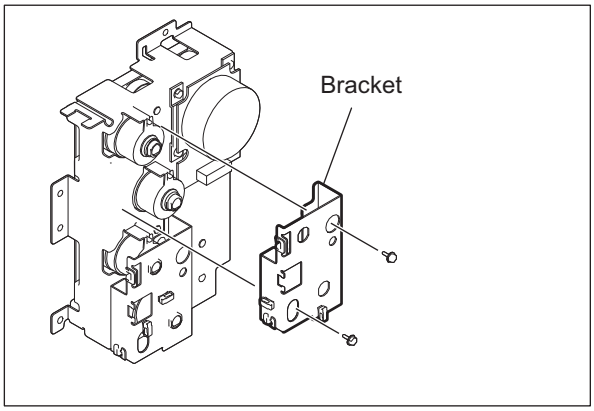

Fig. 10-104

(3) Take off the 3rd drawer transport clutch and 3rd drawer feed clutch.

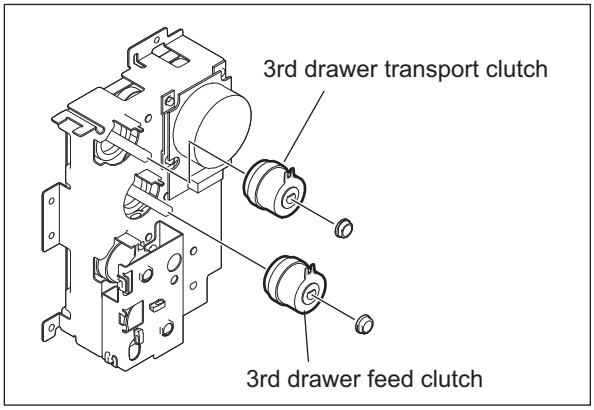

Fig. 10-105

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10.6.43 4th drawer transport clutch (CLT6)/4th drawer feed clutch(CLT7)

(1) Take off the paper feed drive unit.
P.10-50 "10.6.41 Paper feed drive unit"
(2) Remove 2 screws and take off the bracket.

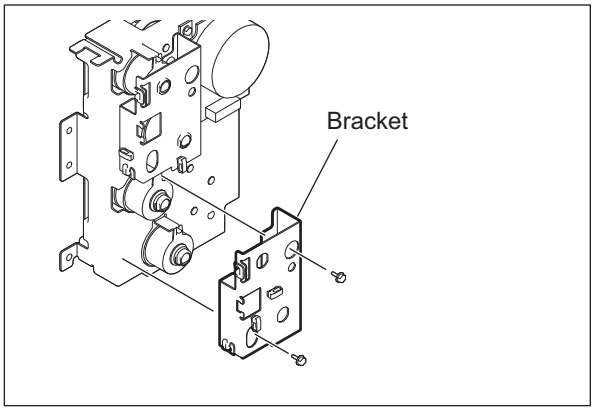

Fig. 10-106

(3) Take off the 4th drawer transport clutch and 4th drawer feed clutch.

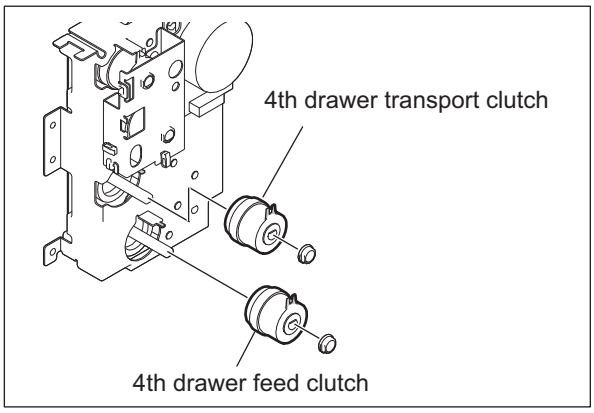

Fig. 10-107

10.6.44 Tray-up motor-1 (M44)

(1) Remove the 1st and 2nd drawers.
(2) Take off the PFC board case.
P.20-8 "20.1.9 PFC board case"
(3) Disconnect 1 connector and remove 4 screws. Then take off the tray drive unit.

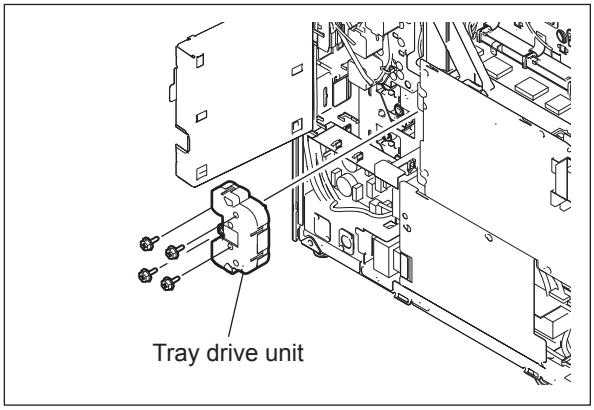

Fig. 10-108

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(4) Place the unit with its coupling up and release 6 latches to take off the cover.

Note:
Be careful in taking off the cover because there is a spring in the tray drive unit.

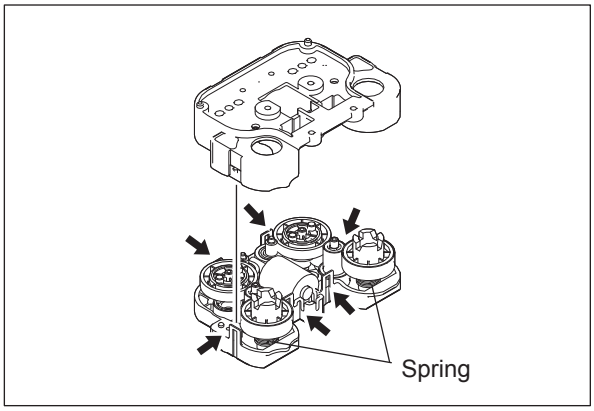

Fig. 10-109

(5) Take off the tray-up motor.

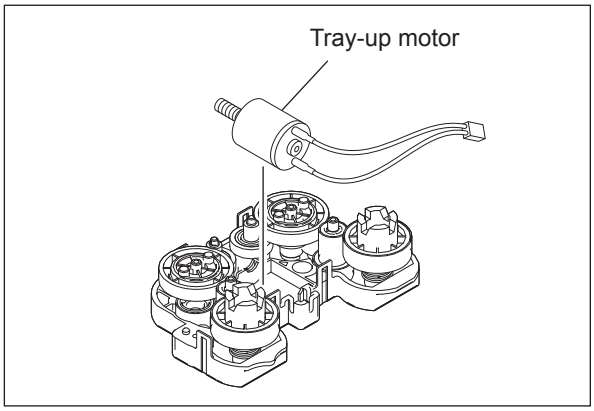

Fig. 10-110

Note:
Match the boss of the gear with the hole of the cover when installing the motor.

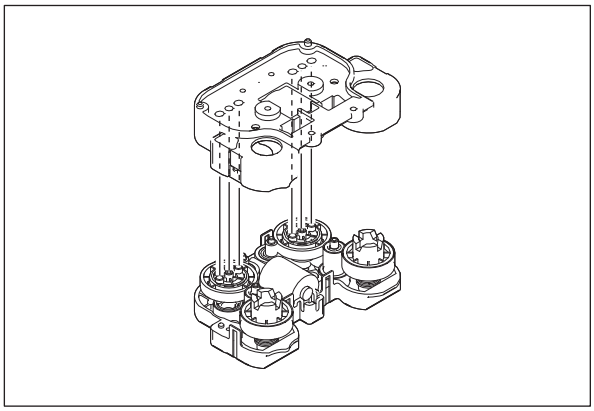

Fig. 10-111

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10.6.45 Tray-up motor-2 (M45)

(1) Remove the 3rd and 4th drawers or tandem LCF.
(2) Take off the FIL board case.
📖 P.20-18 "20.1.17 FIL board"
(3) Disconnect 1 connector and remove 3 screws. Then take off the tray drive unit.

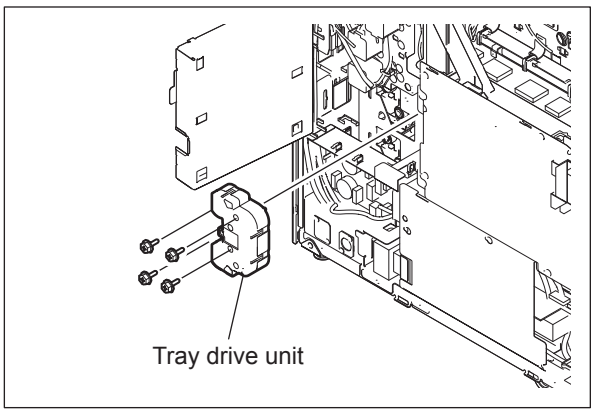

Fig. 10-112

(4) Place the unit with its coupling up and release 6 latches to take off the cover.

Note:
Be careful in taking off the cover because there is a spring in the tray drive unit.

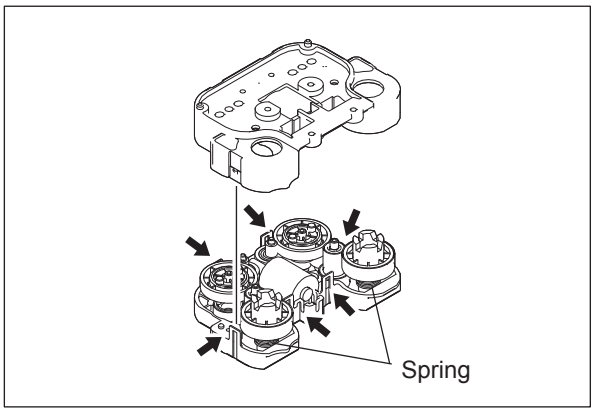

Fig. 10-113

(5) Take off the tray-up motor.

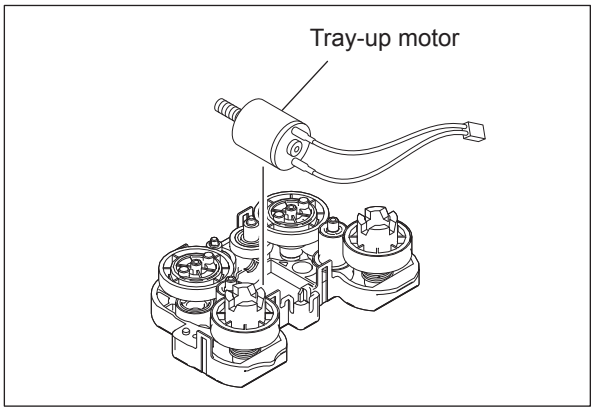

Fig. 10-114

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Note:

Match the boss of the gear with the hole of the cover when installing the motor.

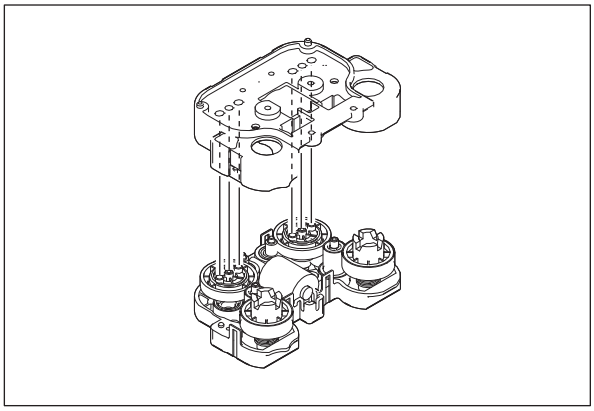

Fig. 10-115

10.6.46 Transfer belt paper clinging detection sensor (S47)

(1) Pull out the transfer belt unit.
📖 P.12-12 "12.6.1 Pulling out the transfer belt unit"

(2) Remove 1 screw and slide the middle guide and then release 2 hooks.

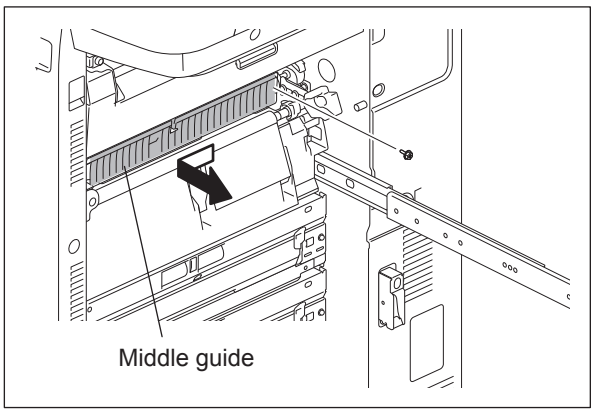

Fig. 10-116

(3) Disconnect 1 connector and then take off the middle guide.

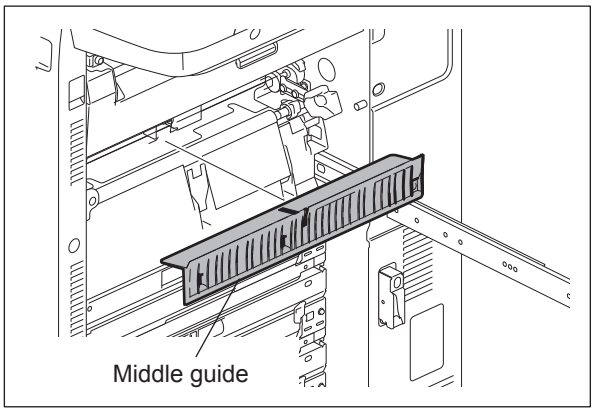

Fig. 10-117

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(4) Release 3 latches and then take off the transfer belt paper clinging detection sensor.

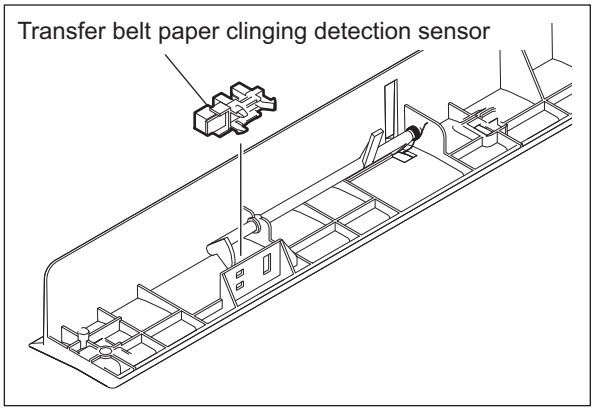

Fig. 10-118

10.6.47 Tandem LCF tray-up motor (M46)

(1) Pull out the tandem LCF.
(2) Take off the FIL board case and reactor.
📖 P.20-18 "20.1.17 FIL board"
(3) Take off the switching regulator.
📖 P.20-14 "20.1.14 Switching regulator (PS)"
(4) Take off the PFC board case.
📖 P.20-8 "20.1.9 PFC board case"
(5) Disconnect 1 connector and remove 3 screws. Then take off the tandem LCF tray-up motor unit.

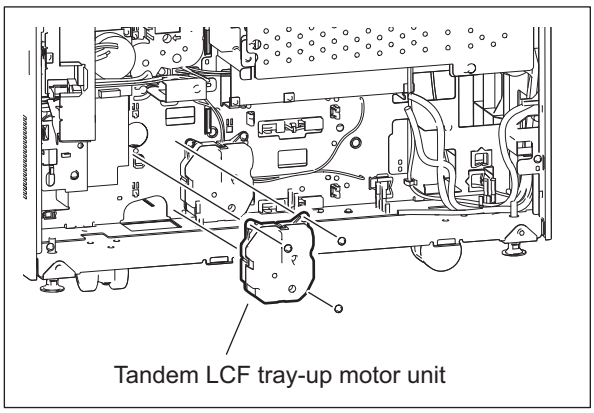

Fig. 10-119

(6) Release 2 latches and then take off the coupling and spring.

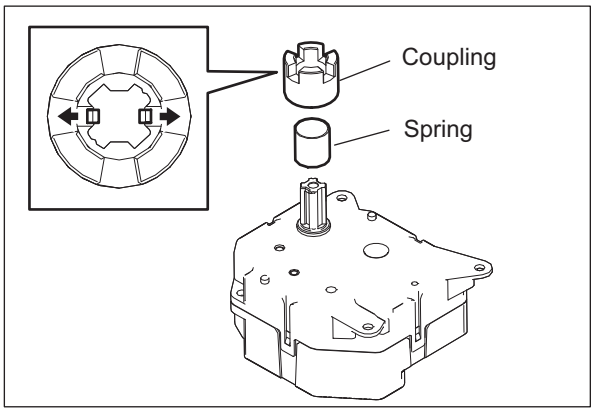

Fig. 10-120

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(7) Release 4 latches and then take off the tandem LCF tray-up motor.

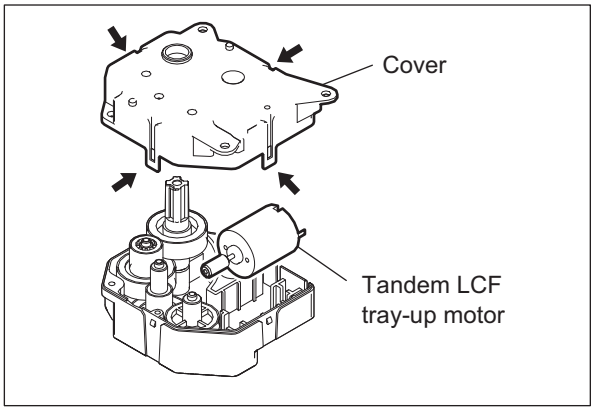

Fig. 10-121

10.6.48 Tandem LCF end fence motor (M47)

(1) Pull out the tandem LCF.
(2) Take off the FIL board case and reactor.
📖 P.20-18 "20.1.17 FIL board"
(3) Take off the switching regulator.
📖 P.20-14 "20.1.14 Switching regulator (PS)"
(4) Take off the PFC board case.
📖 P.20-8 "20.1.9 PFC board case"
(5) Disconnect 1 connector and remove 3 screws. Then take off the tandem LCF end fence motor unit.

Note:
Do not mix the tandem LCF tray-up motor and the tandem LCF end fence motor when installing them.

(6) Release 2 latches and then take off the coupling and spring.

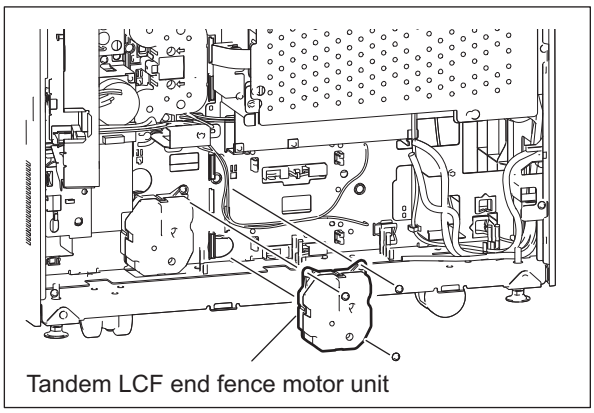

Fig. 10-122

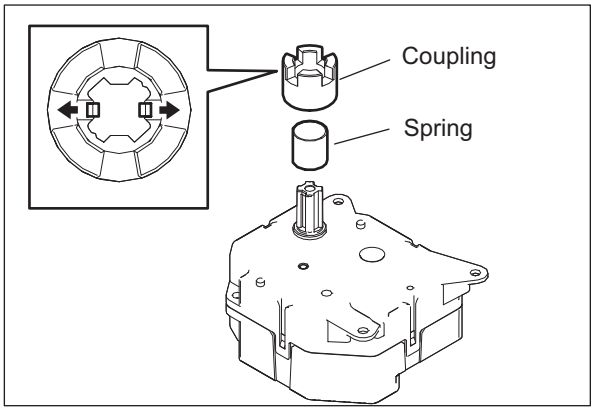

Fig. 10-123

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(7) Release 4 latches and then take off the tandem LCF end fence motor.

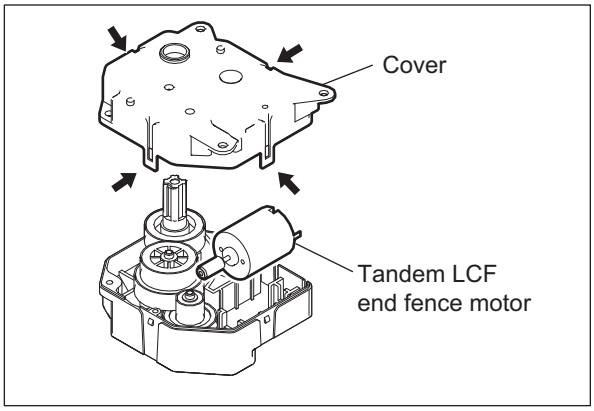

Fig. 10-124

10.6.49 Tandem LCF standby unit

(1) Pull out the tandem LCF.
(2) Remove 2 screws, and then take off the stopper plate.

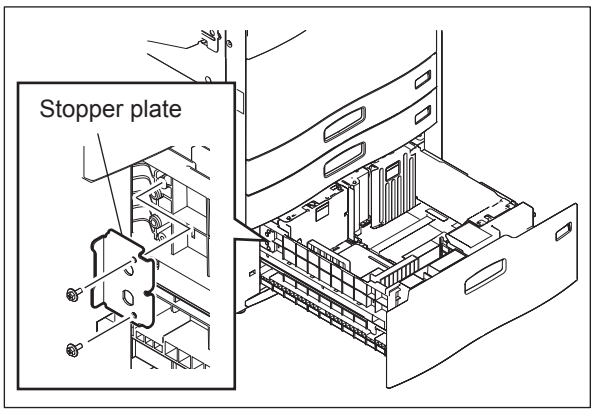

Fig. 10-125

(3) Insert the tandem LCF feeding unit.
(4) Remove 3 screws, and then take off the tandem LCF standby unit.

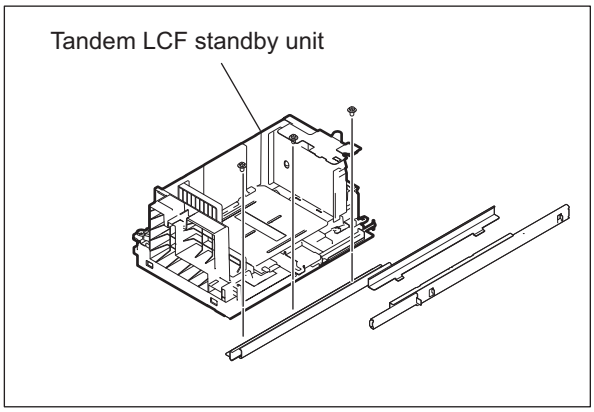

Fig. 10-126

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10.6.50 Tandem LCF feeding unit

(1) Take off the tandem LCF standby unit.
🕮 P.10-57 "10.6.49 Tandem LCF standby unit"
(2) Remove 3 screws, and then take off the tandem LCF feeding unit.

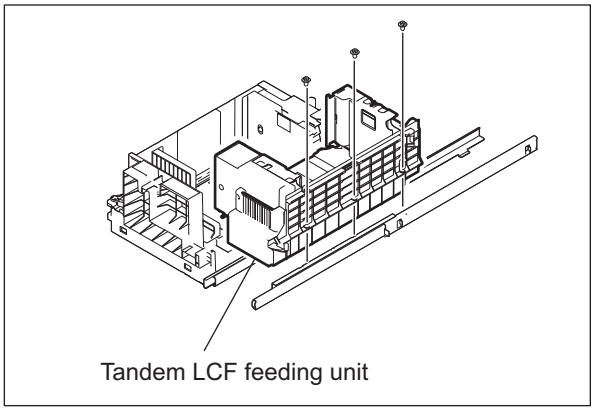

Fig. 10-127

10.6.51 Stopper opening/closing solenoid (front) (SOL10)/Stopper opening/closing detection sensor (front) (S110)

(1) Take off the tandem LCF feeding unit.
🕮 P.10-58 "10.6.50 Tandem LCF feeding unit"
(2) Remove 4 screws, and then take off the feeding unit front cover.

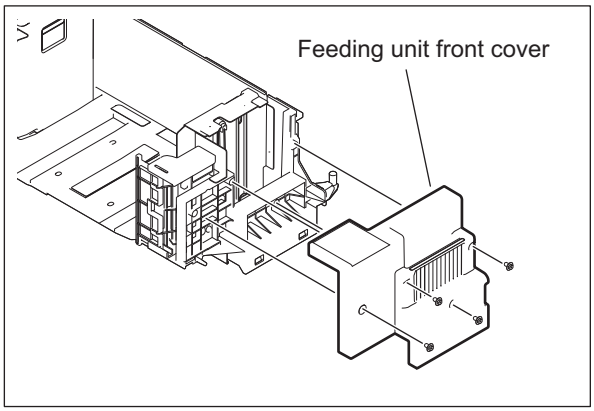

Fig. 10-128

(3) Remove 2 screws, release 2 hooks and then take off the stopper unit.

Note:
The position of the hook differs depending on the destination.

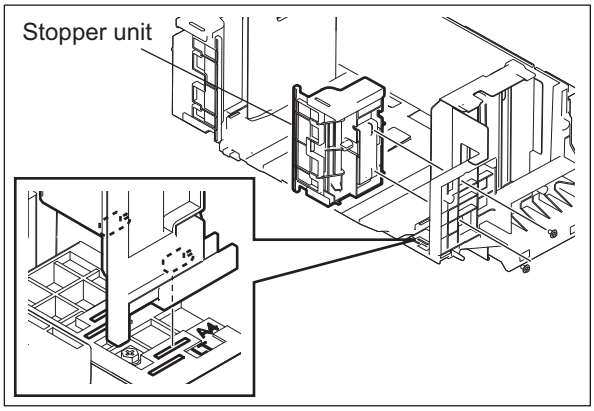

Fig. 10-129

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(4) Remove 2 screws, and then take off the plate.

Note:
The direction of the plate differs depending on the destination (A4/LT).

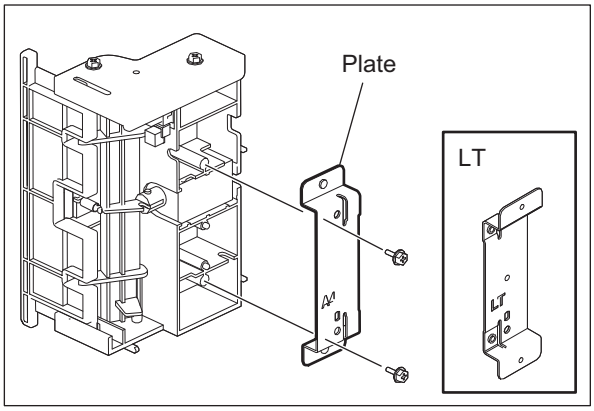

Fig. 10-130

(5) Disconnect 1 connector, and then take off the stopper opening/closing solenoid (front).
(6) Disconnect 1 connector and release 3 latches. Then take off the stopper opening/closing detection sensor (front).

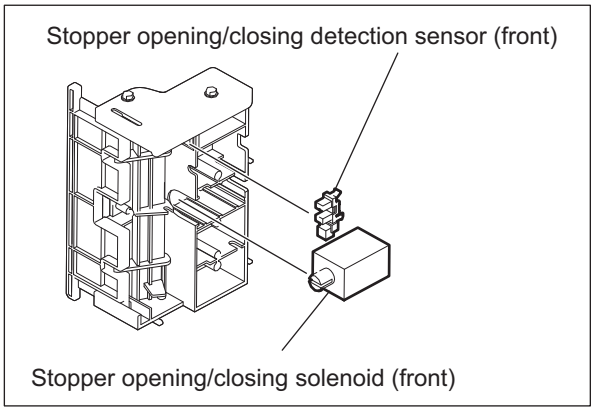

Fig. 10-131

10

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10.6.52 Stopper opening/closing solenoid (rear)/Stopper opening/closing detection sensor (rear) (S111)

(1) Take off the tandem LCF feeding unit.
📖 P.10-58 "10.6.50 Tandem LCF feeding unit"
(2) Remove 2 screws, release 2 hooks and then take off the stopper unit.

Note:
The position of the hook differs depending on the destination.

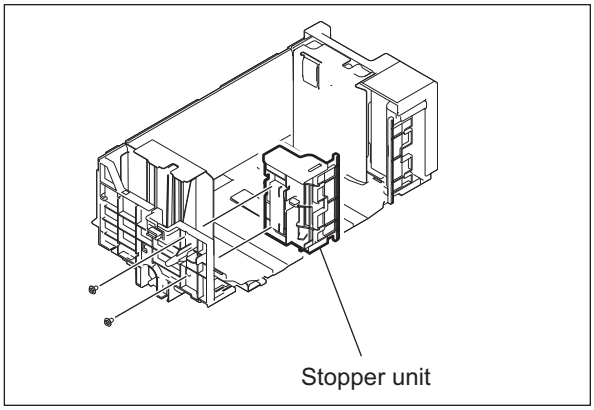

Fig. 10-132

(3) Remove 2 screws, and then take off the plate.

Note:
The direction of the plate differs depending on the destination (A4/LT).

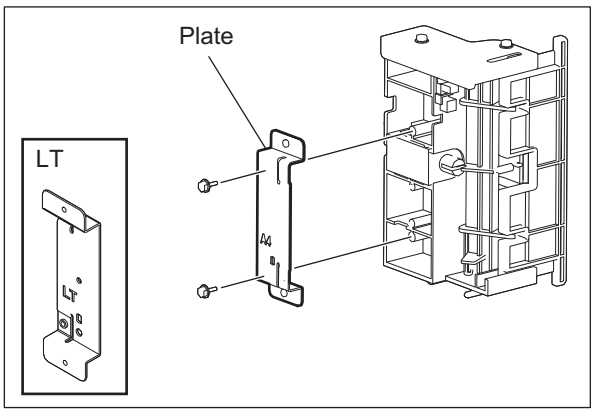

Fig. 10-133

(4) Disconnect 1 connector, and then take off the stopper opening/closing solenoid (rear).
(5) Disconnect 1 connector and release 3 latches. Then take off the stopper opening/closing detection sensor (rear).

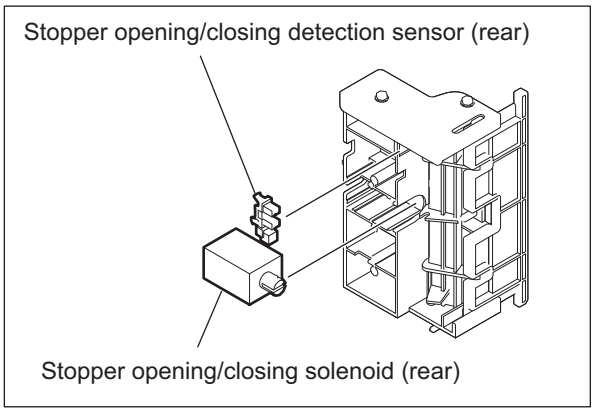

Fig. 10-134

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10.6.53 Tandem LCF bottom sensor (S107)

(1) Take off the tandem LCF feeding unit.
P.10-58 "10.6.50 Tandem LCF feeding unit"
(2) Remove 6 screws, and then take off the feeding side tray.

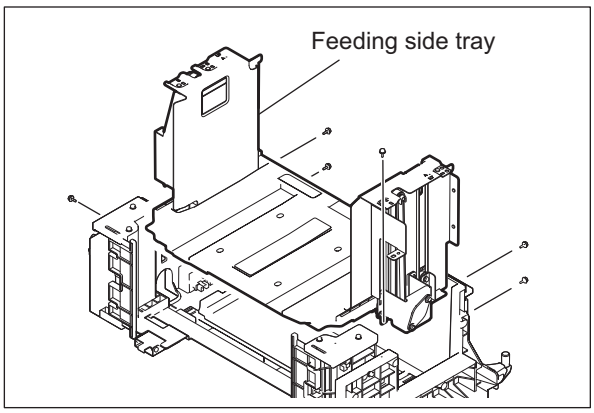

Fig. 10-135

(3) Disconnect 1 connector and release 3 latches. Then take off the tandem LCF bottom sensor.

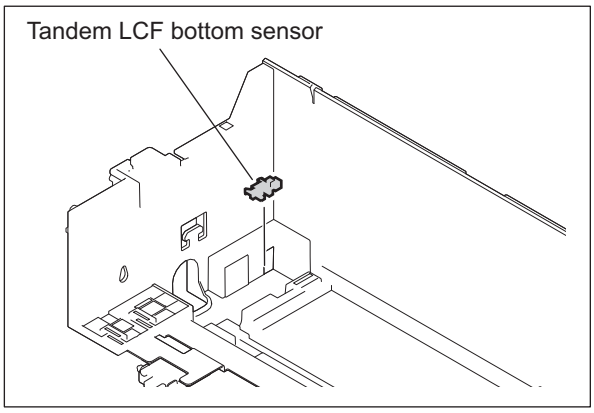

Fig. 10-136

10.6.54 Standby side tray paper amount detection sensor (S106)

(1) Take off the tandem LCF feeding unit.
P.10-58 "10.6.50 Tandem LCF feeding unit"
(2) Remove 4 screws, and then take off the plate.

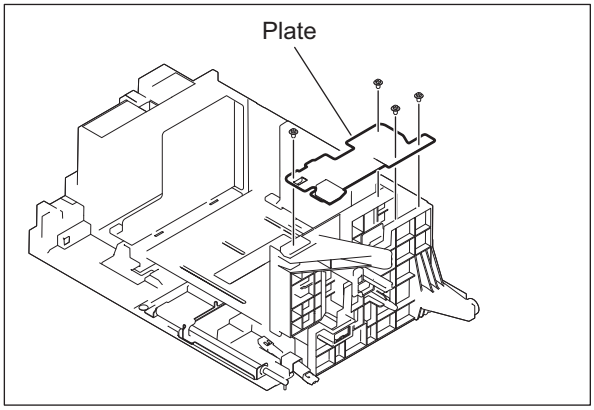

Fig. 10-137

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(3) Remove 3 screws, and then take off the link arm.

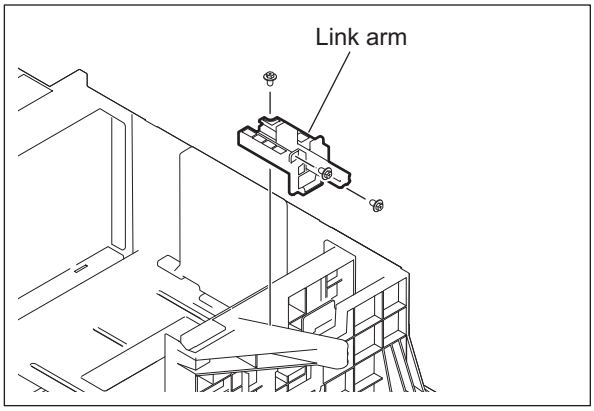

Fig. 10-138

(4) Remove 1 screw, and then take off the rear fence.

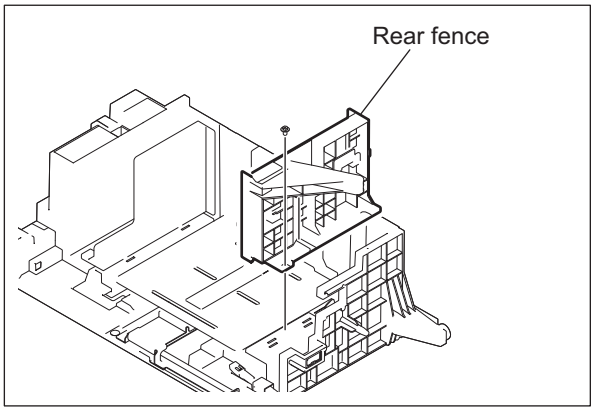

Fig. 10-139

(5) Remove 2 screws, and then take off the bracket.

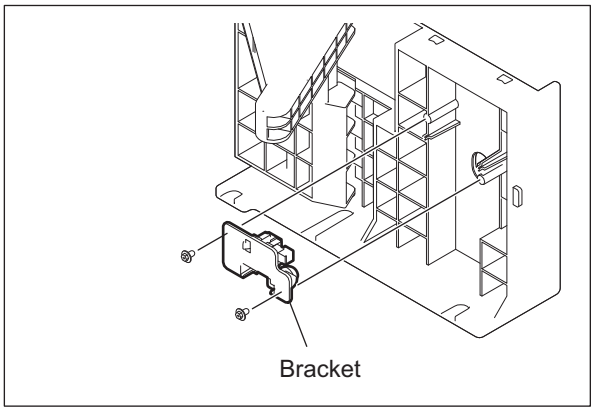

Fig. 10-140

(6) Disconnect 1 connector and release 3 latches. Then take off the standby side tray paper amount detection sensor.

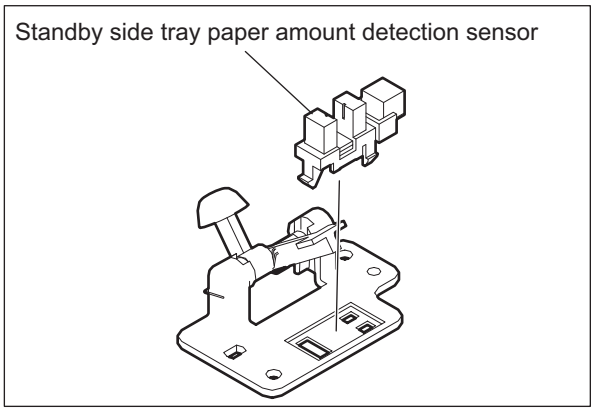

Fig. 10-141

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10.6.55 End fence home position sensor (S112)

(1) Pull out the standby unit, and slide the standby tray to the feeding side.

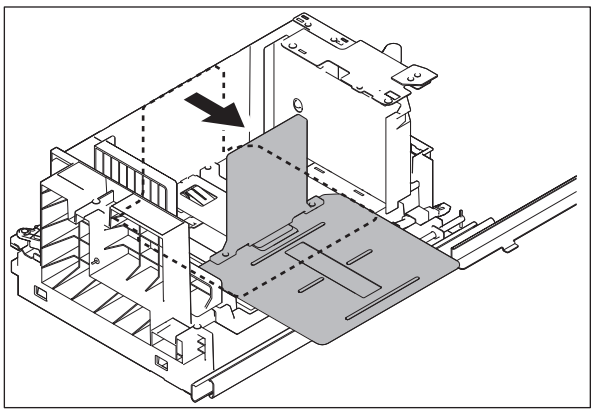

Fig. 10-142

(2) Remove 1 screw, and then take off the sensor cover.

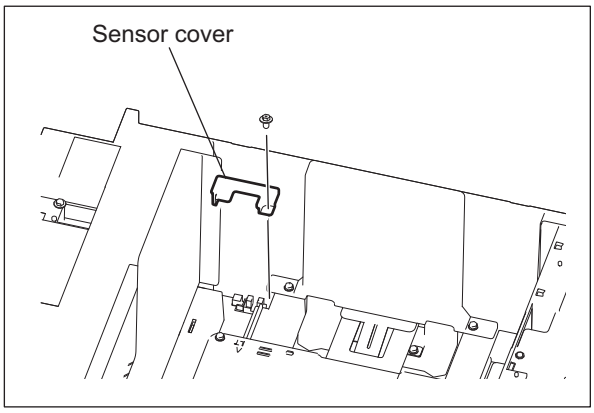

Fig. 10-143

(3) Disconnect 1 connector and release 3 latches. Then take off the end fence home position sensor.

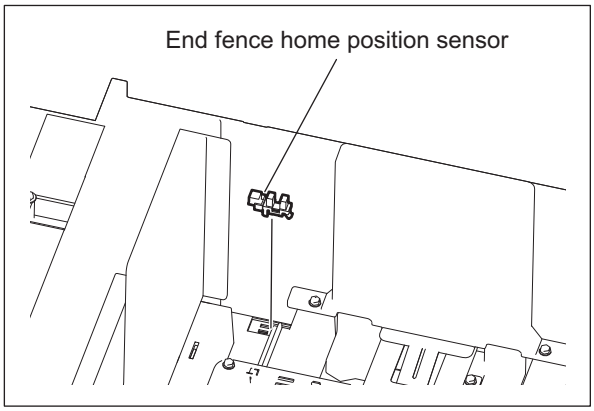

Fig. 10-144

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10.6.56 End fence stop position sensor (S113)

(1) Pull out the standby unit.
(2) Remove 2 screws, and then take off the front fence.

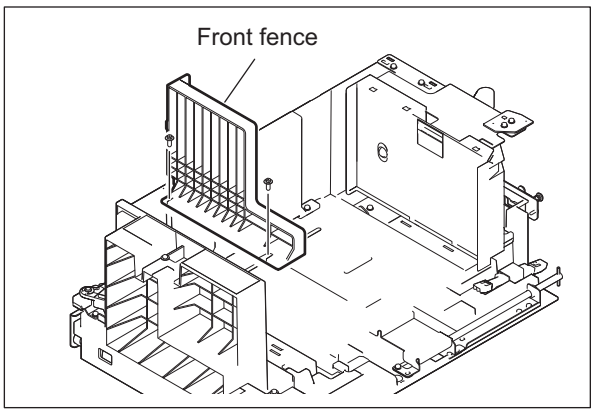

Fig. 10-145

(3) Remove 1 screw, and then take off the sensor cover.

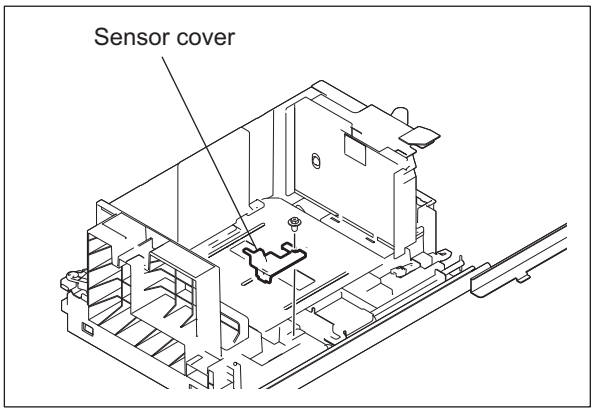

Fig. 10-146

(4) Disconnect 1 connector and release 3 latches. Then take off the end fence stop position sensor.

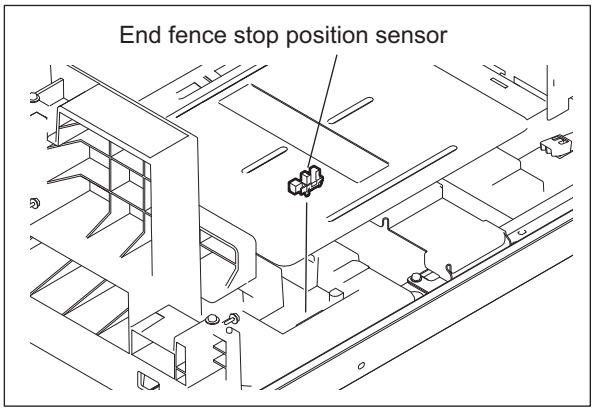

Fig. 10-147

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10.6.57 Standby side empty sensor (S109)

(1) Take off the tandem LCF feeding unit.
📖 P.10-58 "10.6.50 Tandem LCF feeding unit"
(2) Take off the rear fence.
📖 P.10-61 "10.6.54 Standby side tray paper amount detection sensor (S106)"
(3) Remove 2 screws, and then take off the sensor cover.

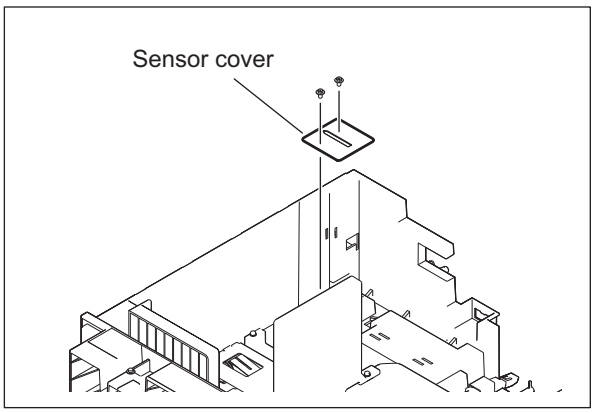

Fig. 10-148

(4) Remove 2 screws, and then take off the sensor bracket.
(5) Disconnect 1 connector and release 3 latches. Then take off the standby side empty sensor.

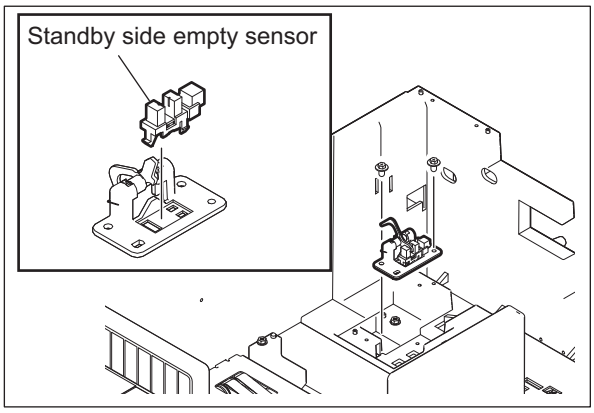

Fig. 10-149

10.6.58 Standby side tray detection sensor (S108)

(1) Take off the tandem LCF standby unit.
📖 P.10-57 "10.6.49 Tandem LCF standby unit"
(2) Disconnect 1 connector, remove 1 screw and then take off the bracket.
(3) Release 3 latches and then take off the standby side tray detection sensor.

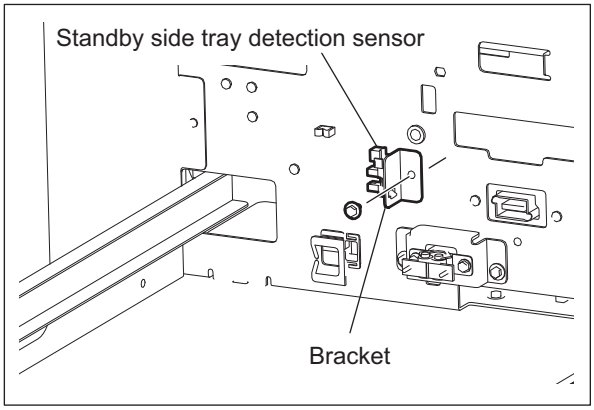

Fig. 10-150

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10.6.59 Tandem LCF solenoid (SOL9)

(1) Take off the transport roller.
📖 P.10-34 "10.6.18 Transport roller"
(2) Disconnect 1 connector, remove 1 screw and then take off the bracket.
(3) Remove 2 screws, and then take off the Tandem LCF solenoid.

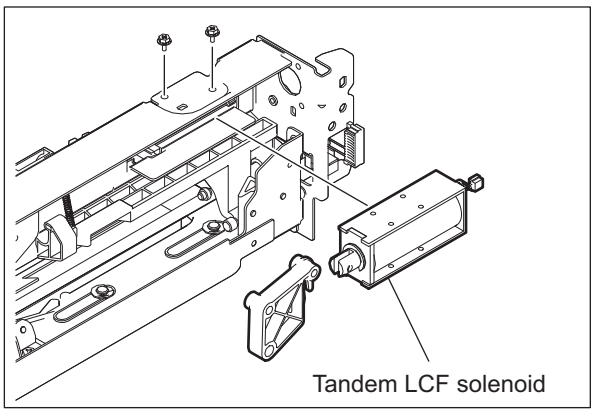

Fig. 10-151

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10.7 Adjustment of the Paper Feeding System

Adjust the position of the sensor in the code 05-9092 within the adjustment values from 460+/-100.

10.7.1 Adjustment of the media sensor position

<Procedure>

- Remove 1 screw and take off the SFB lower cover.

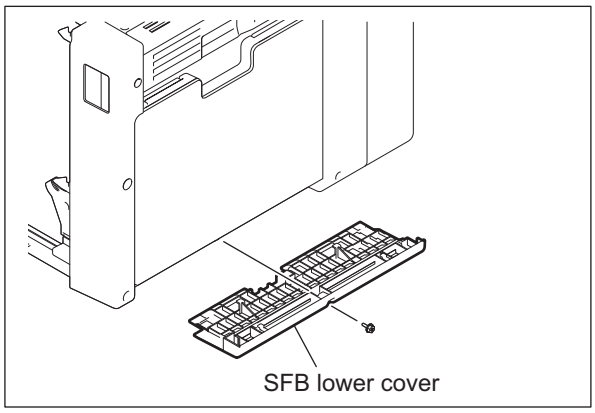

Fig. 10-152

- Turn the power of this equipment ON while pressing [0] and [5] simultaneously. Then perform the code 9092.
  Turn a screw to make the displayed adjustment value fall within the range from 460+/-100.
  The value increases to approx. 160 by turning the screw 360 degrees clockwise.

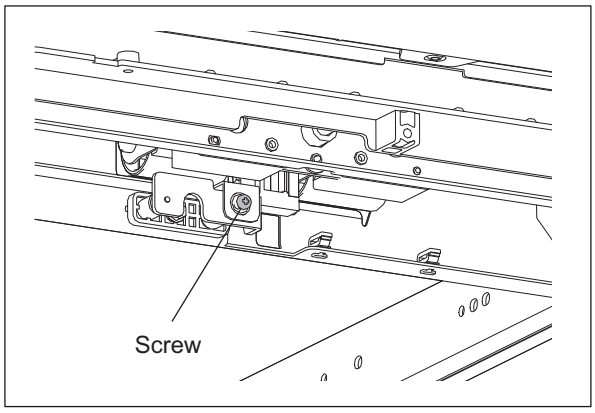

Fig. 10-153

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10.7.2 Separation roller pressure force adjustment

In some cases the life of the separation roller may be shortened or paper jams and multiple feeding (EB50) may occur regardless of the operation frequency of the equipment. This comes from the weight or edge status of paper used and the amount of paper dust.
Generally paper jams and multiple feeding often occur as the life end of the roller approaches. However, if they often occur even though its life has not yet reached its replacement timing, or if the life end comes much earlier than the scheduled replacement timing, the jams and multiple feeding can be suppressed by adjusting the pressure force of the separation roller.
In this method, however, when the roller life becomes longer, jams and multiple feeding may occur frequently, and when the jams and multiple feeding are suppressed, the roller life may become shorter. Therefore, perform this adjustment while checking the status carefully, and if necessary, give a sufficient explanation to users.

<Procedure>

(1) Take off the drawer feeding unit.
(2) Remove 1 screw, and then screw it temporarily to an oblong hole located next to it.

Note:
Make a mark for the installation position of the bracket in advance.

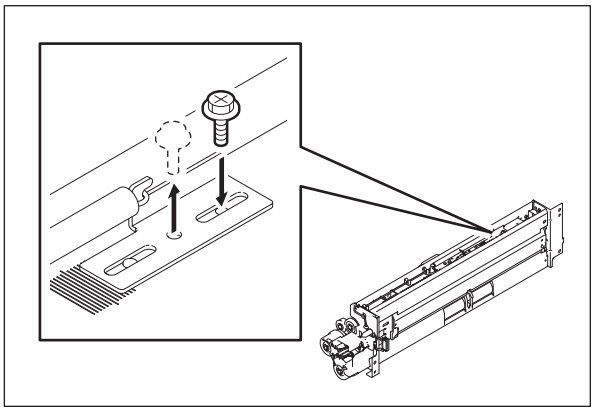

Fig. 10-154

(3) Move the bracket.
Move to the direction A: The roller life will become longer (but multiple feeding may occur frequently).
Move to the direction B: Multiple feeding will be suppressed (but the roller life may become shorter).

Note:
The recommended moving distance of the bracket is within 2 or 3 scale marks.

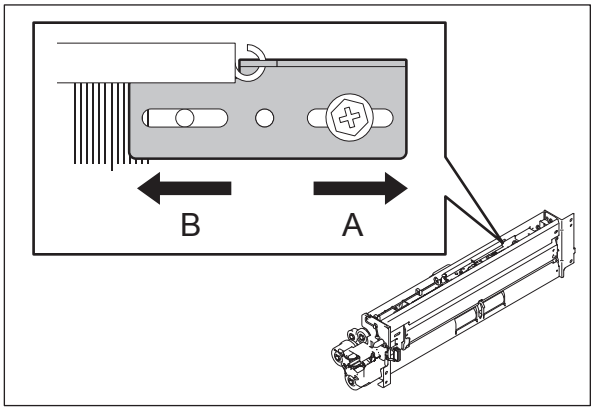

Fig. 10-155

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(4) Tighten the screw that was temporarily screwed.

Note:

In this step check the Mylar attached before the separation roller because the roller life may become shorter if this Mylar is scraped and worn.

Reference value of distance C (from the edge of the plate to that of the Mylar): 7.0±0.2 mm

* If the distance C is 6.5 mm or shorter, the Mylar must be replaced.

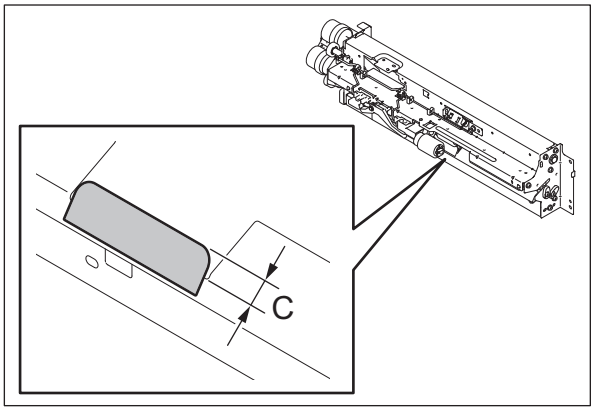

Fig. 10-156

10.7.3 Sheet sideways deviation caused by paper transporting adjustment

If paper folding at the leading edge or a paper jam occurs due to sideways deviation of the paper transport, perform adjustment of the paper transport position.
Also, when paper of a 330 mm width is transported from the bypass tray, stripe images may appear on one side.In that case, adjust the paper transport position in the direction where the stripe images disappear.

Notes:

1. When the paper transport position has been adjusted, perform adjustment of the laser writing start position.
2. Perform adjustment of the laser writing start position in order to adjust sideways deviation of the image and paper. (Do not perform adjustment of the paper transport position for this purpose.)

<Procedure>

[A] Removal of the drawer paper tray

(1) Take off the drawer.
(2) Adjust the side guides to the size of LG/LT-R.

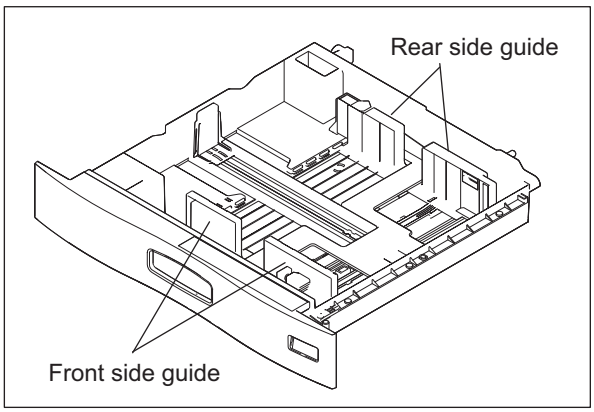

Fig. 10-157

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(3) Lift up the drawer paper tray.
(4) Take off the drawer tray upward by releasing it from a stopper on the front side.

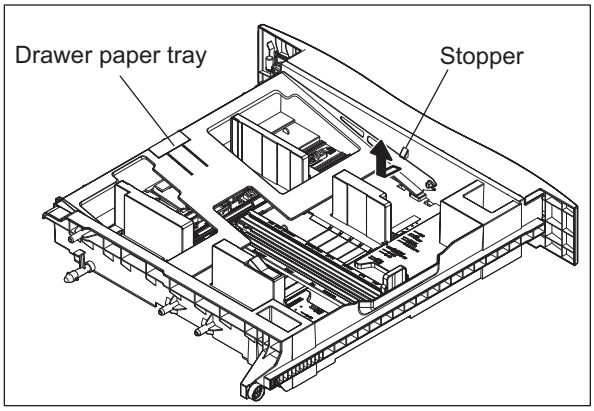

Fig. 10-158

[B] Adjustment of the gear holder

(1) Rotate 2 screws fixing the gear holder about half a turn to loosen it.
(2) Move the rear side guide to the front and rear sides while slightly lifting up the gear holder so that it can be moved.
(3) Move the gear holder matching with the scales, and tighten the screw. (Be sure that the teeth of the gear are securely engaged when you are moving the gear holder.)
    * The paper transport position is moved the same amount and direction as the gear holder.
      The acceptable moving amount is from -3 mm to +3 mm, in increments of 1 mm.

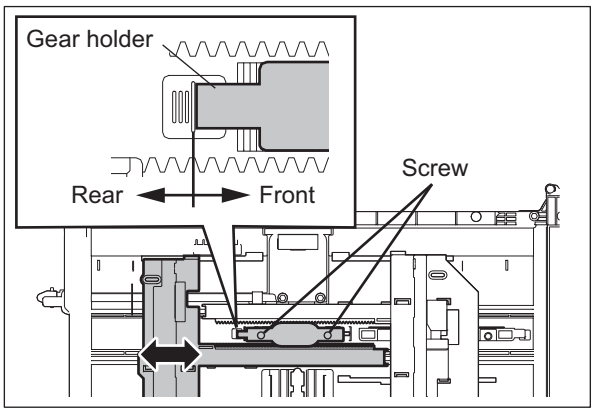

Fig. 10-159

[C] Adjustment of the rear side guide

(1) Adjust the end guide to the size of A4-R.
(2) Rotate the screw fixing the side guide adjustment piece about half a turn to loosen it.
(3) Move the side guide adjustment piece the same amount as the paper transport position and in the opposite direction to the one of the paper transport position, and then fix it with a screw.
    * For example, if you move the paper transport position to the rear side by 1 mm, you must move the side guide adjustment piece to the front side by 1 mm and fix it.
    * If you move the paper transport position to the front side by 1 mm, you must move the side guide adjustment piece to the rear side by 1 mm and fix it.

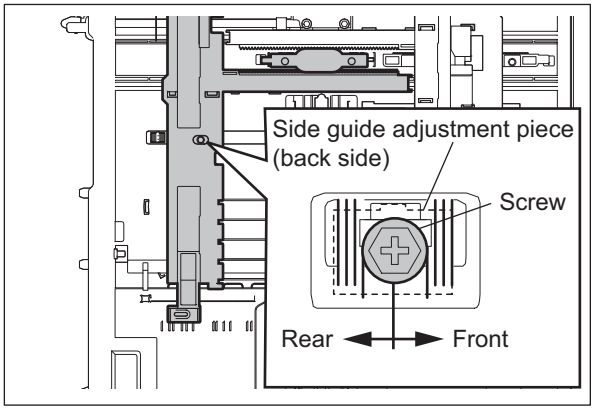

Fig. 10-160

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Notes:

1. Be sure that the moving amount of the gear holder and the side guide adjustment piece is the same. If it is different, it could cause a drawer automatic size detection defect.
2. Do not tighten the screw too much. The side guide adjustment piece could disengage the groove, making correct adjustment impossible.

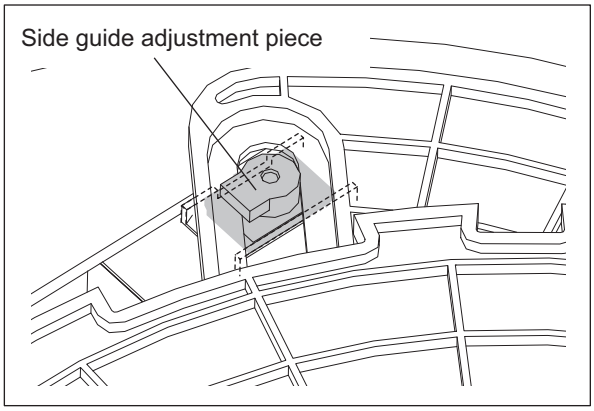

Fig. 10-161

* Table of the adjustment combination of the gear holder and the side guide adjustment piece

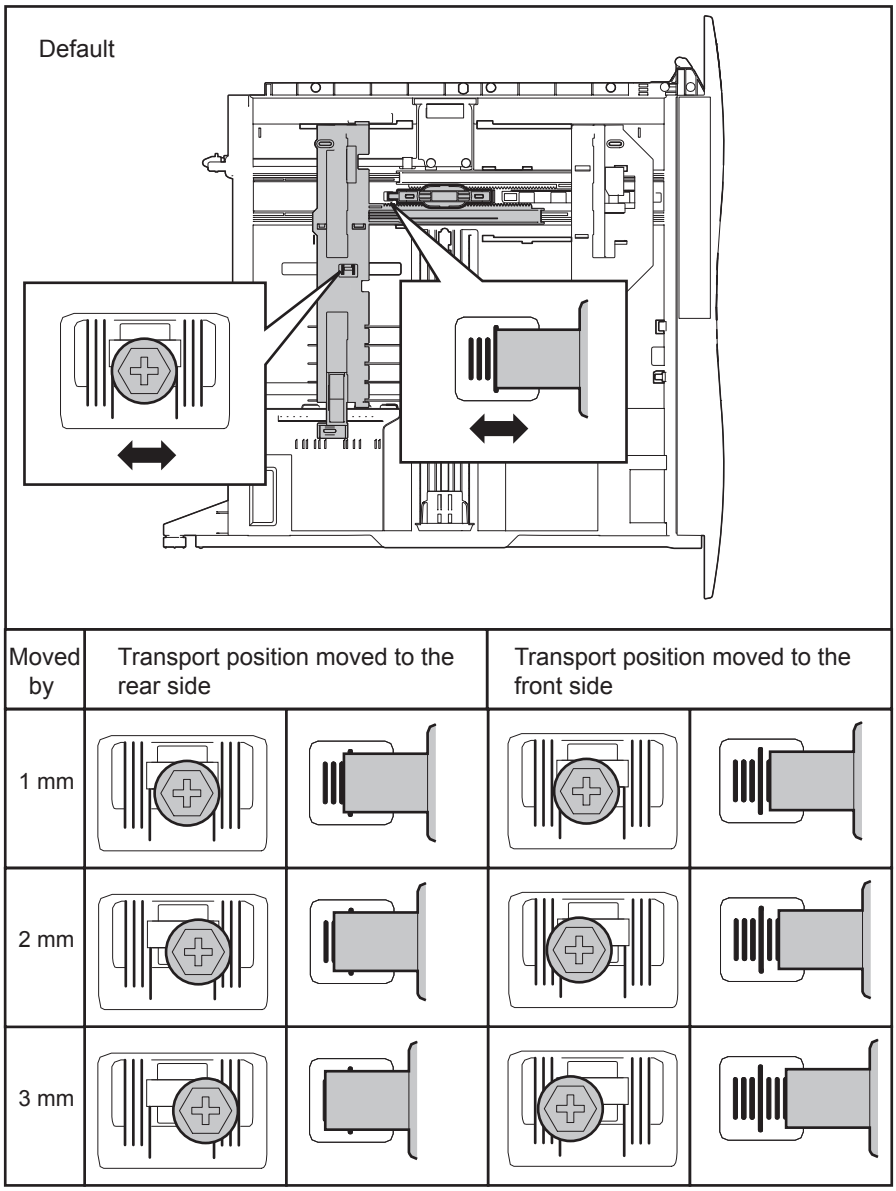

Fig. 10-162

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<In the case of bypass feeding>

(1) Move the side guides halfway to the center.
(2) Loosen 1 screw.
(3) Move the rear side guide to the front or rear side.
    * The position of the screw is adjustable within the diameter of the long screw hole; from - 3 mm to + 3 mm.
(4) Fix the 1 screw.

Note:
The paper transport position is moved the same amount and direction as the side guide.

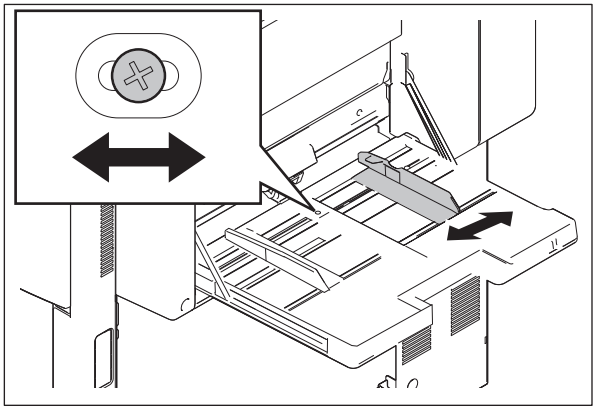

Fig. 10-163

10.7.4 Adjusting the clearance of the paper and side guides

If the clearance between the paper and the side guides is too wide, it can be adjusted to between 0 and 1 mm (the clearance between the paper and the guides is 1 to 2 mm (including both front and rear sides))

<Procedure>

(1) Take off the drawer.
(2) Lift up the paper tray and let it run up onto the stopper in the front of the drawer. Then lift it up further to remove it.

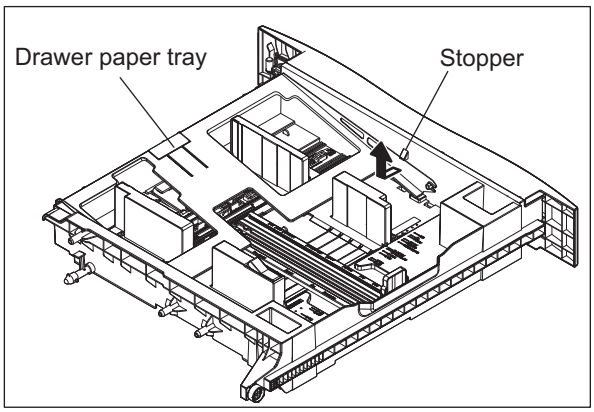

Fig. 10-164

(3) Set the side guide to the 12 inch mark.

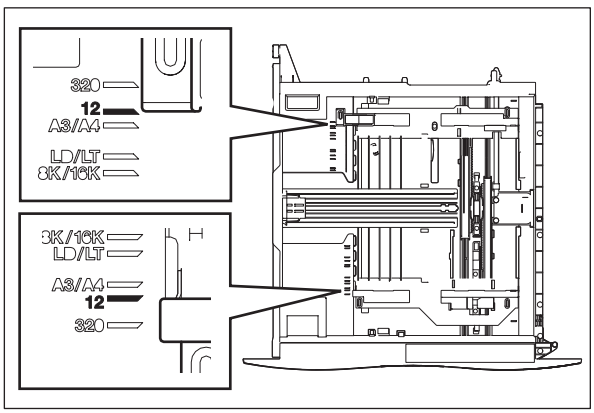

Fig. 10-165

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(4) Loosen 2 screws.
(5) Move the side guide adjustment piece to the rear and tighten the screws (by 0.5 mm).

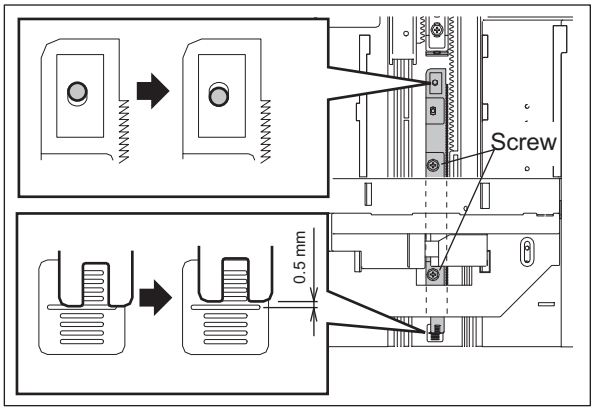

Fig. 10-166

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11. PROCESS UNIT RELATED SECTION

11.1 General description

The equipment has 4 process units (EPU: Electrographic Processing Unit). Each process unit consists of the drum cleaner unit and developer unit which are unified, and it corresponds to the image forming process of Y, M, C and K colors. This chapter describes the development (developer unit) which is a process of making toner adhere to the drum.
The developer material which is comprised of a mixture of toner and carrier, and is filled in the developer unit of each color. The toner is charged to a negative polarity and the carrier to a positive polarity, due to the friction with each other caused by mixing in the developer unit. The charged toner is supplied to the photoconductive drum surface by means of a magnetic roller, allowing it to adhere to the areas on the drum surface where the potential is lower than the developer bias which is applied to the magnetic roller. Through this process, the latent images are formed on the photoconductive drum surface.

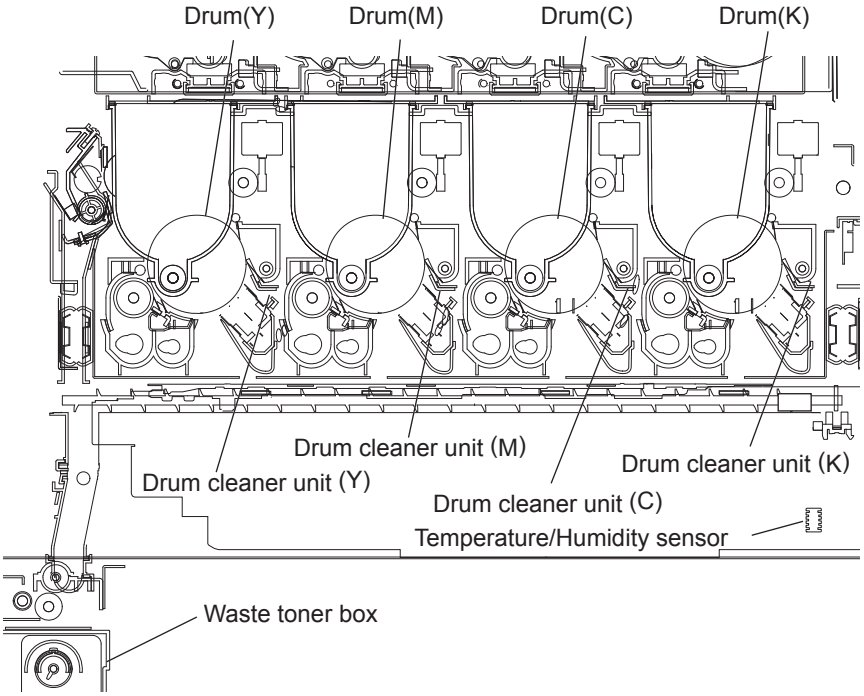

Fig. 11-1

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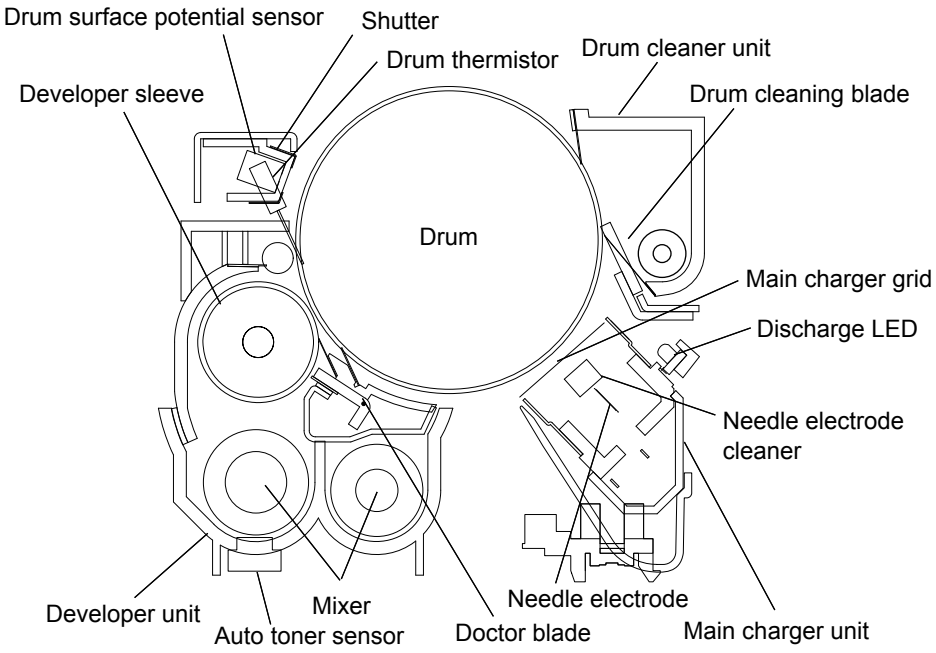

Fig. 11-2

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11.2 Composition

Process unit (Y, M, C, K)	Drum cleaner unit	Drum	PM parts
		Cleaning blade	PM parts
		Recovery blade	
		Blade side seal	PM parts
		Toner recovery auger	
	Main charger unit	Main charger grid	PM parts
		Needle electrode	PM parts
		Needle electrode cleaner	PM parts
		Discharge LED	ERS-Y, -M, -C, -K
	V0 sensor unit	Drum surface potential (V0) sensor	S34, S35, S36, S37
		V0 sensor shutter solenoid-Y, -M, -C, -K	SOL1, SOL2, SOL3, SOL4
		Drum thermistor-Y, -K	THM1, THM2
		Needle electrode cleaner motor-K/-C/-M/-Y	M23, M24, M25, M26
		Needle electrode cleaner detection sensor-K/-C/-M/-Y	S30, S31, S32, S33
		Main charger ozone exhaust fan-K/-C/-M/-Y	F17, F18, F19, F20
		Auger lock detection sensor	S42
	Developer unit	Developer material	
		Auto-toner sensor	S26, S27, S28, S29
		Developer sleeve (Magnetic roller)	
		Doctor blade	
		Mixer	
Drive section, other	Temperature/Humidity sensor		S12
	Ozone filter-1, -2		PM parts
	Ozone suctioning fan		F24
	High-voltage transformer		HVT1, HVT2
	Developer unit motor-K/-YMC		M29, M31
	Developer unit mixer motor-K/-YMC		M30, M32
	Drum motor-K/-YMC		M27, M28
	Toner filter		PM parts
	Scattered toner suctioning fan		F25
	EPU cooling fan		F14

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11.3 Functions

1. Drum
   Drum is made of a cylindrical aluminum base coated with a thin film of organic photosensitive (photoconductive) substance. Photoconductive object becomes insulative (high electrical resistance) when it is not exposed to lights and becomes conductive (low electrical resistance) when it is exposed to lights. This object is called photoconductor.

2. Drum cleaner unit
   - Cleaning blade
     This blade is pressed against the drum surface with a constant force by pressure springs, and scrapes off the residual toner on the drum surface.
   - Recovery blade
     This blade prevents the toner which was scraped off by the cleaning blade from being scattered to the outside.
   - Toner recovery auger
     This auger carries the residual toner scraped off to the waste toner box.

3. Main charger
   The main charger in this equipment consists of insulated terminals having a U-shaped section and a needle electrode attached between them. When a high voltage is applied to the needle electrode, the air around it is charged (ionized). The ionized air then flows into the drum causing it to be charged. This phenomenon is called “corona discharge”. At the same time, a control bias is applied to the main charger grid to control the charging amount. In a dark place, negative charge is evenly applied onto the drum surface by the corona discharge and this grid. In addition, a cleaner is installed to clean up the blot attached on the needle electrode.
   - Needle electrode
     The needle electrode has aligned needles and their points perform the corona discharge. These points (electrodes) discharge toward the drum in one direction to realize the more efficient discharging comparing to the charger wire which discharges in a radial direction. Therefore, the needle electrode enables to reduce the ozone amount.

4. Drum thermistor (THM1, THM2)
   Since the photoconductive characteristic of the drum surface changes depending on the temperature of the drum surface, the drum thermistor detects the temperature of the drum surface and controls to gain the charging potential according to the environment.
   The equipment uses 2 drum thermistors and they detect surface temperature of K and Y drums respectively.

5. Discharge LED (ERS-Y, -M, -C, -K)
   Discharge is a process to decrease or eliminate the static electricity on the drum surface.
   The electrical resistance of the photosensitive layer is decreased by the light, and the residual charge on the drum surface is neutralized and eliminated (cleaned). Electrical potential of the drum surface is fixed to a certain amount before the drum is charged.

6. Temperature/humidity sensor (S12)
   This sensor measures the environment inside the equipment. The values of the temperature and humidity detected inside the equipment are output to the LGC board.

7. Ozone filter
   Ozone produced by corona discharge of the main charger is exhausted through this filter.
   The catalyzer of the ozone filter degrades the ozone.

8. Ozone suctioning fan (F24)
   This fan sucks in air contains ozone generated by the main charger and exhausts it through the ozone filter-1.

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9. High-voltage transformer (HVT)
   A circuit generates the output control voltage Vc of the main charger bias, main charger grid bias, 1st transfer roller bias, 2nd transfer roller bias, and developer bias.

10. Drum motor-K
    This motor drives the K drum.
    The drive of the motor is transmitted with the gear from the drum motor to the K drum.
    To align the phases of the K drum and color drums and enhance the color registration accuracy, the signal change of the color drum phase sensor and the K drum phase sensor works as a trigger to stop the motor.
    For further color registration accuracy, the gears are precisely assembled.

11. Drum motor-YMC
    These motors drive the Y, M and C drums.
    The drive of the motor is transmitted with the gear from the drum motor to the M (C) drum and then to the Y drum.
    To align the phases of the K drum and color drums and enhance the color registration accuracy, the signal change of the color drum phase sensor and the K drum phase sensor works as a trigger to stop the motor.
    For further color registration accuracy, the gears are precisely assembled.

12. Developer unit motor-K
    This motor drives the auger to carry waste toner gathered with the K developer magnetic roller and K cleaning blade to the waste toner transport path.
    To maintain the rotational speeds of the photoconductive drum and the developer magnetic roller at a specified ratio, the developer unit motor rotates at a speed proportionate to the paper transport speed for special modes such as the thick paper mode.
    The drive of the motor is transmitted with the gear, and the motor is connected to the developer unit with a coupling.

13. Developer unit mixer motor-K
    This motor drives a mixer to mix and transport K developer material.
    The rotational speed of this motor is constant in any mode because the transport amount of the developer material must be stable in any special mode such as the thick paper mode.
    The drive of the motor is transmitted with the gear, and the motor is connected to the developer unit with a coupling.

14. Developer unit motor-YMC
    These motors drive the auger to carry waste toner gathered with the YMC developer magnetic rollers and YMC cleaning blades to the waste toner transport path.
    To maintain the rotational speeds of the photoconductive drum and the developer magnetic roller at a specified ratio, the developer unit motor rotates at a speed proportionate to the paper transport speed for special modes such as the thick paper mode.
    The drive of the motor is transmitted with the gear, and the motor is connected to the developer unit with a coupling.

15. Developer unit mixer motor-YMC
    These motors drive a mixer to mix and transport YMC developer materials.
    The rotational speed of these motors is constant in any mode because the transport amount of the developer material must be stable in any special mode such as the thick paper mode.
    The drive of the motor is transmitted with the gear, and the motor is connected to the developer unit with a coupling.

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16. Developer material
The developer material consists of the carrier and toner. The carrier is made of electrically conductive ferrites which is 30-100 µm and the toner is made of the resin particle which is approx. 6.8 µm. Normally developer material does not need to be replaced periodically. However, replacement may be needed depending on the use condition.

17. Mixer
The carrier and toner are frictionized each other when the developer material is stirred. Then the carrier is positively charged (+) and the toner is negatively charged (–), and the toner is adhered by the electrostatic force.

18. Developer sleeve (Magnetic roller)
These aluminum rollers have magnets inside. The developer material is pulled by these magnets to form a magnetic brush. The magnets are fixed at their position so that only the sleeve rotates. By this rotation, the developer material is transported to the developer sleeve. Then the magnetic brush formed at the developer sleeve sweeps over the drum surface and thus development is performed.

19. Doctor blade
The doctor blade controls the amount of the developer material from the developer sleeve so that the magnetic brush of the developer material can contact with the drum surface properly.

20. Auto-toner sensor (S26, S27, S28, S29)
To print out a precise image, the proportion (toner density ratio) of the carrier and the toner in the developer material needs to be always constant. The magnetic bridge circuit in the black auto-toner sensor detects the toner ratio in the developer material. Toner is supplied from the sub-hopper when the toner contained in the developer material is running out.

21. Toner motor (M15, M16, M17, M18)
These motors drive the paddles and auger in the toner cartridge and transport the toner filled in the cartridge to the sub-hopper. Each toner cartridge of Y, M, C and K mounts one toner motor correspondingly.

22. Sub-hopper toner motor (M19, M20, M21, M22)
This motor transports toner in the sub-hopper to the developer unit. One motor is installed for each developer unit of YMCK colors.

23. Waste toner transport motor (M33)
The waste toner transport motor rotates the auger in the corresponding unit and transports the waste toner which exits from each YMCK developer unit and the transfer belt cleaner unit, as well as the waste developer material which exits from each YMCK developer unit.

24. Auger lock detection sensor (S42)
This sensor detects locking of the waste toner transport auger. When the waste toner transport auger is locked due to the overload or malfunction of the motor, this sensor detects it and the service call (CD71) occurs.

25. Waste toner amount detection sensor (S13)
The waste toner amount detection sensor is a transmissive sensor whose purpose is to detect the amount of waste toner in the waste toner box.
This sensor detects when the amount of waste toner has reached approx. 80% of the toner full.

26. Waste toner box full detection sensor (S14)
The waste toner box full detection sensor is a transmissive sensor whose purpose is to check the sensor section at the side of the waste toner box. When the Waste toner box becomes full of waste toner and the accumulated waste toner shields the sensor path, this sensor detects that the waste toner box is full.

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27. Waste toner box
    This collects the residual toner scraped off on the drum surface by the cleaning blade and residual toner scraped off on the transfer belt by the transfer belt cleaning blade.
    Developer material discharged in SR development is also recovered into the waste toner box.

28. Waste toner box detection sensor (S16)
    This sensor detects if the waste toner box is set and whether the waste toner box cover is opened or closed.

29. Toner filter
    This collects toner scattered out of the developer unit (developer sleeve).

30. Scattered toner suctioning fan (F25)
    This fan sucks in toner scattered out of the developer unit (developer sleeve) and collects it through the toner filter.

31. Toner cartridge paddle rotation detection sensor-K/C/M/Y(S8/S9/S10/S11)
    These sensors detect the rotational status of the paddle of each toner cartridge. The rotational status can be detected with an actuator rotating together with the paddle.

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11.4 Electric Circuit Description

11.4.1 High-voltage transformer control circuit

[1] General description

The high-voltage transformer is controlled by the on-off signal of each bias output from the ASIC on the LGC board, the clock signal for generating AC bias and the reference voltage signal (VR) output through a D/A converter. The high-voltage transformer generates the output current or voltage of each bias, based on the input +24 V voltage (+24 VD2).

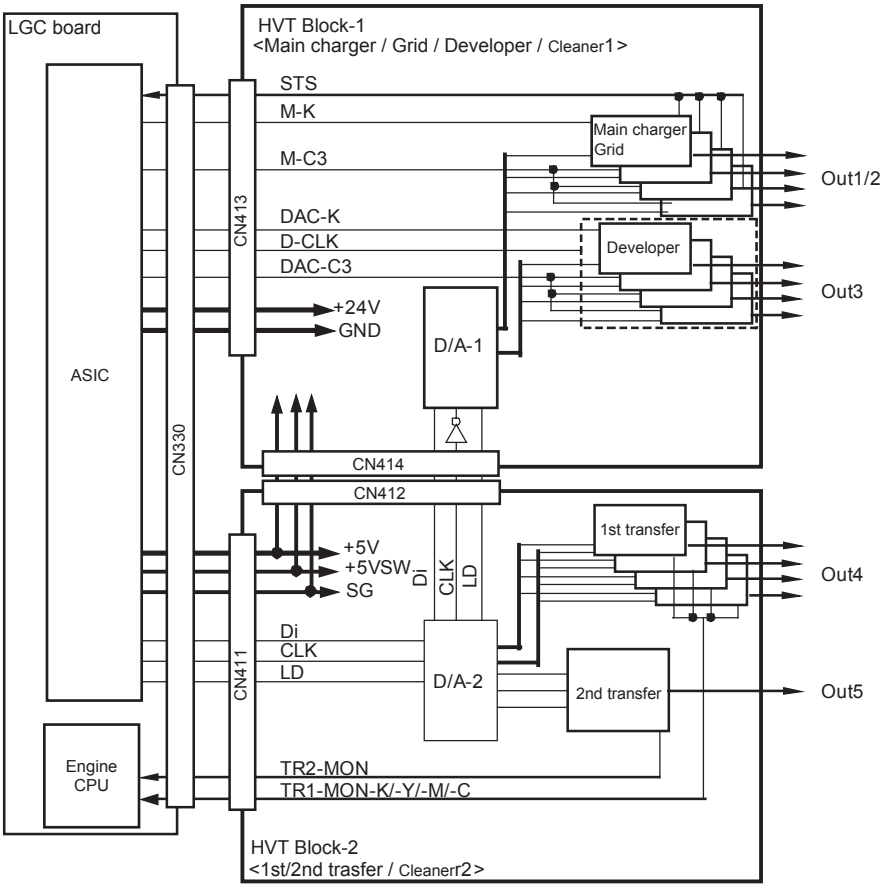

Fig. 11-3

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[2] Description of operation

The function and operation of each signal are as follows.

- On-off signal (HVTMC/K, HVTDACC/K):
  These signals are the on-off signals of each output to the main charger (needle electrode and grid), developer bias (AC). When these signals move to a low level, the generating circuit of each bias on the high-voltage transformer becomes ON status, thus the current or voltage is output.

- Output control signals (Di, LD, CLK):
  These signals control the serial transmission from LGC to HVT in order to regulate the high voltage output. These signals can turn ON/OFF each output of the main charger grid, developer bias (DC), 1st transfer bias and 2nd transfer bias, and also can change each output linearly.

  The output procedure of the reference voltages is shown below.
  - The data of the reference voltage is output from the LGC to the D/A converter.
    ↓
  - Digital-to-analog conversion at the D/A converter
    ↓
  - The reference voltage of each bias is output to the generating circuit of each bias.
    ↓
  - The circuit of each bias generates the output current or output voltage proportionate to the reference voltage.

  * The reference voltage can be adjusted in the Adjustment Mode (05).

- Developer AC bias generating clock (HVTDACK):
  This clock signal is a reference for the AC component of the developer bias.

- Leak detection signal (HVTSTS):
  This signal detects the abnormality (leakage) of the high-voltage transformer output. When the abnormality is detected, the signal moves to a low level.

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11.4.2 Drum Surface Potential Sensor Control Circuit

[1] General description

The drum surface potential sensor measures the surface potential of the drum when the drum is charged. Based on the measured value, this sensor controls the main charger grid bias voltage, and thus can control the drum surface potential accurately.

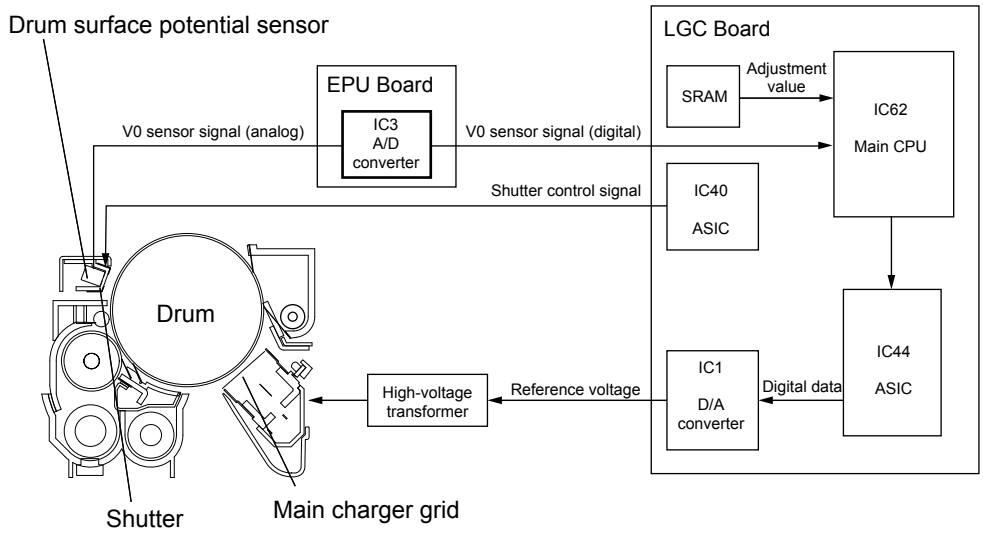

Fig. 11-4

[2] Configuration

The configuration of this control circuit is shown below.

- Drum surface potential sensor:
  Measures the drum surface potential.

- Drum surface potential sensor shutter:
  This shutter prevents toner and developer material from adhering to the drum surface potential sensor.

- Control section (LGC board):
  Calculates the main charger grid bias voltage to be applied when the image quality control is performed, then controls the high-voltage transformer to adjust its bias voltage output.

- High-voltage transformer:
  Generates and supplies the bias voltage of the main charger grid.

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[3] Description of operation

Correction control procedure of drum surface potential

- The setting value of the main charger bias voltage when the surface potential stored in the SRAM is measured is output to the Main-CPU.
- The reference voltage data (digital data) is output from the Main-CPU to the D/A converter through the ASIC.
- The reference voltage data is converted at the D/A converter into the reference voltage (Vctr) (analog data), and the data is then output to the high-voltage transformer.
- The high-voltage transformer outputs the main charger bias voltage based on the reference voltage, and thus the drum is charged.
- The drum surface potential is measured by the drum surface potential sensor, and the measured value (DRV0-1A) is then fed back to the Main-CPU.
- The current status (degree of deterioration) of the drum is estimated based on the measurement result of the drum surface potential, and then the data of the estimated status is used for the image quality control.
- The image quality control changes the image formation condition to make the image density and the line width appropriate.
- At this time, the image quality control determines the main charger bias output (effective value).
- The determined effective value of the main charger bias is stored in the SRAM.

Timing of drum surface potential measurement

The drum surface potential is measured along with the performance of the image quality control initialization. However, if the value of the control abnormalities counters for the drum surface potential sensors (08-2560) of any stations has reached 3 or if the value of the control abnormalities counters for closing drum surface potential sensor shutters (08-2577) of any stations has reached 2, the setting value of the drum surface potential sensor control setting (code 08-256: 0: Disabled, 1: Enabled) automatically turns to “Disabled”. In this case, the drum surface potential sensor control will not be performed along with image quality control initialization.

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[4] Flow of drum surface potential sensor control

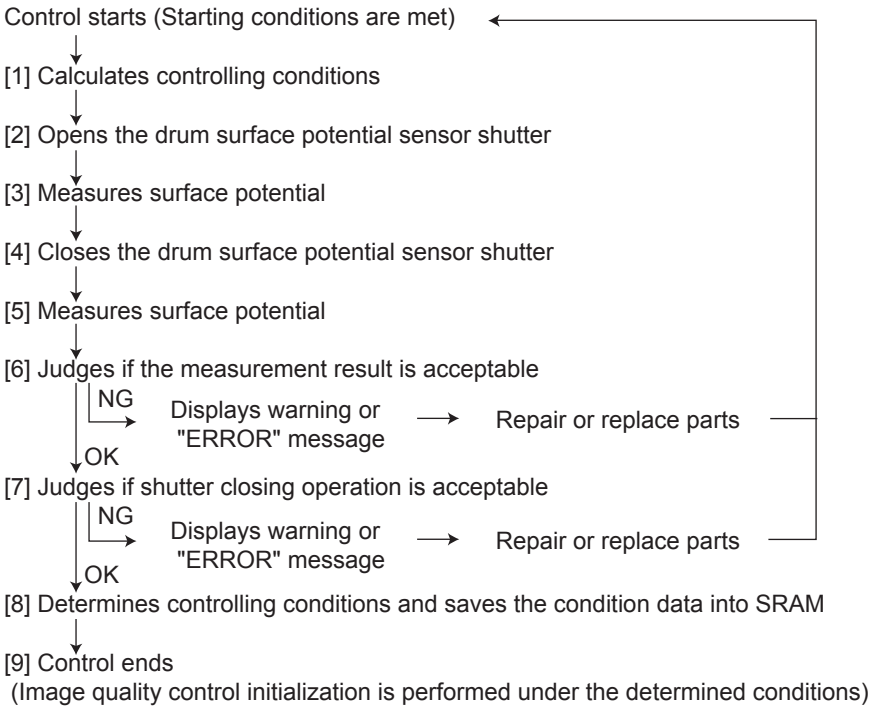

Fig. 11-5

* Drum surface potential measurement timing

Drum surface potential measurement is performed along with image quality control initialization. However, if the value of any of the control abnormalities counters for the drum surface potential sensors (08-2560) has reached 3 or if the value of any of the control abnormalities counters for closing drum surface potential sensor shutters (08-2577) has reached 2, the setting value of the code 08-2561 (drum surface potential sensor control setting) automatically turns to “0: Disabled”. In this case, the drum surface potential sensor control will not be performed along with image quality control initialization.

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11.4.3 Drum Temperature Detection Circuit

The drum temperature detection circuit is composed as shown in the figure below. It converts the input voltage from the drum thermistor into a digital signal by means of the A/D converter on the LGC board. The drum thermistor is a device whose resistance value is smaller when the temperature is higher. Therefore, when the temperature becomes higher, the input voltage to the A/D converter becomes lower.

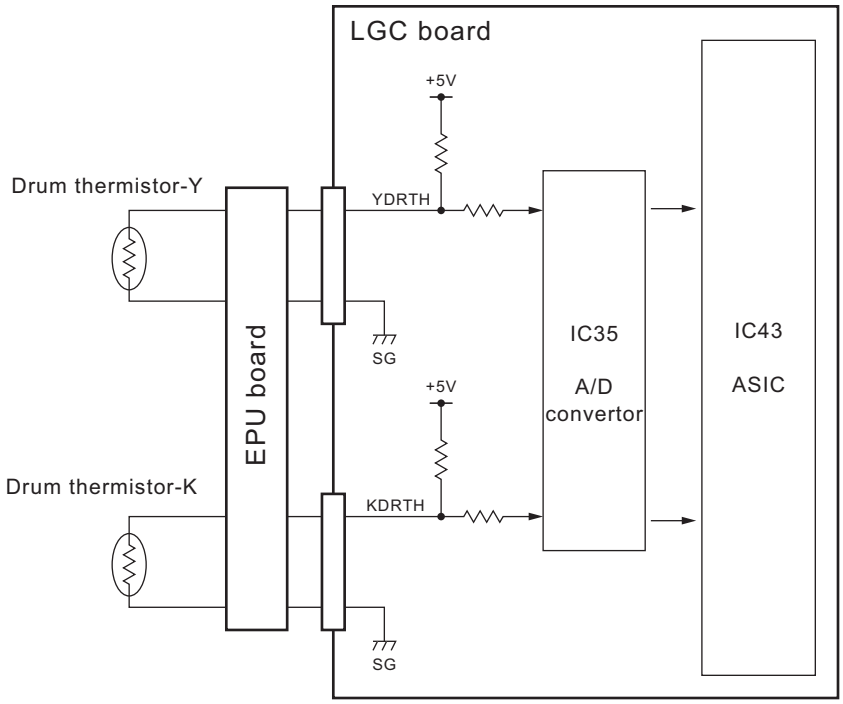

Fig. 11-6

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11.4.4 Drum motor control circuit

The drum motor is a stepping motor driven by the control signal output from the ASIC on the LGC board and rotates the drum.
The drum motor is driven by the pulse signal (DRMA, DRMB, DRMC, DRMD) output from the motor driver. These pulse signals are formed based on the reference clock (DMCK) and output only when the enable signal (DMEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

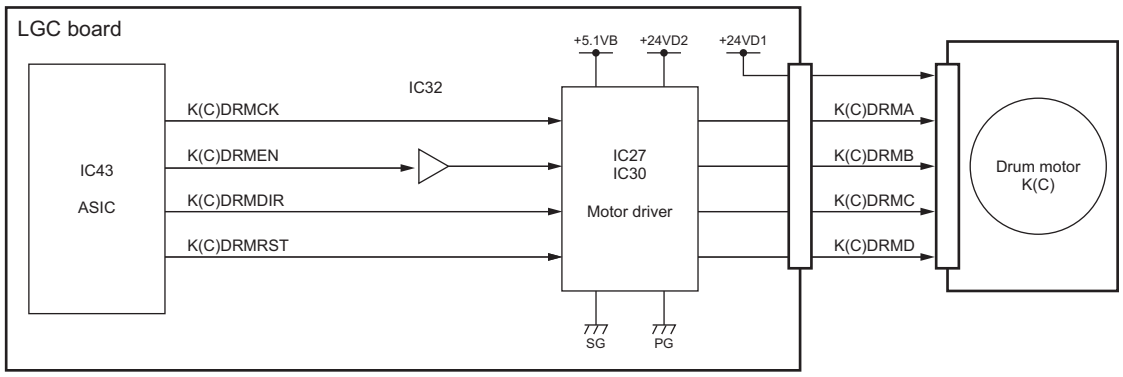

Fig. 11-7

Control signal

Signal	Function	Status	
		High level	Low level
K(C)DRMCK	Reference clock	---	---
K(C)DRMEN	Enable signal	ON	OFF
K(C)DRMDIR	Rotation direction signal	CCW	CW
K(C)DRMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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11.4.5 Temperature/humidity detection circuit

The temperature/humidity detection circuit detects the temperature and humidity inside of the equipment by means of the corresponding sensor so that the printing quality is not changed due to their adverse influence where the equipment is set up, and corrects the output of the auto-toner sensor or similar according to the result.
The temperature/humidity detection circuit is composed as shown in the figure below. It converts the voltage of each analog signal output from the temperature/humidity sensor into a digital signal by means of the A/D converter on the LGC board. The lower the temperature and the higher the humidity, the higher the voltage of each analog signal output from the temperature/humidity sensor becomes.

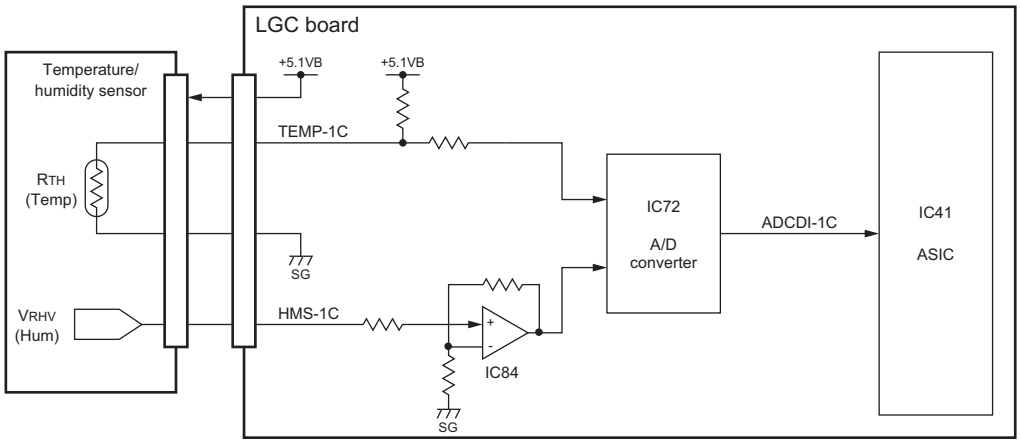

Fig. 11-8

Control signal

Signal	Function
TEMP-1C	Temperature detection signal (analog)
HMS-1C	Humidity detection signal (analog)

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11.4.6 Toner motor control circuit

The toner motor is a DC brush motor driven by the control signal output from the ASIC on the LGC board and rotates the mixing paddle and toner supply auger in each toner cartridge.

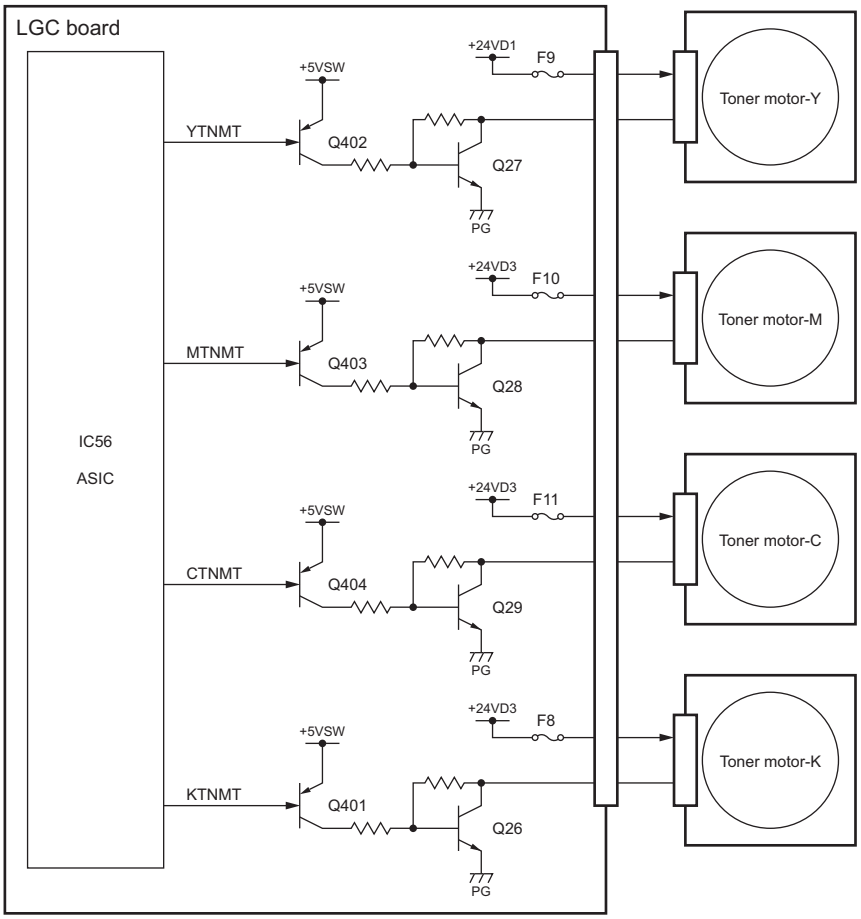

Fig. 11-9

Control signal

Signal	Function	Status	
		High level	Low level
YTNMT	Toner motor-Y ON signal	Stop	Rotate
MTNMT	Toner motor-M ON signal		
CTNMT	Toner motor-C ON signal		
KTNMT	Toner motor-K ON signal		

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11.4.7 Waste toner transport motor control circuit

The waste toner transport motor is a DC brush motor driven by the control signal output from the ASIC on the LGC board and rotates the auger in the waste toner transport unit.

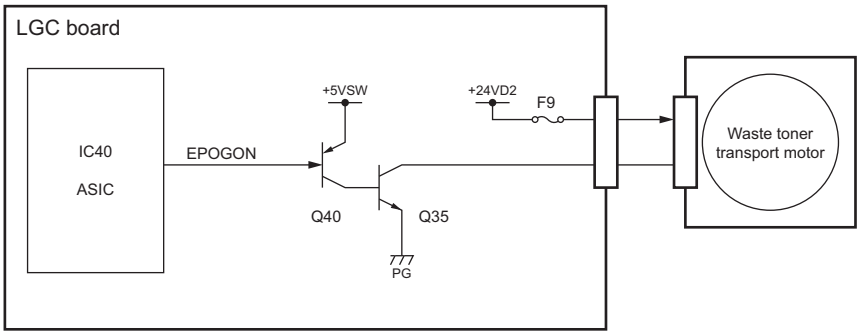

Fig. 11-10

Control signal

Signal	Function	Status	
		High level	Low level
EPOGON	Waste toner transport motor ON signal	Stop	Rotate

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11.4.8 Auto-toner Circuit

[1] General description

[1-1] Function of the auto-toner circuit

- Detects the toner density in the developer material for each color, and supplies toner when the density is lowered to a certain level.
- Detects that there is no toner left in the developer unit for each color.

[1-2] Configuration of the auto-toner circuit

- Auto-toner sensor (Y/M/C/K): Detects the toner density.

- Control section:
  Controls each section to keep the toner density of the developer material constant.

- Control panel:
  Displays a status that the toner cartridge is empty.

- Toner supply section:
  Toner supplying section: Supplies toner from each sub-hopper to each developer unit with the normal rotation of the sub-hopper toner motor.

[1-3] Functions of sub-hopper toner sensor circuit

- It detects the amount of toner in each sub-hopper and supplies toner when the amount has become small.
- It detects when the toner in each toner cartridge has run out.

[1-4] Configuration of sub-hopper sensor circuit

- Sub-hopper toner sensor: Controlling section: Controls each part to keep the toner amount in each sub-hopper constant.

- Control section:
  Controls each part to keep the toner amount in each sub-hopper constant.

- Control panel:
  Displays toner cartridge-empty related messages.

- Toner supply section:
  Supplies toner from each toner cartridge to each sub-hopper with the drive of the toner motor.

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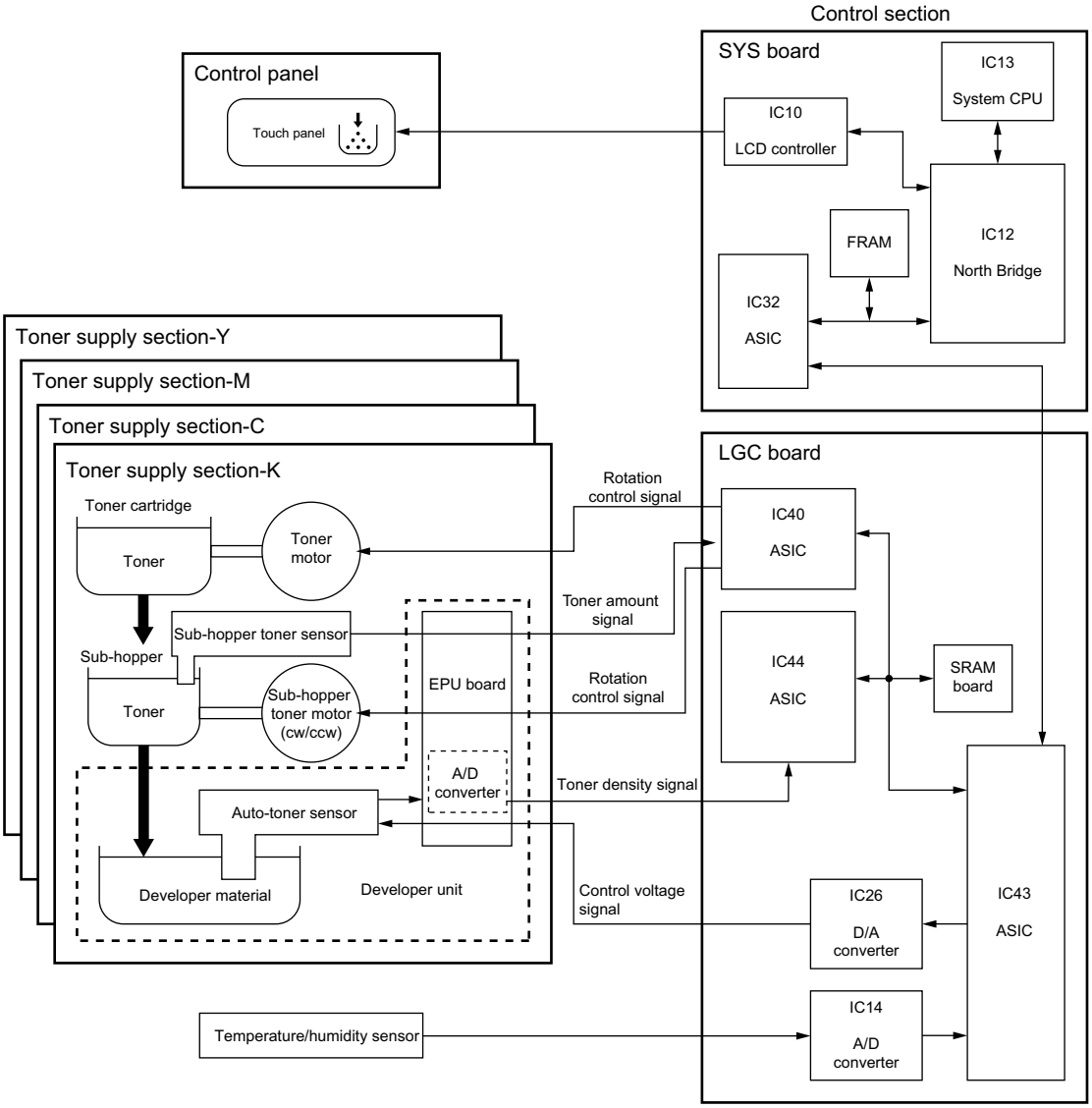

Fig. 11-11

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[2] Operations of black auto-toner sensor

[2-1] Functions of the auto-toner sensor

- Initializing function: When unpacking and replacing the developer material
  The automatic adjustment is made so that the output of the auto-toner sensor will be 2.00 V to 3.16 V for the toner density of new developer material.

- Toner density stabilizing function: During the printing operation
  Through the following phases, the toner density is kept constant.
  Toner is consumed.
  → Toner density decreases.
  → Output change of the auto-toner sensor is detected depending on the humidity.
  → Drives sub-hopper toner motor.
  → Supplies toner to the developer unit from the sub-hopper.

- Toner-empty detection/clear function:
  Detects toner being empty in the toner cartridge.
  Drives sub-hopper toner motor.
  → Output of the auto-toner sensor is not changed.
  → Toner density is not changed.
  → Detects toner being empty.

  Toner-empty clear
  Drives toner motor and sub-hopper toner motor.
  → Supplies toner from the sub-hopper.
  → Output of the auto-toner sensor changes.
  → Toner density recovers to its normal value.
  → “Toner-empty” is cleared.

[2-2] Functions of the sub-hopper toner sensor

- Toner cartridge-empty detection and cancellation
  It drives the toner motor according to the sub-hopper sensor output value to keep the toner amount in each sub-hopper constant.

- The toner cartridge empty status is detected in the flow shown below.
  Through the following phases, the toner density is kept constant.
  → The toner motor and the sub-hopper motor are driven. (If toner is not supplied to the developer unit, the sub-hopper motor is rotated in reverse.)
  → The sub-hopper toner sensor output value does not change.
  → The toner amount in the sub-hopper does not increase.
  → The sensor detects that toner in the cartridge has run out. (Toner cartridge empty status)

- The toner cartridge empty status is canceled in the flow shown below.
  The toner motor and the sub-hopper motor are driven.
  → Toner is supplied from the toner cartridge to the sub-hopper.
  → The sub-hopper toner sensor output value changes (detects the full level).
  → The toner amount in the sub-hopper does not increase.
  → The toner amount of the sub-hopper reaches the specified level.
  → The toner cartridge empty status is canceled.

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[2-3] Auto-toner sensor control circuit

The auto-toner sensor is composed of the following circuits.

- Drive winding:
  Magnetic head (primary side) with a high-frequency magnetic field, which forms a magnetic circuit in the developer material

- Detection winding:
  Receiving the changes in the magnetic resistance of the developer material via a magnetic circuit (secondary side)

- DC conversion circuit:
- Converting the high-frequency output from the detection winding to a DC signal (auto-toner output ATSN)

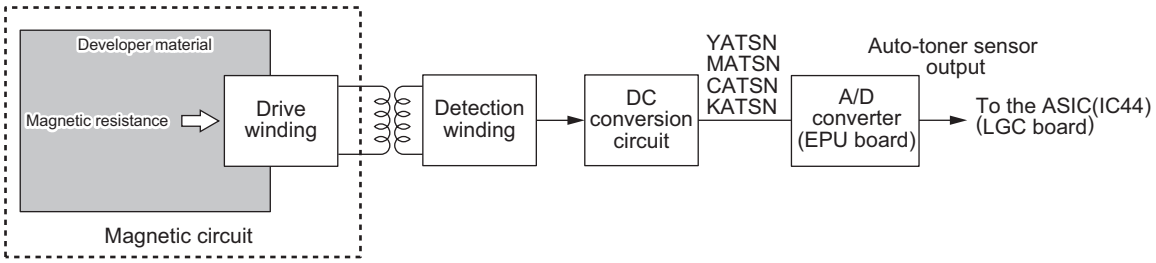

Fig. 11-12

- When the toner density is low:
  Toner ratio to the carrier in the developer material decreased
  → Magnetic resistance decreased
  → Detection output increased
  → Auto-toner output ATSN increased

- When the toner density is high:
  Toner ratio to the carrier in the developer material increased
  → Magnetic resistance increased
  → Detection output decreased
  → Auto-toner output ATSN decreased

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11.4.9 Developer unit motor control circuit

The black/color developer unit motor receives control signals from ASIC on the LGC board and uses a brush-less DC motor to drive the auger which carries the waste toner gathered by the developer magnetic roller and cleaning blade to the waste toner transport path.

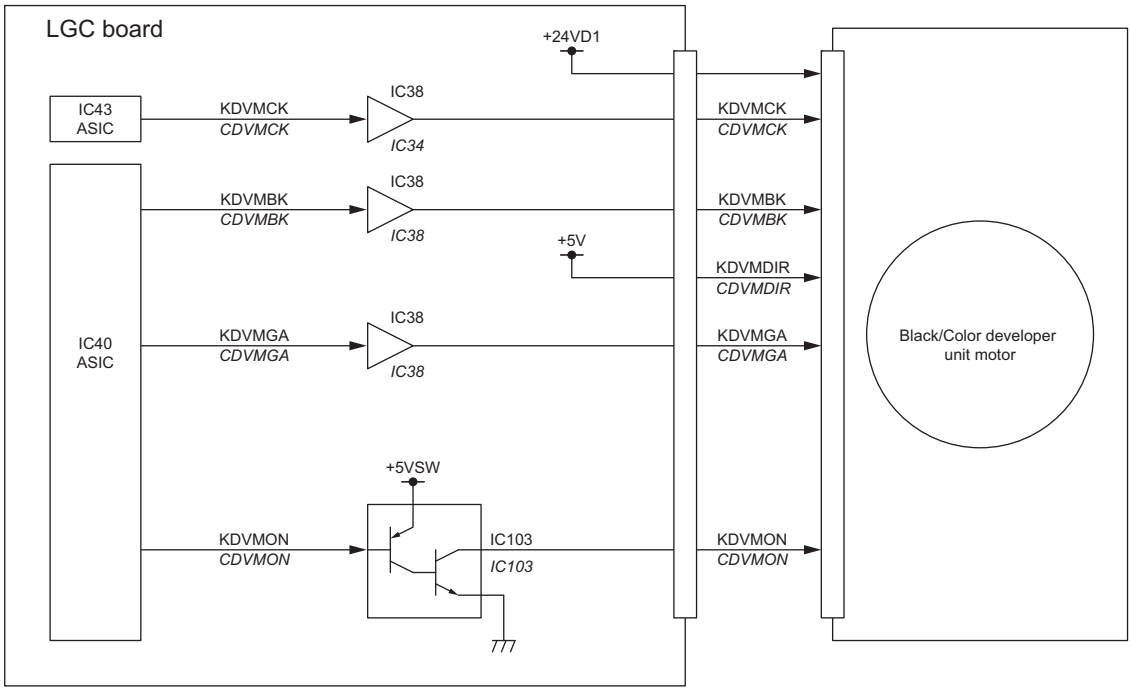

Fig. 11-13

Control signal

Signal	Function	Status	
		High level	Low level
KDVMON	Motor ON signal	OFF	ON
CDVMON			
KDVMDIR	Rotation direction signal	CCW	(Unused)
CDVMDIR			
KDVMGA	Speed switching signal	High speed (Default)	Low speed
CDVMGA			
KDVMCK	Reference clock	---	---
CDVMCK			
KDVMRDY	Developer unit drive status detection	Abnormally rotate or stop	Rotate
CDVMRDY			

* Italicized signals are for the color developer unit mixer motor

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11.4.10 Developer unit mixer motor control circuit

The black/color developer unit mixer motor receives control signals from ASIC on the LGC board and uses a brush-less DC motor to drive the mixer which stirs and supplies the developer material.

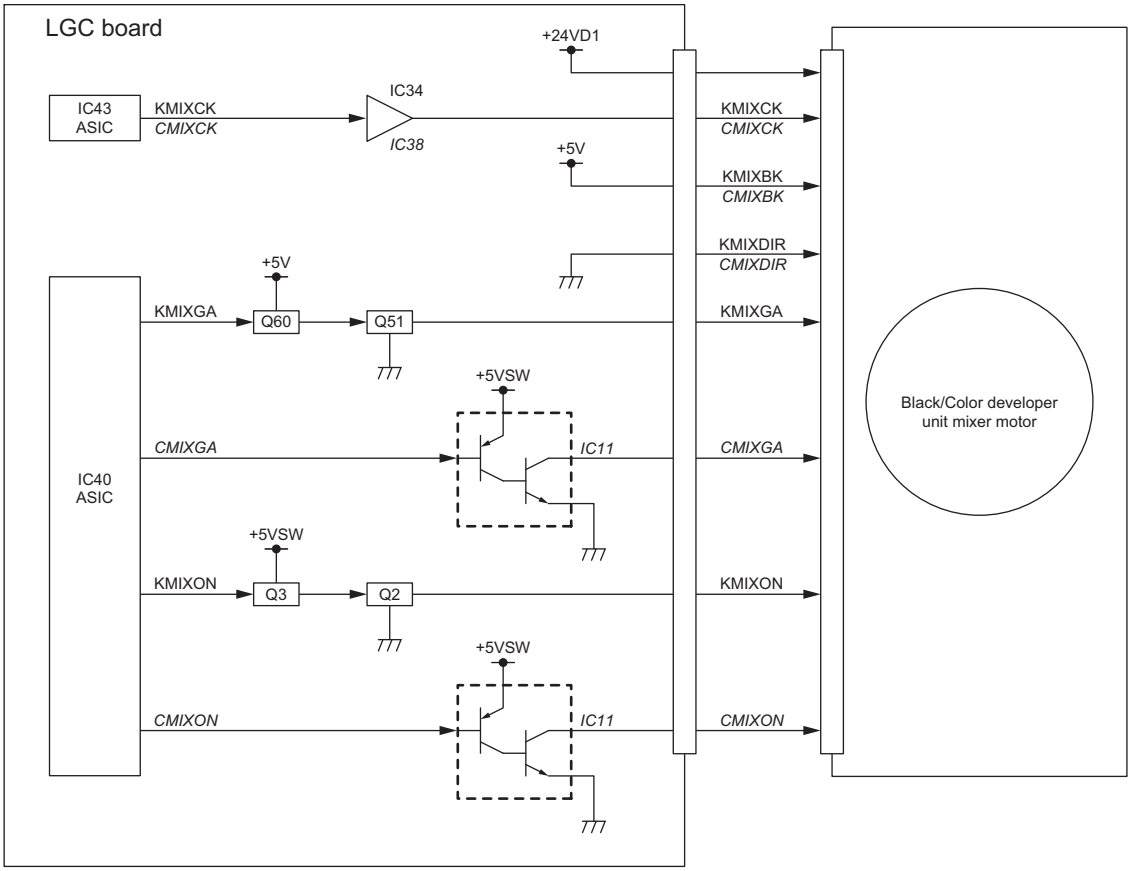

Fig. 11-14

Control signal

Signal	Function	Status	
		High level	Low level
KMIXON	Motor ON signal	OFF	ON
CMIXON			
KMIXDIR	Rotation direction signal	Unused	CW
CMIXDIR			
KMIXGA	Speed switching signal	High speed (Default)	Low speed
CMIXGA			
KMIXCK	Reference clock	---	---
CMIXCK			
KMIXPLL	Mixer drive motor lock detection	Abnormally rotate or stop	Normal
CMIXPLL			

* Italicized signals are for the color developer unit mixer motor.

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11.5 Disassembly and Replacement

11.5.1 Pulling out the process unit (EPU tray)

(1) Take off the front lower cover.
📖 P.3-41 "3.5.1 Front lower cover"
(2) Loosen the fixing screw of the right TBU lifting lever to unfix it.

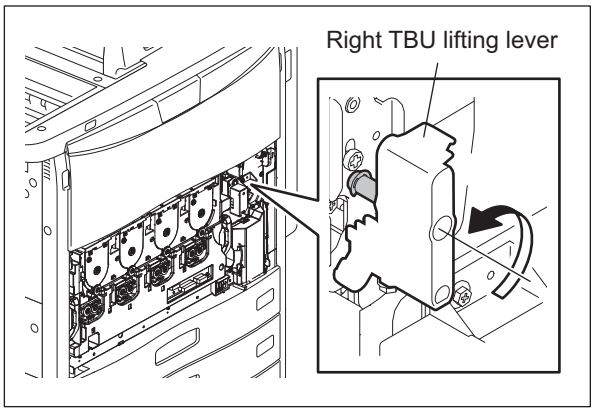

Fig. 11-15

(3) Pull out the left TBU lifting lever toward you until it reaches to a mark.

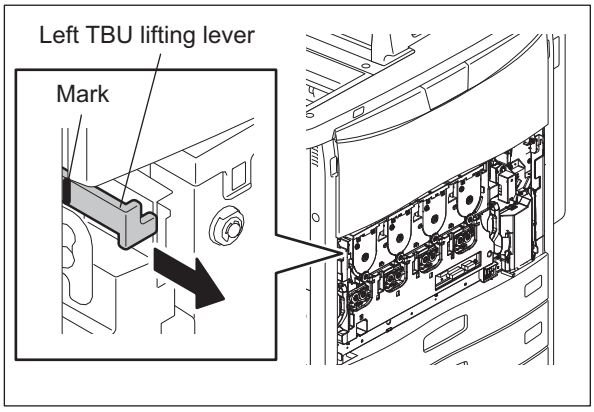

Fig. 11-16

(4) Turn the right TBU lifting lever to the left for 90 degrees.
(5) Turn the TBU locking lever for 45 degrees (right hand).

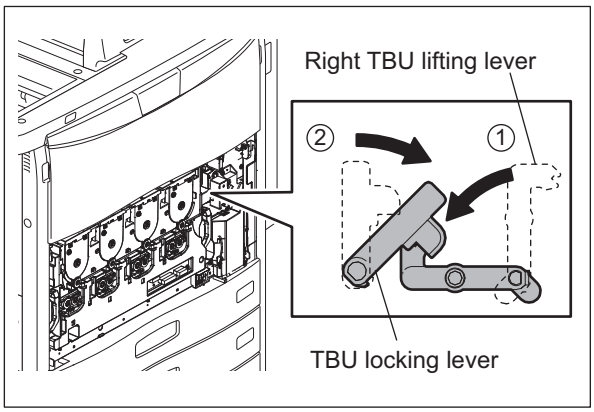

Fig. 11-17

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(6) Lift up the EPU locking lever.

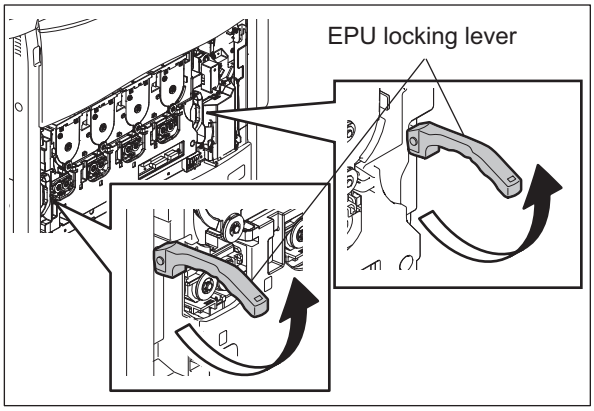

Fig. 11-18

(7) Turn the EPU locking lever for 90 degrees.

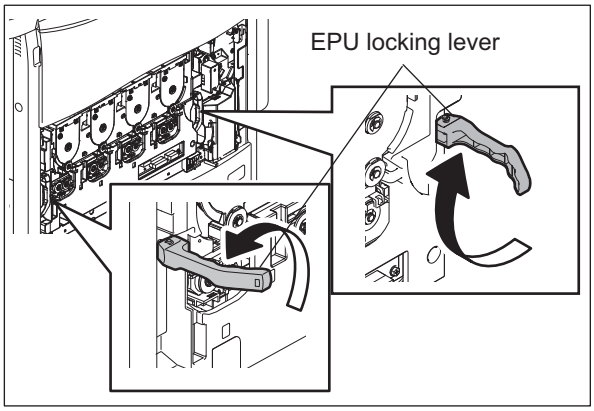

Fig. 11-19

(8) Pull out the process unit by holding the EPU locking lever.

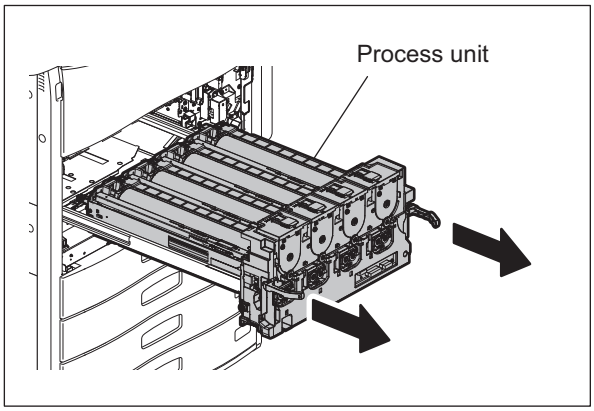

Fig. 11-20

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Notes:

1. When the process unit is pulled out, be sure to close the shutter of the sub-hopper to prevent dust from entering into the unit.

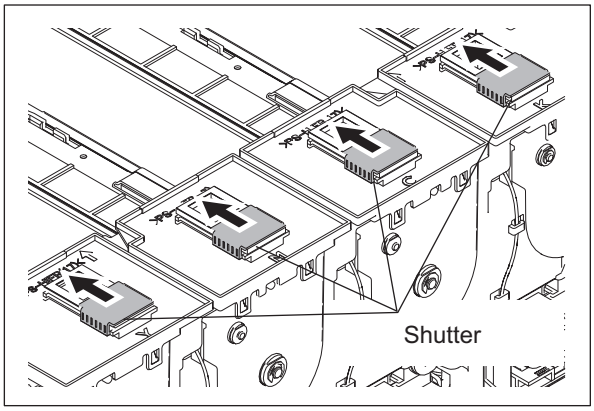

Fig. 11-21

2. When the process unit is pulled out, clean toner or dirt on the entrance of the waste toner transport path on the equipment side or on the toner supply opening of the sub-hopper, if there is any.

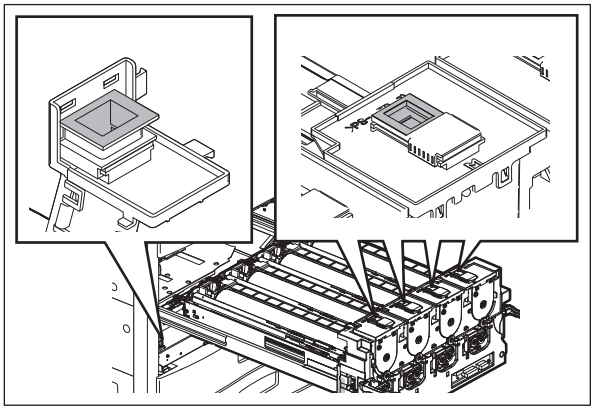

Fig. 11-22

3. Before you push the process unit back, make sure that each lever is set as shown in the figure.
4. Turn the right TBU lifting lever downward to unlock the TBU locking lever.

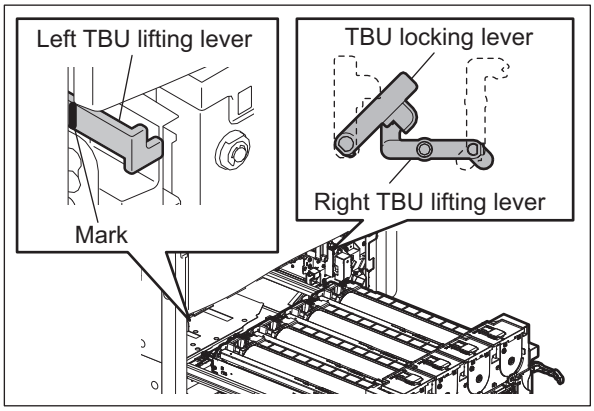

Fig. 11-23

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Notes:

Do not install the process unit with too much force. Follow the procedure below when installing the process unit.

1. Hold the levers on both sides and insert the EPU tray slowly until it seems to stop. (The stud should be inserted into the hole of the frame.)
   In this case, the levers face the inside.

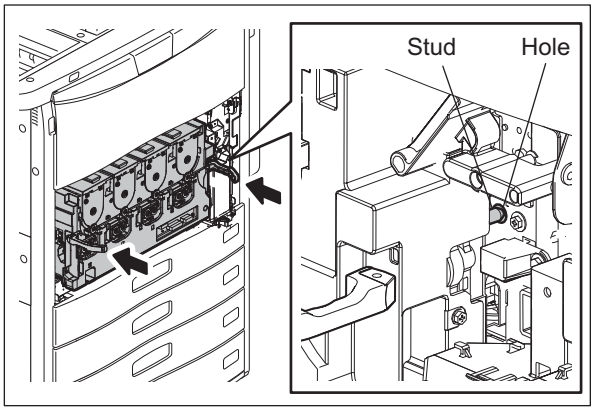

Fig. 11-24

2. Place your hands in the position indicated by the arrows below, and push it well.

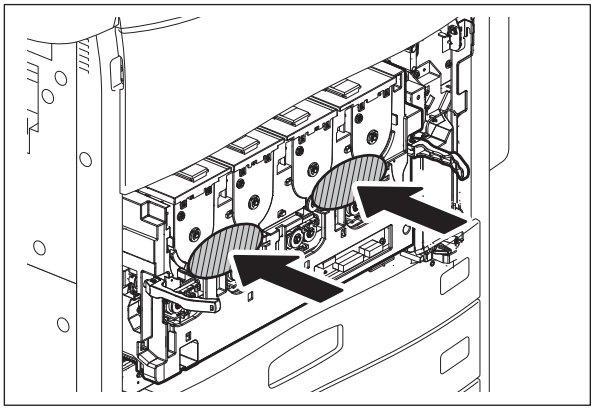

Fig. 11-25

3. Turn both levers outside by 90 degrees and push them down.

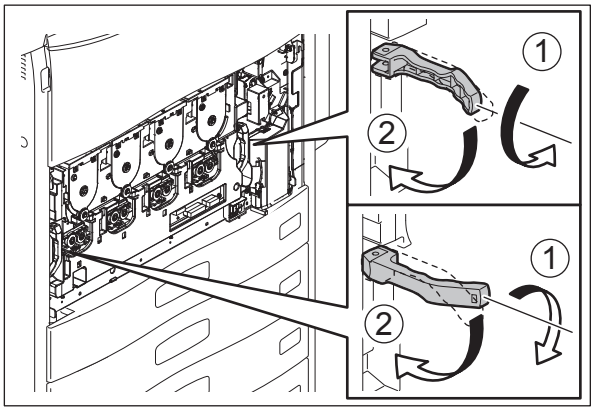

Fig. 11-26

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11.5.2 Drum cleaner unit

(1) Pull out the process unit.
📖 P.11-24 "11.5.1 Pulling out the process unit (EPU tray)"
(2) Take off the drum cleaner unit quietly not to hit the drum to the surrounding parts.

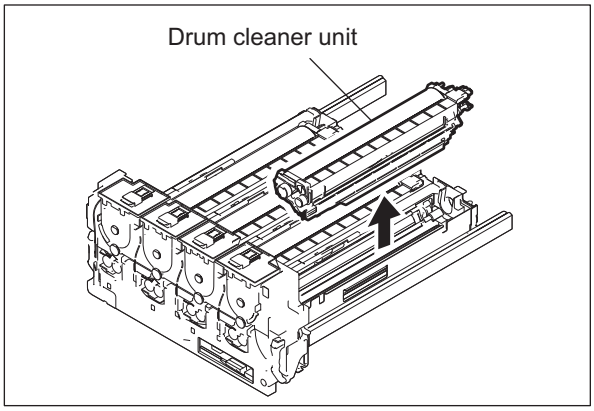

Fig. 11-27

Note:
When you hold the drum cleaner unit, hold the part A shown in the figure. Do not touch the part B because grease will adhere to your hands.

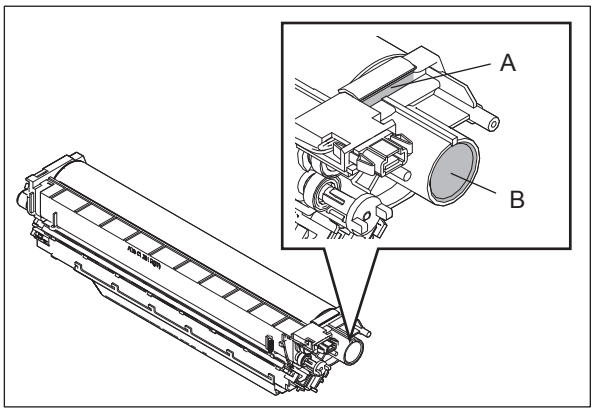

Fig. 11-28

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Notes:

1. When installing, place the drum cleaner unit by keeping it horizontal.

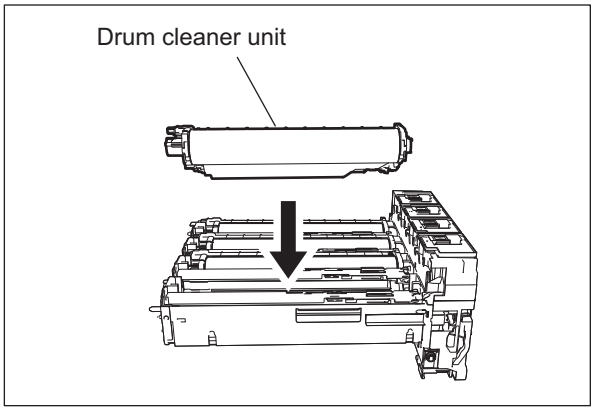

Fig. 11-29

2. Confirm that the unit is placed horizontally by holding 4 sections (shown in the figure) securely and checking that no lifting is found at each section.

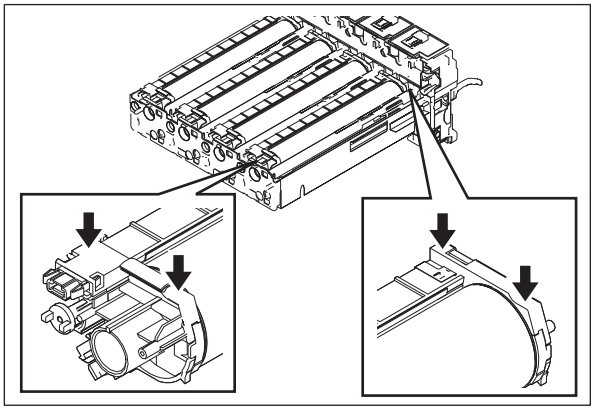

Fig. 11-30

3. When installing the drum cleaner unit, be sure that the orange label attached on the shutter is clearly seen.

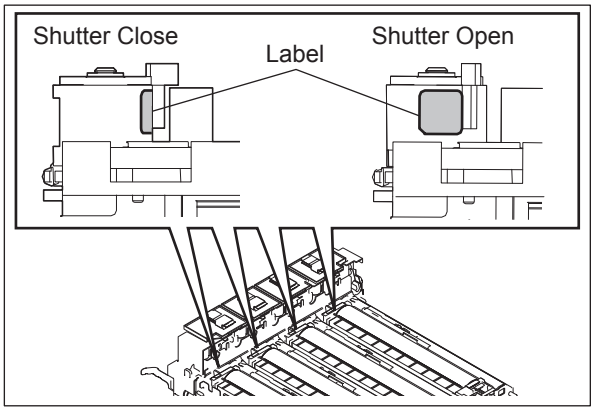

Fig. 11-31

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11.5.3 Drum PM

(1) Take off the drum cleaner unit
📖 P.11-28 "11.5.2 Drum cleaner unit"
(2) Take off the main charger unit.
📖 P.11-32 "11.5.6 Main charger unit"
(3) Take off 2 drum holders.
(4) Take off the drum by lifting it up straight.

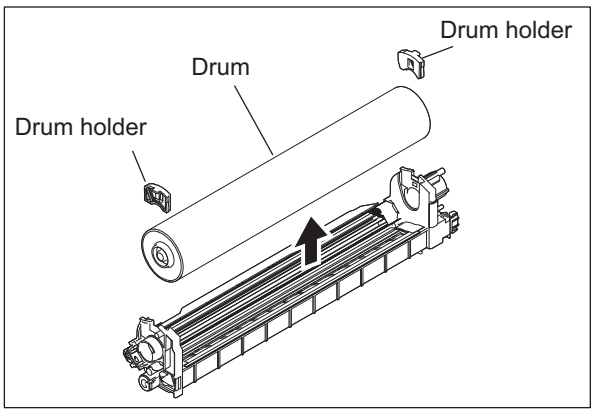

Fig. 11-32

Note:
Do not install the drum in a wrong direction. Do not touch the drum flange on the rear side (shown in grey in the figure) because grease will adhere to your hands.

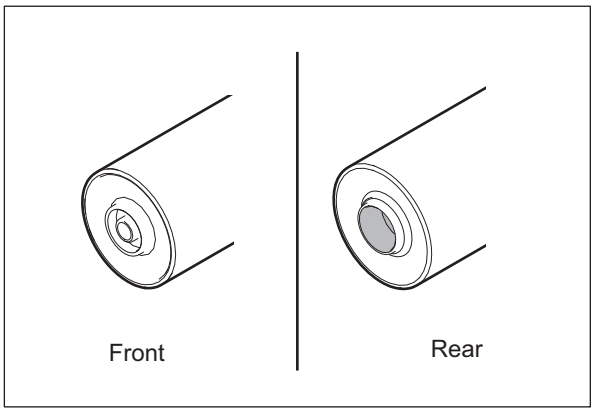

Fig. 11-33

11.5.4 Drum cleaning blade PM

(1) Take off the main charger unit.
📖 P.11-32 "11.5.6 Main charger unit"
(2) Take off the drum.
📖 P.11-30 "11.5.3 Drum"
(3) Remove 2 screws and then take off the drum cleaning blade.

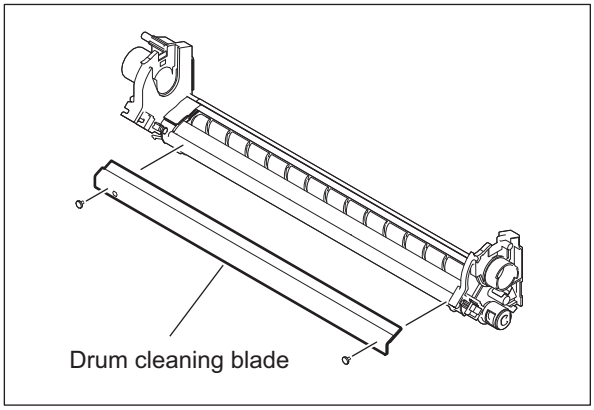

Fig. 11-34

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11.5.5 Blade side seal PM

(1) Take off the drum cleaning blade.
📖 P.11-30 "11.5.4 Drum cleaning blade"
(2) Take off the blade side seal.

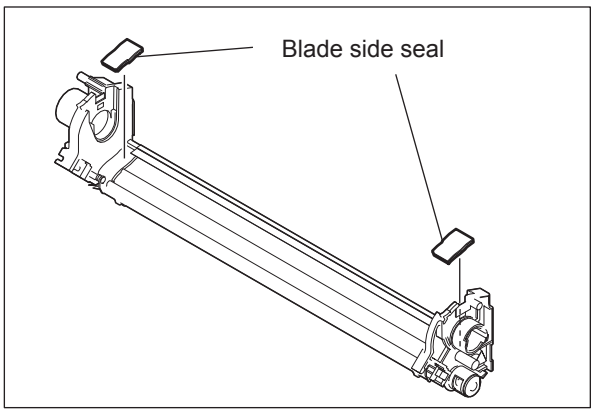

Fig. 11-35

Notes:
When replacing the blade side seals, follow the procedure below.
1. Move the blade to the front side and then install it with 2 screws.
2. Install the 2 blade side seals following the standard shown in the figure.

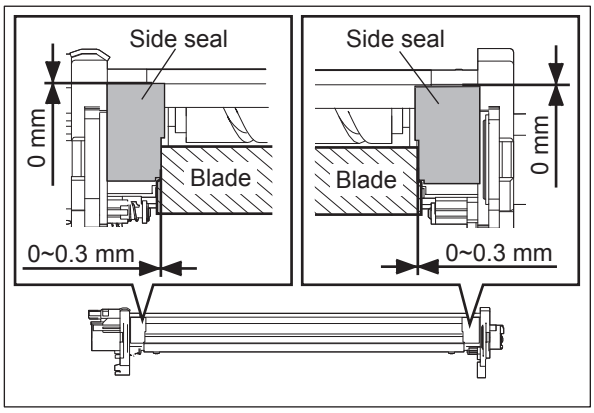

Fig. 11-36

3. After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.

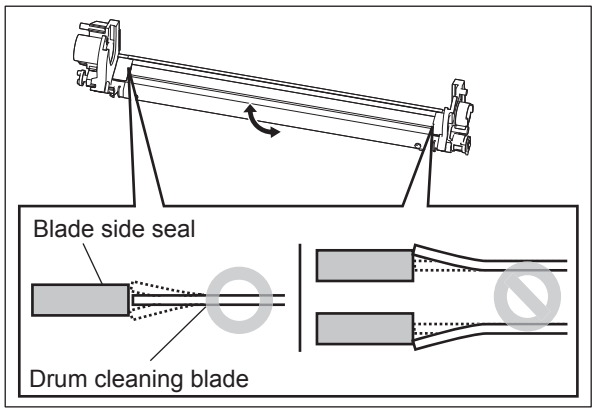

Fig. 11-37

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11.5.6 Main charger unit

(1) Take off the drum cleaner unit.
P.11-28 "11.5.2 Drum cleaner unit"
(2) Disconnect 1 connector and release 2 latches. Then take off the main charger unit.

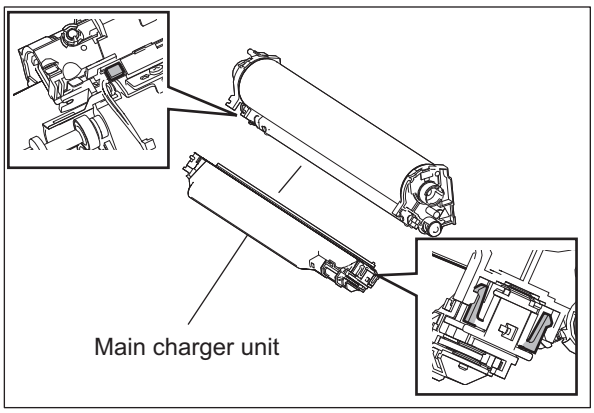

Fig. 11-38

11.5.7 Main charger grid PM

(1) Take off the Main charger unit.
P.11-32 "11.5.6 Main charger unit"
(2) Take off the main charger grid by pulling the lever of the holder.

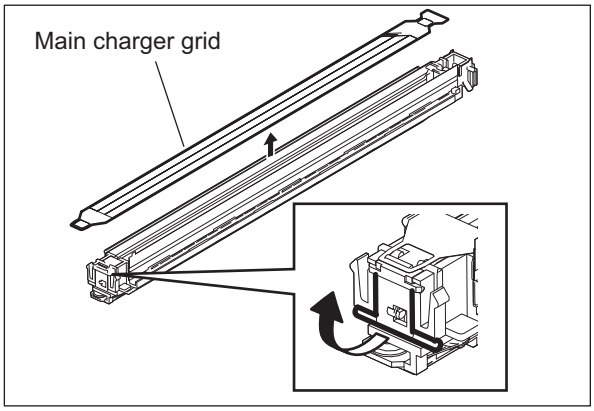

Fig. 11-39

11.5.8 Needle electrode cleaner PM

(1) Take off the main charger grid.
P.11-32 "11.5.7 Main charger grid"
(2) Take off the needle electrode cleaner.

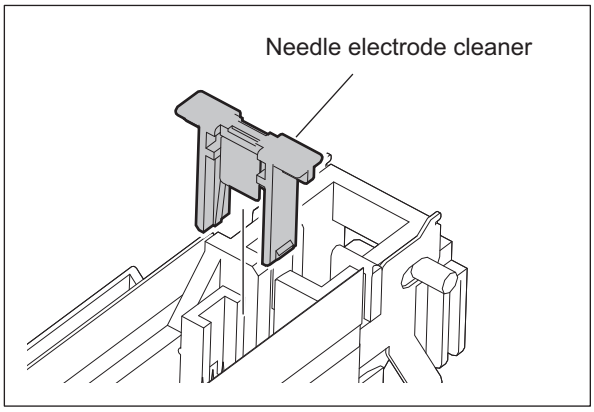

Fig. 11-40

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11.5.9 Needle electrode PM

(1) Take off the needle electrode cleaner.
📖 P.11-32 "11.5.8 Needle electrode cleaner"
(2) Remove the holder and then take off the needle electrode.

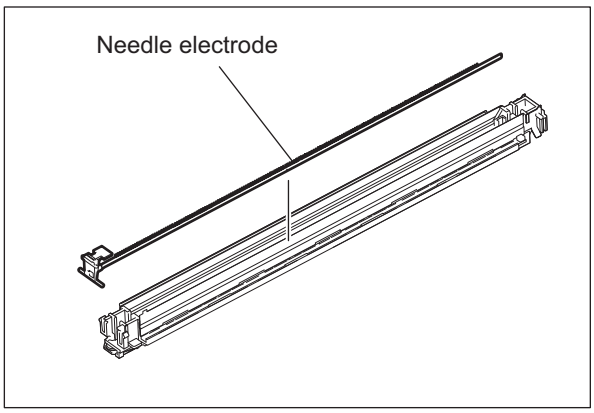

Fig. 11-41

11.5.10 Discharge LED (ERS-K/ERS-C/ERS-M/ERS-Y)

(1) Take off the main charger unit.
📖 P.11-24 "11.5.1 Pulling out the process unit (EPU tray)"
(2) Remove the discharge LED from the protrusion of the charger case and take it off by sliding it.

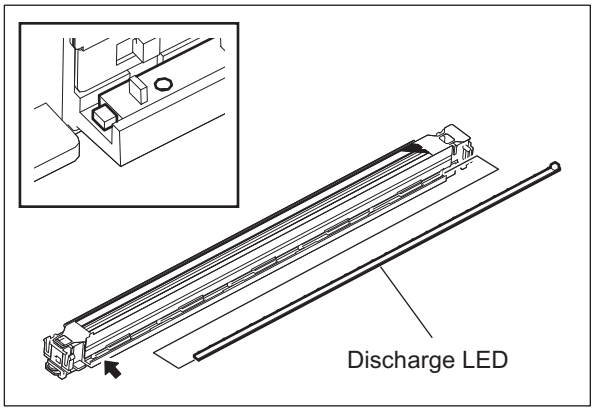

Fig. 11-42

11.5.11 Sub-hopper

(1) Pull out the process unit.
📖 P.11-24 "11.5.1 Pulling out the process unit (EPU tray)"
(2) Disconnect 4 connectors.
(3) Release 4 hooks on the back side.
(4) Release 2 hooks on the both sides and take off the sub-hopper.

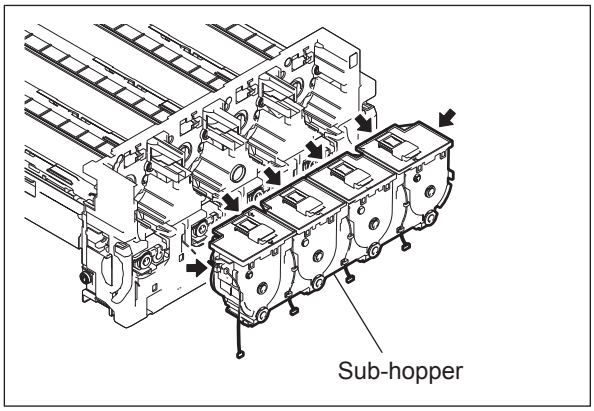

Fig. 11-43

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11.5.12 Sub-hopper toner sensor (S38/S39/S40/S41)

(1) Take off the sub-hopper.
P.11-33 "11.5.11 Sub-hopper"
(2) Discharge toner.

Note:
When taking off the sensor while toner is still in the sub-hopper, be careful not to spill the toner out of the sub-hopper.
If the toner surface is higher than the sensor installation position, it is recommended to mix the toner by rotating the gear.

(3) Release 1 lock and take off the holder by tilting it.

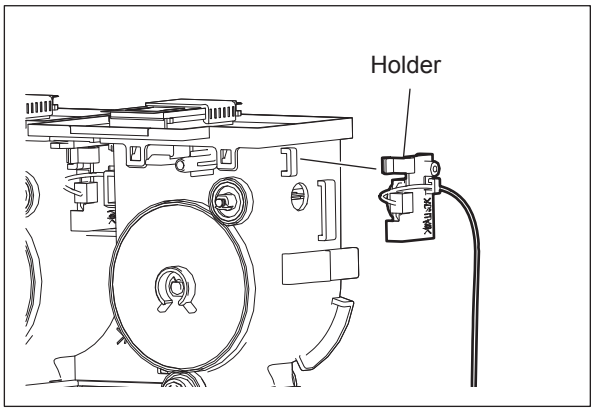

Fig. 11-44

(4) Disconnect 1 connector and remove 1 screw. Then take off the sub-hopper toner sensor.

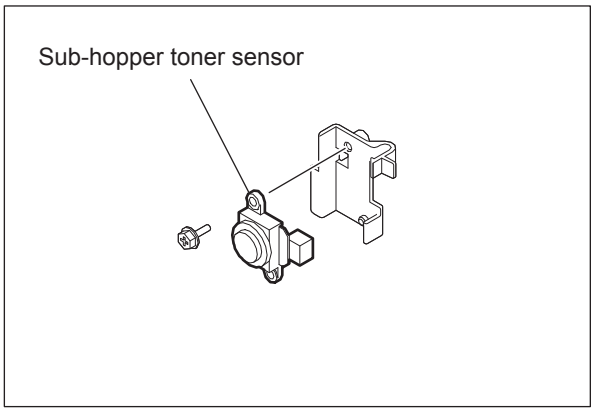

Fig. 11-45

11.5.13 EPU cover

(1) Take off the sub-hopper.
P.11-33 "11.5.11 Sub-hopper"
(2) Remove 6 screws and release 5 latches. Then pull out the EPU cover toward you.

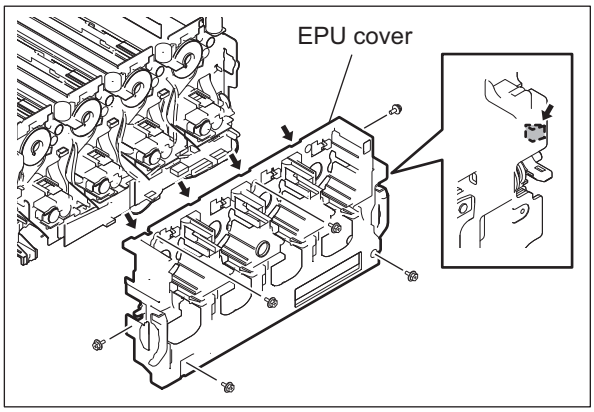

Fig. 11-46

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(3) Disconnect 1 connector and take off the EPU cover.

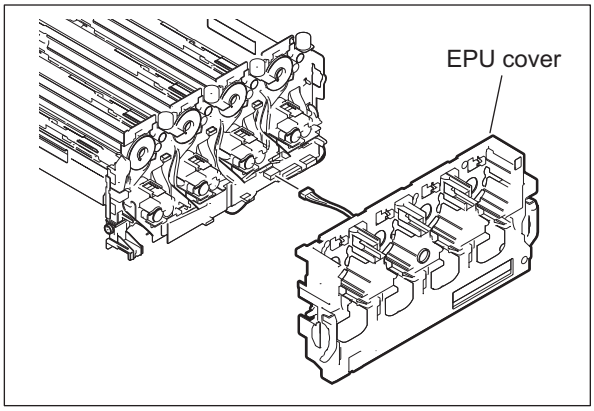

Fig. 11-47

11.5.14 Sub-hopper toner motor (K/C/M/Y) (M19/M20/M21/M22)

(1) Take off the EPU cover.
P.11-34 "11.5.13 EPU cover"

(2) Disconnect 1 connector and remove 2 screws. Then take off the motor bracket.

Note:
The shape of the bracket for K differs from those for Y, M and C.

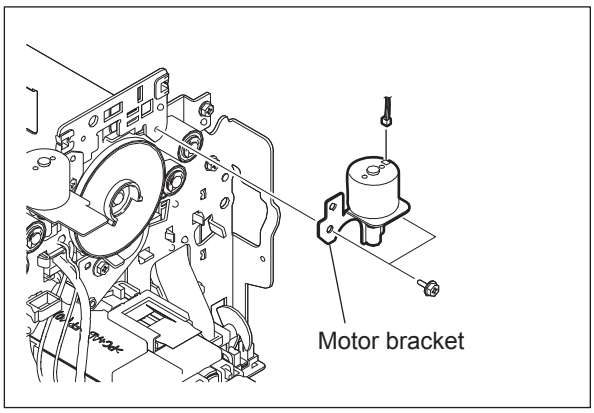

Fig. 11-48

(3) Remove 2 screws and take off the sub-hopper toner motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

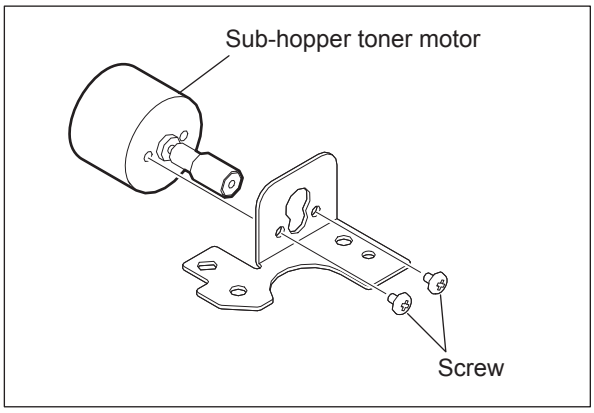

Fig. 11-49

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11.5.15 EPU PC board

(1) Take off the EPU cover.
P.11-34 "11.5.13 EPU cover"
(2) Disconnect 7 connectors.

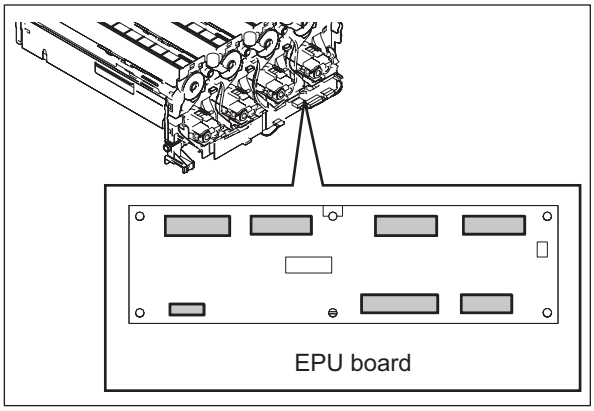

Fig. 11-50

(3) Remove 4 screws and then take off the EPU board.

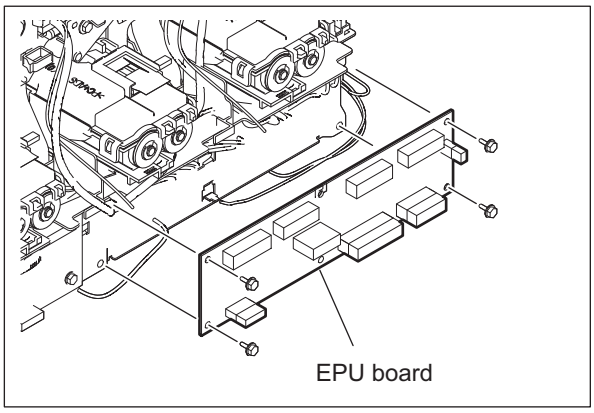

Fig. 11-51

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11.5.16 Drum surface potential sensors control PC board (V0S board)

(1) Take off the EPU cover.
P.11-34 "11.5.13 EPU cover"
(2) Disconnect 3 connectors.

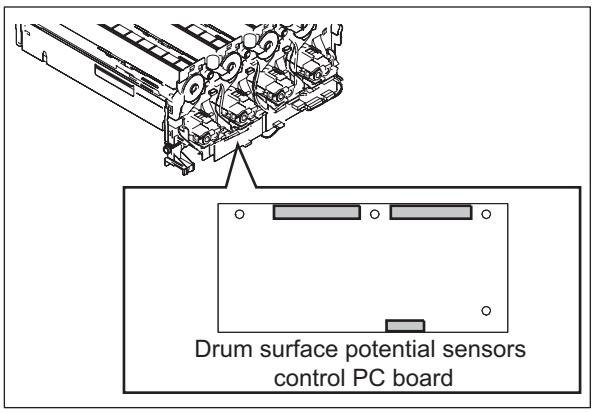

Fig. 11-52

(3) Remove 2 screws and then take off the V0S board.

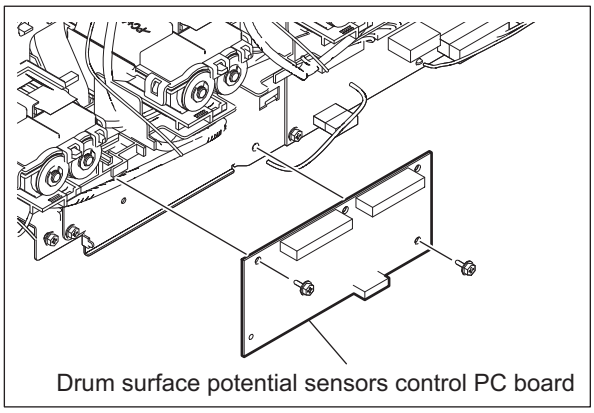

Fig. 11-53

11.5.17 Auger lock detection sensor (S42)

(1) Take off the EPU cover.
P.11-34 "11.5.13 EPU cover"
(2) Rotate the auger to escape the actuator from the sensor.

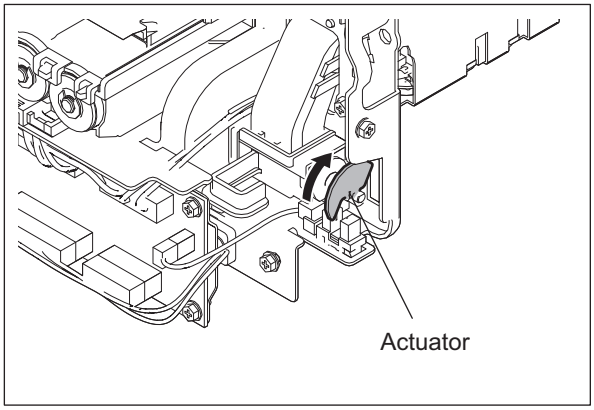

Fig. 11-54

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(3) Disconnect 1 connector and release 3 latches and then take off the auger lock detection sensor.

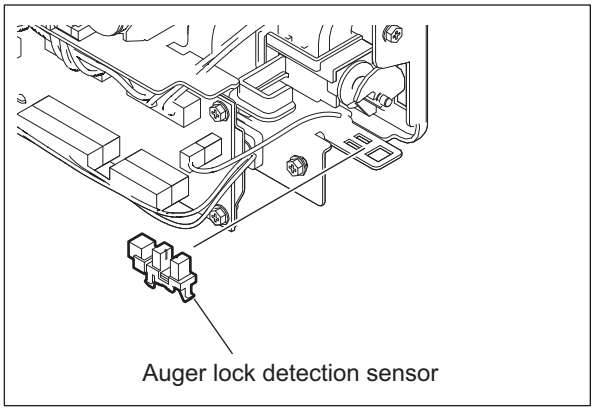

Fig. 11-55

11.5.18 Main charger ozone exhaust fan-K/-C/-M/-Y (F17/F1/F19/F20)

(1) Take off the EPU cover.
P.11-34 "11.5.13 EPU cover"
(2) Release 2 latches and take off the waste toner duct.

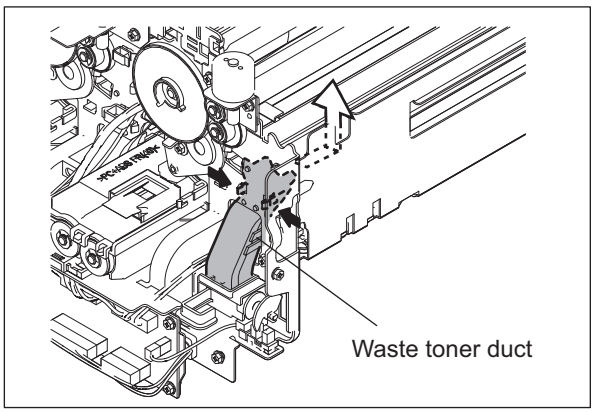

Fig. 11-56

(3) Disconnect 1 connector and then take off the main charger ozone exhaust fan by sliding it.

Note:
Do not mix the duct of the fan for Y color with others because its form differs from that of others.

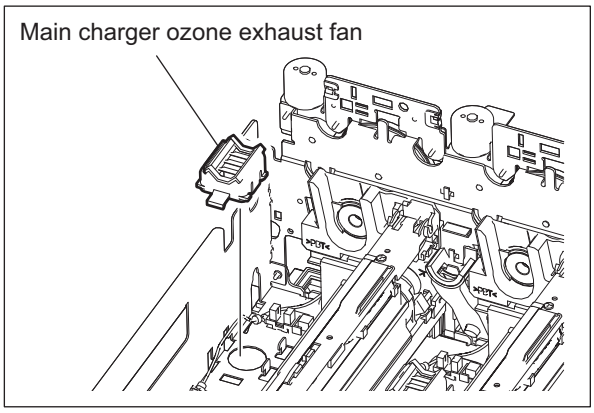

Fig. 11-57

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11.5.19 Needle electrode cleaner detection sensor-K/C/M/Y (S30/S31/S32/S33)

(1) Take off the drum cleaner unit.
P.11-28 "11.5.2 Drum cleaner unit"
(2) Disconnect 1 connector and release 3 latches and then take off the needle electrode cleaner detection sensor.

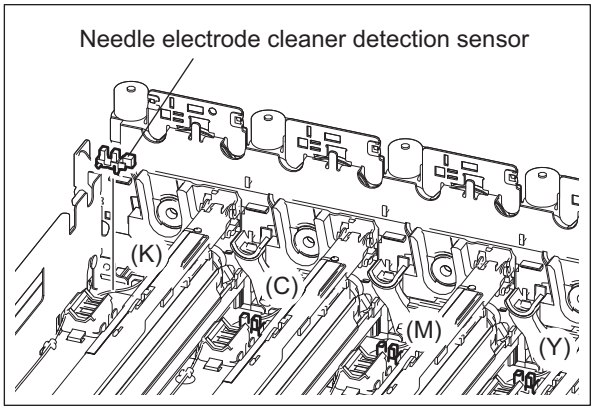

Fig. 11-58

11.5.20 Needle electrode cleaner motor-K/-C/-M/-Y (M23/M24/M25/M26)

(1) Take off the process unit.
P.11-43 "11.5.24 Developer unit"
(2) Release 2 hooks. Then lift up the motor holder.
(3) Disconnect 1 connector and then take off the motor holder.

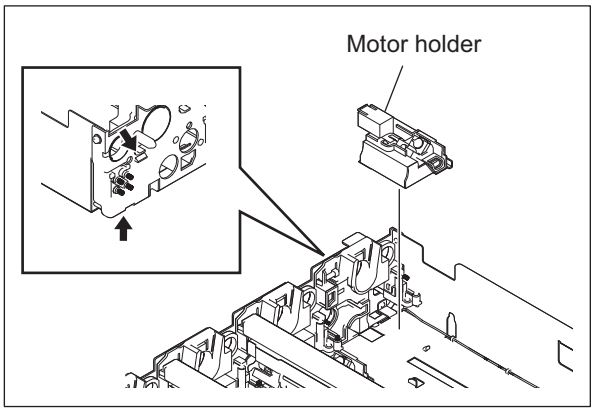

Fig. 11-59

(4) Release 2 hooks and then take off the duct.

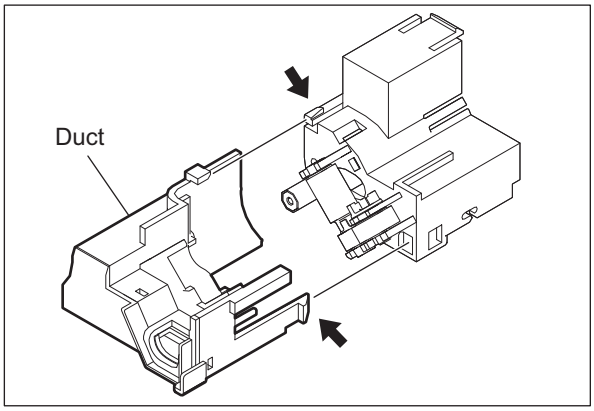

Fig. 11-60

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(5) Remove 2 gears.

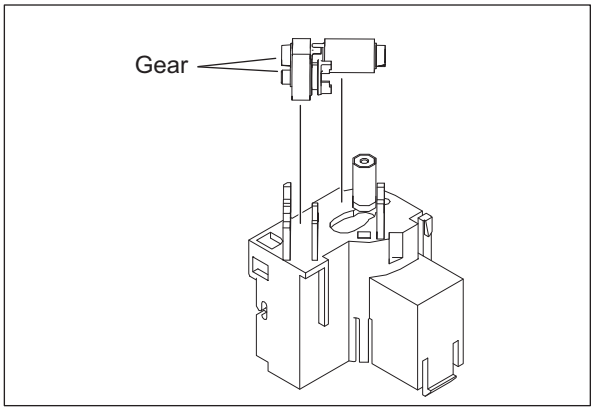

Fig. 11-61

(6) Release 1 lock and then take off the needle electrode cleaner motor.

Note:
When installing the motor, engage the locking part with the recessed part of the motor.

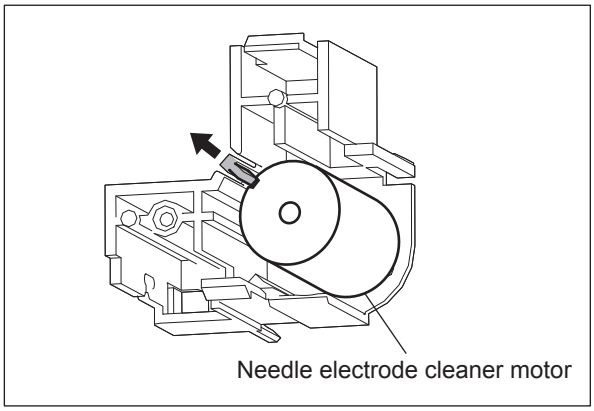

Fig. 11-62

11.5.21 V0 sensor shutter solenoid (K/C/M/Y) (SOL4/SOL5/SOL6/SOL7)

(1) Take off the EPU cover
📖 P.11-34 "11.5.13 EPU cover"
(2) Disconnect 3 connectors.

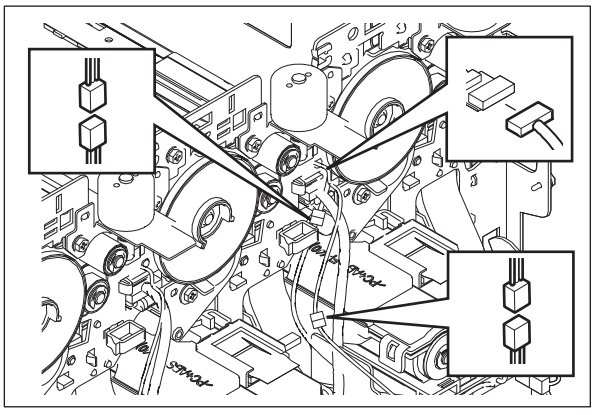

Fig. 11-63

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(3) Release 1 hook and remove a stay.

Note:
Hold the upper side of the stay. Avoid touching its shutter.

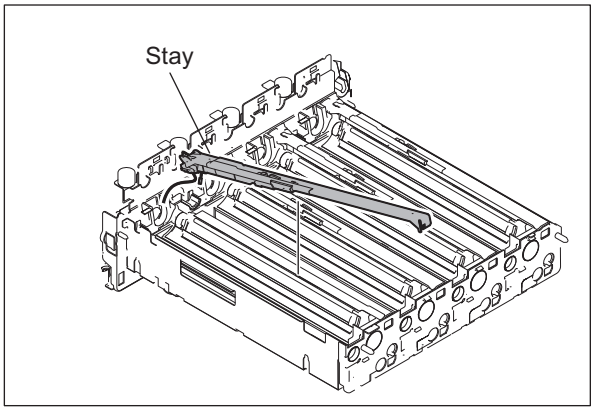

Fig. 11-64

(4) Remove 1 screw and take off the solenoid holder by sliding it.

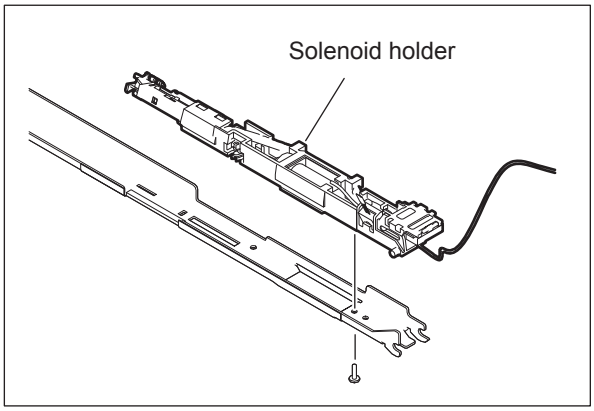

Fig. 11-65

(5) Disconnect the joint of the link arm and then remove the link arm from the shutter.

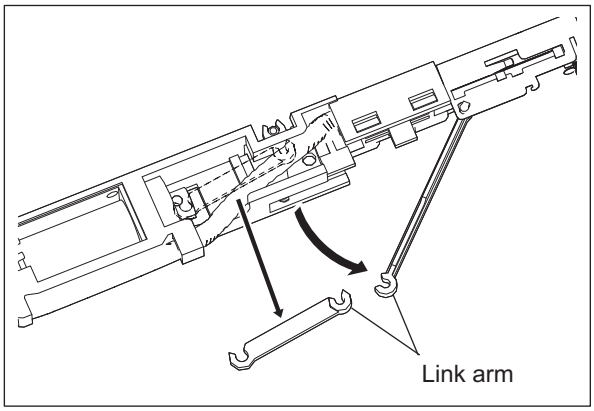

Fig. 11-66

(6) Release the harness from the harness holder and then take off the V0 sensor shutter solenoid.

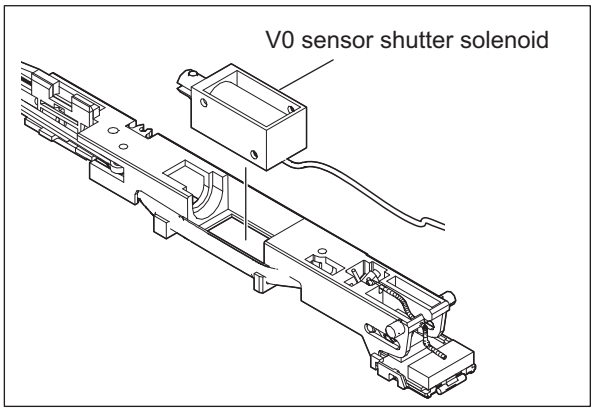

Fig. 11-67

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11.5.22 Drum surface potential sensor (K/C/M/Y) (S34/S35/S36/S37)

(1) Take off the solenoid holder.
📖 P.11-40 "11.5.21 V0 sensor shutter solenoid (K/C/M/Y) (SOL4/SOL5/SOL6/SOL7)"
(2) Rotate the holder slightly to take off the drum surface potential sensor board with the holder.

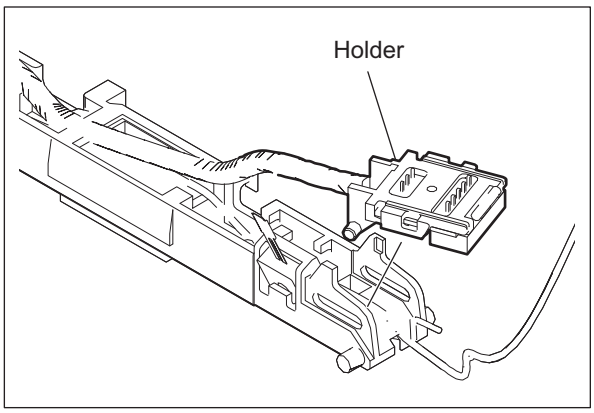

Fig. 11-68

(3) Remove 1 spring, lift up the shutter by holding its end, and then slide it to take it off.

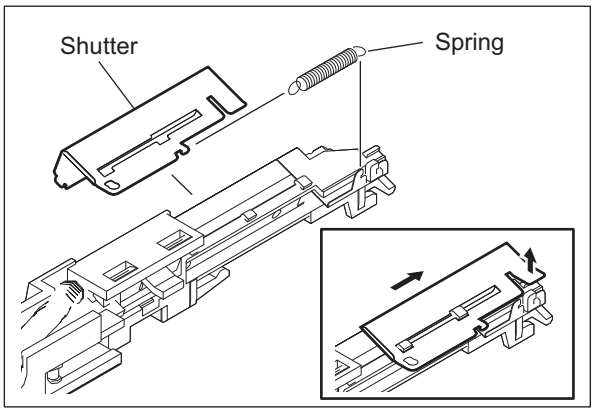

Fig. 11-69

(4) Release 2 hooks and then take off the drum surface potential sensor.

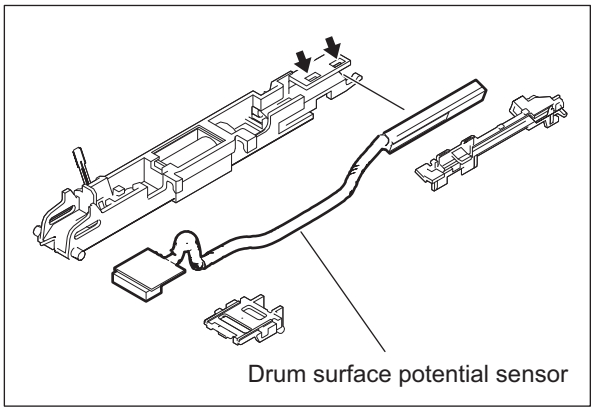

Fig. 11-70

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11.5.23 Drum thermistor (K/Y) (THM1/THM2)

The drum thermistor is installed only on the Y and K drums.

(1) Take off the solenoid holder.
🕮 P.11-40 "11.5.21 V0 sensor shutter solenoid (K/C/M/Y) (SOL4/SOL5/SOL6/SOL7)"
(2) Release 1 lock and then take off the drum thermistor.

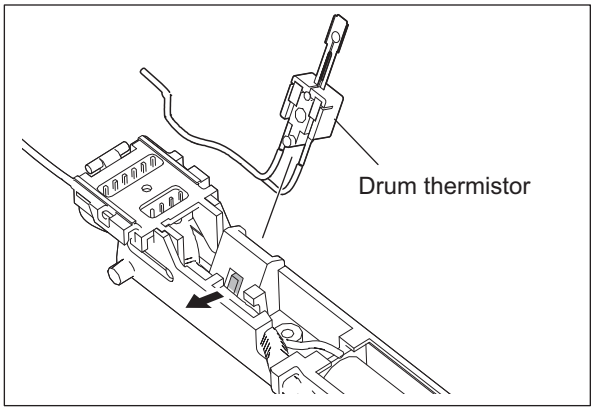

Fig. 11-71

11.5.24 Developer unit

(1) Take off the drum cleaner unit.
🕮 P.11-28 "11.5.2 Drum cleaner unit"
(2) Take off the sub-hopper.
🕮 P.11-33 "11.5.11 Sub-hopper"
(3) Remove a connector holder.

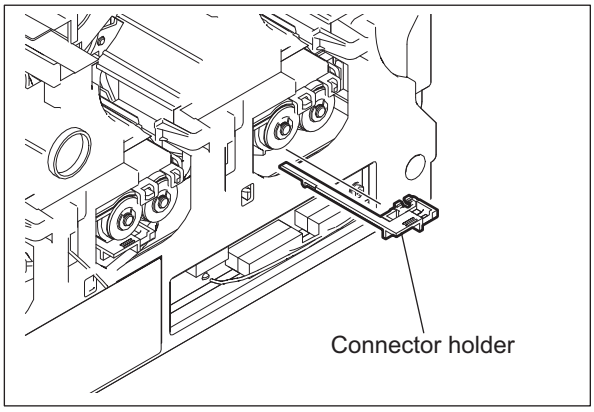

Fig. 11-72

(4) Remove 1 screw and the developer unit locking.

Note:
Be sure not to drop screws into the toner inlet.

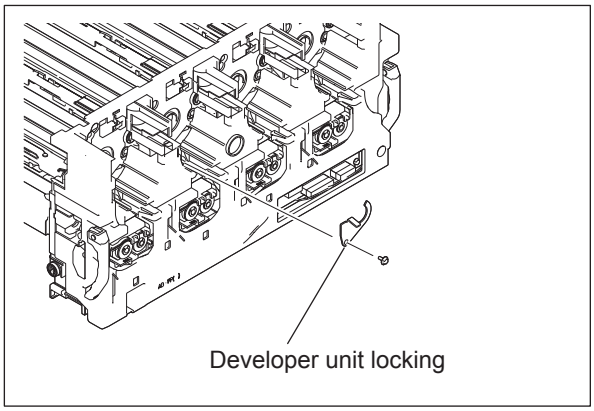

Fig. 11-73

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(5) Release 1 lock to set up a stay.

Note:
Hold the upper side of the stay. Avoid touching its shutter.

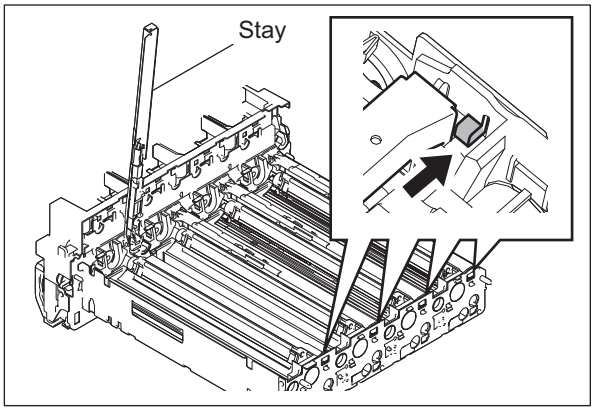

Fig. 11-74

(6) Release 1 hook and take off the duct.

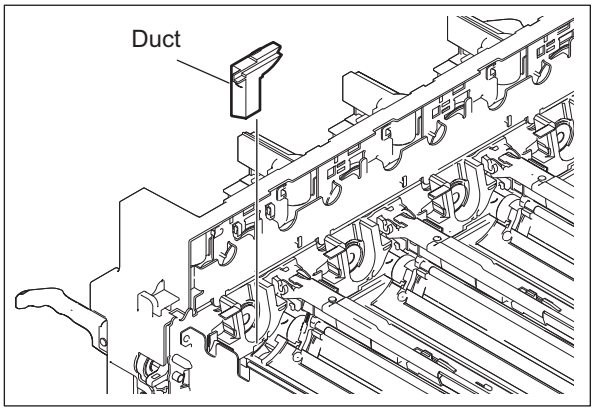

Fig. 11-75

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(7) Pull out the developer unit slightly toward you, and then take off the developer unit by holding its rear side up.

Notes:

1. When installing or taking off the developer unit, be careful not to hit the unit to the surrounding parts, especially to a sensor at the bottom of the EPU tray.

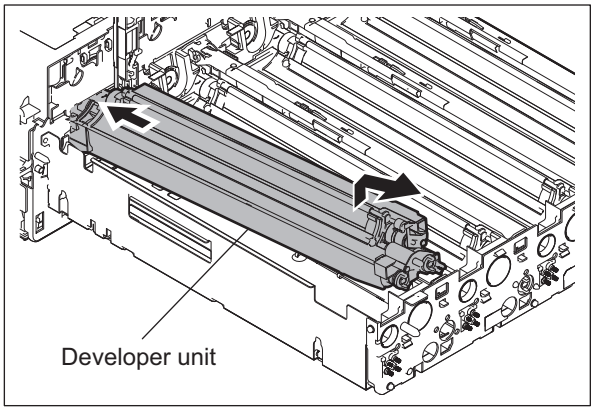

Fig. 11-76

2. Never turn the 2 couplings behind the developer unit in a direction opposite to the one shown with the arrow.

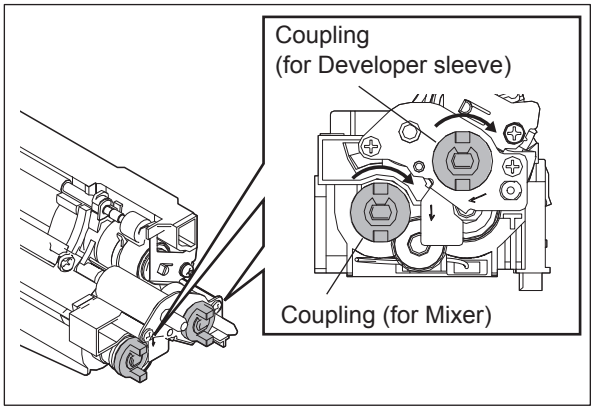

Fig. 11-77

11.5.25 Developer material

(1) Take off the Developer unit.
📖 P.11-43 "11.5.24 Developer unit"

(2) Release 2 hooks and then take off the developer front cover by sliding it.

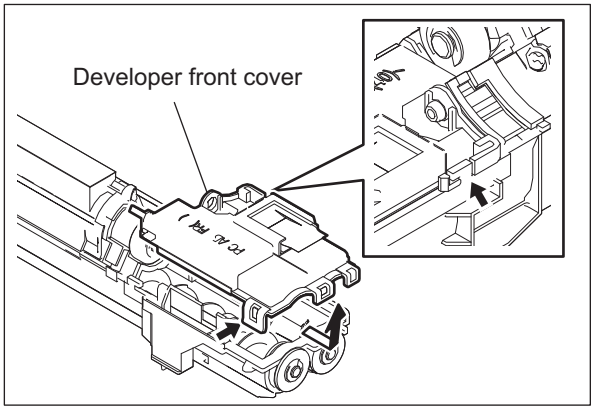

Fig. 11-78

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(3) Take off the developer upper unit by sliding it.

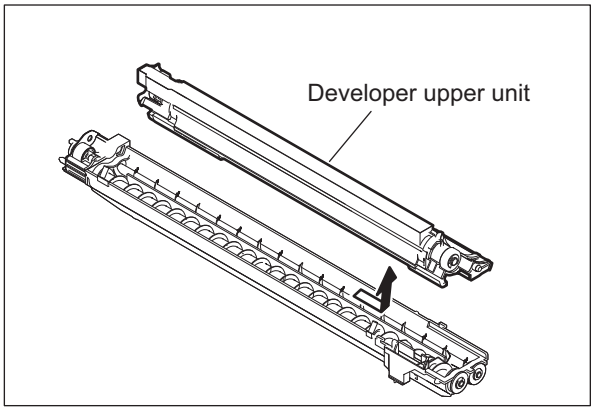

Fig. 11-79

(4) Discharge the developer material.

Note:

When discharging the developer material, be careful not to scatter the developer material on the gear in the developer unit.

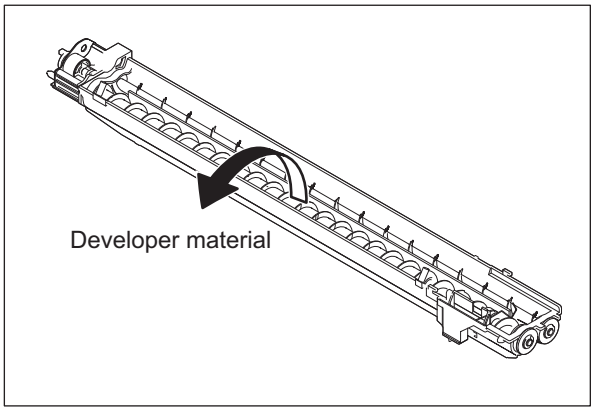

Fig. 11-80

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Notes:

1. Never turn the 2 couplings behind the developer unit in a direction opposite to the one shown with the arrow.

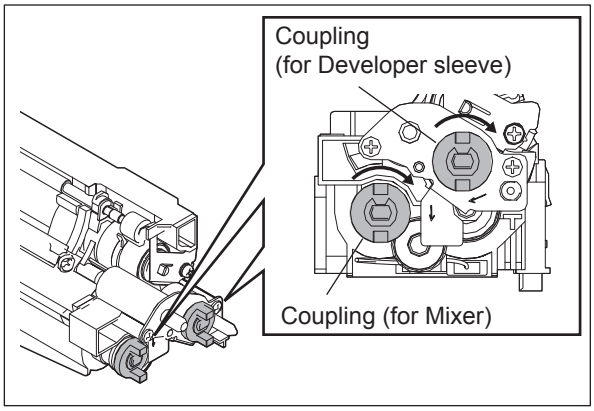

Fig. 11-81

2. Be sure not to lose the scraper in the developer. Make sure that the scraper is installed passing through the hole, and check if the coupling can be turned in the direction of the arrow in the figure.

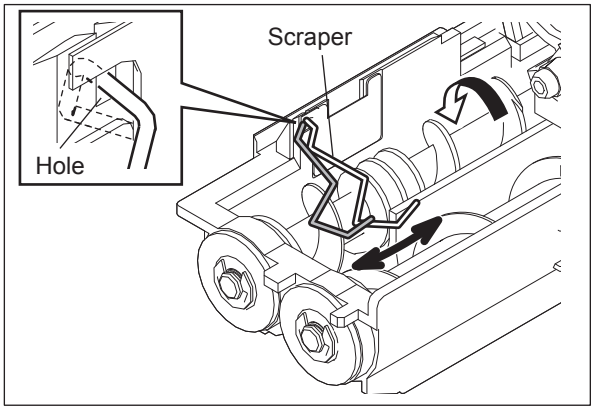

Fig. 11-82

3. Be sure that there is no developer material adhering to the driving gear in the developer unit.

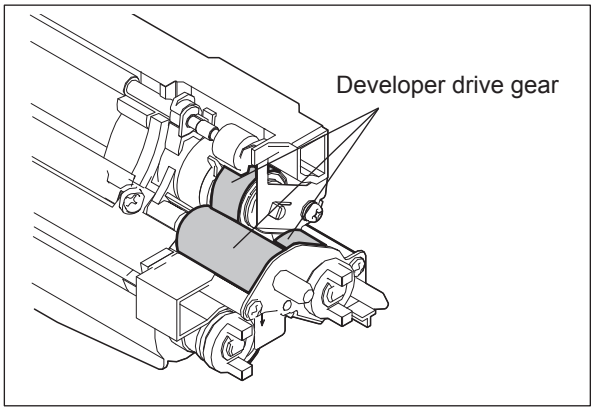

Fig. 11-83

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Notes:

Normally developer material does not need to be replaced. If there is a need for replacement, follow the procedure below.

1. Scrape off developer material adhering to the magnet sleeve by rotating the coupling.
2. Install the developer unit into the equipment and attach a developer material to the sub-hopper.
3. Turn the power of the equipment ON while pressing [0] and [5] simultaneously. Then perform the code 200.
4. Install the sub-hopper after developer material has been filled up.

11.5.26 Developer sleeve

(1) Take off the Developer unit.
📖 P.11-43 "11.5.24 Developer unit"

(2) Release 2 latches and take off the cover.

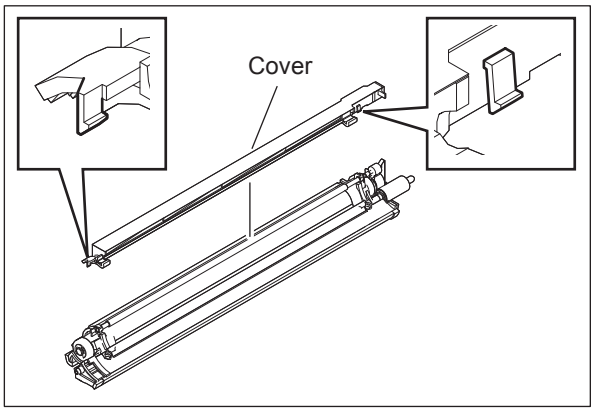

Fig. 11-84

(3) Release the latch and take off the recovery roller.

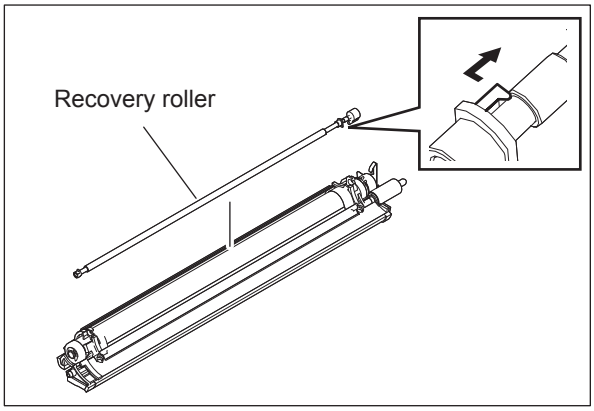

Fig. 11-85

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(4) Remove 1 screw and take off the polarity adjustment plate.

Note:
Before disassembling, record (mark if any) the scale pointed by the polarity adjustment lever. Then match the polarity adjustment plate at the scale previously recorded when reassembling.

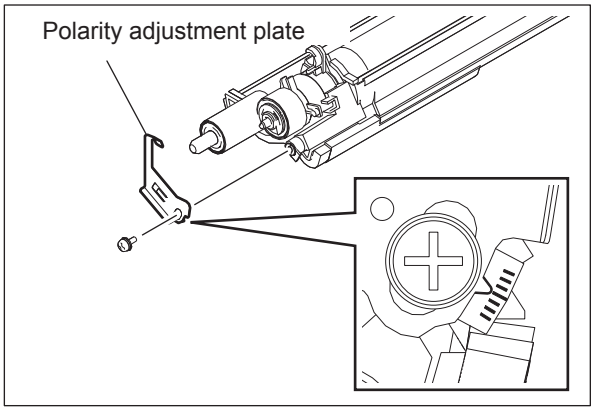

Fig. 11-86

(5) Remove 1 E-ring each from both sides and then remove 2 bearings.

Note:
Adjust the gap between the developer sleeve and the doctor blade after the installation.

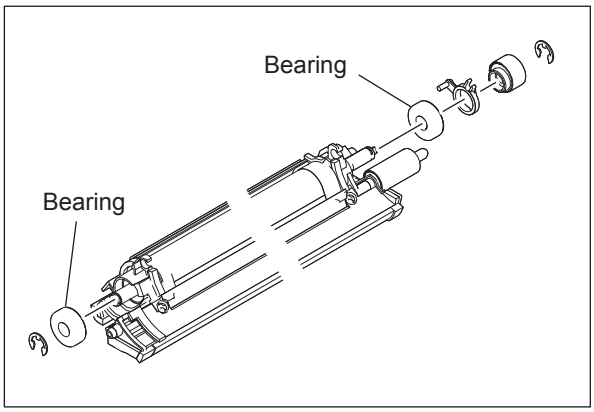

Fig. 11-87

(6) Take off the cover which is fixed with adhesive tape.

Note:
Be careful not to damage seals when taking off the blade cover.

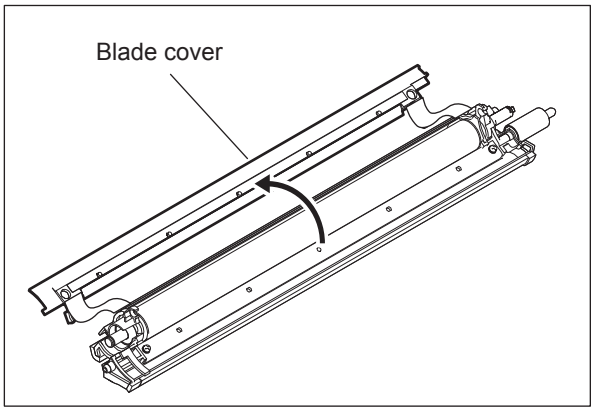

Fig. 11-88

(7) Remove 2 E-rings and then take off the 2 bearings.

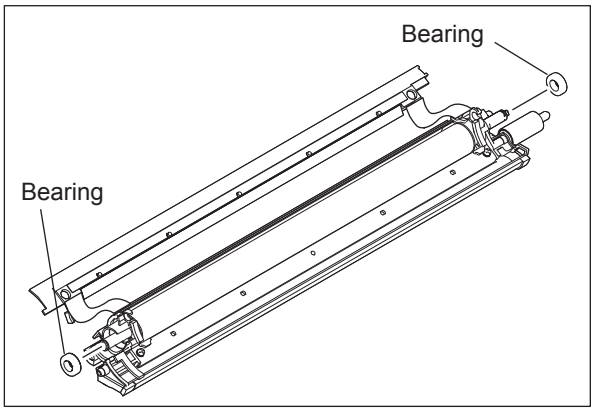

Fig. 11-89

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(8) Take off the developer sleeve.

Note:
When installing, adjust the gap between the developer sleeve and the doctor blade.

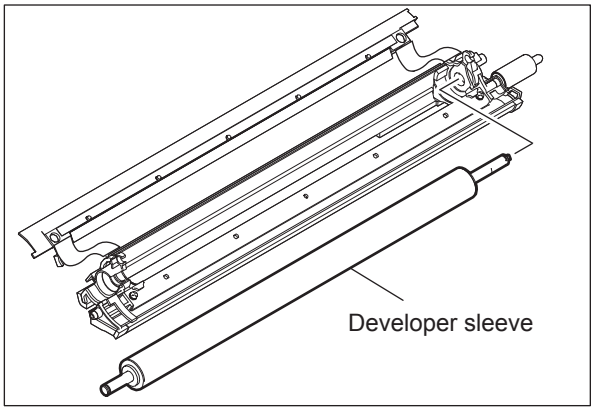

Fig. 11-90

11.5.27 Doctor blade

(1) Take off the blade cover.
📖 P.11-48 "11.5.26 Developer sleeve"
(2) Remove 2 screws and then take off the doctor blade.

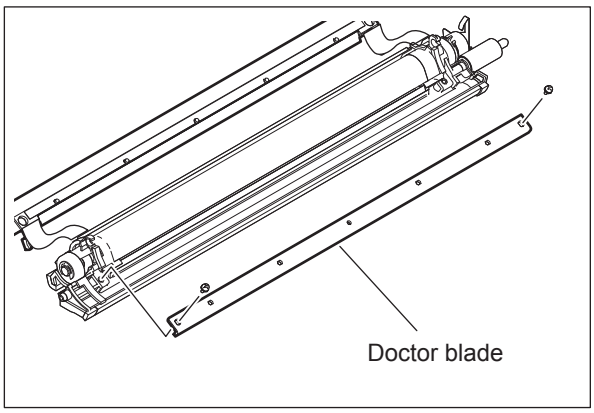

Fig. 11-91

11.5.28 Auto-toner sensor-K/C/M/Y (S26/S27/S28/S29)

(1) Take off the corresponding process unit (EPU) in which the auto-toner sensor is installed, and then take off the developer unit to remove the developer material out of the unit.
📖 P.11-43 "11.5.24 Developer unit"
📖 P.11-45 "11.5.25 Developer material"
(2) Disconnect 1 connector, remove 1 screw, and then take off the auto-toner sensor.

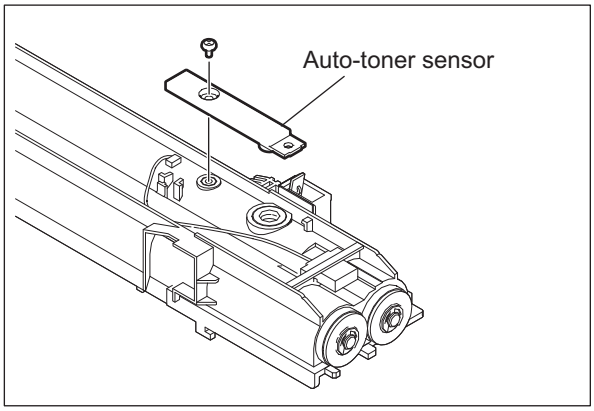

Fig. 11-92

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11.5.29 Drum drive unit

(1) Pull out the process unit.
📖 P.11-24 "11.5.1 Pulling out the process unit (EPU tray)"
(2) Open the SYS board case.
📖 P.20-2 "20.1.3 SYS board case"
(3) Disconnect 4 connectors and then release the harness from the clamp.

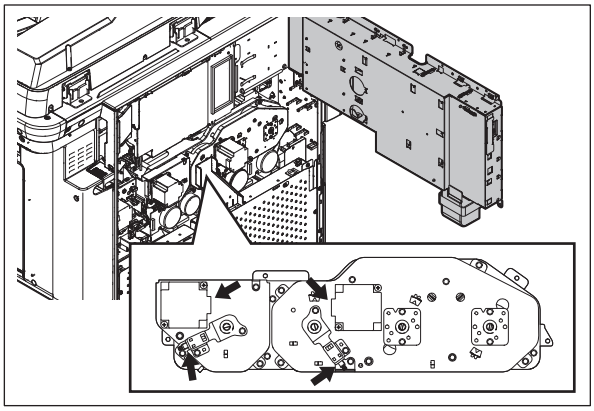

Fig. 11-93

(4) Remove 4 screws and then take off the drum drive unit.

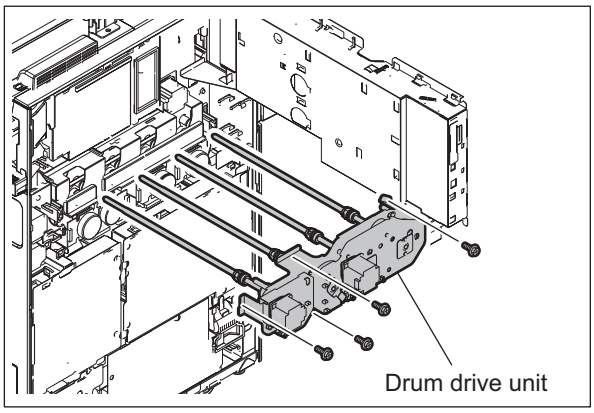

Fig. 11-94

Notes:

1. Be careful not to hit the edge and the coupling (circled in the figure) of the drum drive unit. When you place the unit, set it up as shown in the figure.
2. Do not disassemble the drum drive unit because it is assembled using a jig very precisely.

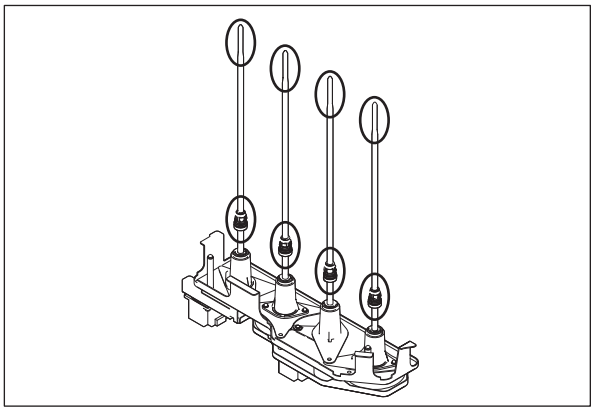

Fig. 11-95

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11.5.30 Drum motor-K (M27)

(1) Take off the rear cover.
🕮 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 1 connector and remove 2 screws. Then take off the drum motor-K.

Note:
Never loosen red screws fixing a rubber damper.

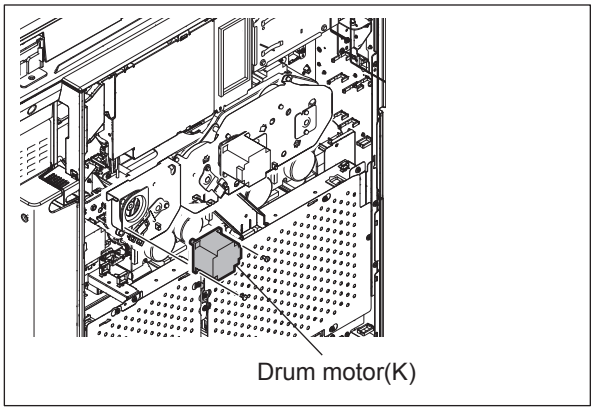

Fig. 11-96

11.5.31 Drum motor-YMC (M28)

(1) Take off the rear cover.
🕮 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 1 connector and remove 2 screws. Then take off the drum motor-YMC.

Note:
Never loosen red screws fixing a rubber damper.

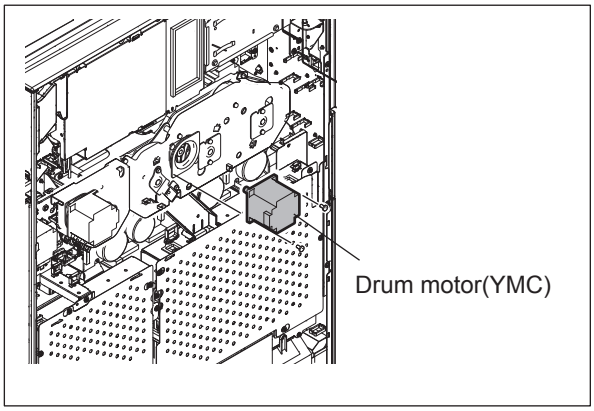

Fig. 11-97

Note:
When installing the motor, make sure that the mark of the gear is within the area of the cutout (within the area indicated by the arrow) of the bracket (3 positions at the same time).

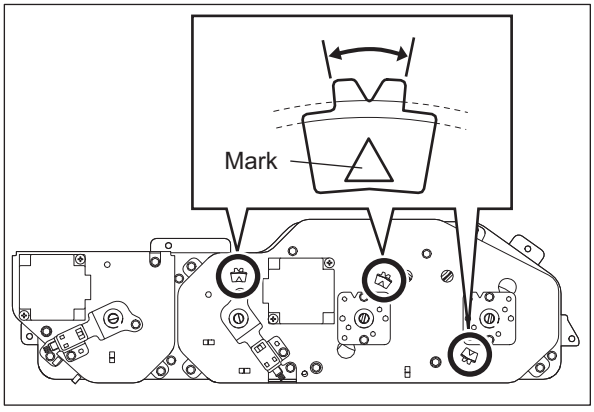

Fig. 11-98

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11.5.32 K drum phase sensor (S44)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Release 1 hook and take off the harness guide.

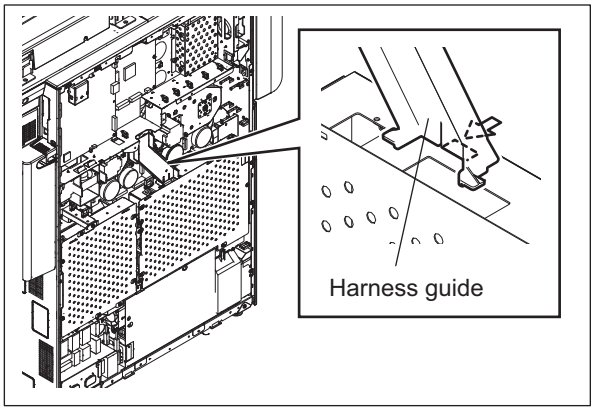

Fig. 11-99

(3) Disconnect 1 connector and remove 2 screws. Then take off the bracket.

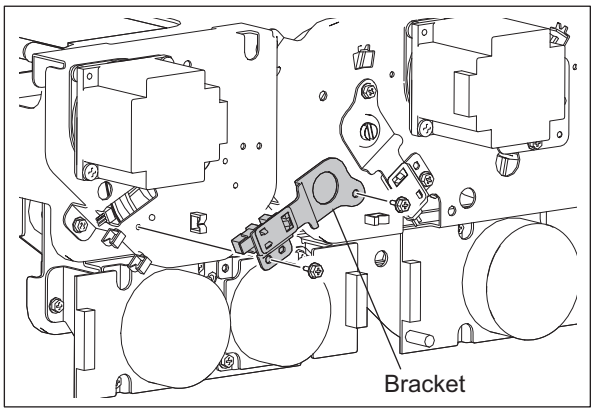

Fig. 11-100

(4) Release 3 latches. Then take off the K drum phase sensor.

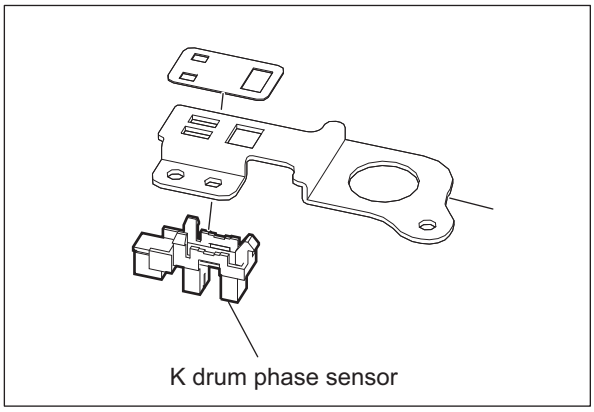

Fig. 11-101

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11.5.33 Color drum phase sensor (S43)

(1) Take off the rear cover.
P.3-46 "3.5.18 Rear cover"
(2) Release 1 hook and take off the harness guide.

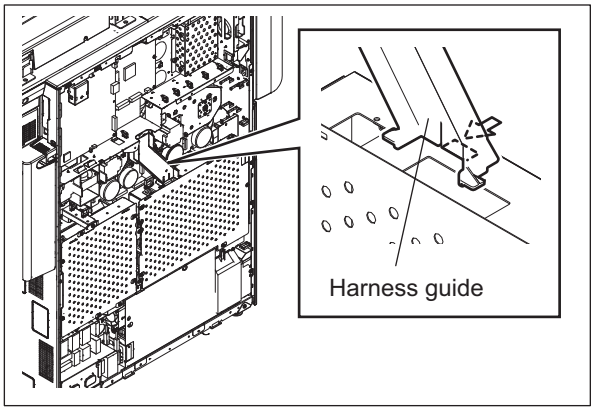

Fig. 11-102

(3) Disconnect 1 connector and remove 2 screws. Then take off the bracket.

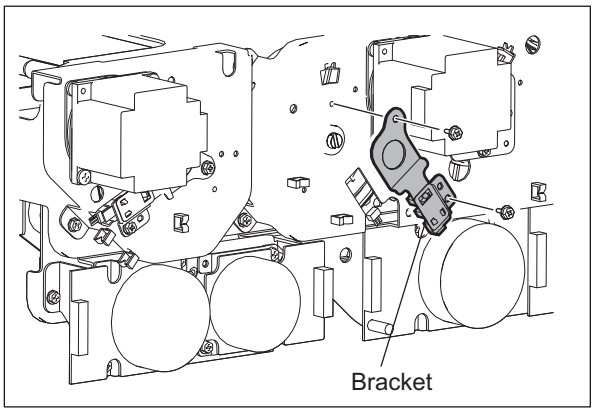

Fig. 11-103

(4) Release 3 latches. Then take off the color drum phase sensor.

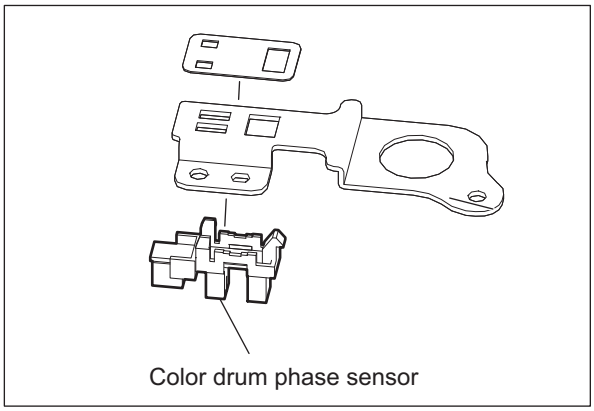

Fig. 11-104

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11.5.34 Developer unit motor-K/YMC (M29)/(M31)

(1) Take off the rear cover.
🕮 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 1 connector and remove 2 screws for each motor. Then take off the developer unit motor.

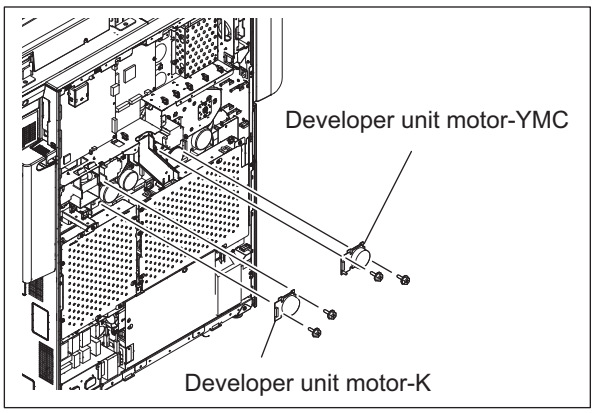

Fig. 11-105

11.5.35 Developer unit mixer motor-K/YMC (M30)/(M32)

(1) Take off the rear cover.
🕮 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 1 connector and remove 2 screws for each motor. Then take off the developer unit mixer motor.

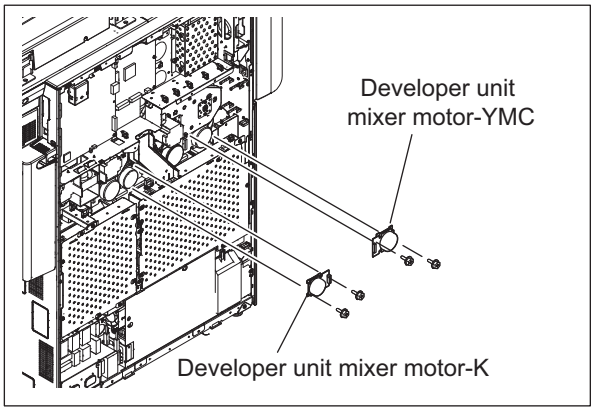

Fig. 11-106

11.5.36 Developer drive unit

(1) Take off the drum drive unit.
🕮 P.11-51 "11.5.29 Drum drive unit"
(2) Disconnect 4 connectors and remove 3 screws. Then take off the developer drive unit.

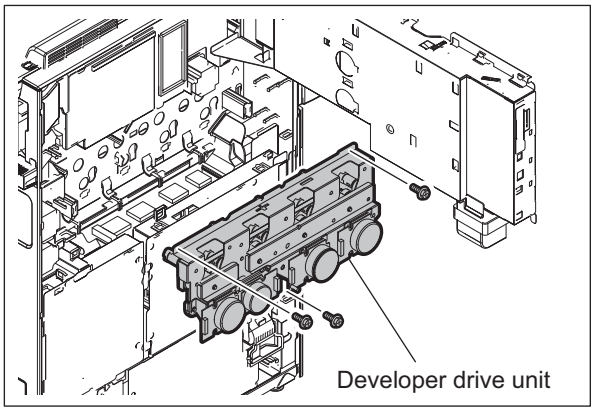

Fig. 11-107

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11.5.37 Waste toner box

(1) Open the waste toner cover.

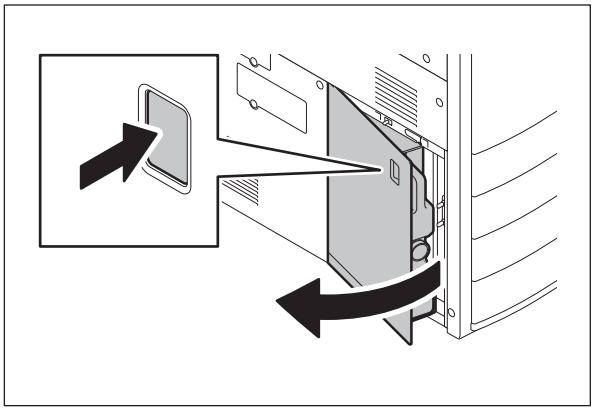

Fig. 11-108

(2) Take out the waste toner box.

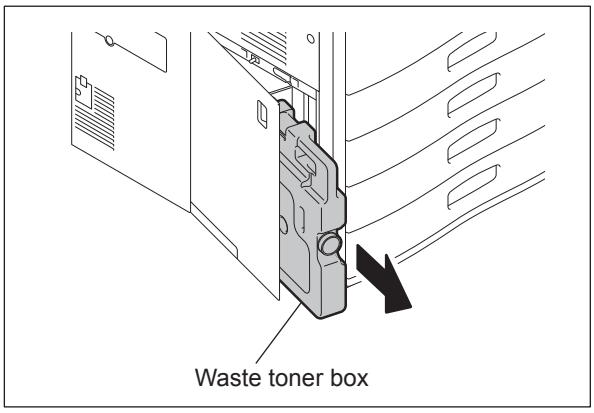

Fig. 11-109

(3) Attach the cap.

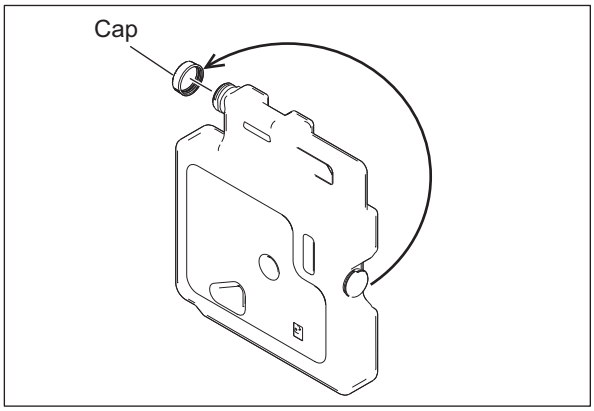

Fig. 11-110

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11.5.38 Waste toner amount detection sensor (S13)

(1) Take off the left lower cover.
P.3-44 "3.5.11 Left lower cover"
(2) Remove 1 screw and then take off the bracket.

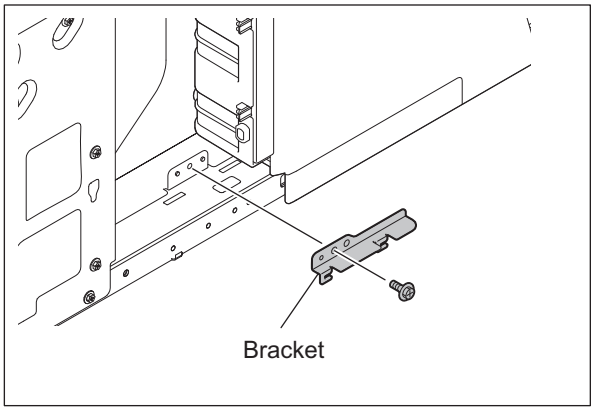

Fig. 11-111

(3) Hold up the bottom of the case and remove a dowel. Then remove the case by lowering it.

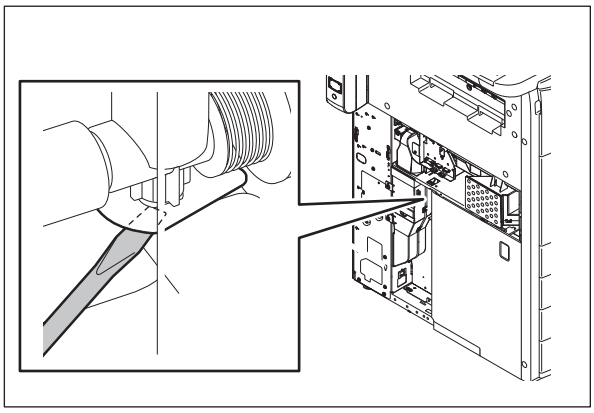

Fig. 11-112

(4) Hold up the bottom of the waste toner case and remove a dowel. Then remove the waste toner case by lowering it.

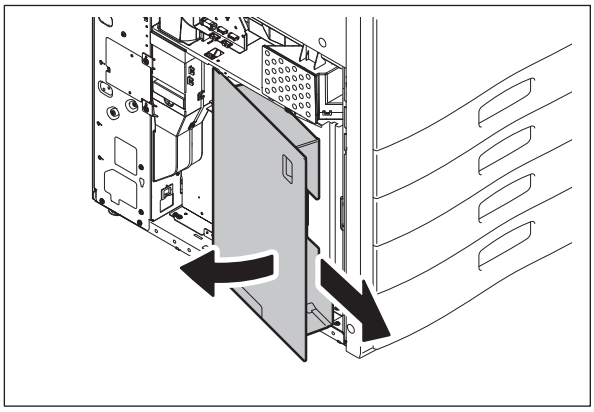

Fig. 11-113

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(5) Release 1 hook and take off the sensor cover.

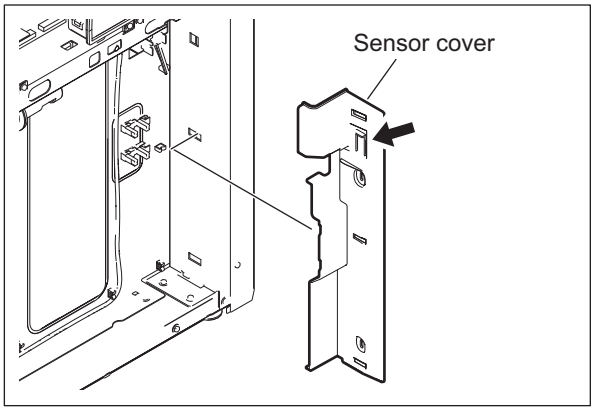

Fig. 11-114

(6) Disconnect 1 connector, release 3 latches and take off the waste toner amount detection sensor.

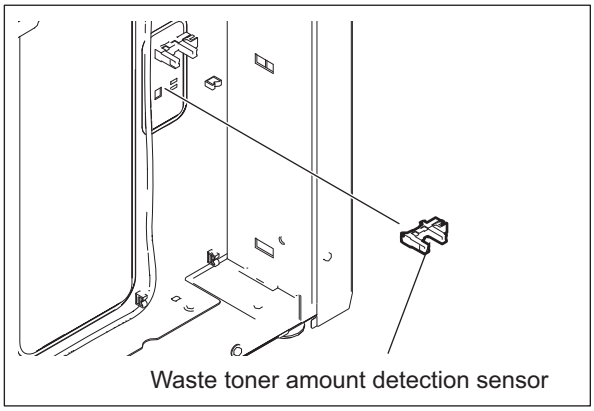

Fig. 11-115

11.5.39 Waste toner box full detection sensor (S14)

(1) Take off the sensor cover.
📖 P.11-57 "11.5.38 Waste toner amount detection sensor (S13)"
(2) Disconnect 1 connector, release 3 latches and take off the waste toner box full detection sensor.

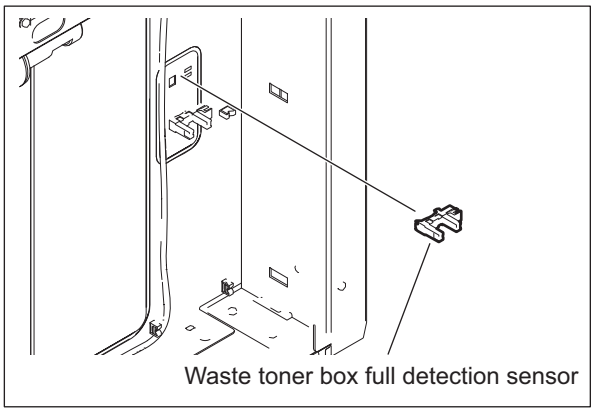

Fig. 11-116

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11.5.40 Waste toner box detection sensor (S16)

(1) Take off the sensor cover.
P.11-57 "11.5.38 Waste toner amount detection sensor (S13)"
(2) Disconnect 1 connector, release 3 latches and take off the waste toner box detection sensor.

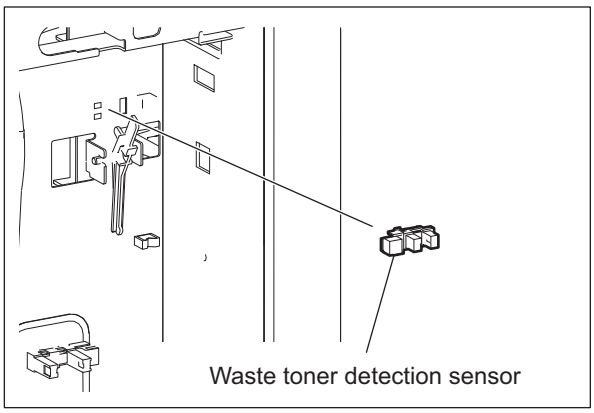

Fig. 11-117

11.5.41 Ozone filter-1 PM

(1) Remove 2 screws and take off the filter cover.

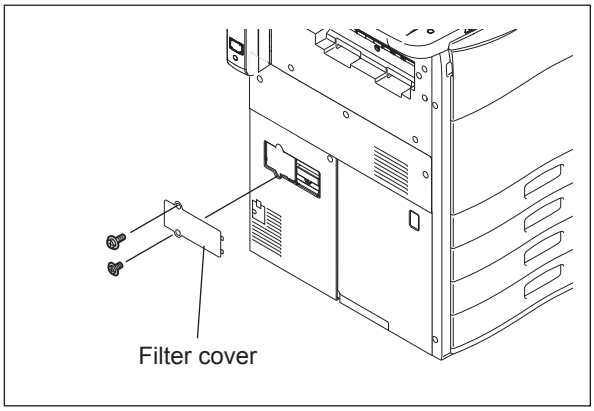

Fig. 11-118

(2) Take off the ozone filter-1.

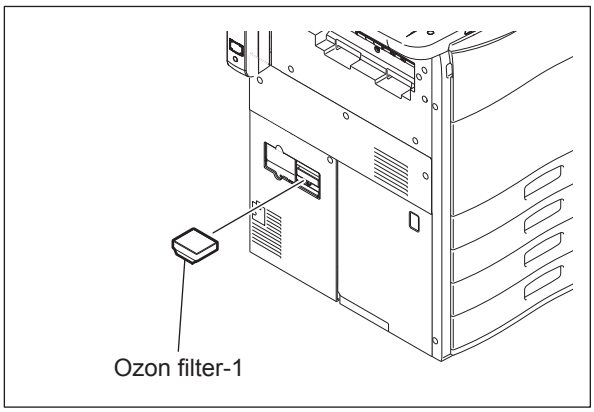

Fig. 11-119

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11.5.42 Ozone filter-2 PM

(1) Remove 2 screws and take off the cover.

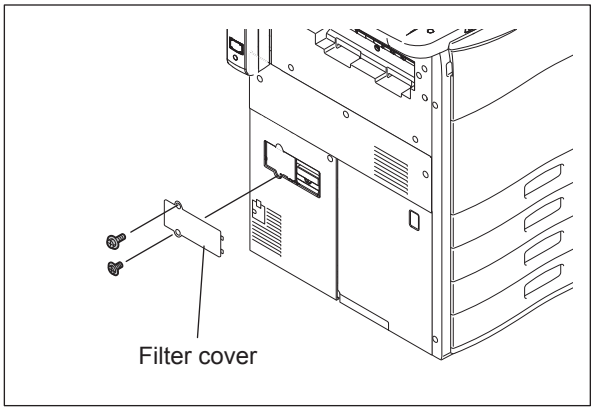

Fig. 11-120

(2) Take off the ozone filte2.

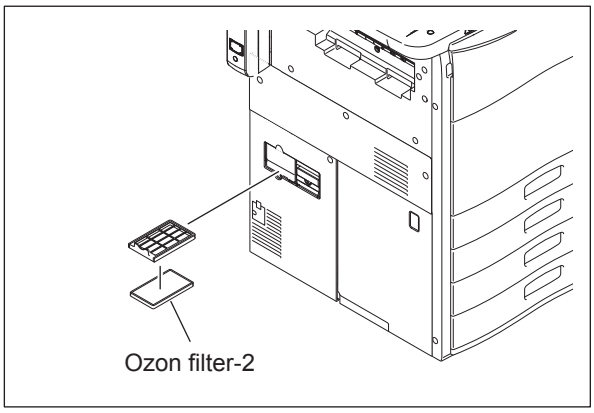

Fig. 11-121

11.5.43 Toner filter PM

(1) Remove 2 screws and take off the cover.

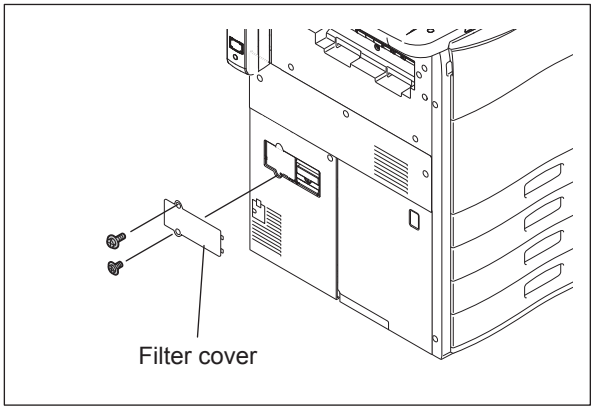

Fig. 11-122

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(2) Take off the toner filter.

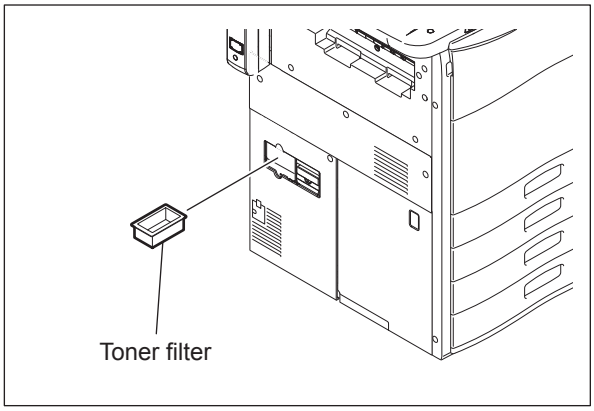

Fig. 11-123

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11.5.44 Toner motor (K/C/M/Y) (M15,/M16/M17/M18)

(1) Take off the front cover.
P.3-41 "3.5.2 Front cover"
(2) Take off the switch cover.
P.11-69 "11.5.52 Toner motor interlock switch (SW3)"
(3) Remove 2 screws and take off the toner guide by sliding it to the left and pulling it out toward you.

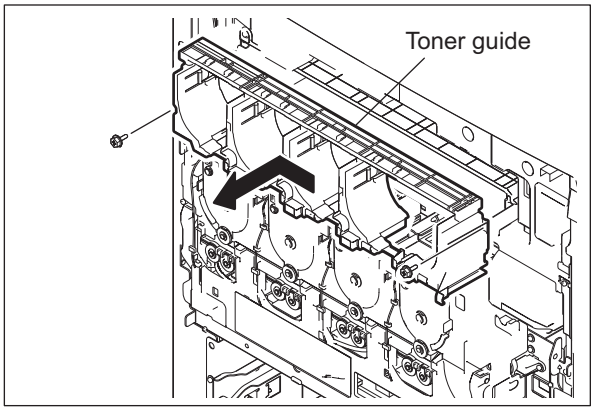

Fig. 11-124

(4) Remove 2 screws and pull the toner cover a little toward you to release the hook. Then take off the toner cover by lifting it up a little.

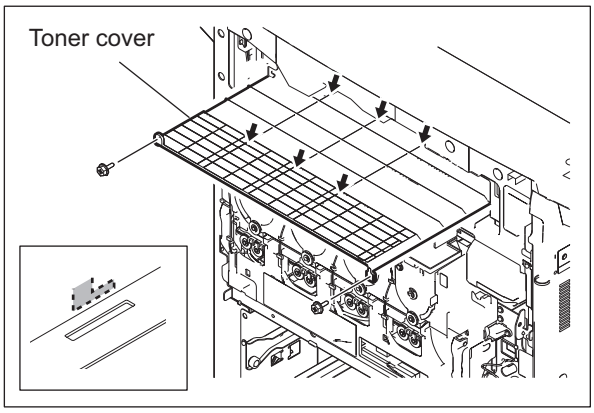

Fig. 11-125

(5) Remove 3 screws and 3 stays.

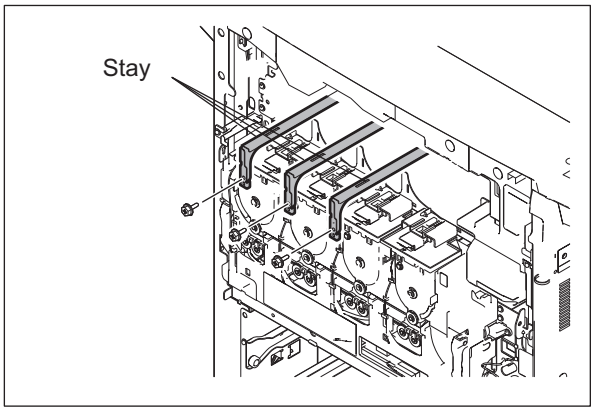

Fig. 11-126

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(6) Release a harness from a harness clamp and disconnect 1 connector.
(7) Remove 2 screws and take off the toner motor assembly.

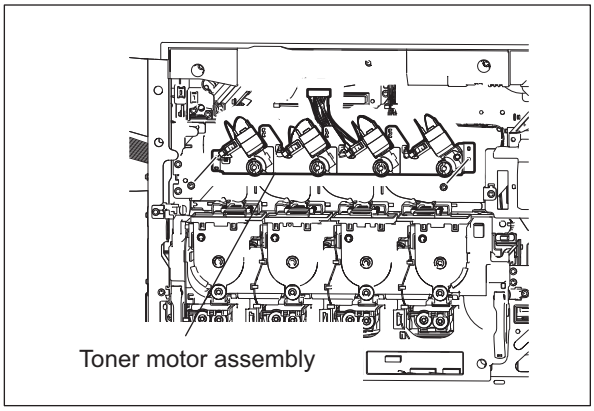

Fig. 11-127

(8) Release 1 hook and take off the gear cover.

Note:
Only the gear cover for the toner motor-K is fixed with a screw.

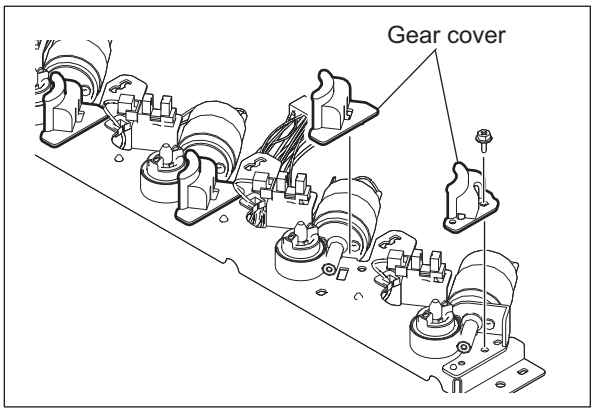

Fig. 11-128

(9) Release 2 hooks and remove the gear.

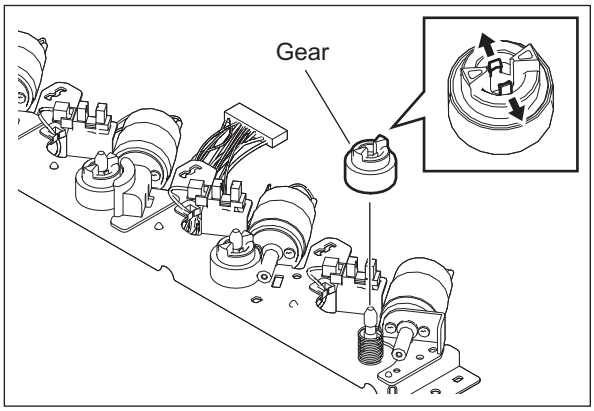

Fig. 11-129

(10) Disconnect 1 connector and remove 2 screws to take off each toner motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

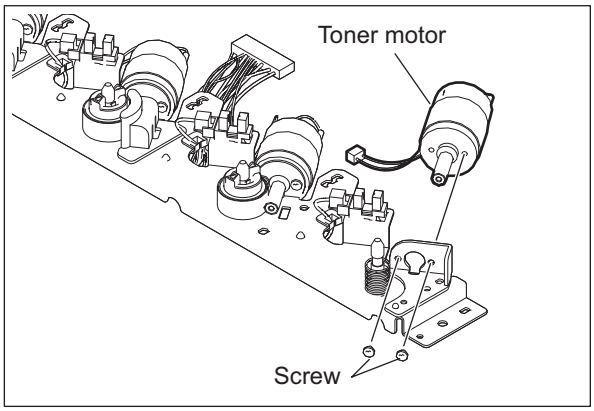

Fig. 11-130

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11.5.45 Toner cartridge paddle rotation detection sensor-K/C/M/Y (S8/S9/S10/S11)

(1) Take off the toner motor assembly.
🕮 P.11-62 "11.5.44 Toner motor (K/C/M/Y) (M15,/M16/M17/M18)"
(2) Disconnect 1 connector and release 3 latches. Then take off the toner cartridge paddle rotation detection sensor.

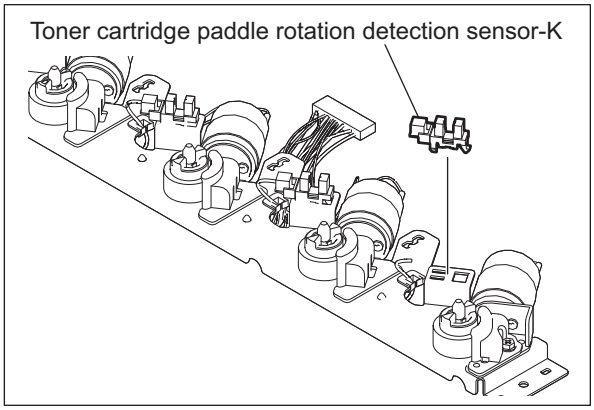

Fig. 11-131

11.5.46 Waste toner transport motor (M33)

(1) Take off the left lower cover.
🕮 P.3-44 "3.5.11 Left lower cover"
(2) Remove 2 screws, separate the belt from the pulley, and then take off the motor drive unit.

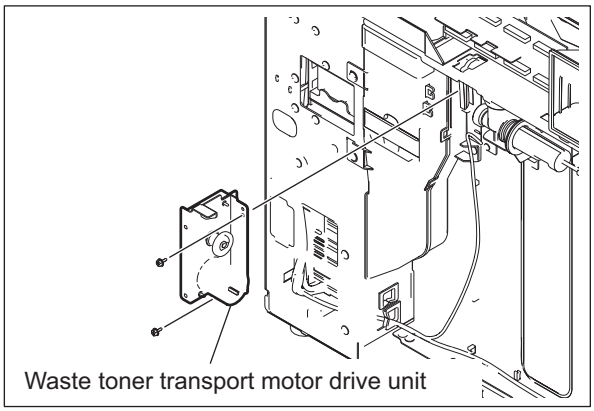

Fig. 11-132

(3) Remove 2 screws, 1 C-ring and 1 bushing, and then take off the bracket.

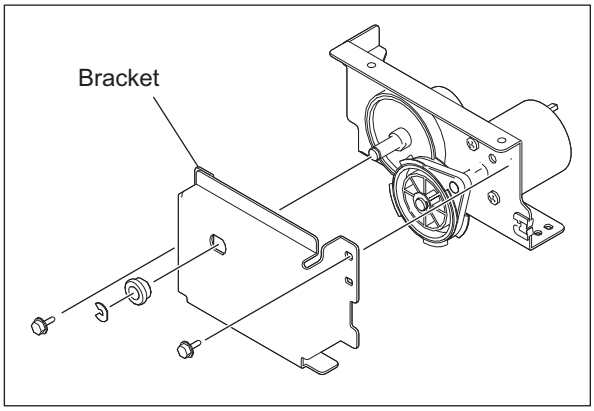

Fig. 11-133

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(4) Remove 2 screws, separate the belt from the pulley, and then take off the waste toner transport motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

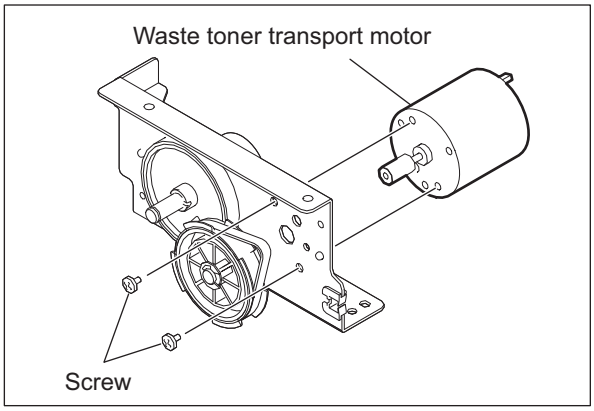

Fig. 11-134

11.5.47 Waste toner transport unit

(1) Take off the waste toner transport motor.
📖 P.11-64 "11.5.46 Waste toner transport motor (M33)"
(2) Remove the stay.
📖 P.11-66 "11.5.48 Ozone suctioning fan (F24)"
(3) Remove 5 screws and then take off the waste toner transport unit.

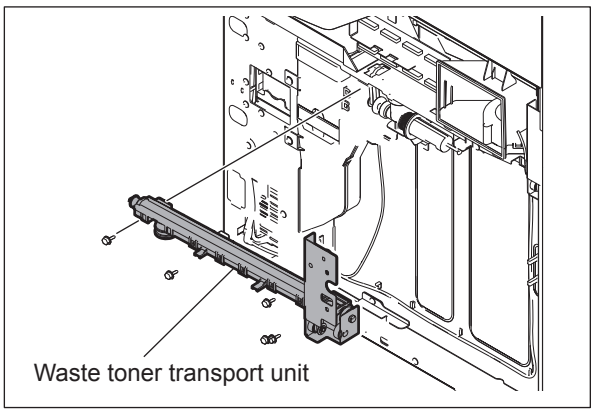

Fig. 11-135

Note:
When you reinstall the removed belt of the waste toner drive unit, check that the belt does not contact a plate.

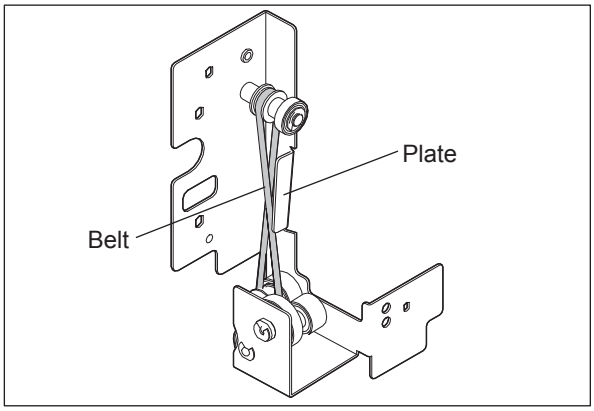

Fig. 11-136

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(4) Release 7 latches to separate the duct from the fan. Then take off the ozone suctioning fan (F24).

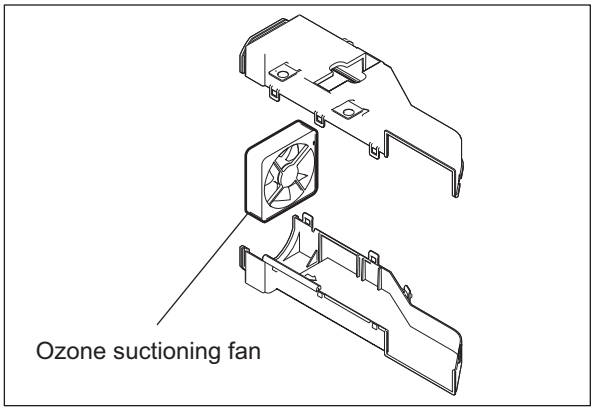

Fig. 11-137

11.5.48 Ozone suctioning fan (F24)

(1) Take off the left lower cover.
🕮 P.3-44 "3.5.11 Left lower cover"
(2) Take off the ozone filter-1.
🕮 P.11-59 "11.5.41 Ozone filter-1"
(3) Take off the waste toner case.
🕮 P.11-56 "11.5.37 Waste toner box"
(4) Remove 4 screws, and then take off the stay.

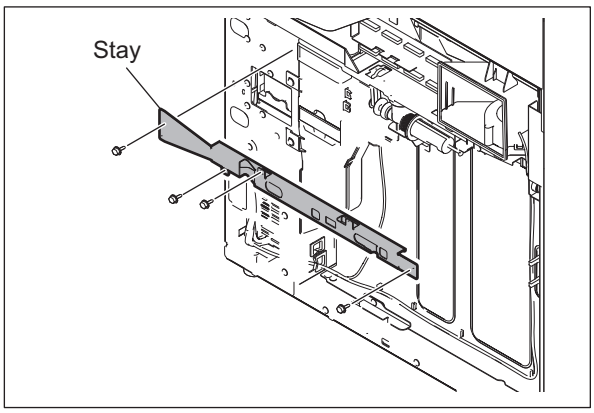

Fig. 11-138

(5) Remove 3 screws, disconnect 1 connector, and then take off the duct.

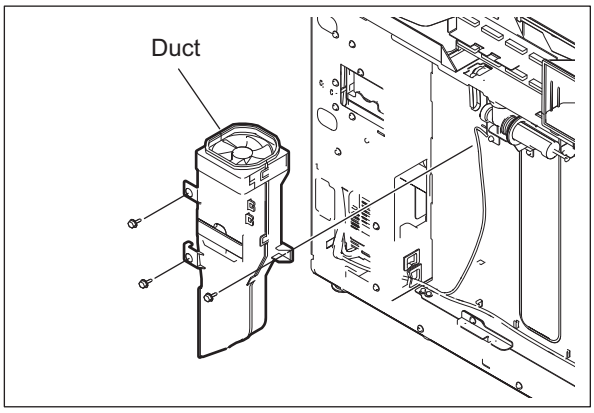

Fig. 11-139

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(6) Release 7 latches to separate the duct from the fan. Then take off the ozone suctioning fan (F24).

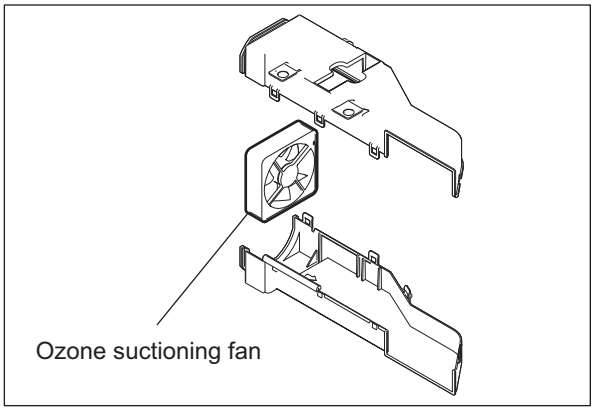

Fig. 11-140

11.5.49 Toner cartridge heat insulation fan (F21)

(1) Take off the front cover.
📖 P.3-41 "3.5.2 Front cover"
(2) Pull out the bridge unit, remove 3 screws and take off the right internal cover.

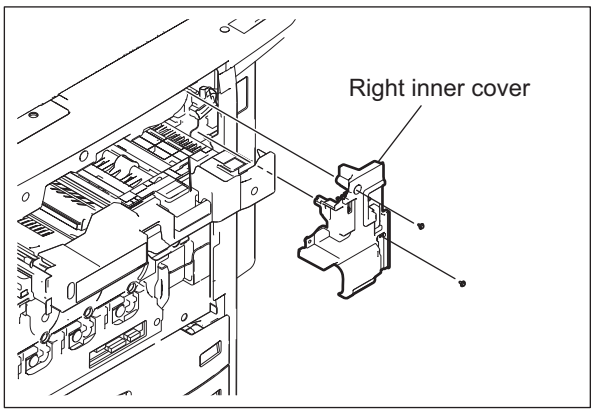

Fig. 11-141

(3) Disconnect 1 connector, remove 1 screw and take off the duct.

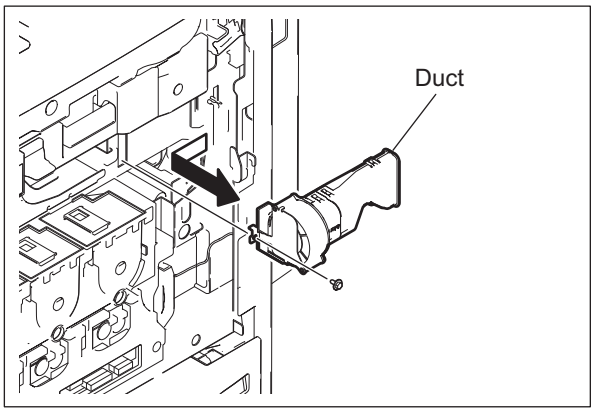

Fig. 11-142

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(4) Remove 2 screws and take off the toner cartridge cooling fan.

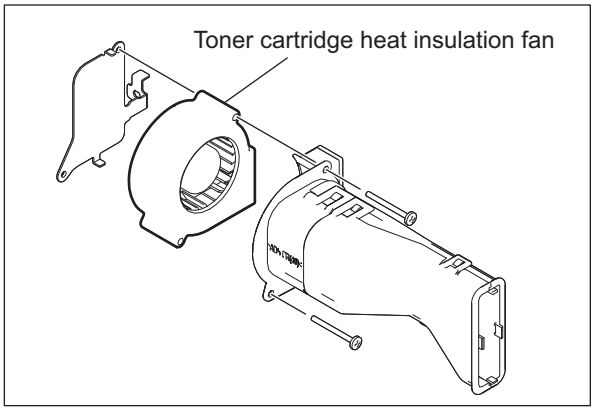

Fig. 11-143

11.5.50 Toner cooling exhaust fan (F31)

(1) Take off the left top cover.
📖 P.3-44 "3.5.10 Left top cover"
(2) Disconnect 1 connector, remove 2 screws and take off the duct.

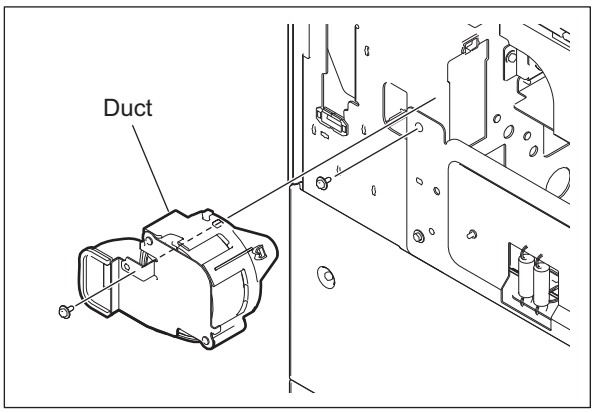

Fig. 11-144

(3) Remove 2 screws and take off the toner cooling exhaust fan.

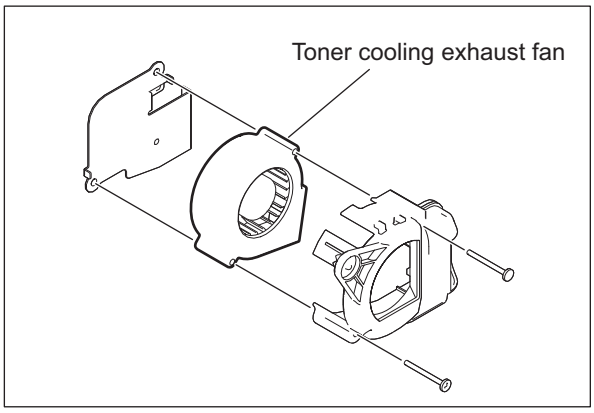

Fig. 11-145

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11.5.51 Temperature/humidity sensor (S12)

(1) Take off the laser unit cooling duct.
🕮 P.9-16 "9.4.2 Laser optical unit cooling fan (front) (F22)"
(2) Remove 1 screw and then take off the temperature/humidity sensor.

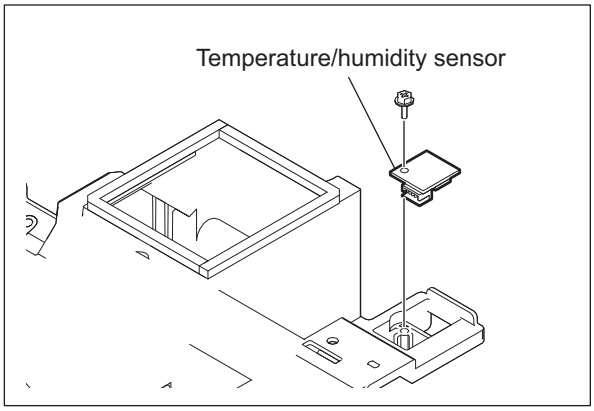

Fig. 11-146

11.5.52 Toner motor interlock switch (SW3)

(1) Take off the left corner cover.
🕮 P.3-47 "3.5.21 Left corner cover"
(2) Take off the bridge unit.
🕮 P.15-27 "15.6.11 Bridge unit"
(3) Insert 2 rails all the way in.

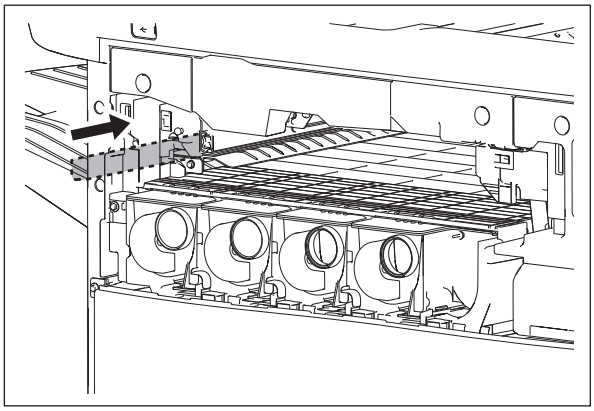

Fig. 11-147

(4) Remove 4 screws and take off the inner cover.

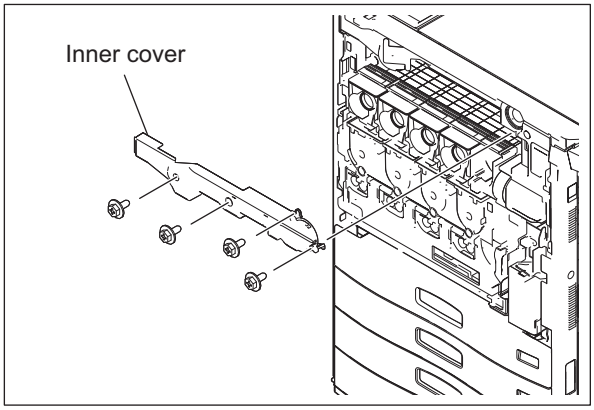

Fig. 11-148

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(5) Remove 2 screws and take off the switch cover.

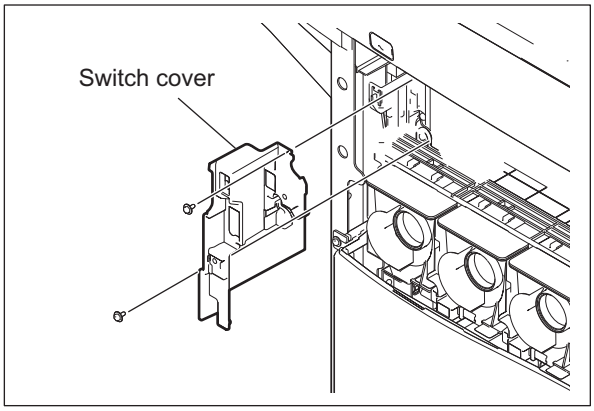

Fig. 11-149

(6) Remove 2 screws and take off the switch bracket.

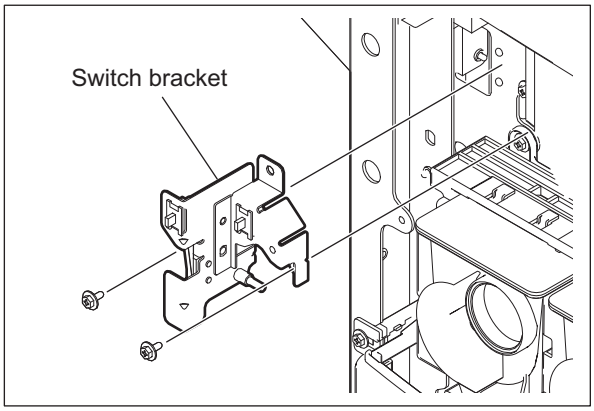

Fig. 11-150

(7) Disconnect 2 connectors, remove 2 screws and take off the toner motor interlock switch.

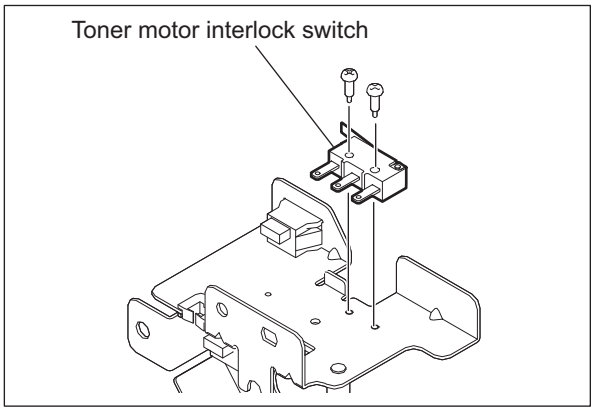

Fig. 11-151

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11.5.53 EPU cooling fan (F14)

(1) Take off the EPU cooling fan duct.
🕮 P.9-13 "9.4.1 Laser optical unit"
(2) Release 5 latches. Then take off the EPU cooling fan.

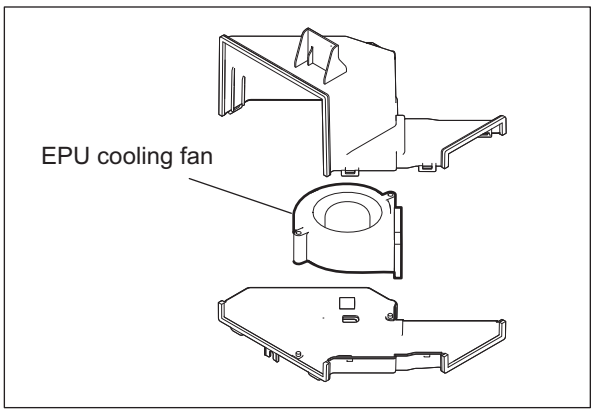

Fig. 11-152

11.5.54 Scattered toner suctioning fan (F25)

(1) Take off the LGC board case.
🕮 P.20-6 "20.1.7 LGC board case"
(2) Take off the switching regulator.
🕮 P.20-14 "20.1.14 Switching regulator (PS)"
(3) Take off the left middle cover and the left lower cover.
🕮 P.3-43 "3.5.9 Left middle cover"
🕮 P.3-44 "3.5.11 Left lower cover"
(4) Take off the Developer unit mixer motor (YMC).
🕮 P.11-55 "11.5.35 Developer unit mixer motor-K/YMC (M30)/(M32)"
(5) Disconnect 1 connector and then release the harness from the clamp.
(6) Remove 5 screws and then take off the duct.

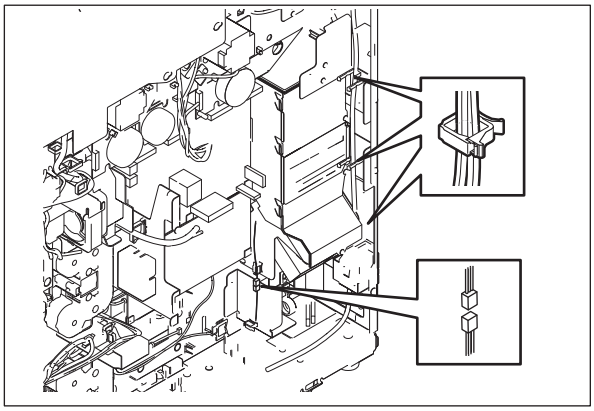

Fig. 11-153

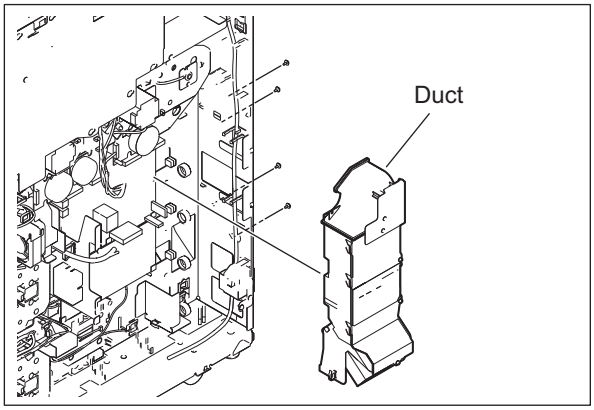

Fig. 11-154

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(7) Remove 3 screws and then take off the scattered toner suctioning fan.

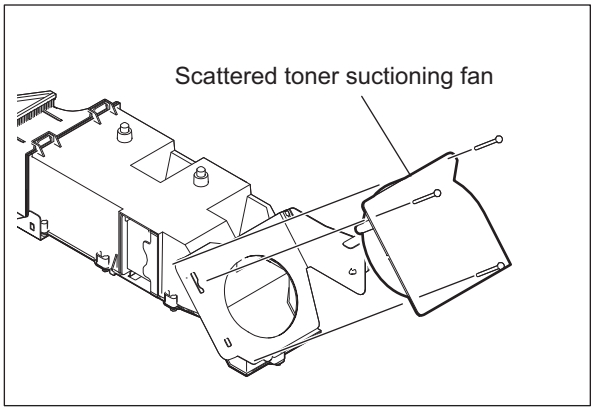

Fig. 11-155

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11.6 Adjustment of the Process Unit Related Section

11.6.1 High-Voltage Transformer Setting

The high-voltage transformers supply high-voltage to the parts related to charging, development, transfer and Discharging blade.
The high-voltage transformer has the following high-voltage outputs.

Out1	1	Main charger needle electrode cleaner bias (Y)
	2	Main charger needle electrode cleaner bias (M)
	3	Main charger needle electrode cleaner bias (C)
	4	Main charger needle electrode cleaner bias (K)
Out2	1	Main charger grid bias (Y)
	2	Main charger grid bias (M)
	3	Main charger grid bias (C)
	4	Main charger grid bias (K)
Out3	1	Developer bias (Y)
	2	Developer bias (M)
	3	Developer bias (C)
	4	Developer bias (K)
Out4	1	1st transfer roller bias (Y)
	2	1st transfer roller bias (M)
	3	1st transfer roller bias (C)
	4	1st transfer roller bias (K)
Out5	-	2nd transfer roller bias

Note:
Never move the variable resistance on the board since the output adjustment has been performed at the shipment for the high-voltage transformer supplied as a service part. Also do not perform the setting change when the high-voltage power supply is replaced.

11.6.2 Adjustment of the Auto-Toner Sensor

When the developer material is replaced, adjust the auto-toner sensor in the following procedure.
📖 P.8-10 "8.5.2 Adjustment of the Auto-Toner Sensor"

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11.6.3 Adjustment of the doctor-sleeve gap

For the adjustment of the doctor-sleeve gap, perform the same procedure for the Y, M, C and K developer units.
Adjustment tool to use: Doctor-sleeve gap jig

<Adjustment procedure>

(1) Take off the developer unit from the equipment.
(2) Discharge the developer material.
(3) Loosen 2 doctor blade fixing screws. Insert the gauge “0.65” of the doctor sleeve jig between the developer sleeve and doctor blade (3 points) to adjust the gap, and tighten the screws.

Adjustment standard: 0.65 +/- 0.05mm

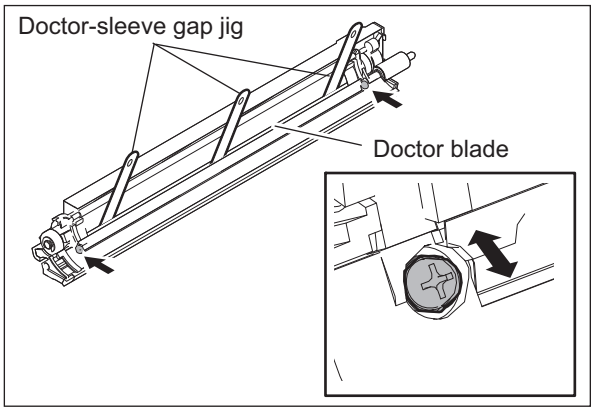

Fig. 11-156

Notes:

1. Flip up the protection sheet for the doctor blade from the sleeve before inserting the gauge. Also, be sure not to damage the protection sheet.

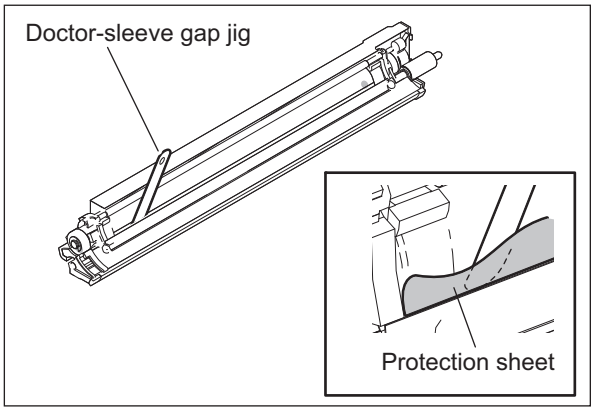

Fig. 11-157

2. When confirming and adjusting the gap between the developer sleeve and the doctor blade, insert the gauges into the gap after rotating the developer sleeve so that its marking faces the doctor blade.

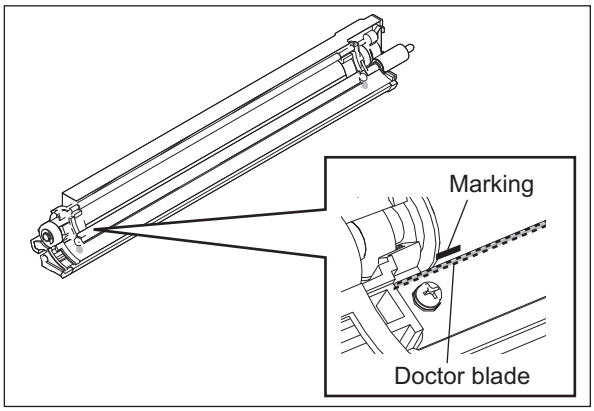

Fig. 11-158

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(4) Insert the gauge “0.60” of the doctor-sleeve jig into the gap between the developer sleeve and the doctor blade and make sure that the gauge can move smoothly in the front/rear direction. In addition, confirm that the gauge “0.70” cannot be inserted into the gap.

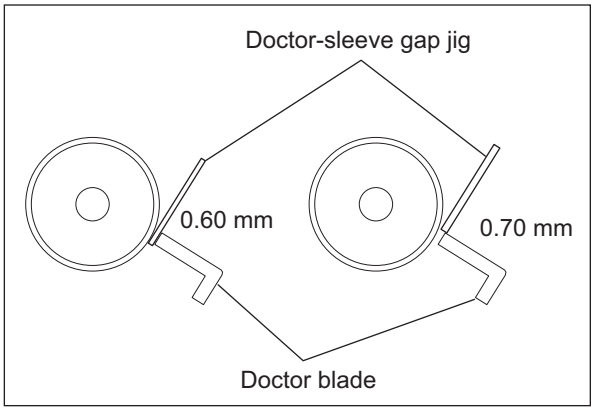

Fig. 11-159

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12. TRANSFER UNIT

12.1 General Descriptions

Transfer is a process of dealing a toner image from the photoconductive drum onto paper.
A toner image formed on the photoconductive drum is temporarily transferred onto the transfer belt, and the toner image is then transferred from the transfer belt onto paper. The first transfer from the drum to the transfer belt is called the 1st transfer, and the second transfer from the transfer belt to paper is called the 2nd transfer. To form a color image, the images of yellow (Y), magenta (M), cyan (C) and black (K) are transferred and overlaid on the transfer belt in order, and then the overlaid images are transferred onto paper.
After the completion of the 2nd transfer, the residual toner on the transfer belt is scraped off by the transfer belt cleaning blade and then transported to the waste toner box.

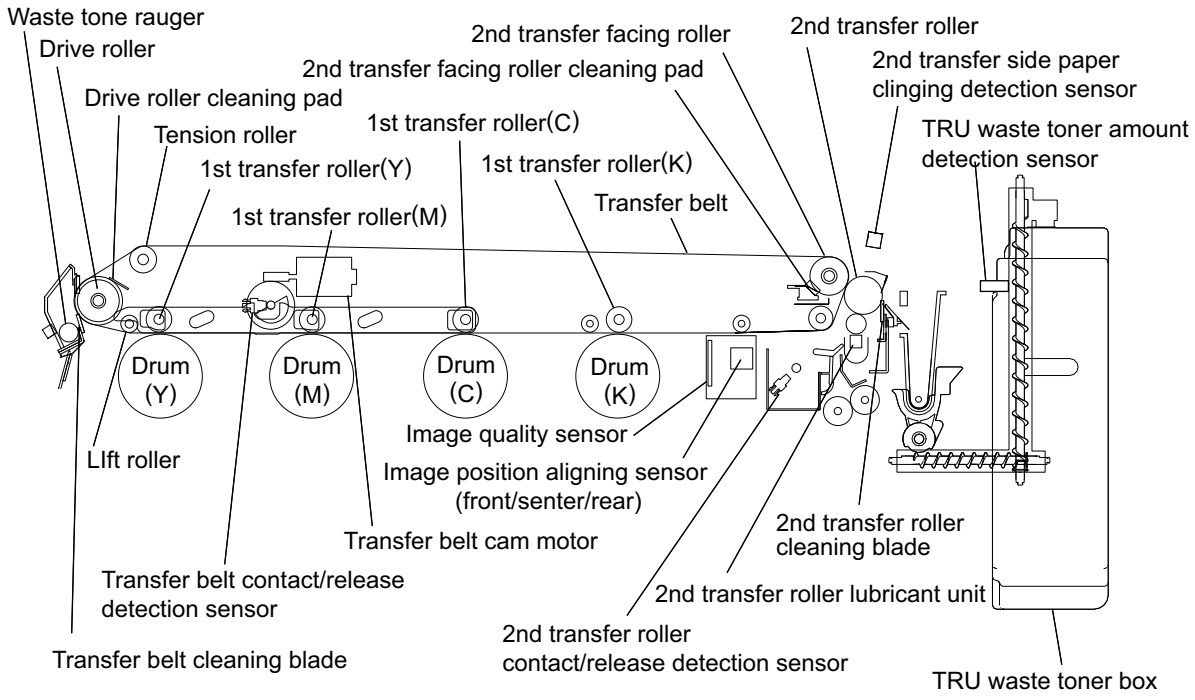

Fig. 12-1

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12.2 Composition

Transfer belt unit	Transfer belt	
	1st transfer roller	Y, M, C, K
	Drive roller	
	Tension roller	
	2nd transfer facing roller	
	Lift roller	
	Idling roller	
	Transfer belt cam motor	M14
	Transfer belt contact/release detection sensor	S46
	2nd transfer facing roller cleaning pad	PM parts
	Drive roller cleaning pad	
Transfer belt cleaning	Transfer belt cleaning blade	PM parts
	Transfer belt cleaner side seal	PM parts
Transfer belt motor		M13
2nd transfer unit	2nd transfer roller	PM parts
	2nd transfer roller lubricant unit	PM parts
	TRU waste toner box	
	TRU waste toner amount detection sensor	S17
	2nd transfer side paper clinging detection sensor	S51 (Chapter 10)
Image position aligning sensor (front /center/rear)		S20 / S21/S22
2nd transfer roller contact/release detection sensor		S50
Image quality sensor		S23 (Chapter 13)
2nd transfer motor		M9

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12.3 Functions

1. Transfer belt
   This belt, made of electrical resistance resin, is formed in a highly-precise technique. The drive of the transfer belt motor rotates the drive roller and thus the transfer belt is rotated.

2. Flywheel
   This is installed in the transfer belt unit in order to even out the rotation speed of the transfer belt with its inertia. A flywheel is rotated with drive from the gear of the 2nd transfer facing roller shaft through a timing belt.

3. Steering mechanism
   his mechanism is installed in the transfer belt unit in order to prevent the transfer belt from being slid to the one side. When either of ribs on the both edges of the transfer belt is contacted with the detection roller, the gear is rotated to apply force to the tension roller so that the transfer belt will be retained at the center position automatically without being affected by the individual difference of equipments.

4. 1st transfer roller
   When the 1st transfer bias from the high-voltage transformer is applied to this roller, a toner image is transferred from the photoconductive drum onto the transfer belt. The spring of this roller presses the transfer belt and the photoconductive drum to contact each other.

5. Drive roller
   This roller rotates the transfer belt with the drive transmitted from the transfer belt motor.

6. Tension roller
   This roller applies tensile force to the transfer belt with its spring.

7. 2nd transfer facing roller
   This roller contacts with the 2nd transfer roller, holding the transfer belt between them to nip paper. When the 2nd transfer bias (negative polarity) is applied from the high-voltage power supply to the 2nd transfer facing roller, a toner image is transferred onto paper.
   To clean off the toner adhered on the 2nd transfer roller, positive bias is applied on the 2nd transfer facing roller to transport the positively charged toner on the 2nd transfer roller to the transfer belt.

8. Lift roller
   This roller retains the contacting position of the transfer belt and the photoconductive drum. When only a black (K) image is being transferred, the transfer belt cam motor lifts up the 1st transfer rollers of yellow (Y), magenta (M) and cyan (C), together with this roller.

9. Idling roller
   This roller retains the contacting position of the transfer belt and the photoconductive drum.

10. Transfer belt cam motor (M14)
    This motor lifts up the 1st transfer rollers (Y), (M) and (C) when only a black (K) image is being developed. Installed in the transfer belt unit, this motor drives the cam and also moves the linked lever to lift up the 1st transfer rollers (Y), (M) and (C).

11. Transfer belt contact/release detection sensor (S46)
    This sensor installed in the transfer belt unit detects the timing to apply stop the transfer belt cam motor, and also detects if the 1st transfer rollers are at their contacting or releasing position.

12. Transfer belt cleaning blade
    This blade removes the residual toner, paper dust or foreign objects on the transfer belt surface. It is pressed onto the transfer belt unit by its spring. The recovery blade and urethan seal prevent the removed residual toner or other objects from leaking out of the transfer belt cleaning unit.

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13. Used toner auger
    This auger transports the residual toner, paper dust or foreign objects scraped off by the transfer belt cleaning blade to the waste toner box.

14. Transfer belt motor (M13)
    This two-phase stepping motor drives the drive roller of the transfer belt unit and the used toner auger.

15. 2nd transfer roller
    This metal roller, covered with sponge and an NBR tube, is located to face the 2nd transfer facing roller through the transfer belt. When the registration motor is rotated reversely, the drive from the registration motor is transmitted to this roller through the cam and arm, and thus this roller contacts with or releases from the transfer belt.

16. 2nd transfer roller contact/release detection sensor (S50)
    This photointerrupter detects if the 2nd transfer roller is contacted with or released from the transfer belt.

17. 2nd transfer paper clinging detection sensor (S51)
    This sensor detects thin paper clinging to the transfer belt. When a sheet of thin paper which is not allowed in the specification is fed, this thin paper may cling to the transfer belt. The clung paper causes a service call because it cannot be removed in a normal jam releasing process. This sensor forestalls such case and helps to remove it as a normal paper jam.

18. TRU waste toner amount detection sensor (S17)
    his sensor detects the amount of waste toner in the TRU waste toner box. When waste toner occupies approx. 80% of the TRU waste toner box, the sensor judges that the TRU waste toner box is almost full.
    When 5,000 sheets of paper have been printed since then, a message warning a user that the TRU waste toner box is full.

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12.4 General description of operation

12.4.1 Self steering mechanism

This equipment has a self-steering mechanism to prevent the transfer belt from leaning to one side. The composition of the self-steering mechanism is shown below.

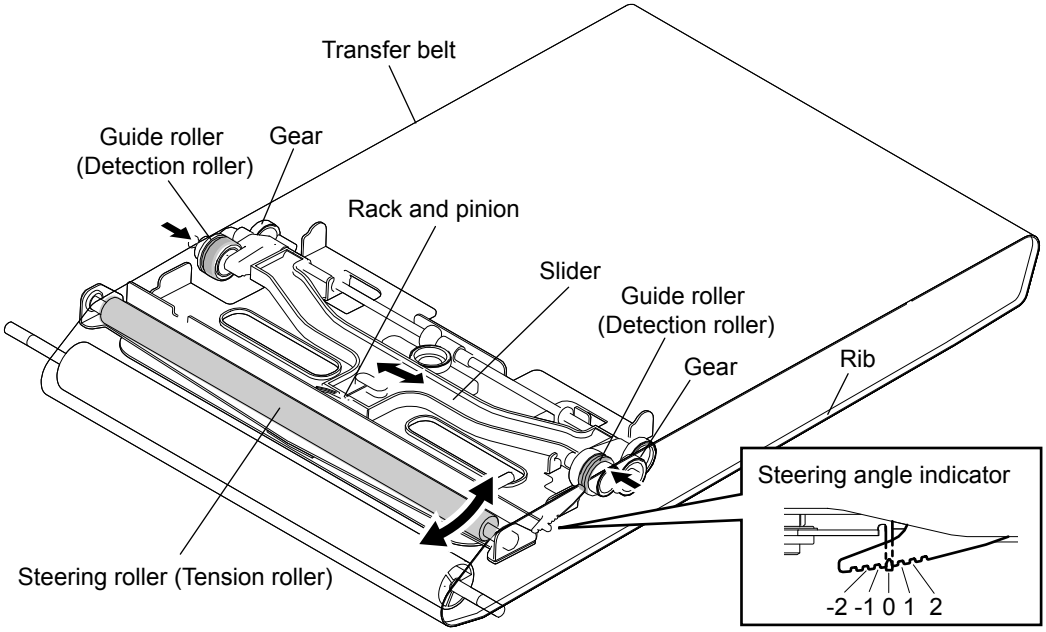

Fig. 12-2

Operation flow

1. The transfer belt is inclined to the front or rear side.
2. The rib of the inclined belt contacts with either of the guide rollers and thus makes the gears rotate.
3. The gears rotate and thus their lead screws make the slider shift forward or backward.
4. The steering roller is inclined with the rack and pinion mechanism.
5. The inclined steering roller moves the inclined transfer belt to the original position.
6. The steering roller stops the leaning at a position in which the rib of the belt no longer contacts with the guide roller.

Notes:

- The tolerance for the cutting angle of the self-steering mechanism is normally +/- 2 degrees.
- If the cutting angle does not fall within the acceptable range, check and correct the following:

1. Is the equipment installed on a flat surface? Is the equipment installed slantwise?
2. Is the transfer belt unit assembled correctly?
3. Is the transfer belt installed correctly?

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12.4.2 Printing in the color modes

[A] 1st transfer

1. Printing starts and the photoconductive drums, developer units and transfer belt start the rotation.

2. The 1st transfer rollers (Y), (M) and (C) move to a position contacting with the photoconductive drum, with the transfer belt nipped between them.

3. A voltage is applied through the 1st transfer roller (Y) and a toner image on the photoconductive drum (Y) is transferred onto the transfer belt.

4. A voltage is applied through the 1st transfer roller (M) and a toner image on the photoconductive drum (M) is transferred onto the transfer belt to be overlaid on the toner image (Y).

5. A voltage is applied through the 1st transfer roller (C) and a toner image on the photoconductive drum (C) is transferred onto the transfer belt to be overlaid on the toner images (Y) and (M).

6. A voltage is applied through the 1st transfer roller (K) and a toner image on the photoconductive drum (K) is transferred onto the transfer belt to be overlaid on the toner images (Y), (M) and (C).

7. When the printing operation is completed, the 1st transfer rollers of Y, M and C move to a position released from the drum.

[B] 2nd transfer

1. The 2nd transfer roller waits at the position released from the transfer belt during the equipment's waiting period.

2. Printing starts and then the 2nd transfer roller moves to the position contacting with the transfer belt.

3. The transfer belt rotates and then a toner image on the transfer belt surface is moved to the 2nd transfer position.

4. The registration rollers align paper and then the paper is transported to the 2nd transfer roller.

5. A bias is applied to the 2nd transfer roller and then the toner image on the transfer belt surface is transferred onto the transported paper.

6. After the completion of the 2nd transfer, the 2nd transfer roller is escaped to the releasing position.

7. When the toner image has been transferred onto the paper in the 2nd transfer process, the residual toner on the transfer belt is scraped off by the transfer belt cleaning blade.

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12.4.3 Printing in the black mode

[A] 1st transfer

1. Printing starts (The 1st transfer rollers (Y), (M) and (C) have moved to the position released from the photoconductive drum.)

2. The photoconductive drum (K), developer unit (K) and transfer belt start the rotation.

3. A voltage is applied through the 1st transfer roller (K) and a toner image on the photoconductive drum (K) is transferred onto the transfer belt.

4. Completion of printing.

[B] 2nd transfer

1. The 2nd transfer roller waits at the position released from the transfer belt during the equipment's waiting period.

2. Printing starts and then the 2nd transfer roller moves to the position contacting with the transfer belt.

3. The transfer belt rotates and then a toner image on the transfer belt surface is moved to the 2nd transfer position.

4. The registration rollers align paper and then the paper is transported to the 2nd transfer roller.

5. A bias is applied to the 2nd transfer roller and then the toner image on the transfer belt surface is transferred onto the transported paper.

6. After the completion of the 2nd transfer, the 2nd transfer roller is escaped to the releasing position.

7. When the toner image has been transferred onto the paper in the 2nd transfer process, the residual toner on the transfer belt is scraped off by the transfer belt cleaning blade.

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12.4.4 Color registration control

In this equipment, color registration control method is used to correct any registration deviation in any of the four colors. This color registration control is performed during warming-up, and at fixed intervals (every 30 min.). The aim of controlling at fixed intervals is to correct deviation in the relative positions of the laser optical system components caused by the rise of the temperature inside the equipment after warming-up. However, there are cases such as when the equipment is turned ON again immediately after it is turned OFF, it may not be necessary to correct deviation in the relative positions of the laser optical system components caused by the rise of the temperature inside the machine after warming-up. For such cases, the temperature of the fuser belt is checked when the power is turned ON, and if it is within the allowable temperature range, color registration control at the warming-up will be omitted. Also the temperature of drum (K) thermistor is checked at the fixed intervals (every 30 min.). If the difference between the temperature at the last color registration control and the current temperature is within the allowable range, color registration control will be omitted.

Color registration control is performed in the following order.

1. A built-in 4-color test pattern is printed on the transfer belt several times.*

2. This printed test pattern is read by the rear, center and front registration sensors each time to measure the amount of deviation between four colors.

3. The amount of deviation thus measured is arithmetically operated on by the microcomputer.

4. The deviation amount is judged from the result of calculation, and then the correction for the laser write position (correction of primary and secondary scanning deviation) and the tilt angle adjustment of laser beam reflection mirrors will be made.

5. After the correction is made, the amount of deviation is checked whether it is within-spec or not. If the value is within-spec, the color registration control will be completed, and if it is out-of-spec, the color registration control will be restarted from step 1).

   * After the test patterns are printed, if the specified number of data is unable to be read successfully, an error (CA00) is generated.

The test patterns for the 4 colors illustrated below are regarded as one set. Several sets are printed directly onto the transfer belt, and the pitch of the test patterns is measured by the color registration sensors.
Corrections will be made after four types of deviation are calculated according the measurement: parallel deviation in the secondary-scanning direction; deviation of write start position in the primary-scanning direction; deviation of reproduction ratio in the primary-scanning direction and tilt deviation

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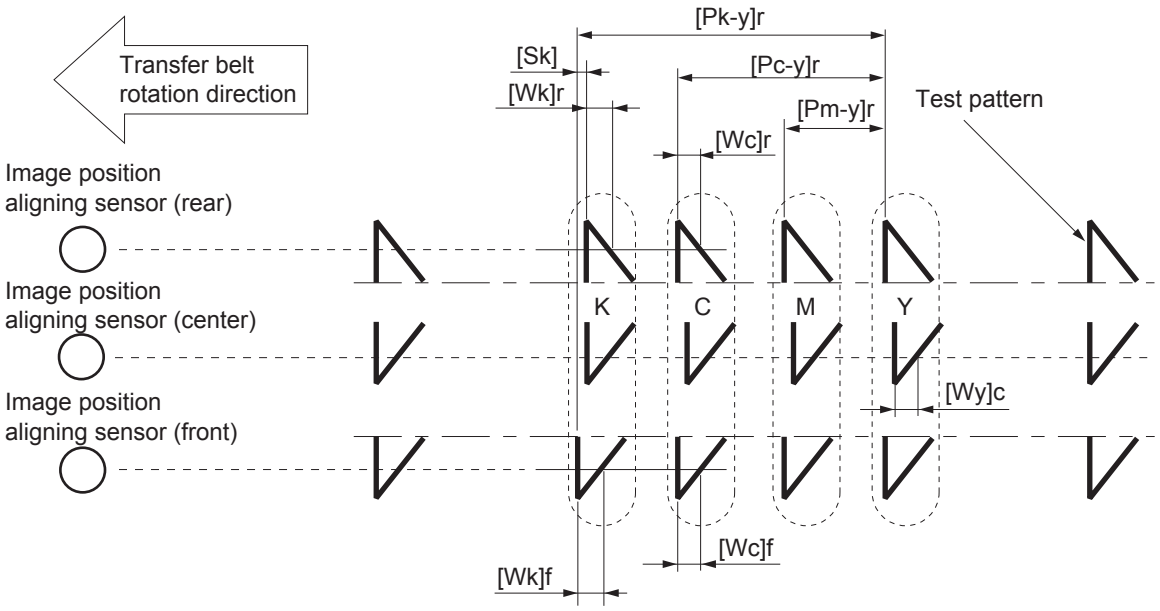

Fig. 12-3

Deviation	Measurement/Calculation Pitch (x=m, c, k)	Object of Correction
Parallel deviation in the secondary-scanning direction	[Px-y]r+2x[Px-y]c+[Px-y]f)/4	Laser write start position (secondary-scanning direction)
Deviation of write start position in the primary-scanning direction	[Wx]r-[Wy]r	Laser write start position (primary-scanning direction)
Deviation of reproduction ratio in the primary-scanning direction	([Wx]r+[Wx]c)-([Wy]r+[Wy]c)	Image writing frequency (fine-tuned wave)
Partial shift in reproduction ratio (primary scanning direction)	[Wx]f-([Wy]f	Image writing frequency (modulated wave)
Tilt deviation	[Sx]	Angle of reflection mirror in the laser unit

Because the color registration control of the equipment optimizes the laser write start position to correct the deviation of 4 colors that appears uniformly on the paper, it cannot correct the following deviations that fluctuate.

- Deviation caused by drum rotation errors
  Deviation in the secondary-scanning direction of approximately 188 mm pitch caused by eccentricity of the driving parts from the drum motor to the drum, or etc.

- Deviation caused by fluctuations in transfer belt speed
  Fluctuating deviation in the secondary-scanning direction resulted from fluctuations in transfer belt speed caused by eccentricity of the driving parts from the transfer belt motor to the transfer belt drive roller, as well as by slippage between the transfer belt and the transfer belt drive roller

- Deviation caused by meandering of the transfer belt
  Fluctuating deviation in the primary-scanning direction caused by meandering of the transfer belt

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12.5 Electric Circuit Description

12.5.1 Transfer belt motor control circuit

The transfer belt motor is a stepping motor driven by the control signal output from the ASIC on the LGC board and rotates the drive roller.
The transfer belt motor is driven by the pulse signal (TBMA, TBMB, TBMC, TBMD) output from the motor driver. These pulse signals are formed based on the reference clock (TBMCK) and output only when the enable signal (TBMEN) is a high level. Also, the rotation speed or direction of the motor can be switched by changing the output timing of each pulse signal.

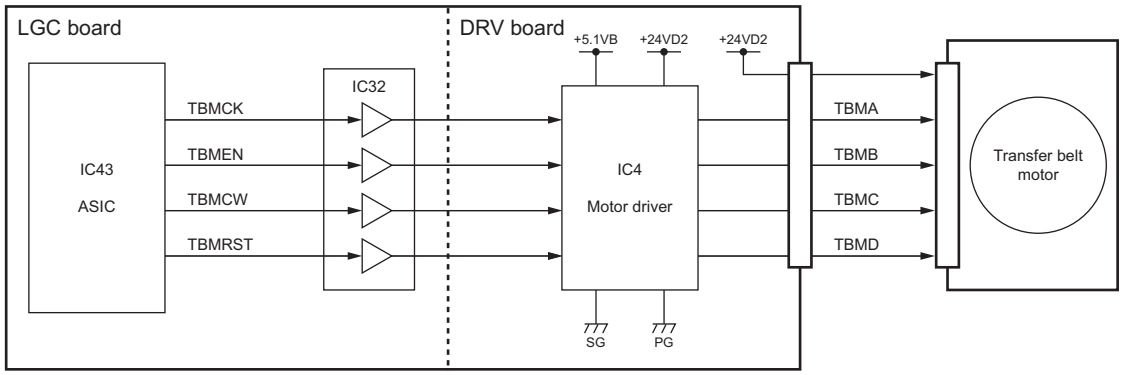

Fig. 12-4

Control signal

Signal	Function	Status	
		High level	Low level
TBMCK	Reference clock	---	---
TBMEN	Enable signal	ON	OFF
TBMDIR	Rotation direction signal	CCW	CW
TBMRST	Reset signal	Normal operation	Reset

* CW: Clockwise rotation, CCW: Counter clockwise rotation viewing from the axis

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12.5.2 Transfer belt cam motor control circuit

The transfer belt cam motor is a DC motor driven by the control signal output from the ASIC on the LGC board and rotates the 1st transfer roller cam to contact/release each 1st transfer roller for Y, M and C color to/from the transfer belt.
The motor driver outputs the drive signal (TBLTM1A-0A, TBLTM1B-1A) to the motor based on the control signal (TBLTM1A-0, TBLTM1B-1) output from the ASIC. The motor operates the rotation, stop or brake according to the status of these drive signals.

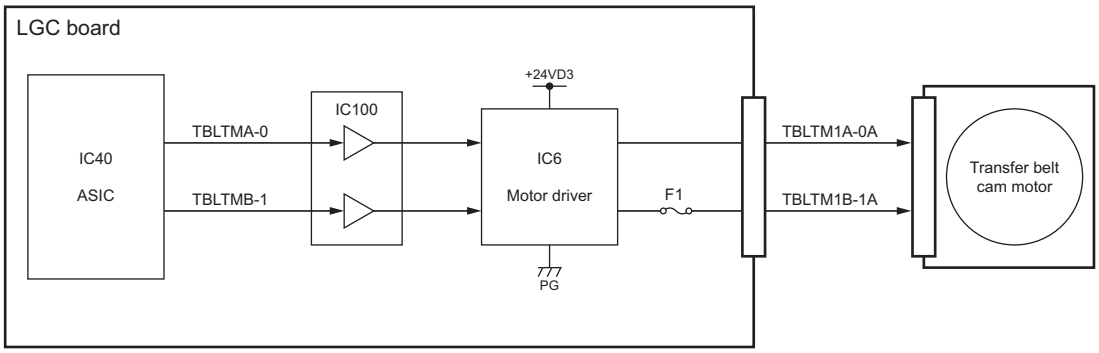

Fig. 12-5

Control signal

Signal				Motor status
ASIC output		Motor driver output		
TBLTMA-0	TBLTMB-1	TBLTM1A-0A	TBLTM1B-1A	
L	L	OFF (high impedance)		Stop
L	H	L	H	Unused
H	L	H	L	Rotation
H	H	H	H	Brake

12

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12.6 Disassembly and Replacement

12.6.1 Pulling out the transfer belt unit

(1) Open the duplexing unit.
(2) Take off the front lower cover.
P.3-41 "3.5.1 Front lower cover"

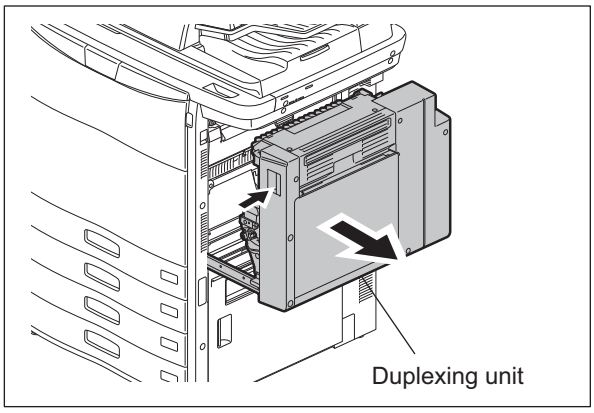

Fig. 12-6

(3) Turn the TBU locking lever for 90 degrees.

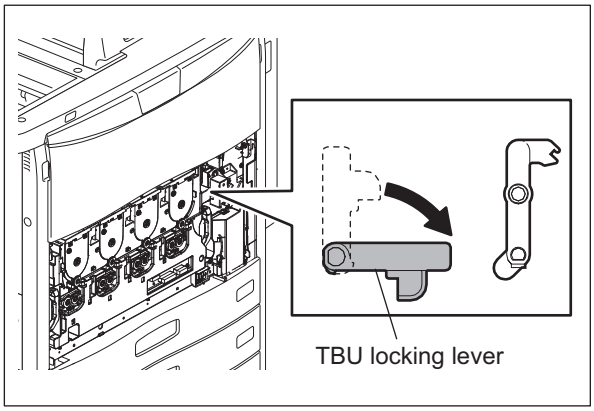

Fig. 12-7

(4) Lift up the EPU locking lever.

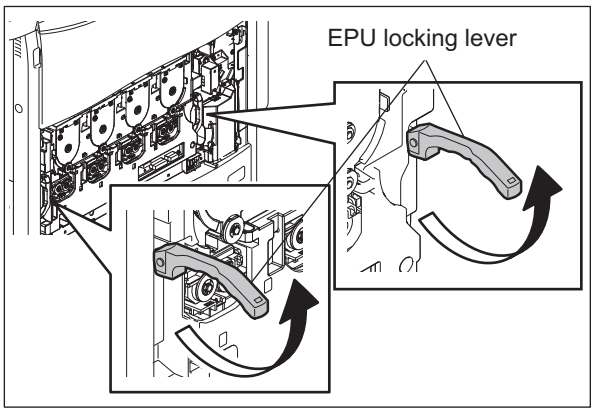

Fig. 12-8

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(5) Turn the EPU locking lever for 90 degrees.

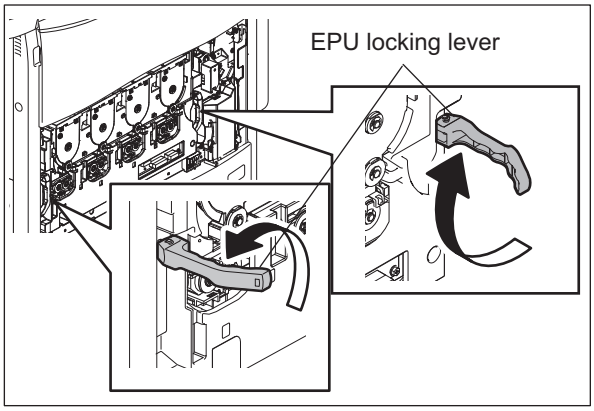

Fig. 12-9

(6) Pull out the process unit by holding the EPU locking lever.

Note:

Be sure that the transfer belt unit is pulled out fully. Also, be sure to check if the transfer belt unit is completely set before closing the duplexing unit.

Be sure not to close the duplexing unit when the transfer belt unit (EPU) is pulled out slightly (i.e., not fully closed) or not opened fully, otherwise the 2nd transfer front guide may be damaged.

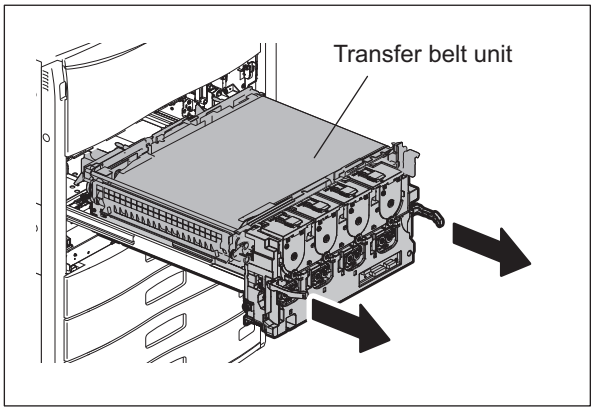

Fig. 12-10

12.6.2 2nd transfer facing roller cleaning pad PM

(1) Take off the front lower cover.
P.3-41 "3.5.1 Front lower cover"

(2) Remove 1 screw and then take off the 2nd transfer facing roller cleaning pad.

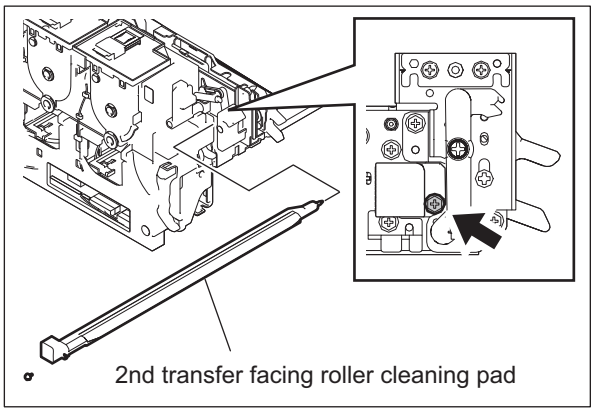

Fig. 12-11

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12.6.3 Transfer belt cleaning unit

(1) Pull out the transfer belt unit.
📖 P.12-12 "12.6.1 Pulling out the transfer belt unit"
(2) Take off the transfer belt cleaning unit.

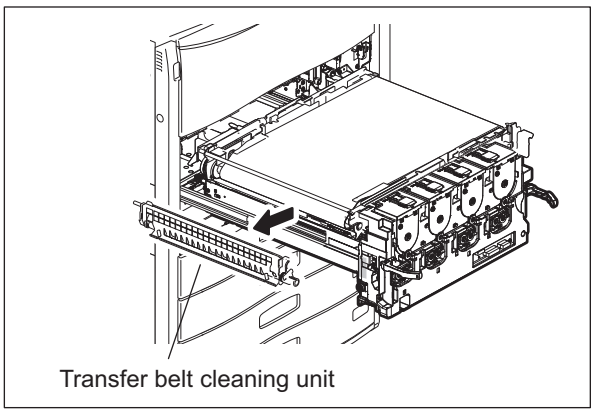

Fig. 12-12

Notes:
Follow the procedure below for the installation.
1. Place the dent of the cleaner on the stud A, and hook the shaft on the portion B as shown in the figure.
2. Place the front side of the unit on the waste toner duct.
3. Press a label on the shutter with your finger.

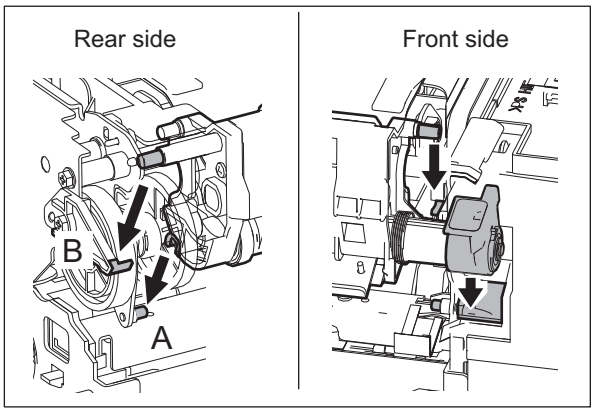

Fig. 12-13

4. Fix the cleaner by pushing its upper side.

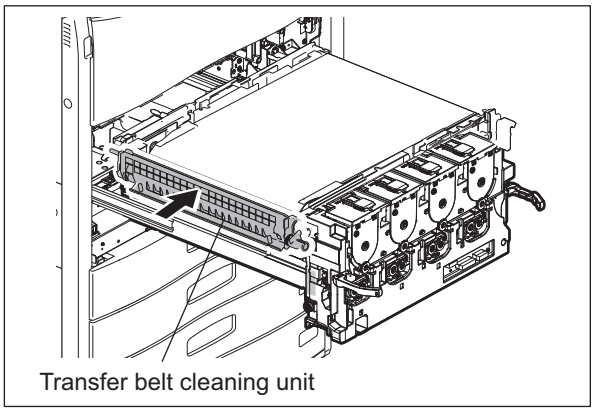

Fig. 12-14

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Notes:

When taking off the TBU cleaner, clean it if it is dusty or stained.

When the Mylar sheet indicated by the figure gets dusty or stained

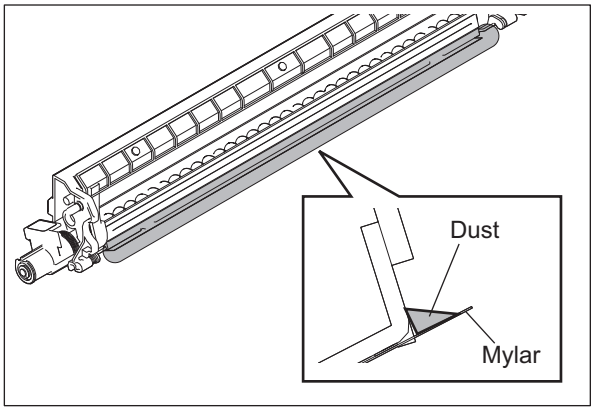

Fig. 12-15

12.6.4 Transfer belt cleaning blade PM

(1) Take off the transfer belt cleaning unit.
P.12-14 "12.6.3 Transfer belt cleaning unit"

(2) Remove 2 screws and then take off the transfer belt cleaning blade.

Note:

When taking off the transfer belt cleaning blade, be sure to check the back side and clean it if it is dirty.

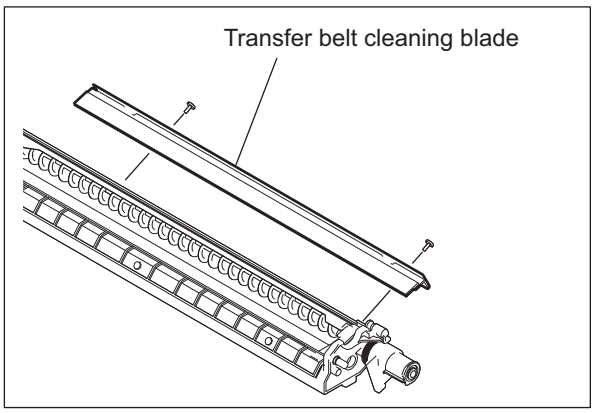

Fig. 12-16

12.6.5 Transfer belt cleaner side seal PM

(1) Take off the transfer belt cleaning unit.
P.12-14 "12.6.3 Transfer belt cleaning unit"

(2) Remove 3 screws and then take off the recovery blade.

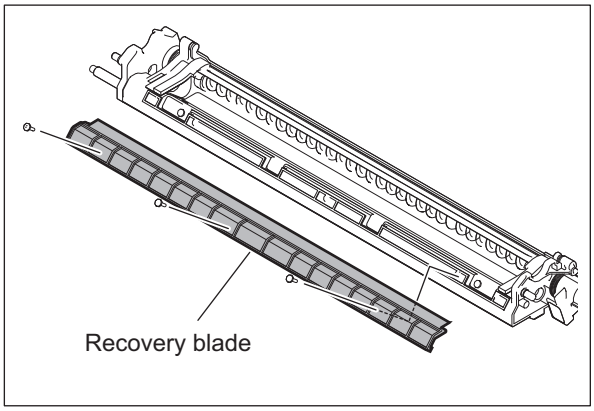

Fig. 12-17

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(3) Remove the transfer belt cleaner side seals on both sides.

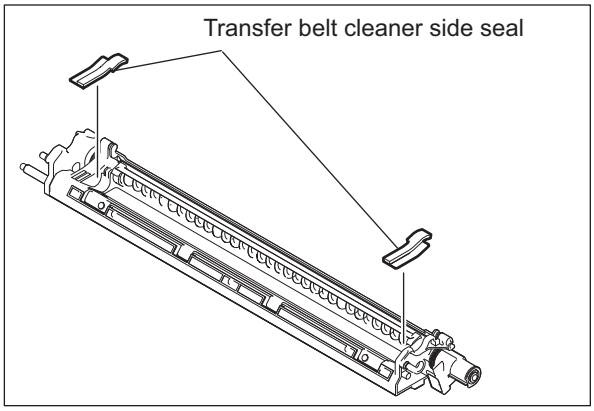

Fig. 12-18

Notes:

When replacing the transfer belt cleaner side seals, follow the procedure below.

1. Move the blade to the rear side and then install it with 2 screws.
2. Install the 2 transfer belt cleaner side seals following the standard shown in the figure.

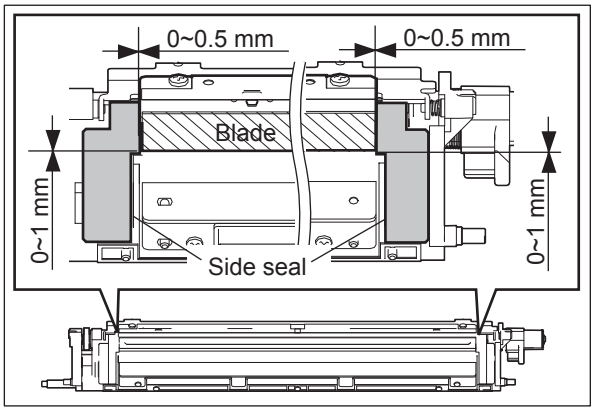

Fig. 12-19

3. After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.

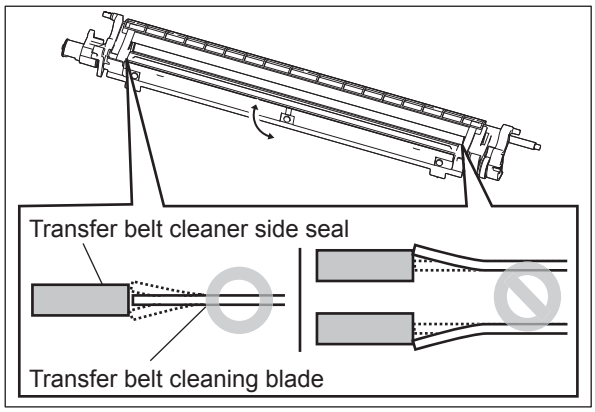

Fig. 12-20

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12.6.6 Transfer belt unit (TBU)

(1) Take off the transfer belt cleaning unit.
📖 P.12-14 "12.6.3 Transfer belt cleaning unit"
(2) Pull out 2 hand grips.

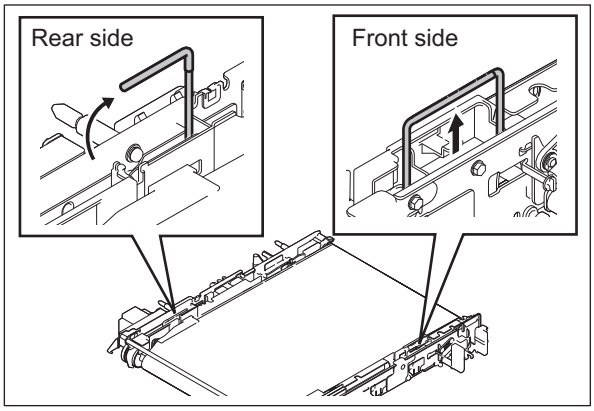

Fig. 12-21

(3) Take off the transfer belt unit with its front side up slantwise not to hit the motor on its rear side to the equipment.

Note:
When the transfer belt unit or the lever assembly is replaced, be sure to perform the adjustment of the degree of parallelization for the transfer belt unit.
Adjustment is not necessary when a part other than those described above (such as a roller) is replaced.

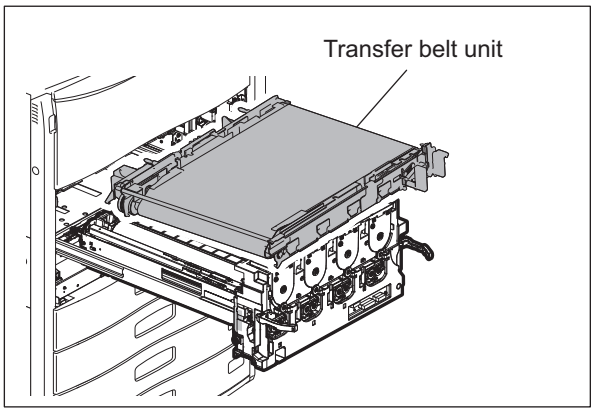

Fig. 12-22

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Notes:

1. When installing, place the unit with its rear side down slantwise.
   Make sure that 2 sections shown in the figure are properly set.

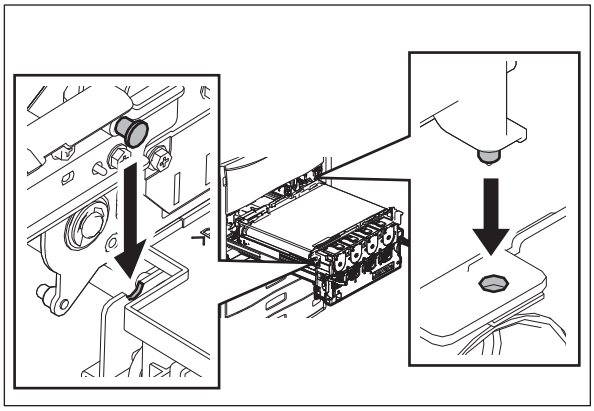

Fig. 12-23

2. The power supply spring shown in the figure supplies high-voltage bias from the equipment to each roller. If any of these springs is dirty, clean it. If it is deformed, replace it with a new one.

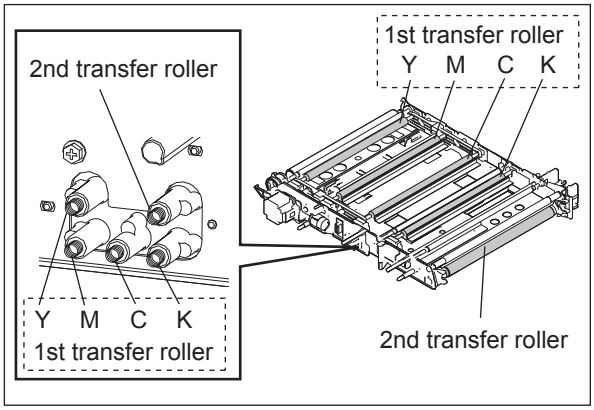

Fig. 12-24

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12.6.7 Transfer belt

Note:
It is recommended to wear gloves to avoid a direct touch on the belt surface.

(1) Take off the transfer belt unit.
P.12-17 "12.6.6 Transfer belt unit (TBU)"
(2) Pull up the belt guides by approx. 20 degrees and then pull them out to take them off.

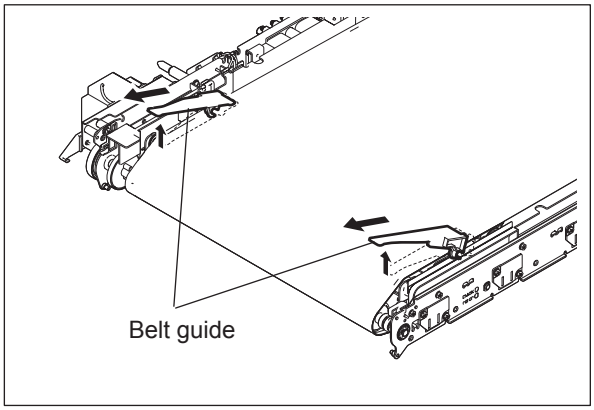

Fig. 12-25

Note:
When installing the belt guide, tilt it by approx. 20 degrees and insert it to the shaft, and then let it go down under its own weight. When it does not go down under its weight, reinstall it because the belt might get on the rib of the guide.

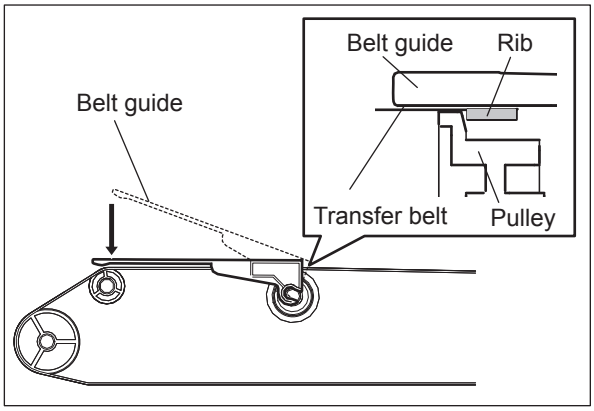

Fig. 12-26

(3) Remove 1 screw and a stay.

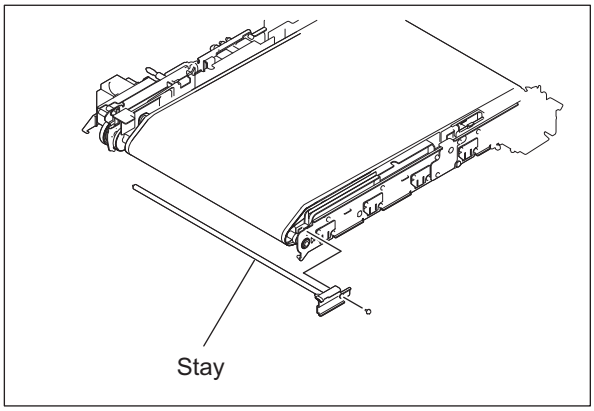

Fig. 12-27

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(4) Remove 2 screws and take off the fixing bracket on the front side.
(5) Remove 2 screws and take off the fixing bracket on the rear side.

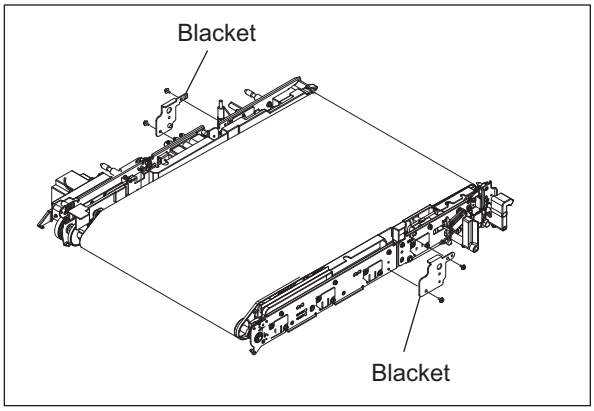

Fig. 12-28

(6) Fold the frame with its rear side down.
(7) Pull out the transfer belt upward to take it off.

Note:
When replacing the transfer belt, check the drive roller, 2nd transfer facing roller and tension roller, and clean them with alcohol. If 1st transfer roller has foreign matter adhering to it, remove this before installing the transfer belt.

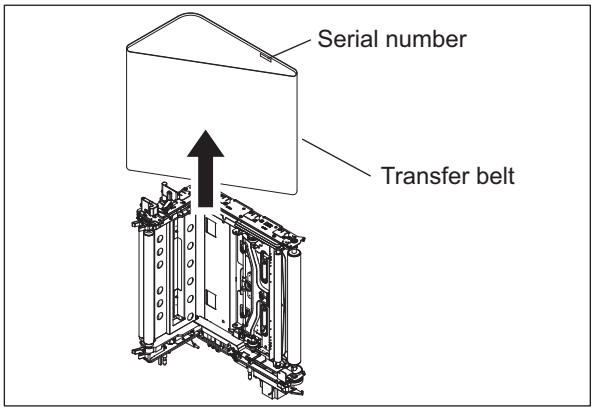

Fig. 12-29

Notes:
1. Install the transfer belt in the middle so that it will not move to one side.
2. When installing, be sure that the serial number indicated the inside of the belt is shown at the front side.
3. Do not touch the belt surface directly with bare hands.
4. Be sure not to scratch the belt surface.
5. When replacing the transfer belt, clean the drive roller, 2nd transfer facing roller, tension roller and idling roller with alcohol.
6. Attach a belt guide so that the rib of the transfer belt will not be run on the detection roller.
7. After the transfer belt is installed, rotate the drive roller in the direction of the arrow to set the value of the cutting angle indicator to 0+/-0.5 degree.

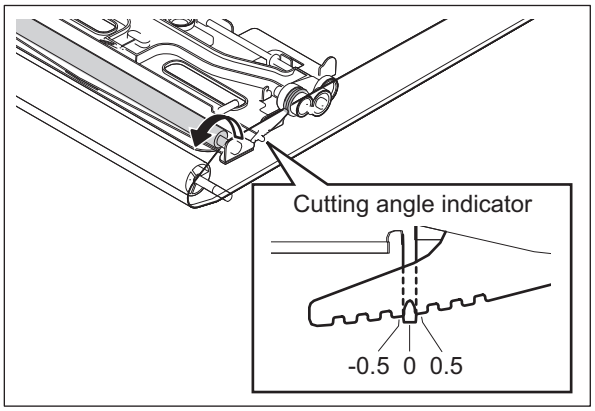

Fig. 12-30

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12.6.8 Transfer belt motor (M13)

(1) Take off the transfer belt unit.
P.12-17 "12.6.6 Transfer belt unit (TBU)"
(2) Remove 1 screw and take off the harness cover.

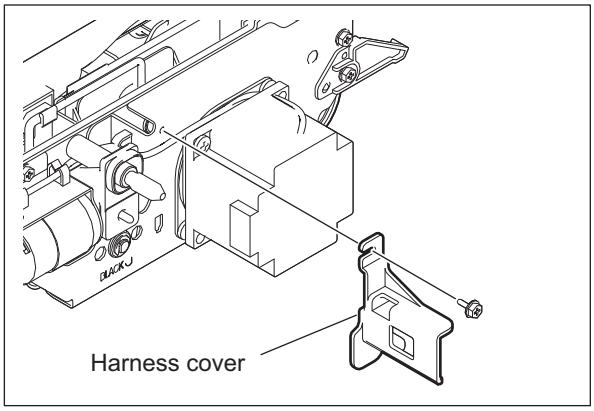

Fig. 12-31

(3) Disconnect 1 connector and remove 2 screws. Then take off the transfer belt motor.

Note:
Never loosen red screws fixing a rubber damper.

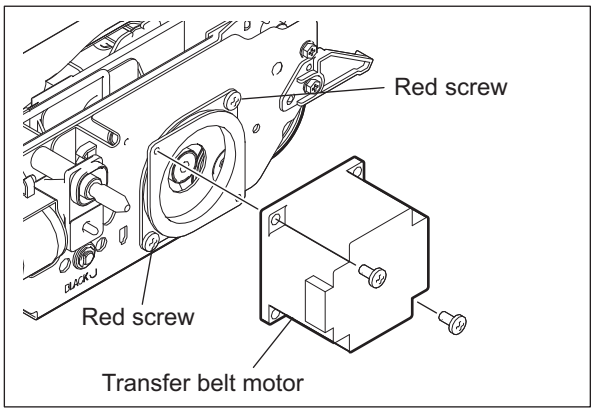

Fig. 12-32

12.6.9 Transfer belt cam motor (M14)

(1) Take off the transfer belt unit.
P.12-17 "12.6.6 Transfer belt unit (TBU)"
(2) Disconnect 1 connector and remove 2 screws. Then take off the bracket.

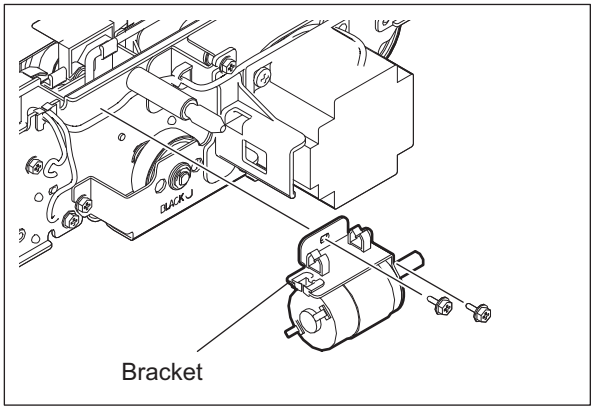

Fig. 12-33

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(3) Remove 2 screws and then take off the transfer belt cam motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

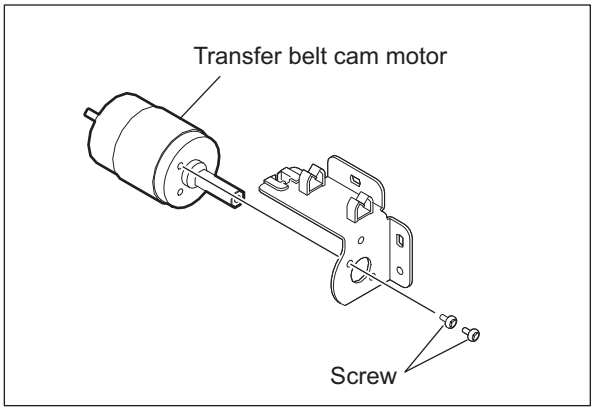

Fig. 12-34

12.6.10 Transfer belt contact/release detection sensor (S46)

(1) Take off the transfer belt.
📖 P.12-19 "12.6.7 Transfer belt"
(2) Disconnect 1 connector and release 3 latches. Then take off the transfer belt contact/release detection sensor.

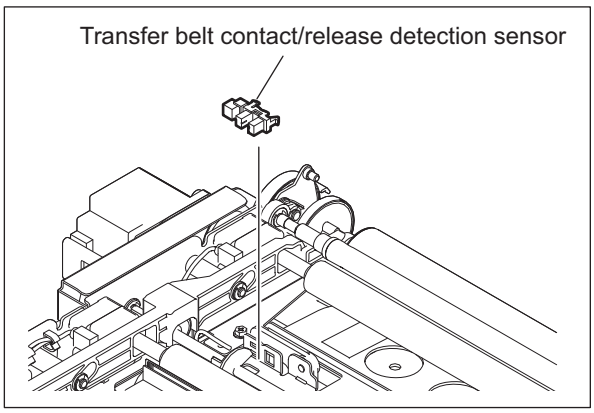

Fig. 12-35

12.6.11 1st transfer roller (Y/M/C/K)

(1) Take off the transfer belt.
📖 P.12-19 "12.6.7 Transfer belt"
(2) Remove 2 screws each and take off a holder.

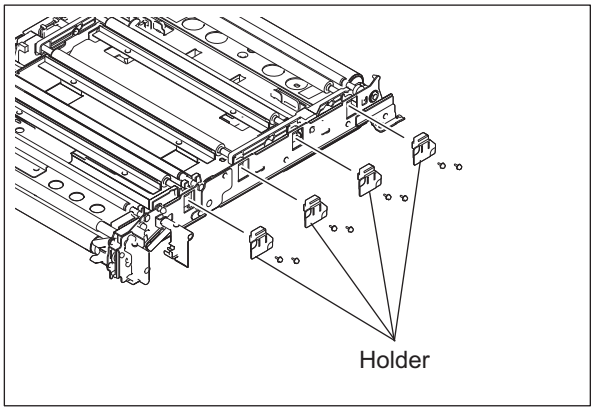

Fig. 12-36

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(3) Take off the 1st transfer roller (Y/M/C/K).

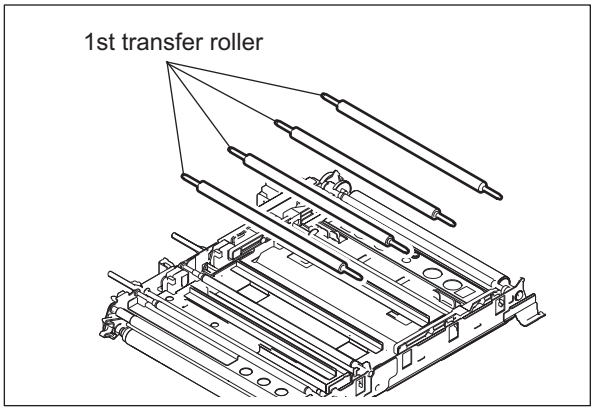

Fig. 12-37

12.6.12 Drive roller / Drive roller cleaning mylar PM

(1) Take off the transfer belt.
📖 P.12-19 "12.6.7 Transfer belt"
(2) Remove 3 screws and 1 E-ring. Then take off the transfer belt motor drive section.

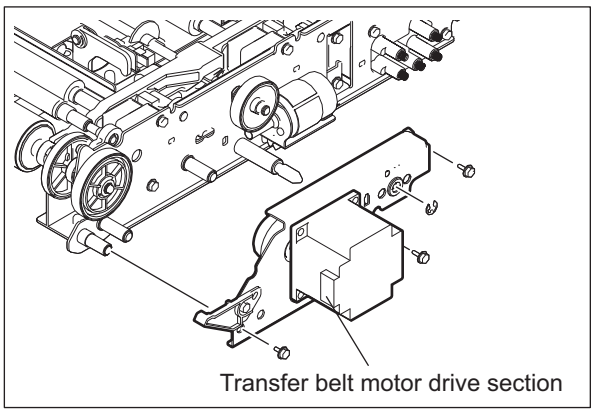

Fig. 12-38

(3) Remove 1 screw, 1 gear, 1 pin and 1 bearing.

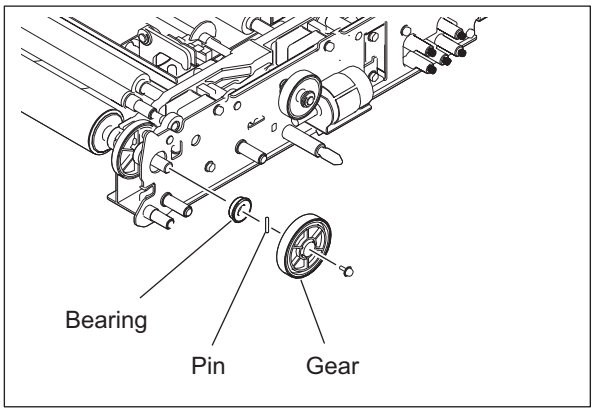

Fig. 12-39

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(4) Remove 1 E-ring and 1 bearing.

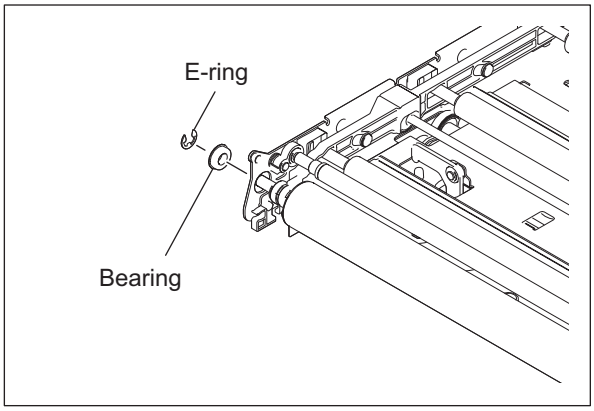

Fig. 12-40

(5) Take off the drive roller assembly.

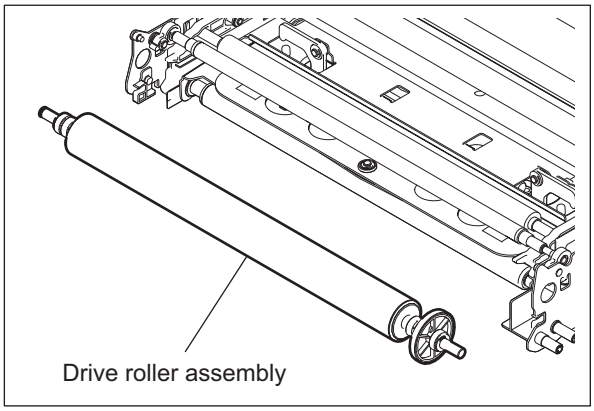

Fig. 12-41

(6) Remove 2 E-rings, 1 gear, 1 pin and 4 bearings from the drive roller.

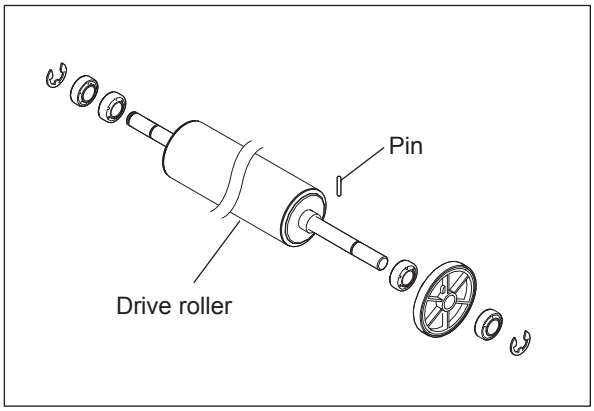

Fig. 12-42

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12.6.13 Tension roller

(1) Take off the transfer belt.
📖 P.12-19 "12.6.7 Transfer belt"
(2) Remove 2 collars.

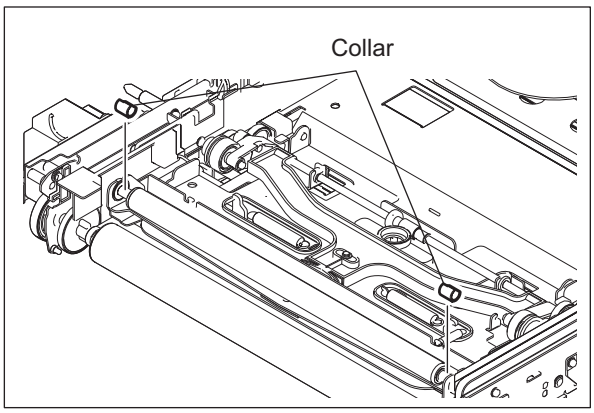

Fig. 12-43

(3) Move the bearing to the inner side and then take off the tension roller.

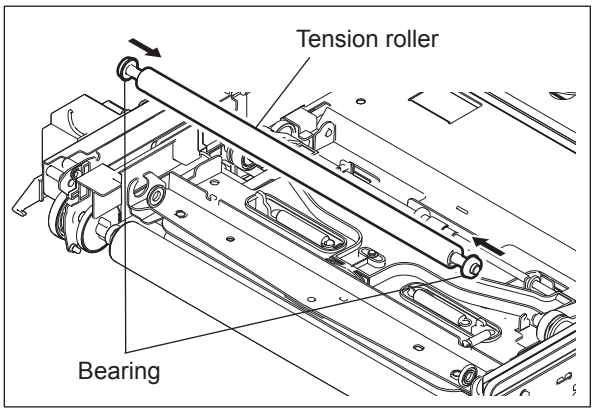

Fig. 12-44

12.6.14 2nd transfer facing roller

(1) Take off the transfer belt.
📖 P.12-19 "12.6.7 Transfer belt"
(2) Remove 2 screws and take off the lever assembly.

Note:
When the transfer belt unit or the lever assembly is replaced, be sure to perform the adjustment of the degree of parallelization for the transfer belt unit.
Do not remove the 2 red screws unless the adjustment is necessary.

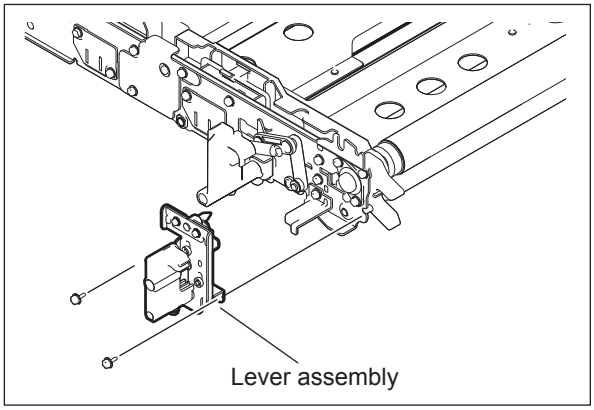

Fig. 12-45

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(3) Remove 1 screw and take off the cover.

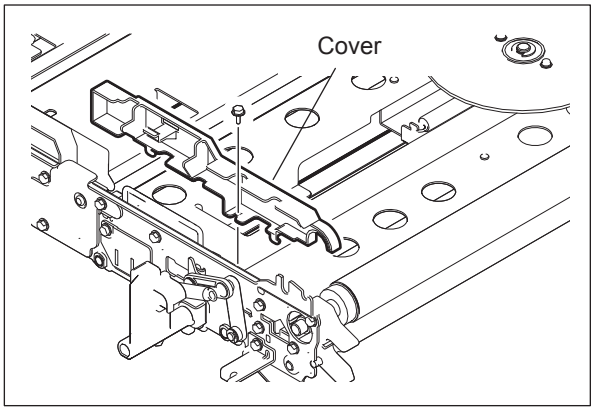

Fig. 12-46

(4) Remove 3 screws and take off the holder.

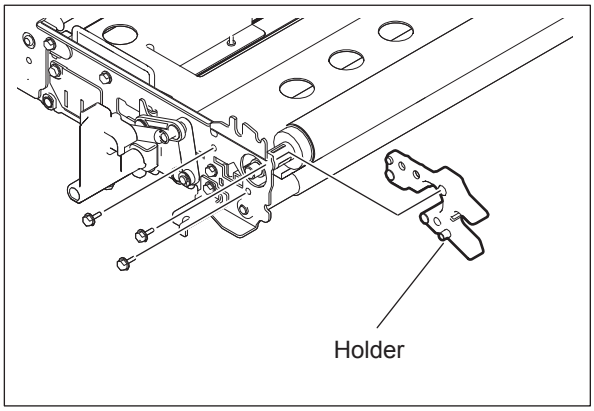

Fig. 12-47

(5) Remove 2 screws and take off the holder and bearing.

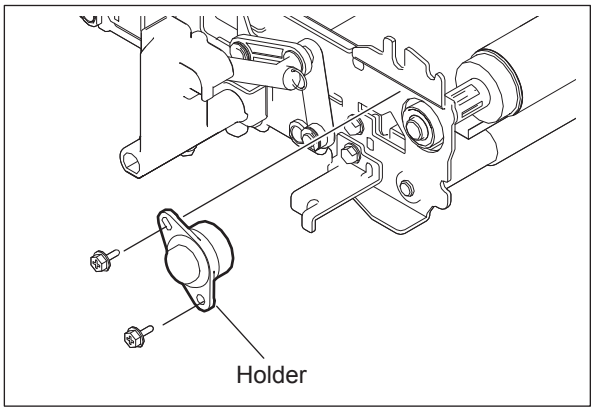

Fig. 12-48

(6) Take off the 2nd transfer facing roller.

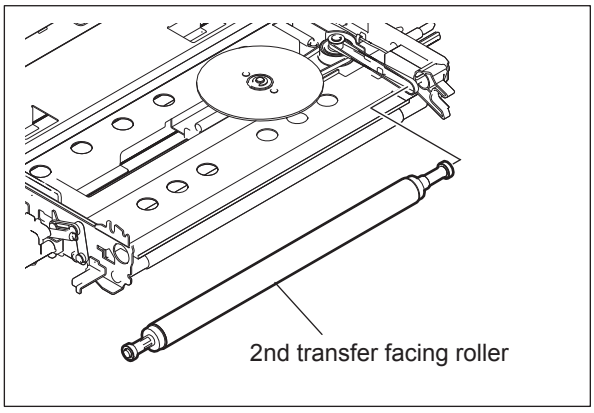

Fig. 12-49

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Notes:

Perform the following procedures after the 2nd transfer roller is assembled.

1. Remove 2 screws and then take off the flywheel.
2. Remove 1 spring.

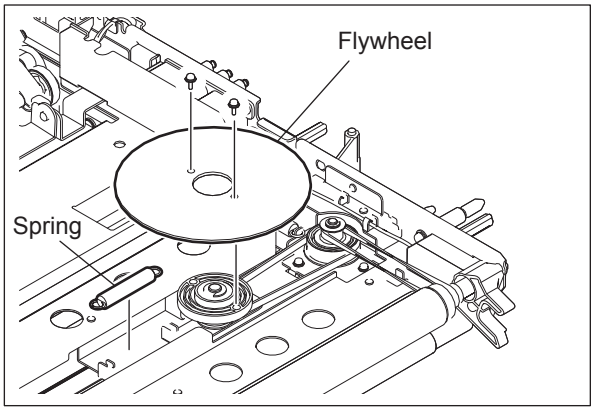

Fig. 12-50

3. Loosen 2 screws “A”.
4. Check if there is no gap between the timing belt and the flange.
5. Loosen 2 screws “B”, check the tension of the timing belt, and then tighten those screws again.
6. Install the spring, check the tension of the timing belt, and then tighten screws “A”.
7. Install the flywheel with 2 screws.

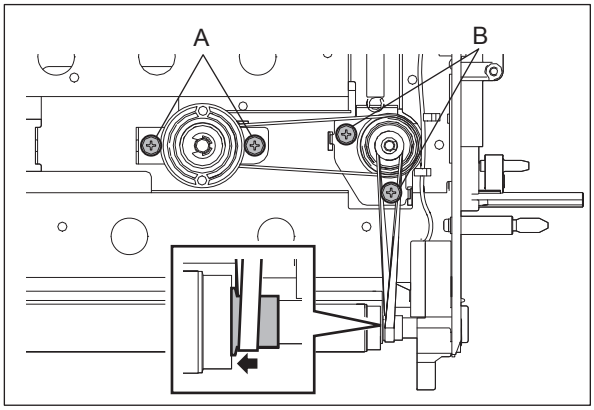

Fig. 12-51

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12.6.15 2nd transfer unit (TRU)

(1) Remove 1 screw and take off the 2nd transfer roller front guide.

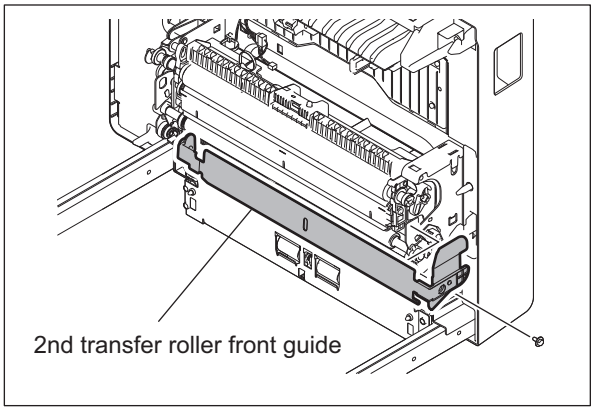

Fig. 12-52

(2) Release the hook and take off a harness cover.

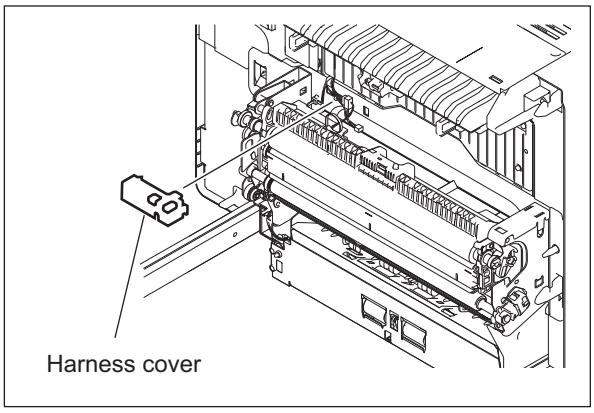

Fig. 12-53

(3) Disconnect 1 connector.

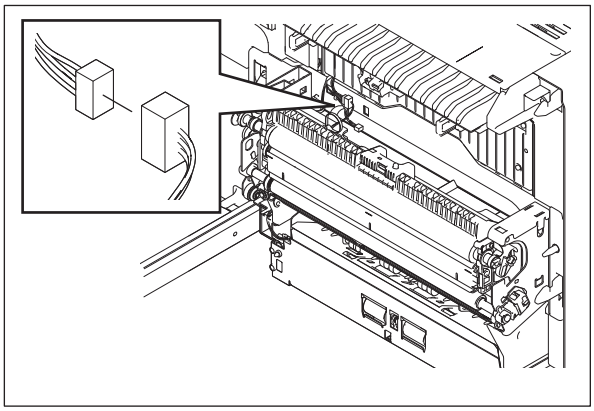

Fig. 12-54

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(4) Remove 1 clip and 1 bushing.

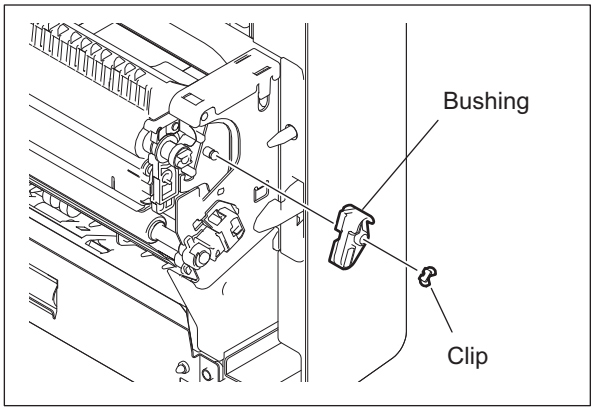

Fig. 12-55

(5) Take off the 2nd transfer unit not to hit the unit to the registration roller or other parts.

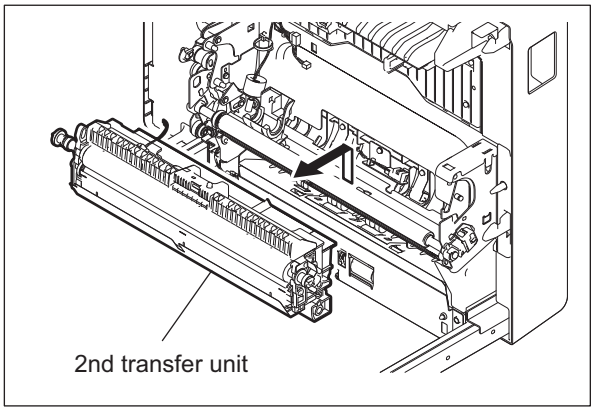

Fig. 12-56

Note:
When installing, make sure that 2 pins on the rear side are inserted to the rectangular holes of the 2nd transfer unit.

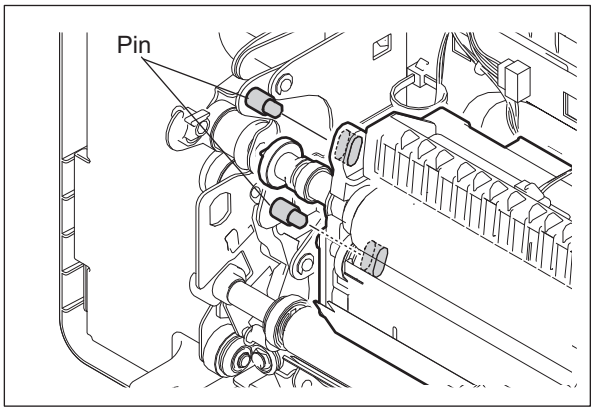

Fig. 12-57

12

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12.6.16 2nd transfer roller PM

(1) Take off the 2nd transfer unit.
P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Remove the clip on the front side and then 1 bearing and 1 bushing.
(3) Remove the clip on the rear side and then 2 gears, 1 bearing and 1 bushing.

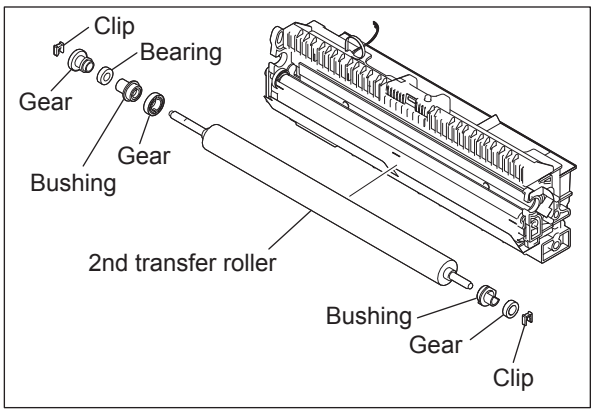

Fig. 12-58

Note:
Since the bearing is press-fitted in the bushing, be sure to remove it straight so that it does not fall off.

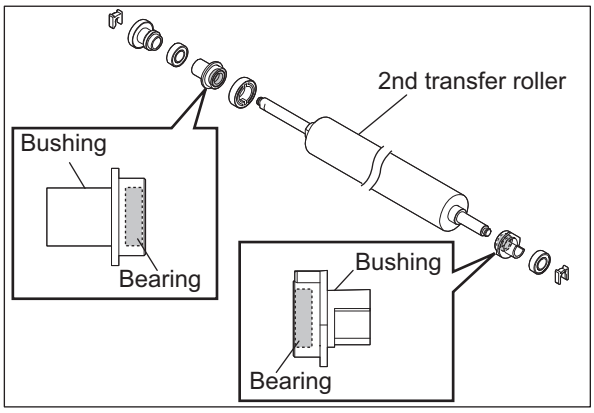

Fig. 12-59

12.6.17 2nd transfer roller lubricant unit PM

(1) Take off the 2nd transfer roller.
P.12-30 "12.6.16 2nd transfer roller"
(2) Remove 1 screw on the rear side and then take off a bushing.

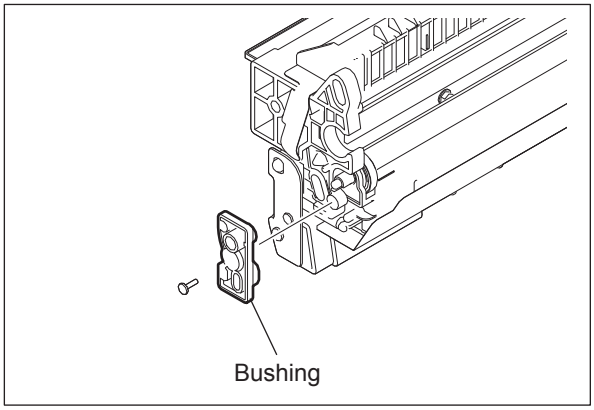

Fig. 12-60

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(3) Take off the 2nd transfer roller lubricant unit.

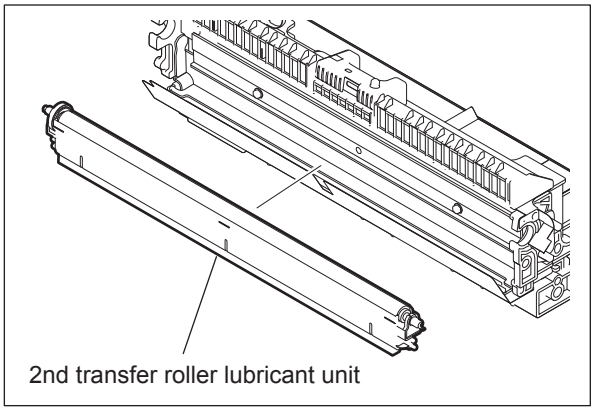

Fig. 12-61

12.6.18 2nd transfer roller cleaning blade PM

(1) Take off the 2nd transfer roller lubricant unit.
📖 P.12-30 "12.6.17 2nd transfer roller lubricant unit"
(2) Remove 2 screws and then take off the 2nd transfer roller cleaning blade.

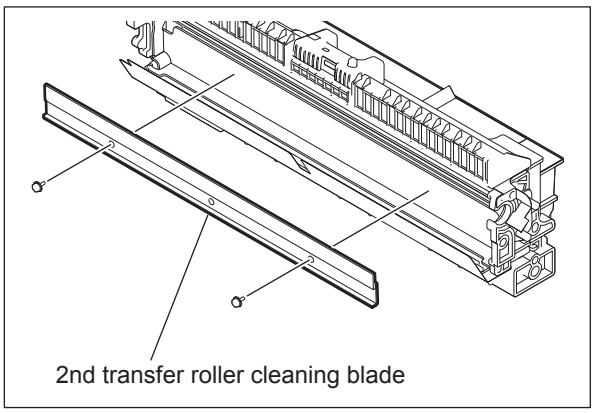

Fig. 12-62

12.6.19 2nd transfer roller side seal PM

(1) Take off the 2nd transfer roller cleaning blade.
📖 P.12-31 "12.6.18 2nd transfer roller cleaning blade"
(2) Turn up a recovery sheet and then remove 2nd transfer roller side seal.

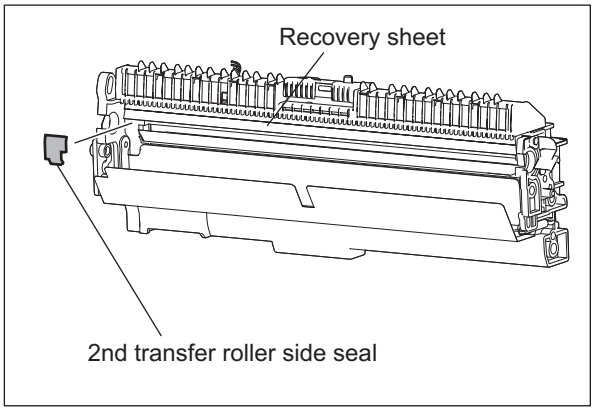

Fig. 12-63

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Notes:

When replacing the 2nd transfer roller side seal, follow the procedure below.

1. Confirm that the gap between the 2nd transfer roller cleaning blade and the side seal on the front side falls within 0 mm to 0.5 mm.

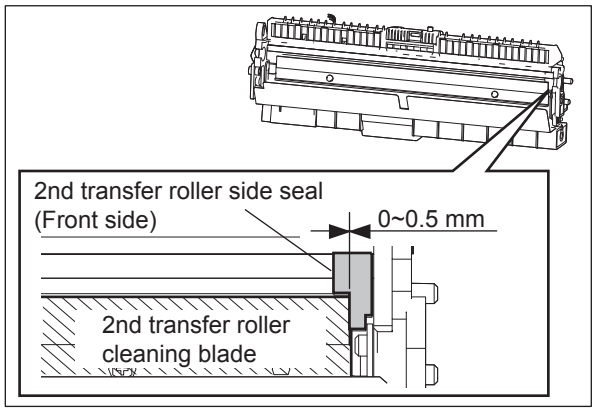

Fig. 12-64

2. Install the 2nd transfer roller side seal following the standard shown in the figure.

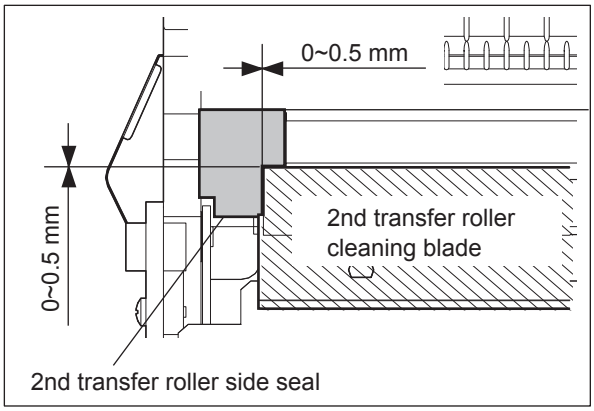

Fig. 12-65

3. After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.

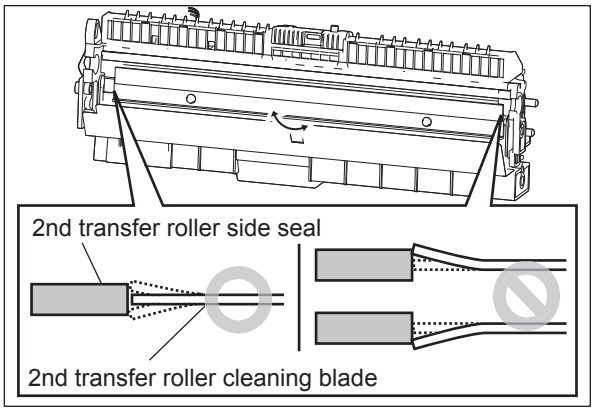

Fig. 12-66

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12.6.20 TRU waste toner box PM

(1) Take off the duplexing unit rear cover.
📖 P.3-45 "3.5.14 Duplexing unit rear cover"
(2) Take out the TRU waste toner box.

Note:
When replacing the TRU waste toner box, if the waste toner amount detection sensor is dirty, clean it.

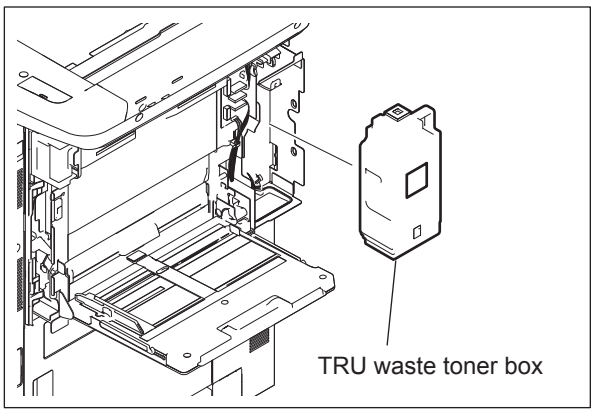

Fig. 12-67

(3) Seal the opening of the TRU waste toner box.

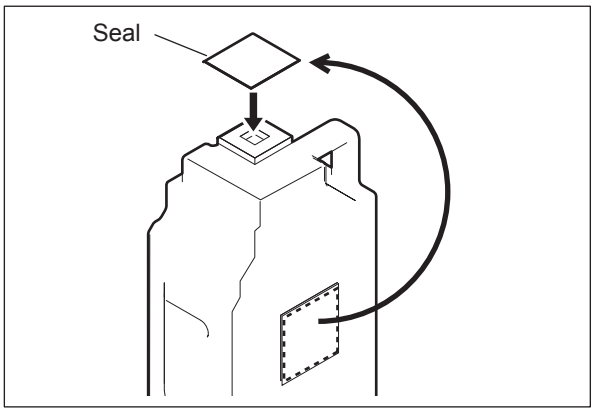

Fig. 12-68

12.6.21 TRU waste toner amount detection sensor (S17)

(1) Take off the TRU waste toner box.
📖 P.12-33 "12.6.20 TRU waste toner box"
(2) Disconnect 1 connector and release 3 latches. Then take off the TRU waste toner amount detection sensor.

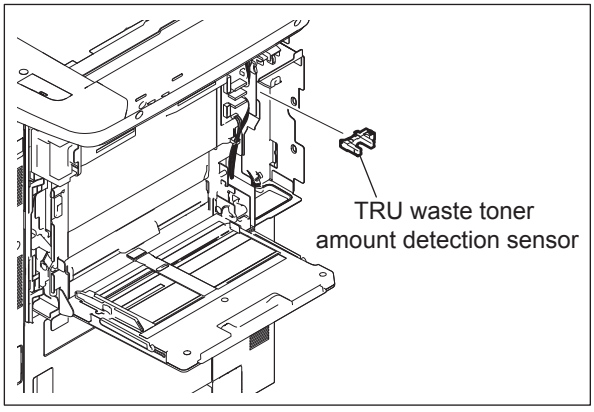

Fig. 12-69

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12.6.22 TRU waste toner auger drive section

(1) Take off the TRU waste toner box.
P.12-33 "12.6.20 TRU waste toner box"
(2) Remove 1 screw and take off a cover.

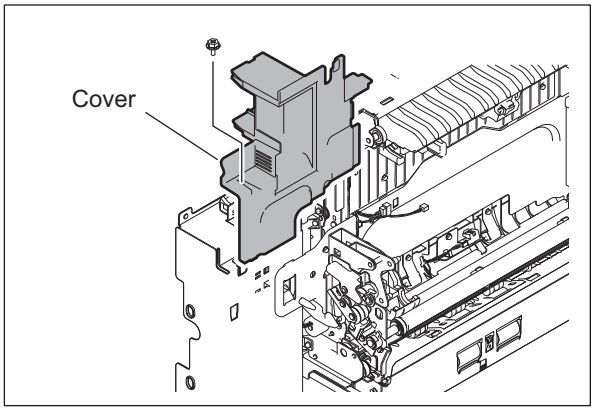

Fig. 12-70

(3) Remove 1 harness clamp and 5 screws.

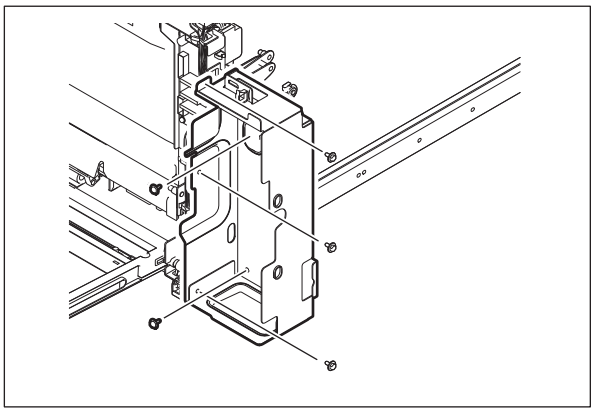

Fig. 12-71

(4) Level the waste toner case and take it off to the rear side.

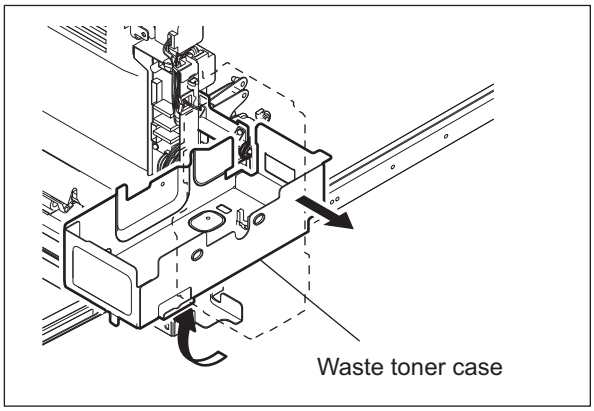

Fig. 12-72

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(5) Remove 1 clip to remove the waste toner receiving inlet.

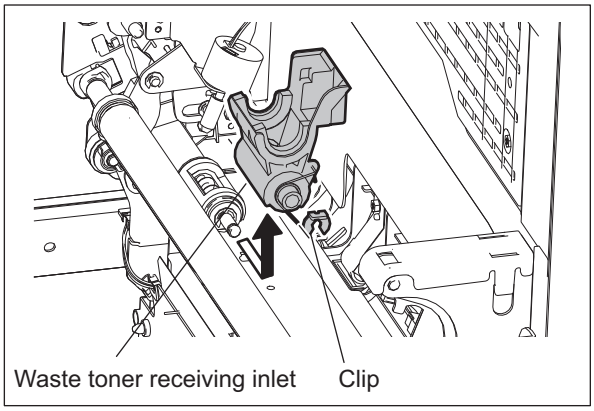

Fig. 12-73

(6) Disconnect 1 connector and remove 2 screws. Then take off the TRU waste toner auger drive section.

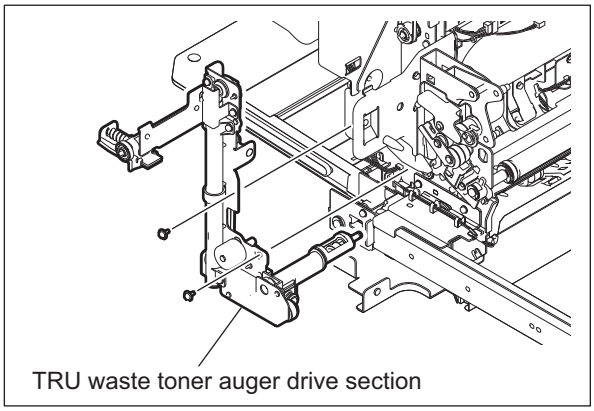

Fig. 12-74

12.6.23 TRU waste toner transport motor (M11)

(1) Take off the TRU waste toner auger drive section.
📖 P.12-34 "12.6.22 TRU waste toner auger drive section"
(2) Remove 2 screws and then take off the TRU waste toner transport motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

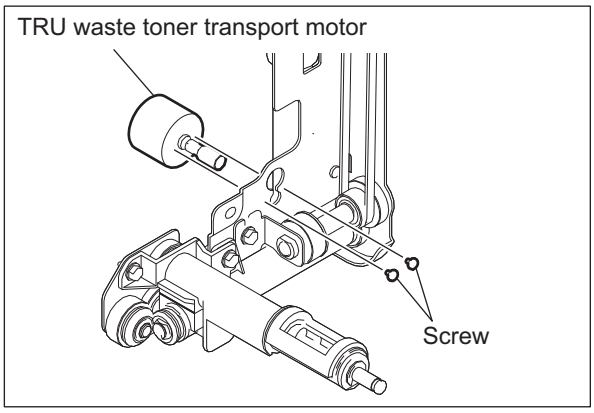

Fig. 12-75

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12.6.24 TRU waste toner motor (M10)

(1) Take off the 2nd transfer unit.
📖 P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Disconnect 1 connector and remove 1 screw. Then take off the bracket.

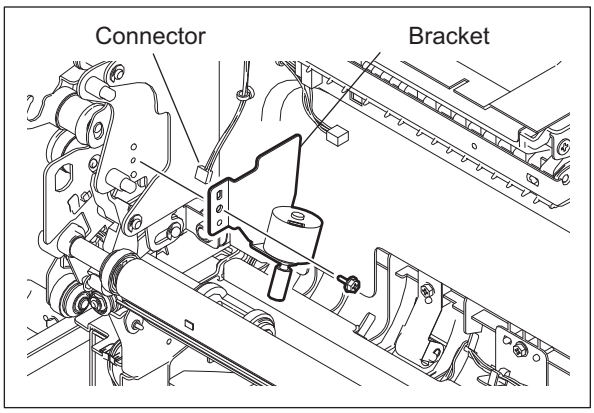

Fig. 12-76

(3) Remove 2 screws and then take off the TRU waste toner motor.

Note:
Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

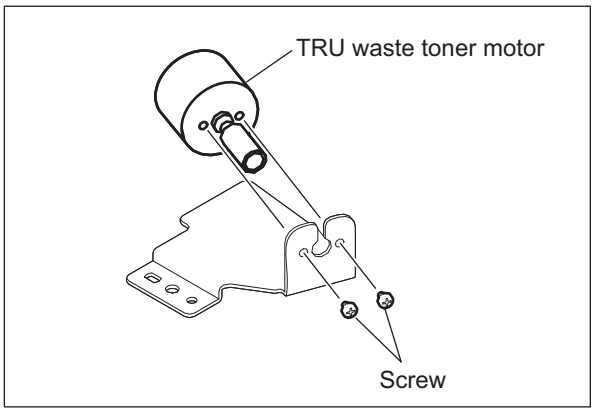

Fig. 12-77

12.6.25 2nd transfer drive unit

(1) Open the SYS board case
📖 P.20-2 "20.1.3 SYS board case"
(2) Disconnect 3 connectors and remove 3 screws. Then take off the 2nd transfer drive unit.

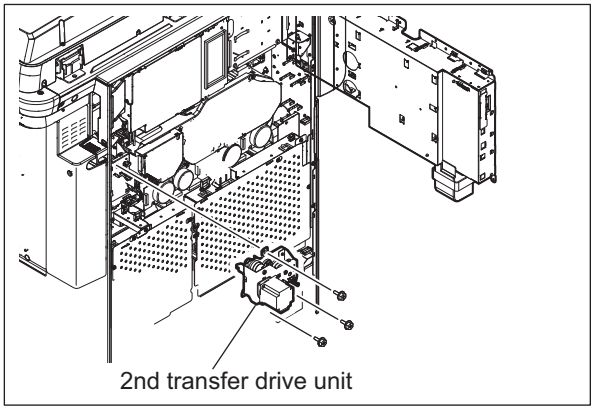

Fig. 12-78

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12.6.26 2nd transfer motor (M9)

(1) Take off the 2nd transfer drive unit.
📖 P.12-36 "12.6.25 2nd transfer drive unit"
(2) Remove 4 screws and take off the 2nd transfer motor.

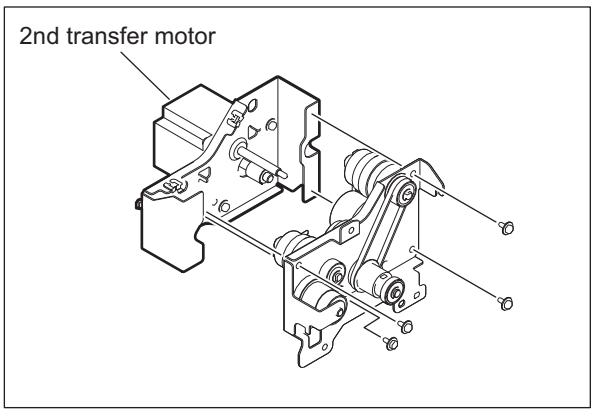

Fig. 12-79

Note:
Never loosen 4 screws shown in the figure because the 2nd transfer motor (M9) is installed in the bracket using a jig very precisely.

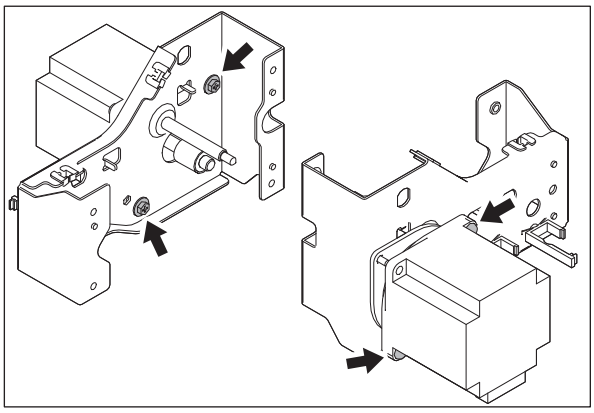

Fig. 12-80

12.6.27 2nd transfer roller contact/release clutch (CLT2)

(1) Take off the 2nd transfer drive unit.
📖 P.12-36 "12.6.25 2nd transfer drive unit"
(2) Remove 1 bushing and then take off the 2nd transfer roller contact/release clutch.

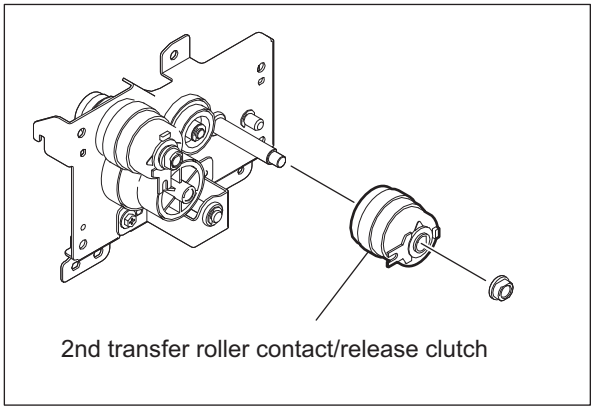

Fig. 12-81

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12.6.28 2nd transfer roller drive clutch (CLT3)

(1) Take off the 2nd transfer drive unit.
P.12-36 "12.6.25 2nd transfer drive unit"
(2) Remove 1 bushing and then take off the 2nd transfer roller drive clutch.

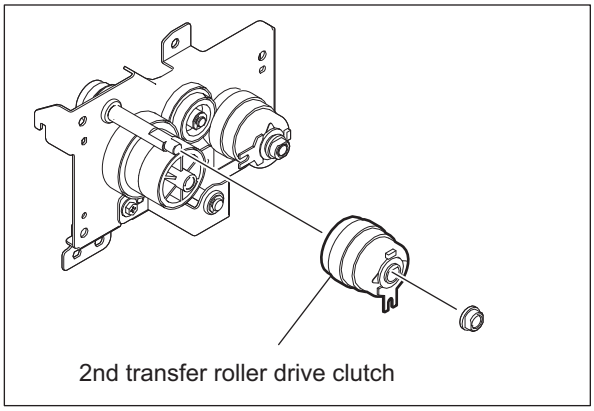

Fig. 12-82

12.6.29 2nd transfer roller contact/release detection sensor (S50)

(1) Take off the middle guide.
P.10-54 "10.6.46 Transfer belt paper clinging detection sensor (S47)"
(2) Remove 2 screws. Then pull up the cam unit.

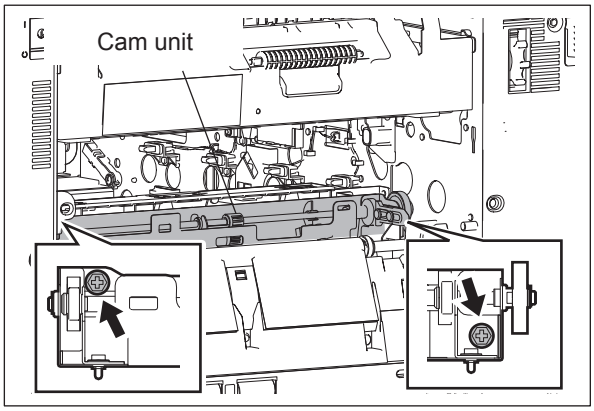

Fig. 12-83

(3) Disconnect 1 connector and release 3 harness clamps. Then take off the cam unit.

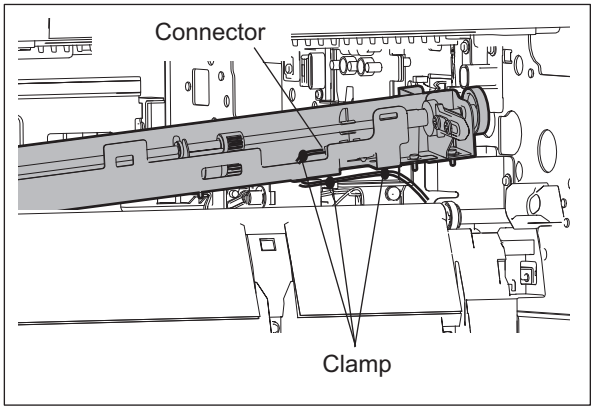

Fig. 12-84

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(4) Release 3 latches. Then take off the 2nd transfer roller contact/release detection sensor.

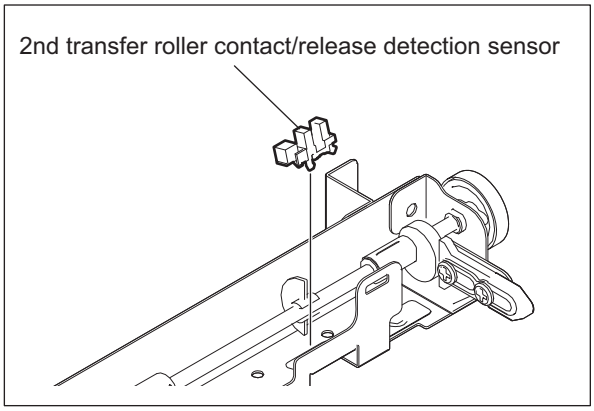

Fig. 12-85

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12.7 Adjustment of the transfer belt

12.7.1 Adjustment of the degree of the transfer belt unit parallelization

By default, the position of the transfer belt unit has been adjusted using the lever assembly bracket in order to regulate the parallelization between the unit and the registration roller.
Therefore, when the transfer belt unit or the lever assembly has been replaced, make sure it is aligned with the position before the replacement.

<Checking method>

Check the position of the lever assembly bracket of the transfer belt unit currently installed
The bracket can be assembled in the following three positions

1. Normal position
2. Pushed to the upper end (Rotate the bracket a half turn.
3. Pushed to the lower end (Rotate the bracket a half turn.)

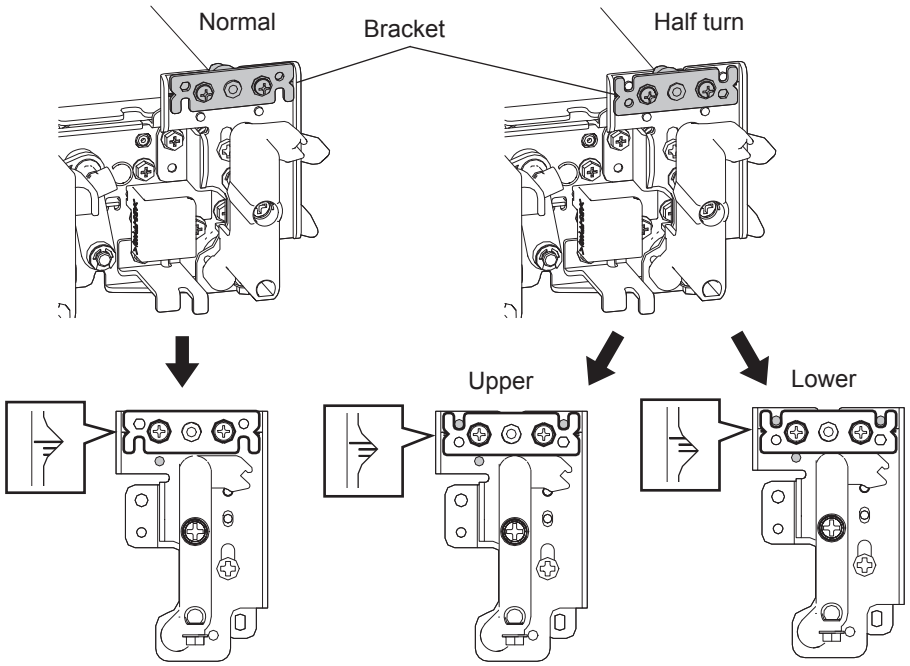

Fig. 12-86

Adjustment is not needed when the bracket position of the new unit or assembly is the same as that of the unit before the replacement.
When the bracket position of the new unit or assembly is the same as that of the new one, align the bracket to the installation position before the replacement.

<Changing procedure of the bracket position>

When the cut-out portion of the bracket before the replacement is facing downward
Remove 2 screws from the transfer belt unit to be replaced and rotate the bracket a half turn
Align the bracket in the position the same as that before the replacement (pushed to the upper/lower end) and fix it with 2 screws.

Note:

Remove red screws only when a position adjustment is necessary.

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13. IMAGE QUALITY CONTROL

Image quality control is divided into image quality process control and image quality TRC control. When the e-BRIDGE Controller is installed, the image quality TRC control is performed with a single test pattern, and when the EFI Printer Board (optional) is installed, it is performed with 2 test patterns.

13.1 General Description

In this equipment, image quality is controlled with the image quality sensor (S23).
In the image quality control, image forming conditions or image processing conditions are automatically adjusted so as to minimize the change in the image density or tone reproduction caused by the fluctuation of the use environment or the life of the supply items.
At first, the image quality sensor (S23) emits light in order to output the reflected light amount voltage with no toner image formed on the transfer belt.
This reflected light amount voltage is then converted analog-to-digital to be output to the LGC board as a reflected light amount signal. The light amount voltage of the light source of the sensor is adjusted so that the output value of the reflected light amount signal will correspond with a value set in advance.
Next, a test pattern is developed on the transfer belt, and the reflected light amount signal output from the developed test pattern is detected as the toner amount for a toner image. This series of operations is the scanning of a toner image (detection of the output value).
3 test patterns are provided for scanning this toner image. Each of them is used to determine the following conditions:

1. Image quality process control test pattern
   The toner image of the test pattern is scanned and the image forming conditions are determined to be approximated to the preset value.
2. Image quality TRC control test pattern
   The toner image of the test pattern is scanned and the image processing conditions are determined according to the value output from the toner image.
3. Image quality TRC control test pattern for the EFI Printer Board (optional)
   (Only for the equipment with the EFI Printer Board (optional) installed.)
   The toner image of the test pattern is scanned and the image processing conditions are determined according to the value output from the toner image.

In addition, a shutter operated by the Image quality shutter solenoid (SOL3) is equipped on the light receiving/emitting surfaces to prevent stain to the sensor.

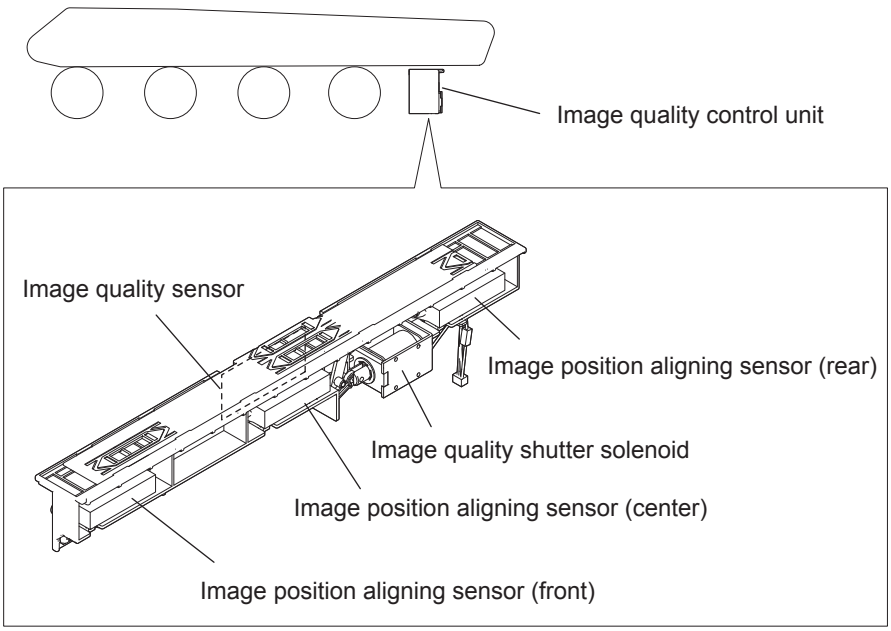

Fig. 13-1

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13.2 Composition

Image quality sensor:	Projects the amount of light on the transfer belt and outputs the voltage corresponding to the reflected light amount from the transfer belt or the toner image on the transfer belt.
D/A converter:	Converts light source amount signal into the voltage to the sensor.
Laser optical system:	Performs test pattern exposure (for toner image formation).
A/D converter:	Converts the output voltage from the sensor into a digital value (reflected light amount signal) and outputs it to the ASIC.
Image forming process:	Performs charging, laser exposing and developing processes.
ASIC:	Performs steps [1] to [10] described in chapter 13.4.

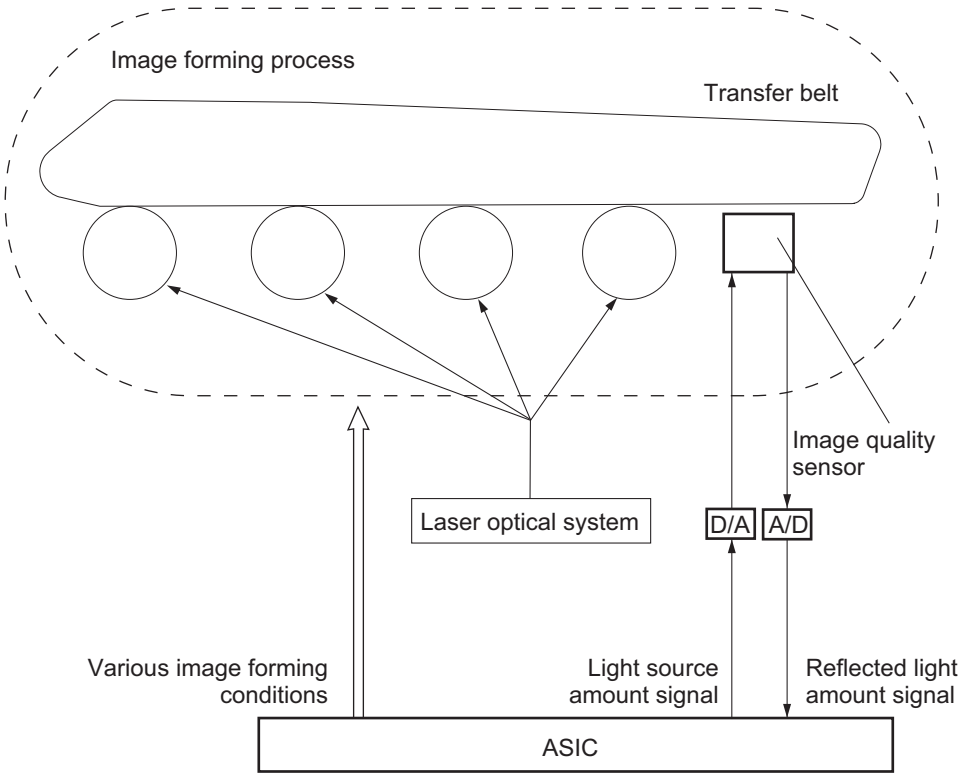

Fig. 13-2

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13.3 Principle of the Sensor

Image quality sensor (S23) projects light onto the transfer belt and the toner image (test pattern) developed on the transfer belt to output a voltage corresponding to the reflected light amount. The output voltage is then converted analog-to-digital into reflected light amount signal. The engine ASIC calculates the toner adhesion amount to control the image forming conditions.

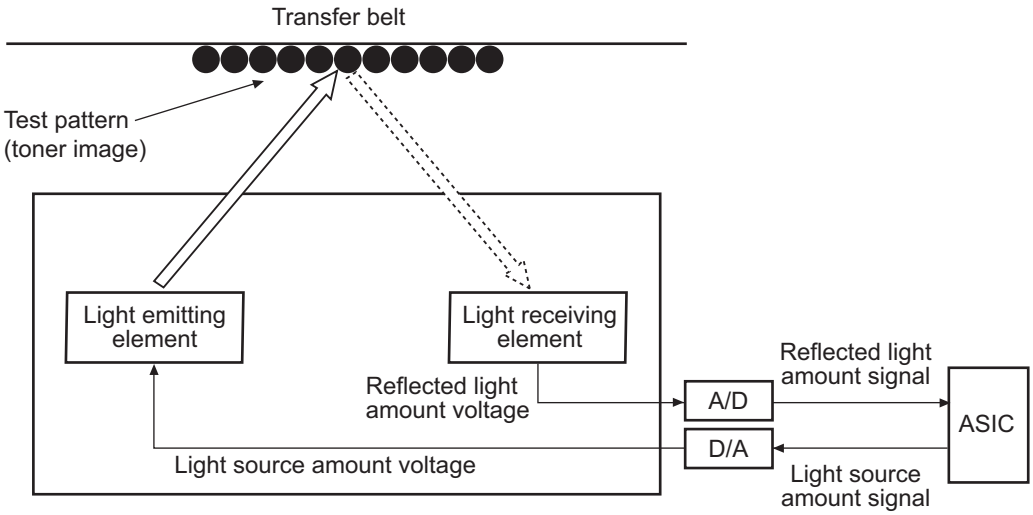

Fig. 13-3

13

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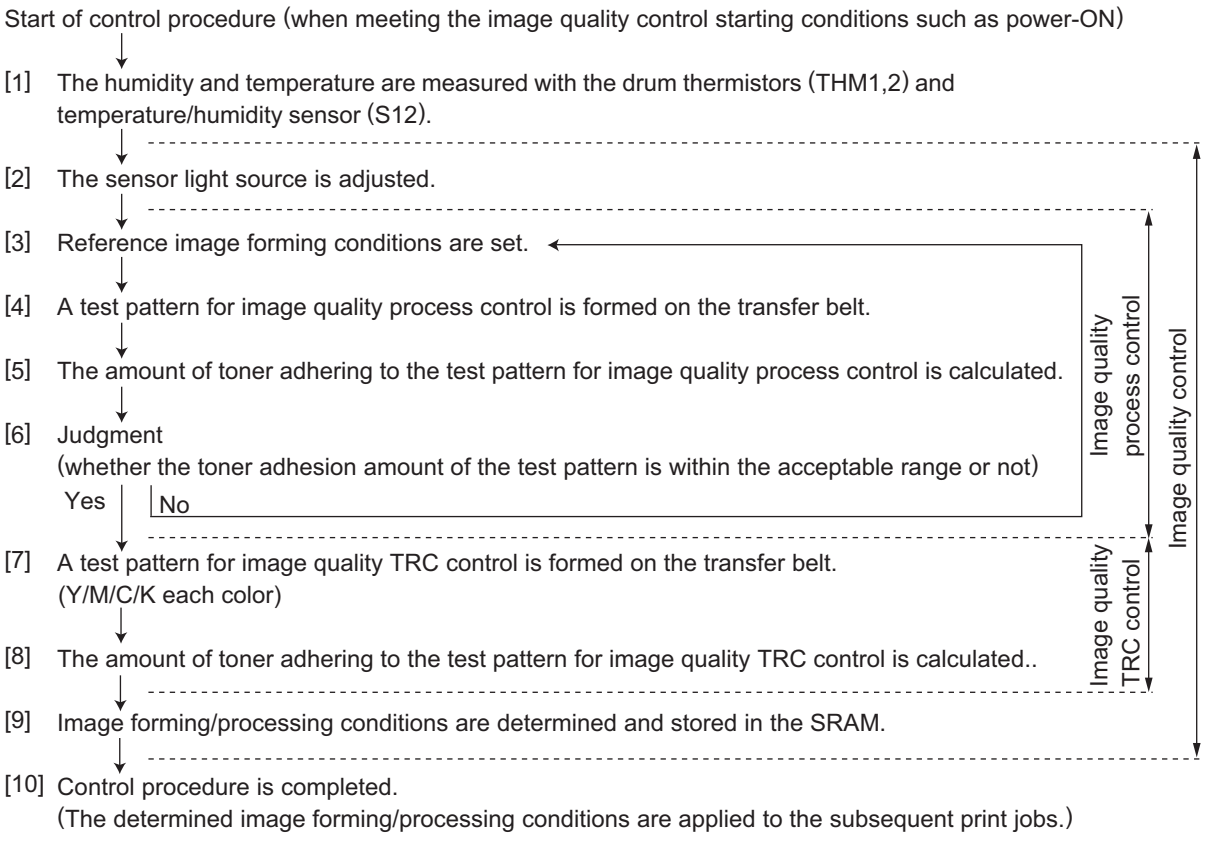
13.4 Image Quality Control Flow Chart



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13.5 Disassembly and Replacement

13.5.1 Image quality control unit

(1) Take off the transfer cam unit.
📖 P.12-38 "12.6.29 2nd transfer roller contact/release detection sensor (S50)"
(2) Remove 2 shoulder screws and then take off the image quality control unit.

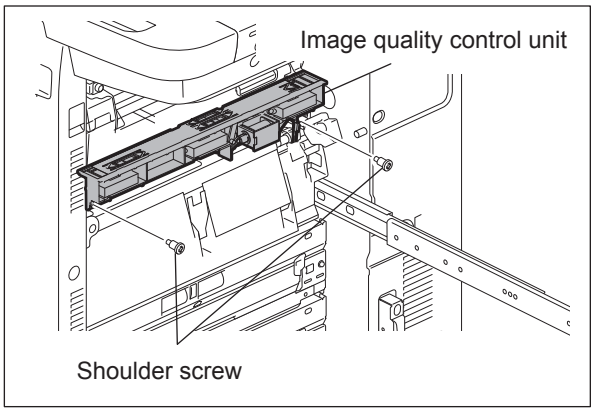

Fig. 13-4

13.5.2 Image position aligning sensor (front) (S20)

(1) Take off the image quality control unit
📖 P.13-5 "13.5.1 Image quality control unit"
(2) Remove 2 screws and take off the image position aligning sensor (front).

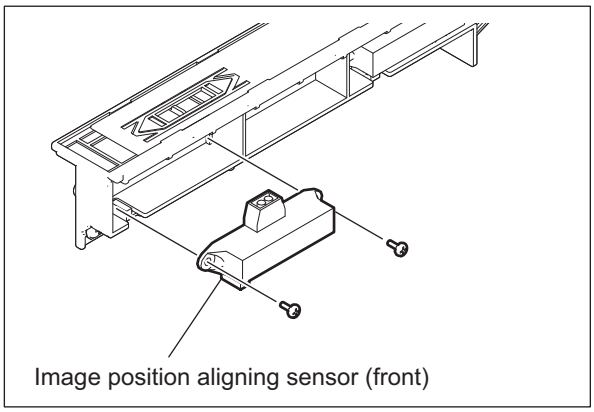

Fig. 13-5

13.5.3 Image position aligning sensor (center) (S21)

(1) Take off the image quality control unit
📖 P.13-5 "13.5.1 Image quality control unit"
(2) Remove 2 screws and take off the image position aligning sensor (center).

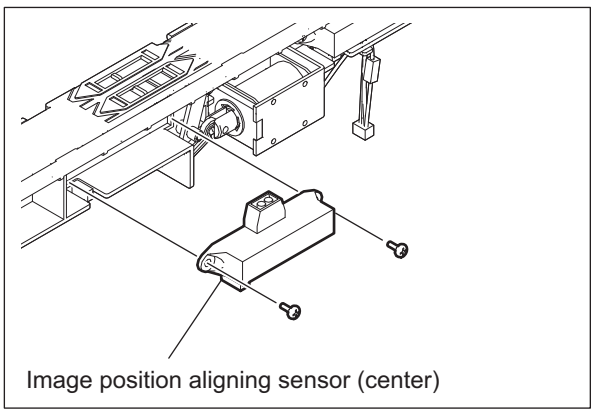

Fig. 13-6

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13.5.4 Image position aligning sensor (rear) (S22)

(1) Take off the image quality control unit
P.13-5 "13.5.1 Image quality control unit"
(2) Remove 2 screws and take off the image position aligning sensor (rear).

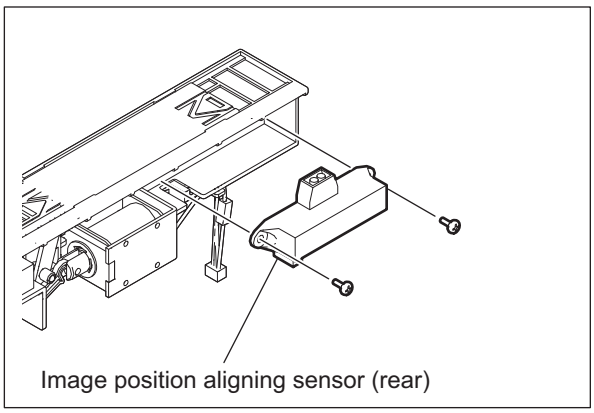

Fig. 13-7

13.5.5 Image quality sensor (S23)

(1) Take off the image quality control unit
P.13-5 "13.5.1 Image quality control unit"
(2) Turn up a mylar and then remove 2 screws.

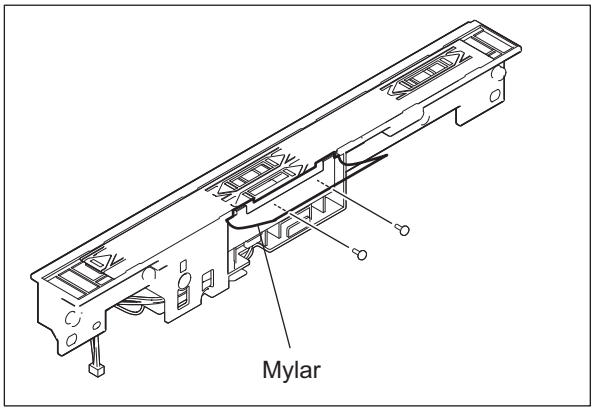

Fig. 13-8

(3) Disconnect 1 connector, and take off the image quality sensor

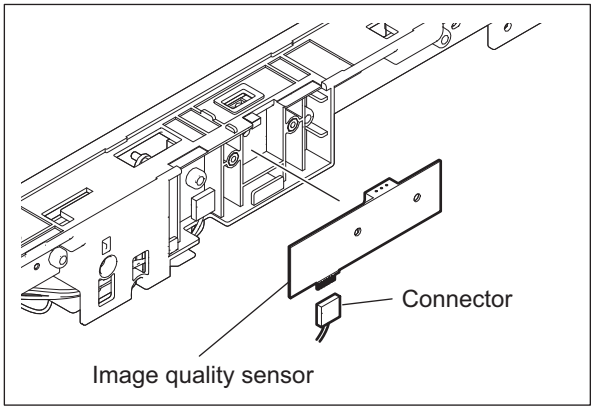

Fig. 13-9

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13.5.6 Image quality shutter solenoid (SOL3)

(1) Take off the image quality control unit
📖 P.13-5 "13.5.1 Image quality control unit"
(2) Remove 2 screws and take off the Image quality shutter solenoid.

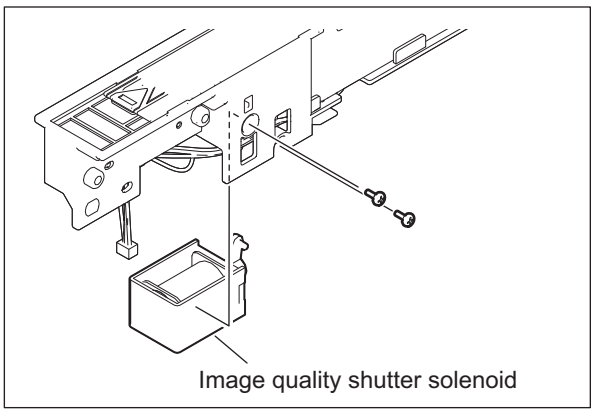

Fig. 13-10

(3) Take off the link arm of the solenoid.

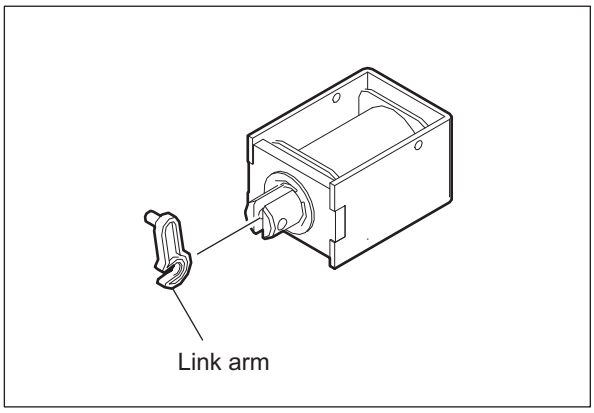

Fig. 13-11

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13.6 Performing Image Quality Control

(1) When unpacking
Prior to image dimensional adjustment, perform the “Automatic initialization of image quality control (05-396)” procedure.
📖 P.8-12 "8.5.3 Performing Image Quality Control (IQC)"

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14. FUSER UNIT

14.1 General Description

Toner is fused by applying heat and pressure on the transferred image on the paper which is transported to the fuser unit. The paper is then transported to the bridge unit. The fuser unit consists of the fuser belt, fuser roller, satellite roller, IH coil, pressure roller, separation fingers, separation plate, thermopiles, thermistors, thermostats, sensor etc.
The fuser roller and pressure roller in the fuser unit are driven by the fuser motor.

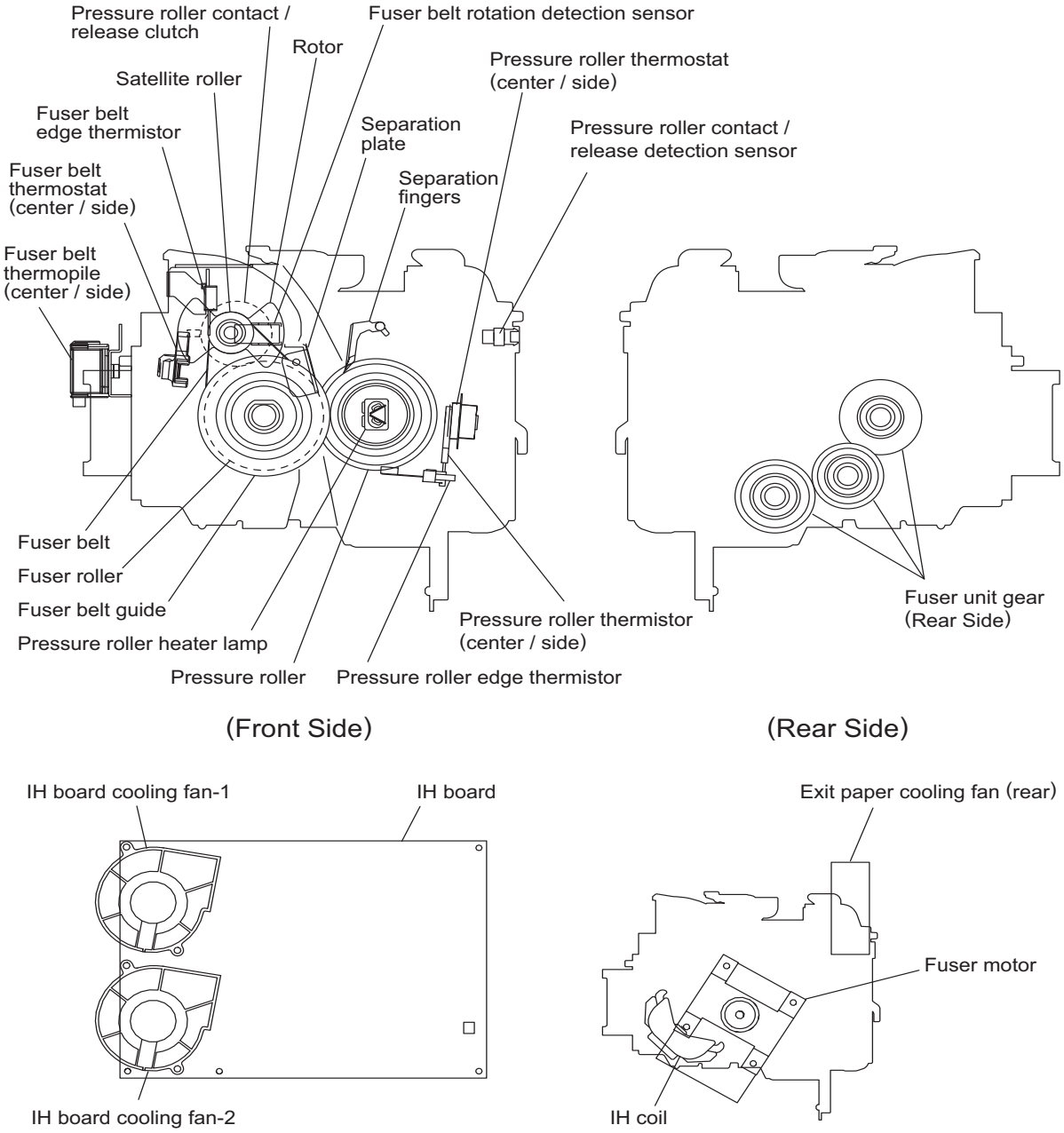

Fig. 14-1

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14.2 Composition

Fuser belt section	Fuser belt	PM parts
	Fuser belt guide	PM parts
	Fuser roller	PM parts
	Satellite roller	
	Fuser belt center thermostat	THMO4
	Fuser belt side thermostat	THMO5
	Fuser belt edge thermistor	THM6
	Fuser belt center thermopile	THMP1
	Fuser belt side thermopile	THMP2
	Fuser belt rotation detection sensor	S49
	Separation plate	
Pressure roller section	Pressure roller	PM parts
	Separation fingers	PM parts
	Pressure roller heater lamp	LAMP
	Pressure roller center thermistor	THM3
	Pressure roller side thermistor	THM4
	Pressure roller edge thermistor	THM5
	Pressure roller center thermostat	THMO2
	Pressure roller side thermostat	THMO3
	Pressure roller contact / release clutch	CLT1
	Pressure roller contact / release detection sensor	S48
IH coil section	IH coil	IH COIL
	IH board	IH
	IH board cooling fan-1	F8
	IH board cooling fan-2	F9
Drive section / Others	Fuser motor	M6
	Exit paper cooling fan (rear)	F15
	Fuser unit jam releasing LED	LED

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14.3 Functions

14.3.1 Fuser belt section

1. Fuser belt
   The fuser belt couples the fuser roller with the satellite roller, and it conducts heat from the IH coils to the paper to melt the toner on the paper.The thinness of the fuser belt enables a reduction in the warming up time and mode changing time. To prevent the fuser belt having toner adhere to it, its surface is fluorinated.

2. Fuser roller
   The fuser roller is pressed against the pressure roller with the fuser belt between them. Due to this pressure between the fuser roller and the pressure roller, heat conduction to the paper is enhanced so that the toner melts more easily and is absorbed into the paper. In order to improve the fusing ability, a sponge roller is employed for the fuser roller in order to expand its nip width.

3. Satellite roller
   The satellite roller rotates the fuser belt together with the fuser roller to stabilize the belt surface temperature.

4. Fuser belt center thermostat (THMO4) / Fuser belt side thermostat (THMO5)
   The thermostats cut off the power supply to the IH coil by opening their bimetallic joint if the fuser belt becomes abnormally hot as a result of problems such as thermopile malfunction.The thermostats for the equipment are safety devices to detect abnormal operation. When the thermostats operate after detecting any abnormal temperature, they must be replaced as well as any other damaged parts in the fuser unit.

5. Fuser belt edge thermistor (THM6)
   This thermistor is a contact type one located in the non-feeding area (where paper does not pass) of the fuser belt to detect the surface temperature of the belt. The temperature in this area may be elevated without any heat absorption to the paper, since it does not pass through this area.
   This thermistor detects the temperature elevation to prevent the heat deterioration of the fuser unit parts and is not related to the temperature control of the fuser belt.

6. Fuser belt center thermopile (THMP1) / Fuser belt side thermopile (THMP2)
   The thermopiles are infrared elements to detect the surface temperature of the fuser belt. They are non-contact type thermopiles in order not to damage the paper contact surface of the fuser belt. Both thermopiles are fixed on each of the front and rear sides of the frame to detect the temperature of the edges and center of the fuser belt for controlling the IH coils.These thermopiles detect the surface temperature of the fuser belt and maintain it in a certain range between the lower limit causing poor fusing and the upper limit causing high temperature offsetting. When the surface temperature of the fuser belt is lower than the preset one, they turn ON the power supply to the IH coils, and when it is higher than the preset one, they shut off the supply.

7. Fuser belt rotation detection sensor (S49)
   This sensor detects any abnormality of the fuser roller such as “rotation stop” to prevent any part of the fuser roller and the fuser belt from being heated continuously by the IH coil and thus damaged.

8. Separation plate
   This plate separates paper on which toner is already fused from the fuser belt. To prevent damage to the fuser belt surface, the separation plate is constructed so that it does not contact with the fuser belt. The gap between the separation plate and the fuser belt is adjusted to fall within a certain range because if the separation plate is too close to the fuser belt, it may damage the belt and if too far, it may fail to separate the paper from the fuser belt and thus a paper jam may occur.

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14.3.2 Pressure roller section

1. Pressure roller
   This is a rubber roller which ensures a proper nip width between the pressure roller and the fuser roller or the fuser belt. Toner is fused onto the paper while it is being transported because the springs of the pressure roller press the fuser roller or the fuser belt.

2. Pressure roller heater lamp (LAMP)
   These are halogen lamps located inside of the pressure roller in order to stabilize the surface temperature of the pressure roller to maintain the fusing temperature at a required level for fusing toner by turning its drive circuit ON or OFF. Each heater lamp has its heating section in a different location. That of the center heater lamp is in its center, those of the side heater lamp are on both sides, and that of the sub heater lamp is over its entire surface.
   There are two types of the pressure roller heater lamp depending on the destinations below.
   * For MJD and MJC destinations: Triple type (center, side and sub heater lamps)
   * For other destinations: Dual type (center and side heater lamps)

3. Separation fingers
   Five separation fingers are installed to contact with the pressure roller under a low load to prevent paper from adhering to it.

4. Pressure roller center thermistor (THM3) / Pressure roller side thermistor (THM4)
   The thermistors detect the surface temperature of the pressure roller and control the pressure roller lamp. These non-contact type thermistors are used in order not to damage the paper contact surface of the pressure roller.

5. Pressure roller edge thermistor (THM5)
   This is a contact type thermistor located in the non-feeding area (where paper does not pass) of the pressure roller to detect the surface temperature of the pressure roller. The temperature in this area may be elevated without any heat absorption to the paper, since it does not pass through this area. This thermistor detects the temperature elevation to prevent the heat deterioration of fuser unit parts and is not related to the temperature control of the fuser belt.

6. Pressure roller center thermostat (THMO2) / Pressure roller side thermostat (THMO3)
   These thermostats cut off the power supply to the heater lamps by opening their bimetallic joint if the pressure roller surface becomes abnormally hot as a result of problems such as thermistor malfunction. The thermostats for the equipment are safety devices to detect abnormal operation. When the thermostats operate after detecting any abnormal temperature, they must be replaced as well as any other damaged parts in the fuser unit.

7. Pressure roller contact / release clutch (CLT1)
   This clutch is turned ON to transmit the reversing rotation of the fuser motor (M6) to the release cam to separate halfway the pressure roller from the fuser belt. The reason why they are separated halfway is to reduce the load on the pressure roller and the fuser roller by half except in the warming up period and during printing. Also, any jammed paper in the nip of the fuser unit is easily removed if they are separated halfway.

8. Pressure roller contact / release detection sensor (S48)
   This sensor detects the home position of the pressure roller. It checks this by contacting and releasing the roller every time after the power is turned ON or a jam is released.

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14.3.3 IH coil section

1. IH coil (IH COIL)
   The IH coil is not installed in the fuser unit but on the equipment side, and heats the fuser unit by carrying electric current to the IH coils. The IH coil (center) heats the center of the fuser unit while the IH coil (side) heats both ends.

2. IH board (IH)
   This board controls the temperature of the IH coil.

3. IH board cooling fan-1 (F8) / IH board cooling fan-2 (F9)
   The 2 fans installed in the board cover cool down the IH board.

14.3.4 Fuser drive section

1. Fuser motor (M6)
   This motor drives the fuser unit.

2. Exit paper cooling fan (rear) (F15)
   This fan cools down exiting or reversed paper in the bridge unit and reduces the heat conduction to the scanner. It also suppresses condensation, which occurs when the paper moisture is evaporated by the fuser unit, to avoid exposing paper to water.

3. Fuser unit jam releasing LED (LED)
   When a jam occurs at the paper exit section of the fuser unit, this LED lights to illuminate the exit section so that jammed paper can be removed easily.

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14.4 Description of Operation

The fuser belt is located between the fuser roller and the pressure roller. The fuser roller is pressed with the spring force from the pressure roller side, and it is rotated by the drive of the fuser motor (M6). The fuser belt rotates together with these rollers. Then paper transported to the fuser unit section is held between the fuser belt and the pressure roller and toner is fused on the paper by means of heat and pressure from them. After this, the separation plate separates the paper from the fuser belt. Then the paper is transported to the bridge unit.The fuser unit in this equipment is heated by the IH coil unit installed on the equipment side as an external unit (not in the fuser unit). Also, halogen lamps installed inside of the pressure roller stabilize the surface temperature of the pressure roller at the required level for fusing toner by turning its drive circuit ON or OFF.

The fuser roller center thermopile (THMP1) and the fuser roller side thermopile (THMP2) control the surface temperature of the fuser belt. If any temperature abnormality (service call) is detected, the power supply relay within the FIL board and the power supply unit are shut off.
This in turn shuts off the power supply to the IH coils, simultaneously to whole units, except for the control panel.
If the temperature abnormality is still not resolved due to such problems as thermopile malfunction, the fuser belt center thermostat (THMO4) or the fuser belt side thermostat (THMO5) are opened to shut off the power supply to the IH coils.

The pressure roller center thermistor (THM3) and the side thermistor (THM4) control the temperature of the pressure roller. If any temperature abnormality is detected, the power supply relay within the FIL board and the power supply unit are shut off. This in turn shuts off the power supply to the center heater lamp, the side heater lamp and the sub heater lamp (only for the triple type), simultaneously to whole units, except for the control panel.
If the temperature abnormality is still not resolved due to problems such as thermistor malfunction, the pressure roller center thermostat (THMO2) and the pressure roller side thermostat (THMO3) are opened to shut off the power supply to all the heater lamps.

In order to secure the life and quality of the fuser belt, fuser roller and pressure roller until their periodic replacement and accessibility for JAM clearance, the pressure roller is kept halfway separated from the fuser belt at prewarming, sleep, transportation, and JAM.
The pressure roller is kept separated halfway from the fuser belt as a result of the turning ON the pressure roller contact/release clutch (CLT1) by the transmission of the reversing rotation of the fuser motor (M6) to the cam driving section and the rotation of the release cam.

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14.5 Electric Circuit Description

14.5.1 Fuser unit control circuit

[1] Configuration

This equipment employs an external IH coil unit for heating the fuser belt and two or three (center, side and sub) heater lamps with a different light emitting (heating) point in the pressure roller. The sub heater lamp is included only for the triple type. IH coils in the IH coil unit generate a magnetic field to heat the fuser unit with a high-frequency current carried inside of them. The heater lamps heat the pressure roller by turning themselves ON with a command from the ASIC of the LGC board.

The surface temperature of the fuser belt is detected with the fuser belt edge thermistor (THM6), together with the fuser belt center thermopile (THMP1) and the fuser belt side thermopile (THMP2), both of which are non-contact sensors. The surface temperature of the pressure roller is detected with the pressure roller center thermistor (THM3), the pressure roller side thermistor (THM4), the pressure roller edge thermistor (THM5). The detected temperature data are sent to the ASIC through an A/D converter. Based on the sent temperature data, the ASIC then turns the IH coils and the heater lamps ON or OFF to control the surface temperatures.

When the surface temperature of the fuser belt or the pressure roller exceeds the preset temperature as a result of overheating detection by each thermistor or thermopile, the forcible power OFF circuit sends a power supply relay OFF signal as well as an overheating signal to the ASIC and the heater lamp control circuit, and then shuts off the power supply over all the parts, except for the control panel. If the heater lamp control circuit does not operate due to problems such as thermistor malfunction and therefore the fuser belt or the pressure roller is abnormally heated, the pressure roller center thermostat (THMO2), pressure roller side thermostat (THMO3), fuser belt center thermostat (THMO4) and fuser belt side thermostat (THMO5) shut off the power supply to the IH coils and the heater lamps to protect the equipment.

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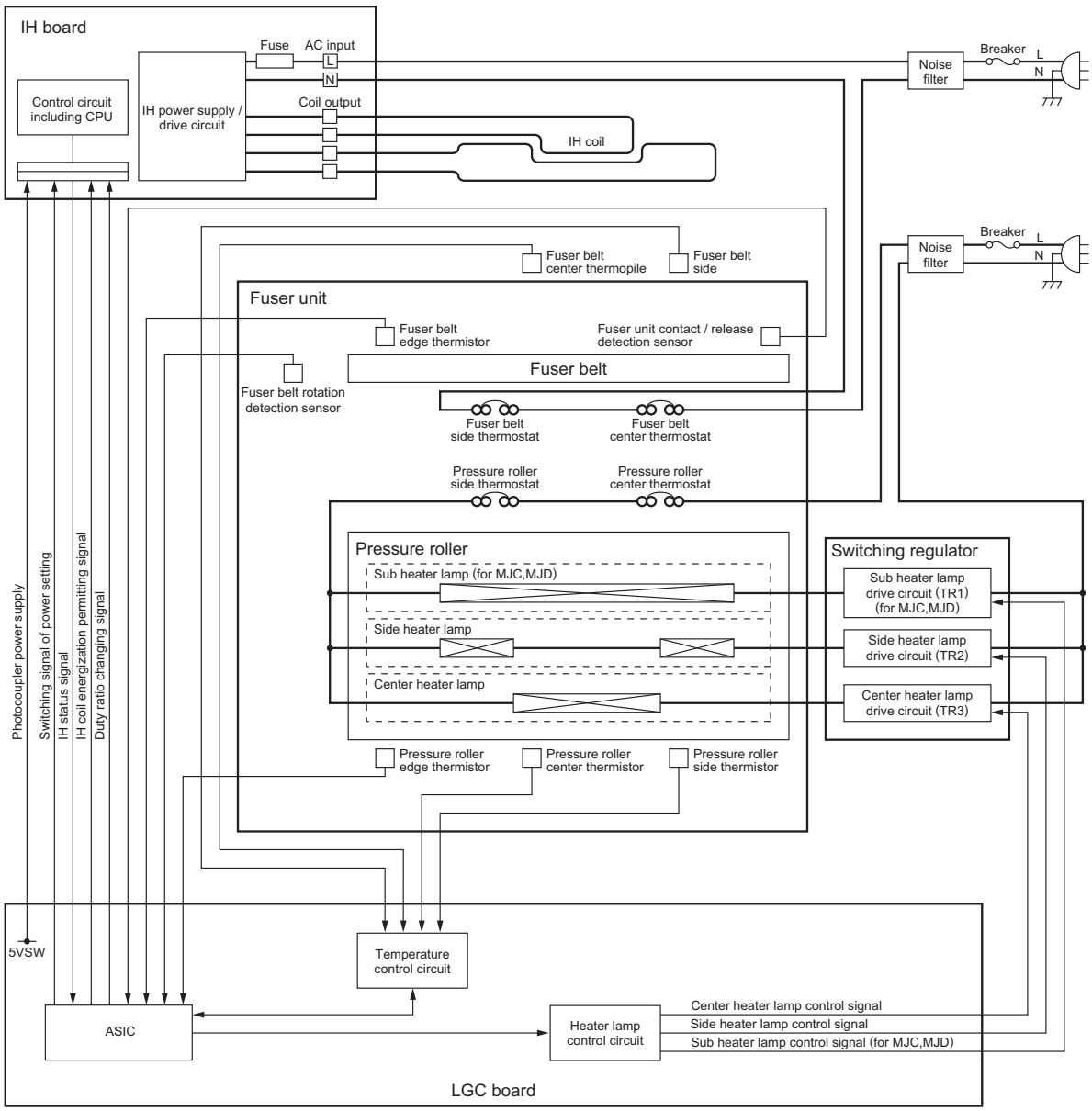

Fig. 14-2

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[2] Temperature detection section

[2-1] Relation between the thermistor/thermopile output voltage and the surface temperature of the fuser belt

Output voltages (V)		Surface temperatures of fuser belt (°C)
Fuser belt edge thermistor	Fuser belt thermopile (center/ side)	
Approx. 0.3	Approx. 1.3	40
Approx. 2.0	Approx. 1.9	120
Approx. 3.2	Approx. 2.5	170

[2-2] Relation between the thermistor output voltage and the surface temperature of the pressure roller

Output voltages (V)	Surface temperatures of pressure roller (°C)
Pressure roller thermistor (center/ side/ edge)	
Approx. 0.3	40
Approx. 1.2	80
Approx. 3.0	135

[2-3] Surface temperature control for the fuser belt and pressure roller

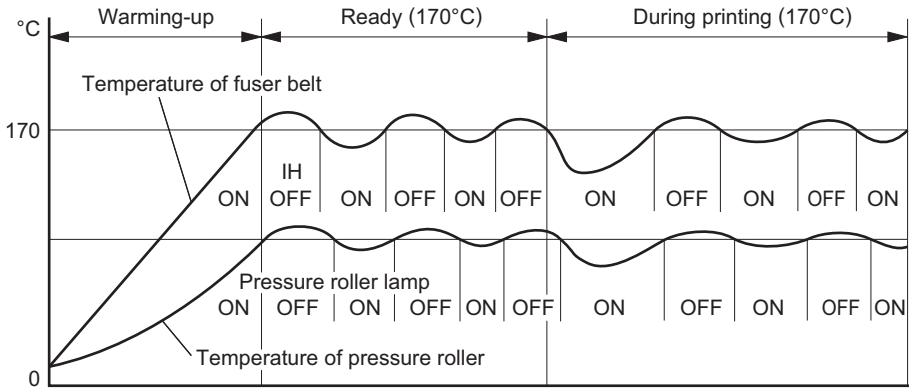

Fig. 14-3

14

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[2-4] Temperature control for the ends of the fuser belt and pressure roller

During continuous printing, the temperature of the edges of the fuser belt or the pressure roller (areas where paper does not pass) generally tends to be higher than that of other areas where paper passes. For this reason, the fuser belt edge thermistor (THM6) detects the temperature of the edges of the fuser belt, and the pressure roller edge thermistor (THM5) detects the temperature of the edges of the pressure roller. When these thermistors detect a higher temperature than the reference value, the IH coils and the heater lamps are turned OFF regardless of the temperature of the areas where paper passes.

[2-5] Temperature control in energy saving mode

This equipment has the following two types of temperature control for saving energy. It returns to the ready status to perform printing in any mode upon a printing request.The period of time from the printing request to this mode can be set in the Setting Mode (08) or by an administrator.

Administrator setting procedure:
[USER FUNCTIONS] button → [ADMIN] (input of administrator's password) → [GENERAL] → [ENERGY SAVER]

Auto Power Save Mode (Setting Mode (08-205)):
When the printing is not performed within a specified period of time (default setting: e-STUDIO5520C: 3 min., e-STUDIO6520C: 5 min., e-STUDIO6530C: 10 min.) after the previous printing is completed, the equipment enters to the Auto Power Save Mode. ON and OFF of the heater lamps are controlled to maintain the pressure roller surface temperature at 80°C.

Auto Shut Off Mode (Setting Mode (08-206)):
When the printing is not performed within a specified period of time (default setting: 30 min.) after the equipment has entered the Auto Power Save Mode, the equipment then enters the Auto Sleep Mode to turn OFF the IH coils and the heater lamps.

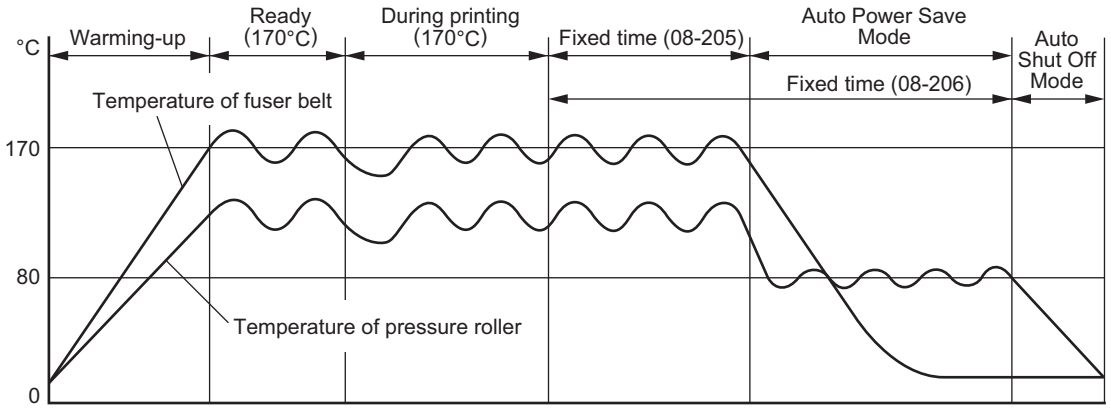

Fig. 14-4

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[2-6] Fuser unit error status counter control

- To enhance the safety of the fuser unit section, the engine CPU provides the following protection: When a third [C411] error has occurred after two consecutive [C411] errors, the heater lamps are not turned ON and an error [C412] is displayed immediately even if the operator turns the power OFF and then back ON. However, if the equipment goes into the ready state normally with the fuser unit error status counter value “1” or below, the counter is cleared to “0”.

- If any of the error codes [C411] to [C490] is displayed and still not cleared even though the power is turned ON after the thermistor, thermopile, thermostat, heater lamps and other parts were repaired, check the fuser unit error status counter value in the Setting Mode (08-400) to clear the value to “0”.

  Remark:
  The fuser unit error status counter (Setting Mode (08-400)) never has any values other than 0 to 71.

- If the does not turn ON and the service call [C411] or [C412] is displayed immediately after the power is ON, ensure the fuser unit error status counter is “2” or over. If it is “2” or over, be sure to check the thermistor, thermopile, thermostat and heater lamp. Reset the counter to “0” after repairing them, then turn ON the power.

- If the fuser unit error status counter is “71” or over (e.g., 80), the data in SRAM itself may possibly have been ruined due to causes such as leakage from the chargers.
  Check the bias, high-voltage transformers and needle electrodes to see if any of them is defective, and also look through all the data.

- When the thermistors or thermopiles detect overheating, the engine CPU decides the error code and counter value of the fuser unit error status. After turning OFF each output (the heater lamp, exposure lamp, control panel display, motors and so on) to protect the fuser unit, the engine CPU shuts off the power supply over all the parts, except for the control panel.

  Error code: C449, C468 ([C] and [8])
  Counter value of the fuser unit error status: 8, 9, 18 to 23, 25 to 29 (08-400)

  Thermistors and thermopiles continue detecting the abnormal temperature even after the error codes and counter values are decided. Even if the main switch is turned ON immediately, the power supply over all the parts, except for the control panel, is shut off when the surface temperature of the fuser belt is still higher than the abnormal temperature detected.
  Wait until the surface temperature of the fuser belt is lowered enough, and turn ON the power to check the counter value while it is turned OFF again. After confirming that it is the fuser unit abnormality, correct the abnormality and reset the counter value (08-400) to “0” to start up the equipment normally.

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[2-7] Temperature detection circuit

The thermistor is a device whose resistance varies according to the detected temperature, and the thermopile is a device whose output voltage varies according to the detected temperature. The ASIC detects voltages output from these devices, and judges whether the operation of the fuser unit is normal or abnormal from the changes in voltages.

If one of the thermistors and thermopiles is broken, the control circuit judges that the temperature of the fuser belt or pressure roller is extremely low and keeps turning the heater lamps ON. As a result, the temperature of the fuser belt or pressure roller rises, and possibly activates the thermostat which is a safety protection device. To prevent this in advance, the ASIC works to detect whether each thermistor and thermopile is broken or not.

Also, the control circuit constantly checks the temperature of the heat roller and the pressure roller to prevent them from excessive heating by circuit abnormality or thermistor abnormality, and automatically shuts OFF the power when one of these temperatures exceeds the specified temperature.

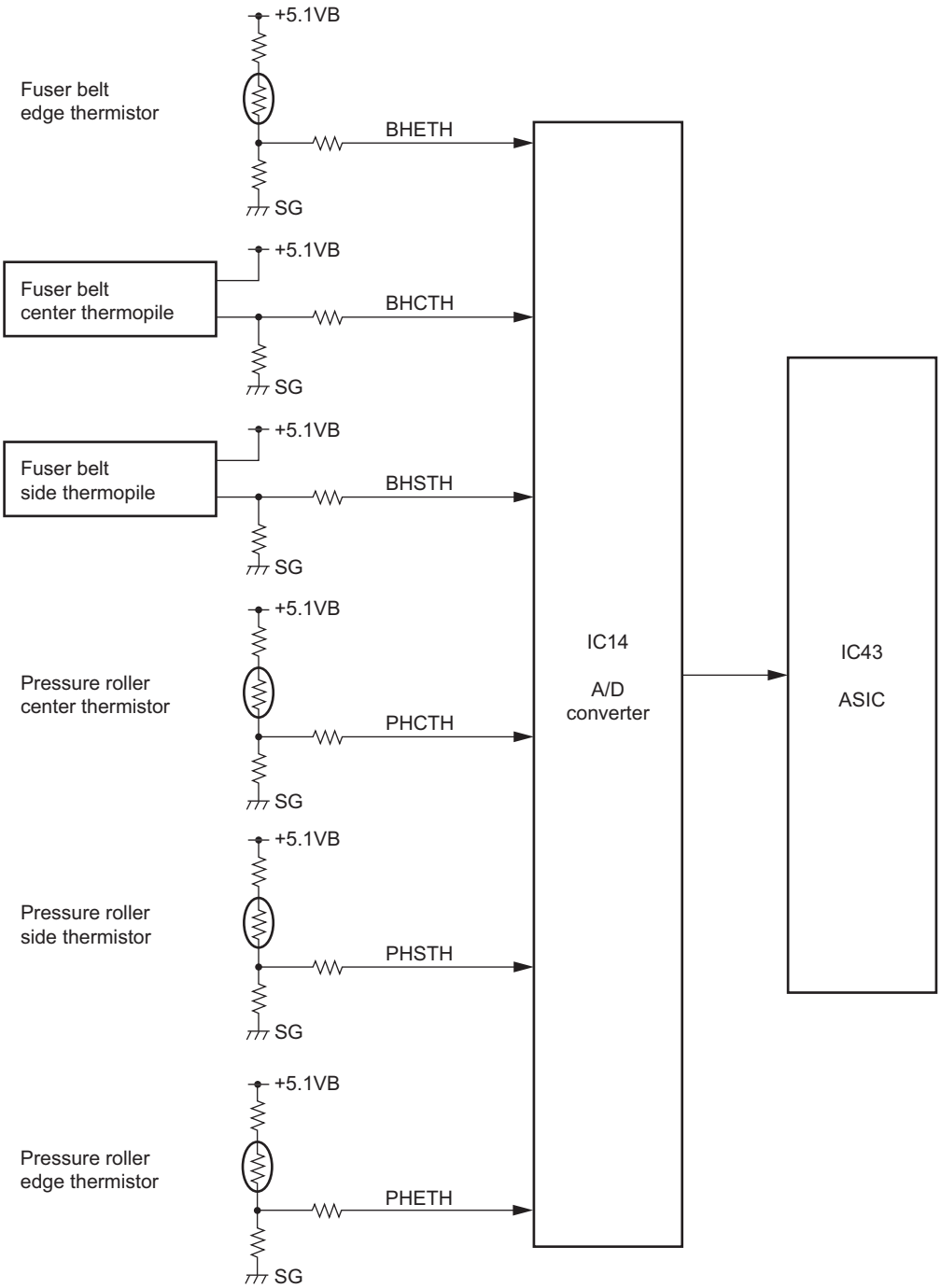

Fig. 14-5

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[2-8] Abnormality detection by the thermistors and thermopiles

The following table shows the conditions for judging the temperature abnormality of the fuser belt and pressure roller, and the detecting timing.

Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
Power ON	220°C or above	---	---	---	---	---	C449	9	Power ON
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	8	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	40°C or below	150°C or above	---	---	---	---	C412	2	
	150°C or above	40°C or below	---	---	---	---			
	---	---	---	40°C or below	150°C or above	---	C462	62	
	---	---	---	150°C or above	40°C or below	---			

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
Detecting 40°C	220°C or above	---	---	---	---	---	C449	19	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	18	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	40°C or below	---	---	---	---	---	C412 (C411)	2 (1)	Fixed time
	---	40°C or below	---	---	---	---			
	---	---	---	40°C or below	---	---	C462 (C461)	62 (61)	
	---	---	---	---	40°C or below	---			
	Difference between Center and Side: 40°C or more		---	---	---	---	C452	50	Fixed time
	---	---	---	Difference between Center and Side: 40°C or more		---	C464	70	

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
Detecting 120°C	220°C or above	---	---	---	---	---	C449	21	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	20	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	120°C or below	---	---	---	---	---	C446 (C443)	6 (3)	Fixed time
	---	120°C or below	---	---	---	---			
	Difference between Center and Side: 40°C or more		---	---	---	---	C452	51	
	---	---	---	Difference between Center and Side: 40°C or more		---	C464	71	

14

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
When pre-running end temperature or ready temperature is detected	220°C or above	---	---	---	---	---	C449	22	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	20	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	Ready temperature or less	---	---	---	---	---	C446 (C445)	6 (5)	Fixed time
	---	Ready temperature or less	---	---	---	---			

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
During ready	220°C or above	---	---	---	---	---	C449	23	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	26	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	40°C or below	---	---	---	---	---	C447	7	
	---	40°C or below	---	---	---	---			
	---	---	40°C or below	---	---	---			
	---	---	---	40°C or below	---	---	C467	33	
	---	---	---	---	40°C or below	---			
	---	---	---	---	---	40°C or below			
	If 600 W of IH power is continued for longer than 20 sec. when the pressure roller center thermistor is 150°C or more			---	---	---	C448	32	Fixed time

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
During printing	220°C or above	---	---	---	---	---	C449	25	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	26	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			
	40°C or below	---	---	---	---	---	C447	24	
	---	40°C or below	---	---	---	---			
	---	---	40°C or below	---	---	---			
	---	---	---	40°C or below	---	---	C467	34	
	---	---	---	---	40°C or below	---			
	---	---	---	---	---	40°C or below			
At energy saving mode	220°C or above	---	---	---	---	---	C449	27	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	26	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			

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Check timing	Temperature judged						Error code	Counter (08-400)	Error judging timing
	Fuser belt thermistor / thermopile			Pressure roller thermistor					
	Center	Side	Edge	Center	Side	Edge			
At paper jam	220°C or above	---	---	---	---	---	C449	29	On usual
	---	220°C or above	---	---	---	---			
	---	---	220°C or above	---	---	---			
	---	---	---	220°C or above	---	---	C468	28	
	---	---	---	---	220°C or above	---			
	---	---	---	---	---	210°C or above			

* The figures in the “Error code” and “Counter” fields with parentheses denote that an error status has not yet been determined (= error status is detected only once).

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14.5.2 IH coil

[1] Heating principle of IH coil

A magnetic field is generated by carrying high-frequency current over the IH coils and thus an eddy current is generated. When the eddy current flows, Joule heat is generated with the resistive components of the heated object and the fuser unit is heated by this Joule heat. In an IH coil heating system the object is directly heated so the thermal efficiency of this system is higher than that of a lamp heating system. In order to reduce the temperature difference between the edges and the center of the fuser belt, the IH coil unit is divided into two sections.

- Block diagram of IH board

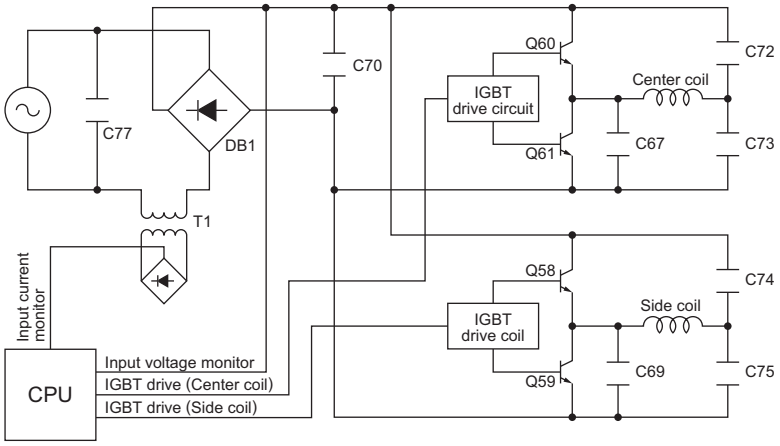

Fig. 14-6

[2] IH control circuit interface

The IH control circuit uses a photocoupler as an insulator against the secondary circuit.
The interface signals are as followed.

Connector No.	Signal	Direction	Definition
CN462-1	IH2ON	LGC board to IH board	IH coil energization permitting signal
CN462-2	+5VSW		-
CN462-3	IHPWR1		Switching signal of power setting
CN462-4	IHPWR2		
CN462-5	IHPWR3		
CN462-6	IHPWR4		
CN462-7	IHPWR5		
CN462-8	IHPWR6		
CN462-9	IH1ON		IH coil energization permitting signal
CN462-10	SG		-
CN462-11	IHDUTY		Duty ratio changing signal
CN462-12	IHERR0	IH board to LGC board	IH status signal
CN462-13	IHERR1		
CN462-14	IHERR3		
CN462-15	IHSW0	IH board to LGC board	IH destination determining signal
CN462-16	IHSW1		

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[3] Abnormality in the IH control circuit

When an abnormality is detected in the IH control circuit, it stops the power supply to the IH coil and displays a message “call for service”.

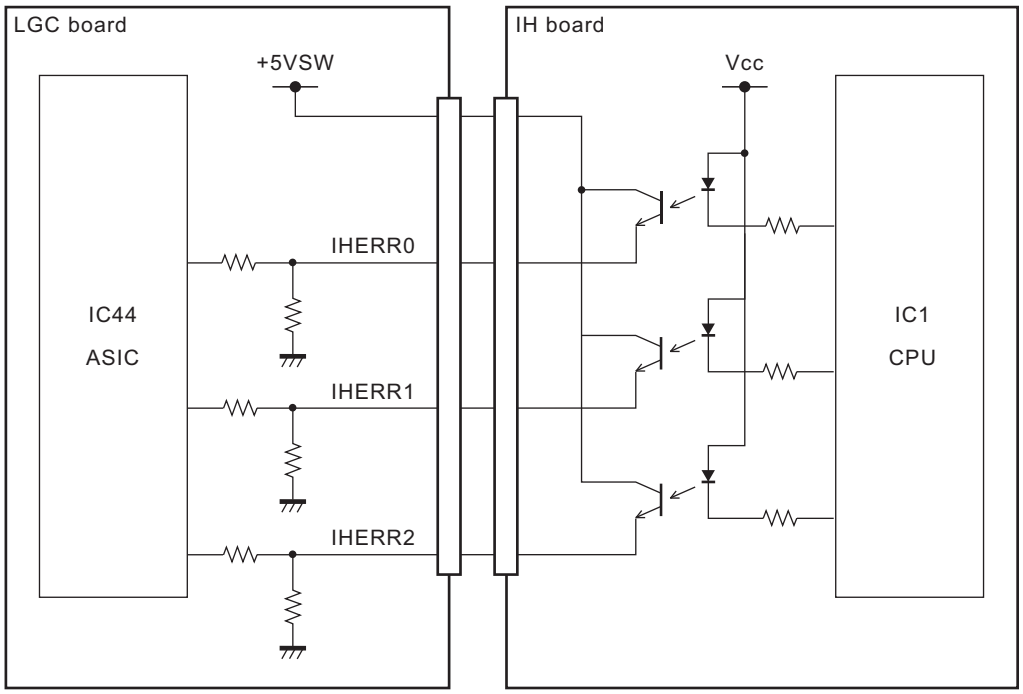

Fig. 14-7

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• Relation between IH status signal and IH errors (L: Low level, H: High level)

Checking timing	Signal			Status	Error code	Counter (08-400)
	IHERR2	IHERR1	IHERR0			
Front cover is closed at power ON	L	L	L	Abnormality detected at initialization * An abnormal status is detected at the initialization.	C471	11
On usual	L	L	L	Power voltage abnormality * AC power is not supplied to the IH board.	C472	12
	L	L	H	No abnormality	-	-
	L	H	L	Switching element (IGBT) abnormality * Overheating (= insufficient cooling) of IGBT	C480	14
	L	H	H	IGBT thermistor abnormality * Wire breakings, short-circuits of IGBT thermistor	C481	15
	H	L	L	Power voltage upper limit abnormality (Surge detection) * AC input voltage has exceeded 120% of the rated voltage	C473	13
	H	L	H	Power voltage lower limit abnormality * AC input voltage has dropped to less than 75% of rated voltage	C474	16
	H	H	H	Input current lower limit abnormality * Wire breakings or improper installation of IH coil	C490	17
Front cover is opened	L	L	L	Power voltage abnormality when the front cover is opened * An abnormal status is detected when the cover is opened	C475	10
	(Other than the above)					

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14.5.3 Fuser motor control circuit

The fuser motor (M6), which is a brushless DC motor driven by control signals from the ASIC on the LGC board, drives the pressure roller.

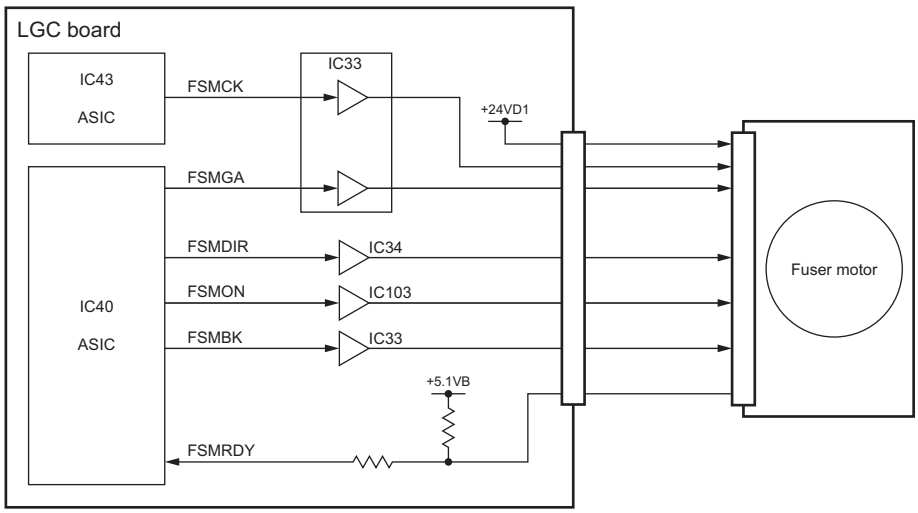

Fig. 14-8

Control signal

Signal	Function	Status	
		High level	Low level
FSMON	Motor ON signal	OFF	ON
FSMDIR	Rotation direction signal	CCW	CW
FSMGA	Speed switching signal	High speed	Low speed
FSMCK	Reference clock	---	---
FSMRDY	Rotation lock detection signal	Unlocked	Locked (Rotating at a constant speed)
FSMBK	Brake signal	Brake OFF	Brake ON

* CW: Clockwise rotation, CCW: Counterclockwise rotation viewed from the axis

* When thick paper or OHP sheets are used, the FSMGA signal moves to a low level to reduce the motor speed by one half or to one third and lower the paper transport speed so that the fusing ability of the toner is improved.

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14.6 Disassembly and Replacement

Notes:

- Before taking off the fuser unit, be sure that the temperature of the fuser unit is fully lowered. If you need to take it off while its temperature is still high, be sure to wear gloves.
- When a new fuser unit is installed, be sure that the fuser-related life counter values are reset in the list print mode (9S), PM support mode (6S) or setting mode (08).
- Be sure to follow the note in the disassembly procedure since the fuser belt and fuser roller are easily damaged.
- When disassembling the fuser unit or replacing any parts in it, be sure that the wire harness is correctly set, and also be careful not to catch it between other parts.

a. Hang the AC harnesses on the hooks.
b. Cross the AC harnesses.
c. Set the 2 AC harnesses in parallel. Be sure that the harness guide is not pressing the AC harnesses.
d. Be sure to clamp the harness on the edge saddle.

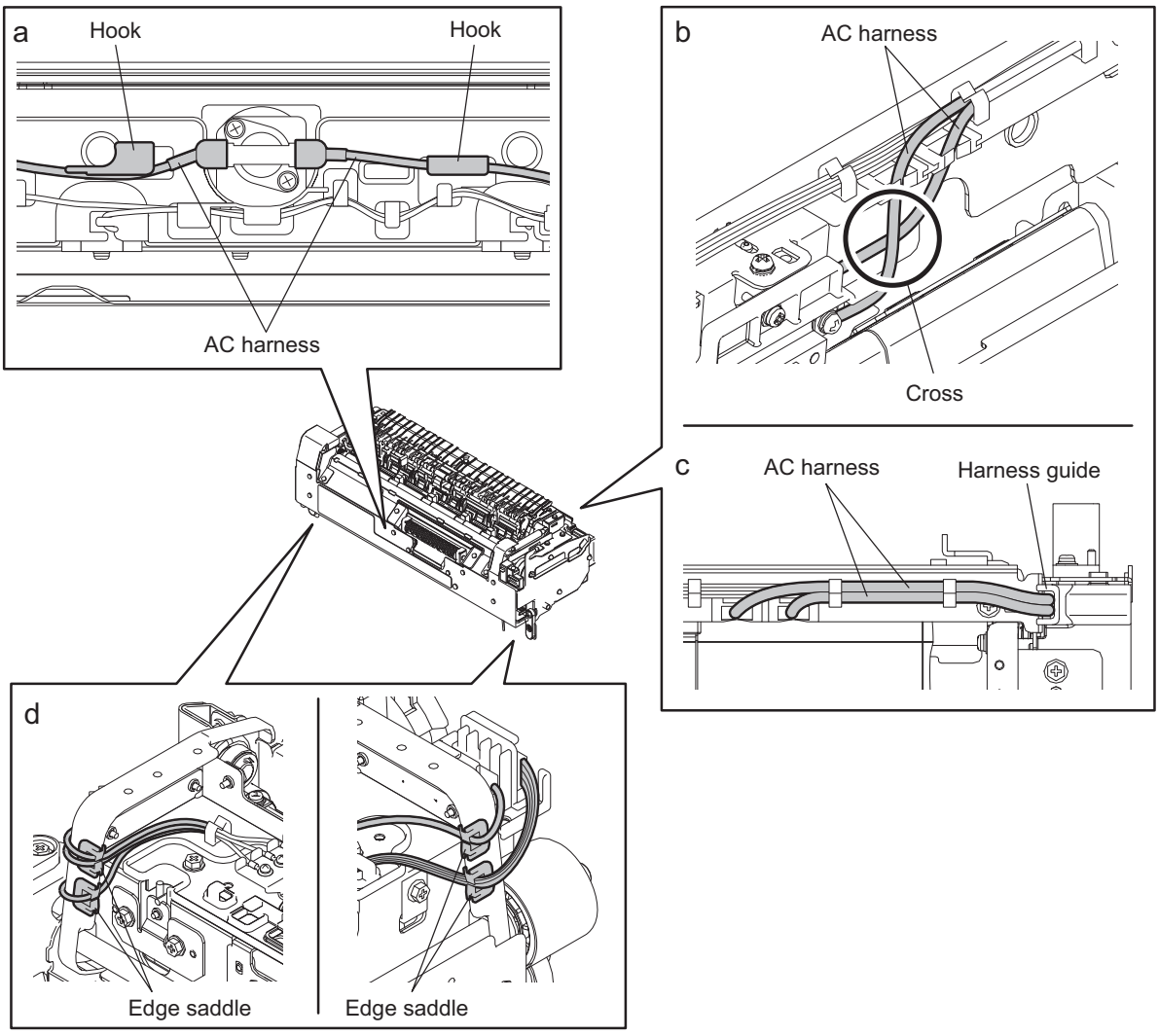

Fig. 14-9

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e. Set the AC harnesses on the upper side and the DC harness on the lower side. Hang each of them on 2 hooks correspondingly.
f. Be sure that the AC harness is not set on the plate. Set the connectors on the latch.
g. Pull the AC harness in the direction of the arrows.

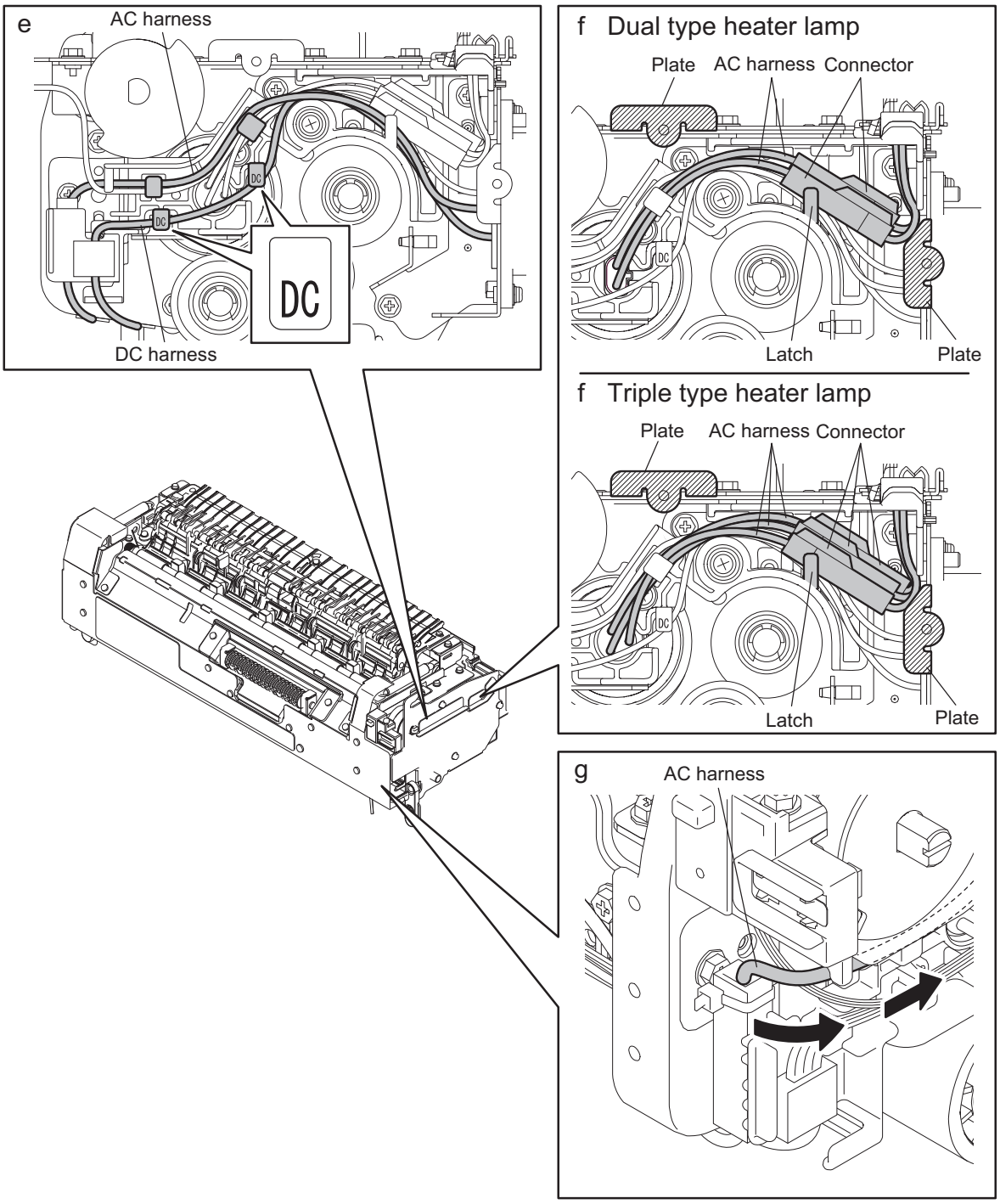

Fig. 14-10

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14.6.1 Fuser unit

Note:
Fuser unit [1] has a receiving dish that prevents gear abrasion powder from dropping into the machine. Take off fuser [1] without substantial shaking or tilting.

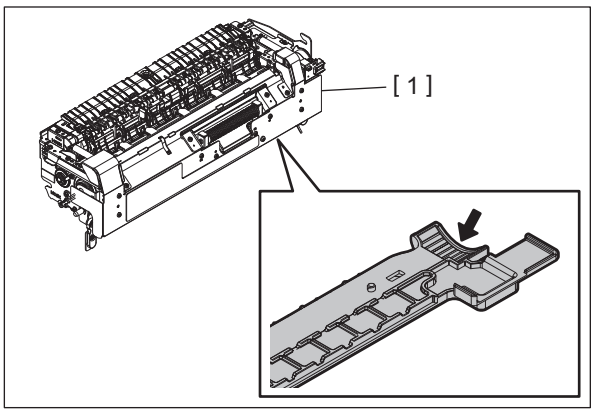

Fig. 14-11

(1) Open the duplexing unit.
(2) Remove 1 screw and release the lock of the handle grips.

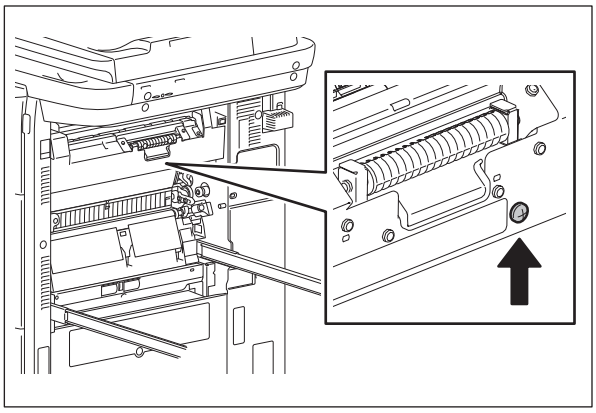

Fig. 14-12

(3) Loosen 2 screws and then take off the fuser unit by holding its handle grips.

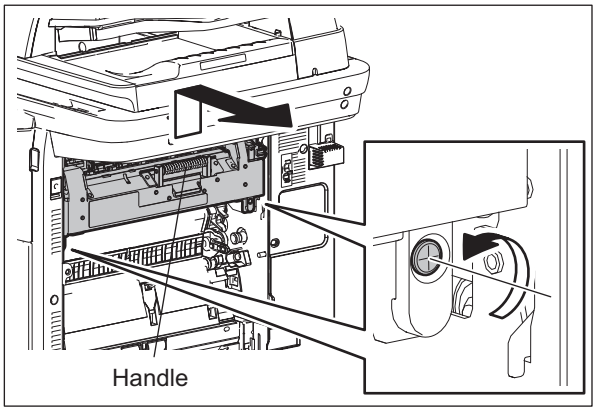

Fig. 14-13

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Notes:

Follow the procedure below for the installation.

1. Insert the fuser unit into the equipment by setting the plates on both sides of the unit onto the guide of the equipment.
2. Fix the fuser unit with 2 screws by pushing it to the equipment. Tighten the screws securely until they no longer turn.
3. Fix the handle grips with 1 screw.
4. Turn the handle grips to engage the gear of the equipment with that of the fuser unit.

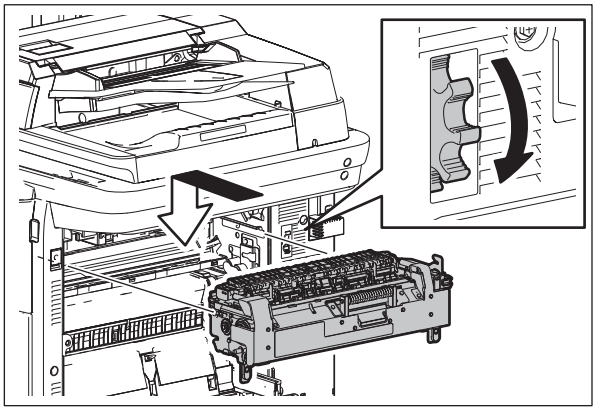

Fig. 14-14

14.6.2 Pressure roller cover

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"

(2) Remove 4 screws and then take off the pressure roller cover.

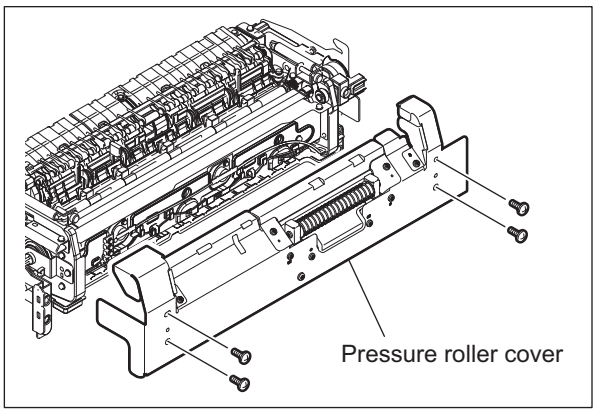

Fig. 14-15

Notes:

When installing, pay attention to the following points.

- Be sure that the harnesses do not come out from the entrance guide cover.
- Be sure that the pressure roller cover is positioned under the entrance guide cover.

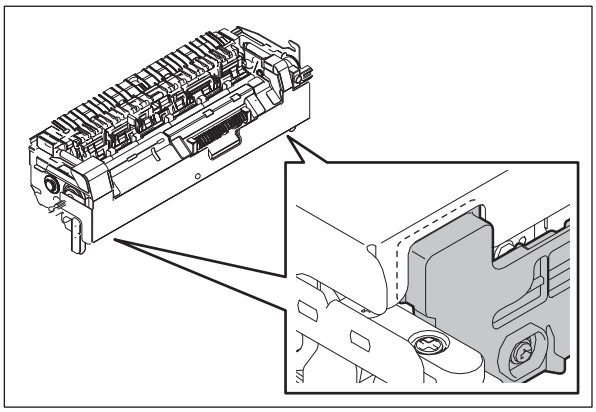

Fig. 14-16

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14.6.3 Transport guide-1

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Take off the pressure roller cover.
📖 P.14-27 "14.6.2 Pressure roller cover"
(3) Loosen 2 pressure screws and take off 2 springs.

Note:
When installing, fully tighten the 2 pressure screws until they are no longer turned.

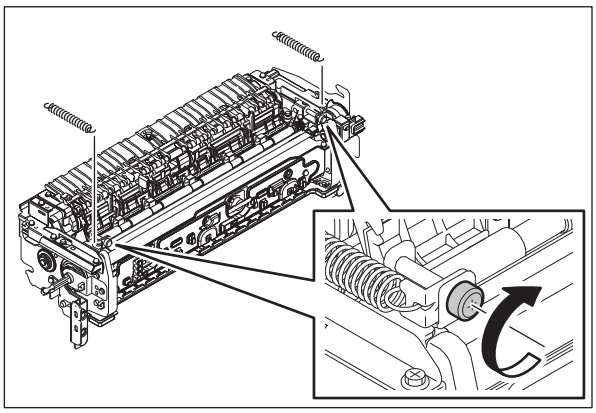

Fig. 14-17

(4) Remove 2 screws and then take off the transport guide-1.

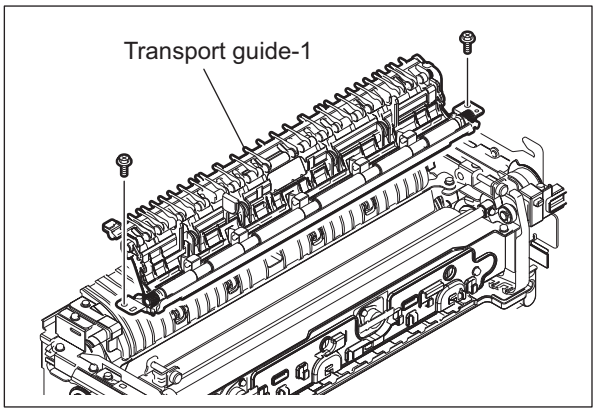

Fig. 14-18

Note:
Place transport guide 1 as shown in the figure so that its separation finger does not become damaged.

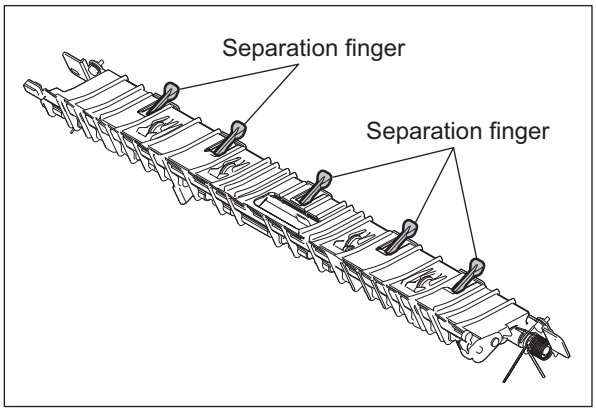

Fig. 14-19

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14.6.4 Transport guide-2

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Remove 2 screws and raise transport guide-1 to take off transport guide-2.

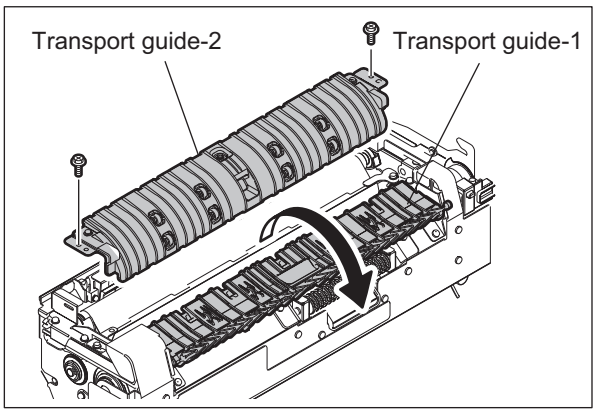

Fig. 14-20

14.6.5 Entrance guide cover

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Take off the pressure roller cover.
📖 P.14-27 "14.6.2 Pressure roller cover"
(3) Remove 2 screws and take off the entrance guide cover [1].

Note:
In order to prevent abrasion powder from dirtying the bed surface, operate after laying a sheet on the bed surface. In addition, clean the dirt off receiving dish [2].

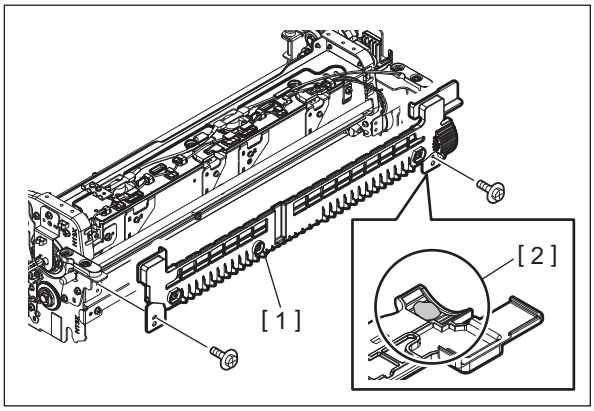

Fig. 14-21

Note:
Fix the screw in the position as shown in the figure unless paper jams occur at the entrance of the fuser unit.

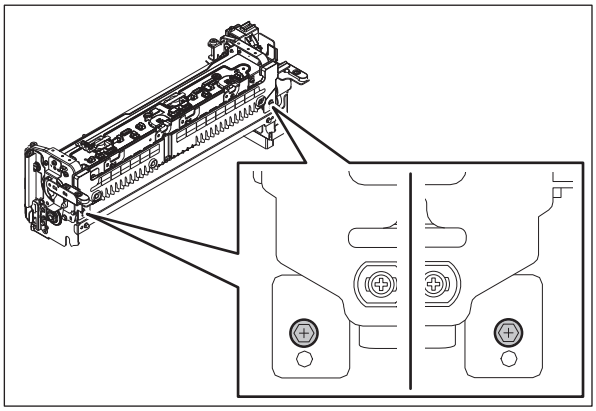

Fig. 14-22

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14.6.6 Separation finger PM

(1) Take off the transport guide-1.
P.14-28 "14.6.3 Transport guide-1"
(2) Remove 2 springs.

Note:
When installing, be sure to put the spring in the correct position as shown in the figure.

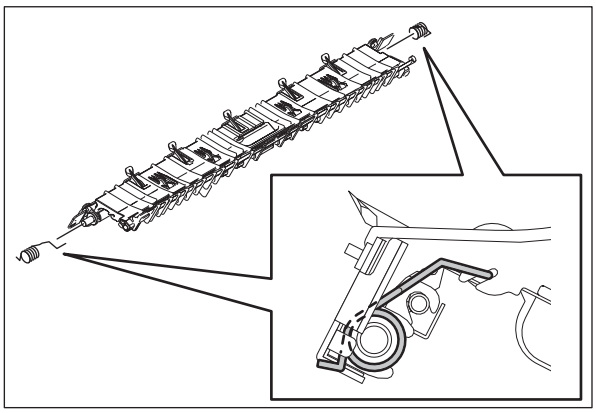

Fig. 14-23

(3) Remove the bushing of the transport guide-1. Then take off the separation finger unit from the transport guide-1.

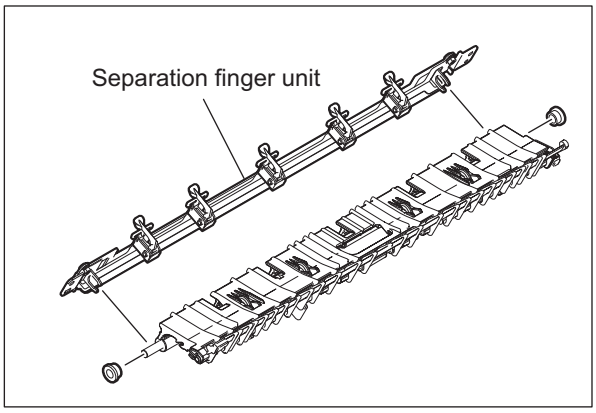

Fig. 14-24

(4) Remove 2 screws and take off the cover plate.

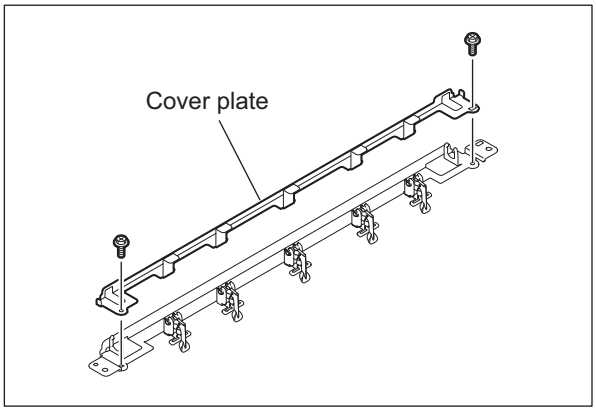

Fig. 14-25

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(5) Remove the spring and take off the separation fingers.

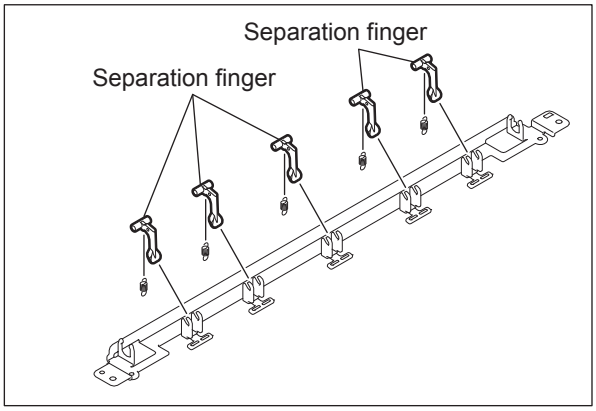

Fig. 14-26

Note:
When installing, be sure to put the spring in the correct position as shown in the figure.

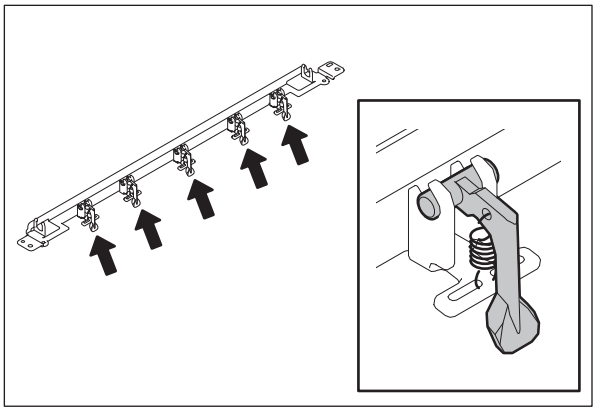

Fig. 14-27

14.6.7 Separation plate

Note:
When the separation plate has been replaced or taken off, adjust the gap between the plate and the fuser belt.
📖 P.14-75 "14.7.4 Gap adjustment for separation plate"

(1) Take off the transport guide-1.
📖 P.14-28 "14.6.3 Transport guide-1"
(2) Take off the transport guide-2.
📖 P.14-29 "14.6.4 Transport guide-2"
(3) Take off the entrance guide cover.
📖 P.14-29 "14.6.5 Entrance guide cover"
(4) Remove 3 screws, a rear plate and a bushing.

Note:
When installing, put the harnesses in the harness guide securely so that they are not caught by the rear plate.

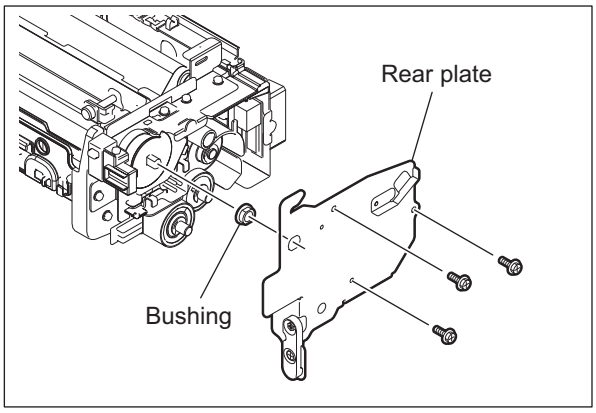

Fig. 14-28

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(5) Take off 2 springs.

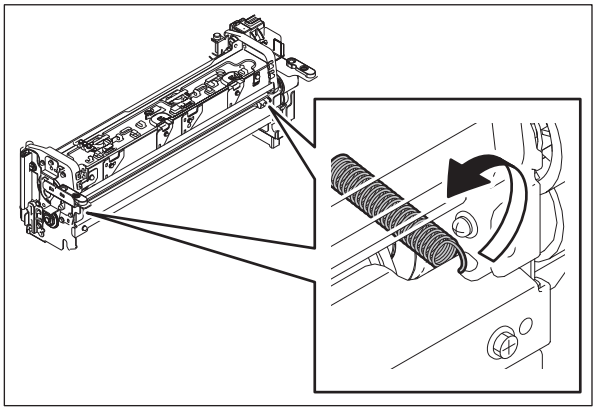

Fig. 14-29

(6) Remove 2 screws and take off the separation plate.

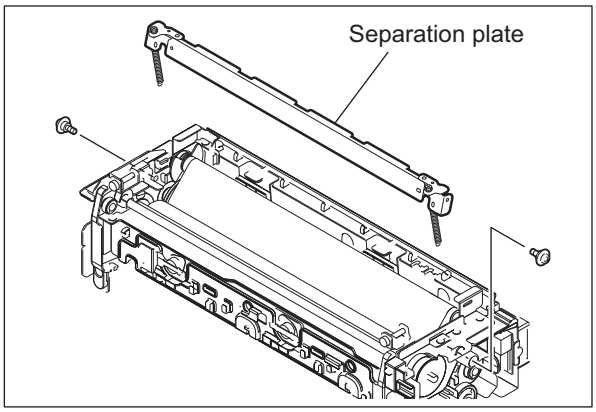

Fig. 14-30

(7) Take off 2 springs from the separation plate.

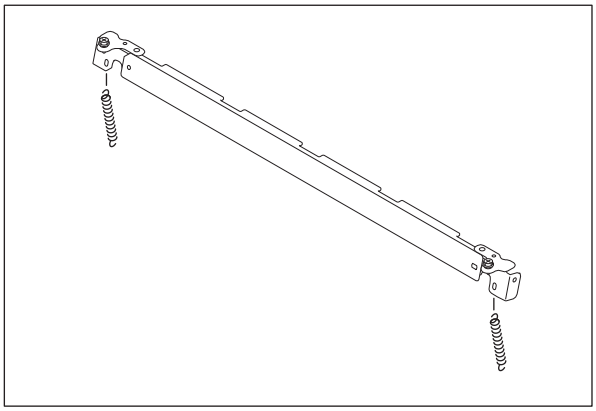

Fig. 14-31

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14.6.8 Pressure roller PM / Pressure roller heater lamp (LAMP)

(1) Take off the pressure roller cover.
P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the transport guide-1.
P.14-28 "14.6.3 Transport guide-1"
(3) Take off the rear plate.
P.14-31 "14.6.7 Separation plate"
(4) Take off the entrance guide cover.
P.14-29 "14.6.5 Entrance guide cover"
(5) Remove 1 screw and take off pressure roller contact / release detection sensor.

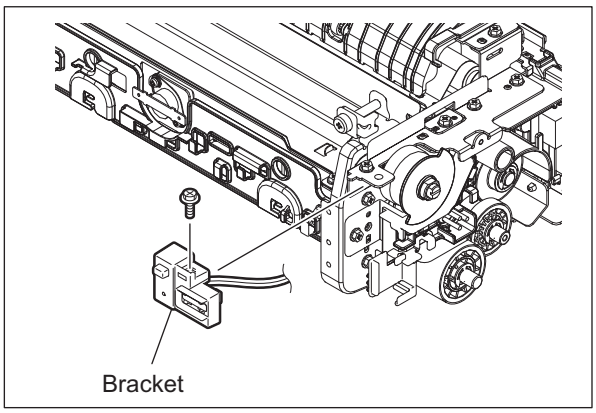

Fig. 14-32

(6) Release all the harnesses on the rear frame side from the harness guides. Then disconnect all the relay connectors.

Notes:

When installing, pay attention to the following points.

- Be sure that the AC harness (thick line) is routed above the harness guide and fixed with 3 hooks, and the DC harness (thin line) is routed under the harness guide and fixed with 4 hooks.

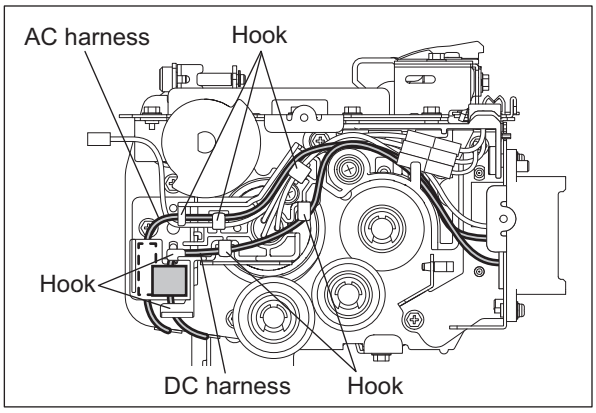

Fig. 14-33

- Be sure that the pressure roller heater lamp harness does not go onto the bent portion of the metal plate.
- Be sure that the connector of the pressure roller heater lamp harness is fixed to the inner side with a latch.
- The pressure roller heater lamp has 3 harnesses for MJC and MJD destinations, and 2 harnesses for the others.

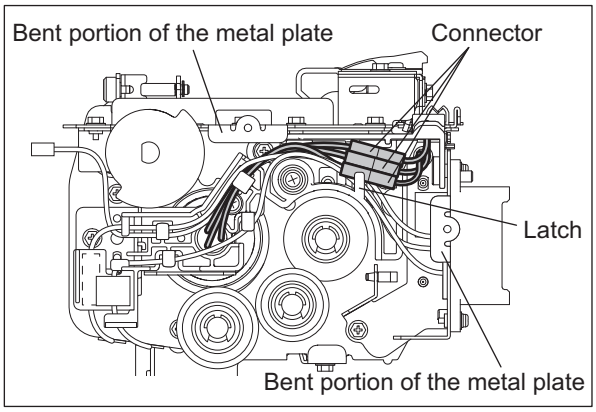

Fig. 14-34

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(7) Remove 1 screw and then take off the rear lamp bracket.

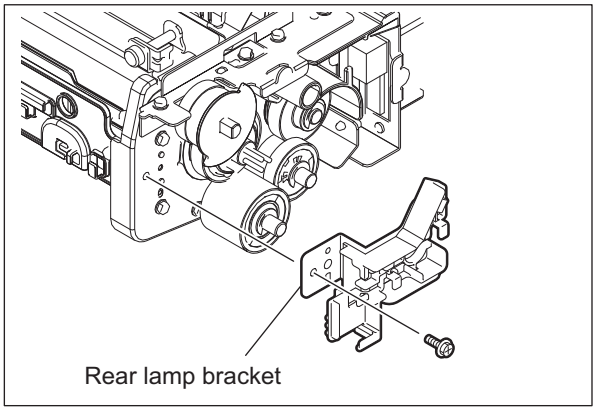

Fig. 14-35

(8) Remove 2 screws (3 screws for MJC and MJD) and release the harness from 3 clamps.

Notes:

- When installing, be sure to fix the harness securely with 3 clamps.
- The pressure roller heater lamp has 3 harnesses for MJC and MJD destinations, and 2 harnesses for the others.

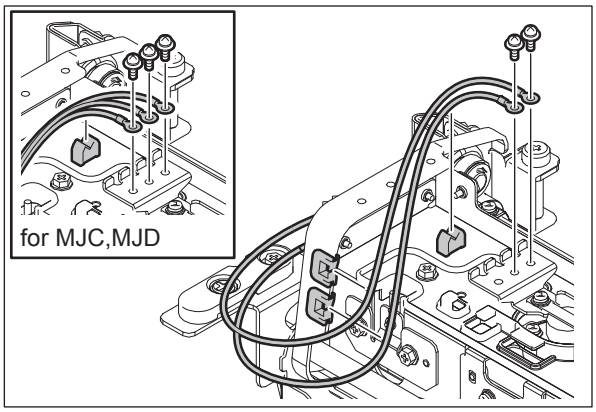

Fig. 14-36

(9) Release a harness from 2 clamps. Then remove 1 screw and take off the front lamp bracket.

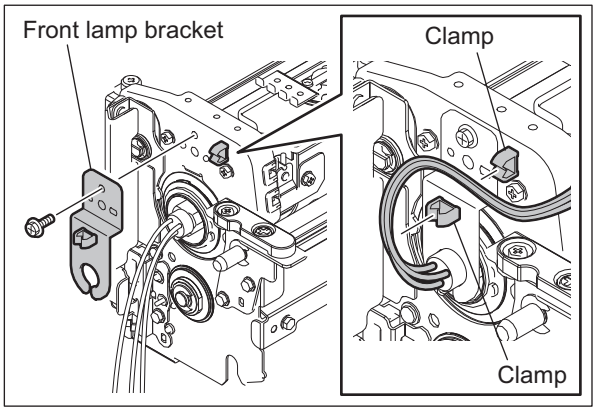

Fig. 14-37

(10) Slide the pressure roller heater lamp to the rear side to take them off.

Notes:

Follow the notes below to handle the pressure roller lamp.

- When holding the lamp, grasp the glass tube with gloved hands, but not the lead wire and the edge.
- When installing the lamp, be careful not to hit the protrusions on it or its edge against the pressure roller. Do not forcibly pull or move the lamp when its edge is fixed.
- Do not treat the lamp roughly, such as letting it fall on the floor.

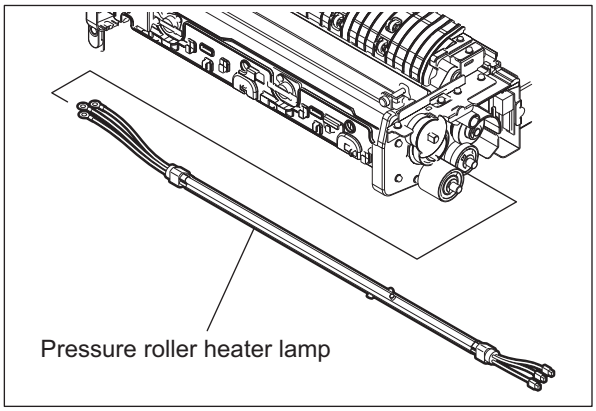

Fig. 14-38

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(11) Remove the E-ring on the front side of the drive roller shaft, and then pull it out from the rear side.

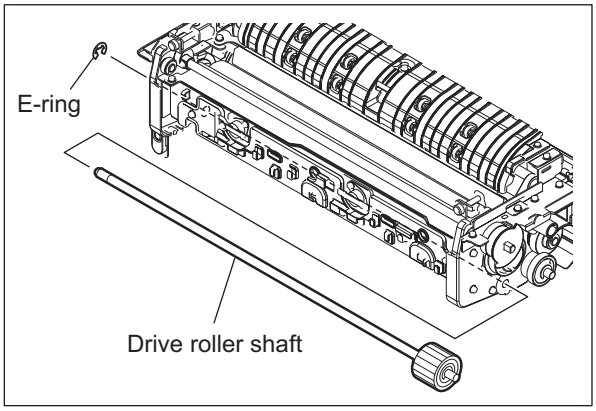

Fig. 14-39

(12) Rotate the releasing cam so that the pressure roller and the fuser belt do not contact, and then take off the pressure roller frame unit.

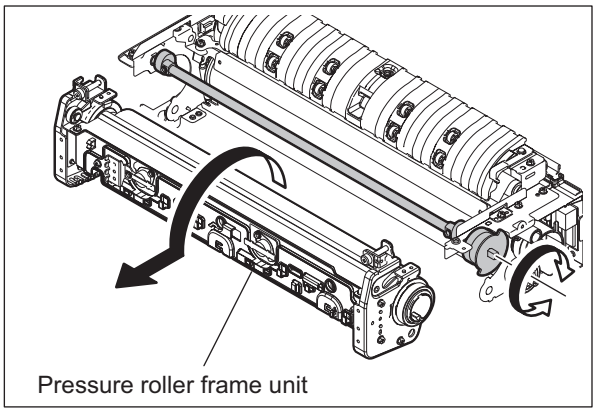

Fig. 14-40

Note:
When installing, rotate the cam as shown in the figure and then install the pressure roller frame unit.

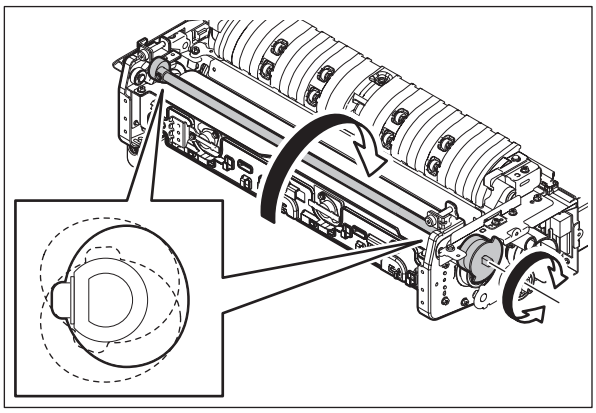

Fig. 14-41

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(13) Remove the C-ring and the gear from both sides of the pressure roller.

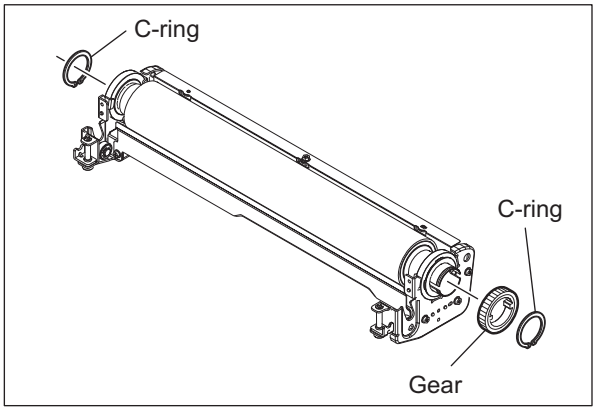

Fig. 14-42

(14) Slide the bearing on both sides of the pressure roller to the outside to take off the pressure roller from its frame unit.

Notes:

When installing, pay attention to the following notes.

- Do not push the pressure roller against the sensors of the frame unit.
- Check that the edge thermistor of the pressure roller is in contact with it.
- When replacing or removing the pressure roller, check the gap between it and its thermistor (center/side), as well as the gap between it and its thermostat (center/side).
  📖 P.14-69 "14.7.2 Gap adjustment for pressure roller thermistors"
  📖 P.14-72 "14.7.3 Gap adjustment for pressure roller thermostats"

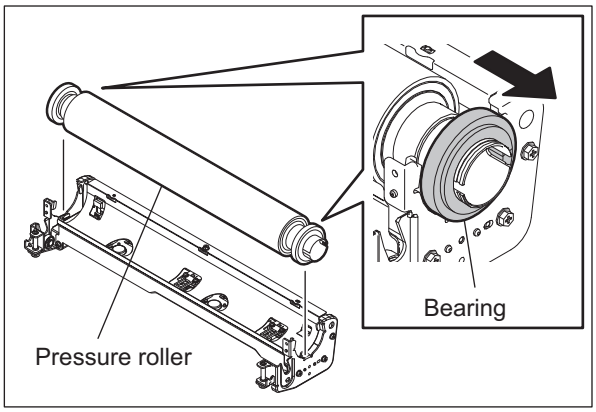

Fig. 14-43

(15) Remove the bearing and bushing from both sides of the pressure roller.

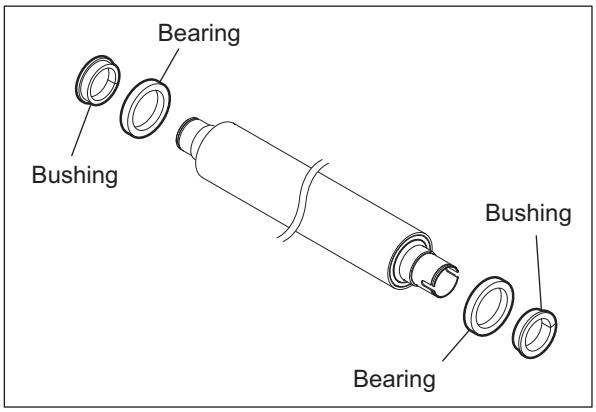

Fig. 14-44

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14.6.9 Fuser belt PM / Fuser roller PM / Fuser belt guide PM / Satellite roller

(1) Take off the separation plate.
P.14-31 "14.6.7 Separation plate"
(2) Take off the pressure roller unit.
P.14-33 "14.6.8 Pressure roller / Pressure roller heater lamp (LAMP)"
(3) Remove 1 screw and the bracket of the fuser belt edge thermistor.

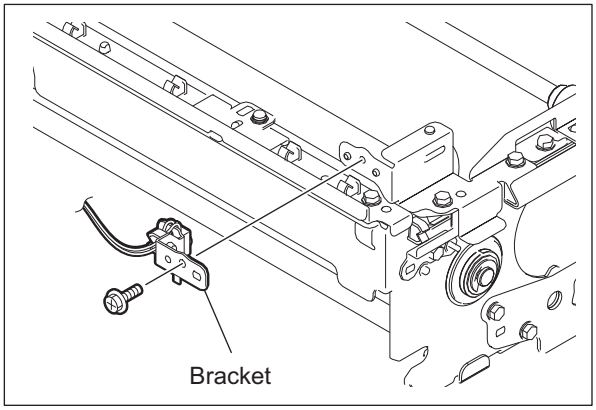

Fig. 14-45

(4) Remove 3 screws and take off the front upper frame.

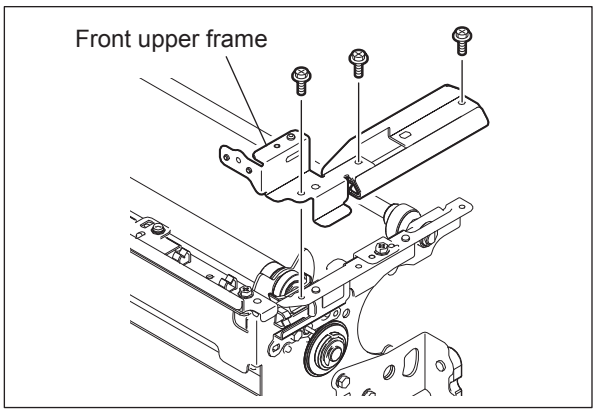

Fig. 14-46

(5) Remove 3 screws and take off the rear upper frame.

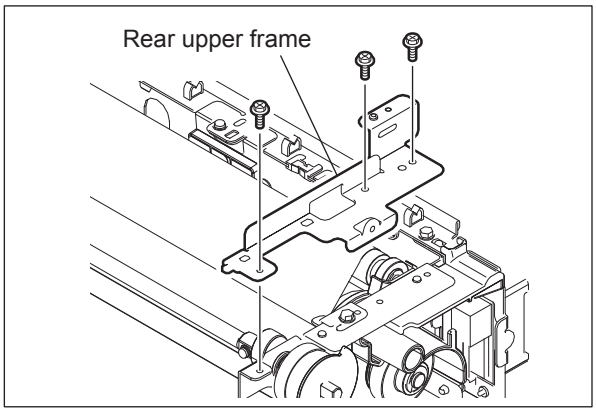

Fig. 14-47

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(6) Remove 2 screws and take off the harness guide-2.

Note:
When installing, do not let the harness be caught.

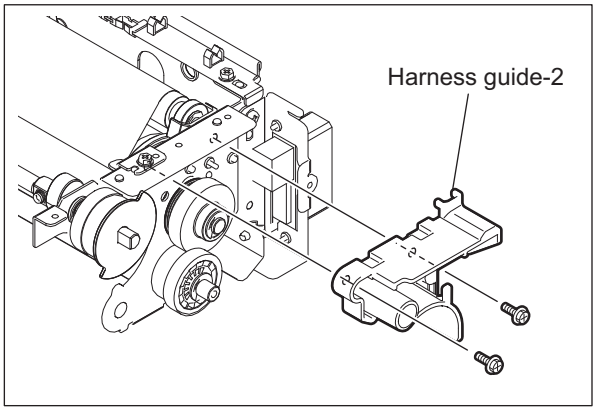

Fig. 14-48

(7) Remove 2 E-rings and 2 gears.

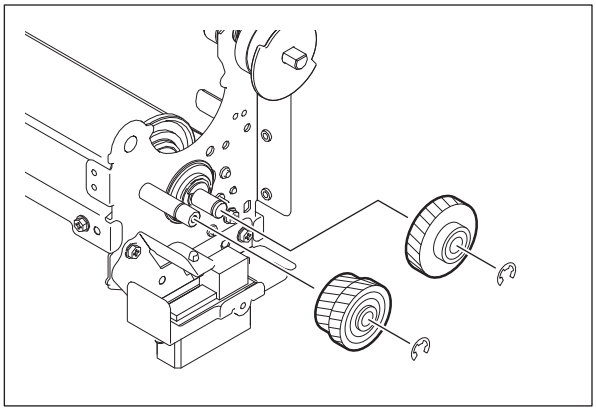

Fig. 14-49

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Notes:

1. When installing the gears of the fuser unit in the field, pay attention to their direction.
2. Install GEAR-8H40-FMR with the protrusion of the press-fitted one-way clutch positioned outside as shown in the figure on the right.
3. Install GEAR-8H35-8H30-FMR, which is a two-step gear, with the larger one having 35 gear teeth outside as shown in the figure on the right.

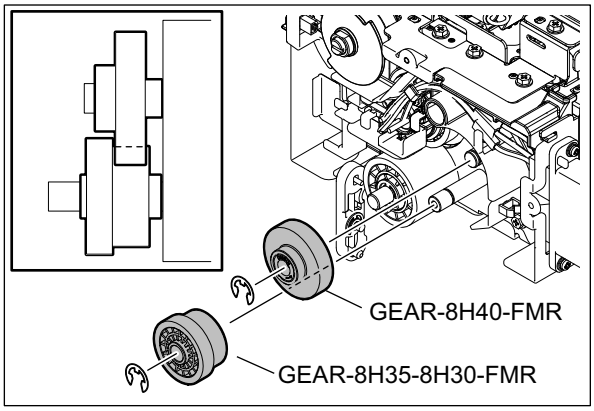

Fig. 14-50

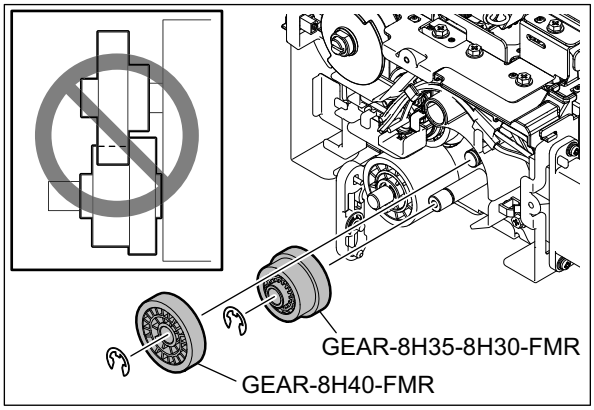

Fig. 14-51

(8) Remove E-rings on the both sides of the fuser roller. Then remove a washer, a bushing and a bearing.

Note:

When installing the bushing, be sure to install it in the proper direction and order.

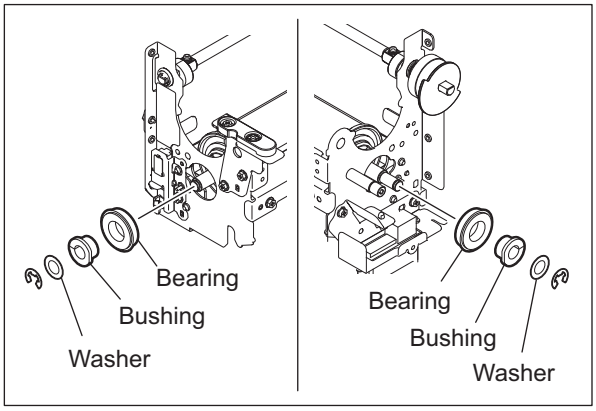

Fig. 14-52

14

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(9) Take off the fuser belt unit.

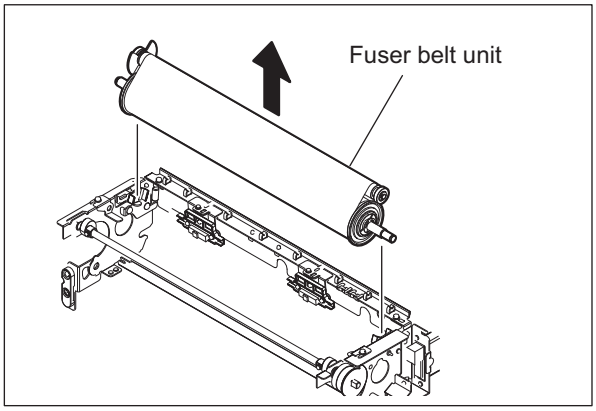

Fig. 14-53

Note:
Be sure not to disassemble the holder retaining the fuser belt unit in the fuser unit since it is adjusted with the jig.

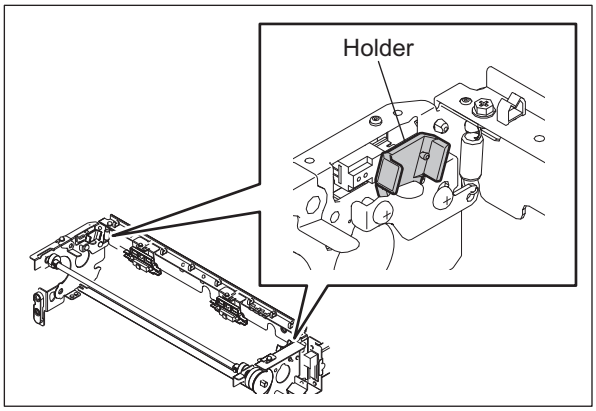

Fig. 14-54

(10) Remove 1 E-ring each on both sides of the fuser roller. Then take off the fuser belt guide.

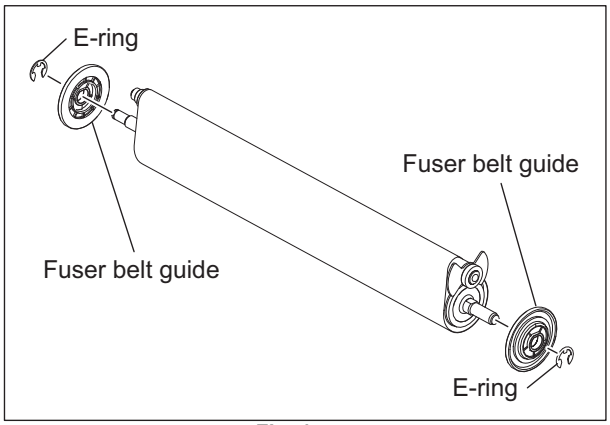

Fig. 14-55

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(11) Pull out the satellite roller by sliding it inside of the fuser belt and pushing it to the outside so that it will not contact with the fuser roller.

Notes:

- Be careful not to damage the fuser roller since its surface is soft and easily scratched, especially rubbing the surface could cause a crack. If it is damaged, replace it with a new one.

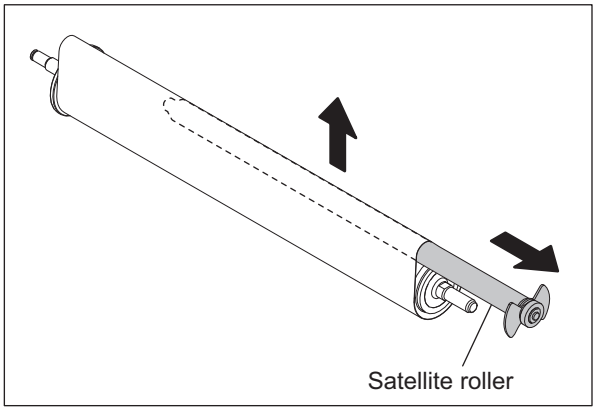

Fig. 14-56

- Install the satellite roller, letting the side with a rotor be on the front side.

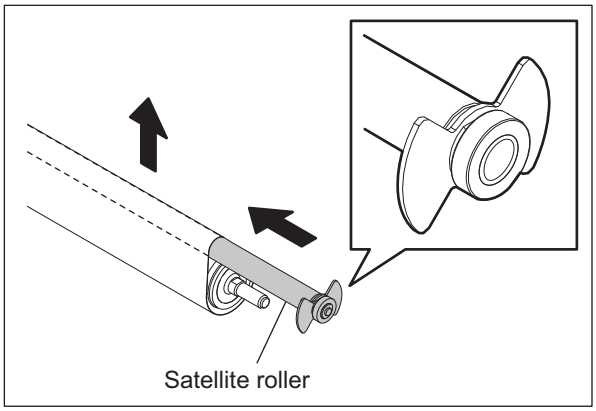

Fig. 14-57

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(12) Take off the fuser roller from the fuser belt.

Notes:

- Since the fuser roller is easily damaged such as being torn when its surface is rubbed by your fingers or nails, be sure to hold its shaft or guide.
- Make sure that no dust or similar adheres to the surface of the fuser roller. If there is any tear, flaw or crack on its surface, replace it with a new one.
- Make sure that no dust or similar adheres to the surface of the fuser belt. If there is any flaw on its surface or any bent edge, replace it with a new one.
- When replacing or taking off the fuser belt and fuser roller, check the gap between the belt and its thermostat.
  📖 P.14-65 "14.7.1 Gap adjustment for fuser belt thermostats"
- Install the new fuser belt with its protection sheet wound around it. After installing the fuser belt unit, peel off the protection sheet.

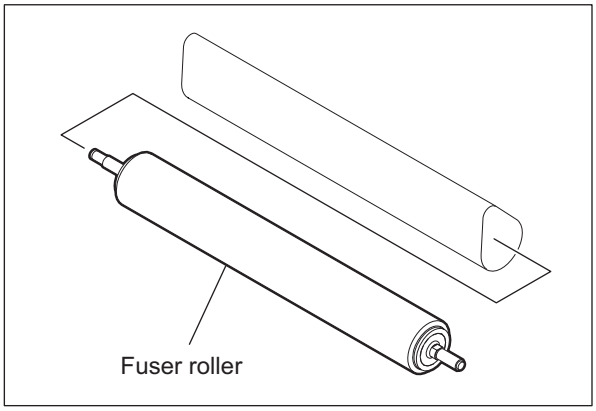

Fig. 14-58

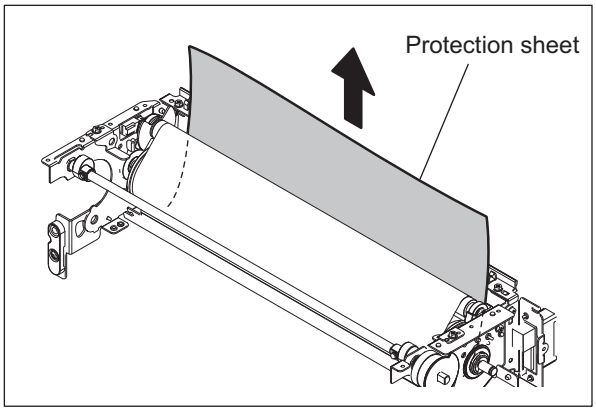

Fig. 14-59

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Note:

Be sure to hold the fuser belt carefully since it is easily damaged and not to pinch its edges since the belt will be creased and torn. Put your hand inside the belt when holding it.

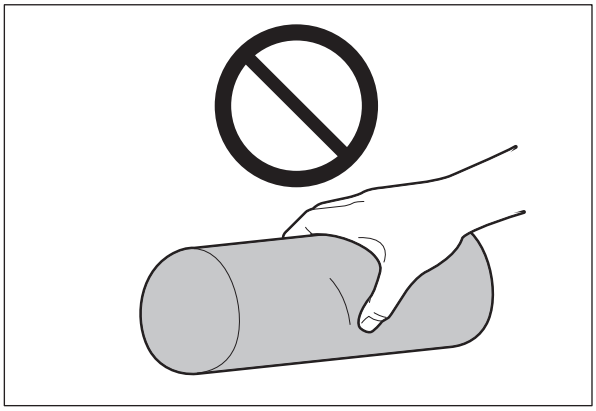

Fig. 14-60

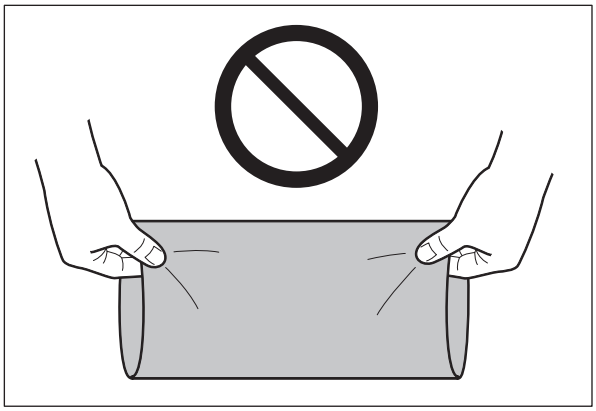

Fig. 14-61

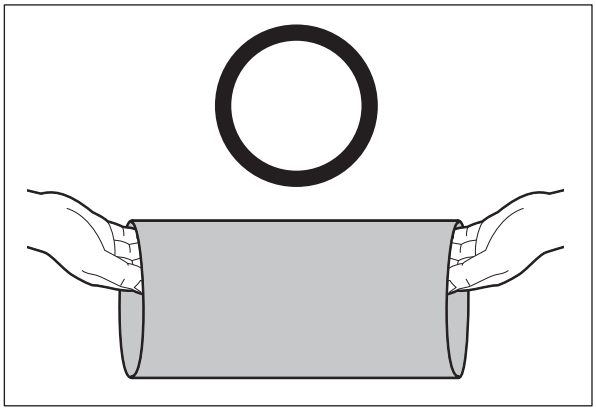

Fig. 14-62

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14.6.10 Fuser belt rotation detection sensor (S49)

(1) Take off the pressure roller cover.
P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the transport guide-1.
P.14-28 "14.6.3 Transport guide-1"
(3) Take off the transport guide-2.
P.14-29 "14.6.4 Transport guide-2"
(4) Remove 1 screw and the bracket of the fuser belt edge thermistor.

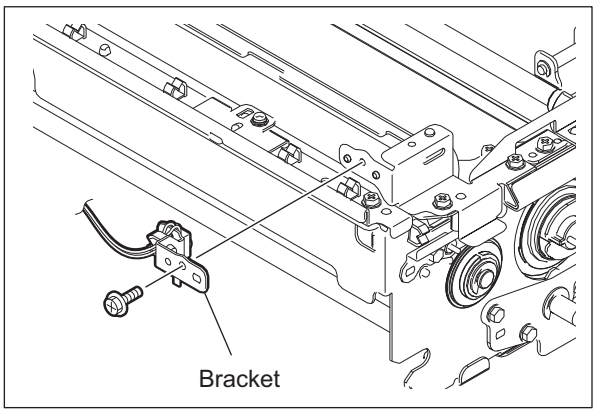

Fig. 14-63

(5) Remove 3 screws and take off the front upper frame.

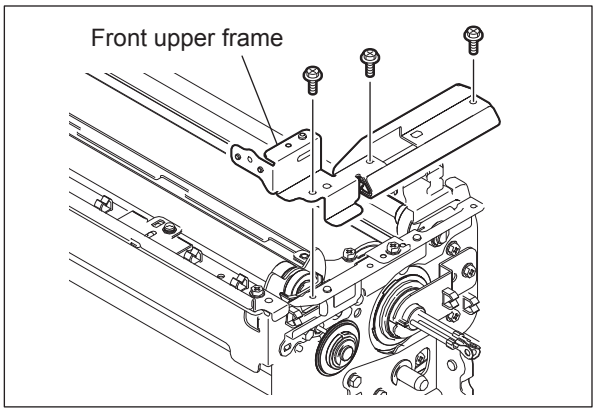

Fig. 14-64

(6) Remove 1 screw and the bracket of the fuser belt rotation detection sensor.
(7) Release a harness from 1 clamp and then disconnect a connector.

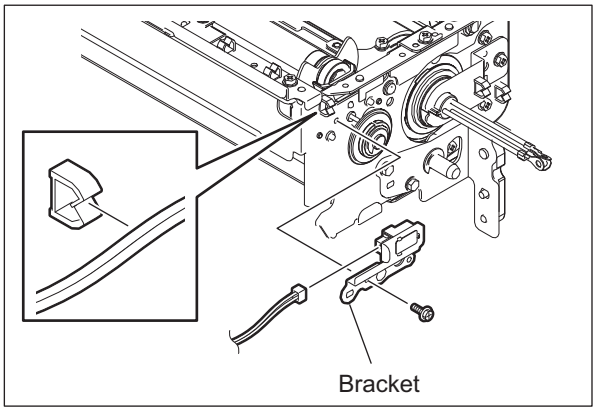

Fig. 14-65

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(8) Remove the fuser belt rotation detection sensor from the bracket.

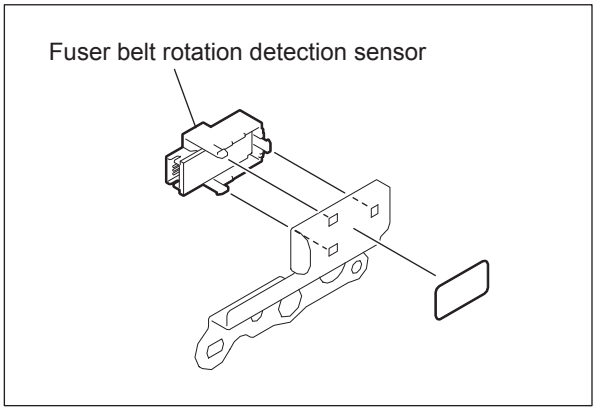

Fig. 14-66

14.6.11 Fuser belt center thermostat (THMO4) / Fuser belt side thermostat (THMO5)

(1) Take off the pressure roller cover.
🕮 P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the transport guide-1.
🕮 P.14-28 "14.6.3 Transport guide-1"
(3) Take off the transport guide-2.
🕮 P.14-29 "14.6.4 Transport guide-2"
(4) Take off the rear plate.
🕮 P.14-31 "14.6.7 Separation plate"
(5) Take off bracket of the fuser belt rotation detection sensor.
🕮 P.14-44 "14.6.10 Fuser belt rotation detection sensor (S49)"
(6) Remove 2 screws and take off the harness guide-2.

Note:
When installing, do not let the harness be caught.

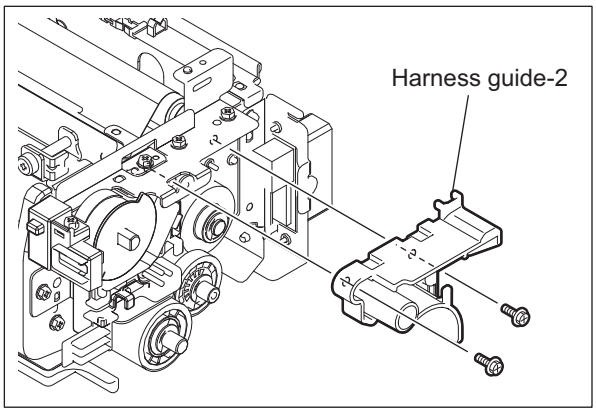

Fig. 14-67

(7) Remove 2 screws and take off a sensor bracket stay.

Note:
Do not press the sensor bracket against the fuser belt.

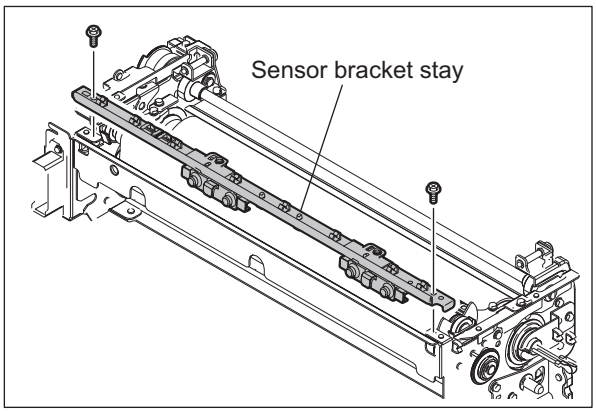

Fig. 14-68

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(8) Take off the fuser belt center thermostat and the fuser belt side thermostat by removing 2 screws each.

Notes:

- Do not touch the temperature detection section of the fuser belt thermostat.
- When replacing or taking off the fuser belt thermostat, check the gap between the fuser belt and its thermostat.
  📖 P.14-65 "14.7.1 Gap adjustment for fuser belt thermostats"

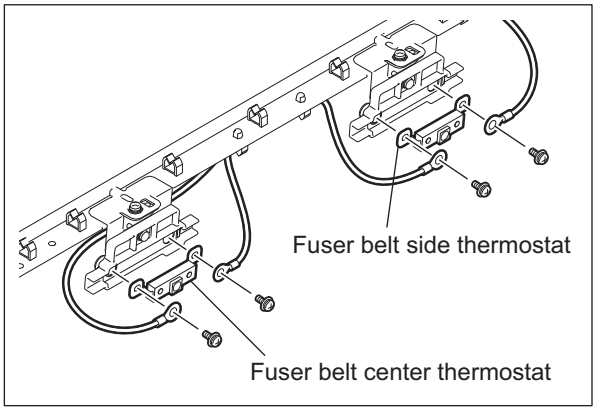

Fig. 14-69

- When assembling, fix the fuser belt thermostat cable securely with a clamp so that it does not contact with the fuser belt.

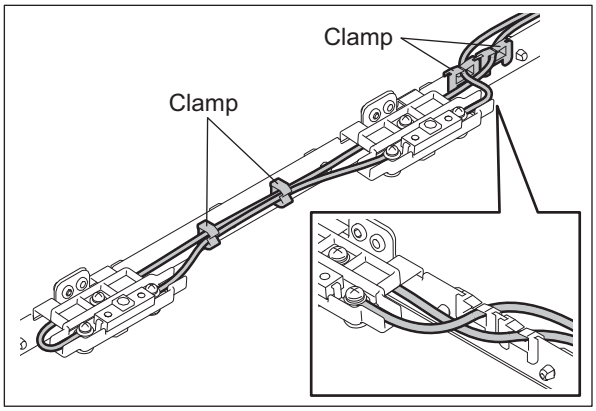

Fig. 14-70

14.6.12 Fuser belt edge thermistor (THM6)

(1) Take off the transport guide-1.
📖 P.14-28 "14.6.3 Transport guide-1"
(2) Take off the transport guide-2.
📖 P.14-29 "14.6.4 Transport guide-2"
(3) Take off the rear plate.
📖 P.14-31 "14.6.7 Separation plate"
(4) Remove 1 screw and take off the bracket of the fuser belt edge thermistor.

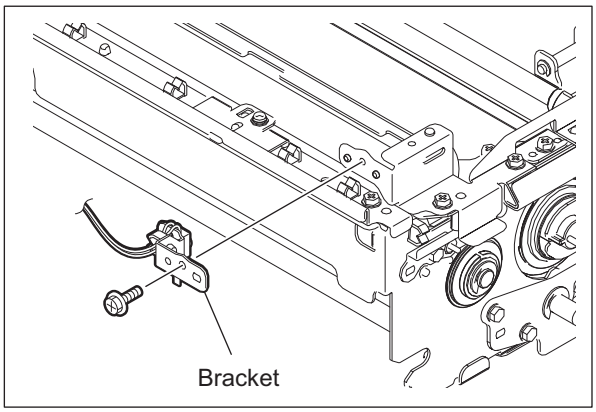

Fig. 14-71

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(5) Release the harness from the harness guide, remove 2 screws and take off harness guide-2.

Note:
When installing, do not let the harness be caught.

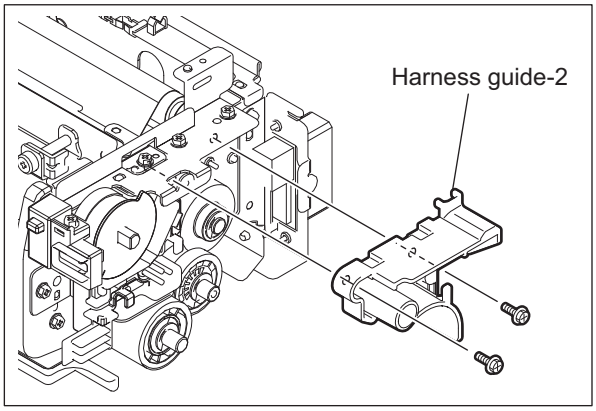

Fig. 14-72

(6) Disconnect a connector of the fuser belt edge thermistor.
(7) Release a harness from 7 clamps.

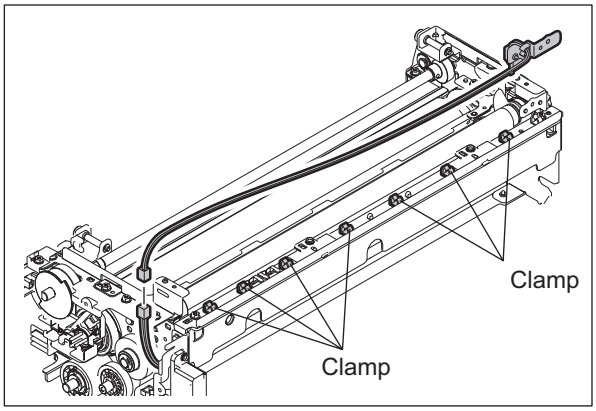

Fig. 14-73

(8) Remove 1 screw, release the harness from the harness clamp and take off the fuser belt edge thermistor.

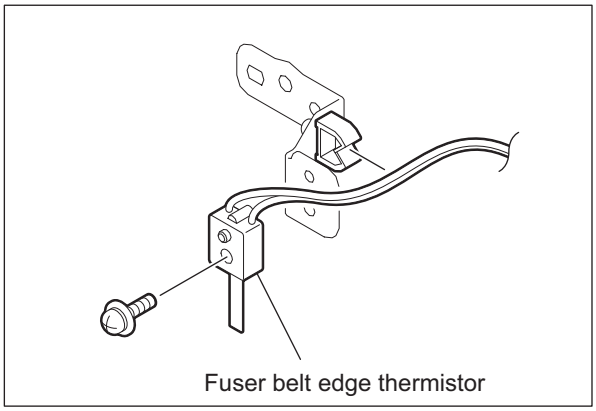

Fig. 14-74

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14.6.13 Pressure roller center thermistor (THM3) / Pressure roller side thermistor (THM4) / Pressure roller edge thermistor (THM5)

(1) Take off the pressure roller cover.
🕮 P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the entrance guide cover.
🕮 P.14-29 "14.6.5 Entrance guide cover"
(3) Take off the rear plate.
🕮 P.14-31 "14.6.7 Separation plate"
(4) Release the harnesses of the pressure roller thermistors (center, side and edge) from the hook of the harness guide.

Note:
When installing, be sure to fix the harness with the hooks of the harness guide.

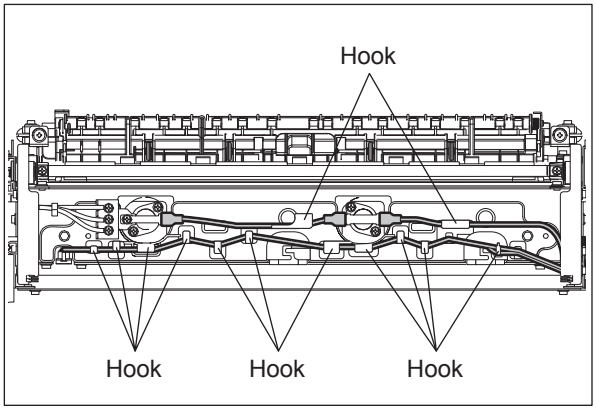

Fig. 14-75

(5) Remove 1 screw and take off the terminal plate.
(6) Release the harness from 3 clamps.

Notes:
- When installing, be sure to fix the harness securely with 3 clamps
- The pressure roller heater lamp has 3 harnesses for MJC and MJD destinations, and 2 harnesses for the others.

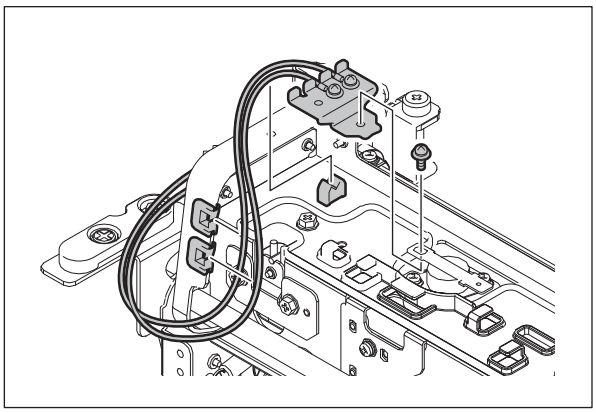

Fig. 14-76

(7) Remove 2 screws and take off the harness guide.

Note:
When installing, align 2 dowels and 2 hooks of the harness guide with the frame.

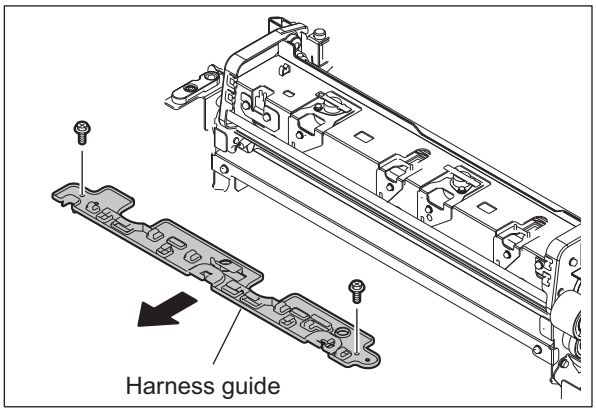

Fig. 14-77

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(8) Remove 2 screws and take off the bracket of the pressure roller edge thermistor.
(9) Remove 1 screw each and take off each thermistor bracket of the pressure roller center thermistor and the pressure roller side thermistor.
(10) Disconnect a connector.

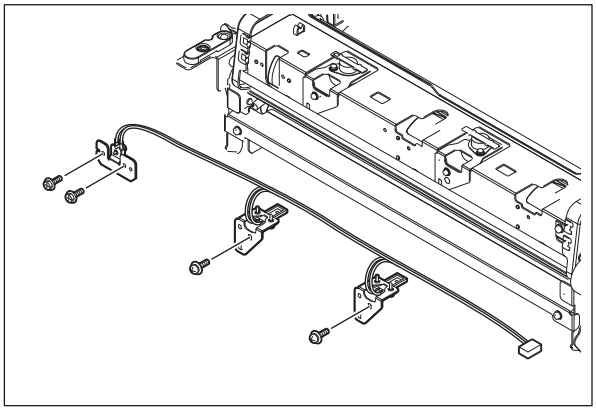

Fig. 14-78

(11) Remove 1 screw and take off the pressure roller edge thermistor.

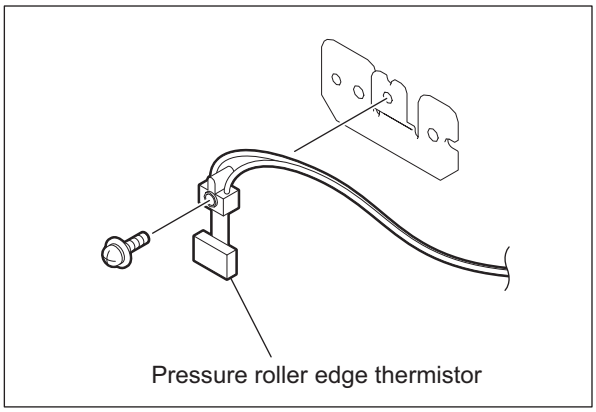

Fig. 14-79

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(12) Remove 1 screw each and take off the pressure roller center thermistor and the pressure roller side thermistor from each bracket.

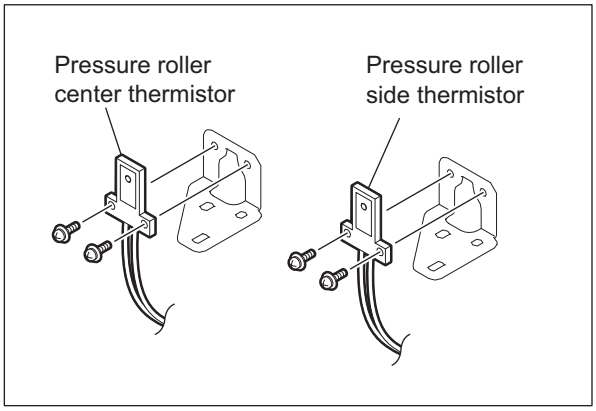

Fig. 14-80

Note:
When installing, make sure that the side of the thermistor is correct.

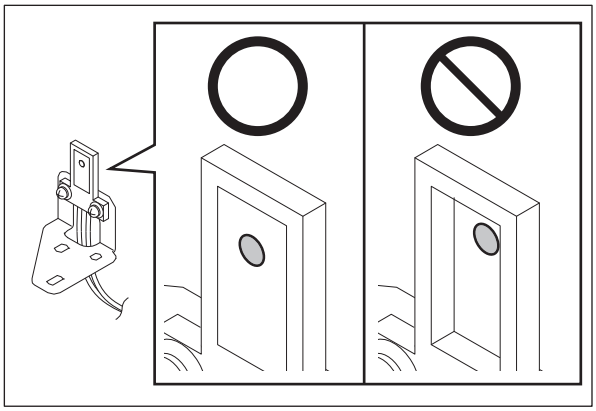

Fig. 14-81

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14.6.14 Pressure roller contact/release detection sensor (S48)

(1) Take off the pressure roller cover.
P.14-27 "14.6.2 Pressure roller cover"
(2) Remove 1 screw and take off the sensor bracket.

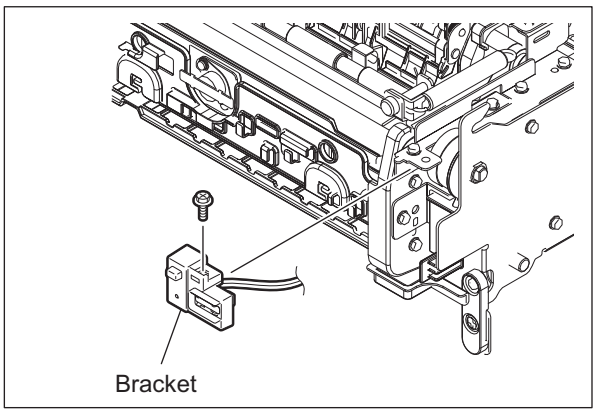

Fig. 14-82

(3) Remove the mylar from the sensor bracket.
(4) Take off the pressure roller contact/release detection sensor and disconnect the connector.

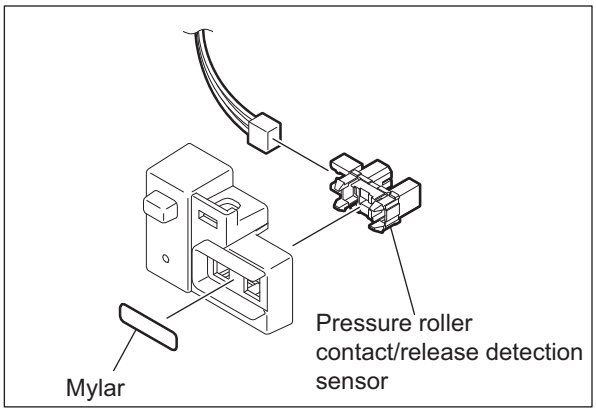

Fig. 14-83

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14.6.15 Pressure roller center thermostat (THMO2) / Pressure roller side thermostat (THMO3)

(1) Take off the pressure roller cover.
🕮 P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the entrance guide cover.
🕮 P.14-29 "14.6.5 Entrance guide cover"
(3) Release the harnesses of the pressure roller thermistors (center, side and edge) from the hook of the harness guide.

Note:
When installing, be sure to fix the harness with the hooks of the harness guide.

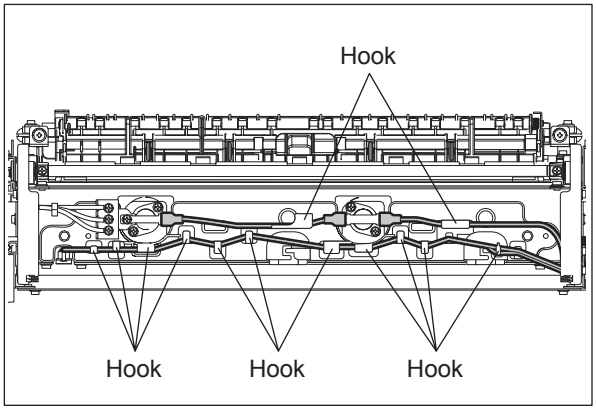

Fig. 14-84

(4) Remove 1 screw and take off the terminal plate from the pressure roller side thermostat.
(5) Release the harness from 3 clamps.

Notes:
- When installing, be sure to fix the harness securely with 3 clamps
- The pressure roller heater lamp has 3 harnesses for MJC and MJD destinations, and 2 harnesses for the others.

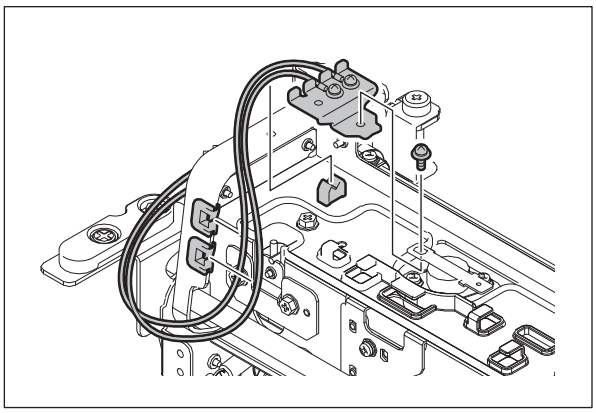

Fig. 14-85

(6) Remove 2 screws and take off the harness guide.

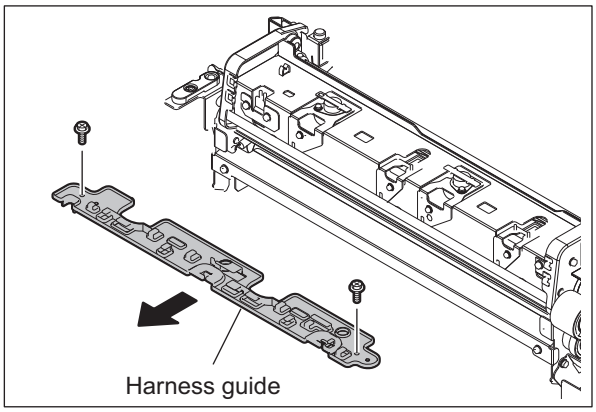

Fig. 14-86

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(7) Disconnect the cables of the pressure roller thermostats (center and side) from the faston terminal.

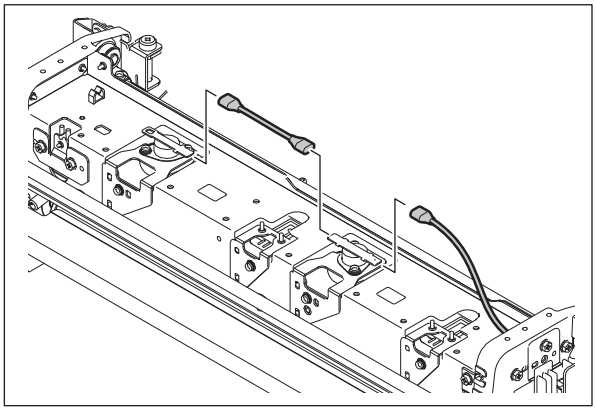

Fig. 14-87

(8) Remove 1 screw each and take off each thermostat bracket of the pressure roller center thermostat and the pressure roller side thermostat.

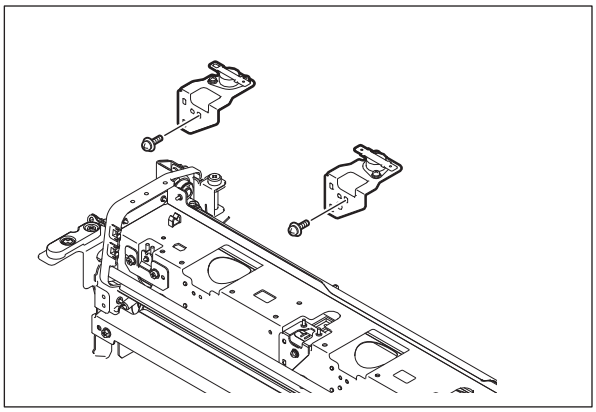

Fig. 14-88

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(9) Remove 2 screws each and take off the pressure roller center thermostat and the pressure roller side thermostat from each bracket.

Notes:

- Do not touch the temperature detection section of the pressure roller thermostat.
- When replacing the pressure roller center thermostat or the pressure roller side one, check the gap between this and the pressure roller.
  📖 P.14-72 "14.7.3 Gap adjustment for pressure roller thermostats"

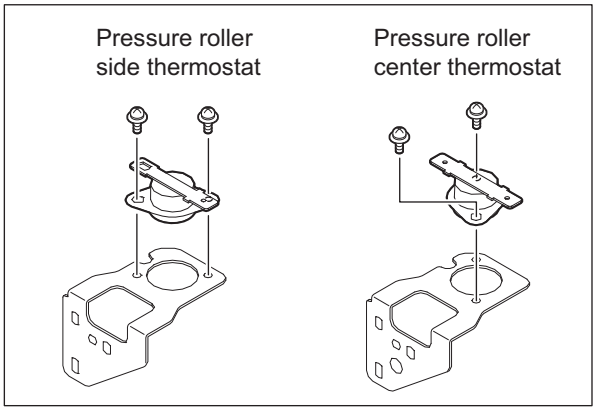

Fig. 14-89

- Install the correct pressure roller thermostat since the center and side ones are similar but different.

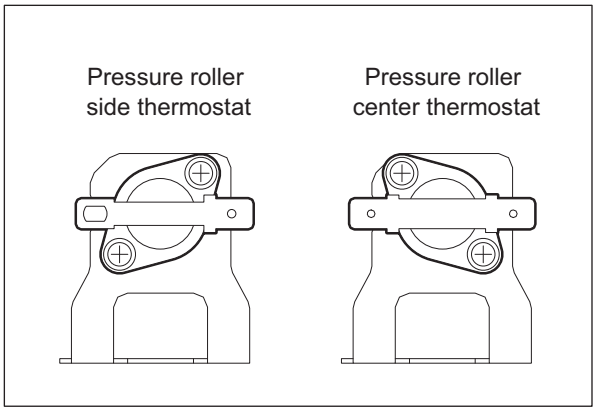

Fig. 14-90

14.6.16 IH coil

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Open the SYS board case.
📖 P.20-2 "20.1.3 SYS board case"
(3) Release a harness from the clamp and disconnect 2 connectors.
(4) Remove 4 screws and take off the IH board cover.

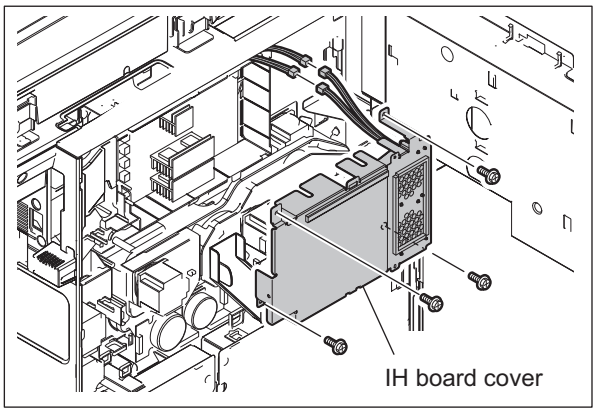

Fig. 14-91

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(5) Remove 4 screws and take off the harness of the IH coil.

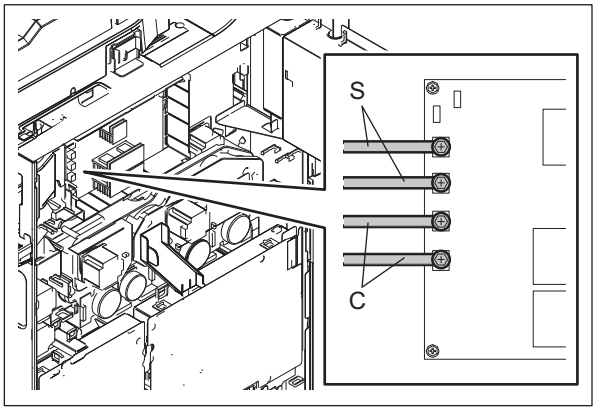

Fig. 14-92

(6) Remove 2 screws and take off the IH coil.

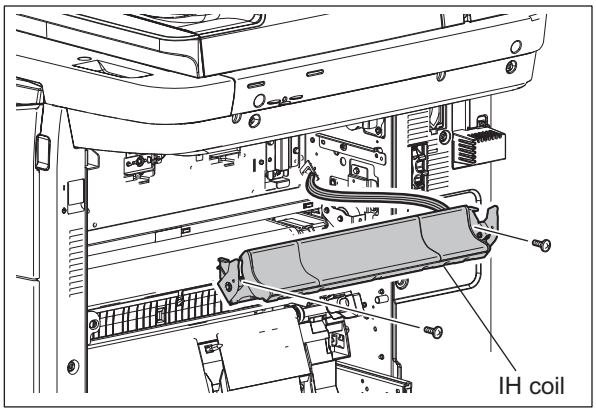

Fig. 14-93

Notes:

- Be sure to put the IH coil with the tip of its positioning metal plate up to prevent it from deforming.
- When installing the IH coil in the equipment, be careful not to deform its positioning metal plate.

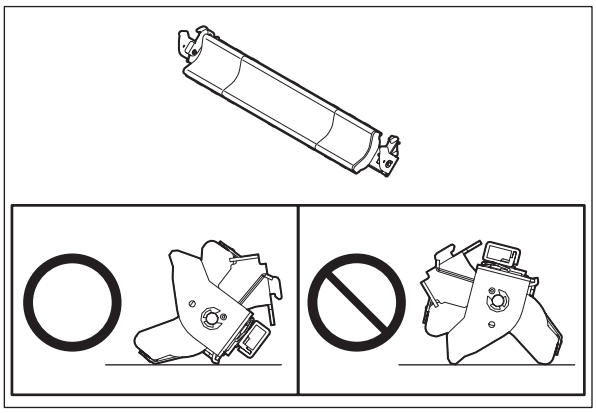

Fig. 14-94

14

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14.6.17 Fuser belt center thermopile (THMP1) / Fuser belt side thermopile (THMP2)

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Remove 2 screws and take off the sensor bracket.
(3) Release the harness from 2 clamps.

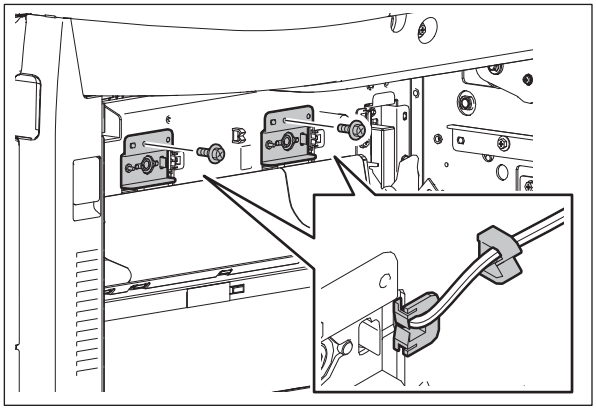

Fig. 14-95

(4) Remove 1 screw each and take off the fuser belt center thermopile and fuser belt side thermopile.

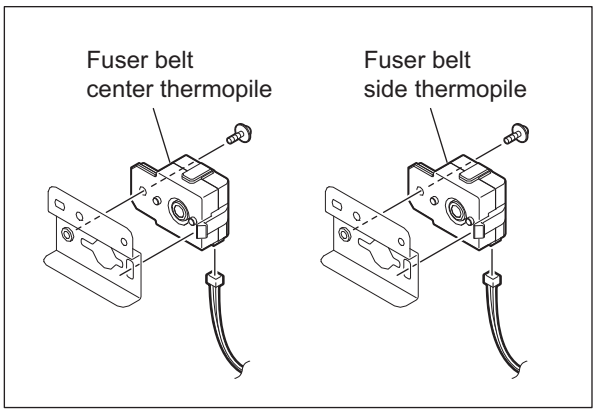

Fig. 14-96

14.6.18 Fuser motor (M6)

(1) Open the SYS board case.
📖 P.20-2 "20.1.3 SYS board case"
(2) Release a harness from 2 clamps.

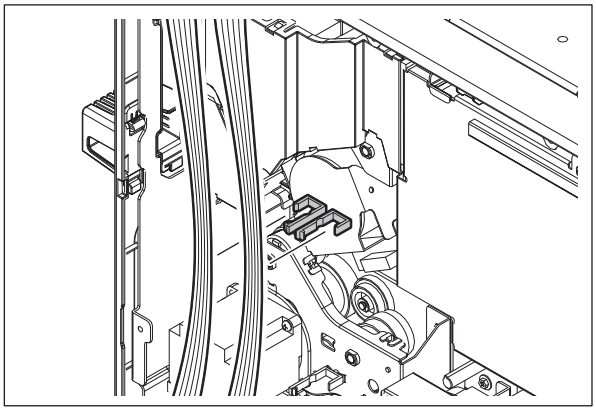

Fig. 14-97

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(3) Remove 2 screws and take off the motor bracket.

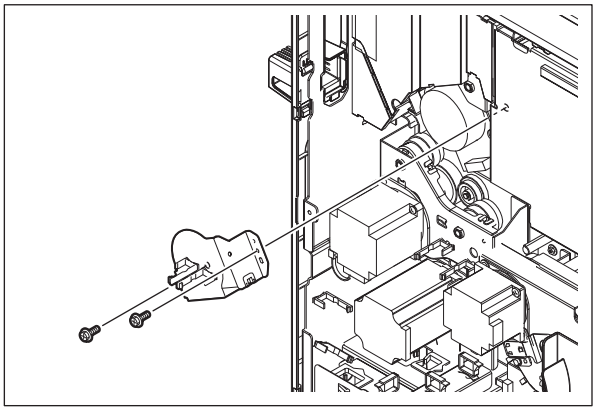

Fig. 14-98

(4) Disconnect a connector of the exit paper cooling fan (rear).
(5) Remove 2 screws and take off the duct.

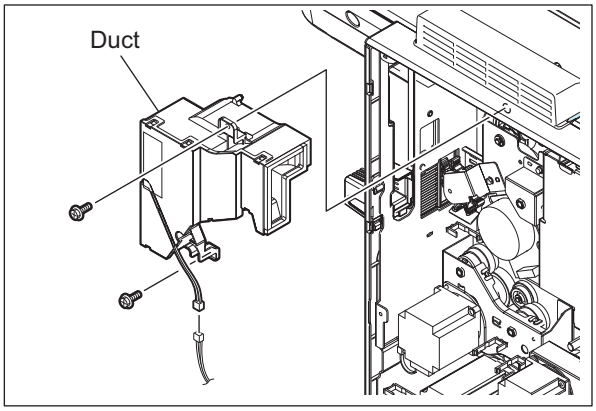

Fig. 14-99

(6) Disconnect a connector from the fuser motor.
(7) Remove 2 screws and take off the fuser motor.

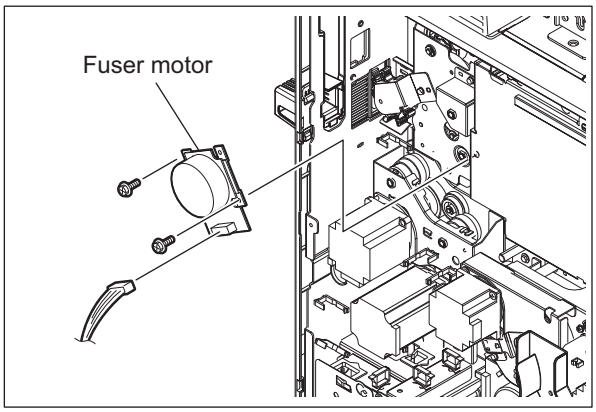

Fig. 14-100

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14.6.19 Pressure roller contact/release clutch (CLT1)

(1) Take off the fuser unit.
P.14-26 "14.6.1 Fuser unit"
(2) Open the SYS board case.
P.20-2 "20.1.3 SYS board case"
(3) Release the harness from 2 clamps.
(4) Disconnect 2 connectors from the fuser motor and pressure roller contact/release clutch.

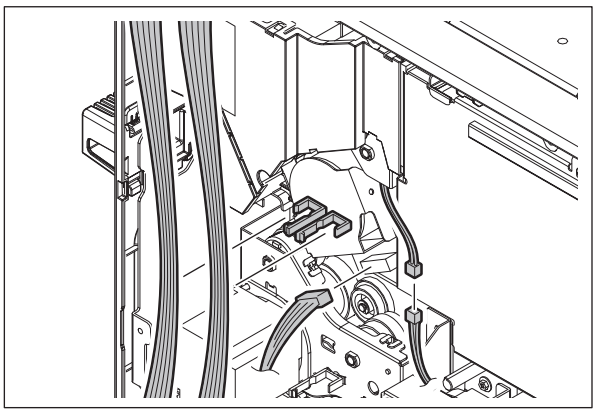

Fig. 14-101

(5) Disconnect the connector of the exit paper cooling fan (rear). Then remove 2 screws and take off the a duct.
(6) Remove 2 screws and take off the duct.

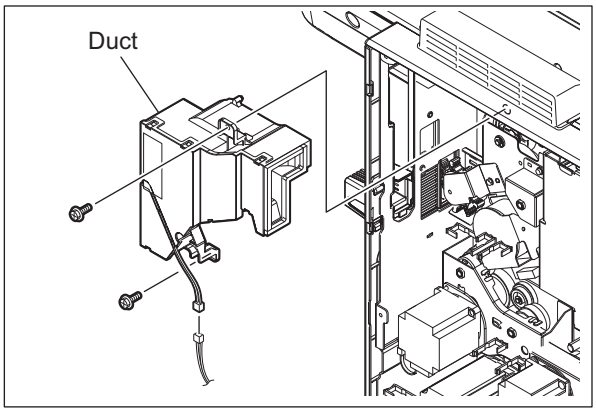

Fig. 14-102

(7) Remove 1 screw and take off the bracket of the handle.

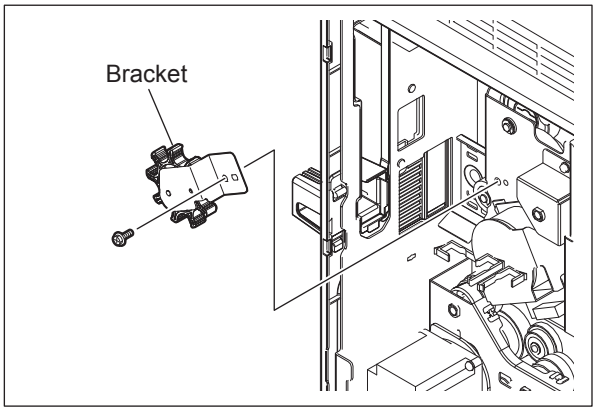

Fig. 14-103

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(8) Remove 4 screws and take off the fuser drive unit.

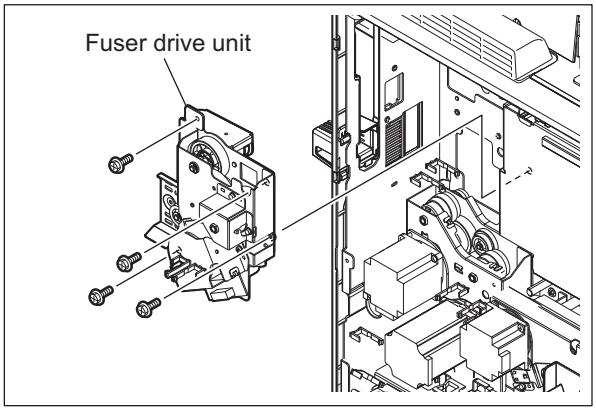

Fig. 14-104

Note:

When installing, do not let the harness be caught. Be sure that 2 dowels are securely fitted into the holes of the fuser drive unit.

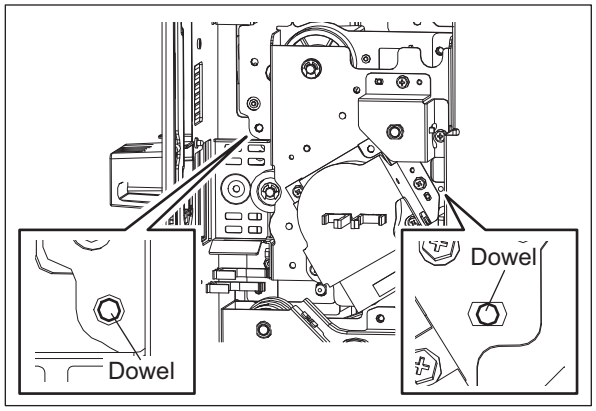

Fig. 14-105

14

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Notes:

- When disassembling the fuser drive unit, apply white grease (Molykote HP-300) on the shafts shown in the right figure.
- Apply a small amount in several areas on all gear faces. As the gears rotate the grease will be evenly distributed. Use care not to over lubricate.

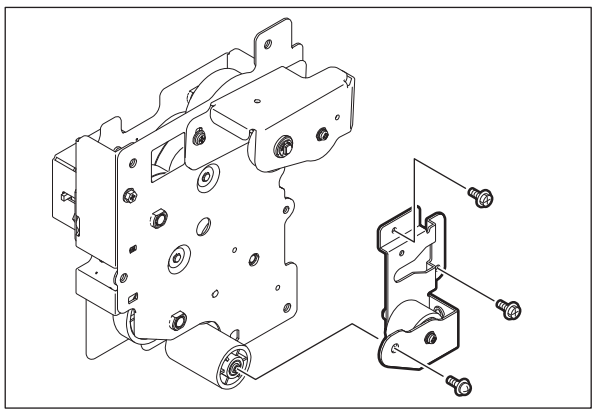

Fig. 14-106

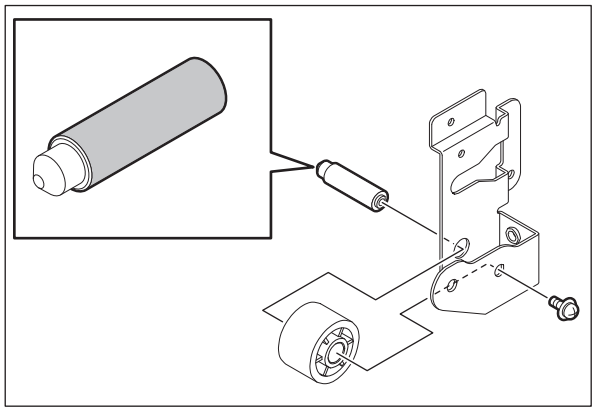

Fig. 14-107

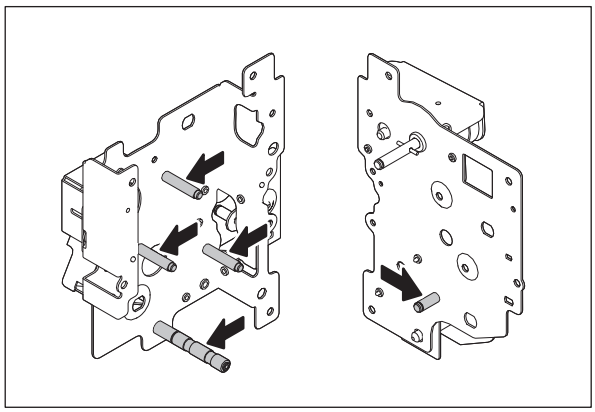

Fig. 14-108

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(9) Remove 2 screws and take off the bracket of the pressure roller contact/release clutch.

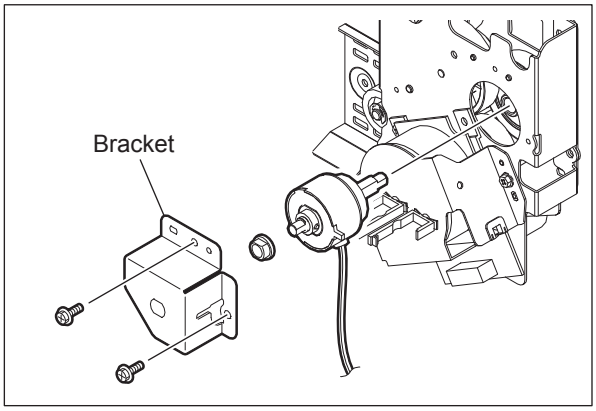

Fig. 14-109

(10) Loosen 2 screws and take off the pressure roller contact/release clutch.

Note:
When installing, align the shaft chamfering section with the hole.

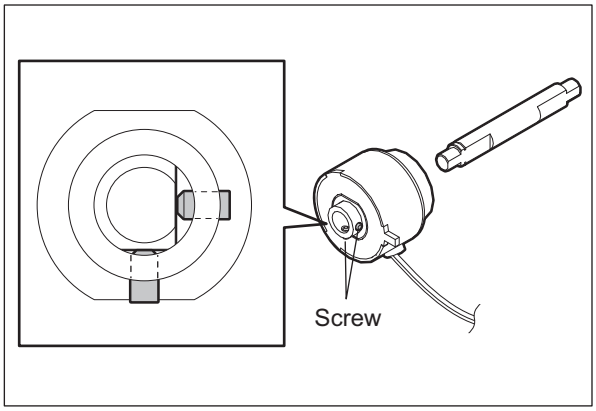

Fig. 14-110

14.6.20 Exit paper cooling fan (rear) (F15)

(1) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(2) Open the SYS board case.
📖 P.20-2 "20.1.3 SYS board case"
(3) Release a harness from 2 clamps.

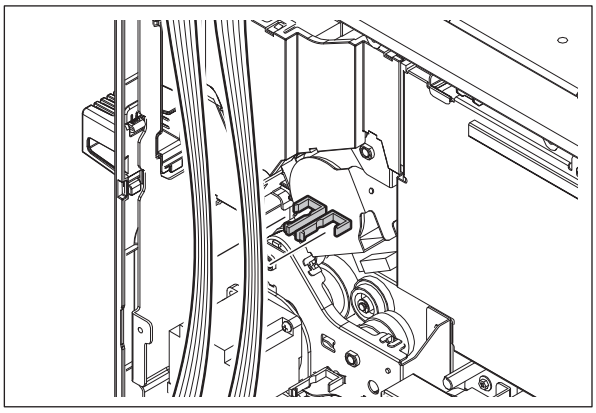

Fig. 14-111

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(4) Disconnect a connector of the exit paper cooling fan (rear).
(5) Remove 2 screws and take off the duct.

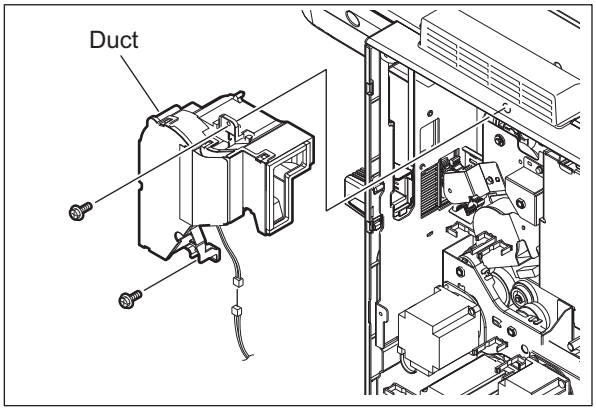

Fig. 14-112

(6) Release the harness of the paper cooling fan (rear).
(7) Release 7 hooks to take off the duct cover.

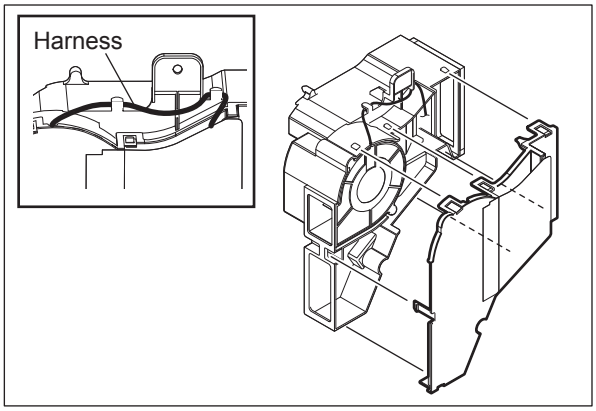

Fig. 14-113

(8) Take off the exit paper cooling fan (rear) from the duct.

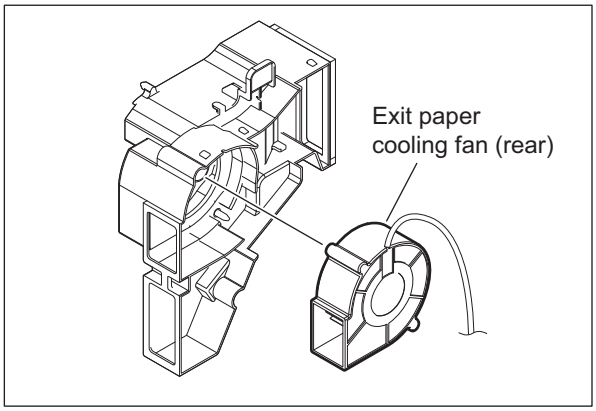

Fig. 14-114

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14.6.21 IH cooling fan-1 (F8) / IH cooling fan-2 (F9)

(1) Open the SYS board case.
🕮 P.20-2 "20.1.3 SYS board case"
(2) Take off the IH board cover.
🕮 P.14-54 "14.6.16 IH coil"
(3) Remove 2 screws each and take off the IH cooling fan-1 and IH cooling fan-2.

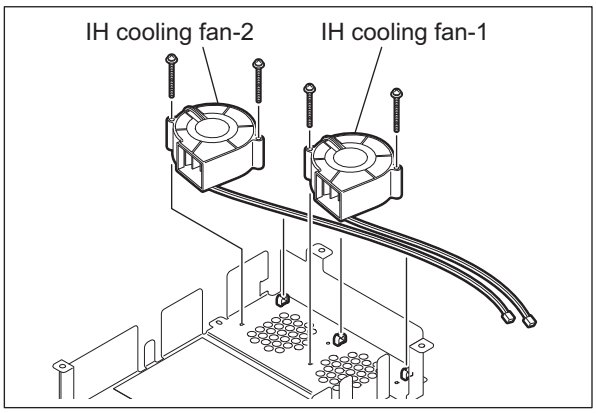

Fig. 14-115

14.6.22 IH board (IH)

(1) Open the SYS board case.
🕮 P.20-2 "20.1.3 SYS board case"
(2) Take off the IH board cover and the harness of the IH coil.
🕮 P.14-54 "14.6.16 IH coil"
(3) Disconnect 3 connectors from the IH board.

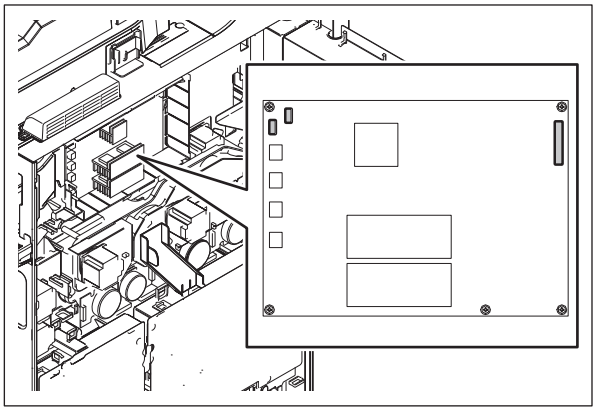

Fig. 14-116

(4) Remove 5 screws and take off the IH board.

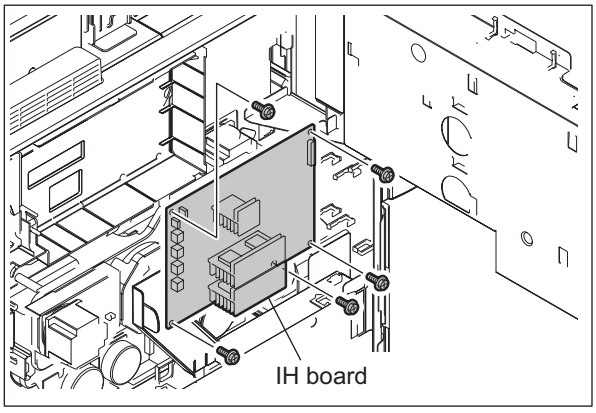

Fig. 14-117

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14.6.23 Fuser unit jam releasing LED (LED)

(1) Take off the right corner cover.
P.3-48 "3.5.22 Right corner cover"
(2) Open the front cover and pull out the bridge unit.
(3) Remove 2 screws and then take off the inner cover.

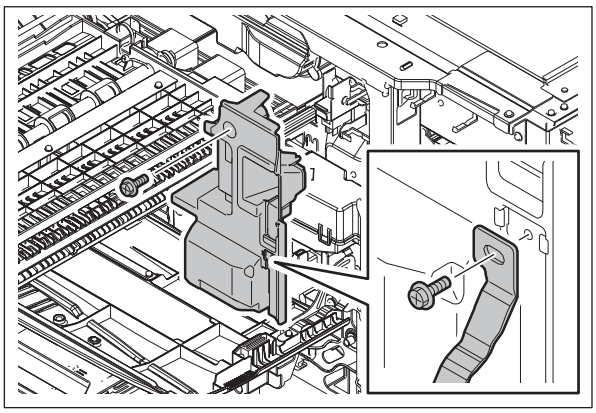

Fig. 14-118

(4) Remove 1 screw and disconnect the connector to take off the LED bracket.

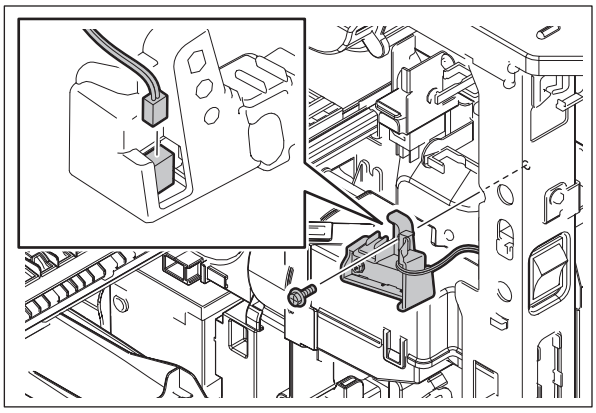

Fig. 14-119

(5) Remove 1 screw and then take off the fuser unit jam releasing LED.

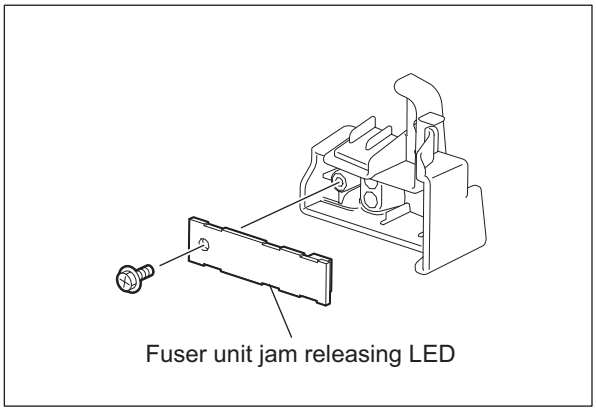

Fig. 14-120

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14.7 Gap Adjustment for Fuser Unit

When PM parts were replaced at a PM timing or in any other case these parts were removed or replaced, the gap adjustment described in this section is required.

14.7.1 Gap adjustment for fuser belt thermostats

When any of the parts shown below was replaced or removed, check the gap between the fuser belt thermostat and the fuser belt, and then adjust it if required.

- Fuser roller
- Fuser belt
- Satellite roller
- Fuser belt thermostat (center/side)

Notes:

- Wait until the fuser unit has completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface, confirming that its 4 legs are securely grounded.
- Measure the gap while pressure is being applied to the pressure roller with the spring force. At this time be sure that the pressure screw is securely tightened so that it will no longer be turned.
- Be sure not to damage the fuser belt with the gap confirmation jig.
- Adjust the gap while the pressure roller is released from the fuser belt.
- If the fuser unit is not installed to the equipment after the replacement or adjustment but must be stored as a unit for a long time, be sure to leave the pressure roller released from the fuser belt.

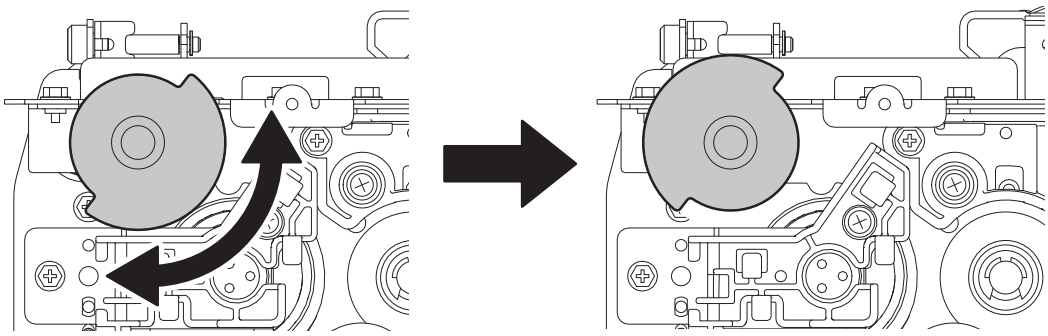

Fig. 14-121

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Gap to be confirmed

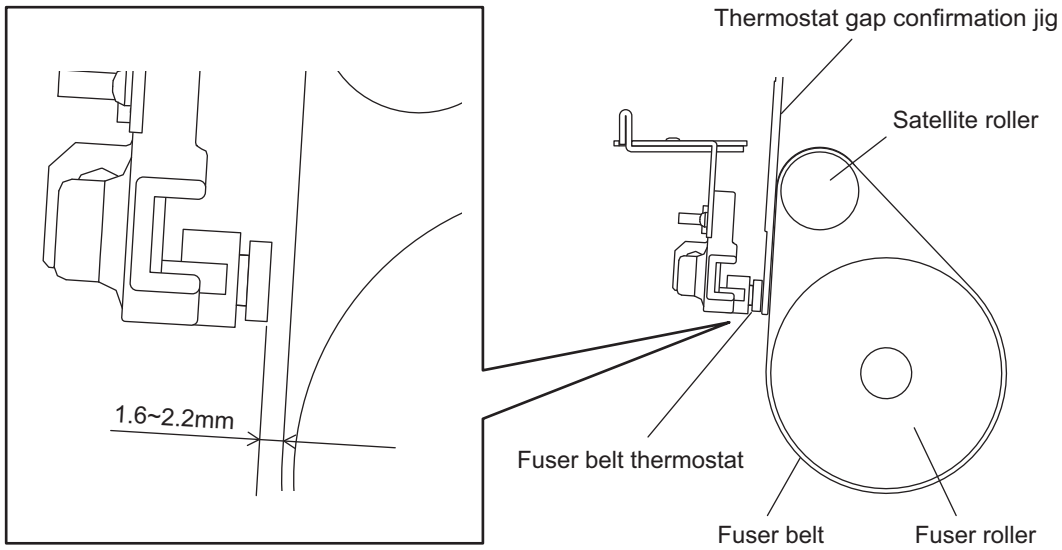

Fig. 14-122

Gap confirmation jig

- Thermostat gap confirmation jig (JIG-FU-THRMST-BP)

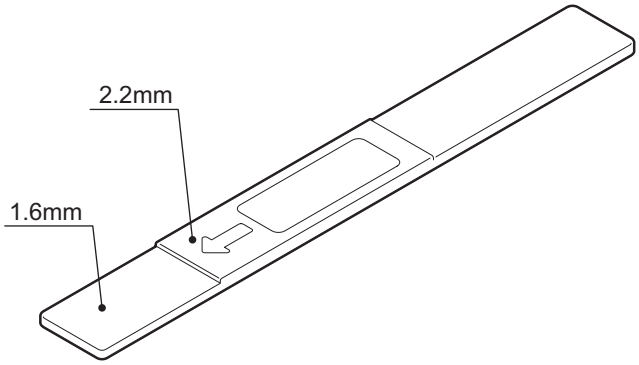

Fig. 14-123

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<Adjustment procedure>

Notes:

- When the fuser belt was replaced with a new one, turn the gear by hand for 2 or 3 rotations until the new belt works smoothly.

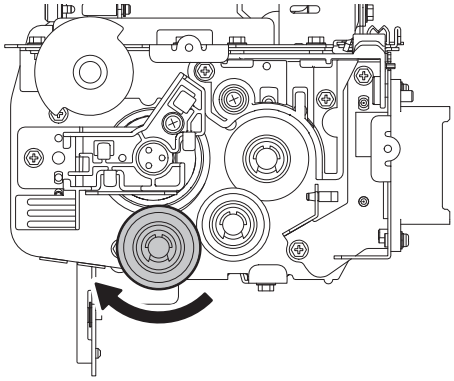
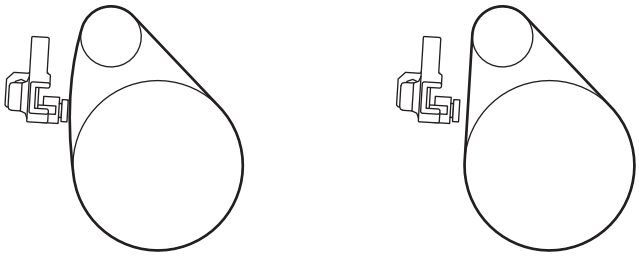


Fig. 14-124

- When the fuser belt was not replaced, do not turn the belt before you start the gap adjustment. When the fuser belt is heated and then cooled down, it has a slack where the satellite roller rolls up the belt. When this slack is moved away from the satellite roller, it makes the gap adjustment incorrect.



The slack of the fuser belt is not on the satellite roller.

The slack of the fuser belt is on the satellite roller.

Fig. 14-125

If you turned the belt before the gap adjustment by mistake, follow the procedure below to move the slack back to the position where the satellite roller rolls up the belt.
Loosen the pressure screw to remove the spring so that the pressure roller will not be pressed. Then rotate the gear to turn the belt so that a heavy load is applied on the rotation of the gear when the slack on the fuser belt passes over the satellite roller. At this time release your hand so that the slack comes at the position where the satellite roller rolls up the belt. It is easier when you check from the side if the slack has come at an appropriate position.

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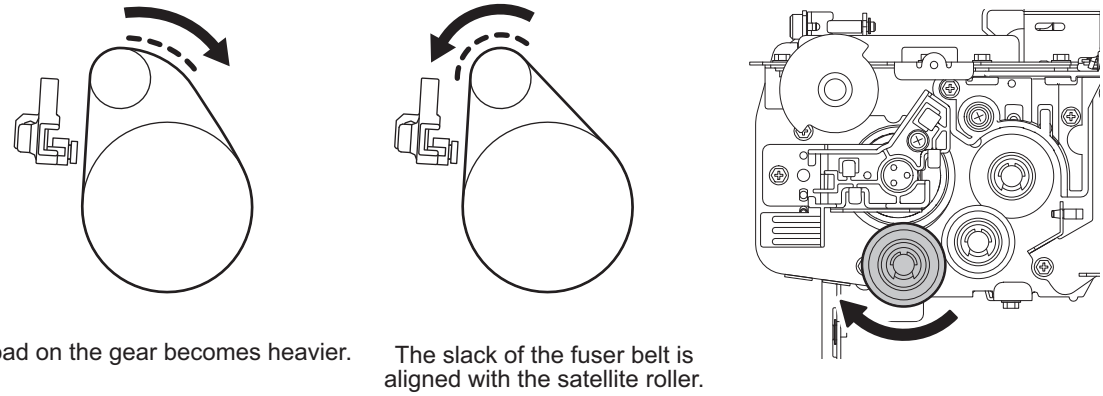

Fig. 14-126

(1) Take off the transport guide-1 from the fuser unit.
📖 P.14-28 "14.6.3 Transport guide-1"
(2) Insert the gap confirmation jig at 2 points; the gap between the fuser belt center thermostat and the fuser belt, and the gap between the fuser belt side thermostat and the fuser belt. Insert it parallel to the thermostat surface.
(3) Confirm that the 1.6 mm section of the jig is inserted without touching, but its 2.2 mm section makes contact. If this condition is met, end the procedure because no adjustment is needed. If it is not, go to step (4).
(4) Change the screw hole of the adjustment screw to a long one. Leave the adjustment screw loosened.
(5) Adjust the position of the bracket by moving it up or down while you are screwing until you can insert the 1.6 mm section of the jig without touching, but its 2.2 mm section contacts the thermostat surface.
(6) End the procedure when the statuses of both points meet the condition above.

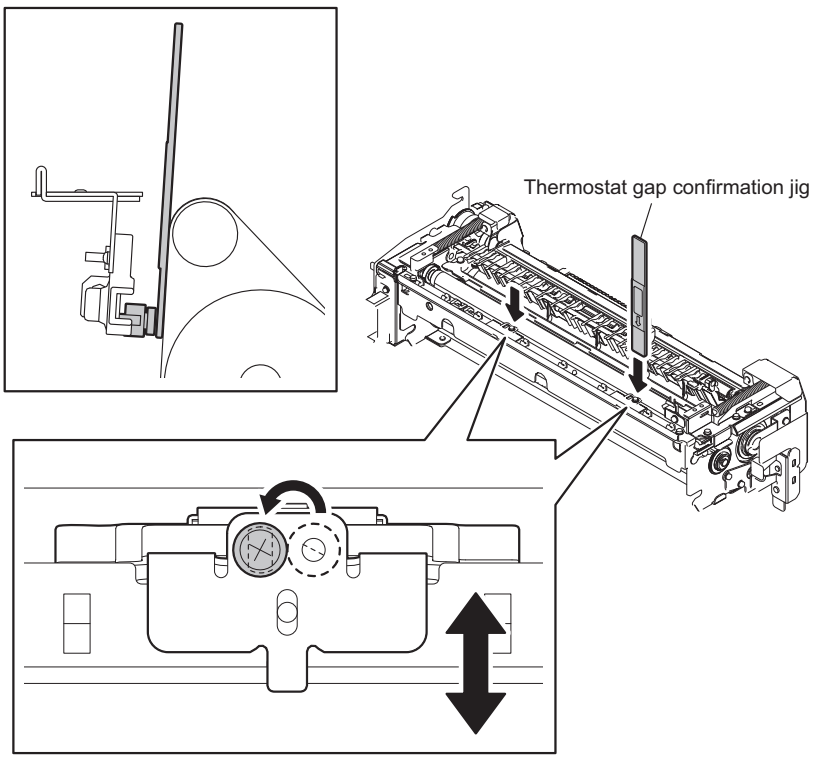

Fig. 14-127

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14.7.2 Gap adjustment for pressure roller thermistors

When any of the parts shown below was replaced or removed, check the gap between the pressure roller thermistor and the pressure roller, and then adjust it if required.

- Pressure roller
- Pressure roller thermistor (center/side)

Notes:

- Wait until the fuser unit is completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface, confirming that its 4 legs are securely grounded.
- Measure the gap while pressure is being applied to the pressure roller with the spring force. At this time be sure that the pressure screw is securely tightened so that it will no longer be turned.
- Be sure not to damage the pressure roller and the pressure roller thermistors with the gap confirmation jig.
- Adjust the gap while the pressure roller is released from the fuser belt.
- If the fuser unit is not installed to the equipment after the replacement or adjustment but must be stored as a unit for a long time, be sure to leave the pressure roller released from the fuser belt.

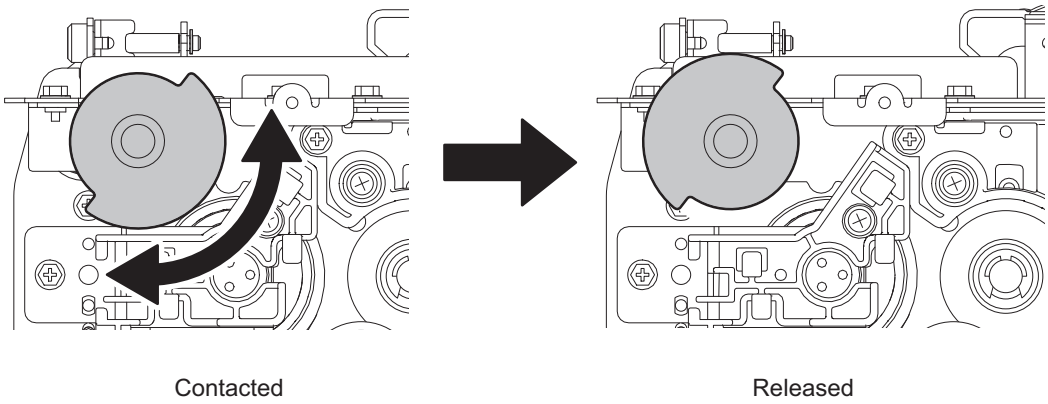

Fig. 14-128

Gap to be confirmed

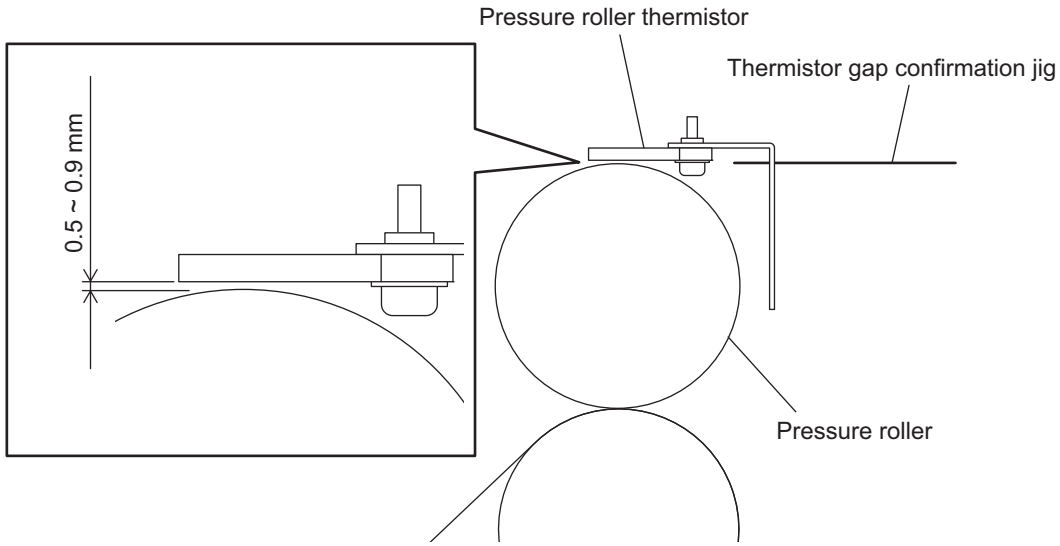

Fig. 14-129

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Gap confirmation jig

- Thermistor gap confirmation jig (ASYB-JIG-THRMIS-BP)

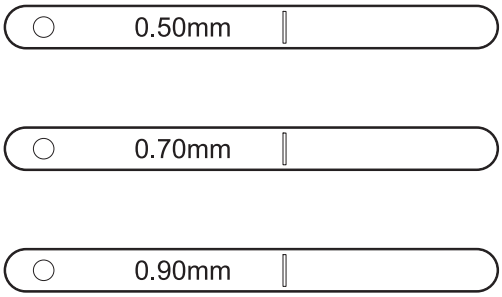

Fig. 14-130

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<Adjustment procedure>

(1) Take off the pressure roller cover from the fuser unit.
📖 P.14-27 "14.6.2 Pressure roller cover"

(2) Take off the entrance guide.
📖 P.14-29 "14.6.5 Entrance guide cover"

(3) Loosen the adjustment screw on the bracket of each thermistor. Then insert the 0.70 mm-thermistor gap confirmation jig at 2 points; the gap between the pressure roller center thermistor and the pressure roller, and the gap between the pressure roller side thermistor and the pressure roller. Insert it parallel to the thermistor surface. Then adjust the position of the bracket by moving it up or down and then fix the adjustment screw.

Note:
Adjust the scale mark of the jig to the position shown below. If not, it makes the gap adjustment incorrect.

(4) Confirm that the 0.50 mm-thermistor gap confirmation jig is inserted without touching, but the 0.90 mm-jig contacts the thermistor surface. If this condition is met, end the procedure because no adjustment is needed. If it is not, repeat the procedure from step (3).

Note:
Adjust the scale mark of the jig to the position shown below. If not, it makes the gap adjustment incorrect.

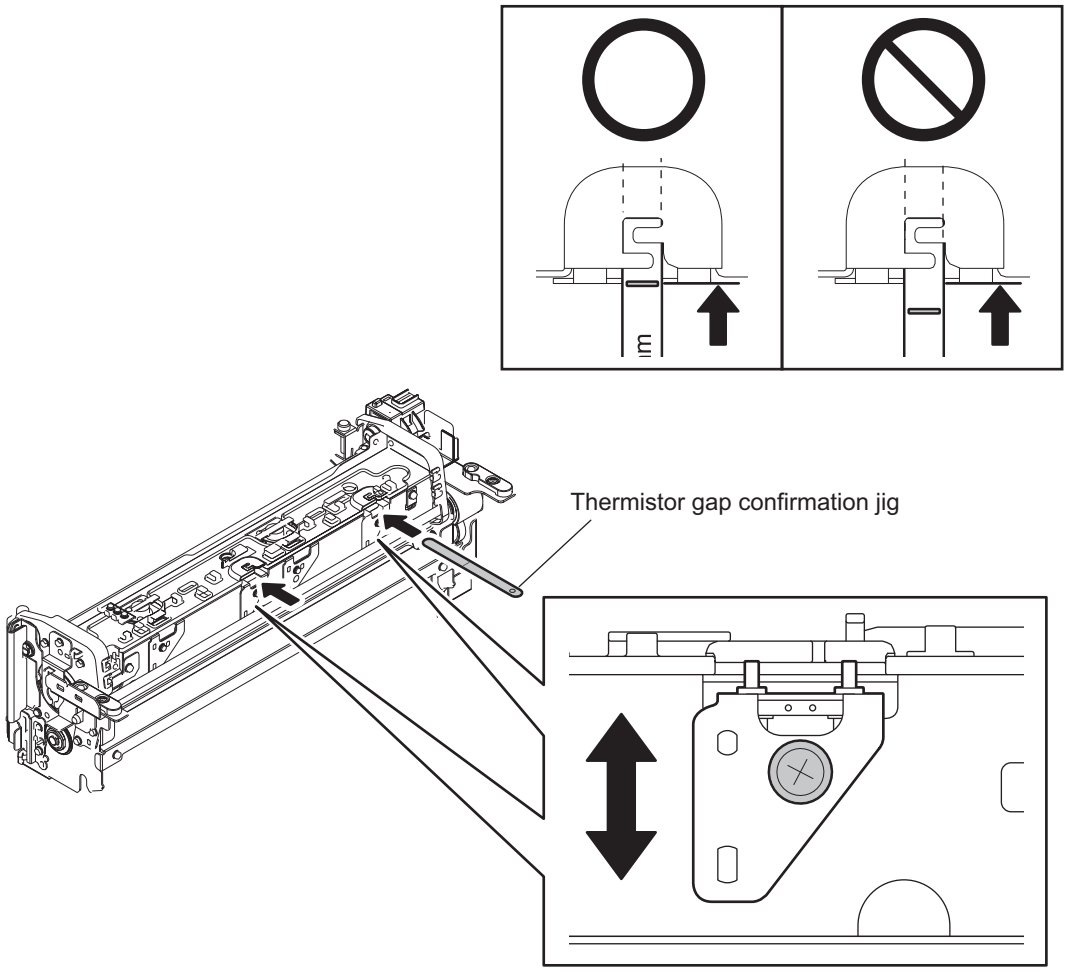

Fig. 14-131

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14.7.3 Gap adjustment for pressure roller thermostats

When any of the parts shown below was replaced or removed, check the gap between the pressure roller thermostat and the pressure roller, and then adjust it if required.

- Pressure roller
- Pressure roller thermostat (center/side)

Notes:

- Wait until the fuser unit is completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface, confirming that its 4 legs are securely grounded.
- Measure the gap while pressure is being applied to the pressure roller with the spring force. At this time be sure that the pressure screw is securely tightened so that it will no longer be turned.
- Be sure not to damage the pressure roller with the gap confirmation jig.
- Adjust the gap while the pressure roller is released from the fuser belt.
- If the fuser unit is not installed to the equipment after the replacement or adjustment but must be stored as a unit for a long time, be sure to leave the pressure roller released from the fuser belt.

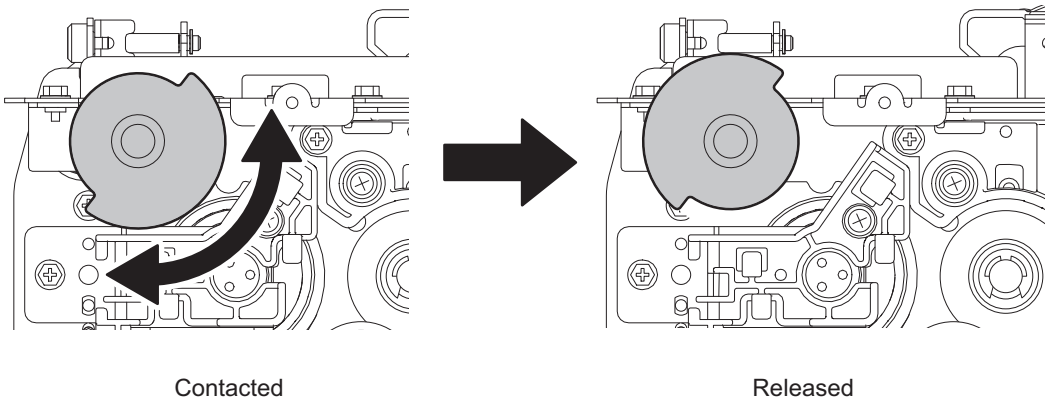

Fig. 14-132

Gap to be confirmed

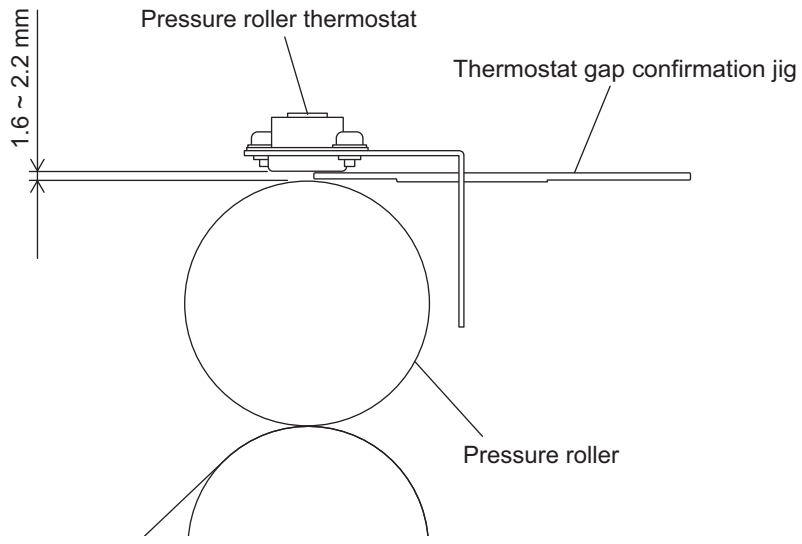

Fig. 14-133

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Gap confirmation jig

- Thermostat gap confirmation jig (JIG-FU-THRMST-BP)

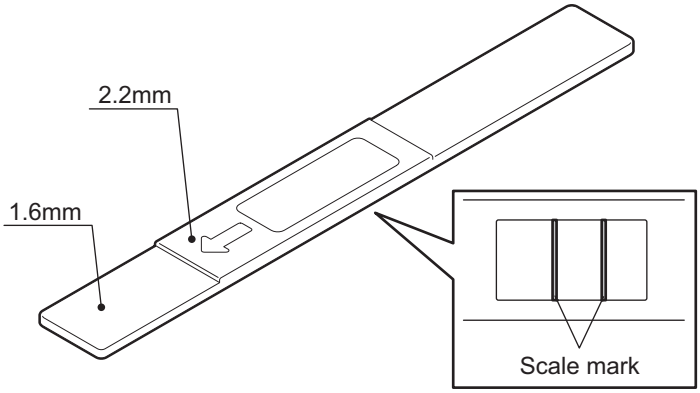

Fig. 14-134

<Adjustment procedure>

(1) Take off the pressure roller cover from the fuser unit.
📖 P.14-27 "14.6.2 Pressure roller cover"
(2) Take off the entrance guide.
📖 P.14-29 "14.6.5 Entrance guide cover"
(3) Insert the thermostat gap confirmation jig at 2 points; the gap between the pressure roller center thermostat and the pressure roller, and the gap between the pressure roller side thermostat and the pressure roller. Insert it parallel to the thermostat surface.
(4) Confirm that the 1.6 mm section of the thermostat gap confirmation jig is inserted without touching, but its 2.2 mm section contacts the thermostat surface. If this condition is met, end the procedure because no adjustment is needed. If it is not, go to step (5).

Note:
Adjust the scale mark of the jig to the position shown below. If not, it makes the gap adjustment incorrect.

(5) Change the screw hole of the adjustment screw to a long one. Leave the adjustment screw loosened.
(6) Adjust the position of the bracket by moving it up or down while you are screwing until you can insert the 1.6 mm section of the jig without touching, but its 2.2 mm section contacts the thermostat surface.

Note:
Adjust the scale mark of the jig to the position shown below. If not, it makes the gap adjustment incorrect.

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(7) End the procedure when both points meet the condition above.

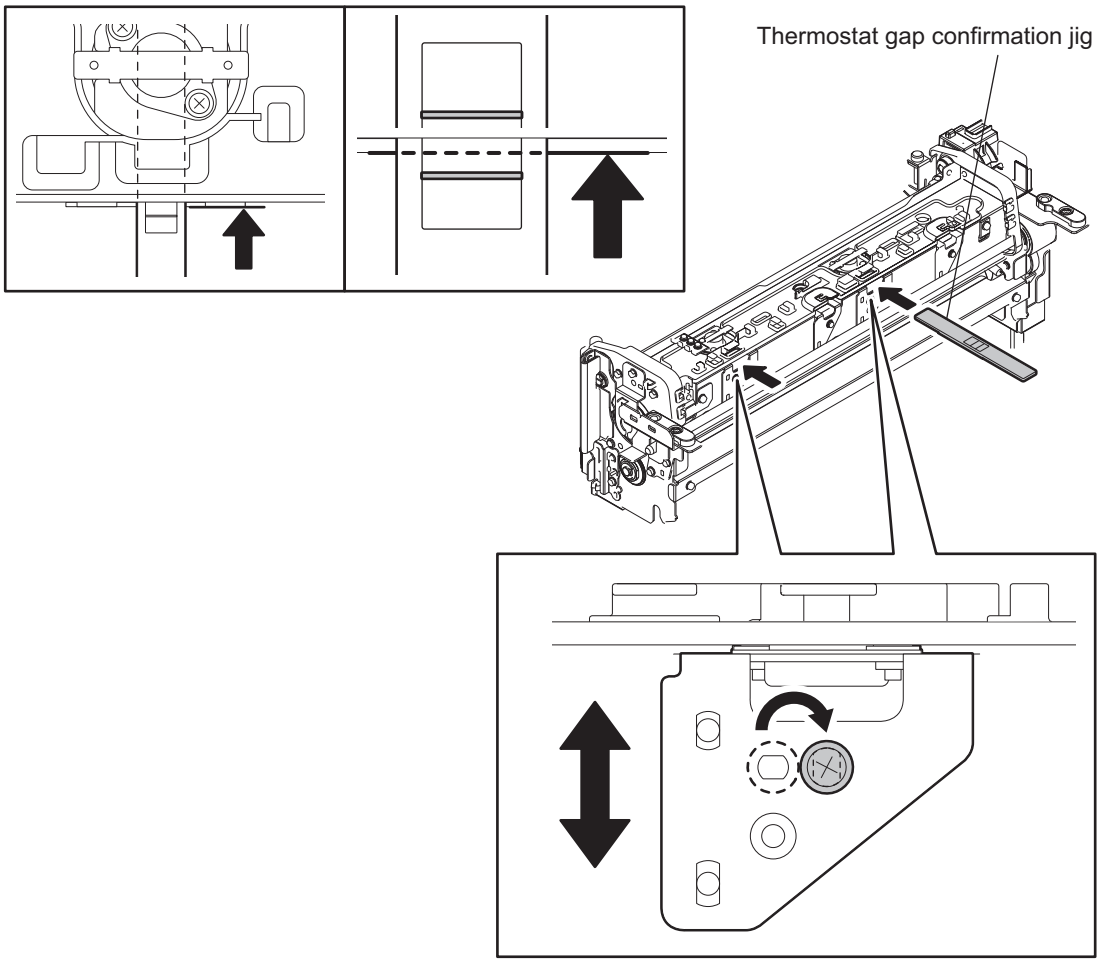

Fig. 14-135

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14.7.4 Gap adjustment for separation plate

When the separation plate was replaced or removed or when the adjustment screw was moved, check the gap between the separation plate and the fuser belt, and then adjust it if required.

Notes:

- Wait until the fuser unit is completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface, confirming that its 4 legs are securely grounded.
- Measure the gap while pressure is being applied to the pressure roller with the spring force. At this time be sure that the pressure screw is securely tightened so that it will no longer be turned.
- Be sure not to damage the fuser belt with the gap confirmation jig.
- Adjust the gap while the pressure roller is released from the fuser belt.
- If the fuser unit is not installed to the equipment after the replacement or adjustment but must be stored as a unit for a long time, be sure to leave the pressure roller released from the fuser belt.

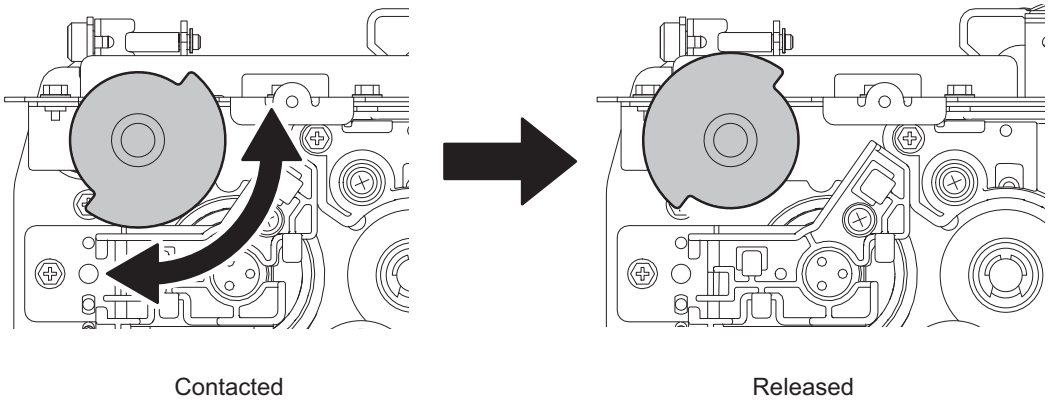

Fig. 14-136

Gap to be confirmed

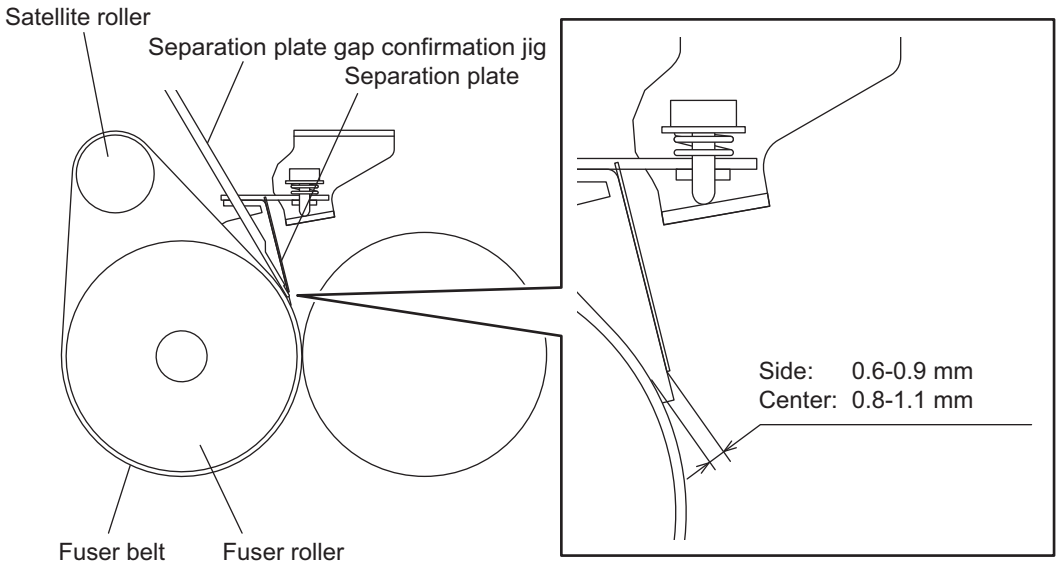

Fig. 14-137

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Gap confirmation jig

- Separation plate gap confirmation jig (JIG-FU-SEP-BP)

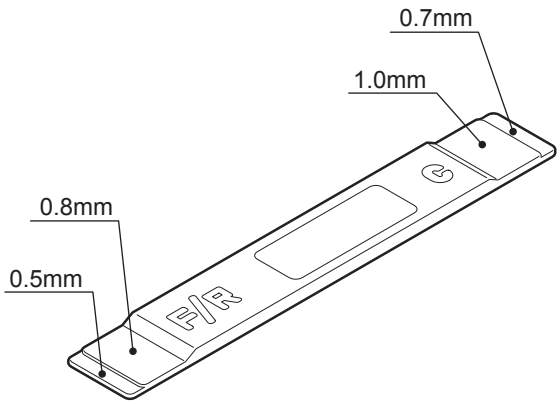

Fig. 14-138

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<Adjustment procedure>

Notes:

- When the fuser belt was replaced with a new one, turn the gear by hand for 2 or 3 rotations until the new belt works smoothly.

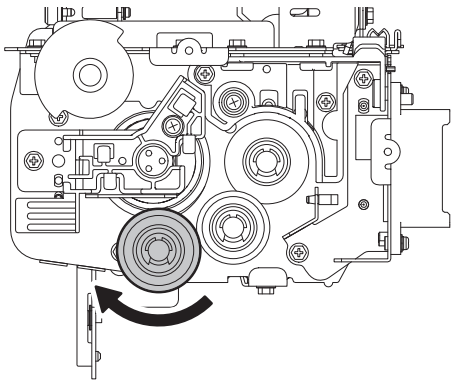
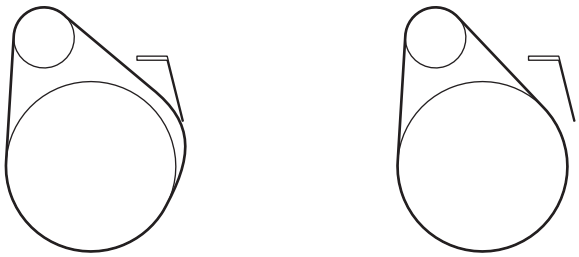


Fig. 14-139

- When the fuser belt was not replaced, do not turn the belt before you start the gap adjustment. When the fuser belt is heated and then cooled down, it has a slack where the satellite roller rolls up the belt. When this slack is moved away from the satellite roller, it makes the gap adjustment incorrect.

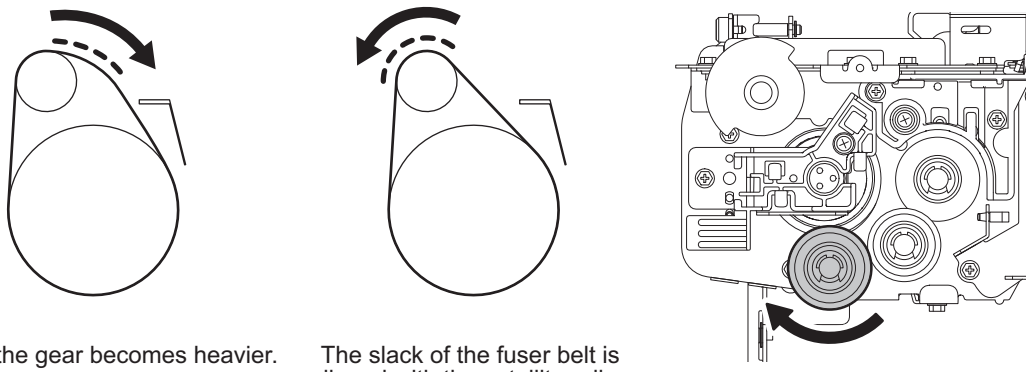


The slack of the fuser belt is not on the satellite roller.

The slack of the fuser belt is on the satellite roller.

Fig. 14-140

If you turned the belt before the gap adjustment by mistake, follow the procedure below to move the slack back to the position where the satellite roller rolls up the belt.
Loosen the pressure screw to remove the spring so that the pressure roller will not be pressed. Then rotate the gear to turn the belt so that a heavy load is applied on the rotation of the gear when the slack on the fuser belt passes over the satellite roller. At this time release your hand so that the slack comes at the position where the satellite roller rolls up the belt. It is easier when you check from the side if the slack has come at an appropriate position.



Load on the gear becomes heavier.

The slack of the fuser belt is aligned with the satellite roller.

Fig. 14-141

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(1) Remove 3 screws to take off the transport guide-1 cover from the fuser unit.

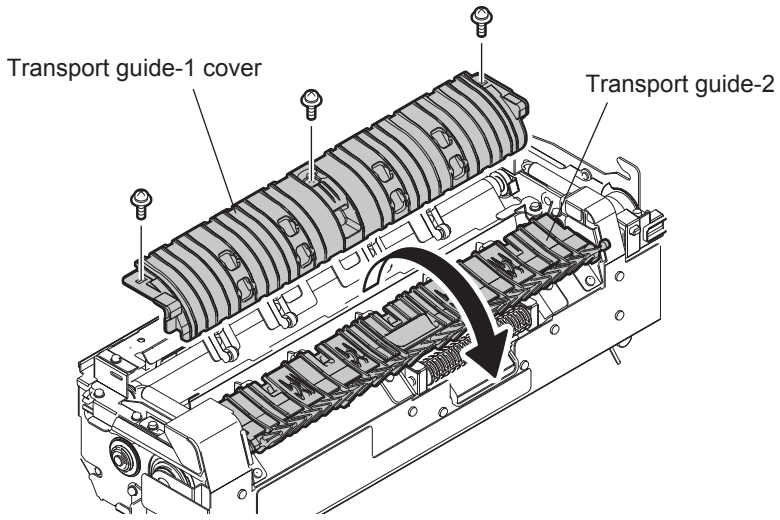

Fig. 14-142

(2) Insert the “F/R” side of the separation plate gap confirmation jig into the window closest to you of the separation plate.
(3) Adjust the gap with the adjustment screw until the 0.5 mm section of the jig is inserted without touching, but its 0.8 mm section contacts the separation plate.
(4) Insert the “F/R” side of the jig into the window of the separation plate, which is farthest away from you, and then adjust the gap.
(5) Insert the “C” side of the jig into the window at the center of the separation plate.
(6) Adjust the gap with the adjustment screw until the 0.7 mm section of the jig is inserted without touching, but its 1.0 mm section contacts the separation plate surface.

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(7) Repeat step (2) to (6). If you can confirm that all gaps are the correct values, end the procedure.

Notes:

If the separation plate gap is not adjusted correctly, the problems below may occur.

- If the gap is too large, paper jams may occur frequently when photo images are copied on thin paper.
- If the gap is too small, stains may appear on the copied image because the separation plate may scratch the fuser belt.

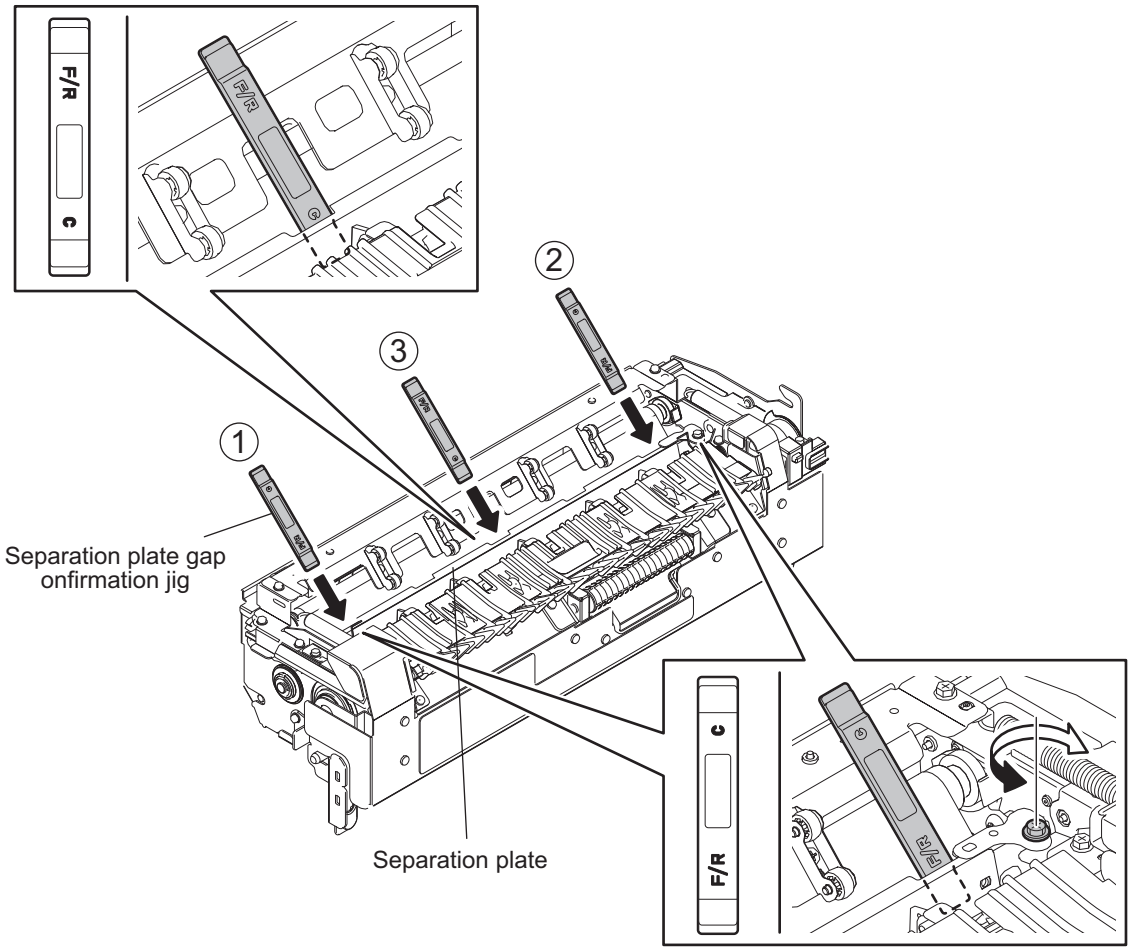

Fig. 14-143

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15. EXIT / REVERSE / DUPLEX SECTION

15.1 General Description

In the paper exit section paper transported from the bridge unit is transported to the upper exit tray or the lower exit tray.The bridge unit transports paper transported from the fuser unit to the paper exit section. For duplex printing, the bridge unit makes paper switchbacked to the duplexing unit.The duplexing unit reverses paper for duplex printing. When printing on one side of paper is finished, the paper is transported from the bridge unit to the duplexing unit, and then the duplexing unit reverses and transports the paper to the registration roller with the other side up.

- Paper exit unit

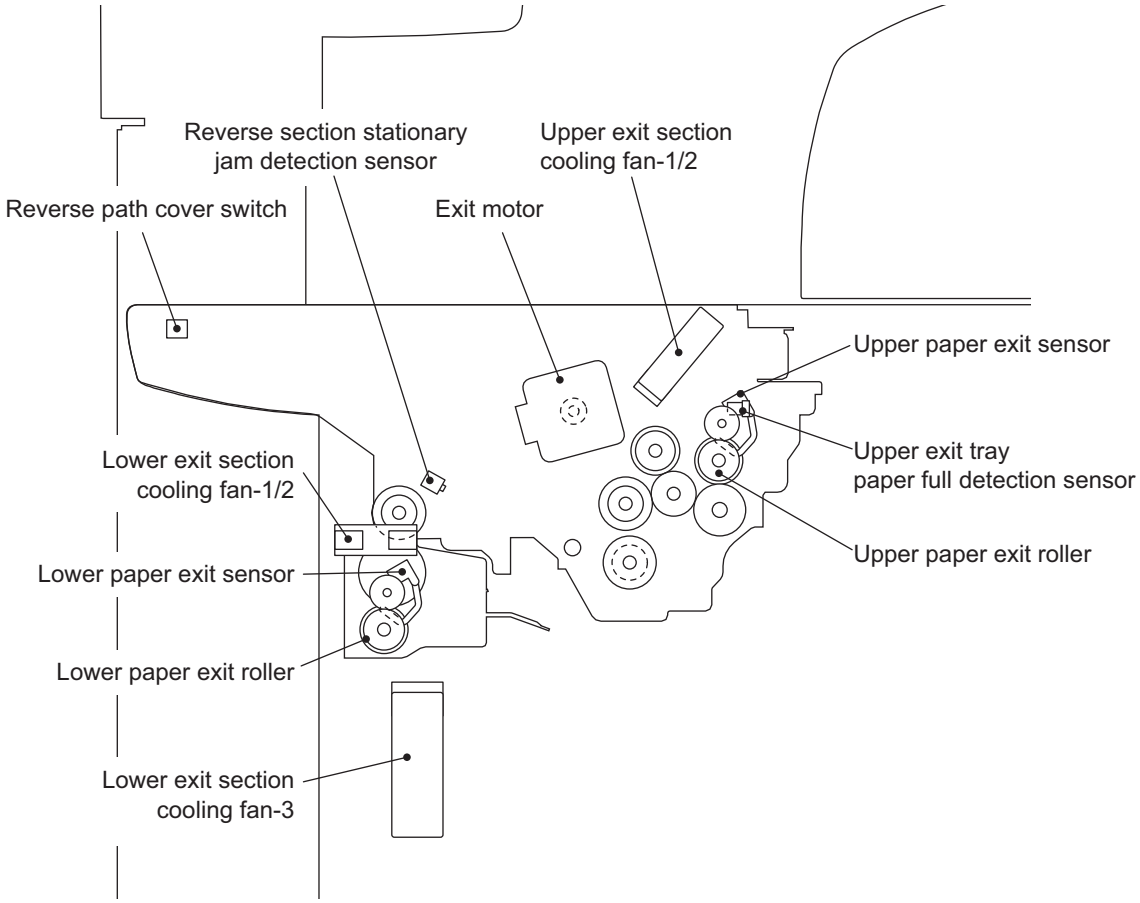

Fig. 15-1

15

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- Bridge unit

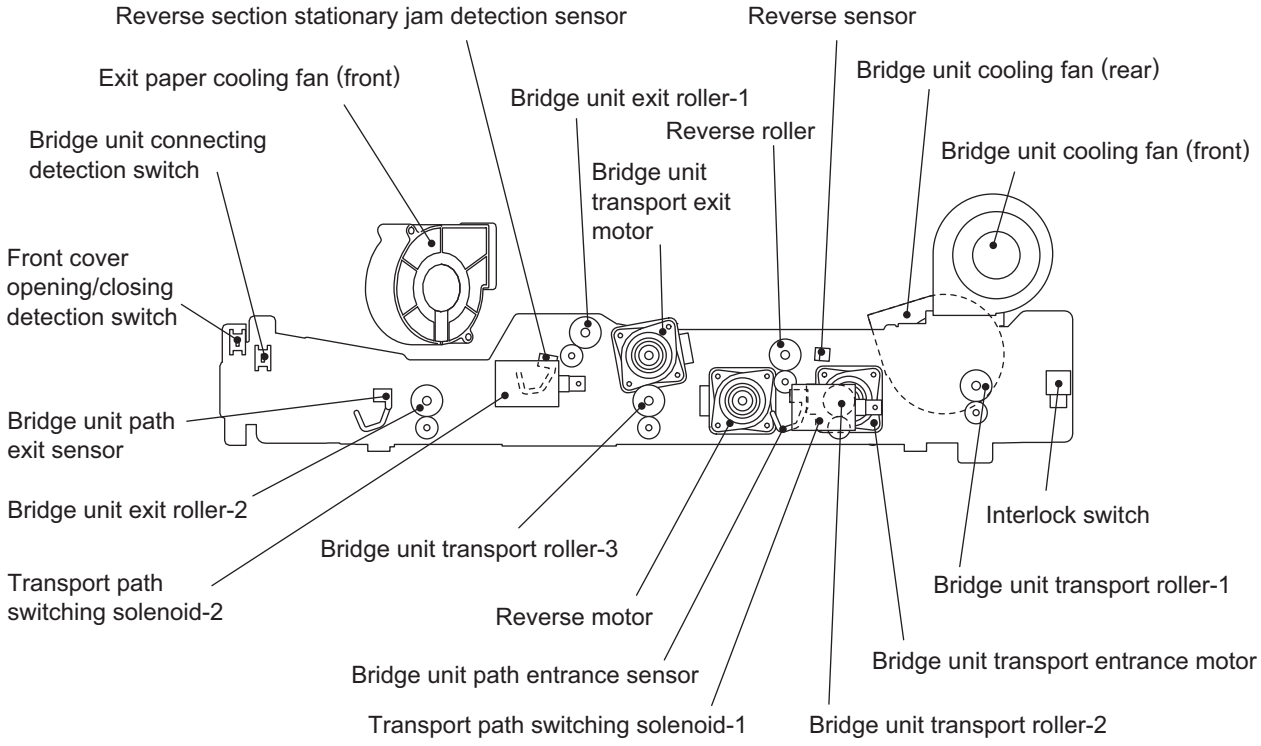

Fig. 15-2

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- Duplexing bridge unit / Duplexing unit

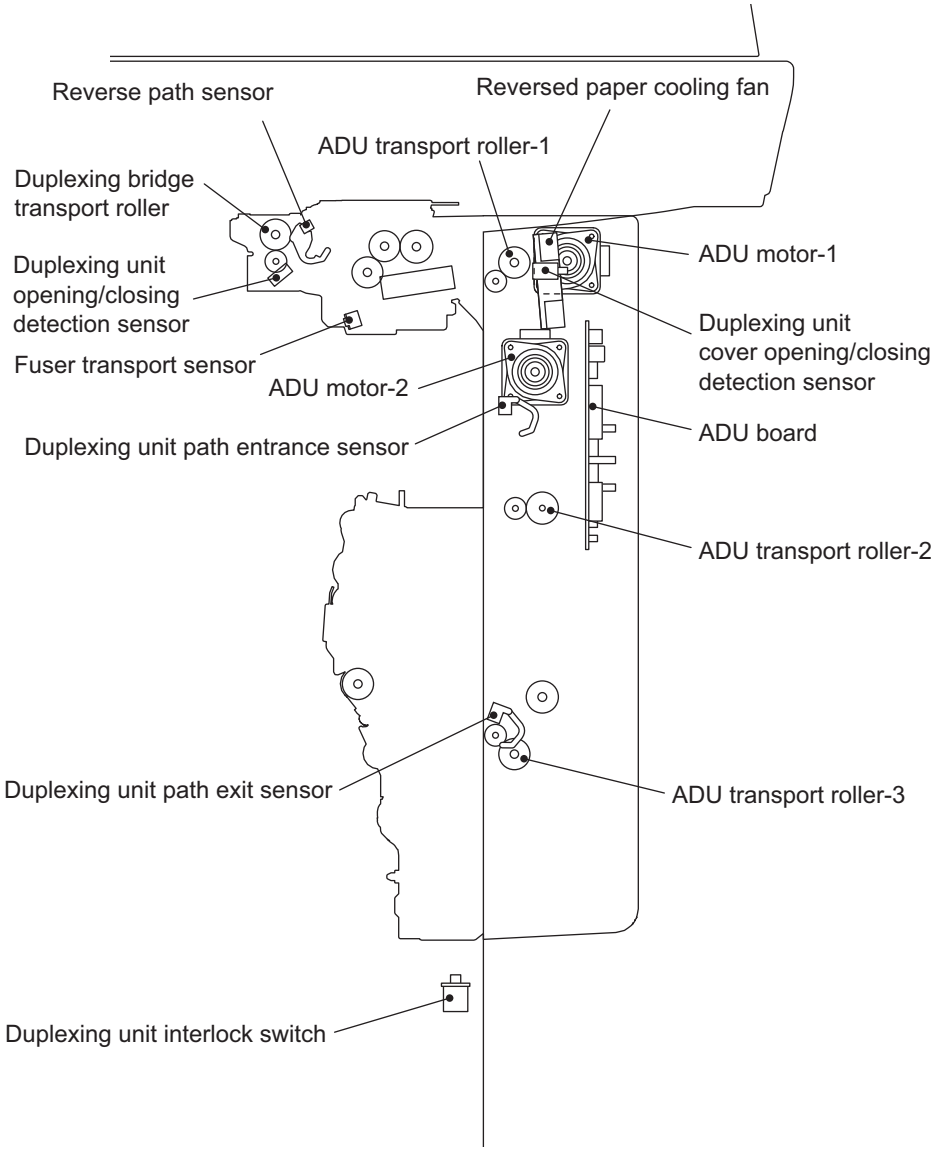

Fig. 15-3

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15.2 Composition

Paper exit unit	Upper paper exit sensor	(S61)
	Upper exit tray paper full detection sensor	(S62)
	Lower paper exit sensor	(S63)
	Reverse section stationary jam detection sensor	(S60)
	Reverse path cover switch	(SW5)
	Upper paper exit roller	
	Lower paper exit roller	
	Upper exit section cooling fan-1	(F32)
	Upper exit section cooling fan-2	(F33)
	Lower exit section cooling fan-1	(F34)
	Lower exit section cooling fan-2	(F35)
	Lower exit section cooling fan-3	(F36)
	Exit motor	(M2)
Bridge unit	Bridge unit path entrance sensor	(S55)
	Bridge unit path exit sensor	(S56)
	Reverse section stationary jam detection sensor	(S58)
	Reverse sensor	(S59)
	Interlock switch	(SW2)
	Bridge unit connecting detection switch	(SW8)
	Front cover opening/ closing detection switch	(SW9)
	Transport path switching solenoid-1	(SOL1)
	Transport path switching solenoid-2	(SOL2)
	Exit paper cooling fan (front)	(F5)
	Bridge unit cooling fan (front)	(F6)
	Bridge unit cooling fan (rear)	(F7)
	Bridge unit transport roller-1	
	Bridge unit transport roller-2	
	Bridge unit transport roller-3	
	Reverse roller	
	Bridge unit exit roller-1	
	Bridge unit exit roller-2	
	Bridge unit transport entrance motor	(M4)
	Bridge unit transport exit motor	(M5)
	Reverse motor	(M3)
Duplexing bridge unit	Duplexing unit opening/ closing detection sensor	(S64)
	Reverse path sensor	(S57)
	Duplexing bridge transport roller	

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Duplexing unit	Duplexing unit path entrance sensor	(S66)
	Duplexing unit path exit sensor	(S67)
	Duplexing unit interlock switch	(SW4)
	Duplexing unit cover opening/ closing detection sensor	(SW7)
	ADU board	(ADU)
	Reversed paper cooling fan	(F11)
	ADU transport roller-1	
	ADU transport roller-2	
	ADU transport roller-3	
	ADU motor-1	(M7)
	ADU motor-2	(M8)
	Fuser transport sensor	(S65)

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15.3 Functions

15.3.1 Paper exit unit

1. Upper paper exit sensor (S61)
   This sensor detects that paper is transported to the upper exit tray.

2. Upper exit tray paper full detection sensor (S62)
   This sensor detects the full status of the upper exit tray.

3. Lower paper exit sensor (S63)
   This sensor detects that paper is transported to the lower exit tray.

4. Reverse section stationary jam detection sensor (S60)
   This sensor detects the presence of paper in the reverse path section when a paper jam occurs.

5. Reverse path cover switch (SW5)
   This switch detects the opening/closing status of the reverse path cover.

6. Upper paper exit roller
   This roller transports paper transported from the bridge unit to the upper exit tray.

7. Lower paper exit roller
   This roller transports paper transported from the bridge unit to the lower exit tray.

8. Upper exit section cooling fan-1 (F32) / Upper exit section cooling fan-2 (F33)
   These fans cool down paper which exits to the upper exit section.

9. Lower exit section cooling fan-1 (F34) / Lower exit section cooling fan-2 (F35) / Lower exit section cooling fan-3 (F36)
   These fans cool down paper which exits to the lower exit section.

10. Exit motor (M2)
    This motor drives the upper and lower exit rollers to make paper exit.

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15.3.2 Bridge unit

1. Bridge unit path entrance sensor (S55)
   This sensor detects that paper is being transported at the entrance of the transport path of the bridge unit to the lower exit tray.

2. Bridge unit path exit sensor (S56)
   This sensor detects that paper is transported at the exit of the transport path in the bridge unit to the lower exit tray.

3. Reverse section stationary jam detection sensor (S58)
   This sensor detects the presence of paper in the reverse path section when a paper jam occurs.

4. Transport path switching solenoid-1 (SOL1)
   This solenoid switches the transport paths by driving a flap at the entrance of the bridge unit.

5. Transport path switching solenoid-2 (SOL2)
   This solenoid switches the transport paths by driving a flap at the center of the bridge unit.

6. Reverse sensor (S59)
   This sensor detects that the reversed paper is being transported.

7. Bridge unit connecting detection switch (SW8)
   This switch detects the opening/closing status of the bridge unit.

8. Front cover opening/closing detection switch (SW9)
   This switch detects the opening/closing status of the front cover.

9. Exit paper cooling fan (front) (F5)
   This fan cools down exiting or reversed paper in the bridge unit and reduces the heat conduction to the scanner. It also suppresses condensation, which occurs when the paper moisture is evaporated by the fuser unit. In this way, the exposure of the paper to water is avoided.

10. Bridge unit cooling fan (front) (F6)
    This fan cools down exiting or reversed paper in the bridge unit and reduces the heat conduction to the scanner. It also suppresses condensation, which occurs when the paper moisture is evaporated by the fuser unit. In this way, the exposure of the paper to water is avoided.

11. Bridge unit cooling fan (rear) (F7)
    This fan cools down exiting or reversed paper in the bridge unit and reduces the heat conduction to the scanner. It also suppresses condensation, which occurs when the paper moisture is evaporated by the fuser unit. In this way, the exposure of the paper to water is avoided. It cools down the bridge unit transport entrance motor, bridge unit transport exit motor and reverse motor as well.

12. Bridge unit transport roller-1/ Bridge unit transport roller-2/ Bridge unit transport roller-3
    This roller transports paper in the bridge unit.

13. Reverse roller
    This roller transports paper in the bridge unit to the duplexing unit during duplex printing.

14. Bridge unit exit roller-1/ Bridge unit exit roller-2
    This roller transports paper in the bridge unit to the upper and lower exit trays.

15. Bridge unit transport entrance motor (M4)
    This motor drives the transport roller to transport paper in the bridge unit.

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16. Bridge unit transport exit motor (M5)
    This motor drives the transport roller to transport paper in the bridge unit.

17. Reverse motor (M3)
    This motor drives the reverse roller to transport paper in the bridge unit.

15.3.3 Duplexing bridge unit

1. Duplexing unit opening/closing detection sensor (S64)
   This sensor detects the opening/closing status of the duplexing unit.

2. Reverse path sensor (S57)
   This sensor detects that paper is being transported from the bridge unit to the duplexing unit.

3. Duplexing bridge transport roller
   This roller transports paper from the bridge unit to the duplexing unit.

15.3.4 Duplexing unit

1. Duplexing unit path entrance sensor (S66)
   This sensor detects that paper is transported at the entrance of the duplexing unit.

2. Duplexing unit path exit sensor (S67)
   This sensor detects that paper is transported at the exit of the duplexing unit.

3. Fuser transport sensor (S65)
   This sensor detects that paper is being transported from the fuser unit.

4. Duplexing unit interlock switch (SW4)
   This switch detects the opening/closing status of the duplexing unit.

5. Duplexing unit cover opening / closing detection sensor (SW7)
   This sensor detects the opening/closing status of the duplexing unit cover.

6. Reversed paper cooling fan (F11)
   This fan cools down paper reversed in the duplexing unit.

7. ADU transport roller-1/ ADU transport roller-2/ ADU transport roller-3
   This roller transport paper in the duplexing unit to the registration roller.

8. ADU motor-1 (M7)
   This motor drives the duplexing bridge transport roller and the ADU transport roller-1 to transport paper to the duplexing unit.

9. ADU motor-2 (M8)
   This motor drives the ADU transport rollers-2 and -3 to transport paper in the duplexing unit.

10. ADU board (ADU)
    This board controls the operations of the duplexing unit.

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15.4 Description of Operations

Paper brought from the fuser unit to the bridge unit is then transported to either the upper or lower exit tray of the paper exit unit by means of bridge unit transport rollers-1, -2 and -3, and bridge unit exit rollers-1 and -2. To transport paper to the upper exit tray, transport path switching solenoids-1 (SOL1) and -2 (SOL2) are turned ON in order to lower flappers-1 and -2. To transport it to the lower exit tray, only transport path switching solenoid-1 (SOL1) is turned OFF in order not to lower flapper-1. The paper transported from the bridge unit to the paper exit unit is then made to exit by the upper or lower exit roller.

When the duplex printing mode is selected, first the print data of the back side of the original are printed on the back side of the fed paper, and then the printed paper is transported from the fuser unit to the bridge unit. At this time transport path switching solenoid-1 (SOL1) is turned ON in order to lower flapper-1, and transport path switching solenoid-2 (SOL2) is turned OFF in order not to lower flapper-2, so that the paper will be transported to the reverse path section.When the reverse sensor (S59) of the bridge unit detects the trailing edge of the paper, the reverse roller is driven to switch back the paper to the duplexing unit via the duplexing bridge unit. Then the print data of the front side of the original are printed on the front side of the paper that was transported from the duplexing unit to the registration section. After printing on the both sides of the paper is completed, the paper is made to exit by the bridge unit and the paper exit unit.

Paper jams on the upper transport path are detected by means of the reverse sensor (S59) of the bridge unit and the upper paper exit sensor (S61) of the paper exit unit. Paper jams on the lower transport path are detected by means of the bridge unit path entrance sensor (S55), bridge unit path exit sensor (S56) and lower paper exit sensor (S63). Paper jams on the reverse path are detected by means of the reverse path sensor (S57). The reverse section stationary jam detection sensor (S58) of the bridge unit and another reverse section stationary jam detection sensor (S60) of the paper exit unit detect where the jammed paper lies on the reverse path.

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15.4.1 Paper transport paths

1. Upper exit section

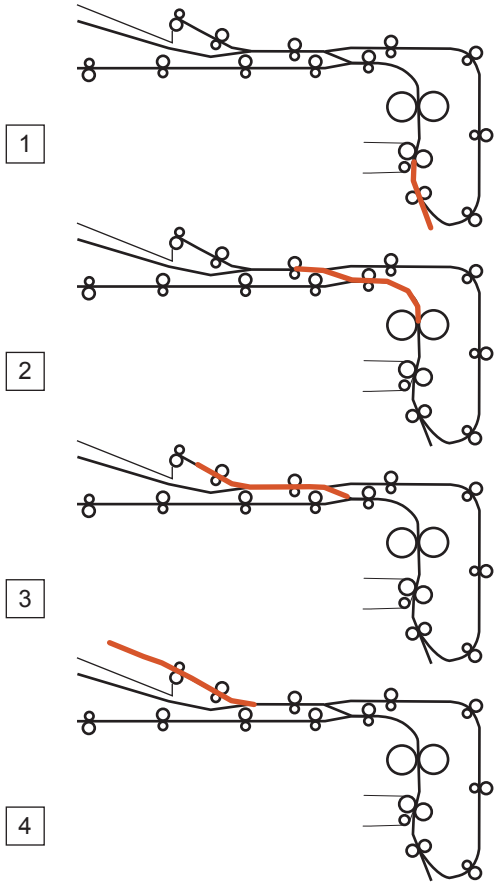

Fig. 15-4

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2. Lower exit section

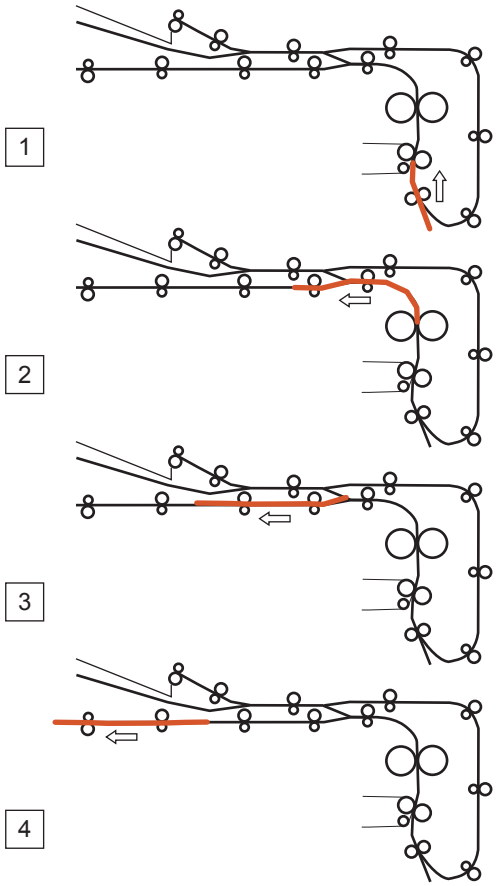

Fig. 15-5

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15.4.2 Circulation during duplex printing

1. Larger than A4/LT size paper, 2 sheets
   Duplex printing is performed in the following order:
   Back side of the 1st sheet (1B) → Back side of the 2nd sheet (2B) →
   Front side of the 1st sheet (1A) → Front side of the 2nd sheet (2A)

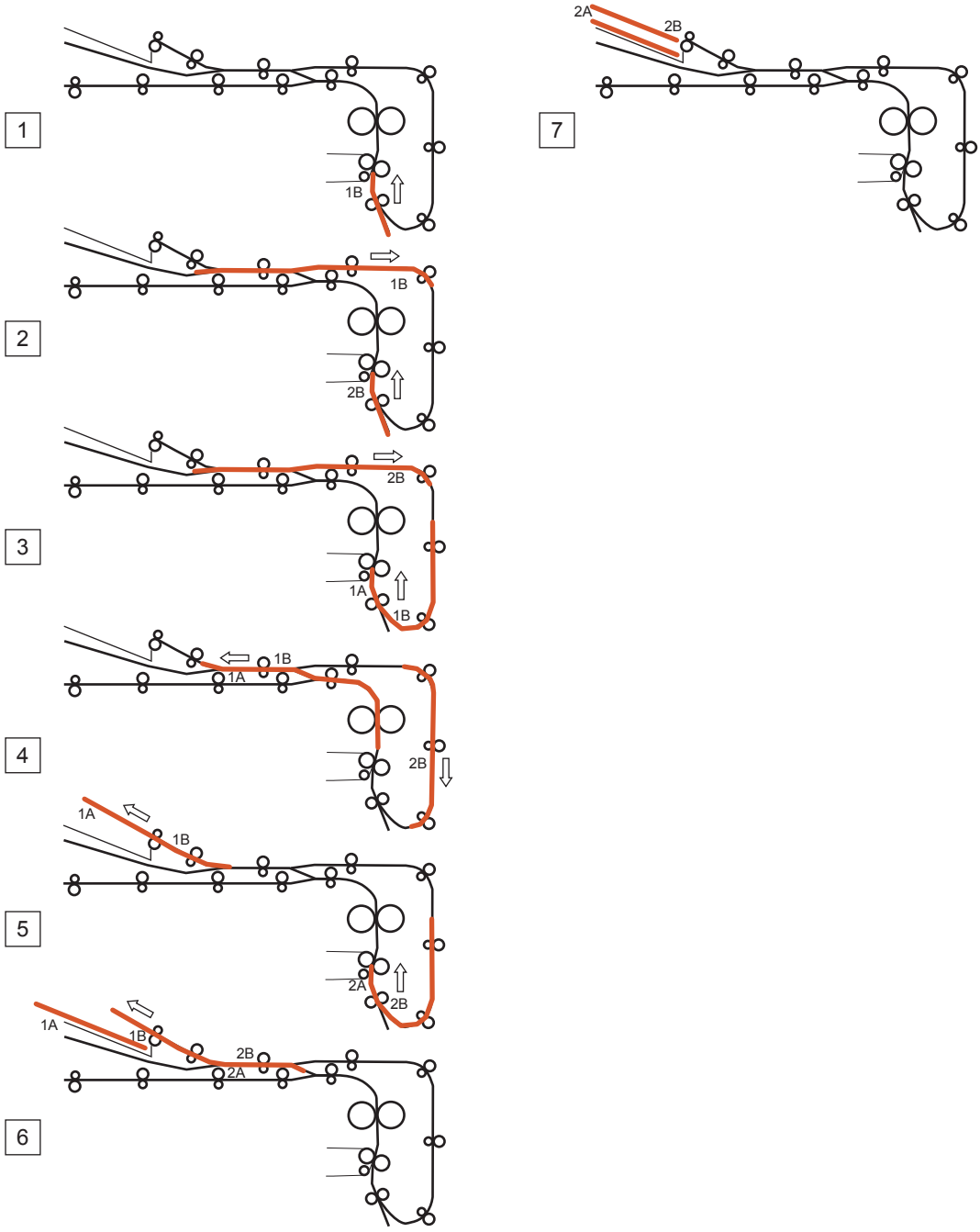

Fig. 15-6

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2. A4/LT size paper or smaller, 3 sheets
   Duplex printing is performed in the following order:
   Back side of the 1st sheet (1B) → Back side of the 2nd sheet (2B) →
   Back side of the 2nd sheet (3B) → Front side of the 1st sheet (1A) →
   Front side of the 1st sheet (2A) → Front side of the 1st sheet (3A) →

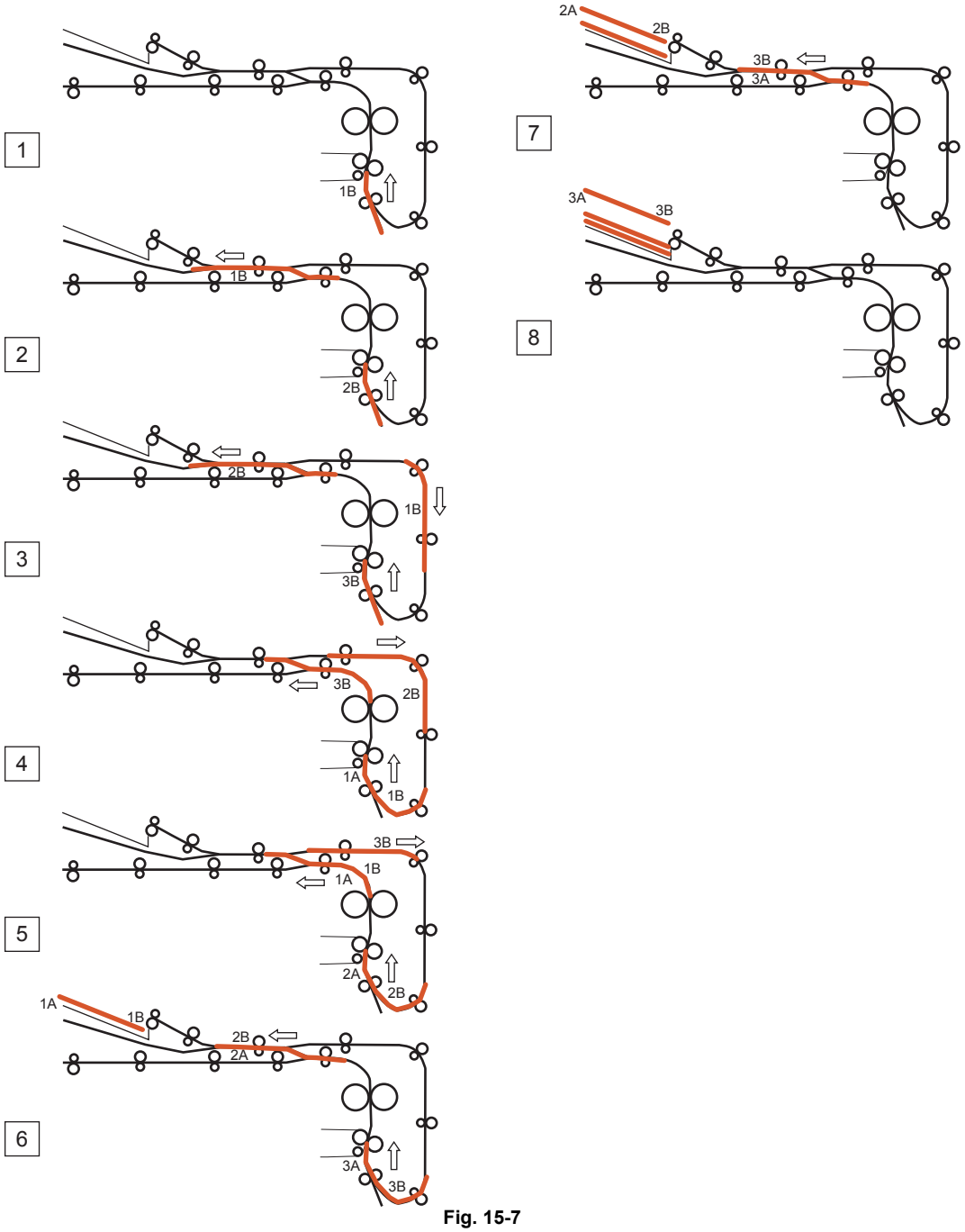

Fig. 15-7

15

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3. Larger than A4/LT size paper, 3 sheets
   Duplex printing is performed in the following order:
   Back side of the 1st sheet (1B) → Back side of the 2nd sheet (2B) →
   Front side of the 1st sheet (1A) → Back side of the 3rd sheet (3B) →
   Front side of the 2nd sheet (2A) → Front side of the 3rd sheet (3A)

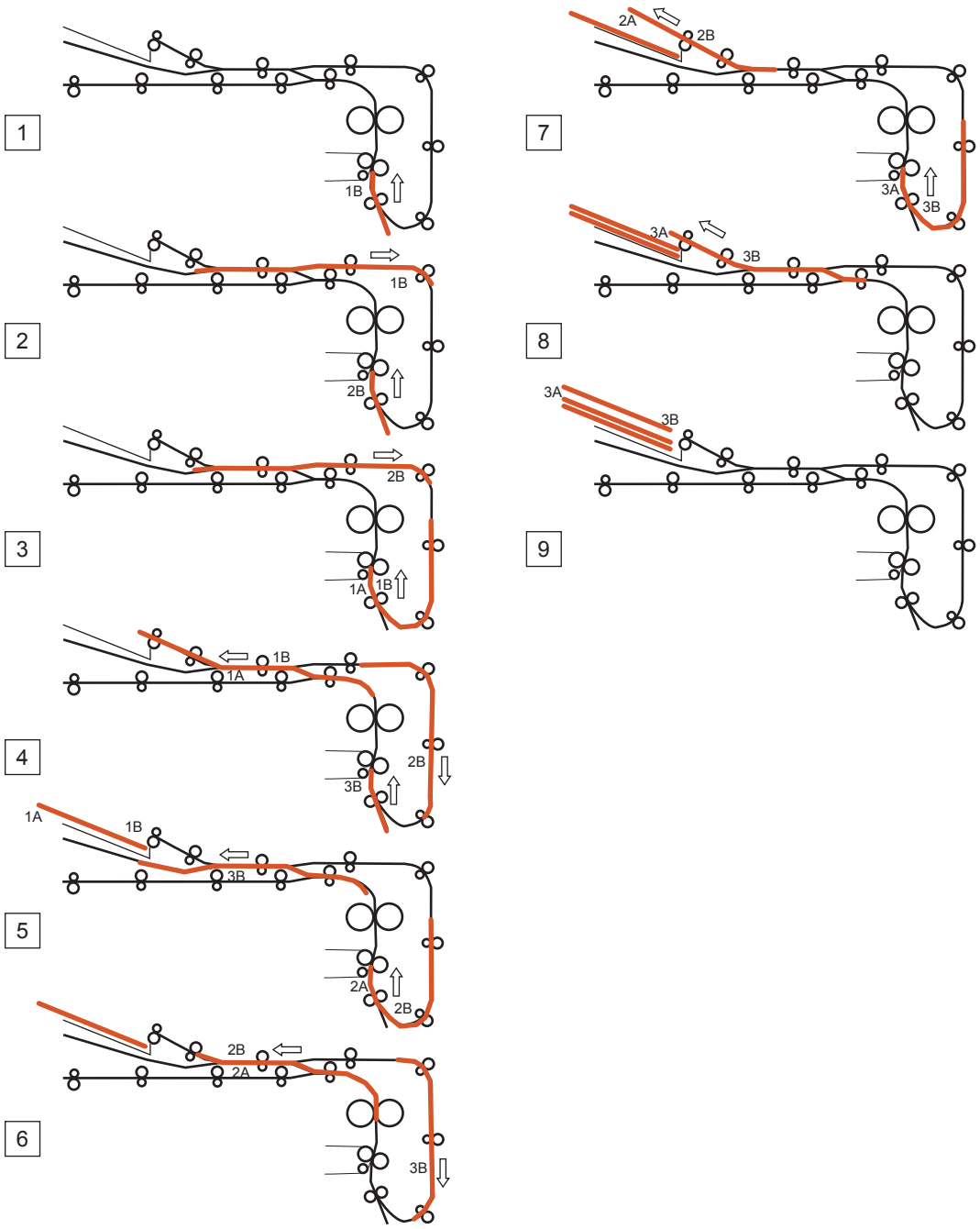

Fig. 15-8

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4. A4/LT size paper or smaller, 5 sheets
   Duplex printing is performed in the following order:
   Back side of the 1st sheet (1B) → Back side of the 2nd sheet (2B) →
   Back side of the 1st sheet (3B) → Front side of the 3rd sheet (1A) →
   Back side of the 1st sheet (4B) → Front side of the 3rd sheet (2A) →
   Back side of the 2nd sheet (5B) → Front side of the 3rd sheet (3A) →
   Front side of the 2nd sheet (4A) → Front side of the 3rd sheet (5A)

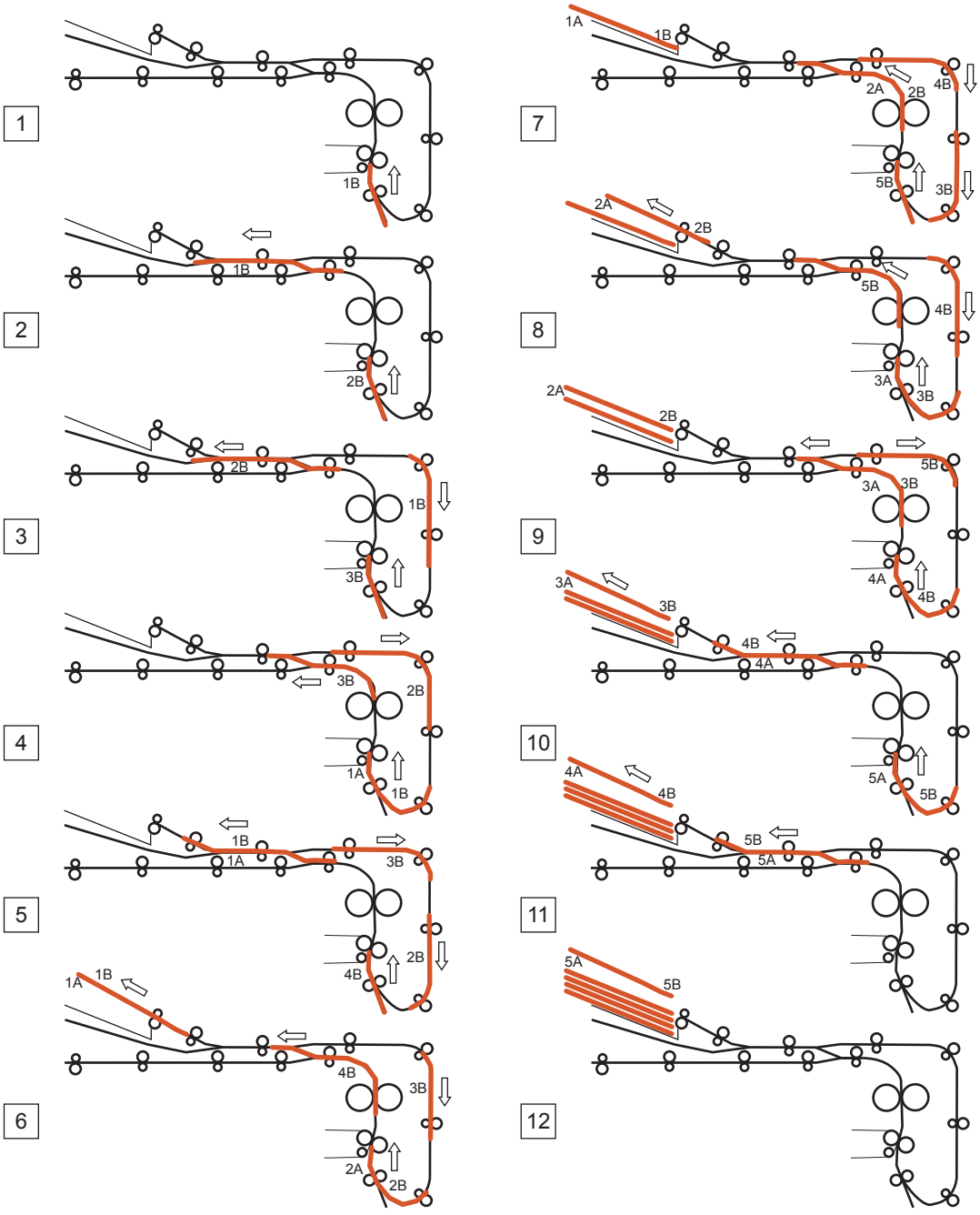

Fig. 15-9

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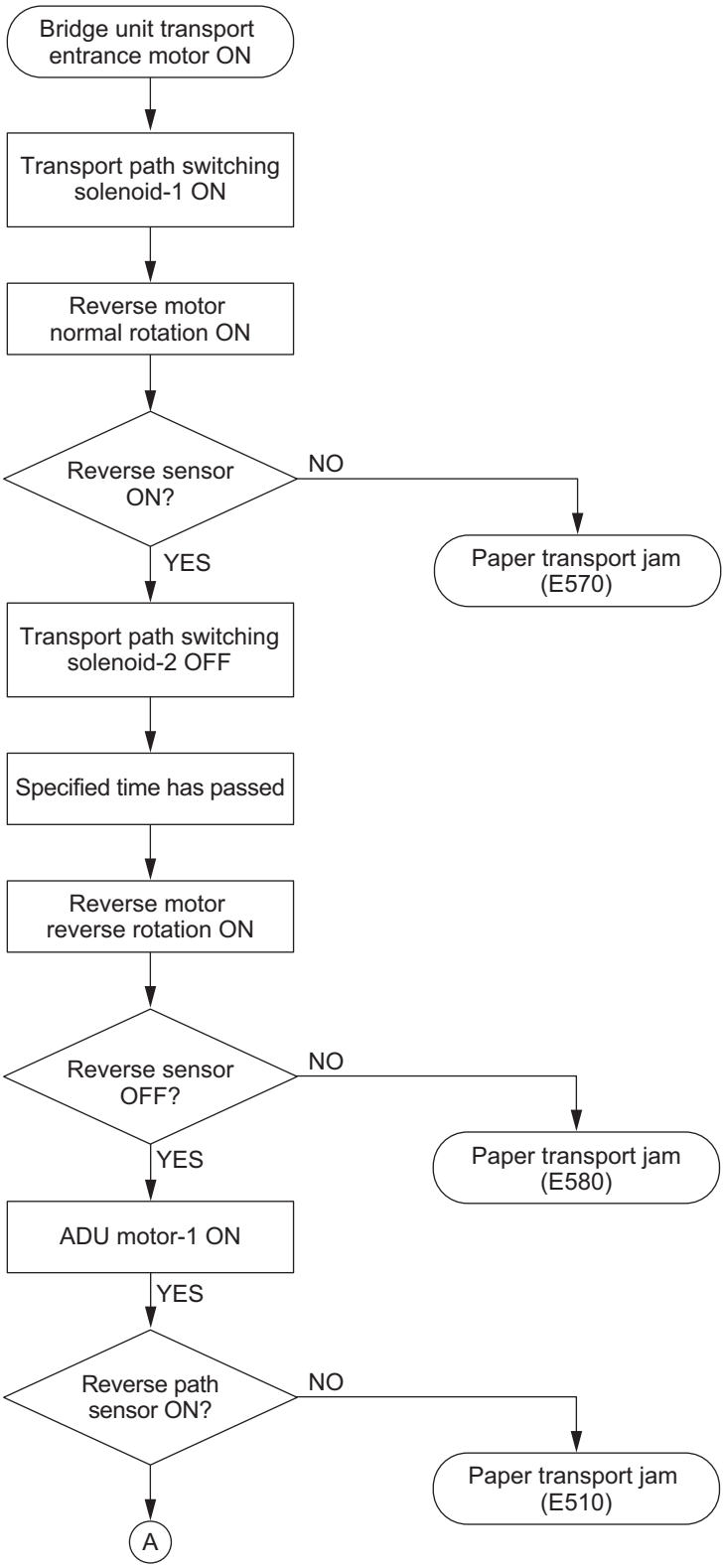
15.5 Flow Chart for duplex printing



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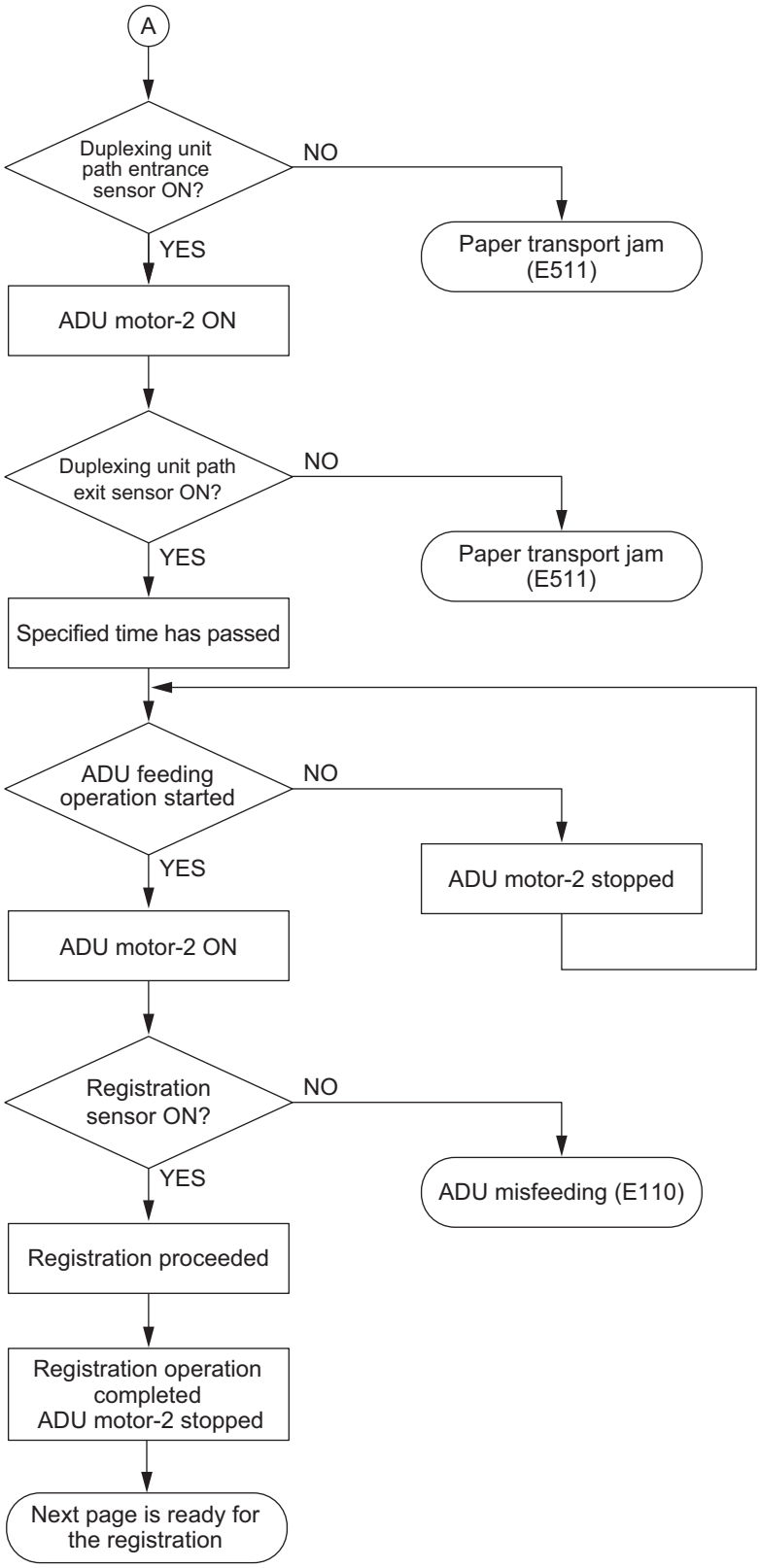

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15.6 Disassembly and Replacement

15.6.1 Upper exit section cooling fan-1(F32) / Upper exit section cooling fan-2 (F33)

(1) Take off the receiving tray.
🕮 P.3-43 "3.5.8 Receiving tray"
(2) Remove 2 screws and disconnect 2 connectors. Then take off the upper exit section cooling fan unit.

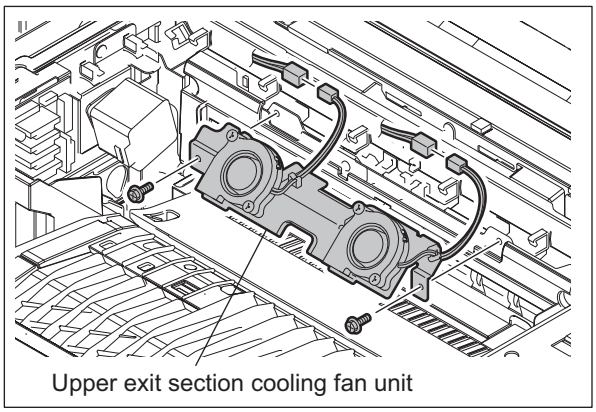

Fig. 15-10

(3) Release the harness from the clamp.
(4) Take off the upper exit section cooling fan-1 and the upper exit section cooling fan-2 by removing 2 screws from each.

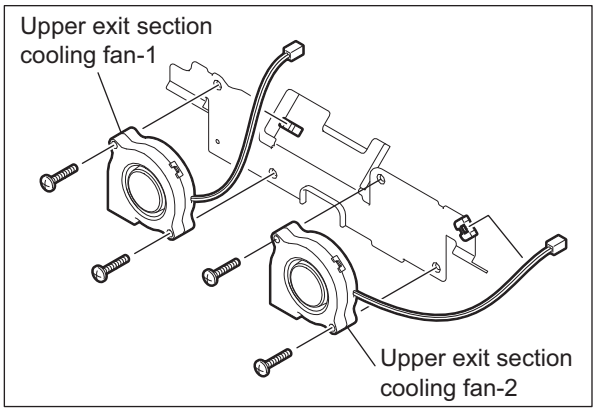

Fig. 15-11

15.6.2 Lower exit section cooling fan-1(F34) / Lower exit section cooling fan-2 (F35)

(1) Take off the receiving tray.
🕮 P.3-43 "3.5.8 Receiving tray"
(2) Take off the left top cover.
🕮 P.3-44 "3.5.10 Left top cover"
(3) Lift up the reverse path cover. Then take off the lower exit section cooling fan-1 and the lower exit section cooling fan-2 by removing 2 screws and disconnecting 1 connector of each.

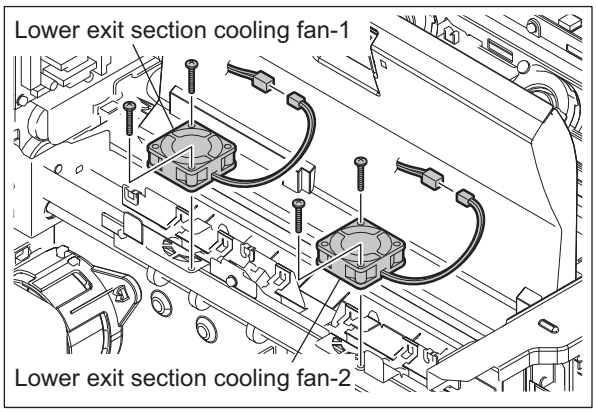

Fig. 15-12

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15.6.3 Lower exit section cooling fan-3(F36)

(1) Take off the left top cover.
🕮 P.3-44 "3.5.10 Left top cover"
(2) Disconnect a connector by releasing the harness from the clamp.
(3) Take off the lower exit section cooling fan-3 by removing 2 screws.

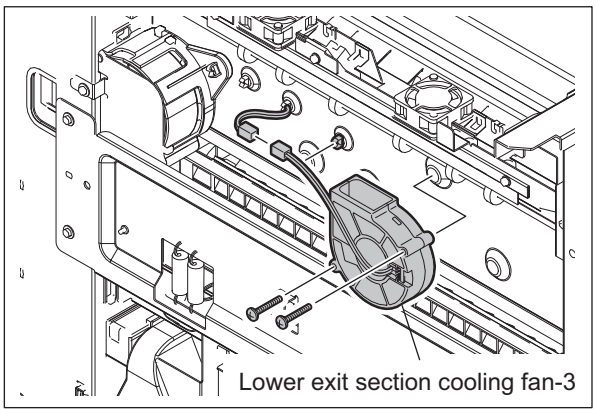

Fig. 15-13

15.6.4 Exit motor (M2)

(1) Take off the receiving tray.
🕮 P.3-43 "3.5.8 Receiving tray"
(2) Take off the left top cover.
🕮 P.3-44 "3.5.10 Left top cover"
(3) Release the harness from 2 clamps.
(4) Disconnect all the connectors of the DRV board.

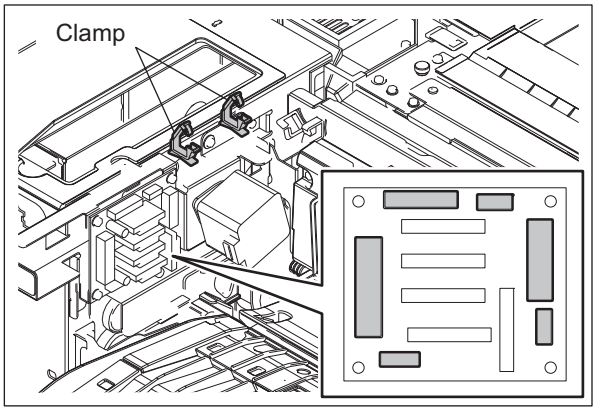

Fig. 15-14

(5) Remove 4 screws to take off the DRV board.

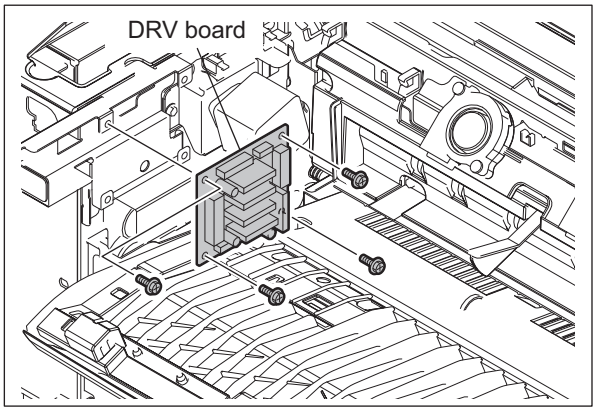

Fig. 15-15

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(6) Remove 2 screws and disconnect a connector. Then take off the motor bracket.

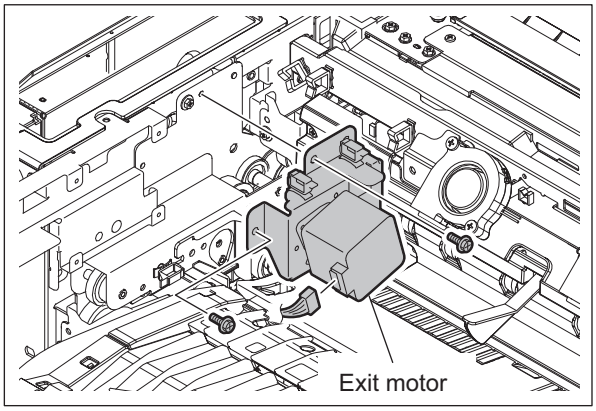

Fig. 15-16

(7) Remove 2 screws and take off the exit motor from the motor bracket.

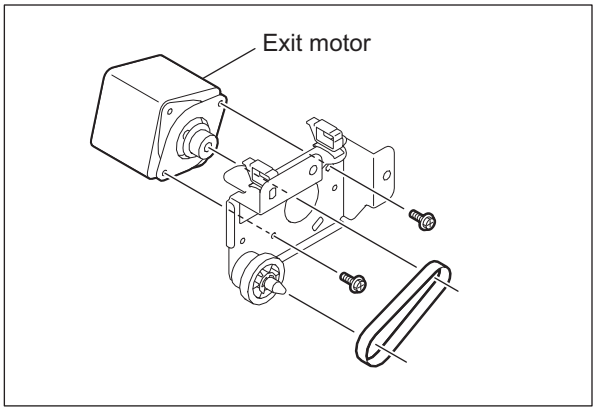

Fig. 15-17

15.6.5 Upper paper exit sensor (S61) / Upper exit tray paper full detection sensor (S62)

(1) Take off the upper exit section fan unit.
📖 P.15-18 "15.6.1 Upper exit section cooling fan-1(F32) / Upper exit section cooling fan-2 (F33)"
(2) Take off the exit motor.
📖 P.15-19 "15.6.4 Exit motor (M2)"
(3) Remove 4 screws to take off the upper exit cover.

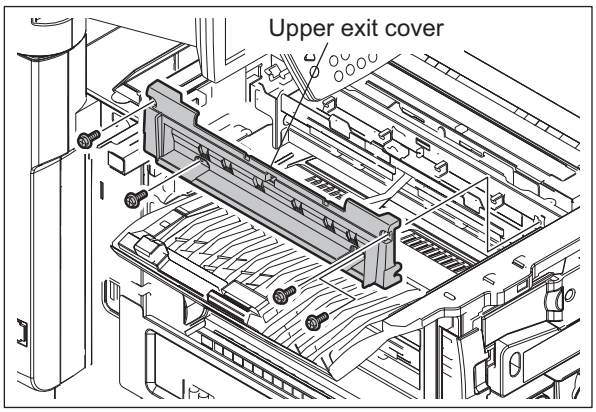

Fig. 15-18

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(4) Remove 2 screws and then take off the upper paper exit roller unit.
(5) Disconnect 1 connector and then release a harness from a clamp.

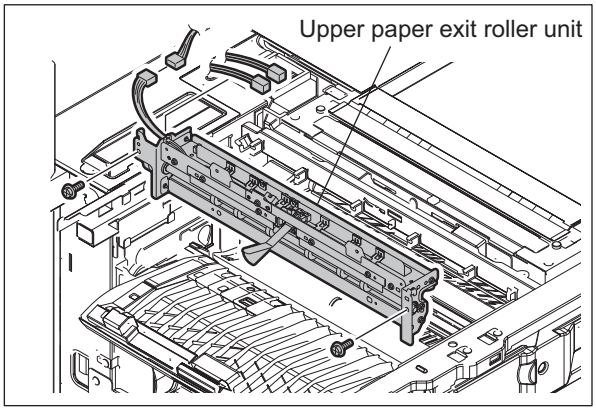

Fig. 15-19

(6) Take off the upper exit tray paper full detection sensor from the sensor bracket.
(7) Release the harness from the clamp and then disconnect the connector.

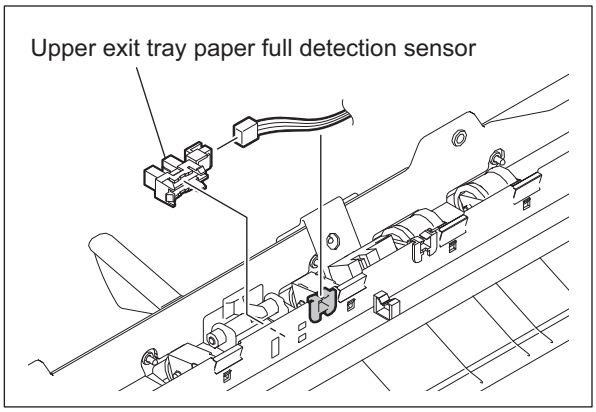

Fig. 15-20

(8) Remove 1 screw and disconnect the connector. Then take off the sensor bracket.

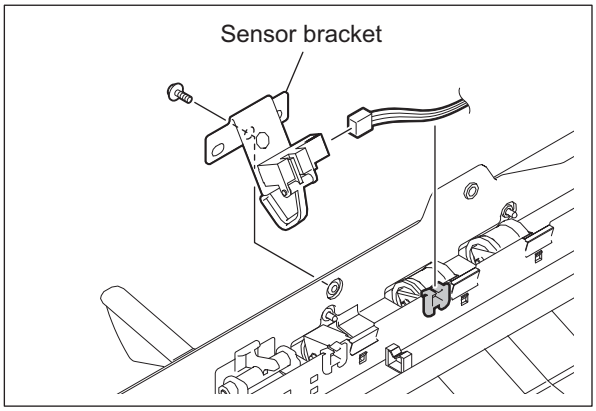

Fig. 15-21

(9) Take off the upper paper exit sensor from the sensor bracket.

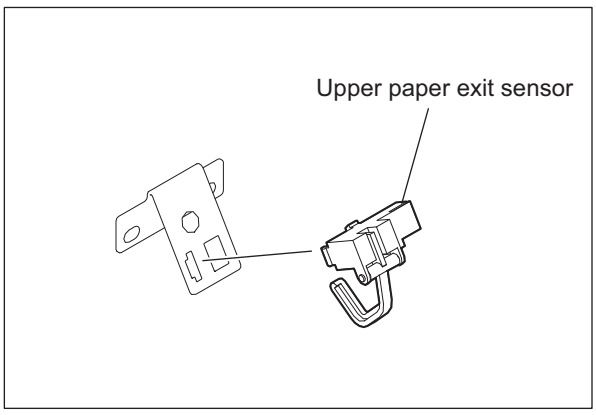

Fig. 15-22

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15.6.6 Lower paper exit sensor (S63)

(1) Take off the left top cover.
P.3-44 "3.5.10 Left top cover"

(2) Lift up the reverse path cover and then disconnect each connector of the lower exit section cooling fans-1 and -2. Then release a harness from a clamp.

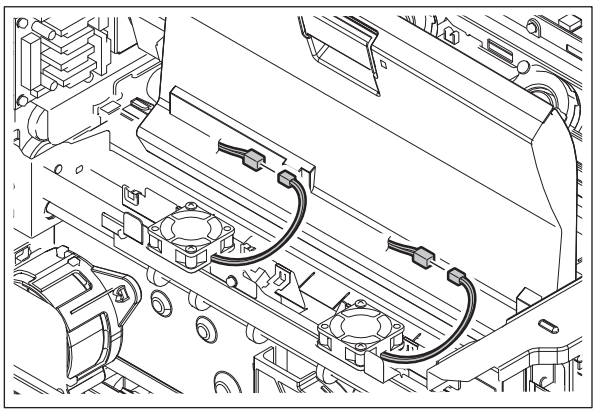

Fig. 15-23

(3) Remove 2 screws and disconnect a connector. Then take off the lower paper exit roller unit.

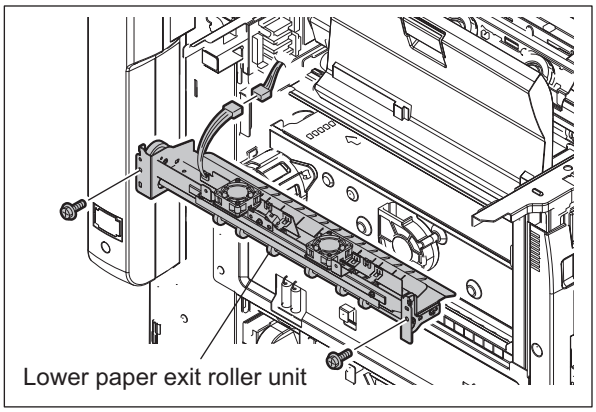

Fig. 15-24

(4) Remove 2 screw and take off the lower exit section cooling fan-1.

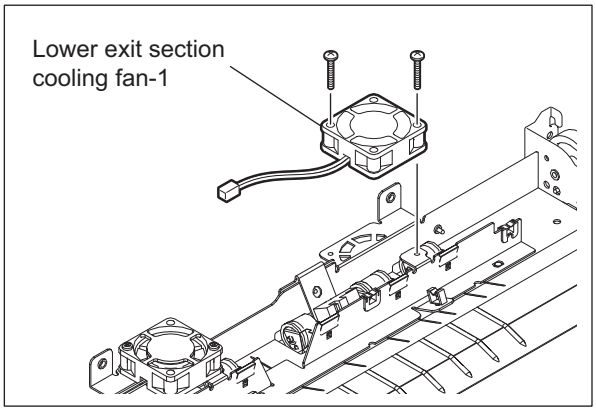

Fig. 15-25

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(5) Remove 1 screw and disconnect the connector. Then take off the sensor bracket.

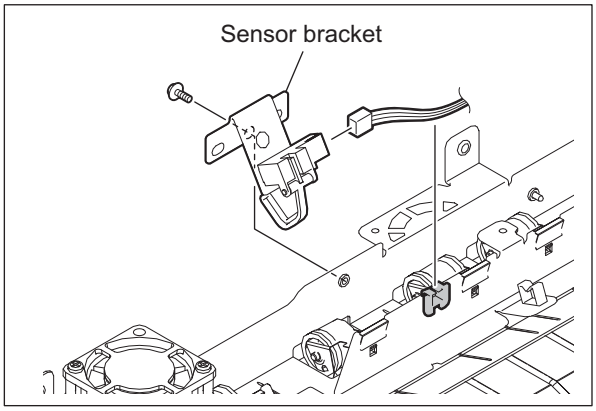

Fig. 15-26

(6) Take off the lower paper exit sensor from the sensor bracket.

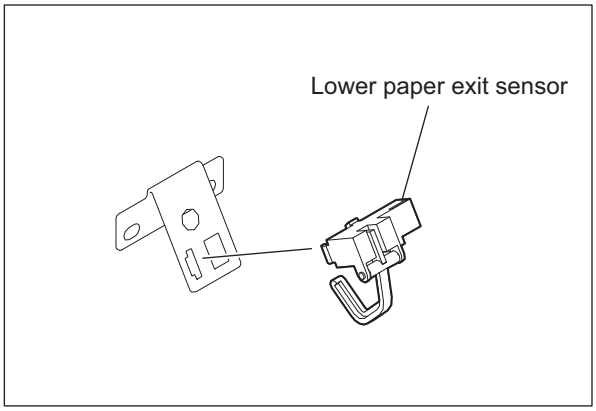

Fig. 15-27

15.6.7 Reverse section stationary jam detection sensor (S60)

(1) Take off the receiving tray.
📖 P.3-43 "3.5.8 Receiving tray"
(2) Remove 2 screws and then take off the sensor bracket.

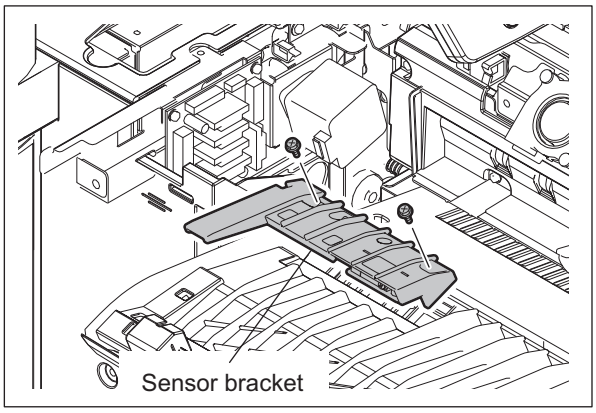

Fig. 15-28

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(3) Release the harness from the 3 hooks and then disconnect the connector.

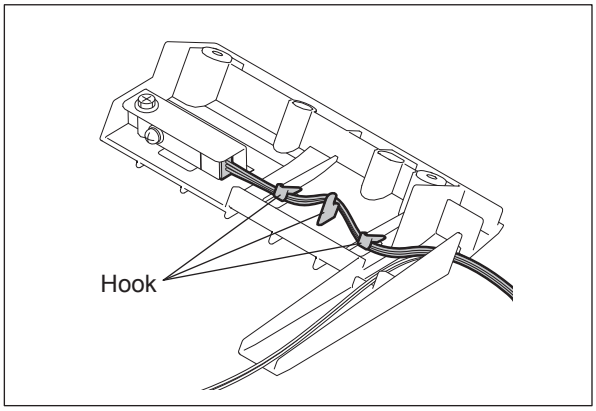

Fig. 15-29

(4) Remove 2 screws and take off the reverse section stationary jam detection sensor from the sensor bracket.

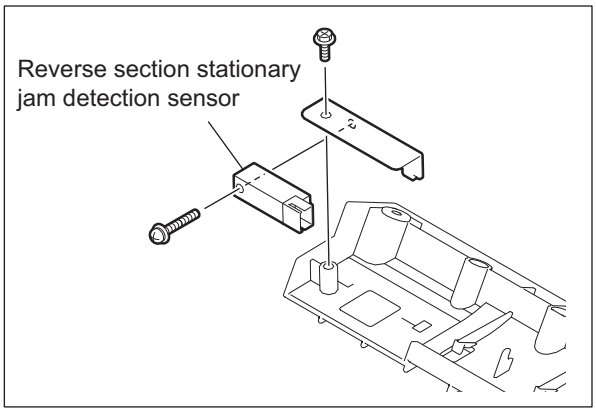

Fig. 15-30

15.6.8 Reverse path cover switch (SW5)

(1) Take off the receiving tray.
📖 P.3-43 "3.5.8 Receiving tray"
(2) Remove 2 screws and then take off the sensor bracket.

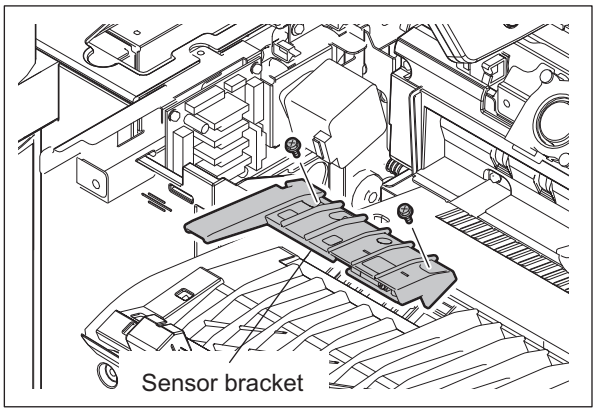

Fig. 15-31

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(3) Remove 2 screws and then take off the sensor bracket and the sensor cover.

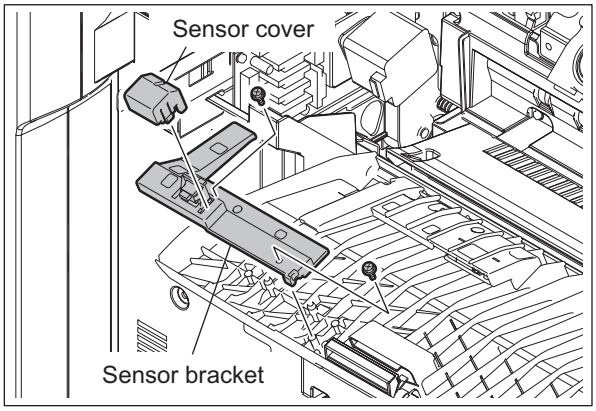

Fig. 15-32

Note:
When installing the sensor bracket, be careful not to catch the harness with the bracket.

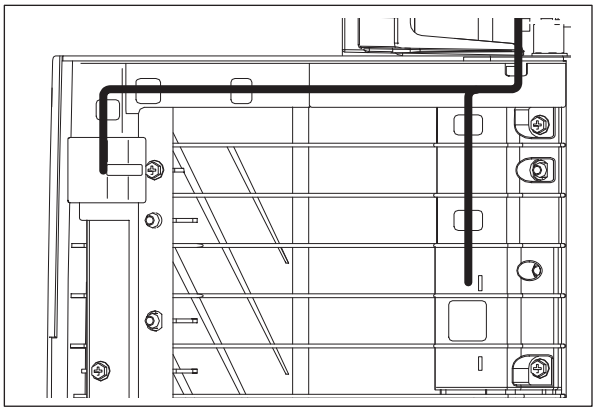

Fig. 15-33

(4) Release a harness from 3 hooks.

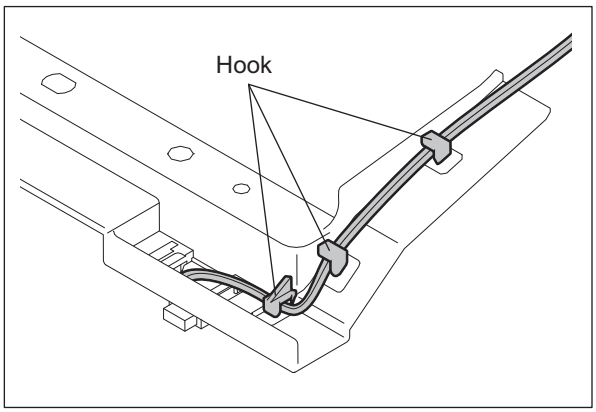

Fig. 15-34

15

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(5) Take off the reverse path cover switch (SW5) from the sensor bracket.
(6) Disconnect a connector from the reverse path cover switch.

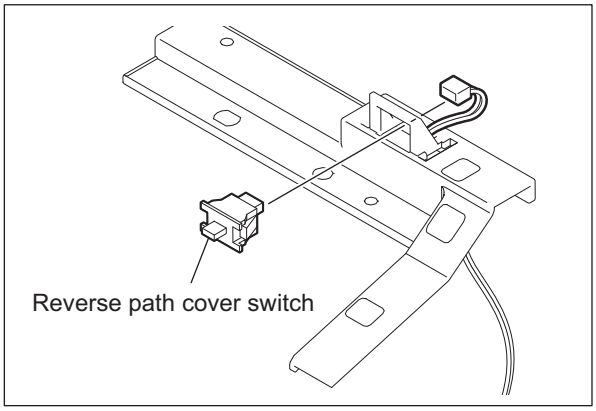

Fig. 15-35

15.6.9 Upper paper exit roller

(1) Take off the bracket of the upper paper exit roller unit.
📖 P.15-20 "15.6.5 Upper paper exit sensor (S61) / Upper exit tray paper full detection sensor (S62)"
(2) Remove the E-ring from the rear side and then remove the gear.

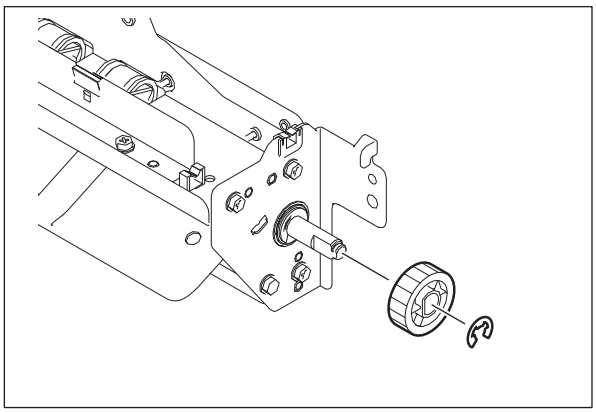

Fig. 15-36

(3) Remove E-rings from both ends.
(4) Take off the upper paper exit roller by removing the gear and the bearing.

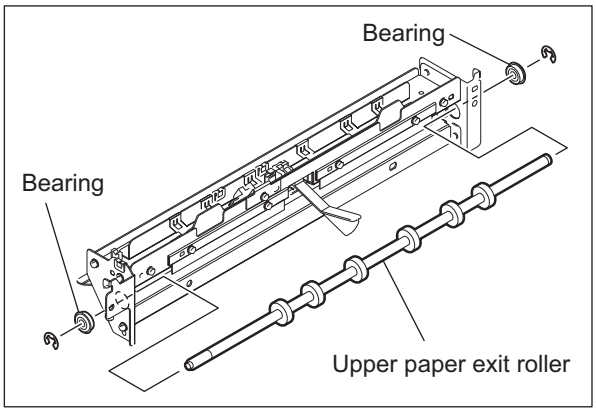

Fig. 15-37

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15.6.10 Lower paper exit roller

(1) Take off the bracket of the lower paper exit roller unit.
P.15-22 "15.6.6 Lower paper exit sensor (S63)"
(2) Remove the E-rings and take off the gears.

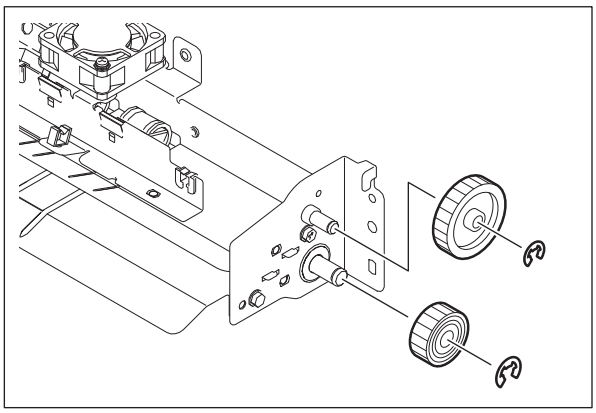

Fig. 15-38

(3) Take off the lower paper exit roller by removing the E-ring and the bearing.

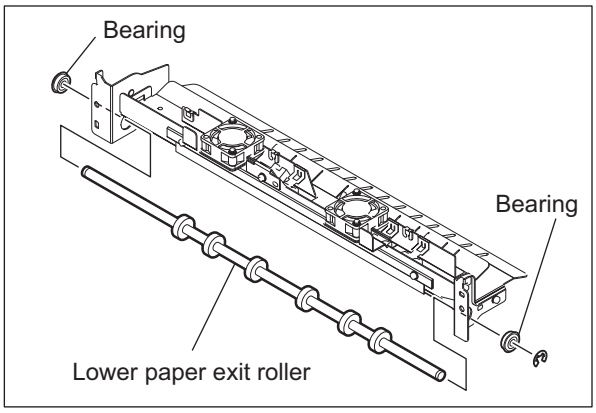

Fig. 15-39

15.6.11 Bridge unit

(1) Open the front cover and then pull out the bridge unit.
(2) Remove 4 screws from a rail.

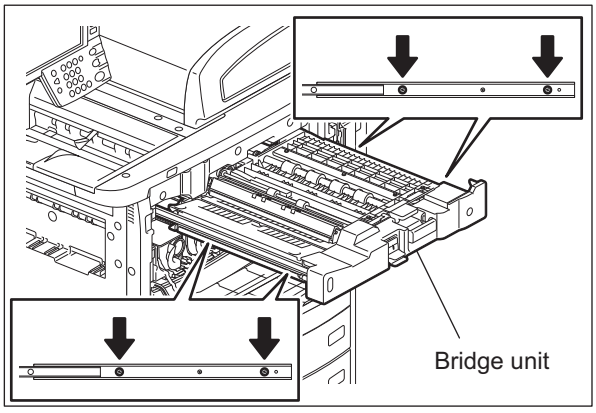

Fig. 15-40

15

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(3) Take out the bridge unit.

Note:
When installing the bridge unit, engage the dent of the unit with the 4 bosses of the rail.

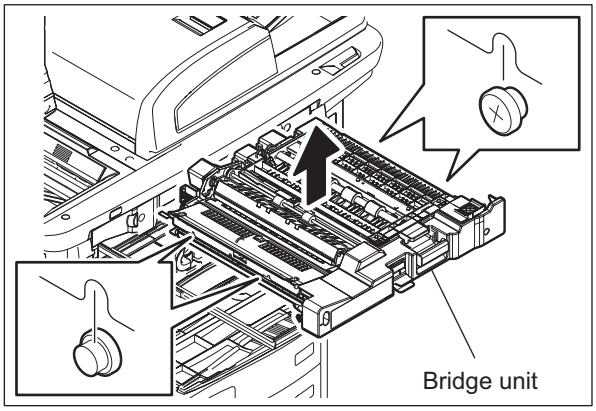

Fig. 15-41

15.6.12 Bridge unit front cover

(1) Open the front cover and then pull out the bridge unit.
(2) Open the bridge unit lower cover and then remove 3 screws from the bridge unit front cover.

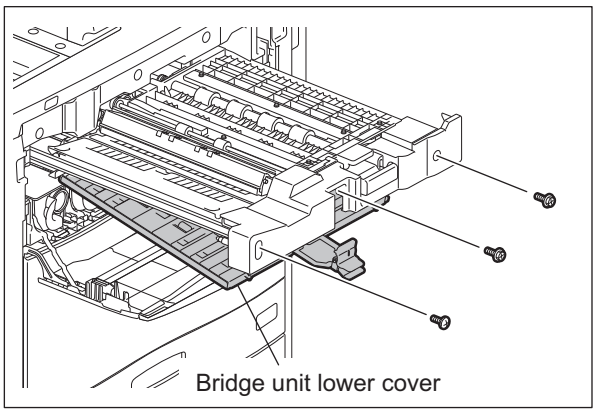

Fig. 15-42

(3) Open the bridge unit upper cover and then take off the bridge unit front cover while keeping the lever of the bridge unit lowered.

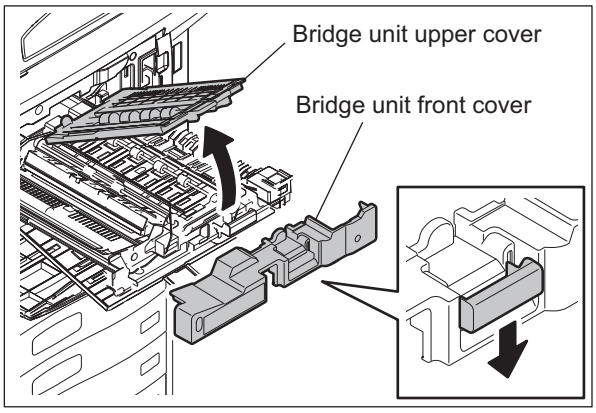

Fig. 15-43

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15.6.13 Bridge unit lower cover

(1) Open the front cover and then pull out the bridge unit.
(2) Open the bridge unit lower cover. Then remove 1 screw and the wire.

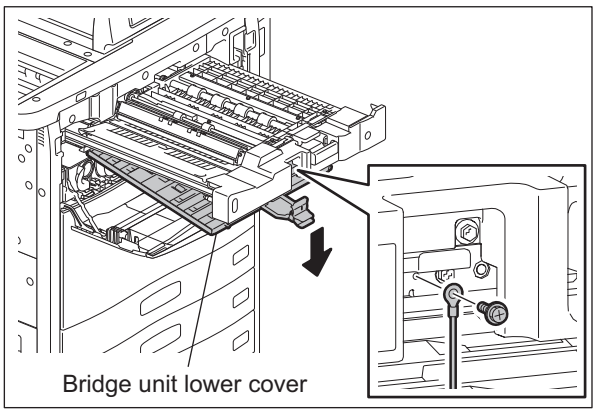

Fig. 15-44

(3) Remove 1 clip and then take off the bridge unit lower cover by sliding it.

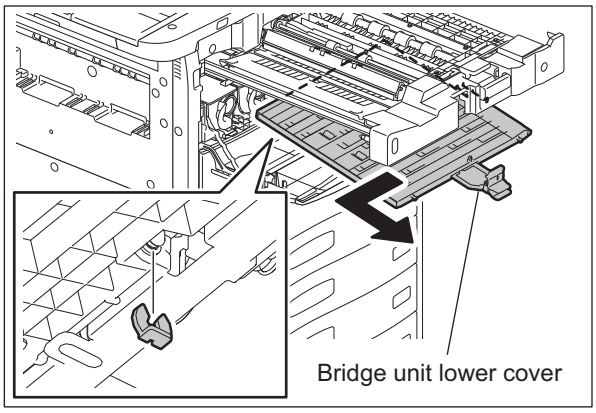

Fig. 15-45

Note:
The leaf springs with the idling rollers are usually not needed to be disassembled, however, if they are removed and installed, fix the screws while pushing the rollers in the direction of the arrow in the figure to prevent the exit paper side deviation.
After the rollers are installed, check that the rollers are parallel to the installation holes.
When pressing the idling rollers, press them in the direction opposite to each other because the 2 leaf springs must be installed in that manner.

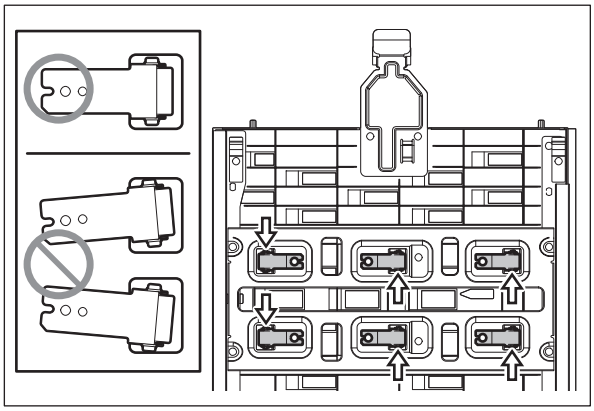

Fig. 15-46

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15.6.14 Bridge unit transport entrance motor (M4) / Reverse motor (M3)

(1) Take off the bridge unit.
📖 P.15-27 "15.6.11 Bridge unit"
(2) Remove 1 screw and the ground wire. Then release the ground wire from 2 clamps.
(3) Release the harness from 2 clamps and then disconnect 2 connectors.
(4) Disconnect the connector from the reverse motor.

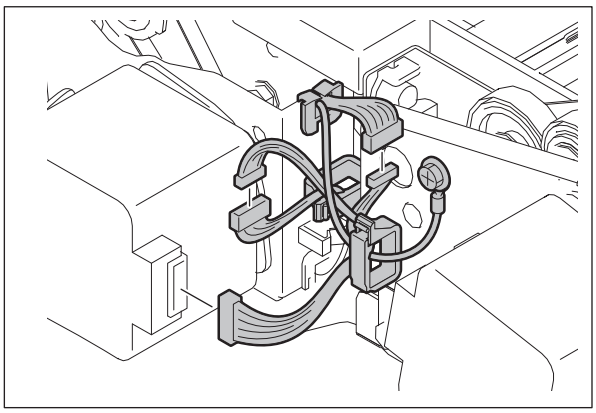

Fig. 15-47

(5) Remove 3 screws and then take off the motor bracket.

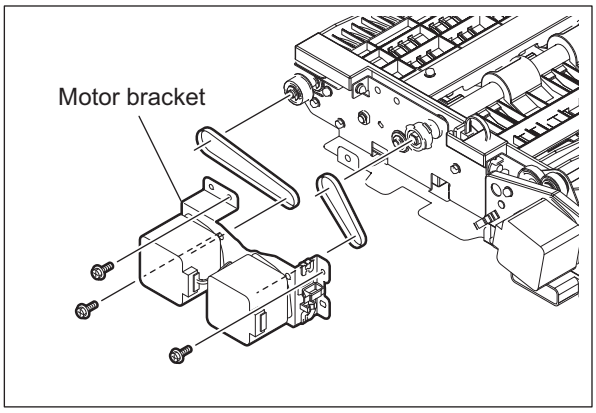

Fig. 15-48

(6) Release the harness from 3 clamps.

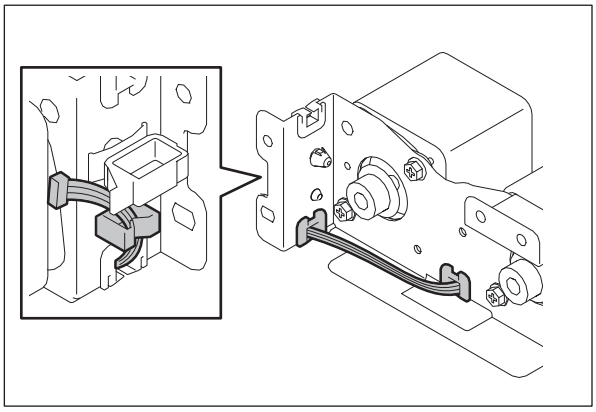

Fig. 15-49

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(7) Take off the bridge unit transport entrance motor by removing 2 screws.
(8) Disconnect the connector from the bridge unit transport entrance motor.

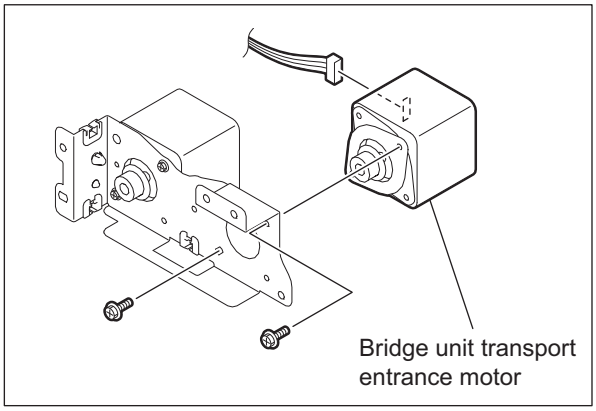

Fig. 15-50

(9) Take off the reverse motor by removing 2 screws.

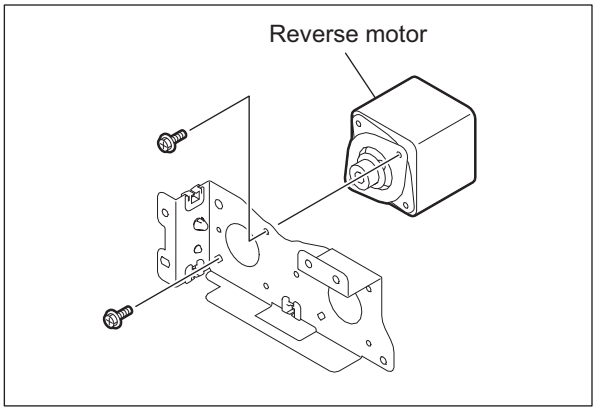

Fig. 15-51

15.6.15 Bridge unit transport exit motor (M5)

(1) Take off the bridge unit.
📖 P.15-27 "15.6.11 Bridge unit"
(2) Release the harness from 2 clamps and then disconnect 2 connectors.
📖 P.15-30 "15.6.14 Bridge unit transport entrance motor (M4) / Reverse motor (M3)"
(3) Disconnect 1 connector.

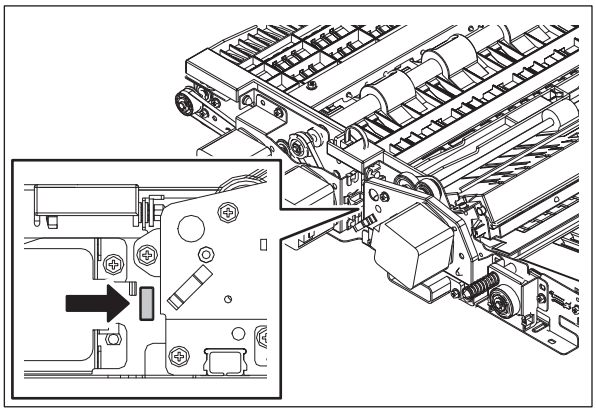

Fig. 15-52

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(4) Disconnect 2 connectors and then release the harness from 2 clamps.

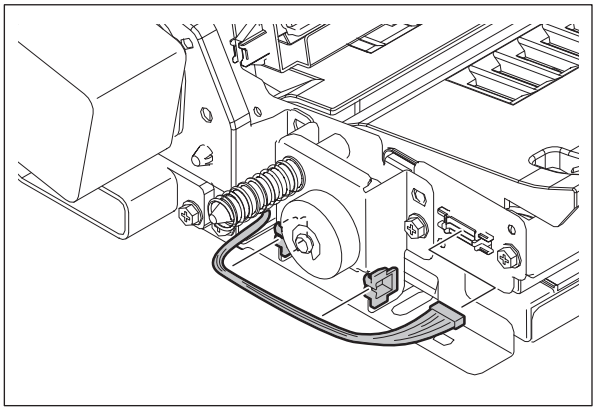

Fig. 15-53

(5) Remove 4 screws and then take off the motor bracket.
(6) Disconnect 1 connector.

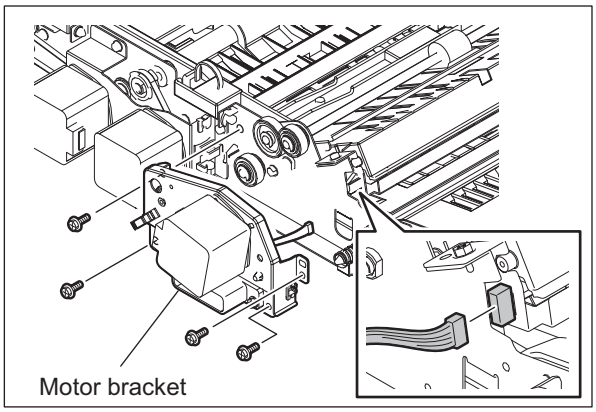

Fig. 15-54

(7) Remove 2 screws and then take off the bridge unit transport exit motor, gear and belt

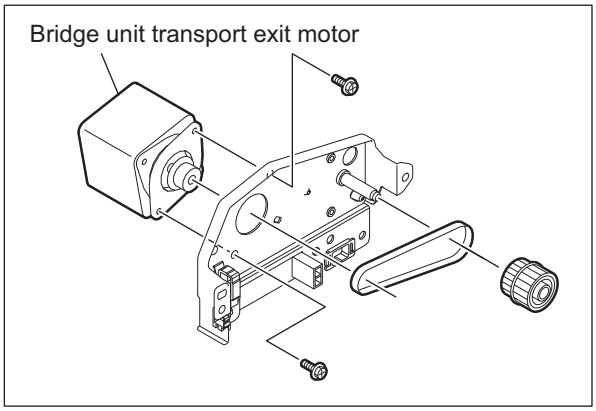

Fig. 15-55

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15.6.16 Bridge unit upper cover

(1) Take off the bridge unit.
📖 P.15-27 "15.6.11 Bridge unit"
(2) Remove 1 screw and the ground wire.
(3) Disconnect the relay connector and then release the harness and the ground wire from 2 clamps.

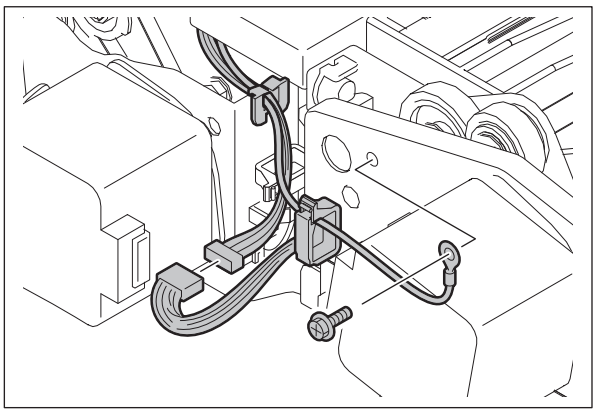

Fig. 15-56

(4) Remove 1 screw and then release the stopper.

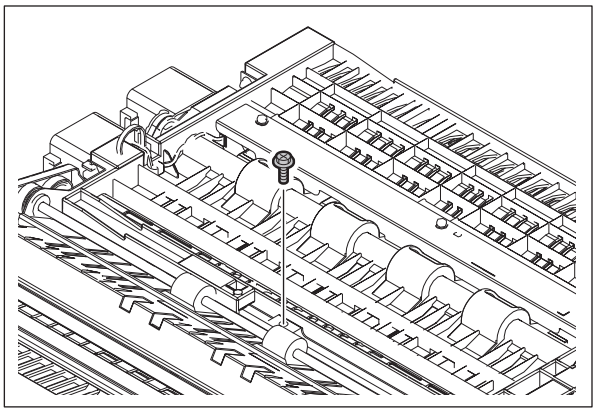

Fig. 15-57

(5) Remove the clip and then take off the bridge unit upper cover by sliding it.

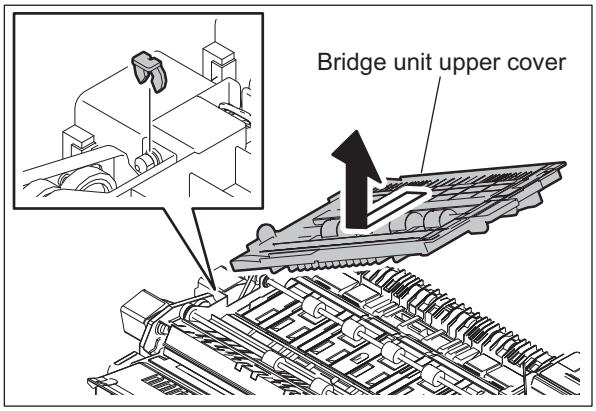

Fig. 15-58

15

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15.6.17 Bridge unit transport roller-1

(1) Take off the bridge unit.
🕮 P.15-27 "15.6.11 Bridge unit"
(2) Take off the bridge unit front cover.
🕮 P.15-28 "15.6.12 Bridge unit front cover"
(3) Take off the bridge unit upper cover.
🕮 P.15-33 "15.6.16 Bridge unit upper cover"
(4) Remove 3 screws and take off the duct.

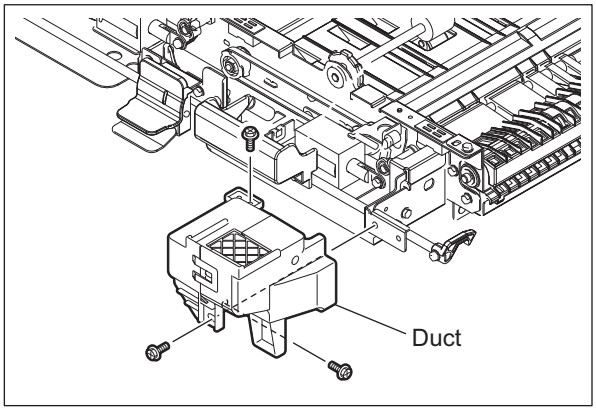

Fig. 15-59

(5) Remove 2 screws and take off the roller bracket.

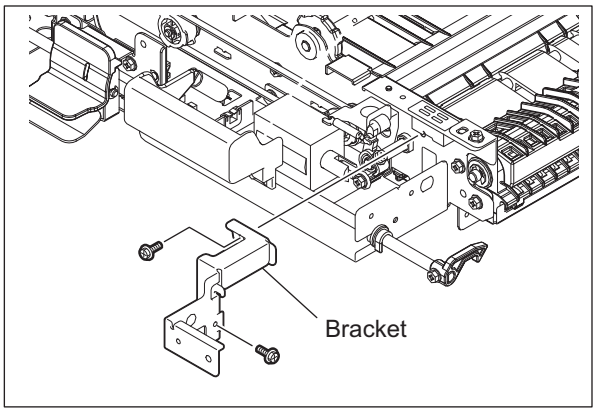

Fig. 15-60

(6) Take off the belt from the bridge unit transport entrance motor.

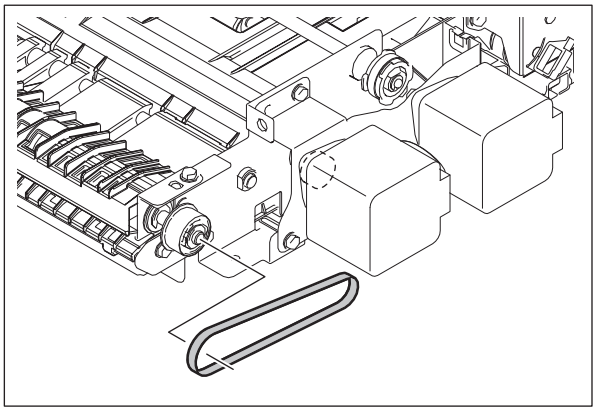

Fig. 15-61

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(7) Remove 4 screws and then take off the transport guide-1 unit.

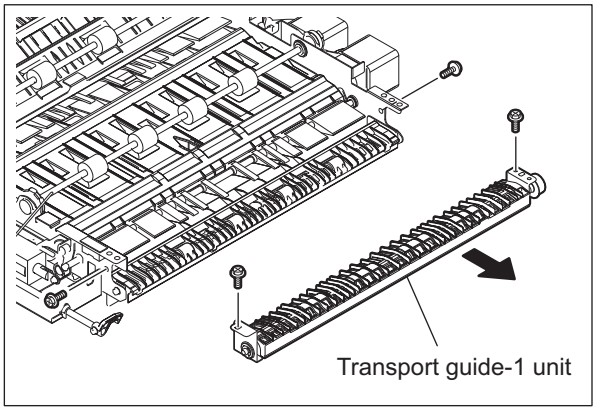

Fig. 15-62

(8) Remove 1 screw and then take off transport guide-1 by sliding it toward you.

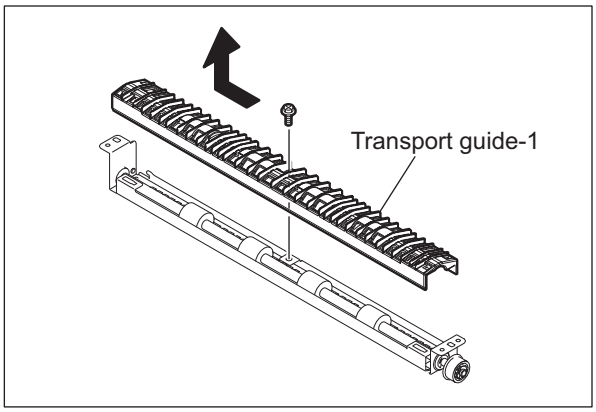

Fig. 15-63

(9) Remove the E-ring on the rear side and then remove the gear and the clip.

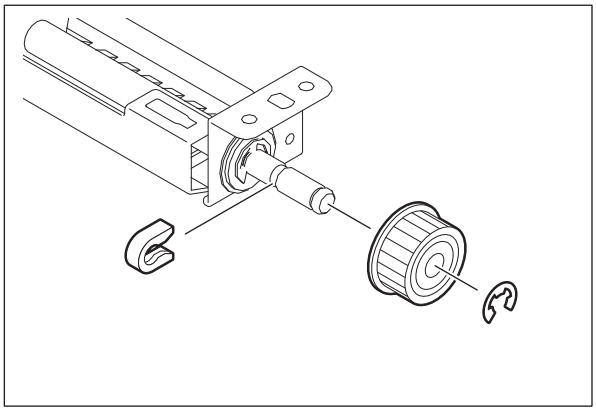

Fig. 15-64

(10) Remove 2 E-rings and then remove the bearing. Then take off bridge unit transport roller-1.

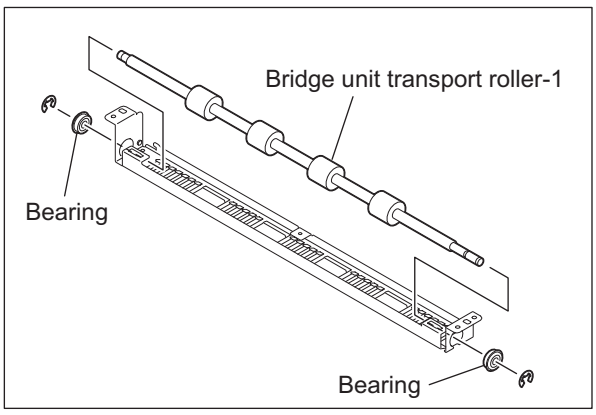

Fig. 15-65

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15.6.18 Bridge unit transport roller-2

(1) Take off the reverse roller.
📖 P.15-39 "15.6.20 Reverse roller"
(2) Take off transport path switching solenoid-1.
📖 P.15-41 "15.6.23 Transport path switching solenoid-1 (SOL1)"
(3) Take off transport guide-2 by removing 5 screws.

Note:
The type of the screw differs depending on the installation position.

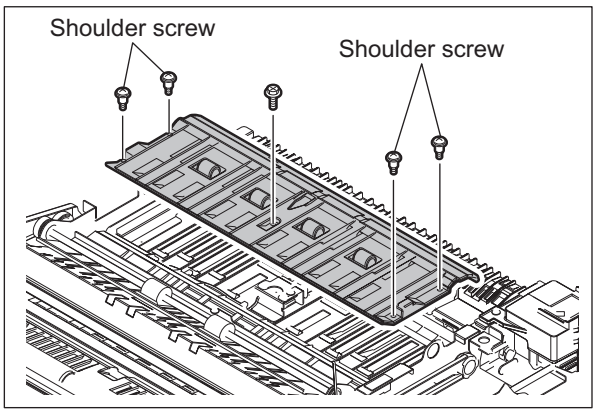

Fig. 15-66

Note:
The leaf springs with the idling rollers are usually not needed to be disassembled, however, if they are removed and installed, fix the screws while pushing the rollers in the direction of the arrow in the figure to prevent the exit paper side deviation.
After the rollers are installed, check that the rollers are parallel to the installation holes.

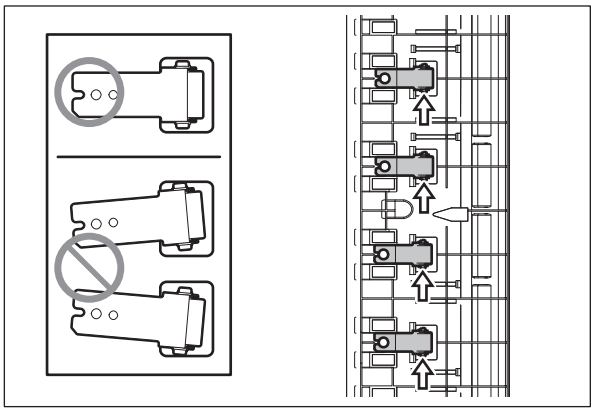

Fig. 15-67

(4) Remove 1 E-ring, the gear and the belt.

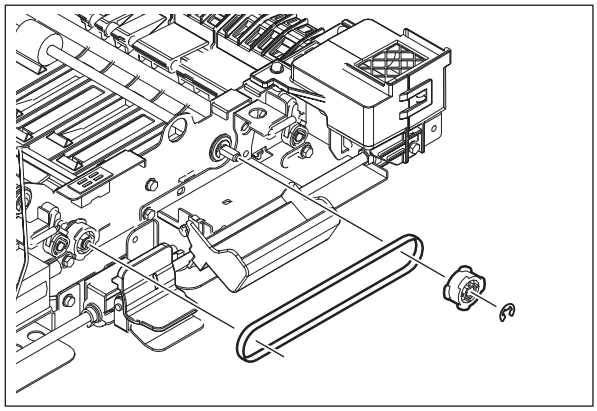

Fig. 15-68

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(5) Take off the bridge unit transport roller-2 by removing 2 E-rings and a bearing.

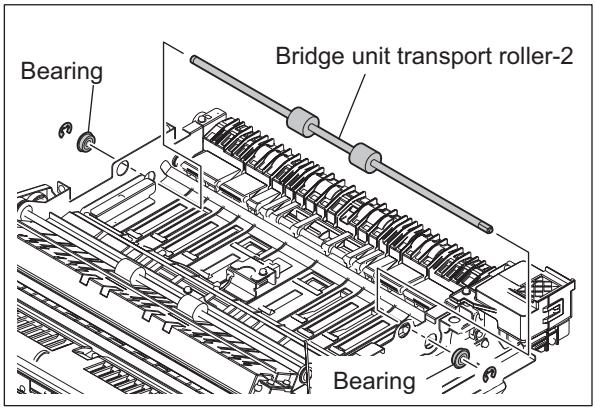

Fig. 15-69

15.6.19 Bridge unit transport roller-3

(1) Take off the reverse roller.
📖 P.15-39 "15.6.20 Reverse roller"
(2) Take off transport guide-2.
📖 P.15-43 "15.6.25 Bridge unit path entrance sensor (S55)"
(3) Take off bridge unit exit roller-1.
📖 P.15-40 "15.6.21 Bridge unit exit roller-1"
(4) Take off the transport guide unit by removing 2 screws and disconnecting the connector.

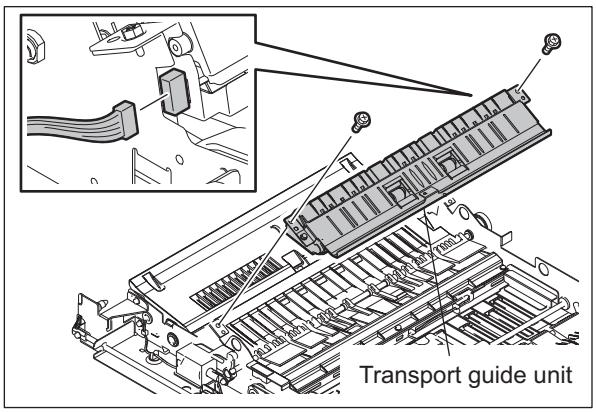

Fig. 15-70

(5) Remove the spring and 2 screws. Then remove the actuator.

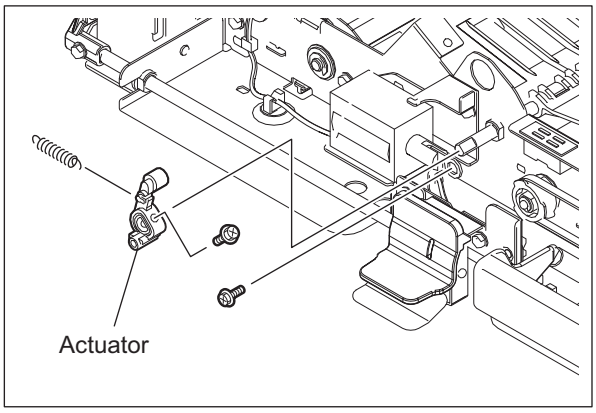

Fig. 15-71

15

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(6) Remove 2 E-rings and the bushing to remove the flap.

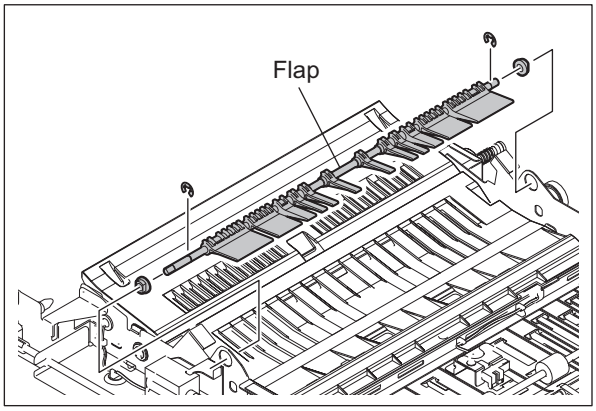

Fig. 15-72

(7) Remove the E-ring from the front side and then take off the pulley and the belt.

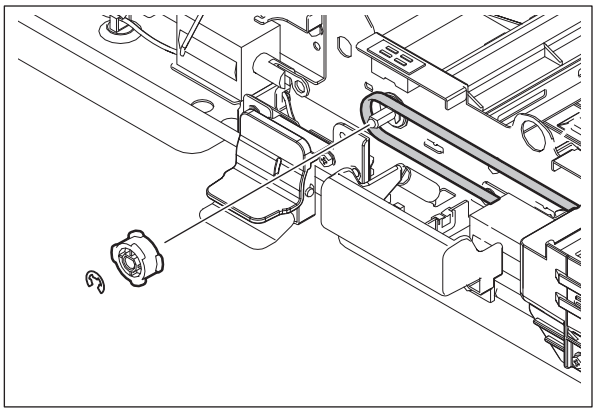

Fig. 15-73

(8) Take off bridge unit transport guide-3 by removing 5 screws.

Note:
The type of the screw differs depending on the installation position.

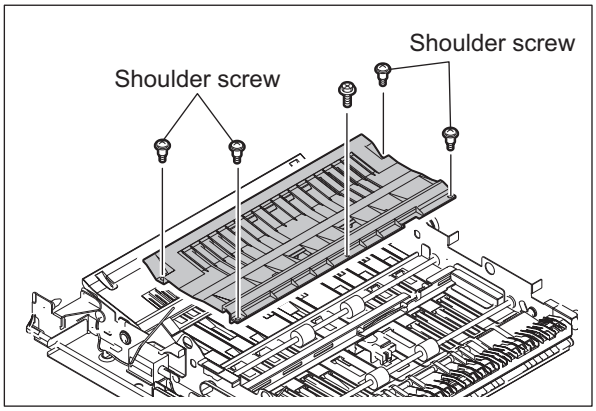

Fig. 15-74

(9) Remove 1 gear, 2 E-rings and 2 bearings. Then take off bridge unit transport roller-3.

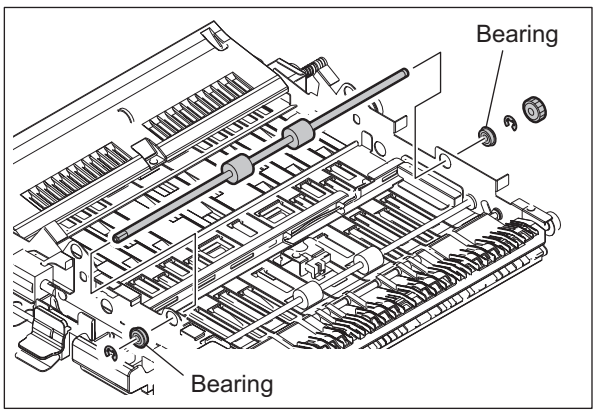

Fig. 15-75

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15.6.20 Reverse roller

(1) Take off the bridge unit.
🕮 P.15-27 "15.6.11 Bridge unit"
(2) Take off the bridge unit front cover.
🕮 P.15-28 "15.6.12 Bridge unit front cover"
(3) Take off the bridge unit upper cover.
🕮 P.15-33 "15.6.16 Bridge unit upper cover"
(4) Take off each bracket of the bridge unit transport entrance motor and the reverse motor.
🕮 P.15-30 "15.6.14 Bridge unit transport entrance motor (M4) / Reverse motor (M3)"
(5) Remove 1 E-ring and the pulley.
(6) Remove 1 E-ring and move the bearing to the inside.

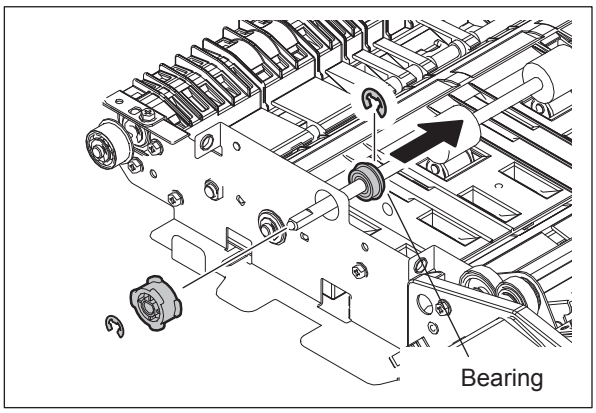

Fig. 15-76

(7) Take off the reverse roller and the bearing.

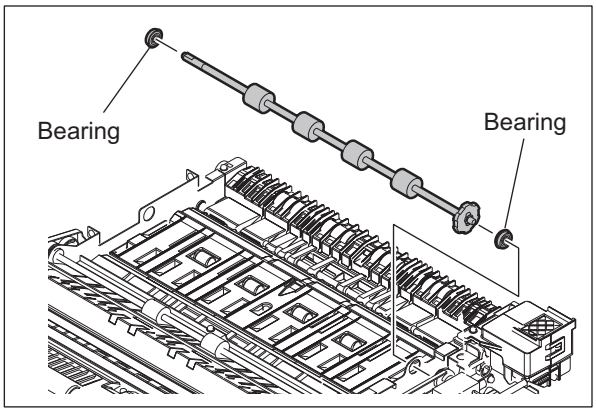

Fig. 15-77

(8) Remove 1 E-ring and then remove the knob and pin from the reverse roller.

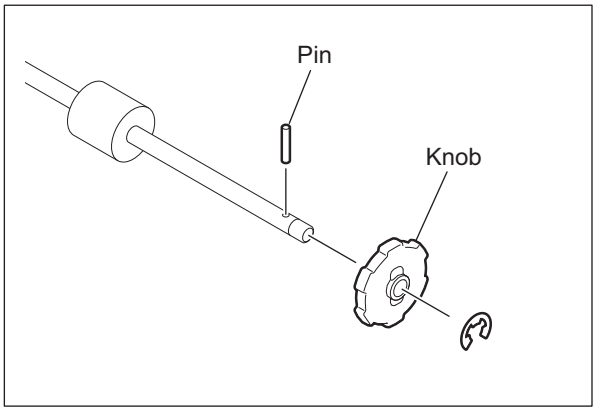

Fig. 15-78

15

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15.6.21 Bridge unit exit roller-1

(1) Take off the bridge unit.
🕮 P.15-27 "15.6.11 Bridge unit"
(2) Take off the bridge unit front cover.
🕮 P.15-28 "15.6.12 Bridge unit front cover"
(3) Take off the bridge unit upper cover.
🕮 P.15-33 "15.6.16 Bridge unit upper cover"
(4) Take off the motor bracket of the bridge unit transport exit motor.
🕮 P.15-31 "15.6.15 Bridge unit transport exit motor (M5)"
(5) Remove 1 E-ring and then remove the gear and the bearing.

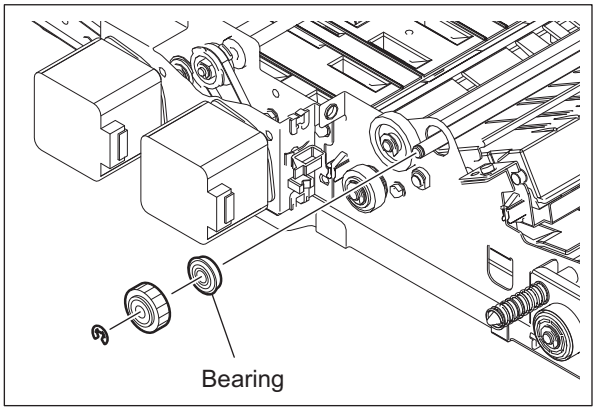

Fig. 15-79

(6) Remove 1 E-ring and the bearing. Then take off bridge unit exit roller-1.

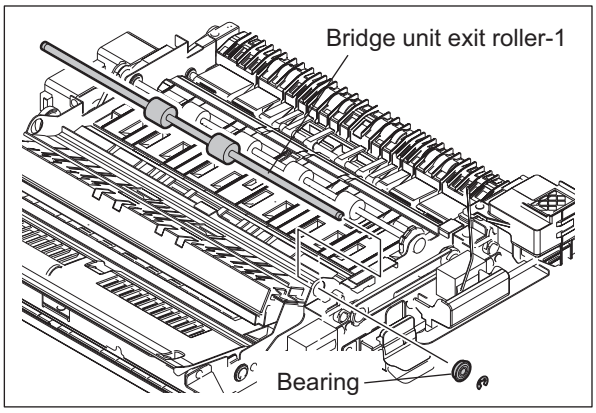

Fig. 15-80

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15.6.22 Bridge unit exit roller-2

(1) Take off the bridge unit.
🕮 P.15-27 "15.6.11 Bridge unit"
(2) Take off the bridge unit front cover.
🕮 P.15-28 "15.6.12 Bridge unit front cover"
(3) Remove 1 screw and take off transport guide-4 by sliding it toward you.

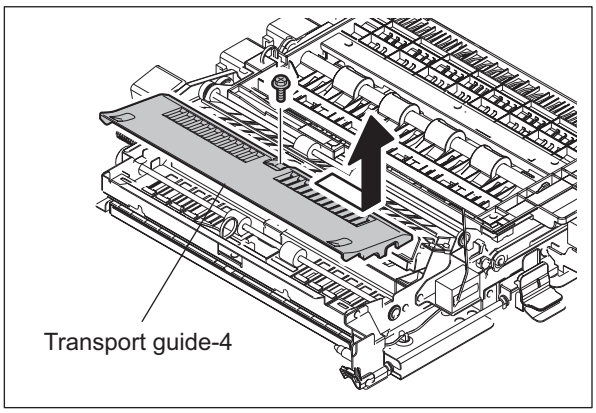

Fig. 15-81

(4) Remove 2 E-rings, 1 gear and 2 bearings. Then take off bridge unit exit roller-2.

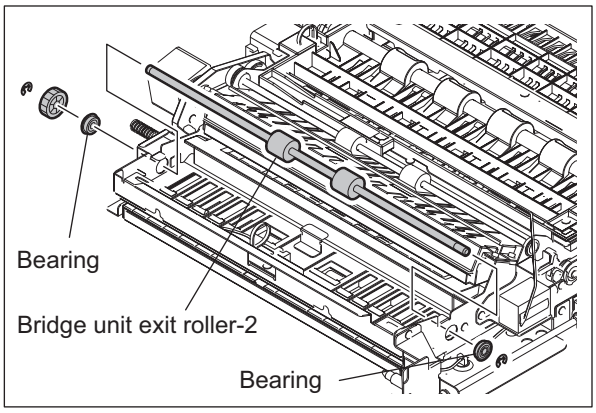

Fig. 15-82

15.6.23 Transport path switching solenoid-1 (SOL1)

(1) Take off the bridge unit front cover.
🕮 P.15-28 "15.6.12 Bridge unit front cover"
(2) Remove 1 spring.

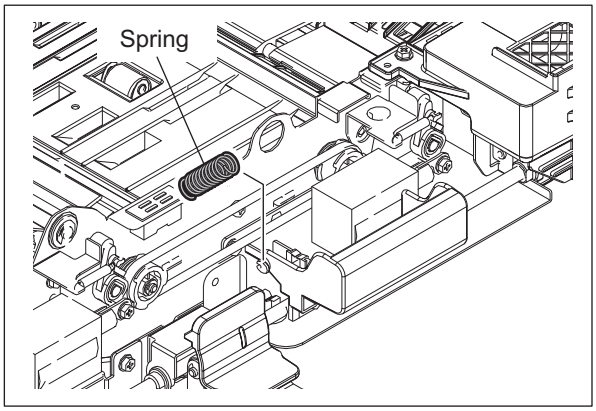

Fig. 15-83

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(3) Release the harness from the clamp and then disconnect the connector.
(4) Remove 1 screw and 1 link.

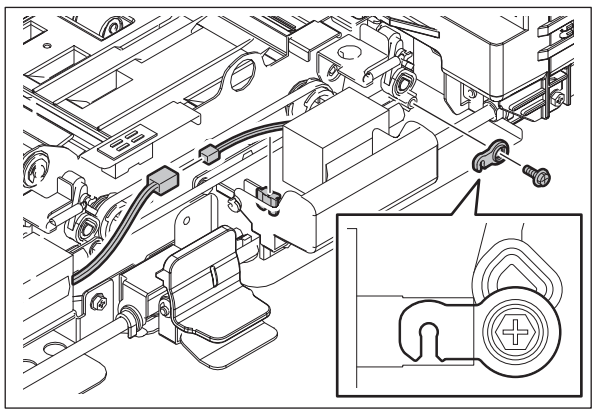

Fig. 15-84

(5) Take off the transport path switching solenoid-1 by removing 2 screws.

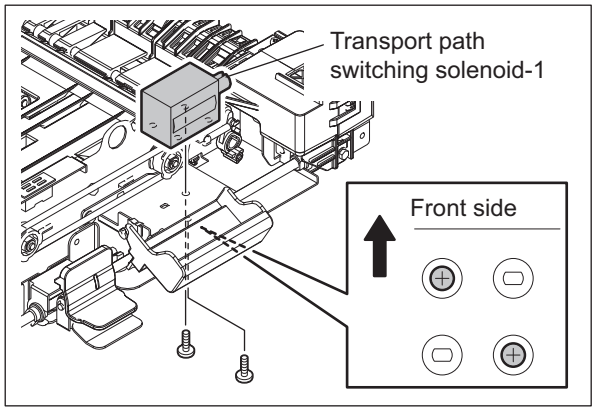

Fig. 15-85

15.6.24 Transport path switching solenoid-2 (SOL2)

(1) Take off the bridge unit front cover.
P.15-28 "15.6.12 Bridge unit front cover"
(2) Release the harness from the clamp and then disconnect the connector.
(3) Remove 1 screw and 1 link.

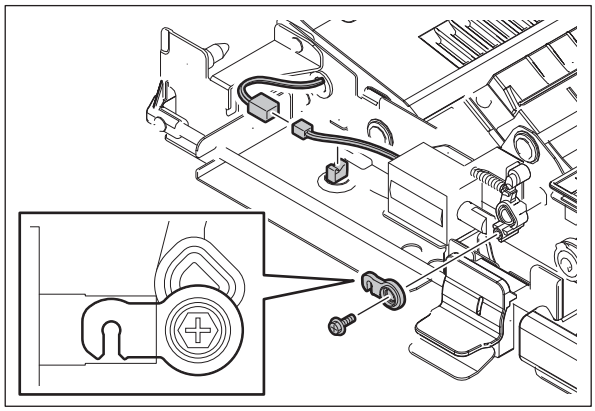

Fig. 15-86

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(4) Take off transport path switching solenoid-2 by removing 2 screws.

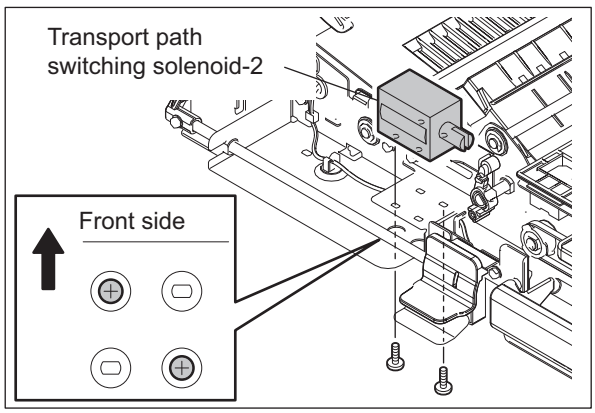

Fig. 15-87

15.6.25 Bridge unit path entrance sensor (S55)

(1) Take off the reverse roller.
📖 P.15-39 "15.6.20 Reverse roller"
(2) Take off transport guide-2 by removing 5 screws.

Note:
The type of the screw differs depending on the installation position.

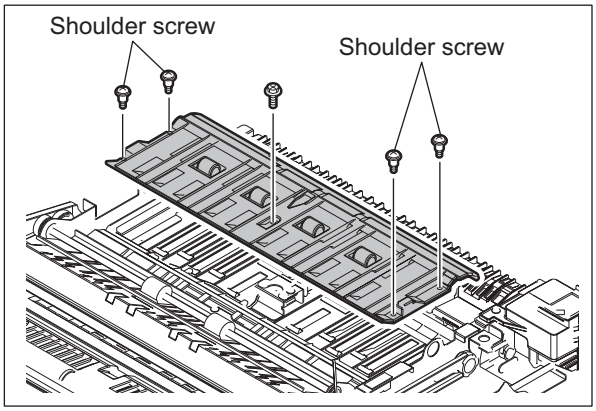

Fig. 15-88

(3) Remove 1 screw and then take off the sensor bracket.
(4) Release the harness from 2 clamps and then disconnect the connector.

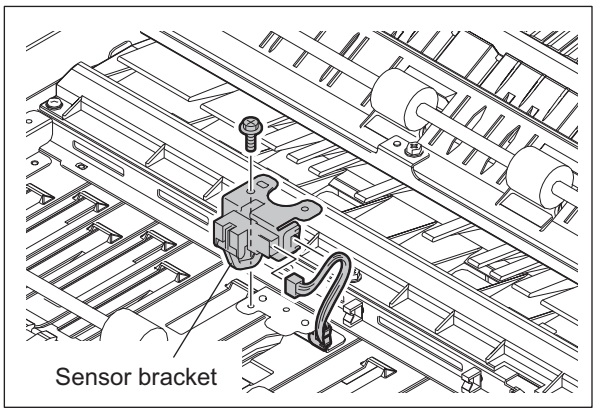

Fig. 15-89

15

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(5) Take off the bridge unit path entrance sensor from the sensor bracket.

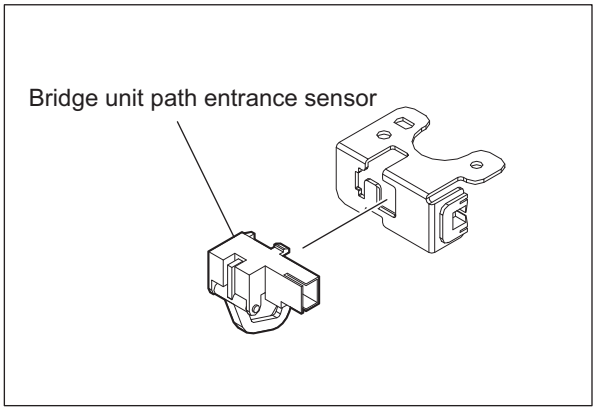

Fig. 15-90

15.6.26 Bridge unit path exit sensor (S56)

(1) Open the front cover and then pull out the bridge unit.
(2) Remove 1 screw and then take off transport guide-4 by sliding it.

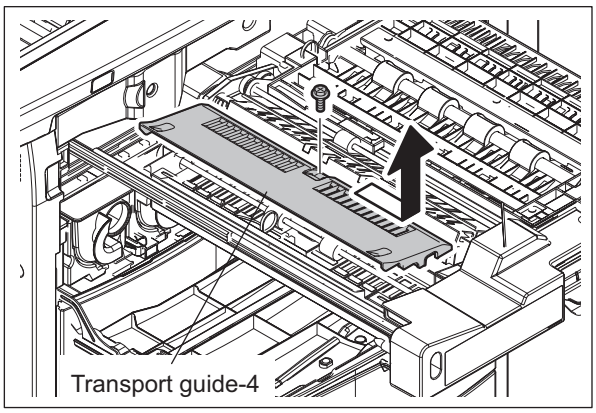

Fig. 15-91

(3) Release the harness from 2 clamps and then disconnect the connector.
(4) Take off the sensor bracket by removing 1 screw.

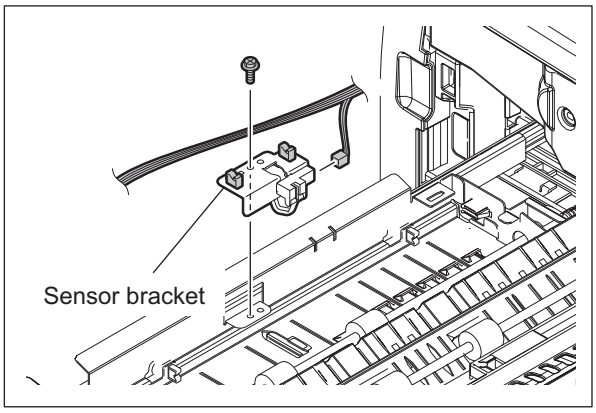

Fig. 15-92

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(5) Take off the bridge unit path exit sensor from the sensor bracket.

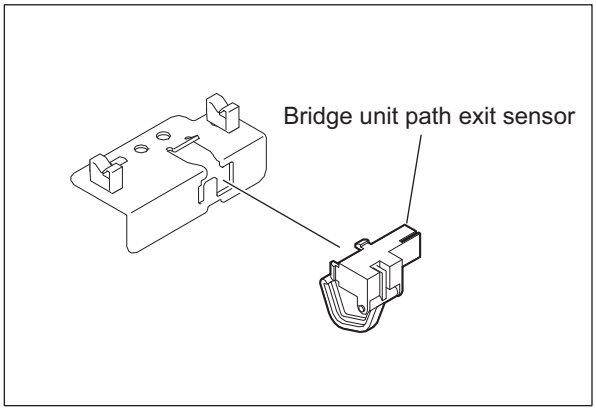

Fig. 15-93

15.6.27 Reverse sensor (S59)

(1) Open the front cover and then pull out the bridge unit.
(2) Remove 3 screws and then remove the sensor stay.

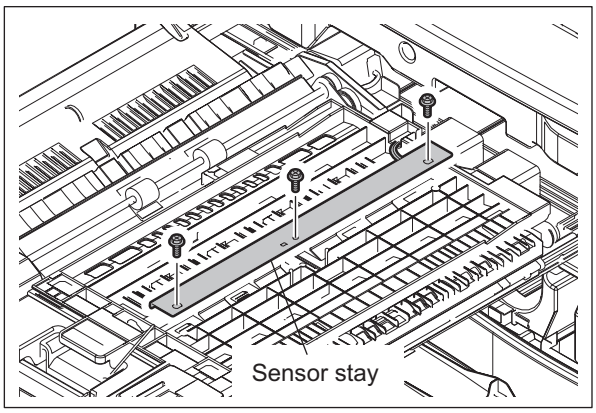

Fig. 15-94

(3) Remove 1 screw and disconnect 1 connector. Then take off the reverse sensor.

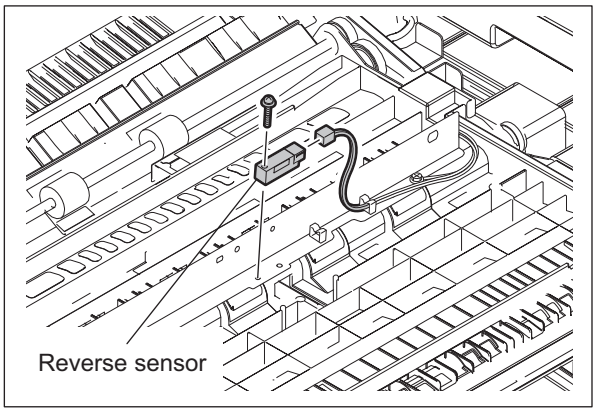

Fig. 15-95

15

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15.6.28 Reverse section stationary jam detection sensor (S58)

(1) Take off bridge unit exit roller-1.
📖 P.15-40 "15.6.21 Bridge unit exit roller-1"
(2) Disconnect 1 connector and remove 2 screws. Then take off the transport guide unit.

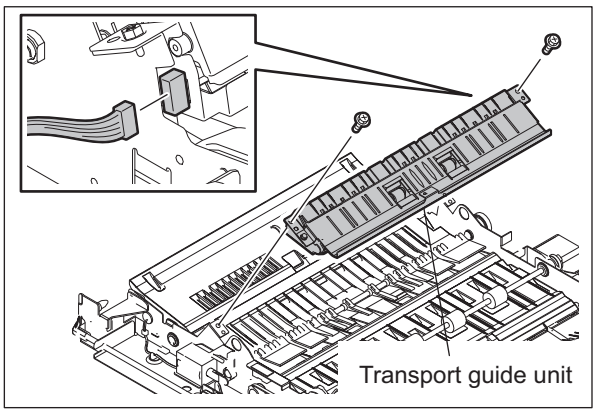

Fig. 15-96

(3) Remove 2 screws and then take off the roller guide.

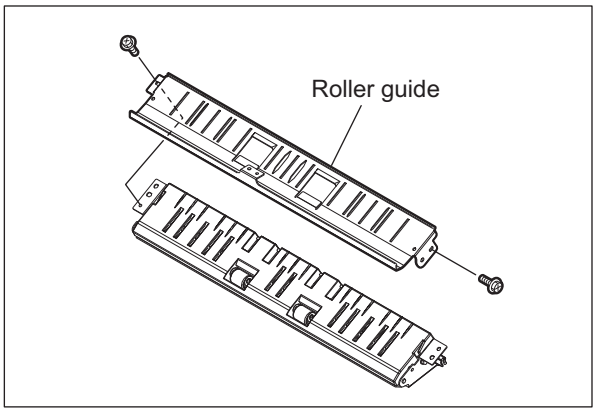

Fig. 15-97

(4) Take off the bridge unit exit guide by removing 2 screws.

Note:
The type of the screw differs depending on the installation position.

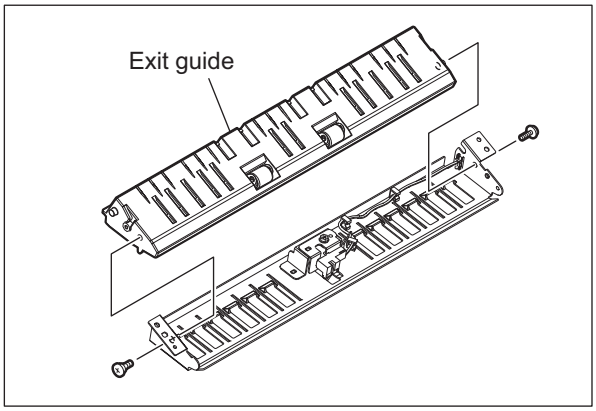

Fig. 15-98

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(5) Remove 1 screw and then take off the sensor bracket.
(6) Release the harness from the clamp and then disconnect the connector.

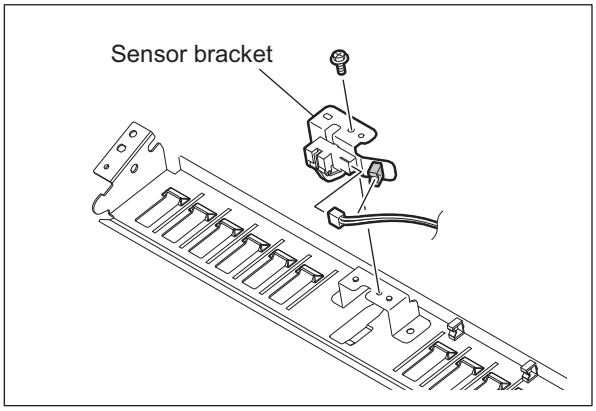

Fig. 15-99

(7) Take off the reverse section stationary jam detection sensor from the sensor bracket.

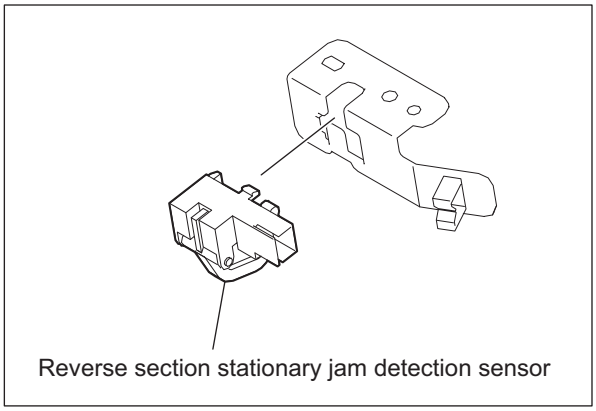

Fig. 15-100

15.6.29 Exit paper cooling fan (front) (F5)

(1) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(2) Pull out the bridge unit.
(3) Remove 2 screws and then take off the inner cover.

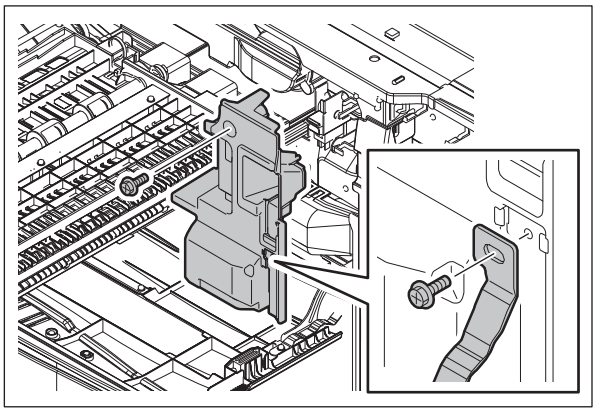

Fig. 15-101

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(4) Remove 4 screws and then take off the fan cover.

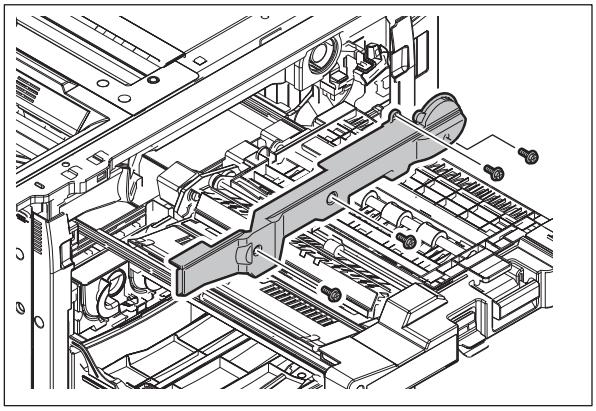

Fig. 15-102

(5) Remove 1 screw and then take off the duct.
(6) Release the harness from the clamp and then disconnect the connector.

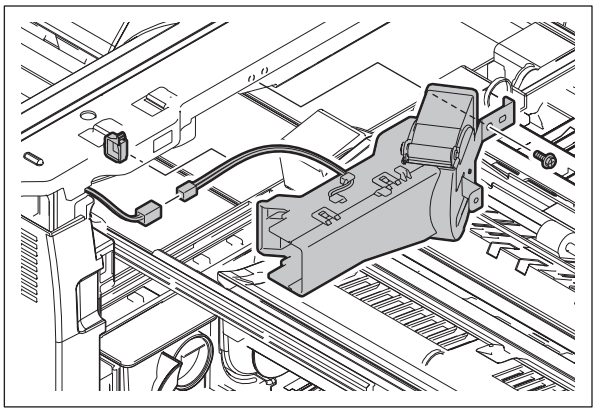

Fig. 15-103

(7) Remove 2 screws and then take off the bracket.
(8) Release the latch, open the duct and take off the exit paper cooling fan (front).

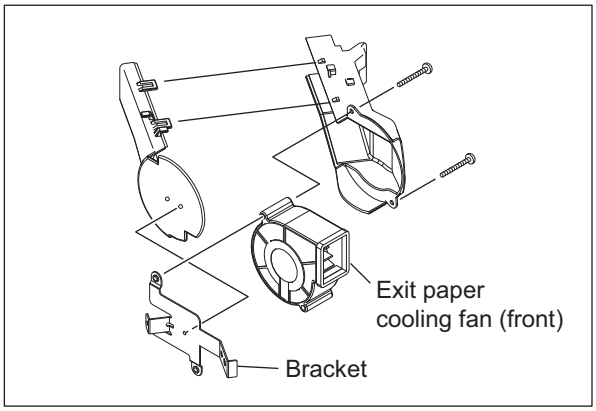

Fig. 15-104

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15.6.30 Bridge unit cooling fan (front) (F6)

(1) Take off the top front cover.
📖 P.3-42 "3.5.5 Top front cover"
(2) Pull out the bridge unit.
(3) Remove 2 screws and then take off the inner cover.

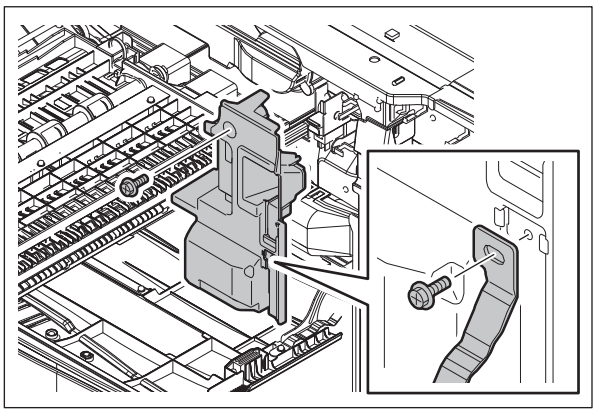

Fig. 15-105

(4) Remove 4 screws and then take off the fan cover.

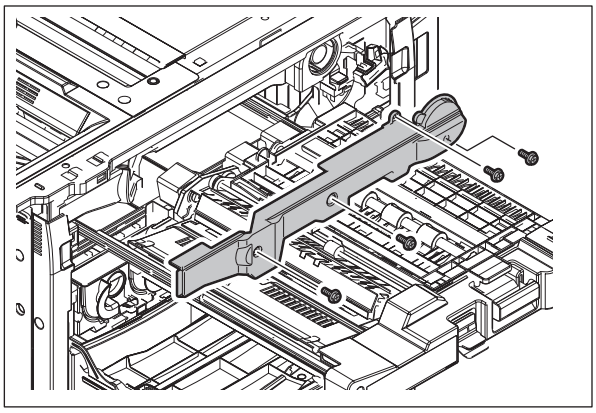

Fig. 15-106

(5) Release the harness from the clamp and then disconnect the connector.
(6) Remove 2 screws and then take off the bridge unit cooling fan (front).

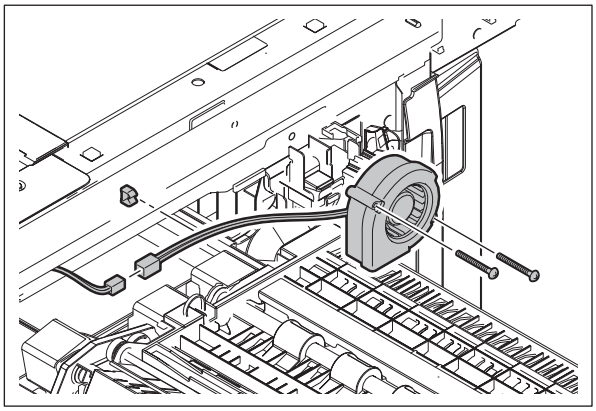

Fig. 15-107

15

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15.6.31 Bridge unit cooling fan (rear) (F7)

(1) Take off the upper fans (left) and (right).
P.7-27 "7.6.9 Upper exhaust fan (left) (F29)"
P.7-28 "7.6.10 Upper exhaust fan (right) (F30)"
(2) Remove 2 screws and then take off the bracket.

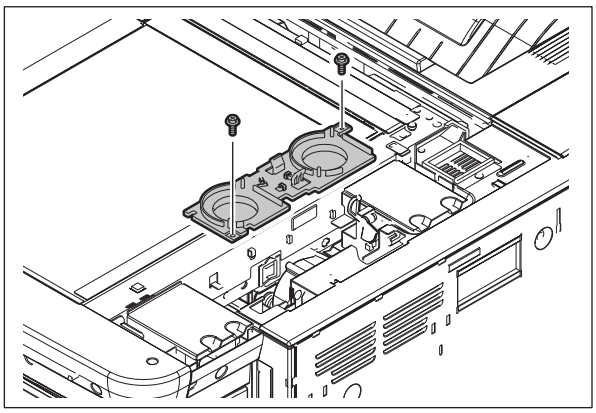

Fig. 15-108

(3) Release the harness from the clamp and then disconnect the connector.

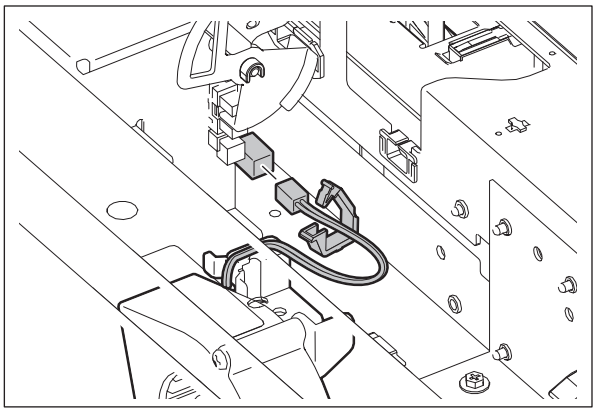

Fig. 15-109

(4) Remove 1 screw and then take off the bridge unit cooling fan (rear) by sliding it.

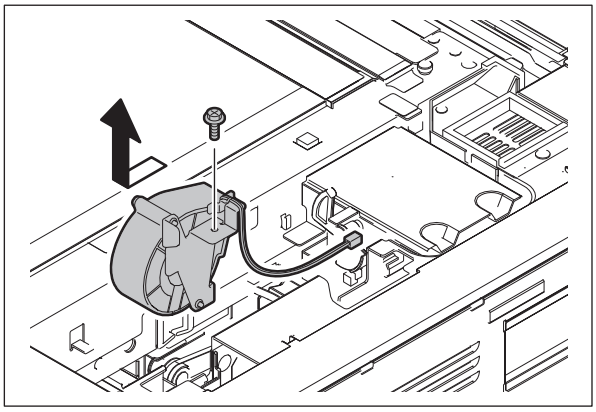

Fig. 15-110

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(5) Cut the harness band to release it from the clamp.
(6) Remove 2 screws and take off the bridge unit cooling fan (rear) from the bracket.

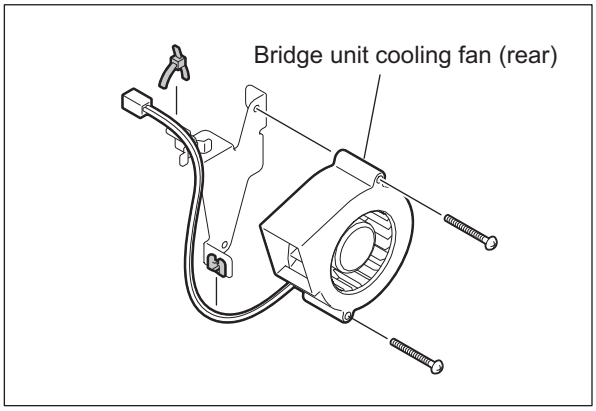

Fig. 15-111

15.6.32 Front cover opening/closing detection switch (SW9) / Bridge unit connecting detection switch (SW8)

(1) Take off the switch brackets.
📖 P.11-69 "11.5.52 Toner motor interlock switch (SW3)"
(2) Disconnect a connector and then take off the front cover opening/closing detection switch from its bracket.

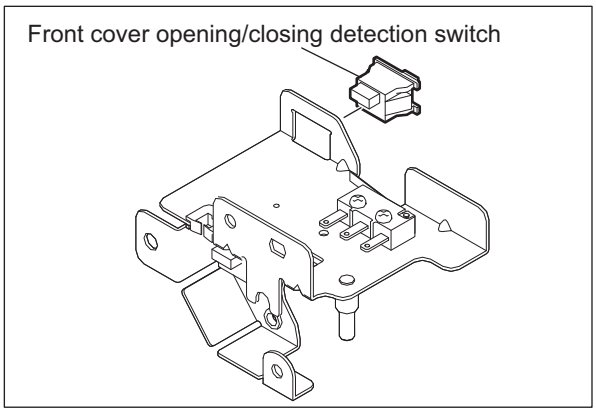

Fig. 15-112

(3) Take off the bridge unit connecting detection switch from its bracket.

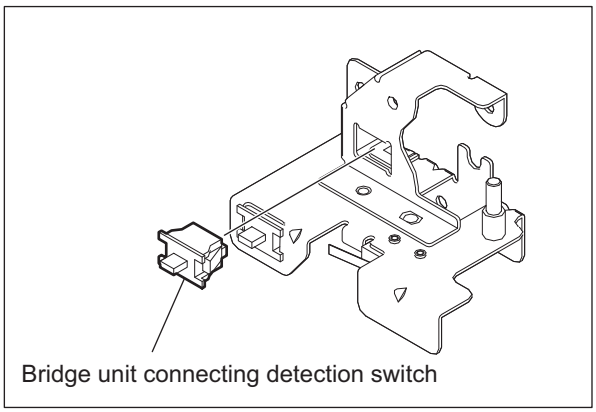

Fig. 15-113

15

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15.6.33 Duplexing bridge unit

(1) Take off the right top cover.
📖 P.3-42 "3.5.4 Right top cover"
(2) Take off the fuser unit.
📖 P.14-26 "14.6.1 Fuser unit"
(3) Remove 1 screw and take off the cover.

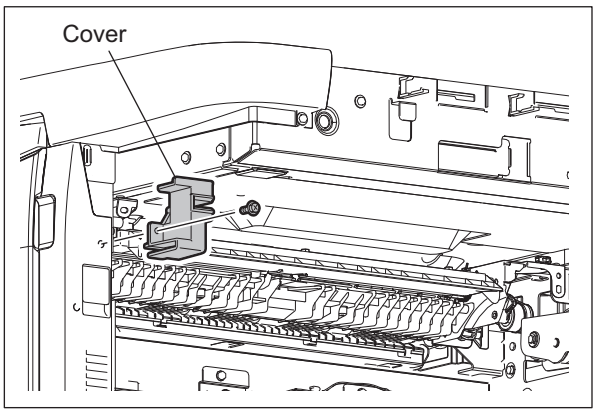

Fig. 15-114

(4) Remove 2 screws and disconnect 1 connector. Then take off the duplexing bridge unit.

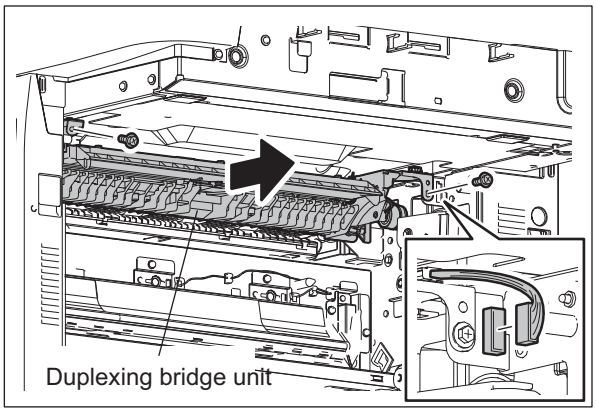

Fig. 15-115

15.6.34 Duplexing unit opening/closing detection sensor (S64)

(1) Take off the duplexing bridge unit.
📖 P.15-52 "15.6.33 Duplexing bridge unit"
(2) Remove 2 E-rings, 2 pulleys and 1 belt.

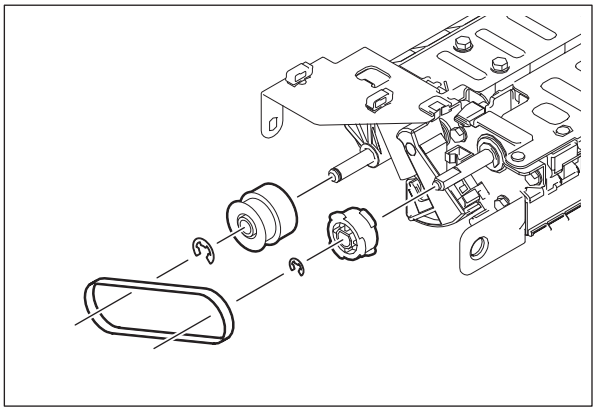

Fig. 15-116

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(3) Take off the duplexing unit opening/closing detection sensor from its frame.
(4) Release a harness from a clamp and then disconnect a connector from the duplexing unit opening/closing detection sensor.

Note:
When installing the sensor, be careful not to bend the latches of the sensor.

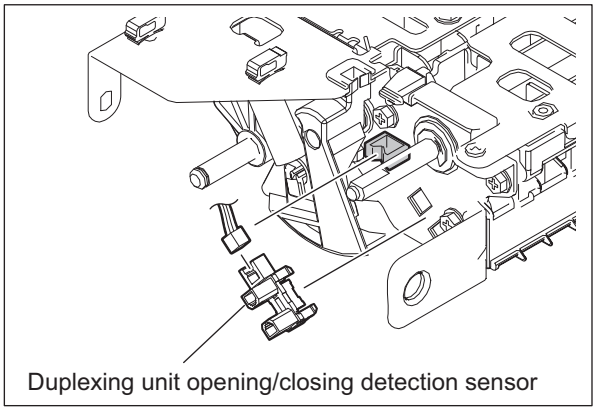

Fig. 15-117

15.6.35 Reverse path sensor (S57)

(1) Take off the duplexing bridge unit.
P.15-52 "15.6.33 Duplexing bridge unit"
(2) Remove 1 screw and then take off the sensor bracket.
(3) Release a harness from a clamp and then disconnect a connector from the sensor bracket.

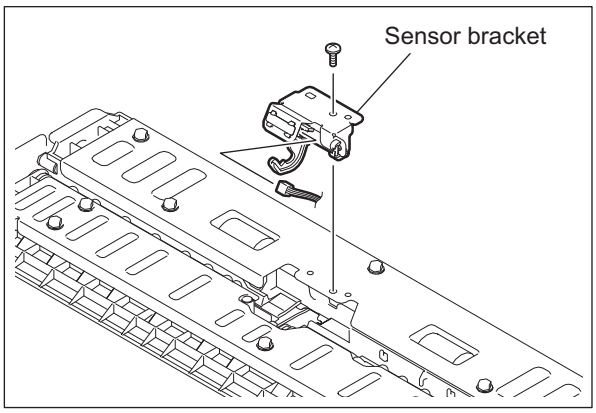

Fig. 15-118

(4) Remove 1 E-ring and a pin. Then remove the sensor actuator.

Note:
When installing the sensor, hook the spring securely and make sure that the actuator returned to its original position by the spring force.

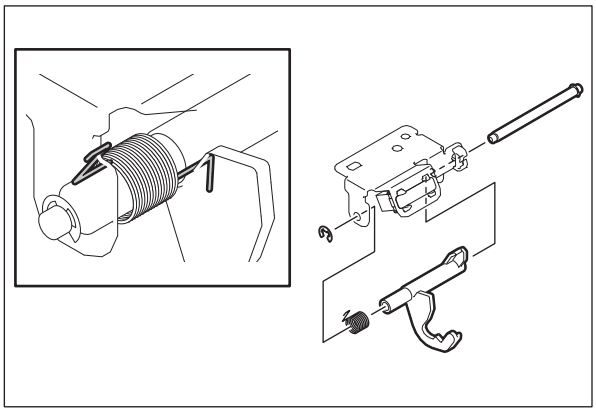

Fig. 15-119

15

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(5) Take off the reverse path sensor by removing 1 Mylar.

Note:
When installing the sensor, be careful not to bend the latches of the sensor.

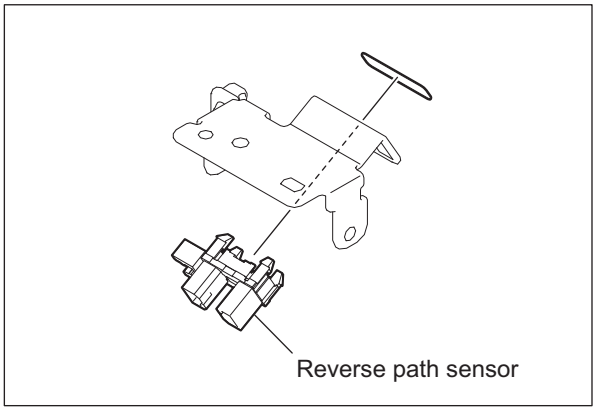

Fig. 15-120

15.6.36 Duplexing bridge unit transport roller

(1) Take off the duplexing bridge unit.
📖 P.15-52 "15.6.33 Duplexing bridge unit"
(2) Take off the 2 pulleys and the belt.
📖 P.15-52 "15.6.34 Duplexing unit opening/closing detection sensor (S64)"
(3) Take off the reverse path sensor.
📖 P.15-53 "15.6.35 Reverse path sensor (S57)"
(4) Remove 5 screws and then take off the duplexing bridge unit upper plate.

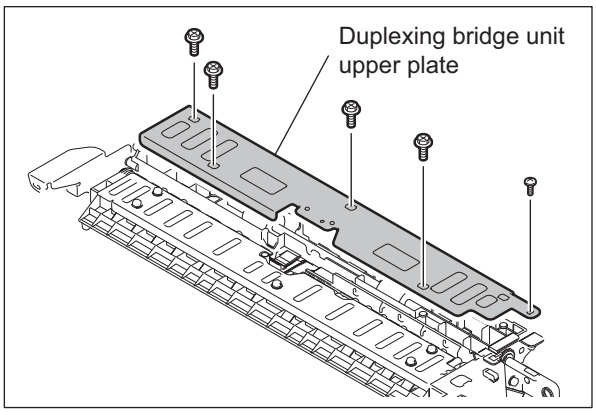

Fig. 15-121

(5) Remove 2 E-rings, 1 bushing and 1 bearing. Then take off the duplexing bridge transport roller.

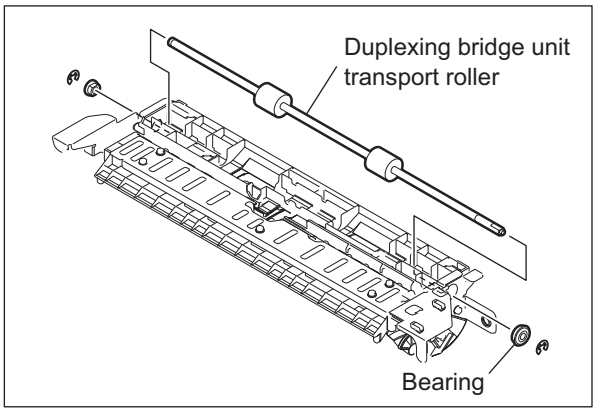

Fig. 15-122

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15.6.37 Duplexing unit upper cover

(1) Pull out the duplexing unit and then open the duplexing unit cover.

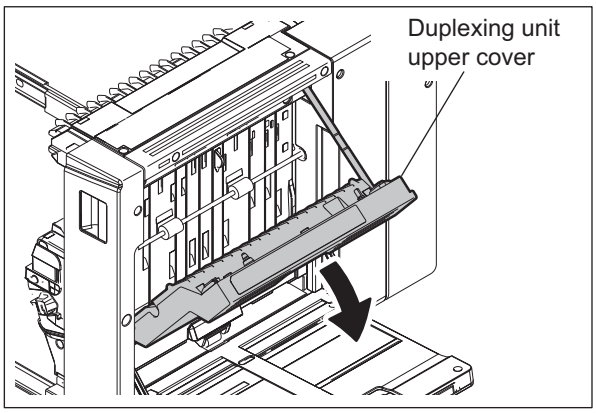

Fig. 15-123

(2) Remove 2 screws and release 4 hooks. Then take off the duplexing unit upper side cover.

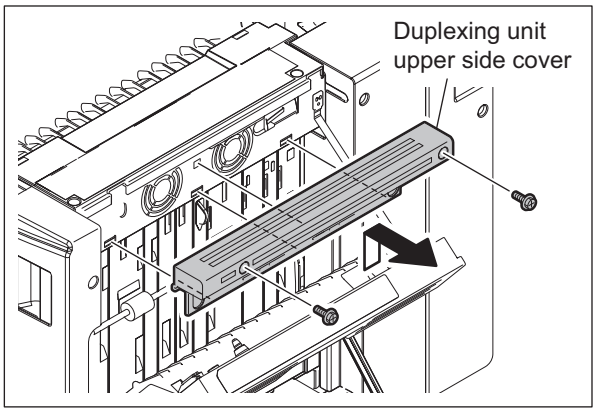

Fig. 15-124

(3) Remove 2 screws and then take off the duplexing unit upper cover by releasing 2 hooks.

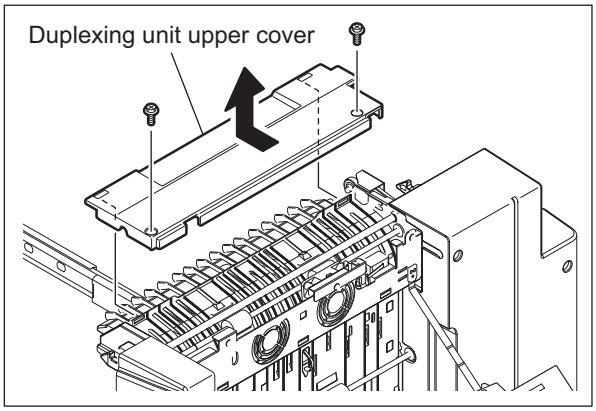

Fig. 15-125

15

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15.6.38 Duplexing unit front side cover

(1) Take off the duplexing unit front cover.
🕮 P.3-45 "3.5.13 Duplexing unit front cover"
(2) Remove 2 screws and then release a hook by pushing the upper section of the duplexing unit front side cover to the rear side.
(3) Take off the duplexing unit front side cover by sliding it in the direction of the arrow.

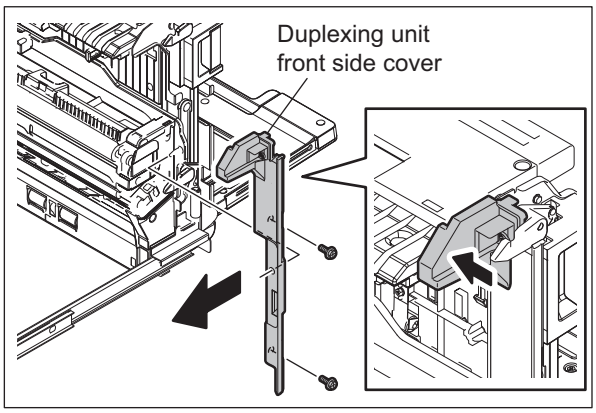

Fig. 15-126

15.6.39 Duplexing unit rear side cover

(1) Take off the duplexing unit rear cover.
🕮 P.3-45 "3.5.14 Duplexing unit rear cover"
(2) Remove 1 screw. Then take off the duplexing unit rear side cover by sliding it in the direction of the arrow.

Note:
When installing the cover, insert the 2 hooks of the duplexing unit rear side cover into the frame.

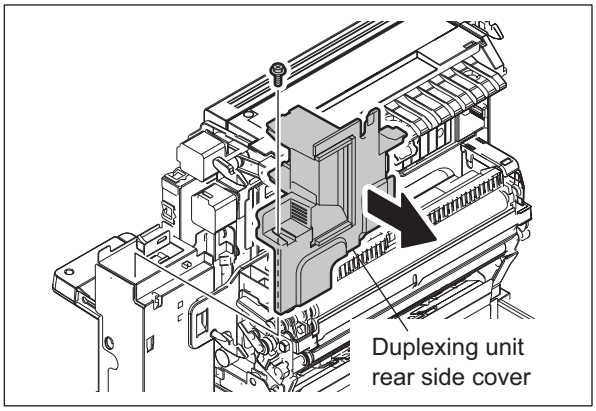

Fig. 15-127

15.6.40 Reversed paper cooling fan (F11)

(1) Take off the duplexing unit upper cover.
🕮 P.15-55 "15.6.37 Duplexing unit upper cover"
(2) Remove 1 screw and then lift up the fan bracket.
(3) Release a harness from a clamp and disconnect a connector.

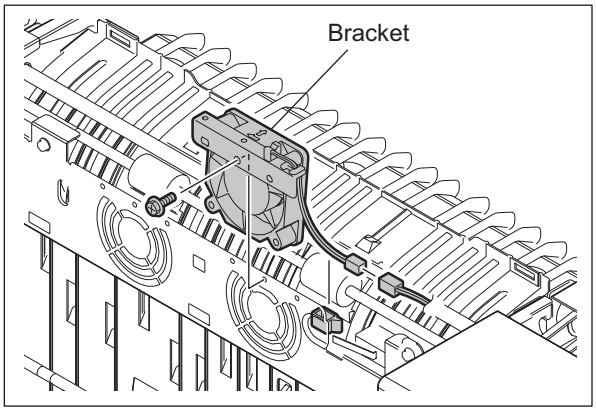

Fig. 15-128

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(4) Release the harness from 2 clamps.
(5) Remove 2 screws and then take off the Reversed paper cooling fan.

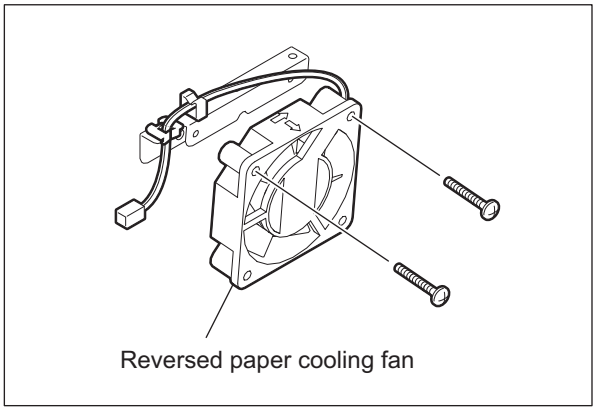

Fig. 15-129

15.6.41 ADU motor-1 (M7)

(1) Take off the duplexing unit rear cover.
📖 P.15-56 "15.6.39 Duplexing unit rear side cover"
(2) Disconnect a connector from the ADU motor-1.
(3) Remove 2 screws and then take off the ADU motor-1 together with its bracket.

Note:
When installing the motor, set the belt securely to the gear and the pulley.

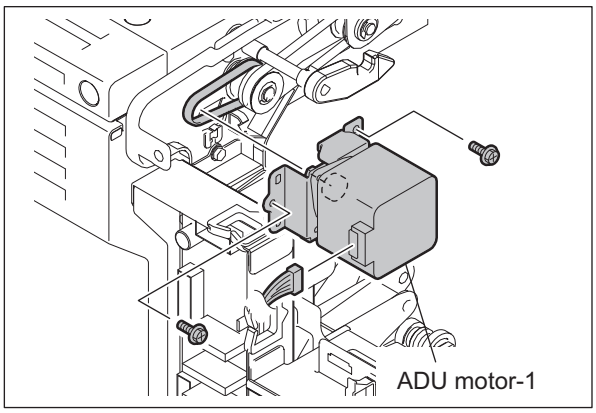

Fig. 15-130

(4) Remove 2 screws and then take off the bracket from ADU motor-1.

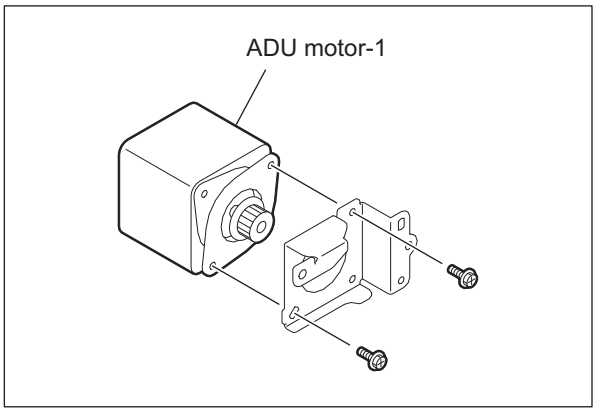

Fig. 15-131

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15.6.42 ADU motor-2 (M8)

(1) Take off the TRU waste toner transport drive section.
🕮 P.12-34 "12.6.22 TRU waste toner auger drive section"
(2) Disconnect a connector from the ADU motor-2.
(3) Remove 2 screws and then take off the ADU motor-2 and a belt.

Note:
When installing the motor, set the belt securely to the ADU motor-2 and the pulley.

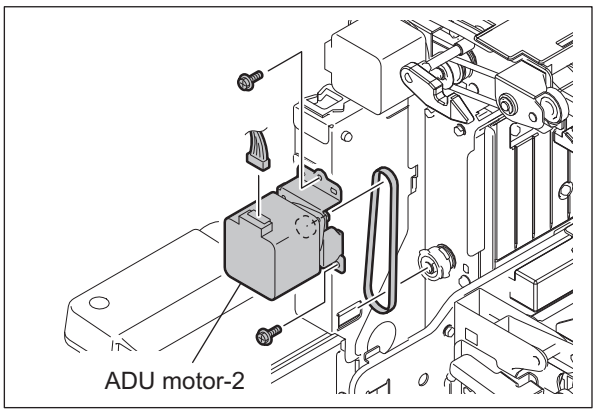

Fig. 15-132

(4) Remove 2 screws and then take off the bracket from ADU motor-2.

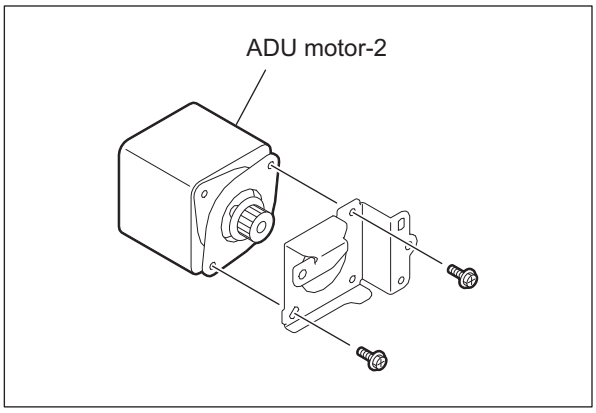

Fig. 15-133

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15.6.43 ADU board

(1) Take off the duplexing unit rear cover.
🕮 P.3-45 "3.5.14 Duplexing unit rear cover"
(2) Disconnect all the connectors of the ADU board. Then release the harness from 2 clamps.

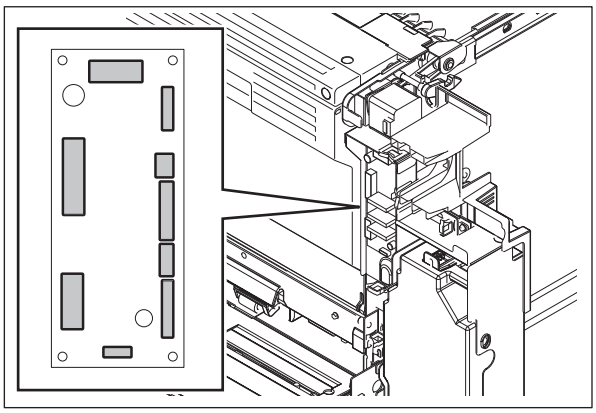

Fig. 15-134

(3) Remove 3 screws and then release a locking support. Then take off the ADU board.

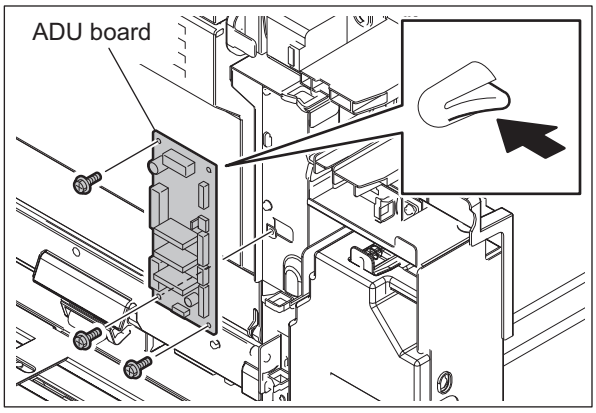

Fig. 15-135

15.6.44 ADU transport roller-1

(1) Take off the duplexing unit front cover.
🕮 P.3-45 "3.5.13 Duplexing unit front cover"
(2) Take off the duplexing unit upper cover.
🕮 P.15-55 "15.6.37 Duplexing unit upper cover"
(3) Take off the duplexing unit front side cover.
🕮 P.15-56 "15.6.38 Duplexing unit front side cover"
(4) Take off the ADU motor-1.
🕮 P.15-57 "15.6.41 ADU motor-1 (M7)"
(5) Remove 2 screws and then release 1 hook. Then take off the front hook cover.

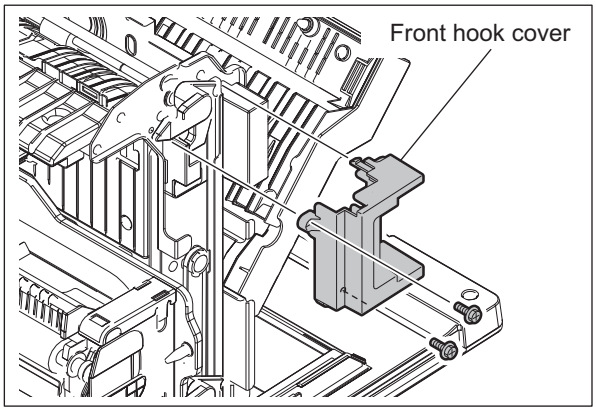

Fig. 15-136

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(6) Remove 1 spring.

Note:
Be careful because the spring force is quite strong.

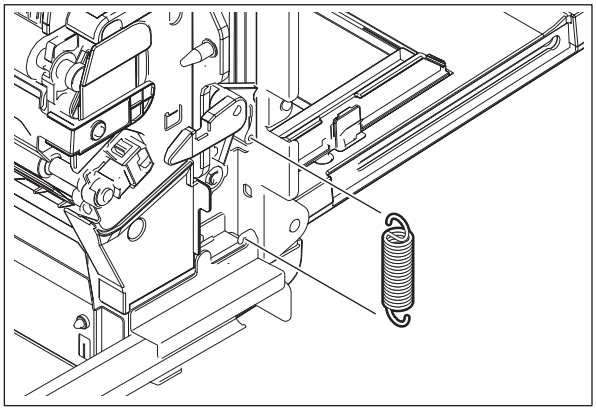

Fig. 15-137

(7) Remove 2 screw and take off the front hook.

Note:
The type of screw differs depending on its installation position.

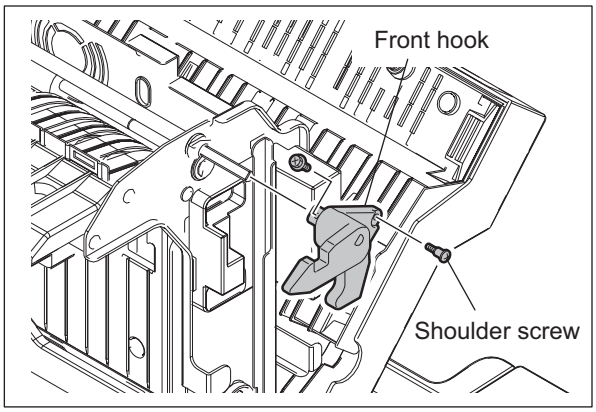

Fig. 15-138

(8) Remove 2 E-rings, 2 pulleys, 2 belts, 1 bushing and a bracket.

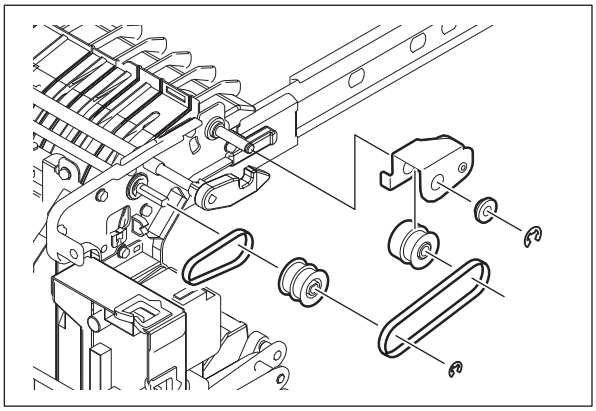

Fig. 15-139

(9) Remove a clip from the front side of the lever shaft. Then take off a bushing.

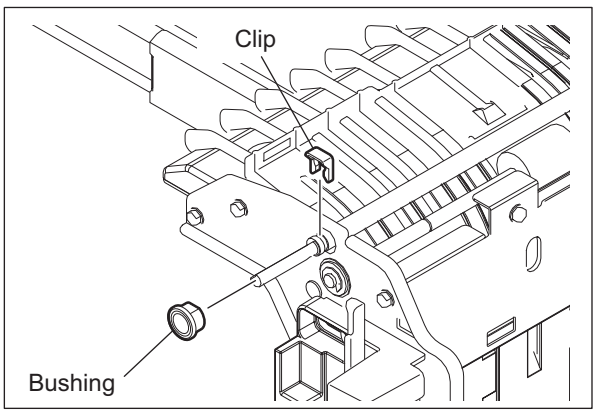

Fig. 15-140

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(10) Take off the lever shaft from the rear side.

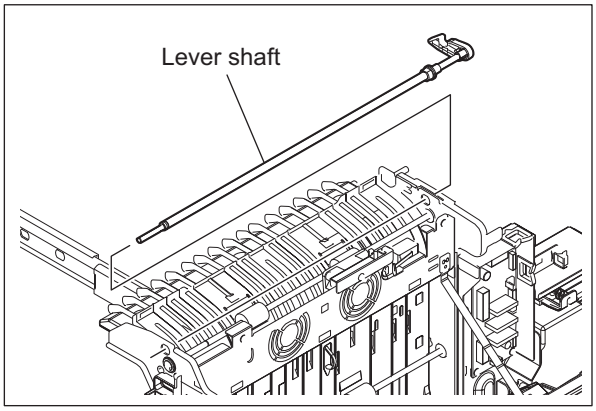

Fig. 15-141

(11) Remove 2 E-rings and then take off the bearing. Then take off the ADU transport roller-1.

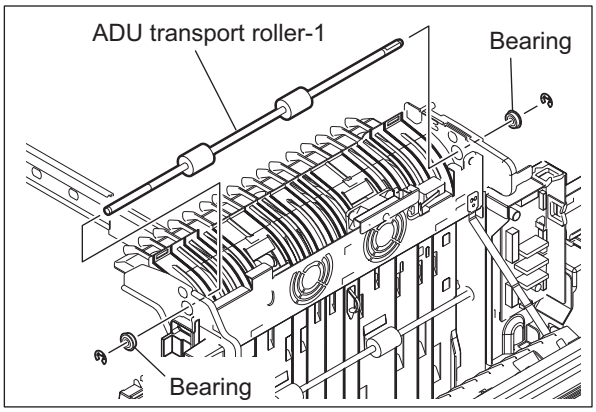

Fig. 15-142

15.6.45 ADU transport roller-2

(1) Take off the duplexing unit rear cover.
📖 P.3-45 "3.5.14 Duplexing unit rear cover"
(2) Take off the duplexing unit front side cover.
📖 P.15-56 "15.6.38 Duplexing unit front side cover"
(3) Take off the ADU motor-2.
📖 P.15-58 "15.6.42 ADU motor-2 (M8)"
(4) Open the duplexing unit cover.
(5) Remove 2 screws and take off the front hook cover.

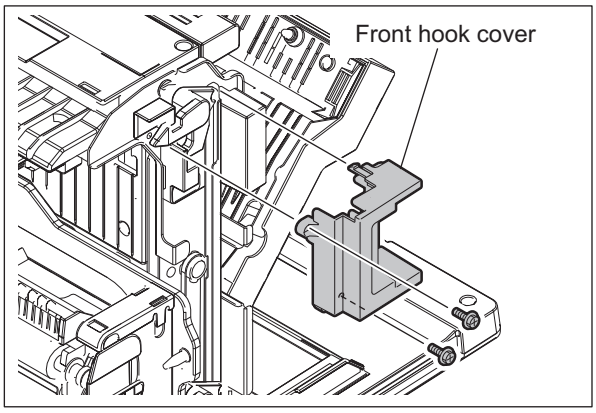

Fig. 15-143

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(6) Remove 1 spring.

Note:
Be careful because the spring force is quite strong.

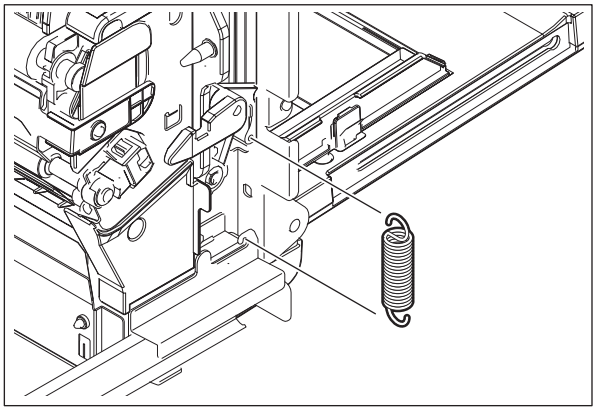

Fig. 15-144

(7) Remove 2 screws and a hook stay.

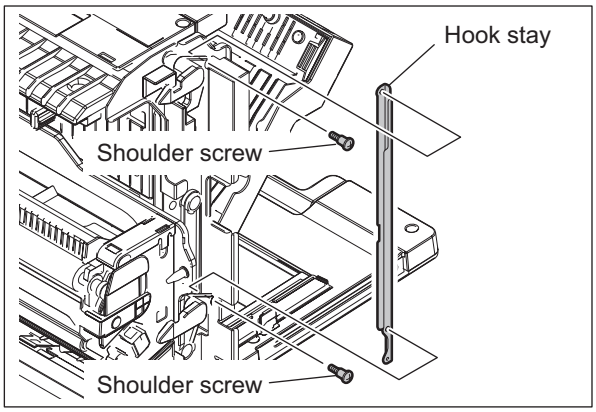

Fig. 15-145

(8) Remove 2 E-rings and 1 clip. Then remove 3 pulleys and 2 belts.

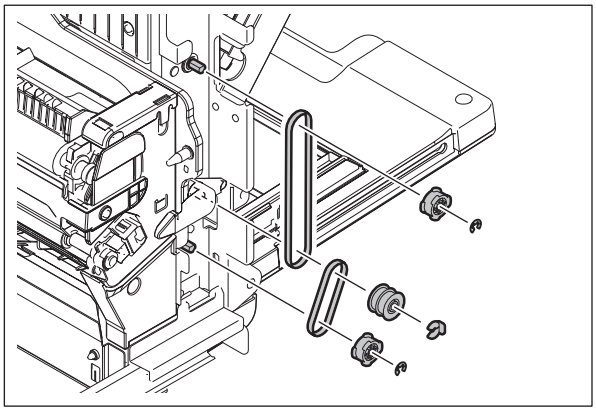

Fig. 15-146

(9) Remove an E-ring and a pulley.

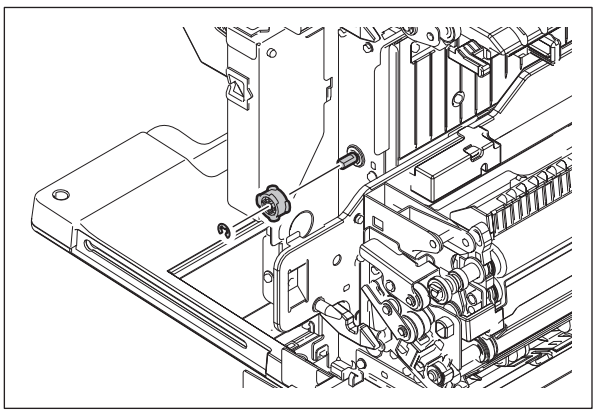

Fig. 15-147

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(10) Remove 2 E-rings and 2 bearings. Then take off ADU transport roller-2.

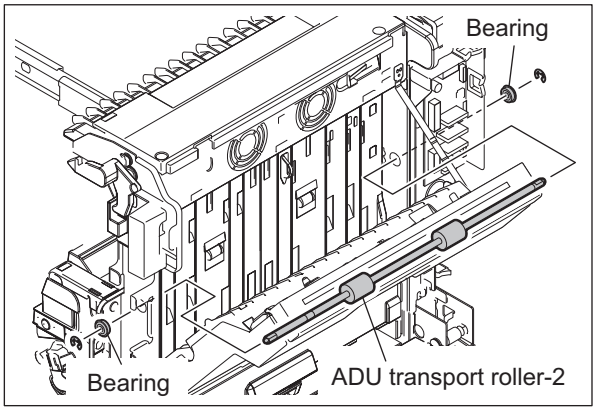

Fig. 15-148

15.6.46 ADU transport roller-3

(1) Take off the duplexing unit front side cover.
P.15-56 "15.6.38 Duplexing unit front side cover"
(2) Take off the duplexing unit rear side cover.
P.15-56 "15.6.39 Duplexing unit rear side cover"
(3) Take off the TRU waste toner transport drive section.
P.12-34 "12.6.22 TRU waste toner auger drive section"
(4) Take off the bypass feed unit.
P.10-22 "10.6.2 Bypass feed unit"
(5) Take off the hook stay.
P.15-61 "15.6.45 ADU transport roller-2"
(6) Remove 1 E-ring and 1 clip. Then remove 1 pulley and 1 belt.
(7) Remove 2 E-rings and 2 bearings. Then take off ADU transport roller-3.

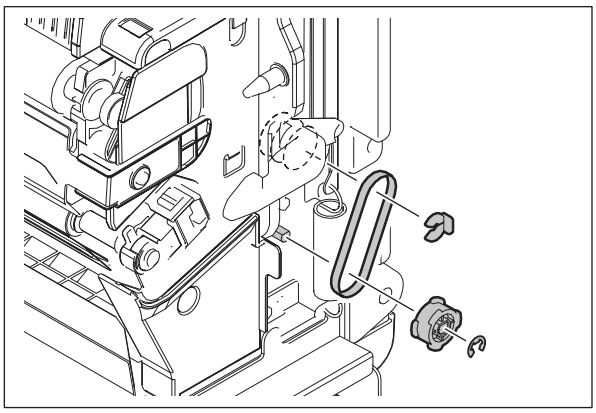

Fig. 15-149

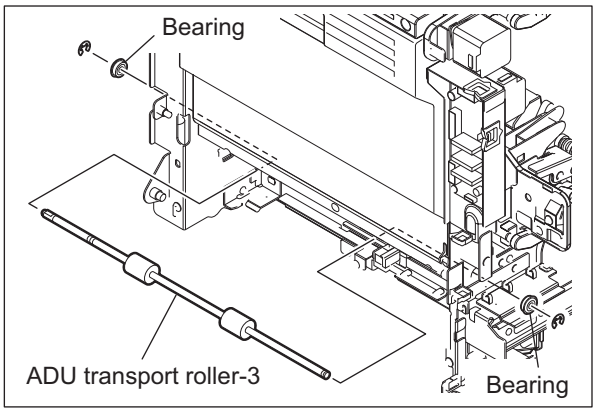

Fig. 15-150

15

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15.6.47 Duplexing unit path exit sensor (S67)

(1) Take off the 2nd transfer unit.
P.12-28 "12.6.15 2nd transfer unit (TRU)"
(2) Remove 1 screw and take off the sensor bracket.
(3) Release the harness from the guide and clamp.

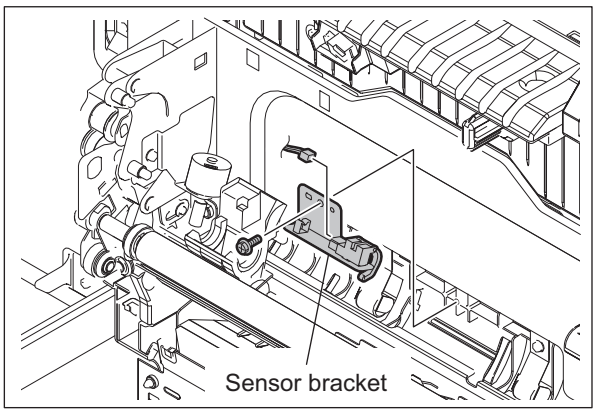

Fig. 15-151

(4) Remove the duplexing unit path exit sensor from the sensor bracket.

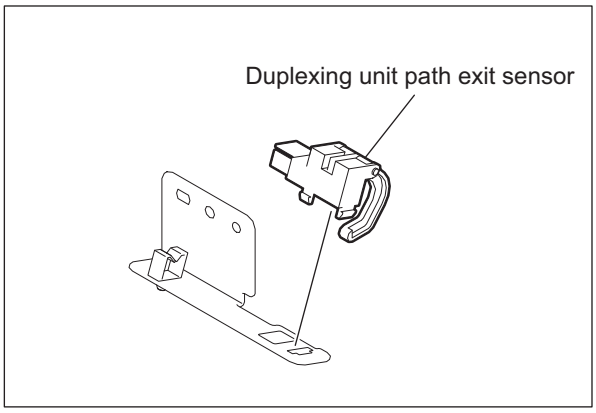

Fig. 15-152

15.6.48 Fuser transport sensor (S65)

(1) Pull out the duplexing unit.
(2) Remove 3 screws and take off transport guide.

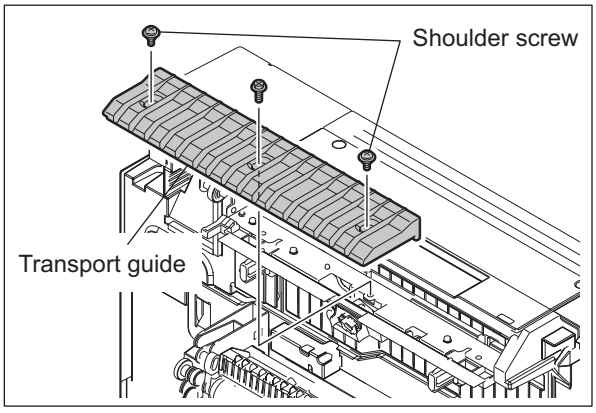

Fig. 15-153

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(3) Remove 1 screw and take off the sensor bracket.
(4) Disconnect the connector from the fuser transport sensor.

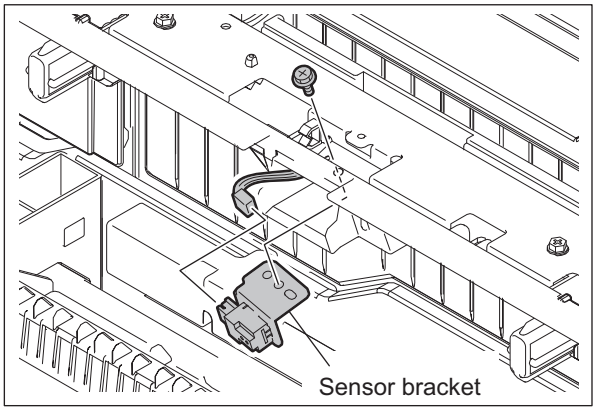

Fig. 15-154

(5) Remove the Mylar and then take off the fuser transport sensor from its bracket.

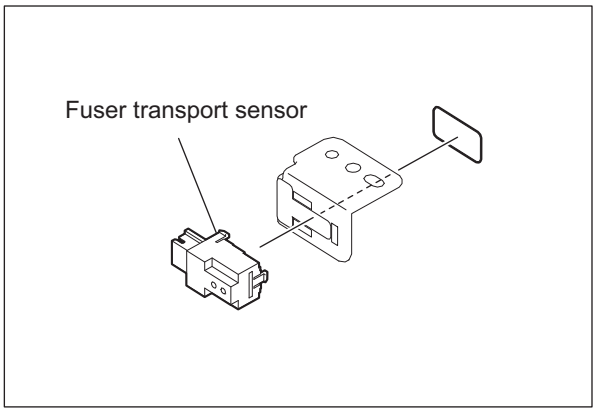

Fig. 15-155

15.6.49 Duplexing unit path entrance sensor (S66)

(1) Pull out the duplexing unit.
(2) Remove 5 screws and then take off the duplexing unit left side cover from the 2 hooks.

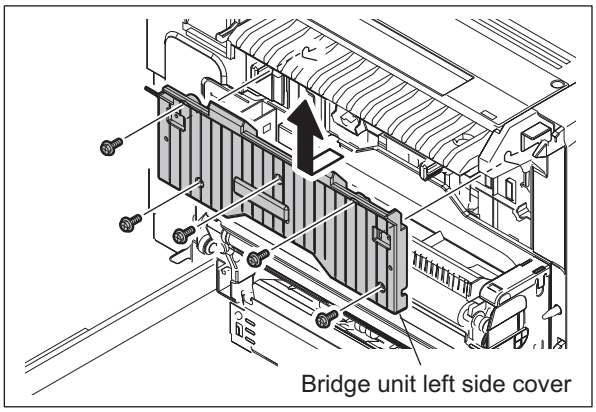

Fig. 15-156

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(3) Remove 1 screw and then take off a sensor bracket.
(4) Disconnect the connector from the duplexing unit path entrance sensor.

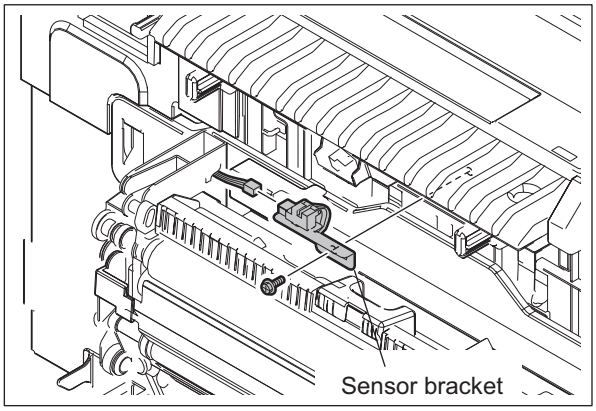

Fig. 15-157

(5) Take off the duplexing unit path entrance sensor from the sensor bracket.

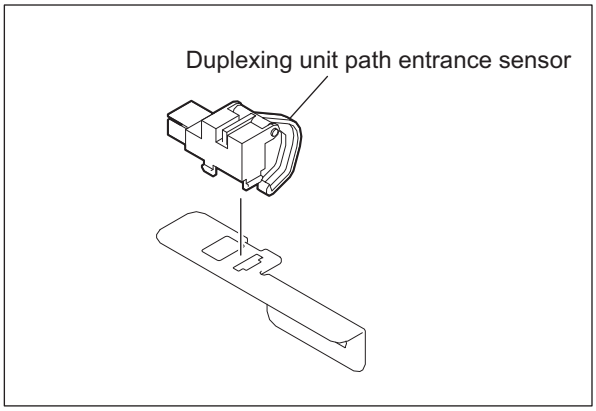

Fig. 15-158

15.6.50 Duplexing unit cover opening/closing detection sensor (SW7)

(1) Take off the duplexing unit upper cover.
📖 P.15-55 "15.6.37 Duplexing unit upper cover"
(2) Remove 2 screws and then take off the duplexing unit cover opening/closing detection sensor.
(3) Release a clamp, and then disconnect 2 connectors from the duplexing unit cover opening/closing detection sensor.

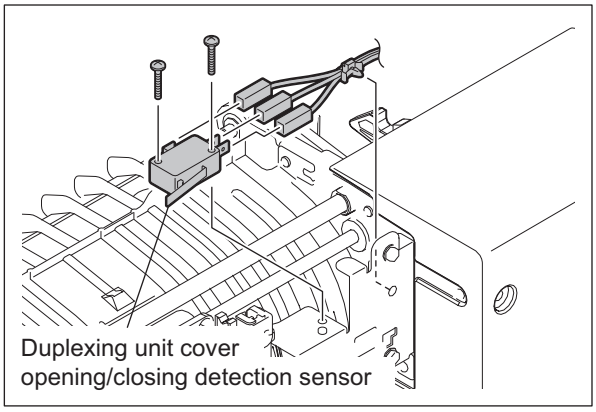

Fig. 15-159

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15.6.51 Duplexing unit interlock switch (SW4)

(1) Take off the right rear cover.
📖 P.3-46 "3.5.17 Right rear cover"
(2) Remove 2 screws and take off the switch bracket.
(3) Disconnect the connector from the duplexing unit interlock switch.

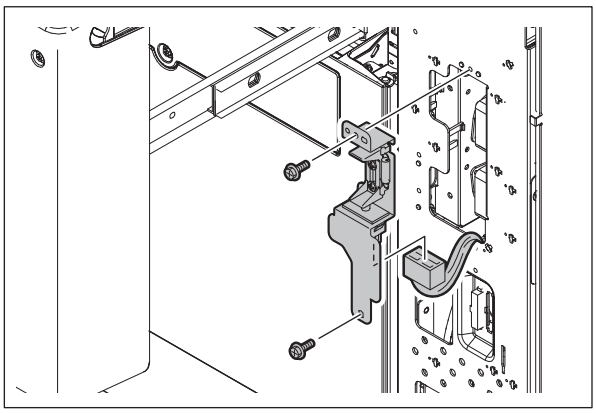

Fig. 15-160

(4) Remove 2 screws and a spring. Then remove a pusher.

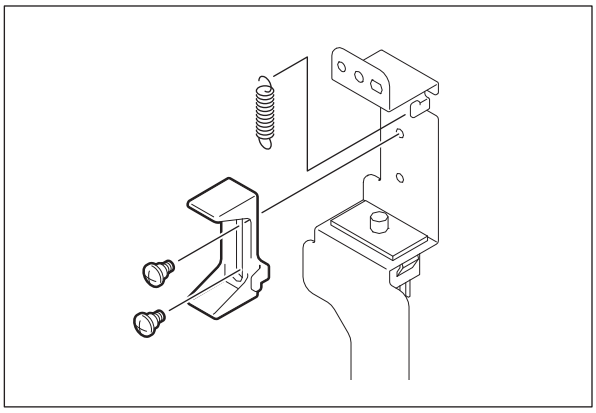

Fig. 15-161

(5) Take off the duplexing unit interlock switch from the bracket.

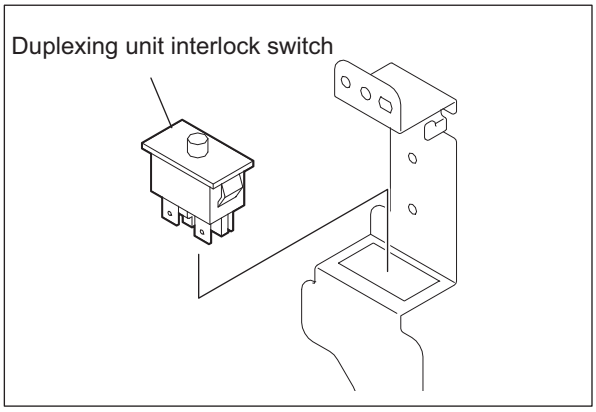

Fig. 15-162

15

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16. REVERSING AUTOMATIC DOCUMENT FEEDER (RADF)

16.1 General Description

The Reversing Automatic Document Feeder (RADF) transports original sheets to the RADF original glass and then to the original exit tray after they have been scanned. In scanning double-sided originals, the original is reversed in the exit paper path exclusive to original reversing after the back side has been scanned and then it exits. Therefore the next original can be scanned without waiting for the previous one to exit.

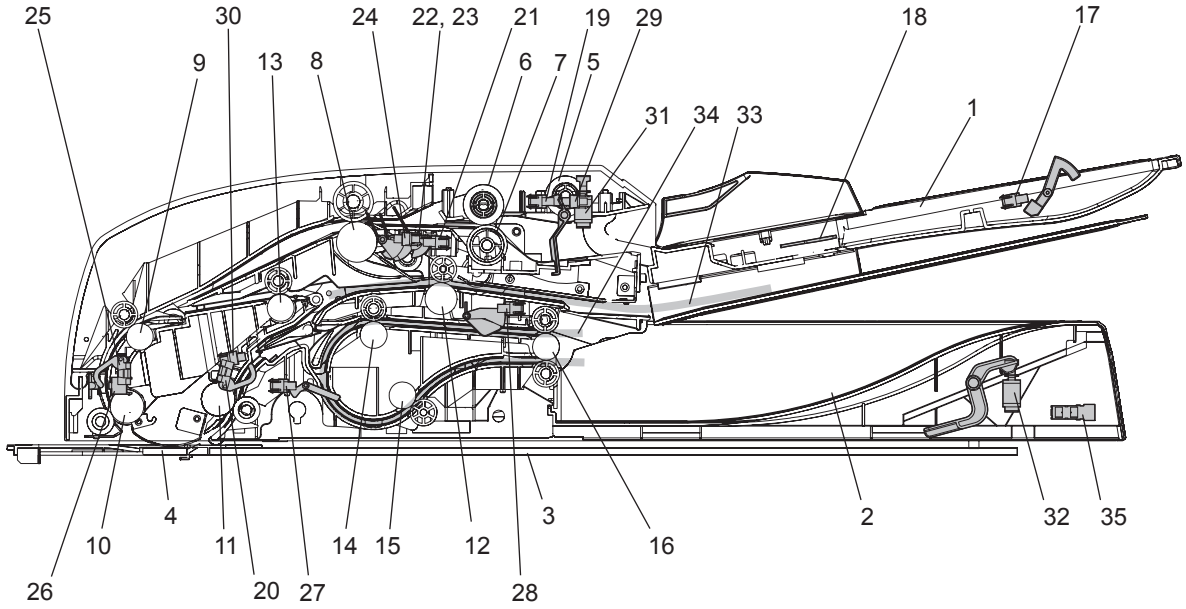

Fig. 16-1

No.	Name	No.	Name
1	Original tray	19	Original empty sensor (SR3)
2	Original exit tray	20	Original reading end sensor (SR4)
3	Original glass	21	Original registration sensor (SR5)
4	RADF original glass	22	Original width detection sensor-1 (SR6)
5	Pickup roller	23	Original width detection sensor-2 (SR7)
6	Feed roller	24	Original width detection sensor-3 (SR8)
7	Separation roller	25	Original intermediate transport sensor (SR9)
8	Original registration roller	26	Original reading start sensor (SR10)
9	Intermediate transport roller	27	Original exit/reverse sensor (SR11)
10	Reading start roller	28	Original exit sensor (SR12)
11	Reading end roller	29	Original jam access cover opening/closing sensor (SR13)
12	Reverse roller	30	Original reverse unit opening/closing sensor (SR14)
13	Reverse registration roller	31	Jam access cover opening/closing switch (SWR1)
14	Exit intermediate roller	32	RADF opening/closing switch (SWR2)
15	Exit/reverse roller	33	Reverse paper path
16	Exit roller	34	Exit paper path
17	Original tray sensor (SR1)	35	RADF opening/closing sensor (SR15)
18	Original tray width sensor (SR2)		

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16.2 Functions

1. Pickup roller
   This roller pulls out the original on the original tray and transports it to the feed roller.

2. Feed roller
   This roller is placed against the separation roller. It transports the original sent by the pickup roller.

3. Separation roller
   This roller is placed against the feed roller. When two originals or more are transported from the pickup roller, the load of the torque limiter of the separation roller is heavier than the frictional force between the sheets. As a result, the separation roller is stopped and the lower paper is not advanced any further.

4. Registration roller
   This roller aligns the sheets sent by the transport roller.

5. Intermediate transport roller / Reading start roller
   These rollers transport the original to the RADF original glass.

6. Reading end roller
   This roller transports the original scanned at the RADF original glass to the reverse paper path or the exit paper path.

7. Reverse roller
   This roller switches back the original during duplex scanning.

8. Reverse registration roller
   This roller aligns the original switched back by the reverse roller and transports it to the intermediate transport roller.

9. Exit intermediate roller
   This roller transports the original sent from the reading end roller to the exit path and switches it back.

10. Exit/reverse roller
    This roller transports the original reversed in the exit path to the exit roller.

11. Exit roller
    This roller transports the original to the original exit tray.

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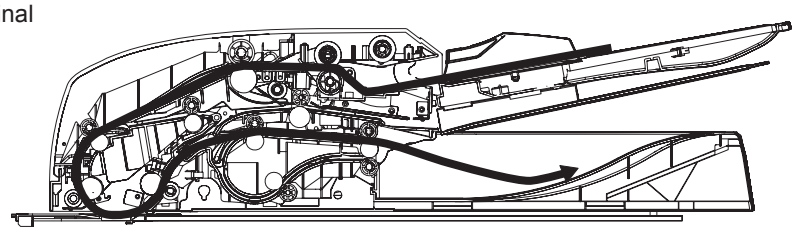
16.3 Description of Operation

16.3.1 Paper path

In scanning double-sided originals, an original is transported to the reverse paper path after the front side has been scanned and it is switched back with the reverse roller so that it is reversed. After the back side of the original has been scanned, it is transported to the exit paper path, switched back with the exit intermediate roller, and it exits on the original exit tray so that the originals are aligned in the order.

1. Single-sided original



2. Double-sided original

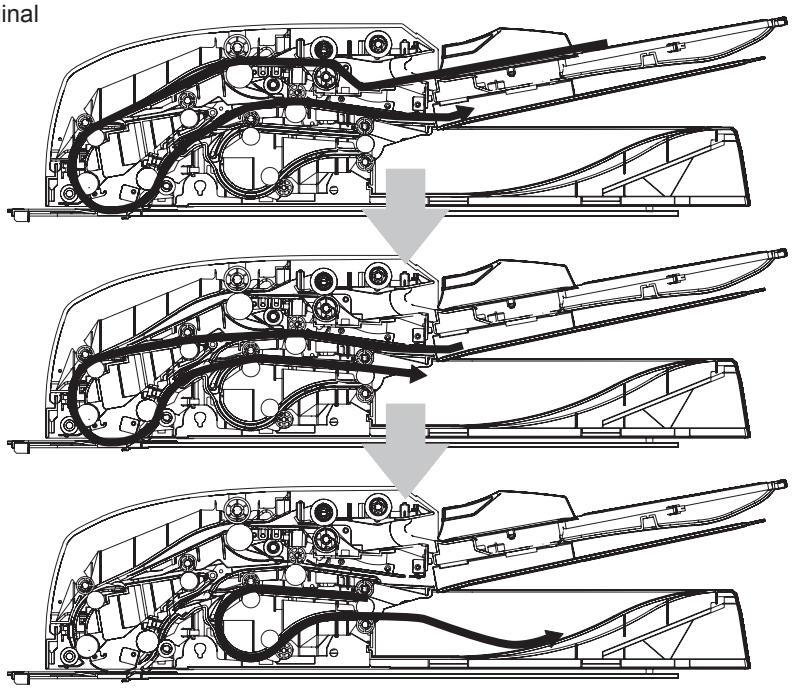


Fig. 16-2

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16.3.2 Drive

4 stepping motors are used for driving the Reversing Automatic Document Feeder. Each motor rotates in order to drive the roller.

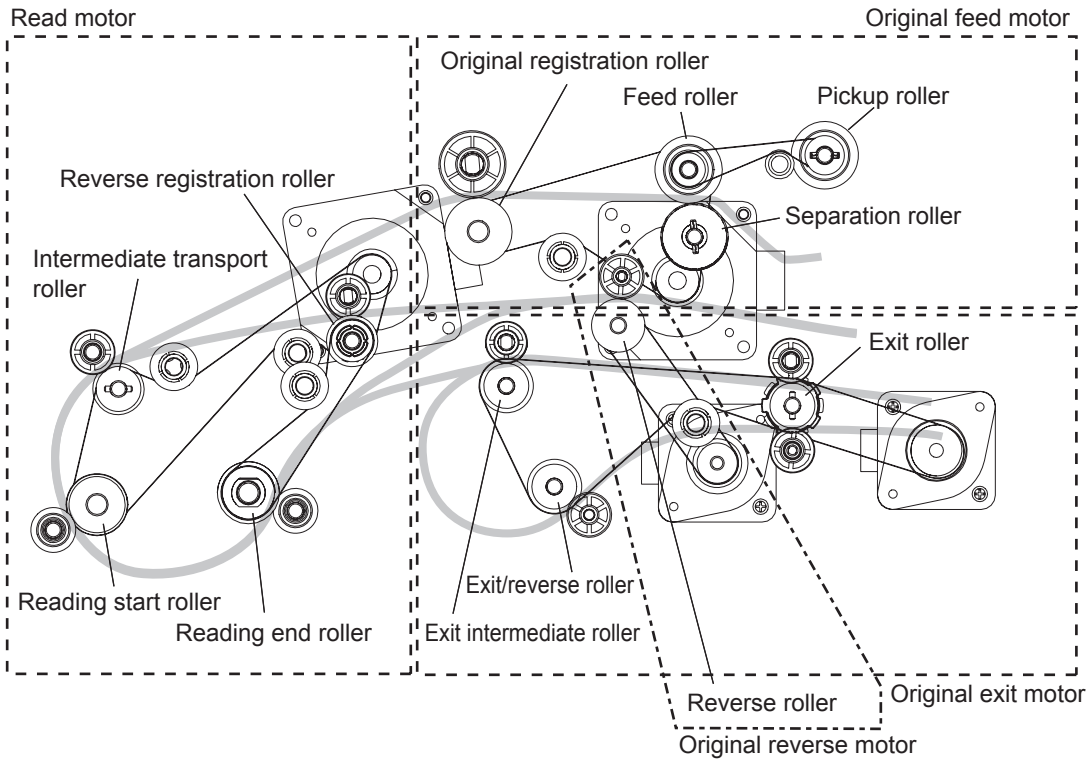

Fig. 16-3

Motor	Rotation	Roller	Remarks
Original feed motor (MR1)	Normal rotation	Pickup roller Feed roller	Feeding
	Reverse rotation	Registration roller	
Read motor (MR2)	Normal rotation	Intermediate transport roller Reading start roller Reading end roller Reverse registration roller	
Original reverse motor (MR3)	Normal rotation / Reverse rotation	Reverse roller	
Original exit motor (MR4)	Normal rotation / Reverse rotation	Exit intermediate roller Exit/reverse roller Exit roller	Normal rotation: Front side exiting Reverse rotation: Backside exiting

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16.3.3 Original size detection

The original tray width sensor, original registration sensor, and original width detection sensors-1, -2, -3 and -4 work in combination to detect the size of originals.

[1] Outline

When an original is placed on the original tray, the width of the original is detected by the positions of the original width guides. Then the original width sensors -1 and -2 and the original length detection sensor detect the size of the original being transported. Based on the detection result of these sensors, the size of the original is finally determined.

[2] Original tray width sensor

The original tray width sensor detects the width of an original placed on the original tray.
It is detected by the brush attached to the rack moving on the original tray width sensor, which is a board with the different length of the patterns written.
This brush is moved as the original width guide is moved. Signals (TWID0S, TWID1S, TWID2S) are opened and shorted to SG by this movement.
The combination of these short (= low level) and open (= high level) can determine the width of the original.
Sizes detectable in combination of these open and short of the signals are as follows:

TWID2S	TWID1S	TWID0S	Original width size (LT series)	Original width size (A4 series)
H	H	L	-	B5-R
H	L	H	ST-R	A5-R
H	L	L	LD / LT	A3 / A4
L	H	L	8.5x8.5 / LT-R / LG / 13”LG	A4-R / FOLIO
L	L	L	COMPUTER	B4 / B5

H (= high level): Open L (= low level): Short

[3] Original width detection sensors-1, -2 and -3 / Original registration sensor

The size of the original is determined by the detection performed in combination of the original width detection sensors-1, -2 and -3 and the original registration sensor, as well as the detection performed by the original tray width sensor.
Sizes detectable in combination of these sensors are as follows:

A4series: (08-201: 0 or 2)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
-	-	ON	ON	ON	ON	A3
-	-		ON	ON	OFF	LD
B5/B4	-		ON	OFF	OFF	B4
-	ON					FOLIO
A4/A3	OFF					A4-R
-	-		OFF	OFF	OFF	B5-R
-	-	OFF	ON	ON	ON	A4
-	-		ON	ON	OFF	LT
-	-		ON	OFF	OFF	B5
-	-		OFF	OFF	OFF	A5-R

16

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A4 series (width sizes mixed at A3 / A4 standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
A3/A4	-	ON	ON	ON	-	A3
	-		ON	OFF	-	B4
	-		OFF	OFF	-	A4-R/FOLIO
	-	OFF	ON	ON	-	A4
	-		ON	OFF	-	B5

A4 series (width sizes mixed at B4 / B5 standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
B4/B5	-	ON	ON	OFF	-	B4
	-		OFF	OFF	-	A4-R/FOLIO
	-	OFF	ON	OFF	-	B5
	-		OFF	OFF	-	A5-R

A4 series (width sizes mixed at A4-R standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
A4-R	-	ON	ON	OFF	-	A4-R/FOLIO
	-		OFF	OFF	-	B5-R
	-	OFF	OFF	OFF	-	A5-R

A4 series (width sizes mixed at B5-R standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
B5-R	-	ON	OFF	OFF	-	B5-R
	-	OFF	OFF	OFF	-	A5-R

LT series (08-201:1)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
-	-	ON	ON	ON	ON	A3
-	-		ON	ON	OFF	LD
COMP	-		ON	OFF	OFF	COMP
-	ON					LG
LT-R/LG	OFF					LT-R
-	-	OFF	ON	ON	ON	A4
-	-		ON	ON	OFF	LT
-	-		ON	OFF	OFF	8.5x8.5
-	-		OFF	OFF	OFF	ST-R

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LT series (width sizes mixed at LD / LT standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
LD/LT	-	ON	ON	ON	-	LD
	-		ON	OFF	-	COMP
	-		OFF	OFF	-	LT-R/LG
	-	OFF	ON	ON	-	LT

LT series (width sizes mixed at COMP standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
COMP	-	ON	ON	OFF	-	COMP
	-		OFF	OFF	-	LT-R/LG
	-	OFF	OFF	OFF	-	ST-R

LT series (width sizes mixed at LG / LT-R standard)

Original tray width sensor	Original tray sensor	Original registration sensor	Original width detection sensor-1	Original width detection sensor-2	Original width detection sensor-3	Size determined
LG/LT-R	-	ON	ON	OFF	-	LT-R/LG
	-	OFF	ON	OFF	-	8.5x8.5
	-		OFF	OFF	-	ST-R

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16.4 Electric Circuit Description

16.4.1 Signal block diagram

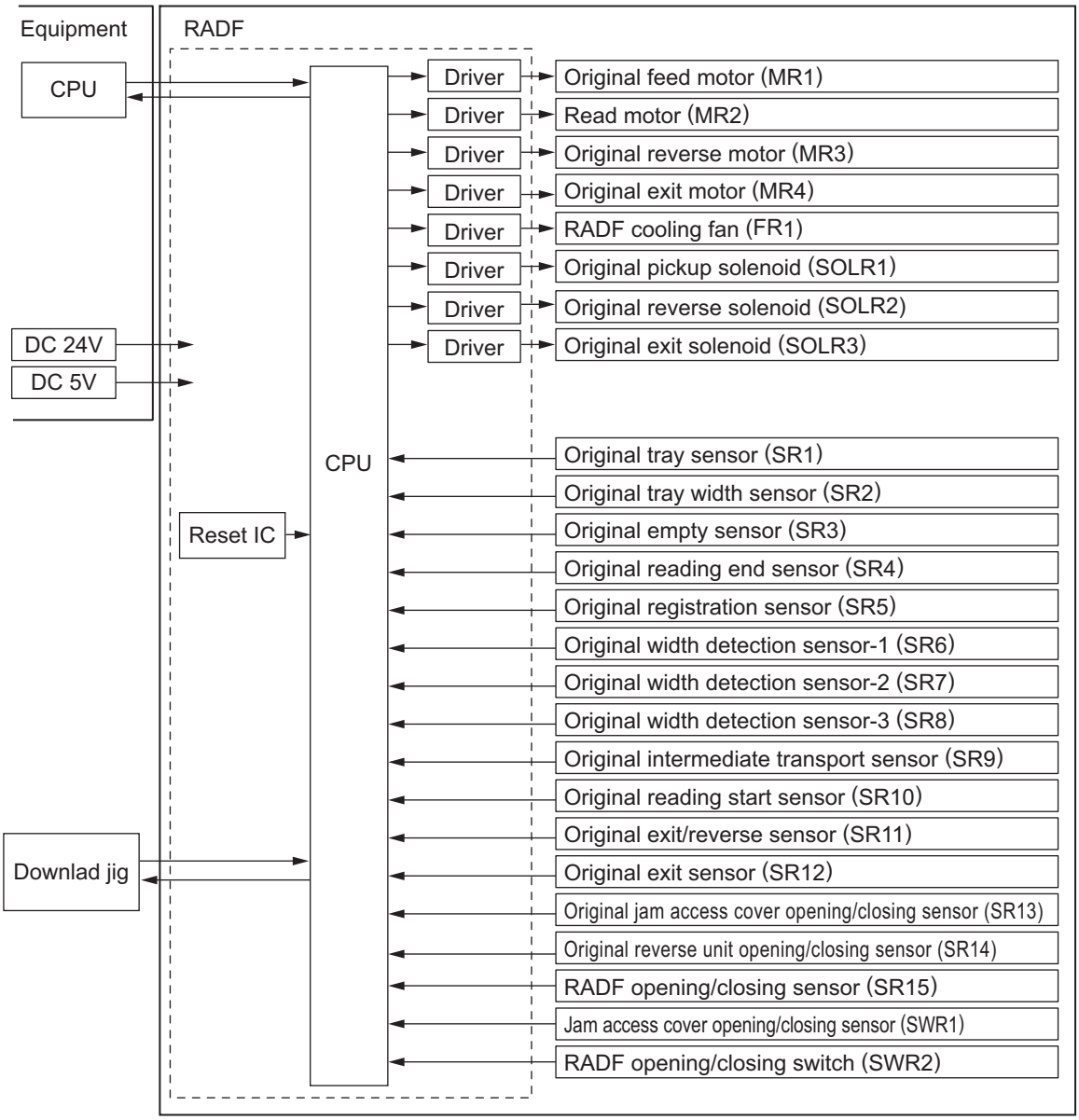

Fig. 16-4

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16.4.2 Electric circuit description

[A] Original feed motor control circuit

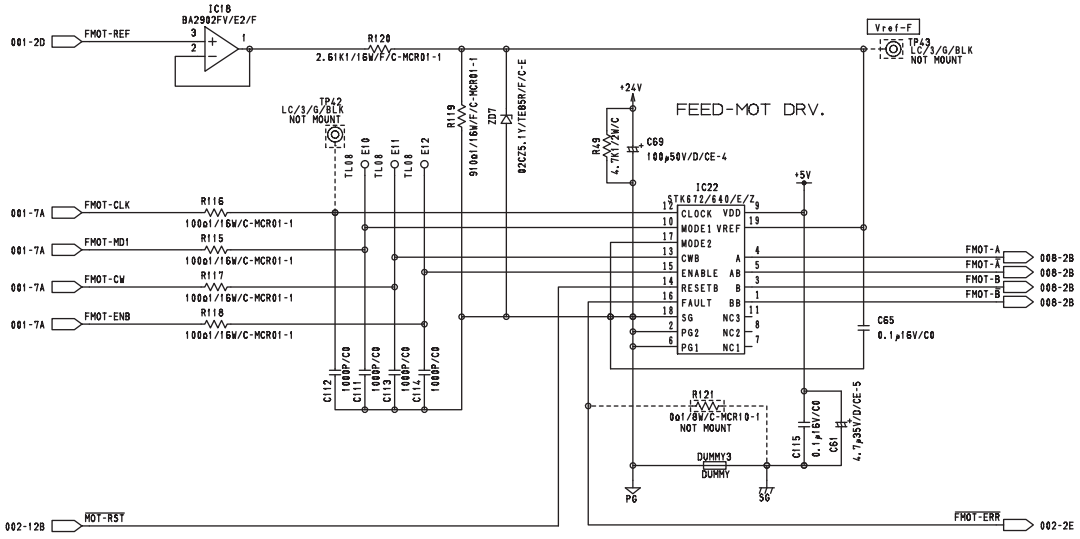

Fig. 16-5

This circuit controls the rotation/stoppage and the direction of rotation, excitation mode and motor current of the feed motor. The speed and direction of the motor rotation can be controlled by inputting the drive clock signal (FMOT-CLK) and rotation direction signal (FMOT-CW). When the level of the enabling signal (FMOT- ENB) is set to “L”, the motor current is turned OFF regardless of the state of other signals. Either the 2 phase excitation or 1-2 phase excitation can be selected by the excitation switching signal (FMOT-MD1). The edge switching signal (FMOT-MD2) is used to specify the switching timing for excitation phase either from when both the rising and decay edge of the CLK input are detected or when only the rising edge is detected. The motor current value can be set discretionary by changing the level of the reference setting signal (FMOT-REF).

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[B] Read motor control circuit

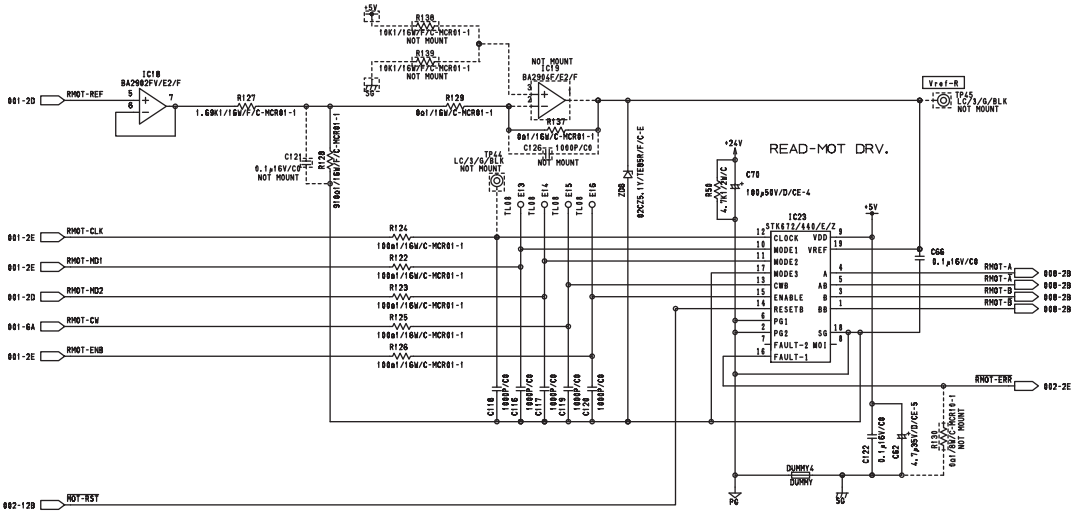

Fig. 16-6

This circuit controls the rotation/stoppage and the direction of rotation, excitation mode and motor current of the read motor. The speed and direction of the motor rotation can be controlled by inputting the drive clock signal (RMOT-CLK) and rotation direction signal (RMOT-CW). When the level of the enabling signal (RMOT-ENB) is set to “L”, the motor current is turned to OFF regardless of the state of other signals. One of the 2 phase excitation, 1-2 phase excitation, W1-2 phase excitation, 2W1-2 phase excitation and 4W1-2 phase excitation can be selected by the excitation switching signal (RMOT-MD1/ RMOT-MD2). The edge switching signal (RMOT-MD3) is used to specify the switching timing for excitation phase either from when both the rising and decay edge of the CLK input are detected or when only the rising edge is detected. The motor current value can be set discretionary by changing the level of the reference setting signal (RMOT-REF).

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[C] Original reverse motor control circuit

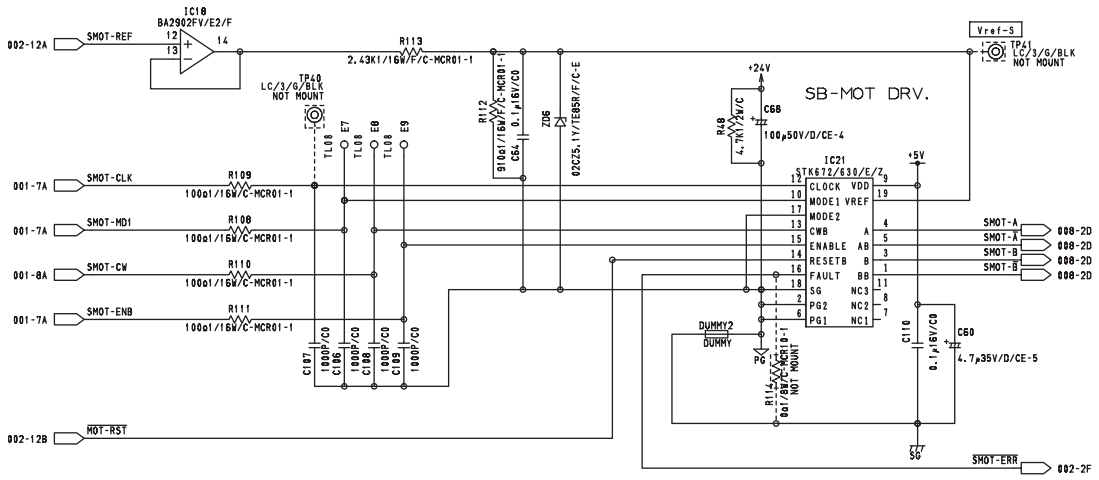

Fig. 16-7

This circuit controls the rotation/stoppage and the direction of rotation, excitation mode and motor current of the original reverse motor. The speed and direction of the motor rotation can be controlled by inputting the drive clock signal (SMOT-CLK) and rotation direction signal (SMOT-CW). When the level of the enabling signal (SMOT-ENB) is set to “L”, the motor current is turned OFF regardless of the state of other signals. Either the 2 phase excitation or 1-2 phase excitation can be selected by the excitation switching signal (SMOT-MD1). The edge switching signal (SMOT-MD2) is used to specify the switching timing for excitation phase either from when both the rising and decay edge of the CLK input are detected or when only the rising edge is detected. The motor current value can be set discretionary by changing the level of the reference setting signal (SMOT-REF).

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[D] Original exit motor control circuit

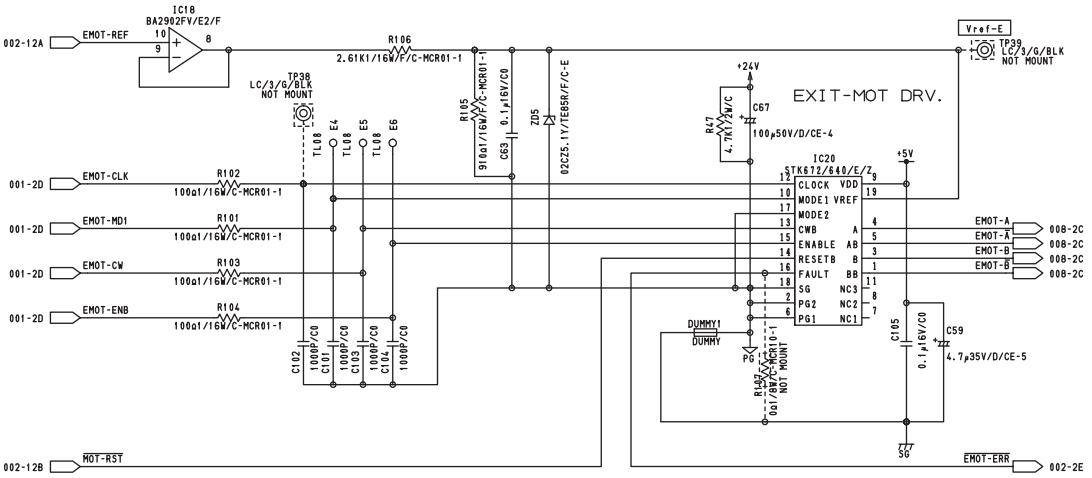

Fig. 16-8

This circuit controls the rotation/stoppage and the direction of rotation, excitation mode and motor current of the original exit motor. The speed and direction of the motor rotation can be controlled by inputting the drive clock signal (EMOT-CLK) and rotation direction signal (EMOT-CW). When the level of the enabling signal (EMOT-ENB) is set to “L”, the motor current is turned OFF regardless of the state of other signals. Either the 2 phase excitation or 1-2 phase excitation can be selected by the excitation switching signal (EMOT-MD1). The edge switching signal (EMOT-MD2) is used to specify the switching timing for excitation phase either from when both the rising and decay edge of the CLK input are detected or when only the rising edge is detected. The motor current value can be set discretionary by changing the level of the reference setting signal (EMOT-REF).

[E] Original pickup solenoid control circuit

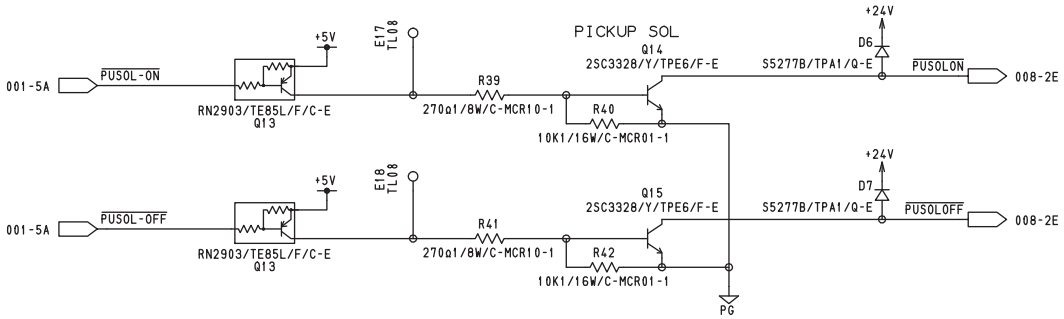

Fig. 16-9

The pickup solenoid is a two-way solenoid that can be operated both in suction and recovery, and driven by two transistors (Q14 and Q15) for each operation respectively. When the level of the PUSOL-ON signal is set to “L”, Q14 is turned ON, the power of 24V is applied to the coil for suction operation, the solenoid is turned ON, and then the pickup roller goes down. When the level of the PUSOL-ON signal is set to “L”, Q15 is turned ON, the power of 24V is applied to the coil for recovery operation, the solenoid is turned OFF, and then the pickup roller goes up.

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[F] Original reverse solenoid/Original exit solenoid control circuit

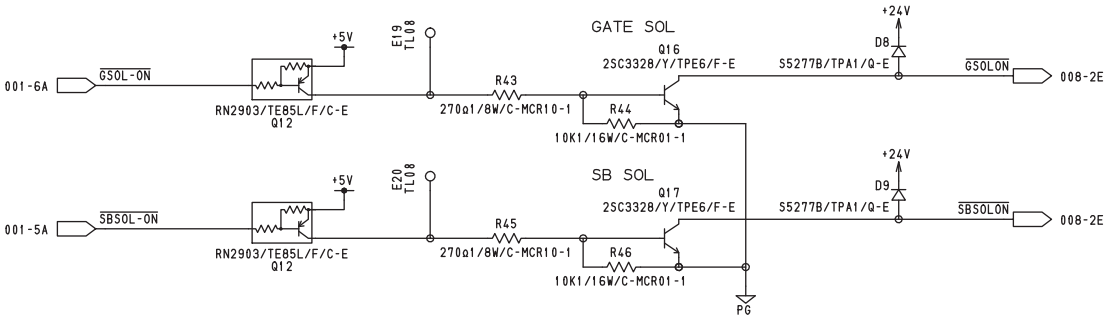

Fig. 16-10

The original reverse solenoid is a solenoid that drives the flapper to switch the path, to which originals are to be transported, to either the reverse paper path or the exit paper path when double-sided originals are scanned. It is driven by the transistor (Q16). When the level of the GSOL-ON signal is set to “L”, the flapper goes down and the original is transported to the reverse paper path.
The original exit solenoid is a solenoid that drives the flapper to switch the path, to which originals are to exit, to either the original reverse tray or the original exit tray. It is driven by the transistor (Q17). When the level of the SBSOL-ON signal is set to “L”, and the original is transported to the original reverse tray.

[G] Reset circuit

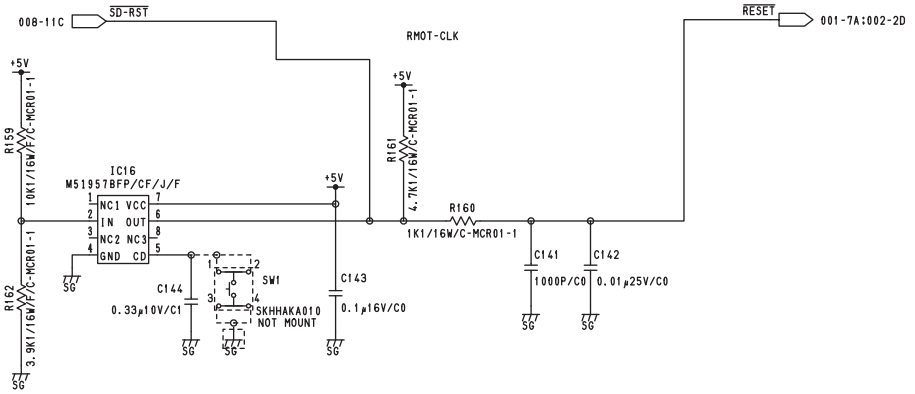

Fig. 16-11

This circuit generates a reset signal when the power is turned ON and when the power voltage is blocked or cut off/lowered temporarily. At the power-ON, the circuit shifts the level of the reset signal (RESET) from “L” to “H” to put the CPU in a operative state after the reset pulse duration (Tpd) determined by the capacitance of C144 has passed from when the power voltage has reached the supervisory voltage (Vs) divided by R162 and R159. When a power voltage drop (cutoff, temporary cutoff, temporary low voltage) occurs and the power voltage becomes lower than the set value for the supervisory voltage for the power, the circuit sets the level of the reset signal (RESET) to “L” to put the CPU in a halt state.

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16.5 Disassembly and Replacement

16.5.1 RADF

(1) Remove 1 screw and take off the RADF connector cover. Then disconnect the connector.

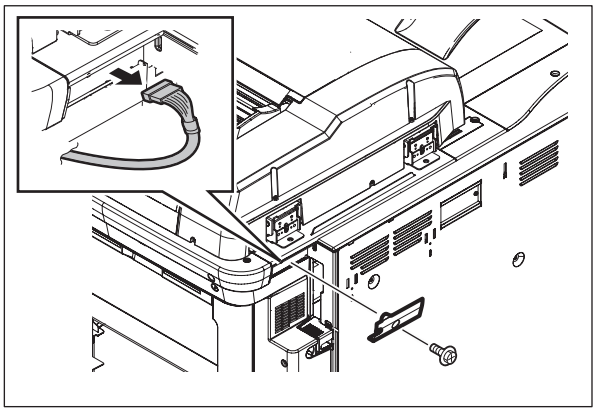

Fig. 16-12

(2) Remove 2 screws.

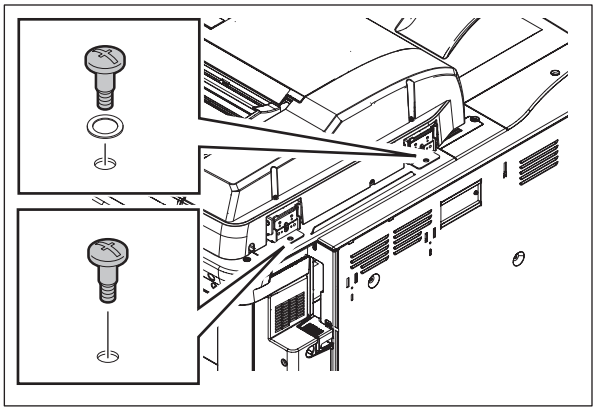

Fig. 16-13

(3) Open the RADF and remove 2 screws.

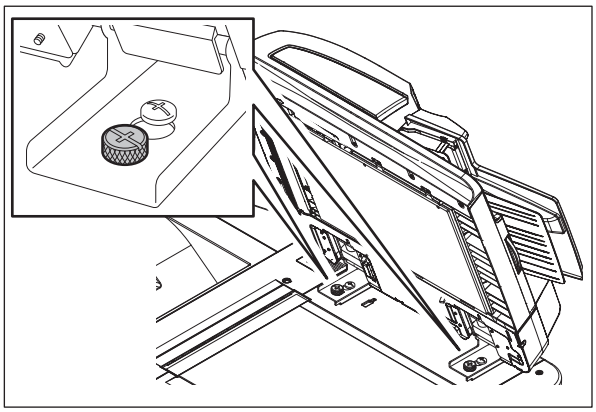

Fig. 16-14

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(4) Slide the RADF towards the rear side and take it off.

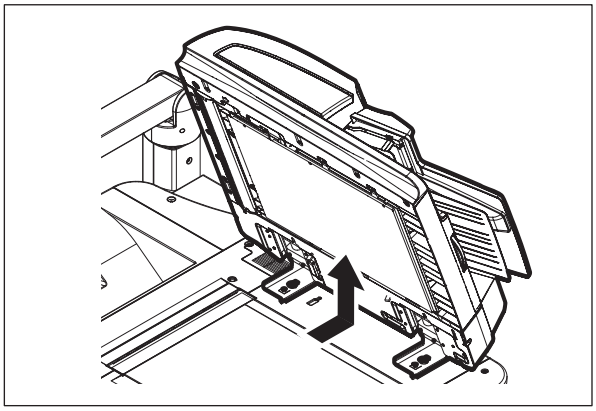

Fig. 16-15

16.5.2 RADF front cover

(1) Open the original jam access cover and remove 2 screws.

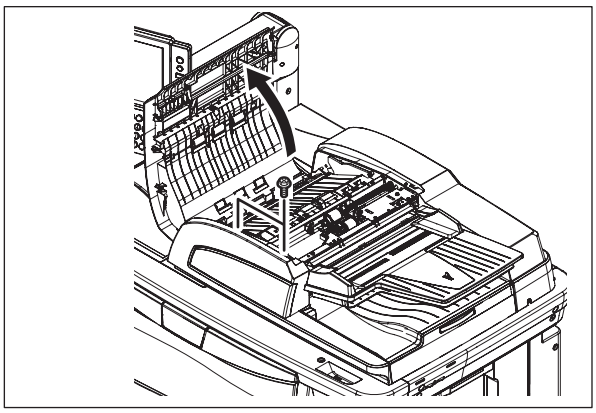

Fig. 16-16

(2) Open the RADF and remove 4 screws.

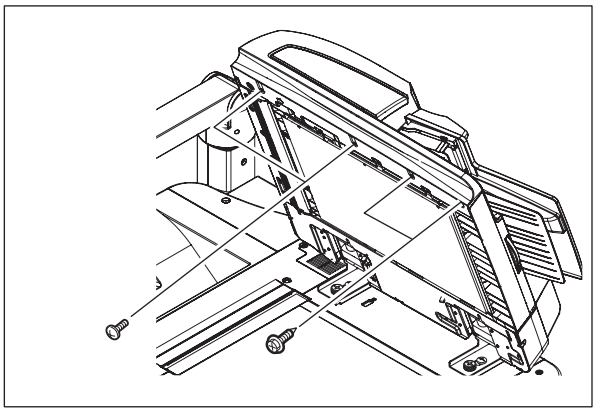

Fig. 16-17

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(3) Take off the RADF front cover.

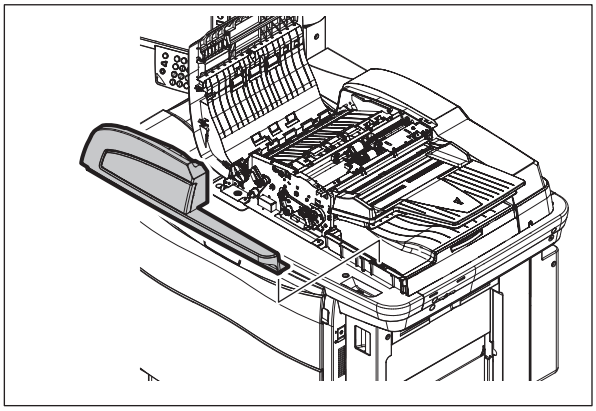

Fig. 16-18

16.5.3 RADF rear cover

(1) Remove the upper exhaust fan cover.
📖 P.3-47 "3.5.19 Upper exhaust fan cover"
(2) Open the original jam access cover and remove 4 screws.

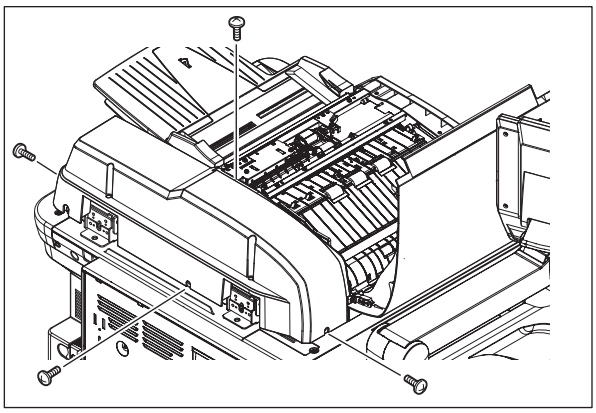

Fig. 16-19

(3) Lift up the original tray and take off the RADF rear cover.

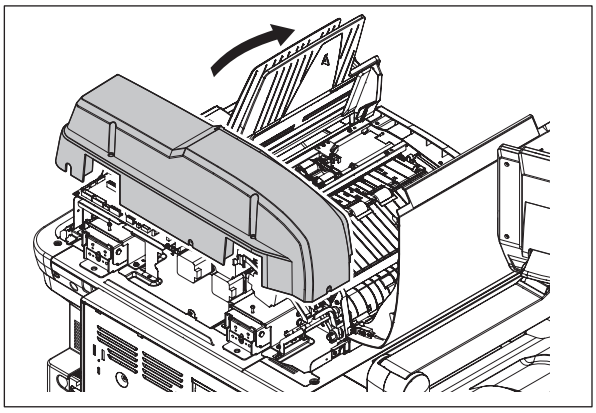

Fig. 16-20

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16.5.4 Original jam access cover

(1) Take off the RADF front cover.
📖 P.16-15 "16.5.2 RADF front cover"
(2) Remove 1 clip and then the dial and pin.

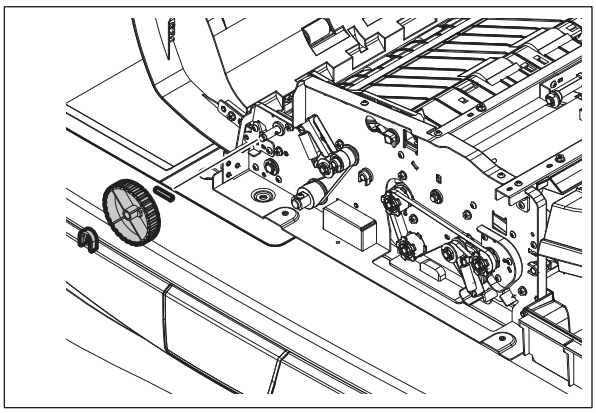

Fig. 16-21

(3) Remove 2 screws and the hinge pin.

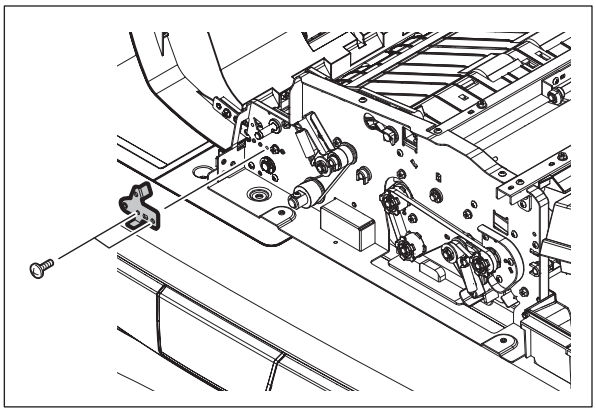

Fig. 16-22

(4) Slide the original jam access cover to take it off.

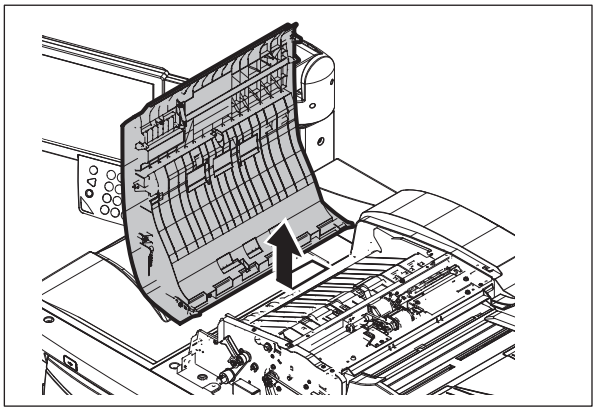

Fig. 16-23

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16.5.5 RADF left cover

(1) Remove the RADF front cover.
🕮 P.16-15 "16.5.2 RADF front cover"
(2) Remove the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(3) Remove 2 screws and take off the RADF left cover.

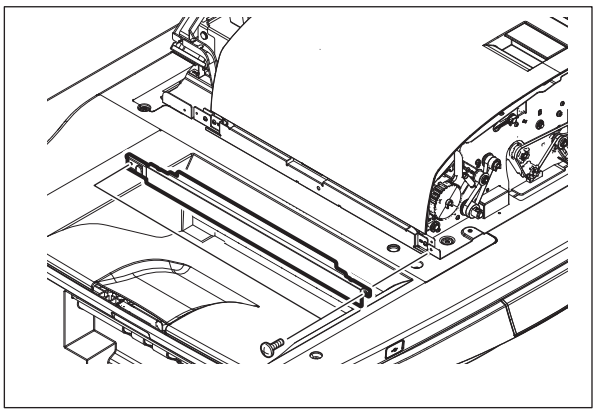

Fig. 16-24

16.5.6 Original tray

(1) Take off the paper feeder unit.
🕮 P.16-24 "16.5.12 Paper feeder unit"
(2) Disconnect 1 connector from the RADF board.

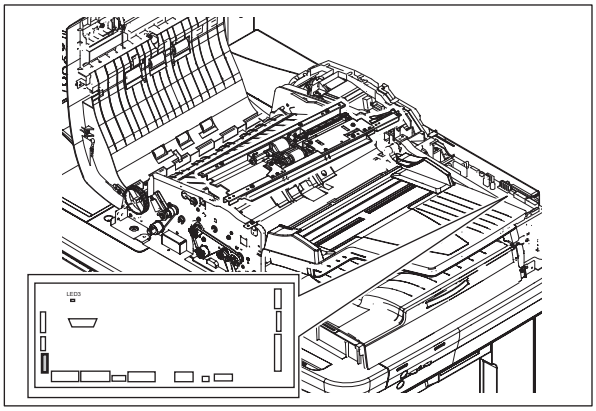

Fig. 16-25

(3) Remove 1 screw and take off the bushing.

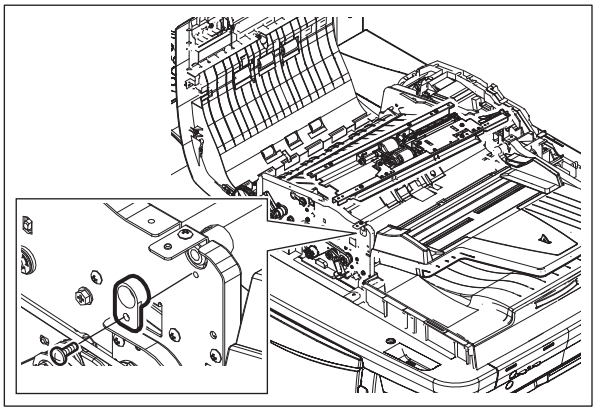

Fig. 16-26

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(4) Take off the original tray.

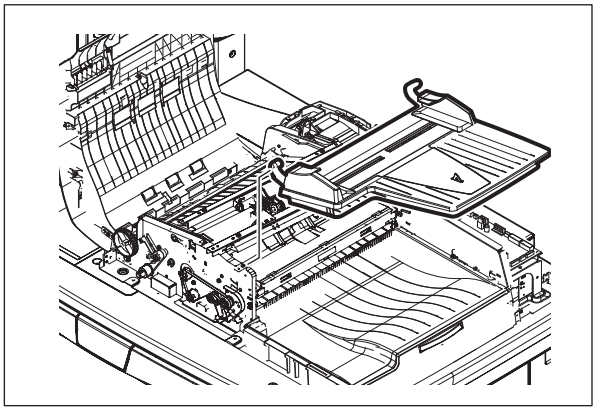

Fig. 16-27

16.5.7 Original reverse tray

(1) Remove the original tray.
📖 P.16-18 "16.5.6 Original tray"
(2) Remove 1 screw and take off the original reverse tray.

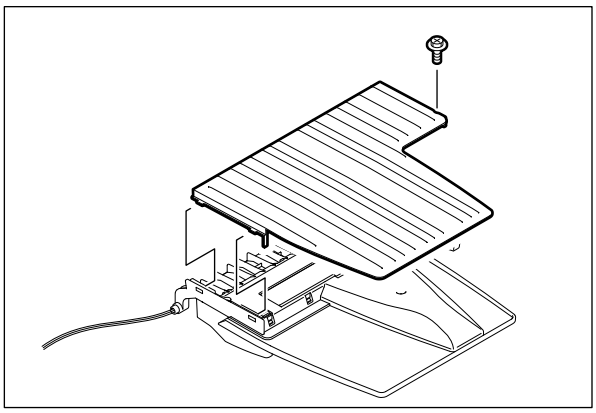

Fig. 16-28

16.5.8 Platen sheet unit

(1) Open the RADF. Remove 5 screws and take off the platen sheet unit.

Notes:
1. Do not scratch or bend the platen sheet. Avoid adhesion of dust, dirt or foreign matter, especially things that may damage to the surface of the platen sheet.
2. When installing the platen sheet unit, be sure to perform the platen sheet adjustment.
📖 P.16-76 "16.6.9 Platen Sheet"(Ref. 16.6.9)

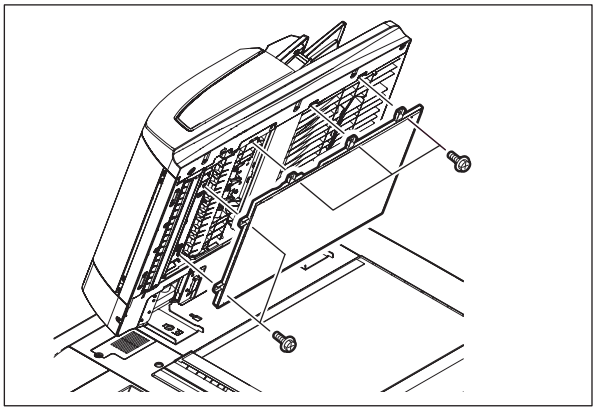

Fig. 16-29

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16.5.9 RADF exit tray

(1) Take off the RADF front cover.
🕮 P.16-15 "16.5.2 RADF front cover"
(2) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(3) Take off the platen sheet unit.
🕮 P.16-19 "16.5.8 Platen sheet unit"
(4) Remove 5 screws.

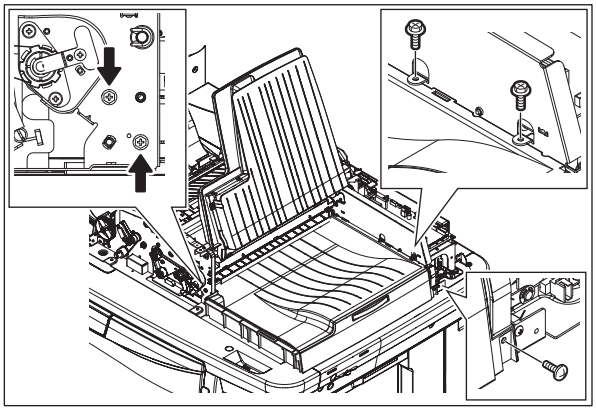

Fig. 16-30

(5) Remove 1 screw.

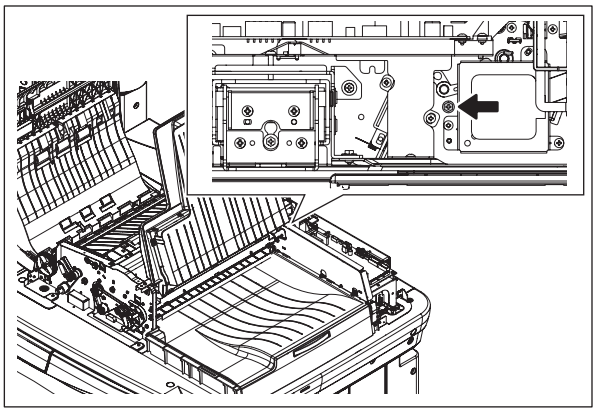

Fig. 16-31

(6) Take off the RADF exit tray.

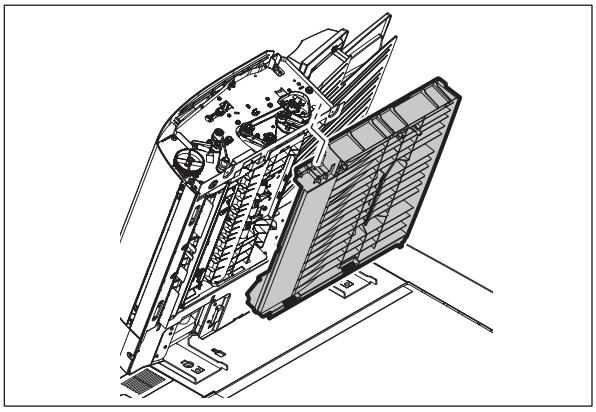

Fig. 16-32

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16.5.10 Reading start guide unit

(1) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(2) Take off the original jam access cover.
🕮 P.16-17 "16.5.4 Original jam access cover"
(3) Take off the RADF left cover.
🕮 P.16-18 "16.5.5 RADF left cover"
(4) Take off the RADF cooling fan.
🕮 P.16-42 "16.5.30 RADF cooling fan (FR1)"
(5) Remove 2 screws. Disconnect 2 connectors.

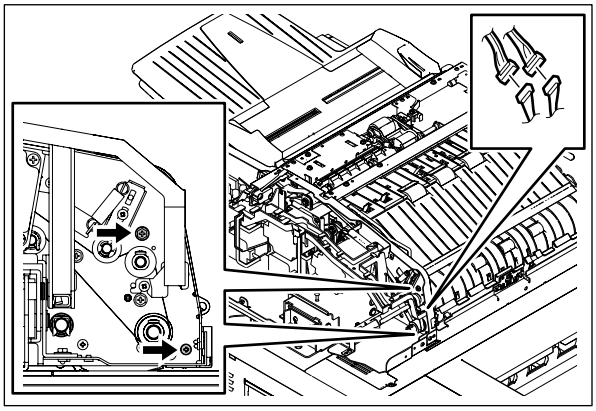

Fig. 16-33

(6) Remove 2 screws.

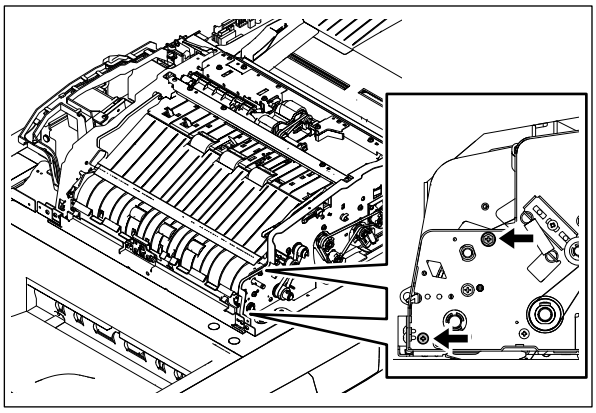

Fig. 16-34

(7) Remove 2 screws and take off the reading start guide unit.

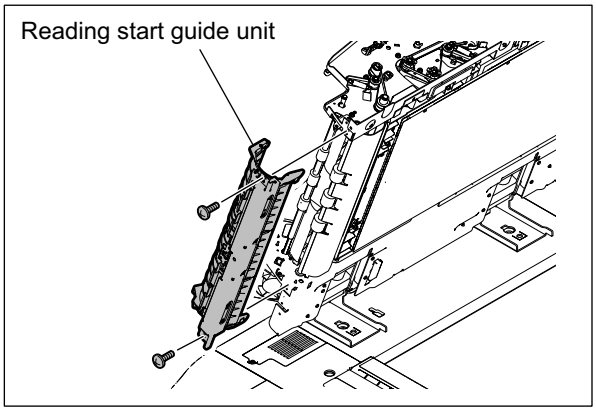

Fig. 16-35

16

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16.5.11 Exit guide / Exit/reverse guide / Reading end guide

(1) Take off the platen sheet unit.
🕮 P.16-19 "16.5.8 Platen sheet unit"
(2) Remove the RADF exit tray.
🕮 P.16-20 "16.5.9 RADF exit tray"
(3) Take off the original exit motor.
🕮 P.16-41 "16.5.29 Original exit motor (MR4)"
(4) Take off the original reverse motor.
🕮 P.16-41 "16.5.28 Original reverse motor (MR3)"
(5) Remove 1 clip, 1 pulley, 1 timing belt and 1 pin.

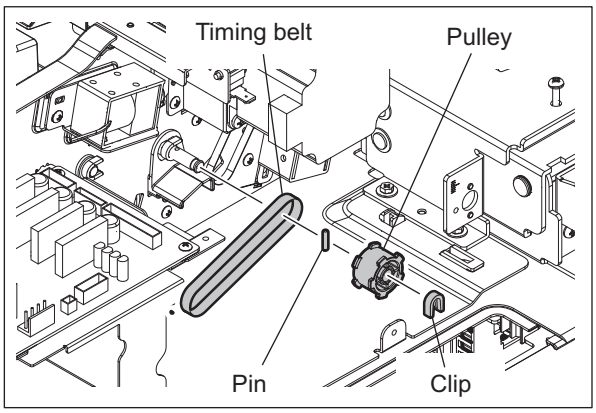

Fig. 16-36

(6) Disconnect 1 connector. Remove 1 clip and take off the rear side guide bushing.

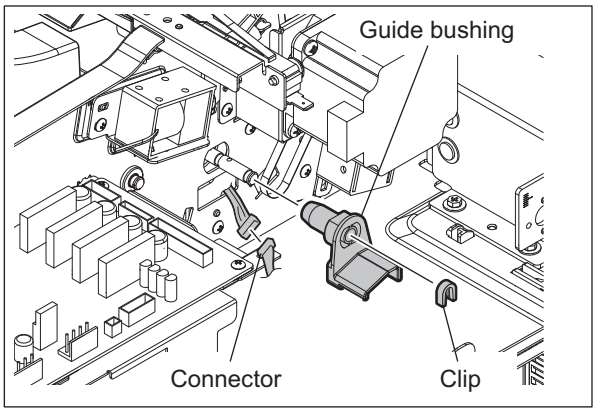

Fig. 16-37

(7) Remove 1 screw and take off the leaf spring.

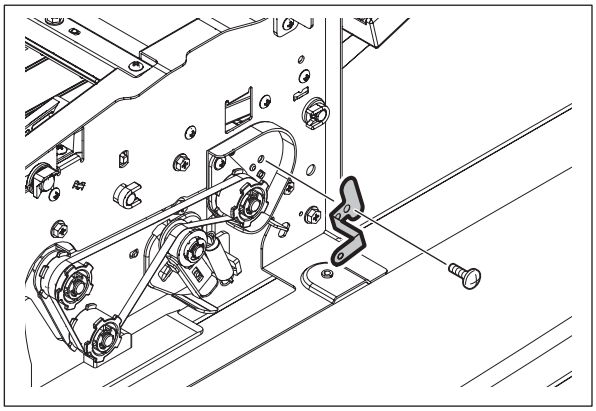

Fig. 16-38

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(8) Remove 2 screws.

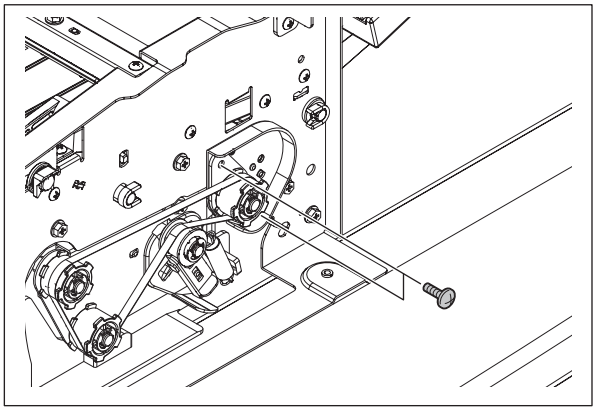

Fig. 16-39

(9) Take off the unit of exit guide and exit/ reverse guide.

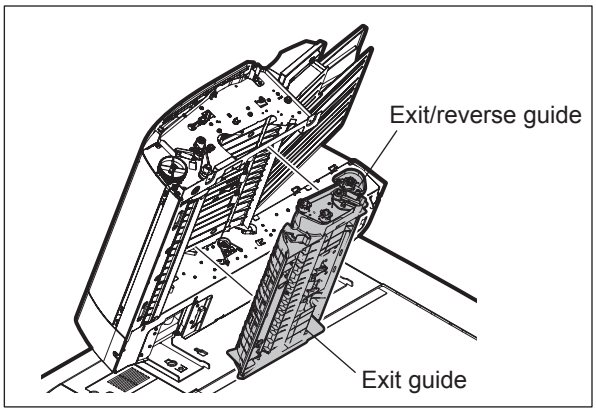

Fig. 16-40

(10) Disconnect 2 connectors, remove 2 screws and take off the reading end guide.

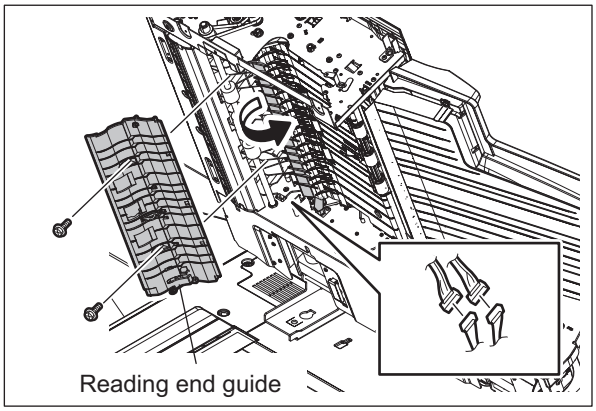

Fig. 16-41

(11) Remove 1 E-ring, 1 pulley, 1 pin, 1 timing belt, 1 guide bushing and the bracket.

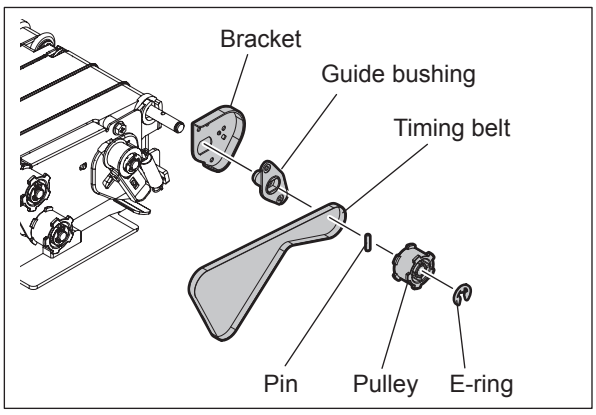

Fig. 16-42

16

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(12) Separate the reverse guide and the exit/ reverse guide.

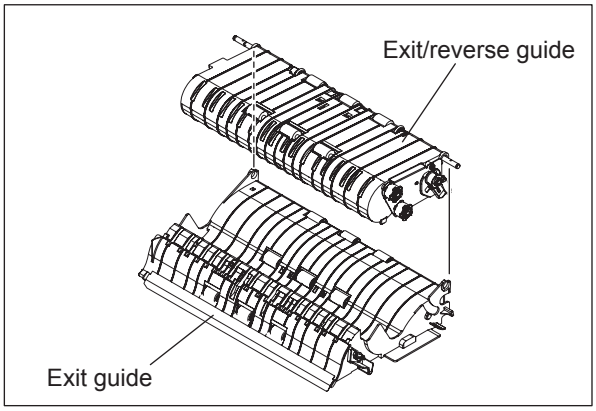

Fig. 16-43

16.5.12 Paper feeder unit

(1) Open the original jam access cover. Then remove 2 screws and take off the arm unit on the front side.

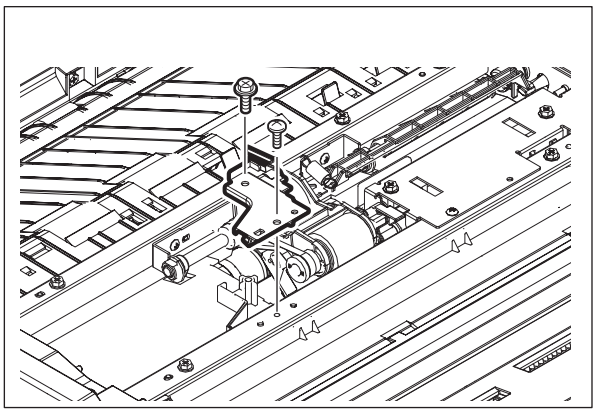

Fig. 16-44

(2) Remove 1 clip and slide the bushing.

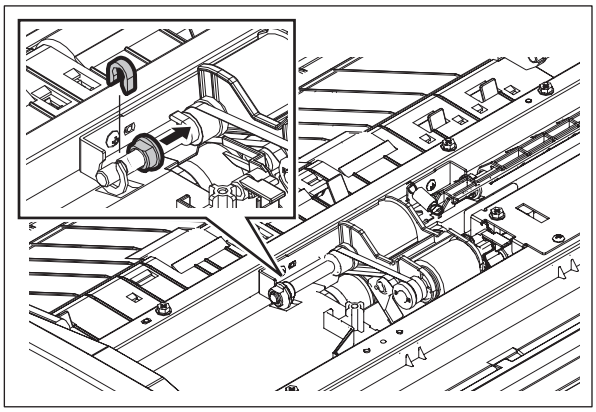

Fig. 16-45

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(3) Take off the paper feeder unit.

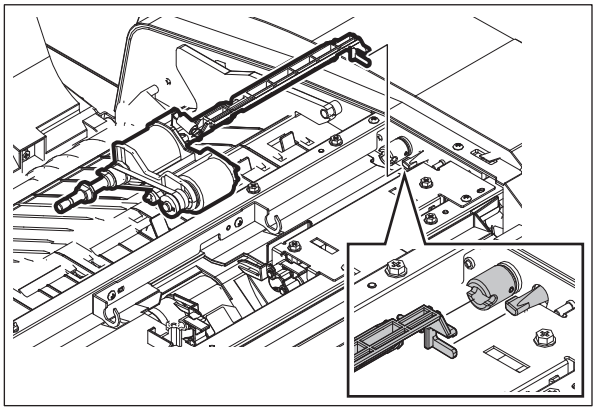

Fig. 16-46

16.5.13 Pickup roller PM

(1) Take off the paper feeder unit.
📖 P.16-24 "16.5.12 Paper feeder unit"
(2) Remove 1 clip. Then pull out the shaft and take off the pickup roller.

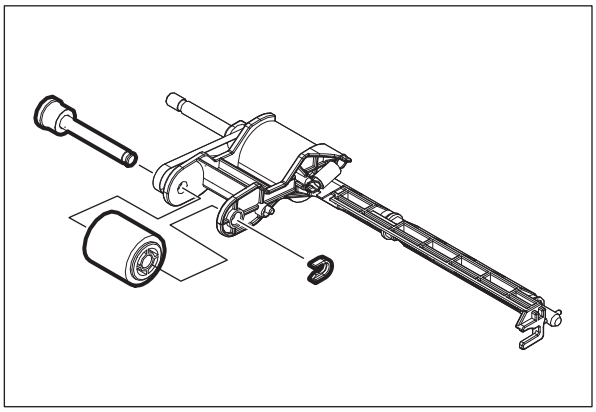

Fig. 16-47

Note:
Make sure you assemble the pickup roller with the one-way clutch in the correct direction.

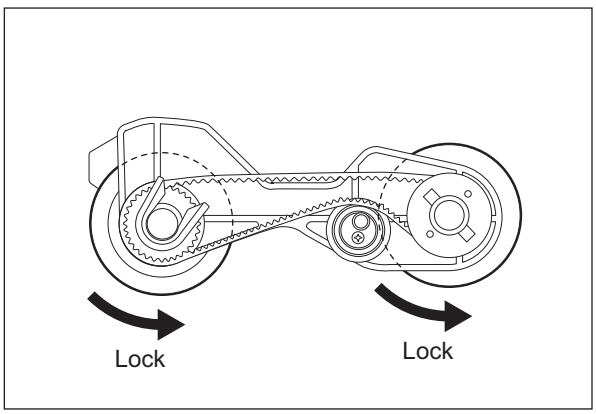

Fig. 16-48

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16.5.14 Feed roller PM

(1) Take off the paper feeder unit.
P.16-24 "16.5.12 Paper feeder unit"
(2) Remove 1 clip. Then slide the pulley and remove 1 pin.

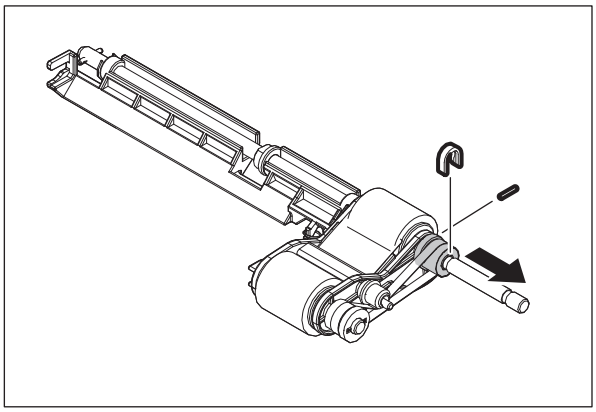

Fig. 16-49

(3) Pull out the shaft and take off the feed roller.

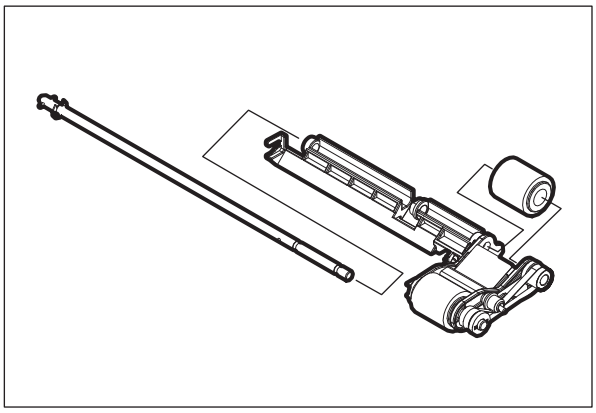

Fig. 16-50

Note:
Make sure you assemble the pickup roller with the one-way clutch in the correct direction.

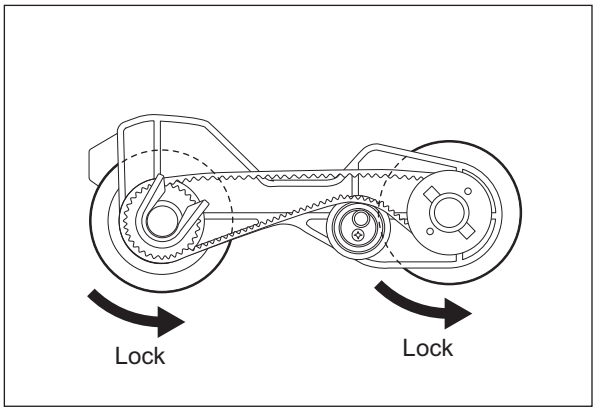

Fig. 16-51

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16.5.15 Separation roller PM

(1) Take off the RADF front cover.
🕮 P.16-15 "16.5.2 RADF front cover"
(2) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(3) Remove 4 screws and take off the feeder upper guide unit.

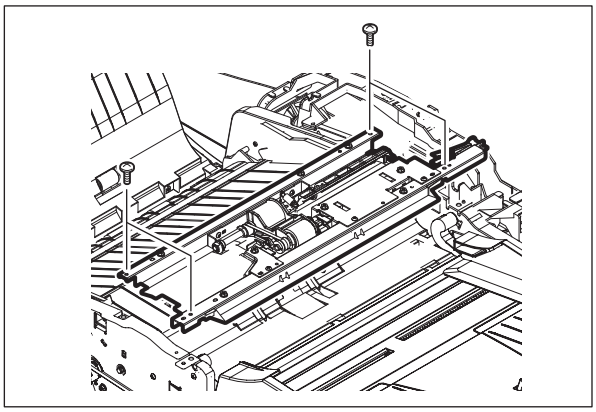

Fig. 16-52

(4) Remove 1 screw and take off the separation roller holder. Then take off the separation roller unit.

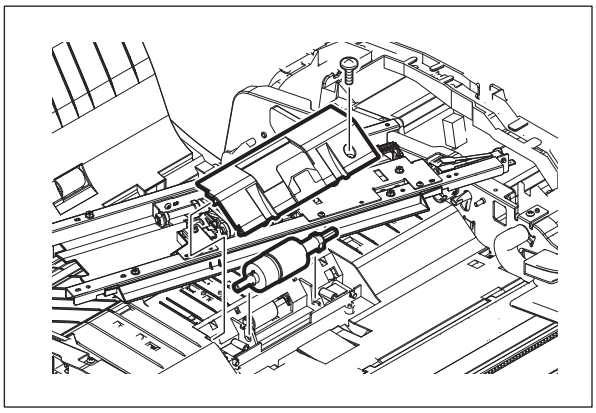

Fig. 16-53

(5) Remove 1 E-ring and 1 bushing and then take off the separation roller.

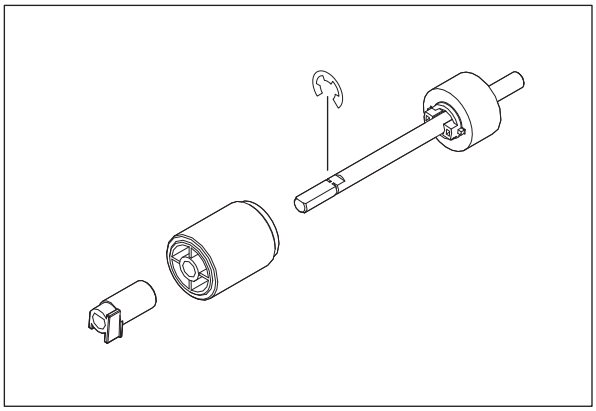

Fig. 16-54

16

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16.5.16 Original registration roller

(1) Take off the RADF front cover.
🕮 P.16-15 "16.5.2 RADF front cover"
(2) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(3) Loosen 1 screw.

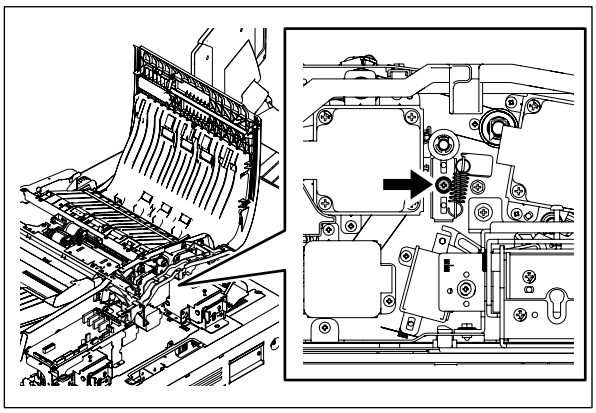

Fig. 16-55

(4) Remove 1 clip, 1 pulley and 1 bushing.

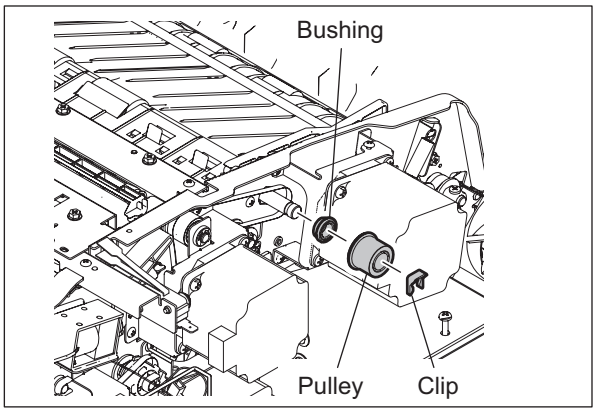

Fig. 16-56

(5) Remove 1 clip and 1 bushing.

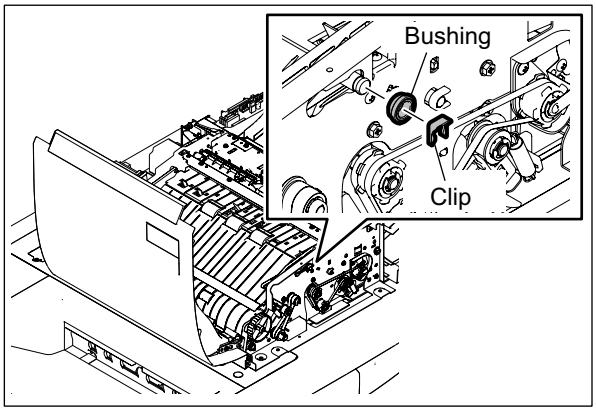

Fig. 16-57

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(6) Lift the guide. Take off the original registration roller.

Note:
When installing the original registration roller, refix the loosened screw and tighten the belt tension.

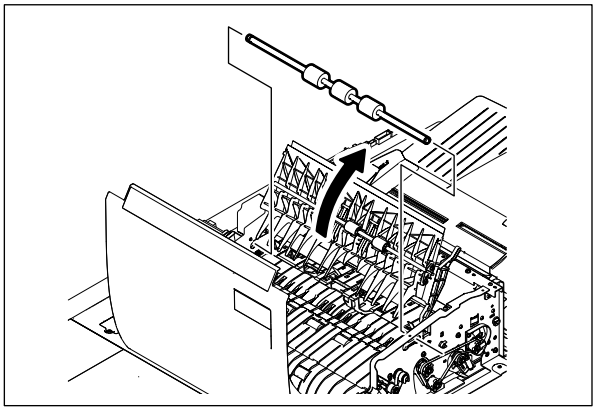

Fig. 16-58

16.5.17 Intermediate transport roller

(1) Take off the reading start guide unit.
📖 P.16-21 "16.5.10 Reading start guide unit"
(2) Loosen 1 screw.

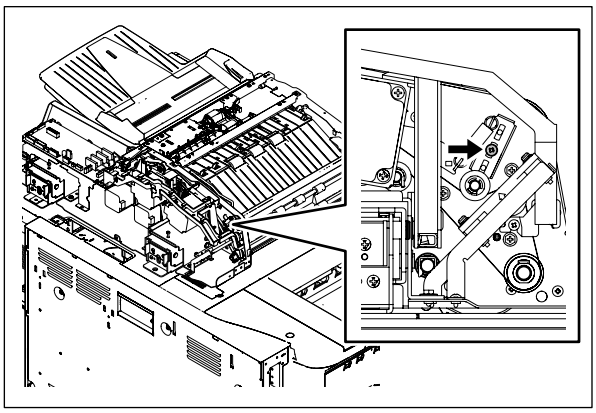

Fig. 16-59

(3) Remove 1 screw.

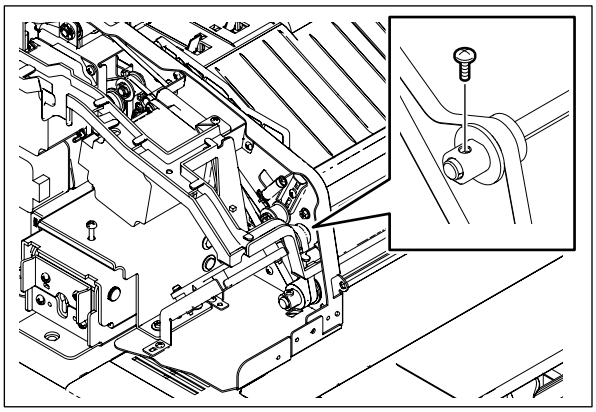

Fig. 16-60

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(4) Remove 1 E-ring and 1 bushing (front side). Slide the intermediate transport roller, remove 1 pulley and 1 bushing, and take off the intermediate transport roller.

Note:
When installing the intermediate transport roller, refix the loosened screw and tighten the belt tension.

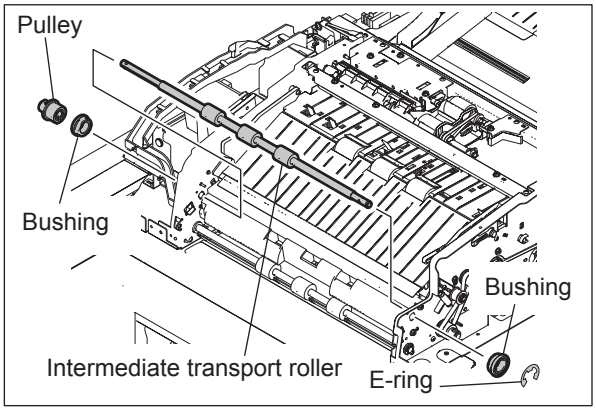

Fig. 16-61

16.5.18 Reading start roller

(1) Take off the reading start guide unit.
📖 P.16-21 "16.5.10 Reading start guide unit"
(2) Loosen 1 screw.

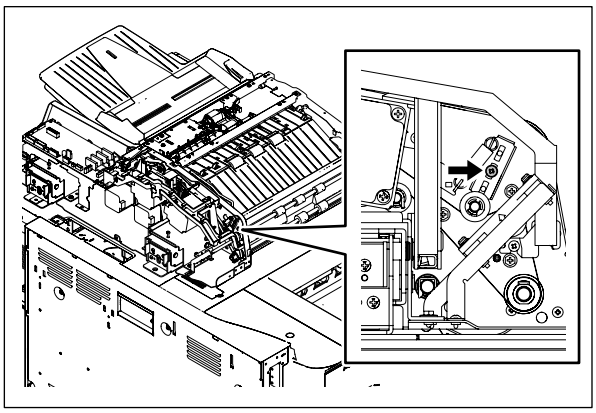

Fig. 16-62

(3) Remove 1 screw. Remove 1 timing belt, 1 pulley and 1 bearing.

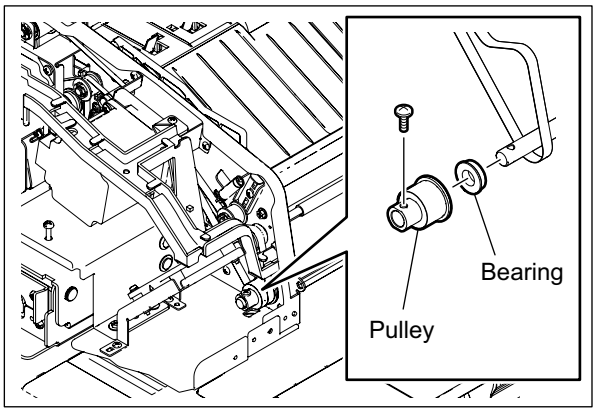

Fig. 16-63

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(4) Remove 1 E-ring and 1 bushing.

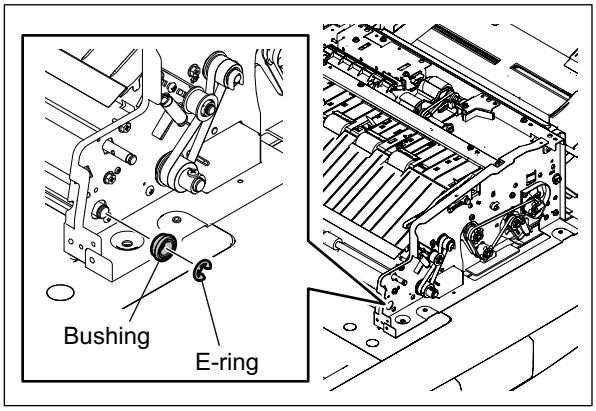

Fig. 16-64

(5) Remove 4 screws and take off the platen guide.

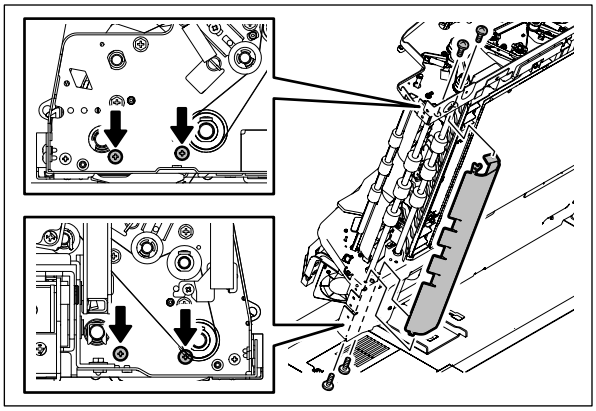

Fig. 16-65

(6) Take off the reading start roller.

Note:

When installing the reading start roller, refix the loosened screw and tighten the belt tension.

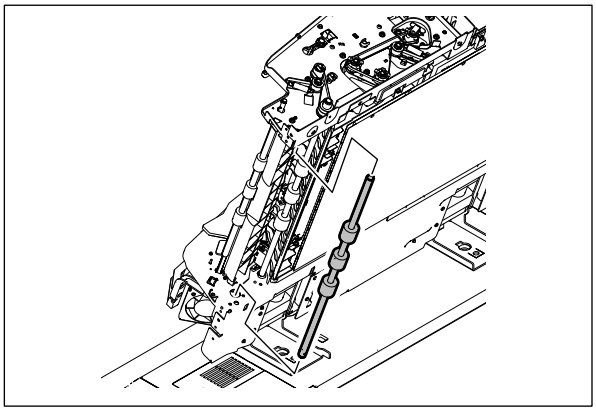

Fig. 16-66

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16.5.19 Reading end roller

(1) Take off the RADF front cover.
🕮 P.16-15 "16.5.2 RADF front cover"
(2) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(3) Remove 1 clip and 1 bushing.

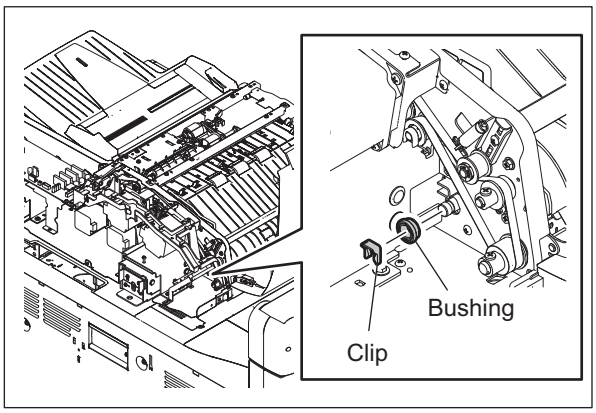

Fig. 16-67

(4) Loosen 1 screw.

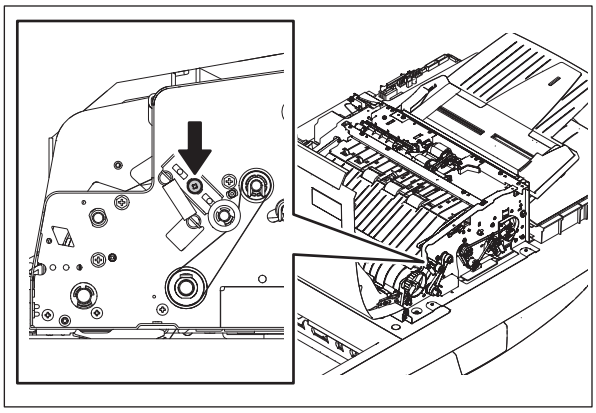

Fig. 16-68

(5) Remove 1 screw, 1 pulley, 1 bearing and 1 timing belt.

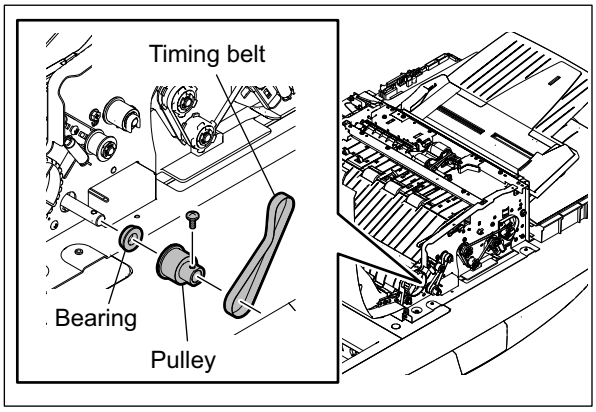

Fig. 16-69

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(6) Take off the reading end guide.
🕮 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(7) Take off the reading end roller.

Note:
When installing the reading end roller, refix the loosened screw and tighten the belt tension.

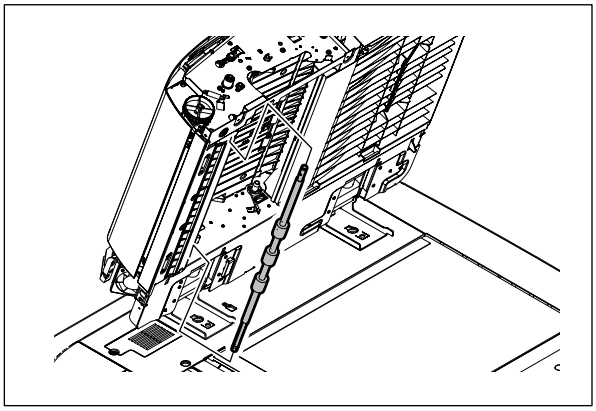

Fig. 16-70

16.5.20 Exit roller

(1) Take off the reading end guide.
🕮 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Remove 2 screws and take off the guide.

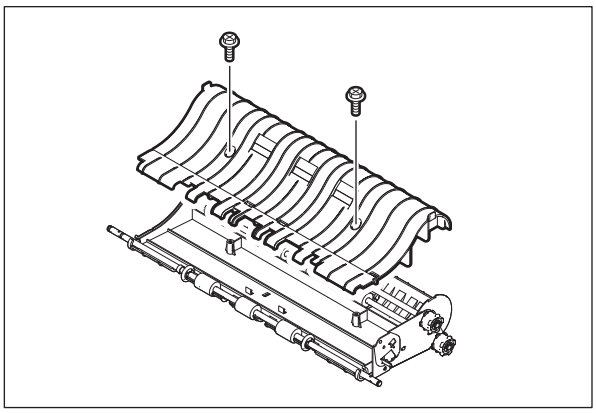

Fig. 16-71

(3) Take off the exit roller.

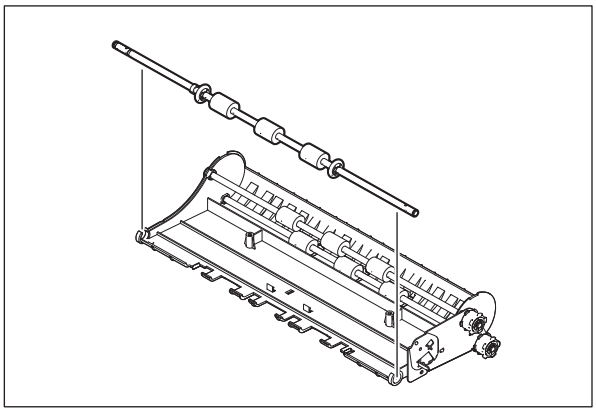

Fig. 16-72

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16.5.21 Exit/reverse roller

(1) Take off the exit/reverse guide.
📖 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Remove 2 screws and take off the guide.

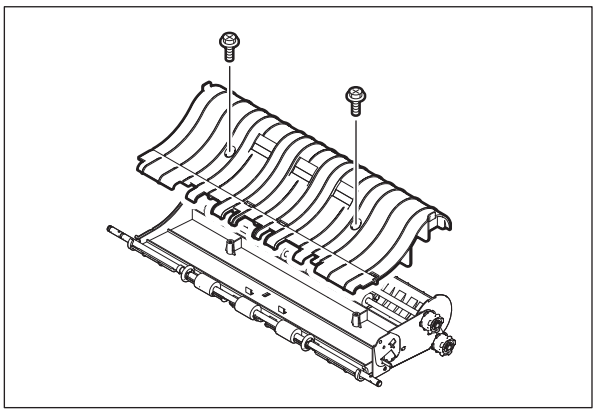

Fig. 16-73

(3) Remove 1 E-ring, 1 pulley, 1 pin and 1 bushing.

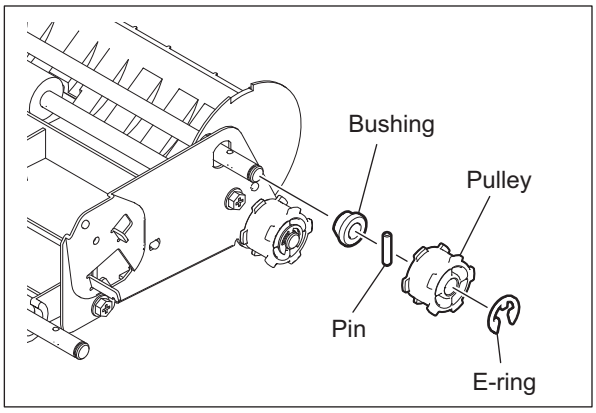

Fig. 16-74

(4) Take off the exit/reverse roller, remove 1 E-ring and 1 bushing.

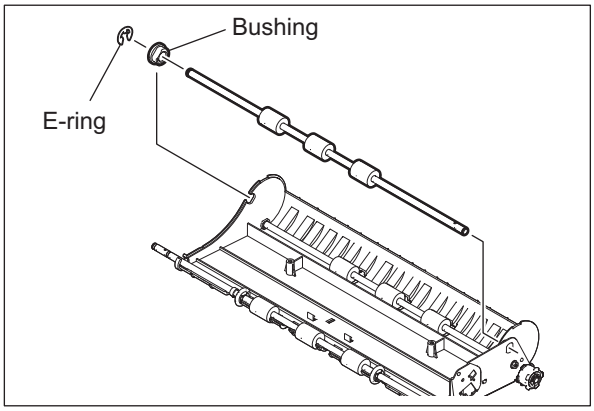

Fig. 16-75

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16.5.22 Exit intermediate roller

(1) Take off the exit/reverse guide.
📖 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Remove 2 screws and take off the guide.

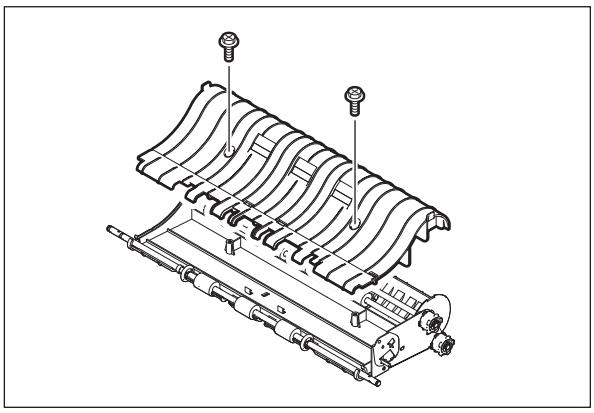

Fig. 16-76

(3) Remove 1 E-ring, 1 pulley, 1 pin and 1 bushing.

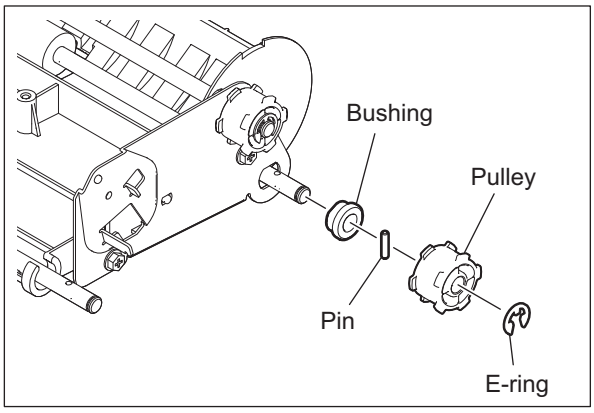

Fig. 16-77

(4) Remove 1 E-ring and 1 bushing and take off the exit intermediate roller.

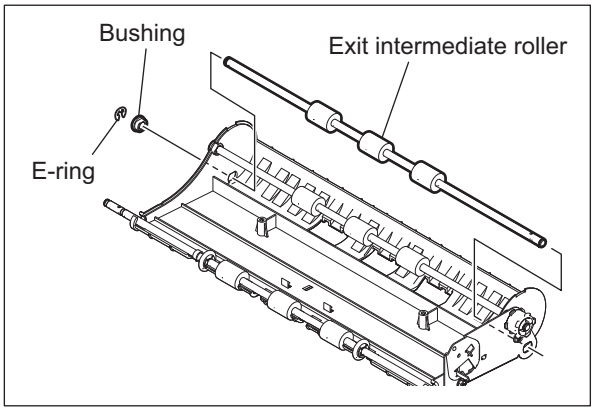

Fig. 16-78

16

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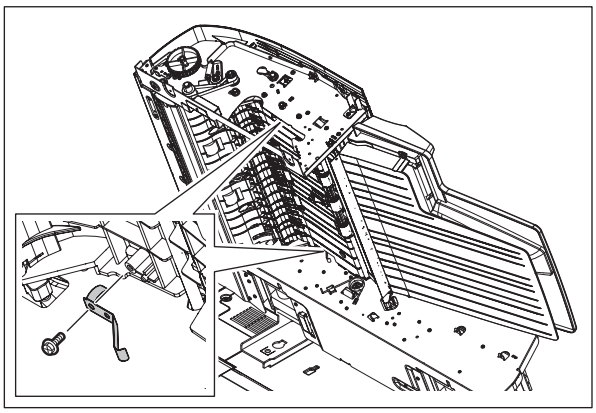
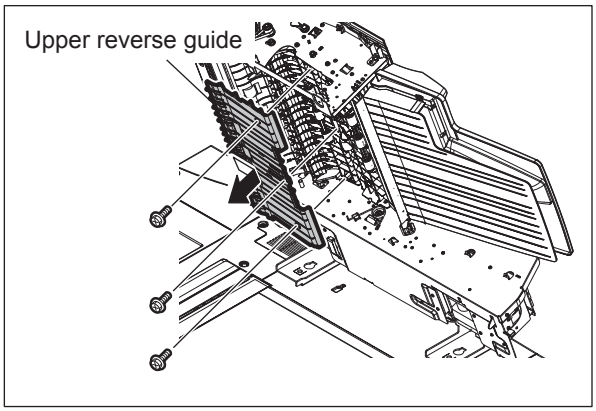
16.5.23 Reverse roller

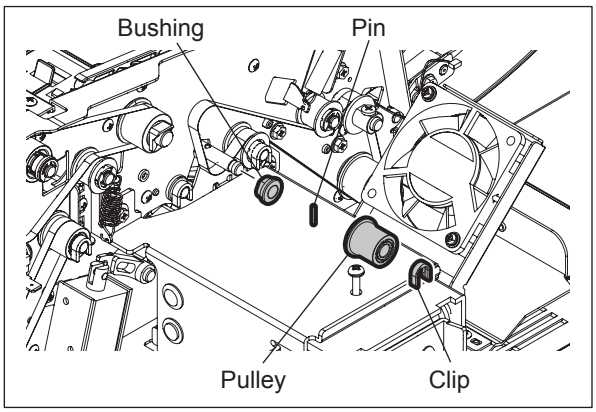
(1) Take off the assembly of the exit guide and the exit/reverse guide.
🕮 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Remove 2 screws and take off the 2 leaf springs.



(3) Remove 3 screws and take off the upper reverse guide.



(4) Take off the original feed motor bracket with the motor.
🕮 P.16-38 "16.5.25 Original feed motor bracket"
(5) Remove 1 clip, 1 pulley, 1 pin and 1 bushing.



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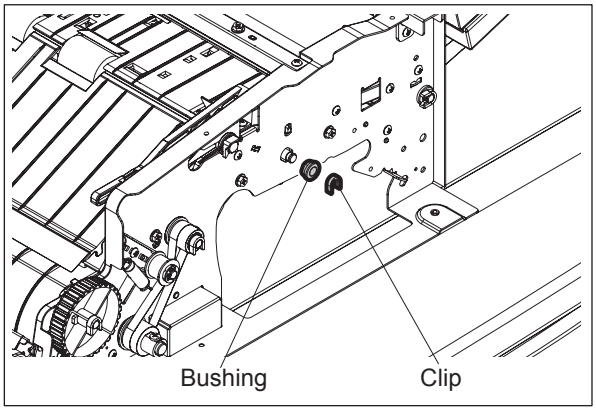
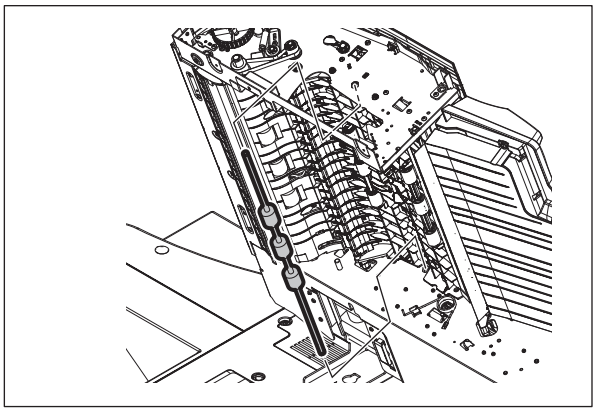
(6) Remove 1clip and 1 bushing.



(7) Remove the reverse roller.



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16.5.24 Original feed motor (MR1)

(1) Take off the RADF rear cover.
P.16-16 "16.5.3 RADF rear cover"
(2) Loosen 1 screw.

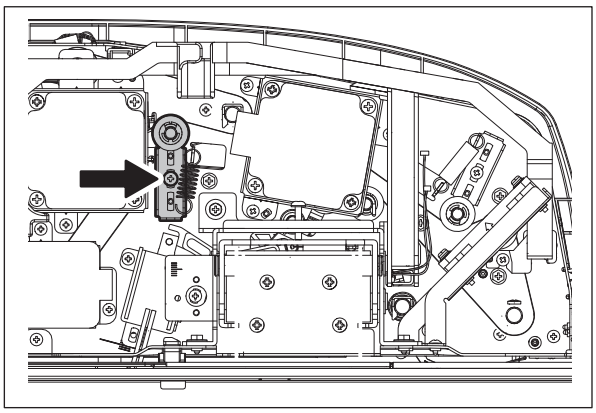

Fig. 16-79

(3) Disconnect 1 connector, remove 2 screws and take off the original feed motor.

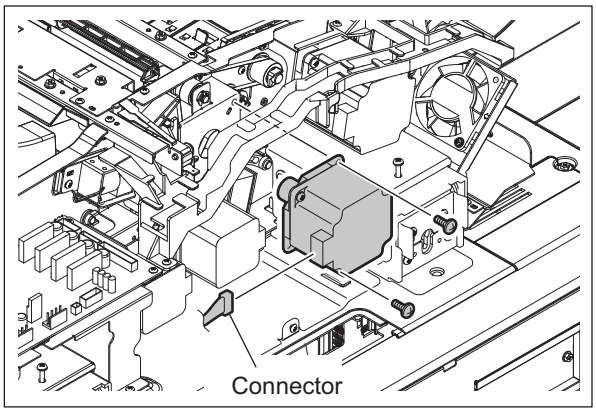

Fig. 16-80

16.5.25 Original feed motor bracket

(1) Take off the RADF rear cover.
P.16-16 "16.5.3 RADF rear cover"
(2) Loosen 1 screw.

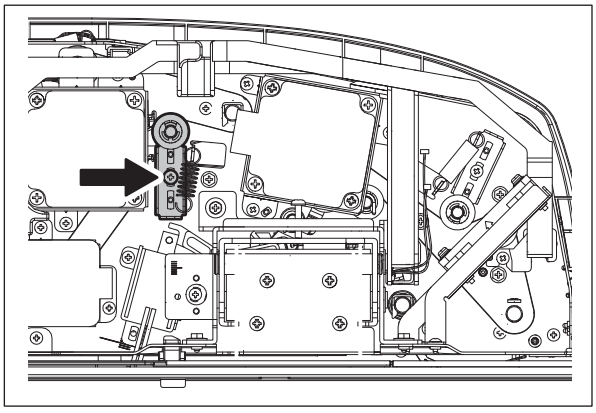

Fig. 16-81

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(3) Remove1 E-ring and 1 bushing.

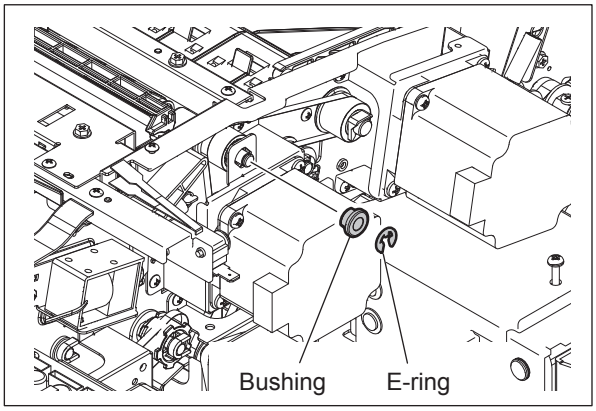

Fig. 16-82

(4) Disconnect 1 connector.
(5) Remove 3 screws and take off the original feed motor bracket with the motor.

Note:
When installing the original feed motor bracket, refix the loosened screw and tighten the belt tension.

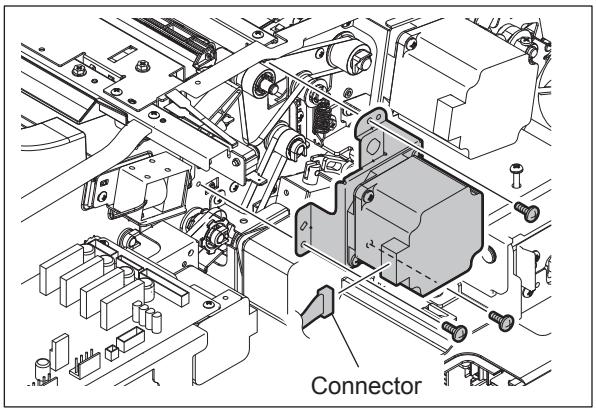

Fig. 16-83

16.5.26 Read motor (MR2)

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Loosen 1 screw.

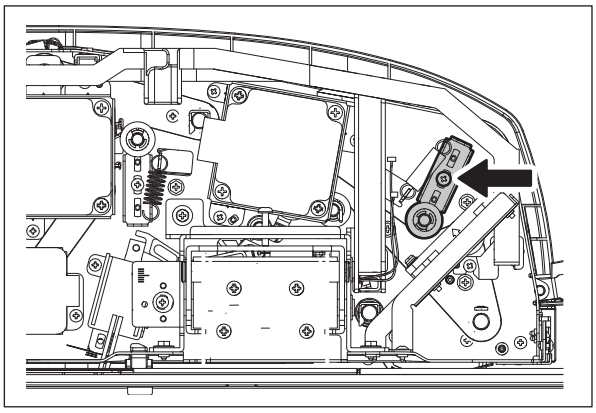

Fig. 16-84

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(3) Disconnect 1 connector.
(4) Remove 3 screws and take off the read motor.

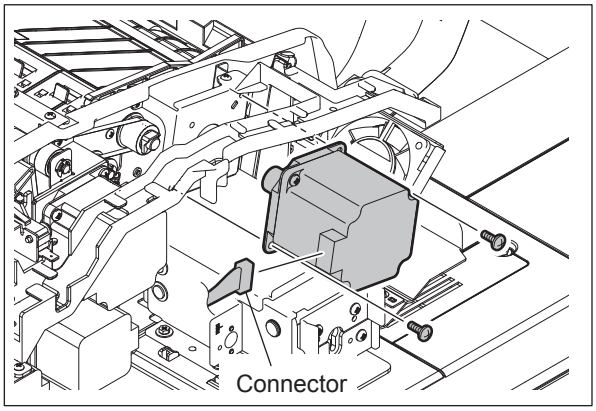

Fig. 16-85

16.5.27 Read motor bracket

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Loosen 1 screw.

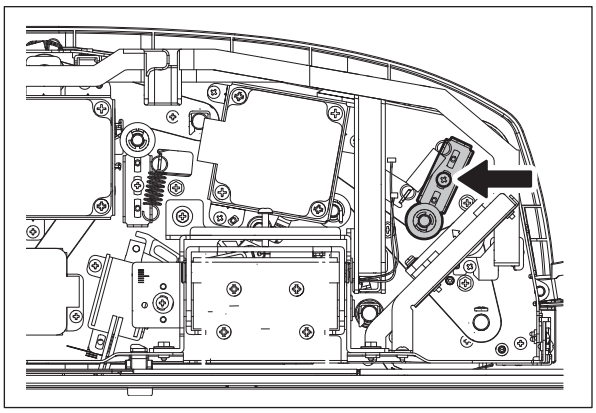

Fig. 16-86

(3) Disconnect 1 connector.
(4) Remove 3 screws and take off the read motor bracket with the motor.

Note:
When installing the read motor bracket, refix the loosened screw and tighten the belt tension.

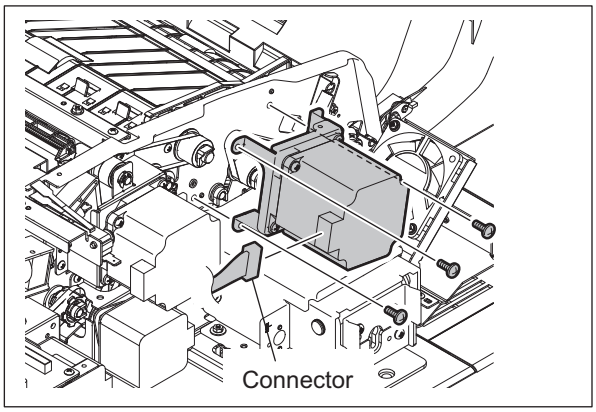

Fig. 16-87

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16.5.28 Original reverse motor (MR3)

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 3 screws and take off the original reverse motor with the bracket.

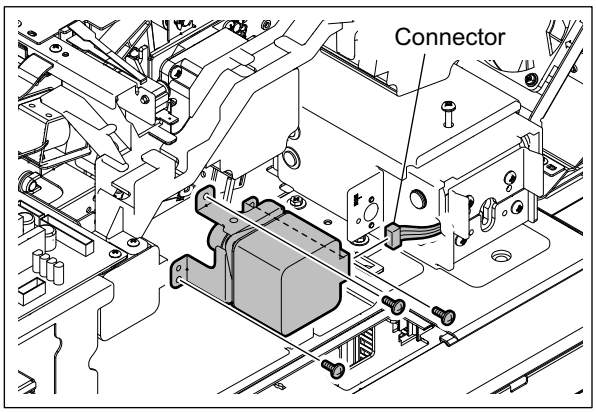

Fig. 16-88

(4) Remove 2 screws and take off the bracket from the original reverse motor.

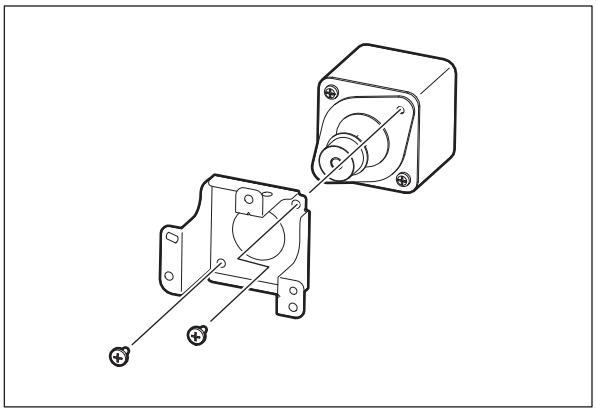

Fig. 16-89

16.5.29 Original exit motor (MR4)

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 3 screws and take off the original exit motor with the bracket.

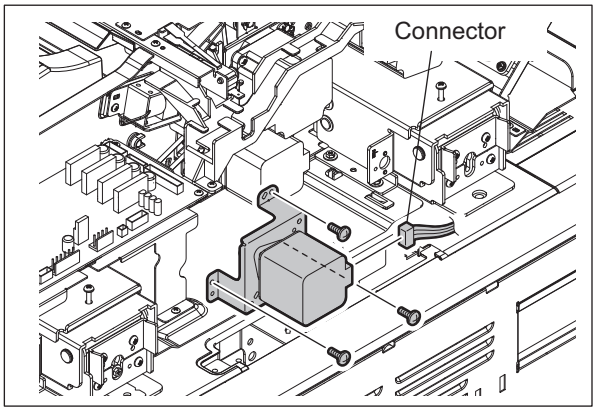

Fig. 16-90

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(4) Remove 2 screws and take off the bracket from the original exit motor.

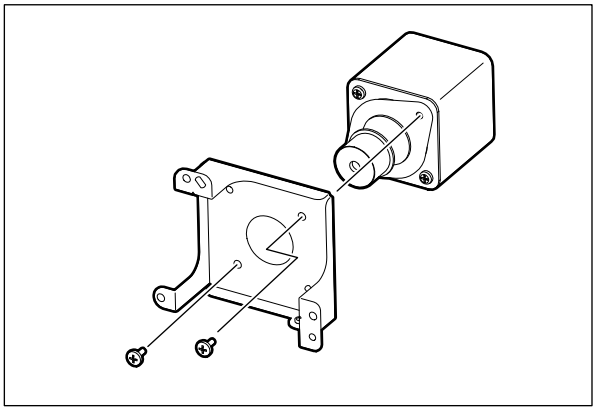

Fig. 16-91

16.5.30 RADF cooling fan (FR1)

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 2 screws and take off the RADF cooling fan with the bracket.

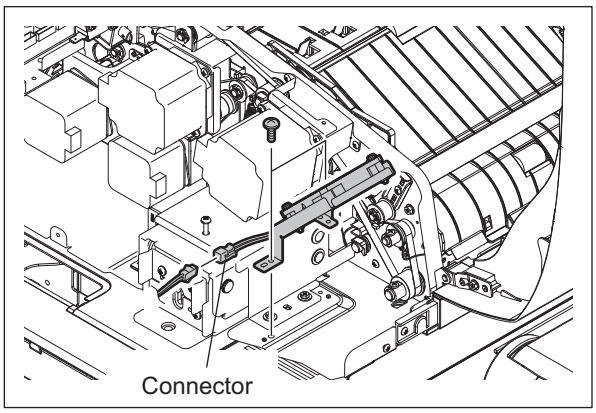

Fig. 16-92

(4) Remove 2 screws and take off the bracket from the RADF cooling fan.

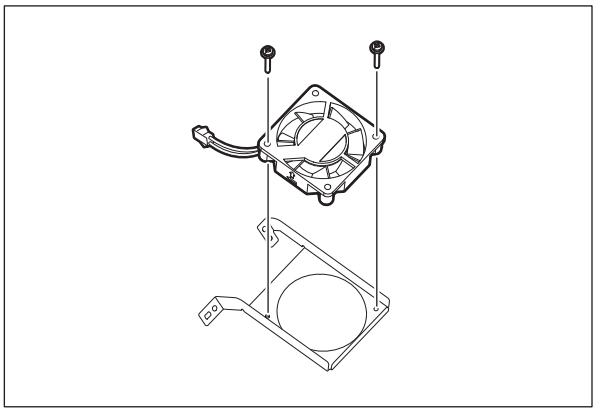

Fig. 16-93

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16.5.31 Original pickup solenoid (SOLR1)

(1) Take off the RADF rear cover.
P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 2 screws and take off the original pickup solenoid.

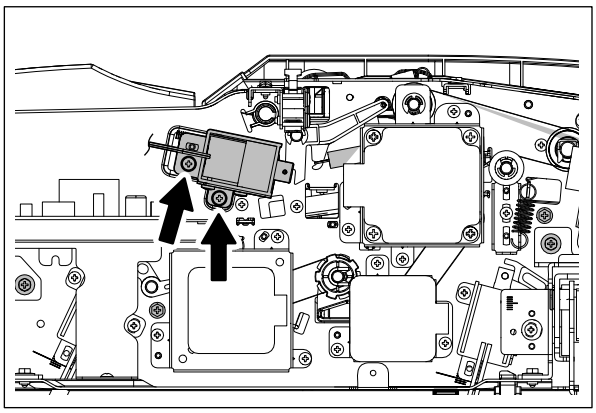

Fig. 16-94

(4) Remove 2 screws and take off the bracket from the original pickup solenoid.

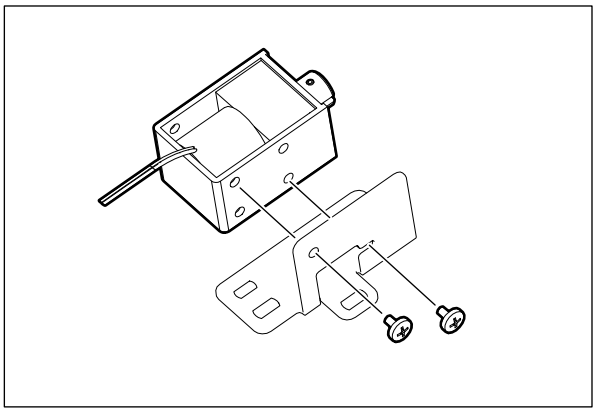

Fig. 16-95

Note:
When installing the solenoid, check if the solenoid is installed at the center of the scale. (The scale is longer in the center.).

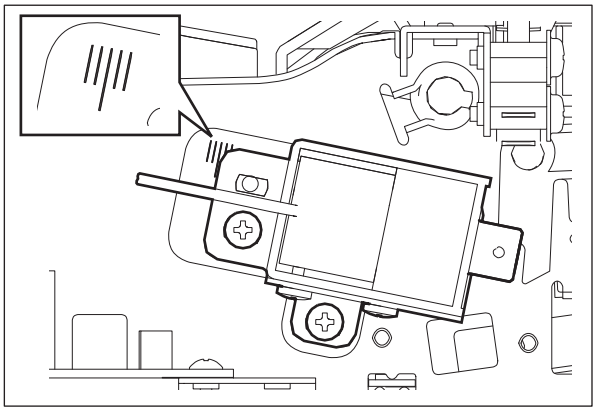

Fig. 16-96

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16.5.32 Original reverse solenoid (SOLR2)

(1) Take off the RADF rear cover.
P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 2 screws and take off the original reverse solenoid with the bracket.

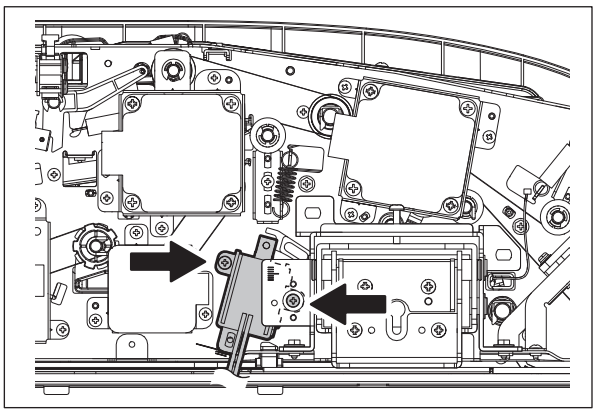

Fig. 16-97

(4) Remove 2 screws and take off the bracket from the original reverse solenoid.

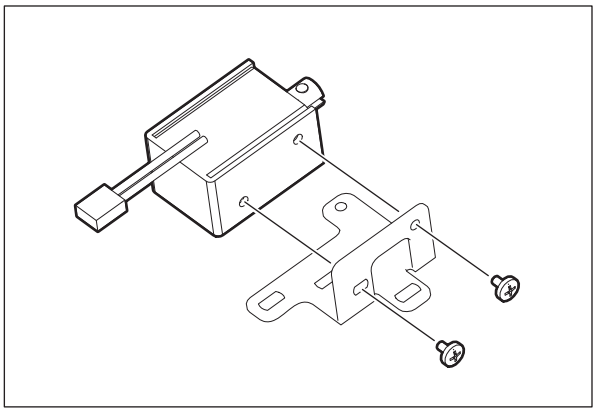

Fig. 16-98

Note:
Before taking off the solenoid, read the scale. When reinstalling, align it with the corresponding position on the scale.

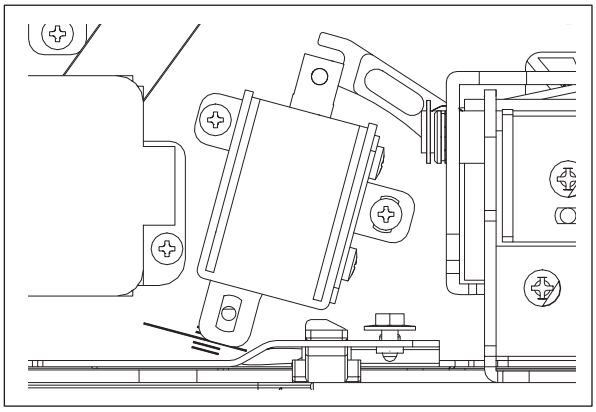

Fig. 16-99

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16.5.33 Original exit solenoid (SOLR3)

(1) Take off the RADF board bracket.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 1 connector.
(3) Remove 2 screws and take off the original exit solenoid with the bracket.

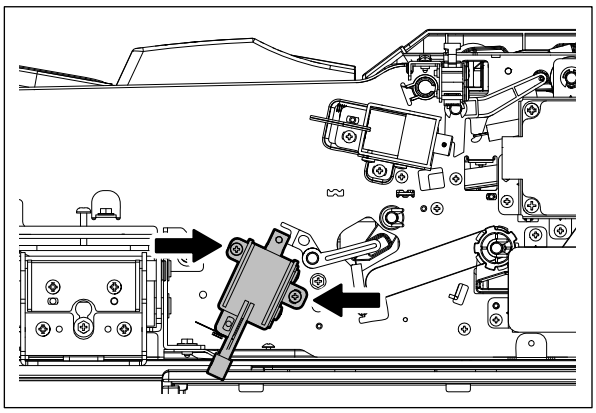

Fig. 16-100

(4) Remove 2 screws and take off the bracket from the original exit solenoid.

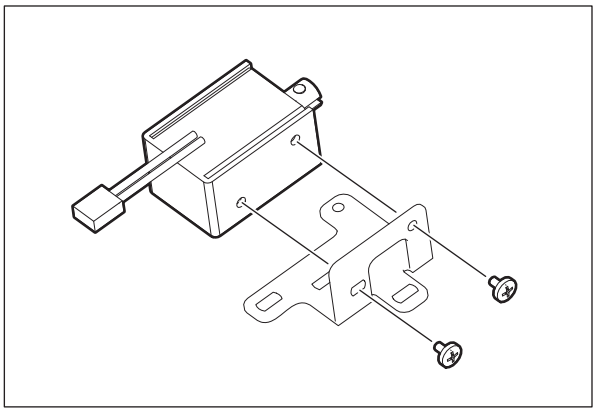

Fig. 16-101

Note:
Before taking off the solenoid, read the scale. When reinstalling, align it with the corresponding position on the scale.

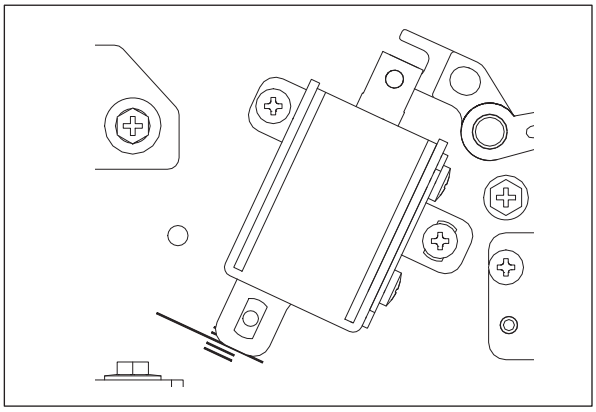

Fig. 16-102

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16.5.34 Original jam access cover opening/closing switch (SWR1)

(1) Take off the RADF board bracket.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Take off the harness guide.
📖 P.16-38 "16.5.25 Original feed motor bracket"
(3) Disconnect 3 connectors.

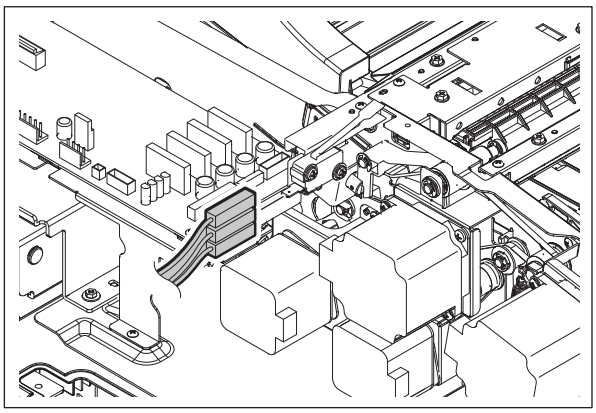

Fig. 16-103

(4) Remove 1 screw and take off the original jam access cover opening/closing switch.

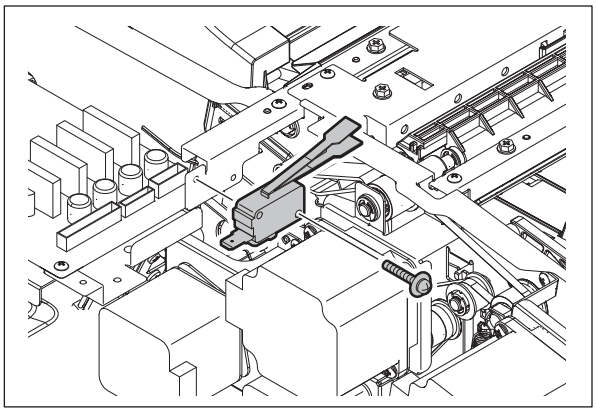

Fig. 16-104

16.5.35 RADF opening/closing switch (SWR2)

(1) Take off the RADF board bracket.
📖 P.16-58 "16.5.54 RADF board bracket"
(2) Disconnect 3 connectors.

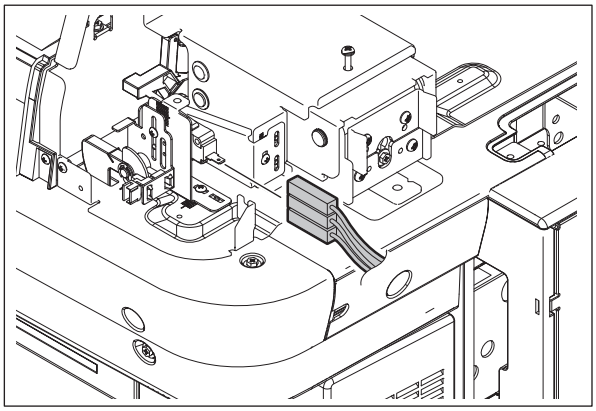

Fig. 16-105

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(3) Remove 1 screw and take off the switch bracket.

Note:
Before taking off the switch, read the scale. When reinstalling, align it with the corresponding position on the scale.

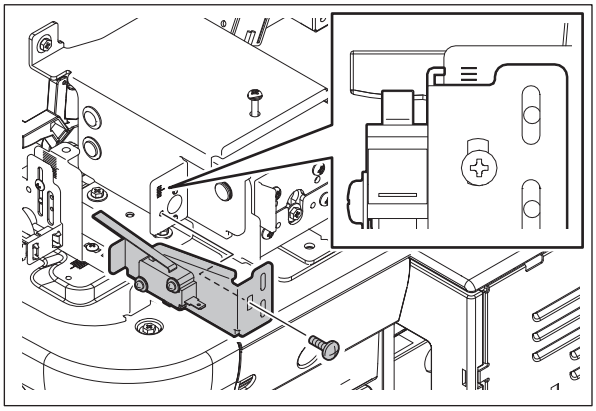

Fig. 16-106

(4) Remove 1 screw and take off the RADF opening/closing switch.

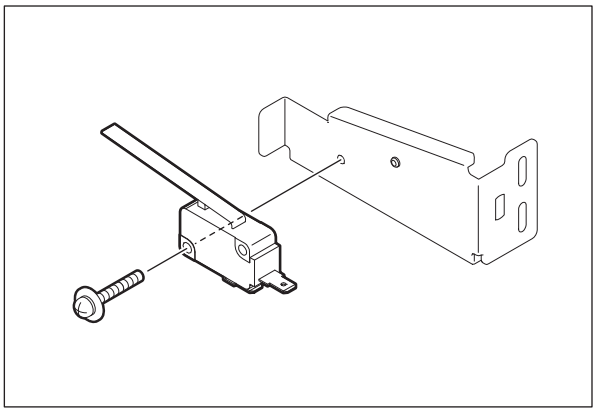

Fig. 16-107

Note:
Be sure to install the switch so that the arm comes to the upper side of the switch.

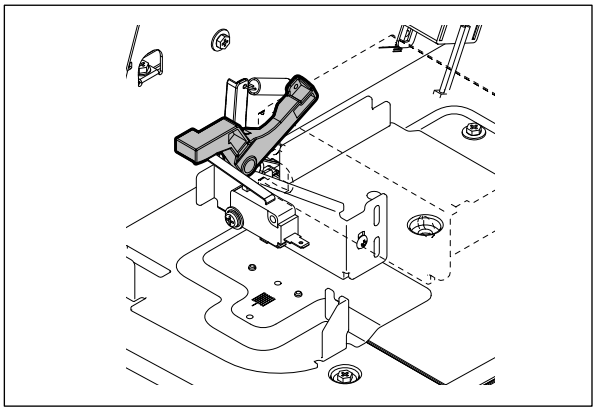

Fig. 16-108

16

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16.5.36 RADF opening/closing sensor (SR15)

(1) Take off the RADF rear cover.
📖 P.16-58 "16.5.54 RADF board bracket"
(2) Open the RADF and disconnect 1 connector.
(3) Release 2 latches and take off the RADF opening/closing sensor.

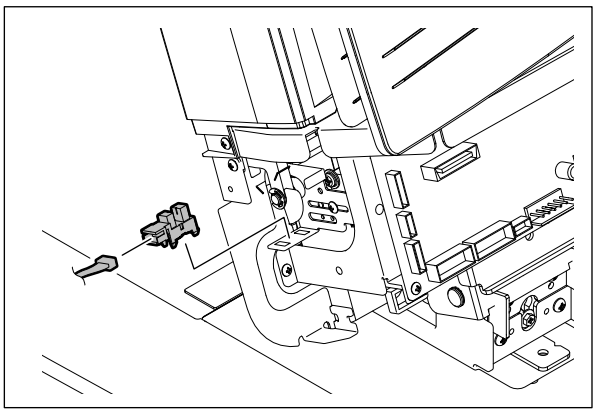

Fig. 16-109

16.5.37 Original empty sensor (SR3)

(1) Open the original jam access cover.
(2) Remove 4 screws and take off the sensor bracket.

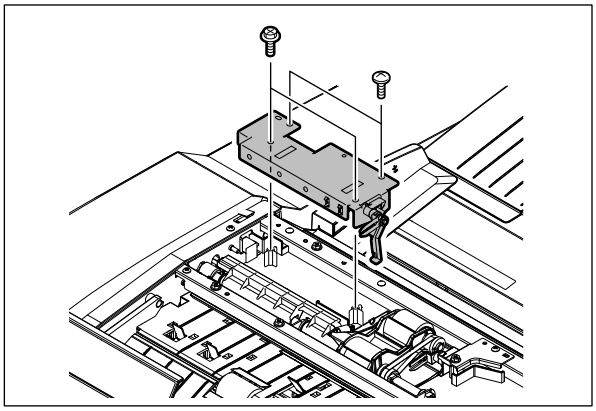

Fig. 16-110

(3) Disconnect 1 connector. Release 2 latches and take off the original empty sensor.

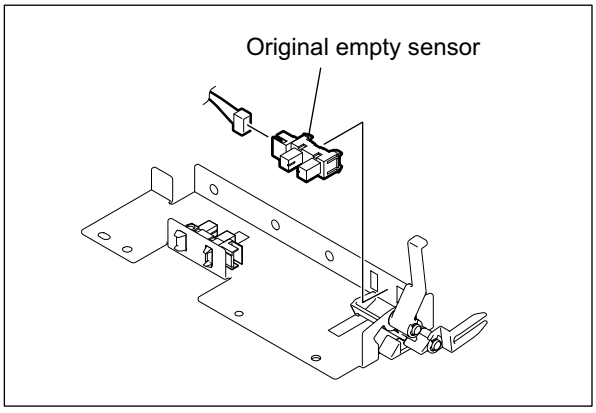

Fig. 16-111

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16.5.38 Original jam access cover opening/closing sensor (SR13)

(1) Open the original jam access cover.
(2) Remove 4 screws and take off the sensor bracket.

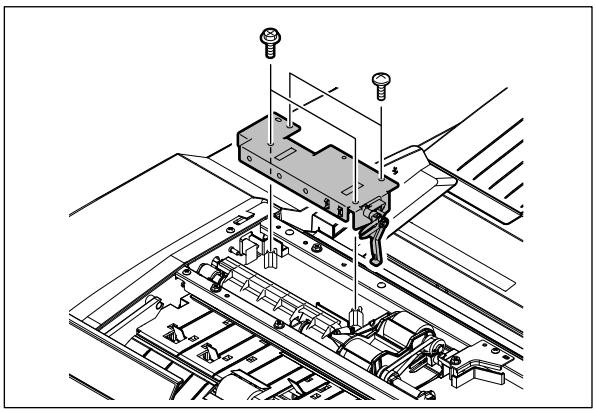

Fig. 16-112

(3) Disconnect 1 connector. Release 2 latches and take off the original jam access cover opening/closing sensor.

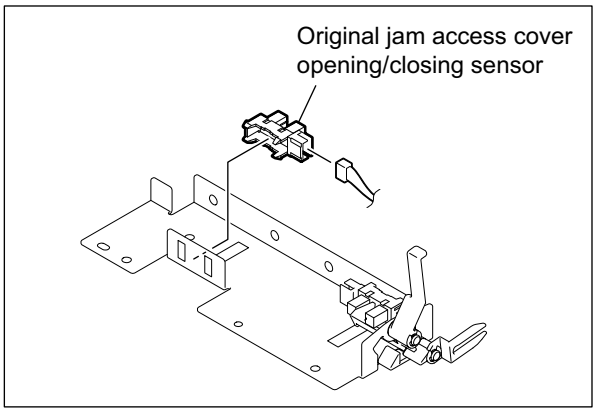

Fig. 16-113

16.5.39 Feeder lower guide unit

(1) Take off the original tray.
📖 P.16-18 "16.5.6 Original tray"
(2) Take off the guide.

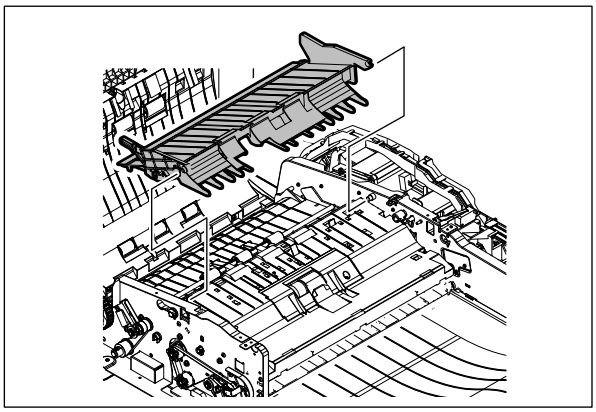

Fig. 16-114

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(3) Remove 4 screws and take off the feeder lower guide unit.

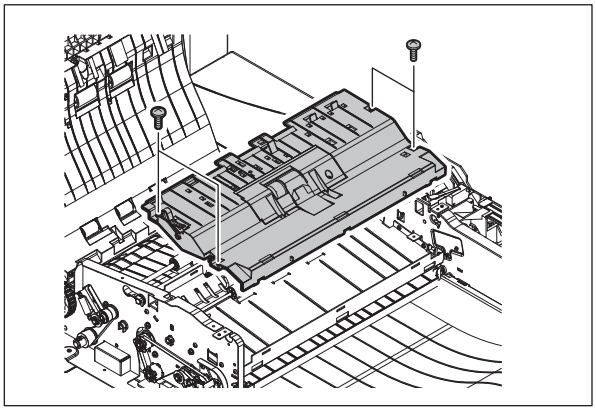

Fig. 16-115

16.5.40 Original width detection sensor-3 (SR8)

(1) Take off the feeder lower guide unit.
📖 P.16-49 "16.5.39 Feeder lower guide unit"
(2) Disconnect 1 connector. Lift the actuator, release 2 latches and take off the original width detection sensor-3.

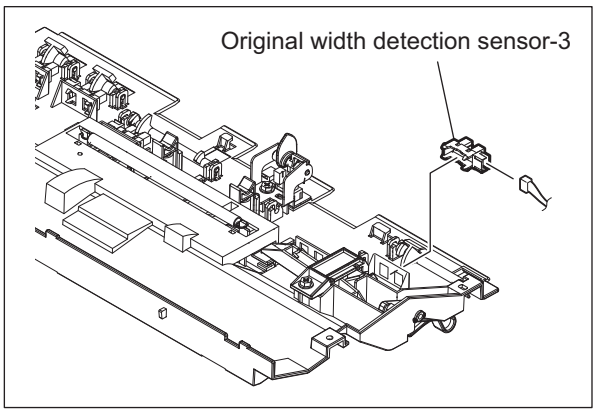

Fig. 16-116

16.5.41 Original width detection sensor-2 (SR7)

(1) Take off the feeder lower guide unit.
📖 P.16-49 "16.5.39 Feeder lower guide unit"
(2) Disconnect 1 connector. Lift the actuator, release 2 latches and take off the original width detection sensor-2.

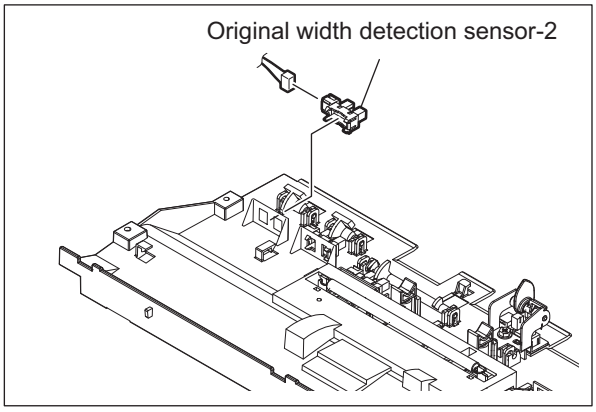

Fig. 16-117

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16.5.42 Original width detection sensor-1 (SR6)

(1) Take off the feeder lower guide unit.
📖 P.16-49 "16.5.39 Feeder lower guide unit"
(2) Disconnect 1 connector. Lift the actuator, release 2 latches and take off the original width detection sensor-1.

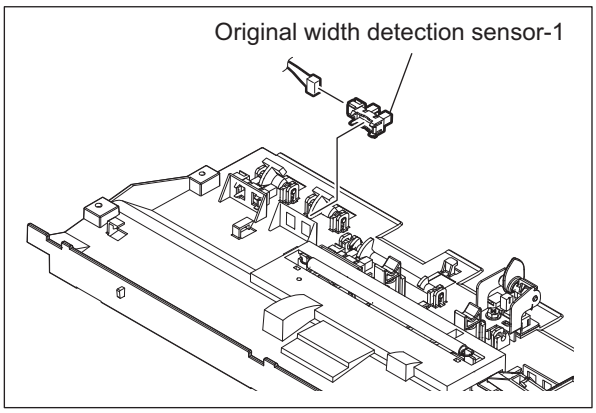

Fig. 16-118

16.5.43 Original registration sensor (SR5)

(1) Take off the feeder lower guide unit.
📖 P.16-49 "16.5.39 Feeder lower guide unit"
(2) Disconnect 1 connector. Release 2 latches and take off the original registration sensor.

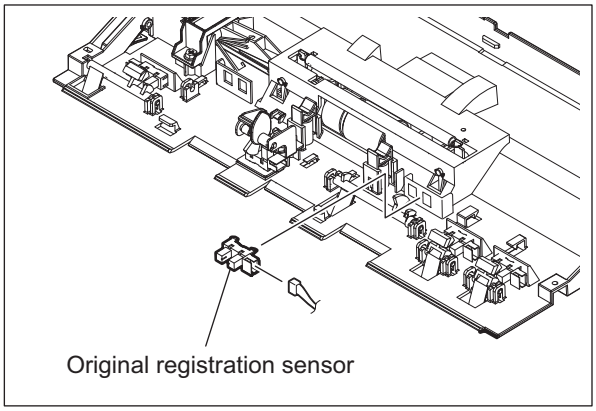

Fig. 16-119

16.5.44 Original exit sensor (SR12)

(1) Take off the assembly of the exit guide and the exit/reverse guide.
📖 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Remove 2 screws and take off the 2 leaf springs.

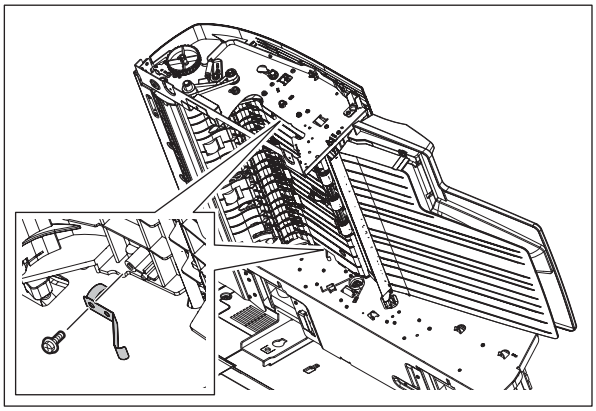

Fig. 16-120

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(3) Remove 3 screws and take off the upper reverse guide.

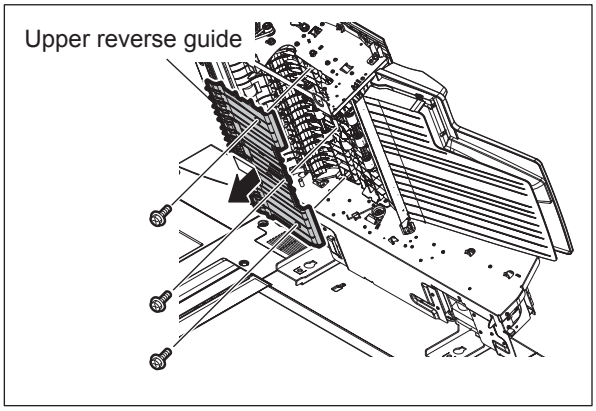

Fig. 16-121

(4) Disconnect 1 connector. Release 2 latches and take off the original exit sensor.

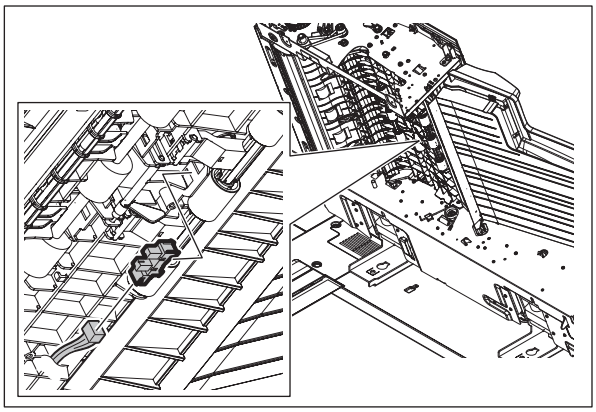

Fig. 16-122

16.5.45 Original tray sensor (SR1)

(1) Take off the original reverse tray.
📖 P.16-19 "16.5.7 Original reverse tray"
(2) Remove 2 screws and release 8 latches to take off the original side guide unit.

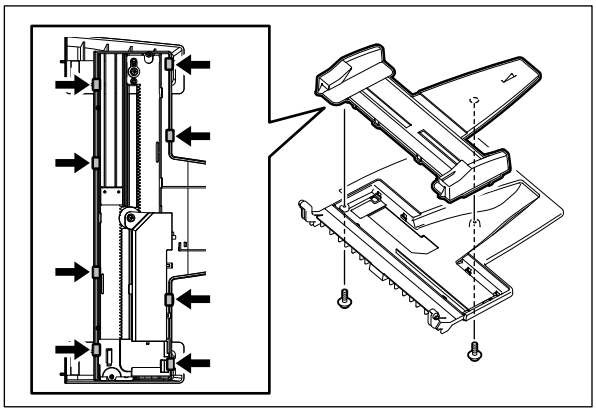

Fig. 16-123

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(3) Remove 2 screws and take off the sensor bracket.

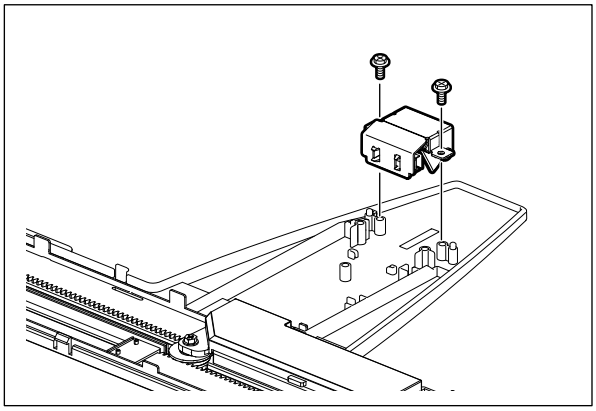

Fig. 16-124

(4) Disconnect 1 connector. Release 2 latches and take off the original tray sensor.

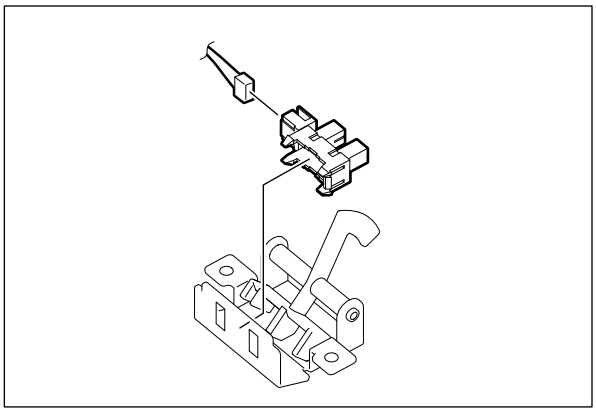

Fig. 16-125

16.5.46 Original tray width sensor (SR2)

(1) Take off the original reverse tray.
P.16-19 "16.5.7 Original reverse tray"
(2) Remove 2 screws and release 8 latches to take off the original side guide unit.

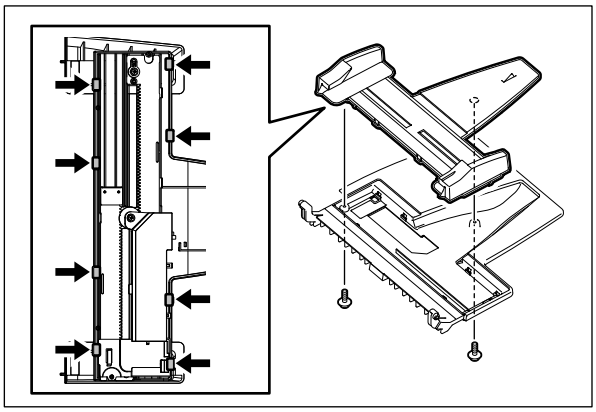

Fig. 16-126

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(3) Remove 1 screw and take off the sensor cover.

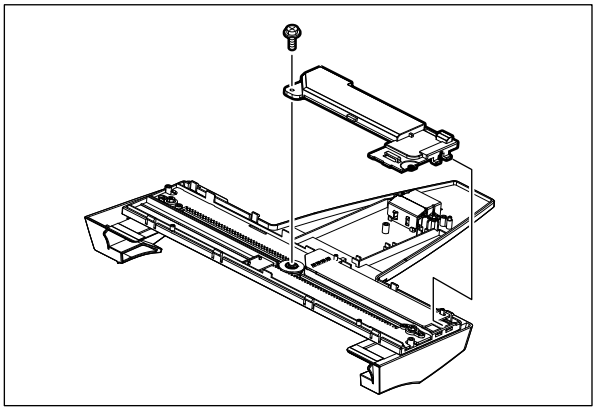

Fig. 16-127

(4) Disconnect 1 connector and take off the original tray width sensor.

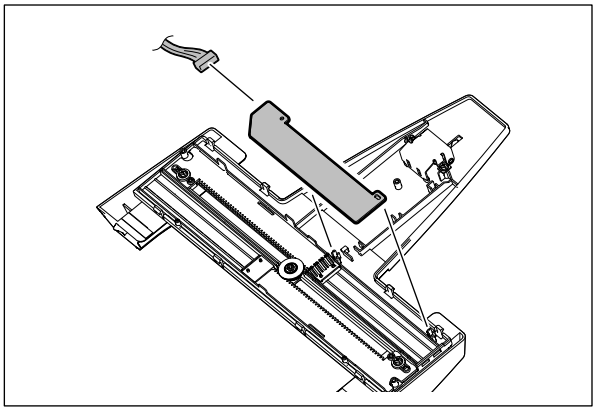

Fig. 16-128

16.5.47 Original exit/reverse sensor (SR11)

(1) Take off the platen sheet unit.
📖 P.16-19 "16.5.8 Platen sheet unit"
(2) Remove 1 screw and take off the locking lever on the front side. Remove 1 screw and take off the locking lever on the rear side. Remove 1 spring and take off the locking bracket.

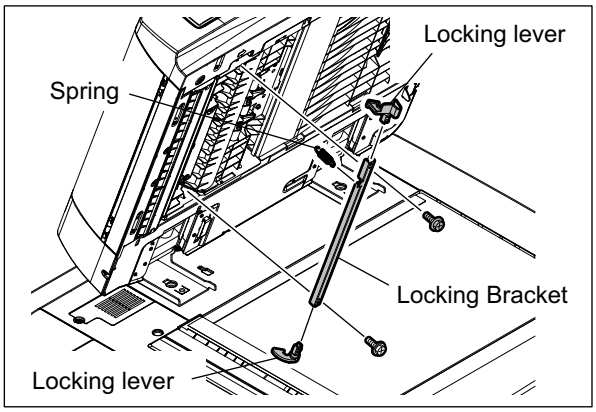

Fig. 16-129

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(3) Remove 2 screws. Disconnect 1 connector and take off the sensor bracket.

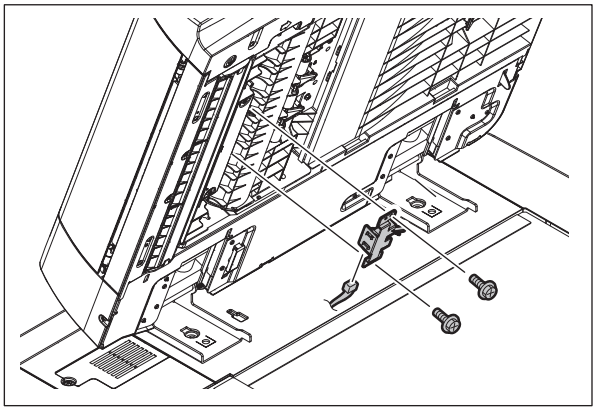

Fig. 16-130

(4) Release 2 latches and take off the original exit/reverse sensor.

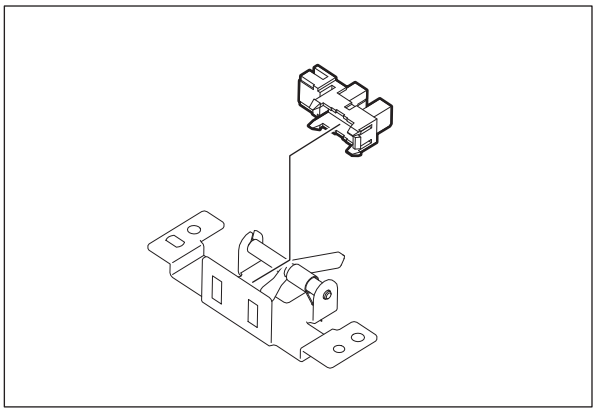

Fig. 16-131

16.5.48 Original reverse unit opening/closing sensor (SR14)

(1) Take off the reading end guide.
📖 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Disconnect 1 connector. Release 2 latches and take off the original reverse unit opening/closing sensor.

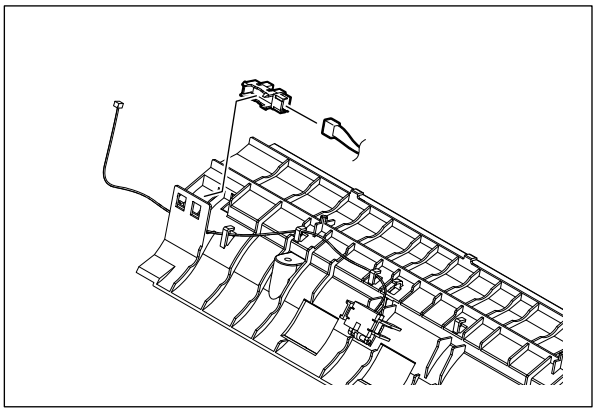

Fig. 16-132

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16.5.49 Original reading end sensor (SR4)

(1) Take off the reading end guide.
📖 P.16-22 "16.5.11 Exit guide / Exit/reverse guide / Reading end guide"
(2) Disconnect 1 connector. Release 2 latches and take off the original reading end sensor.

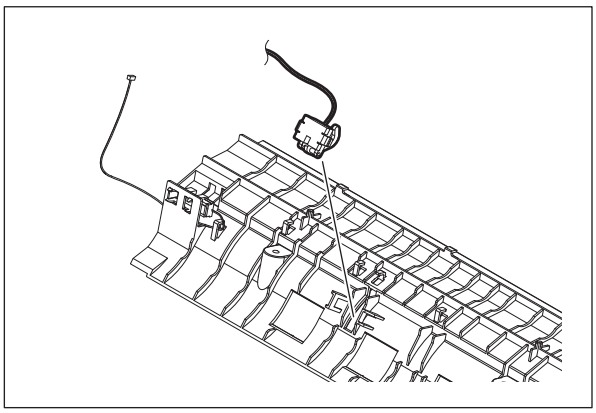

Fig. 16-133

16.5.50 Original intermediate transport sensor (SR9)

(1) Take off the reading start guide unit.
📖 P.16-21 "16.5.10 Reading start guide unit"
(2) Release 2 latches and take off the original intermediate transport sensor.

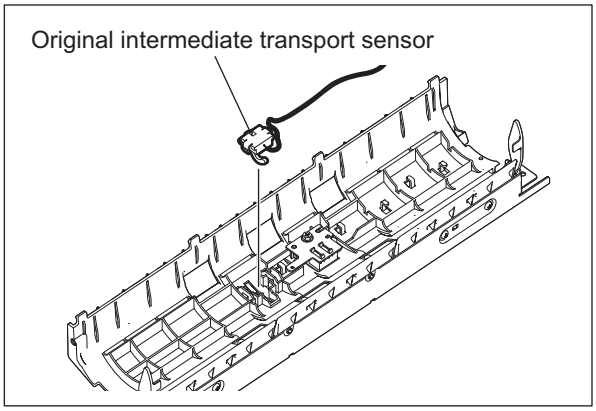

Fig. 16-134

16.5.51 Original reading start sensor (SR10)

(1) Take off the reading start guide unit.
📖 P.16-21 "16.5.10 Reading start guide unit"
(2) Disconnect 1 connector. Remove 1 screw and take off the sensor bracket.

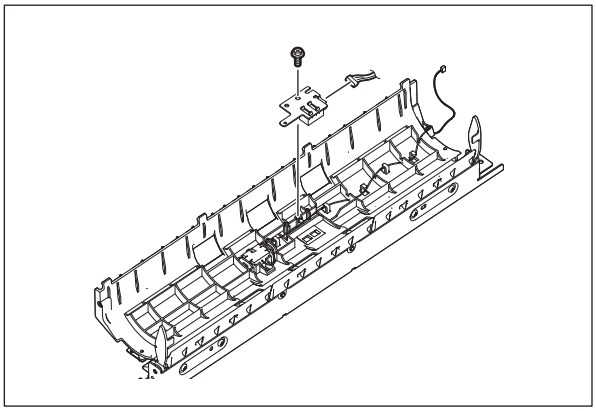

Fig. 16-135

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(3) Release 2 latches and take off the original reading start sensor.

Note:
When replacing the original reading start sensor, be sure to perform the original reading start sensor adjustment.
📖 P.16-73 "16.6.8 Original reading start sensor adjustment"

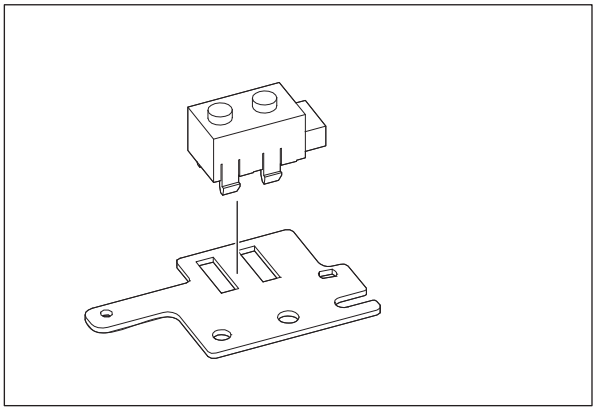

Fig. 16-136

16.5.52 Original reading start sensor (prism)

(1) Take off the reading start guide unit.
📖 P.16-21 "16.5.10 Reading start guide unit"
(2) Remove 4 screws and take off the stay.

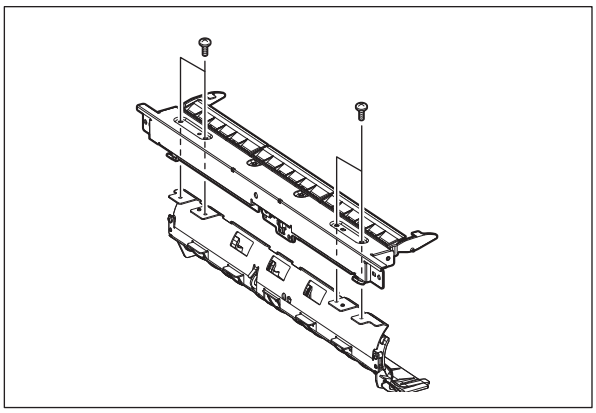

Fig. 16-137

(3) Remove 2 screws and take off the original reading start sensor prism unit.

Note:
When replacing the original reading start sensor, be sure to perform the original reading start sensor adjustment.
📖 P.16-73 "16.6.8 Original reading start sensor adjustment"

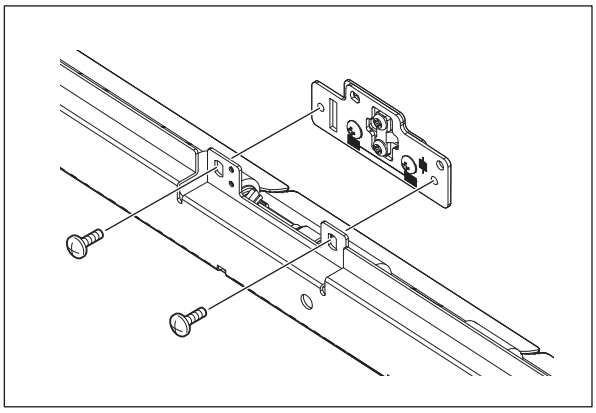

Fig. 16-138

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16.5.53 RADF board (RADF)

(1) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 11 connectors. Remove 4 screws and take off the RADF board.

Note:
When replacing the RADF board, be sure to perform the original reading start sensor adjustment.
🕮 P.16-73 "16.6.8 Original reading start sensor adjustment"

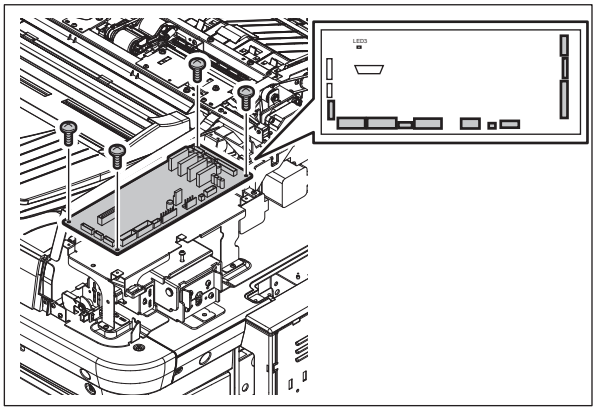

Fig. 16-139

16.5.54 RADF board bracket

(1) Take off the RADF rear cover.
🕮 P.16-16 "16.5.3 RADF rear cover"
(2) Disconnect 11 connectors.

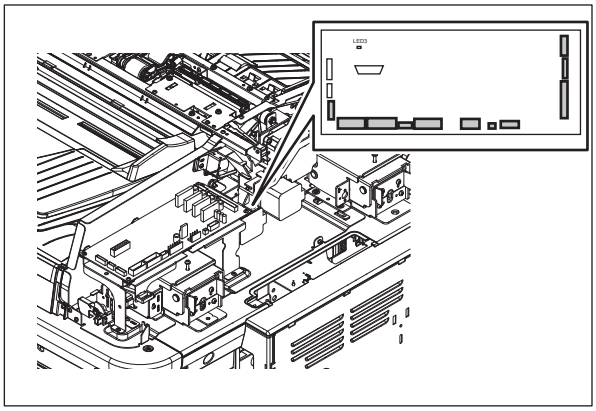

Fig. 16-140

(3) Disconnect 1 connector. Take off the harness clamp. Remove 4 screws and take off the RADF board bracket.

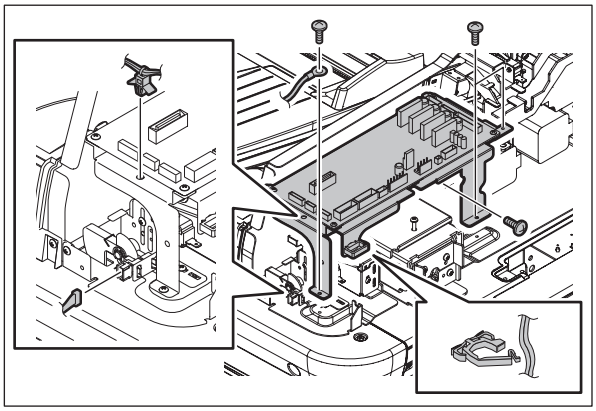

Fig. 16-141

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16.5.55 Harness guide

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Remove the harnesses from the harness guide.
(3) Remove 3 screws and take off the harness guide.

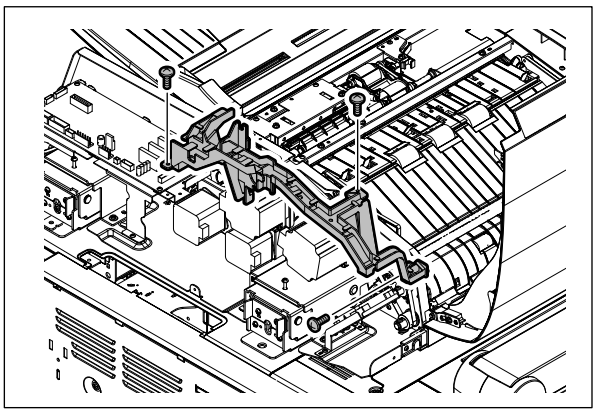

Fig. 16-142

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16.6 Adjustment of the Reversing Automatic Document Feeder (RADF)

16.6.1 RADF position adjustment

Perform this adjustment when the RADF is removed.

(1) Place the RADF aligning its installation shoulder screw with the hole of the hinge bracket, and then slide it to the front side.

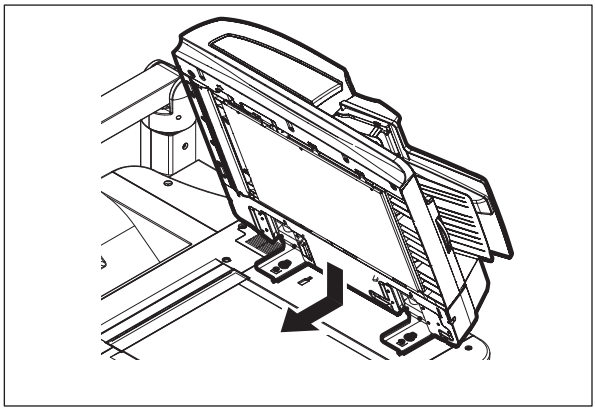

Fig. 16-143

(2) Tighten the 2 fixing screws of the hinge bracket (front side) temporarily.

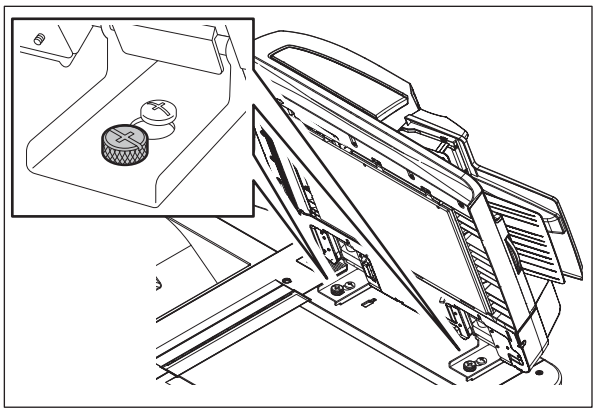

Fig. 16-144

(3) Remove the platen sheet.

Note:
Be sure not to fold or stain the removed platen sheet.

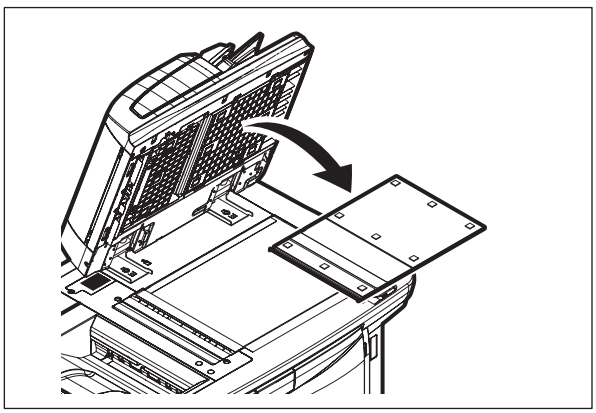

Fig. 16-145

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(4) Remove 2 gaskets.

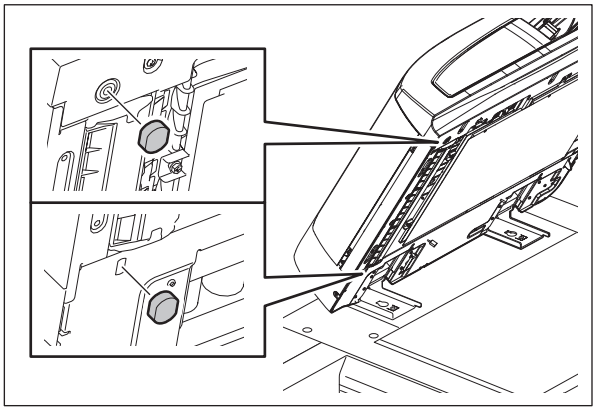

Fig. 16-146

(5) Remove 2 screws.

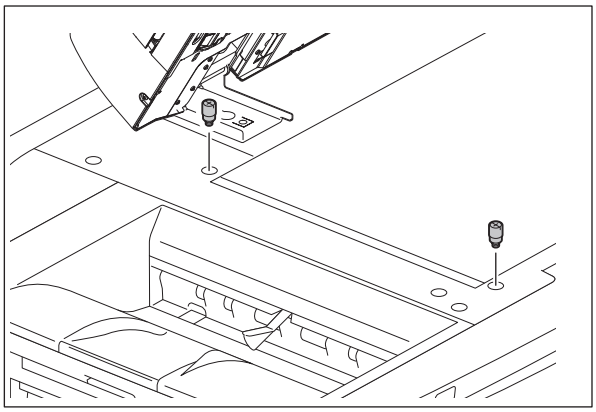

Fig. 16-147

(6) Install 2 positioning pins.

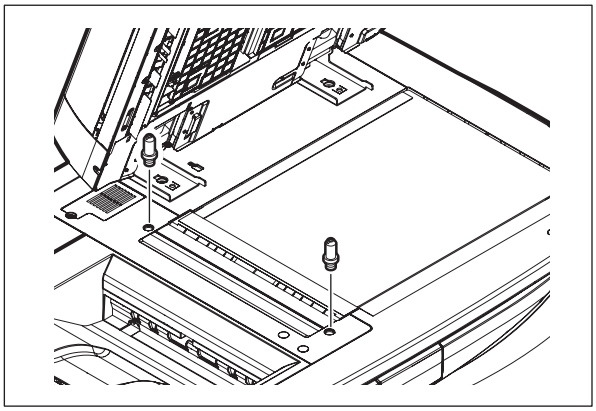

Fig. 16-148

(7) Close the RADF gently and check if the positioning pins fit the holes on the RADF.

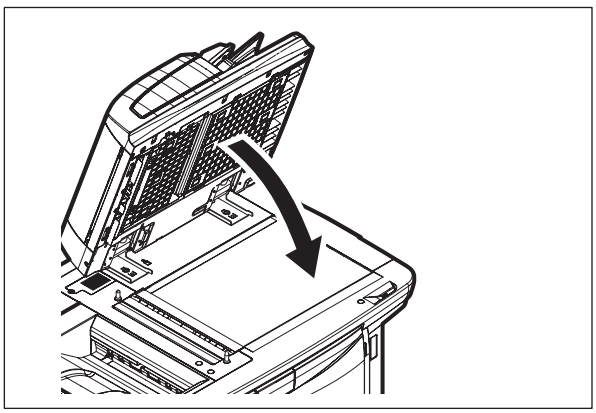

Fig. 16-149

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(8) When the RADF is closed, check if the hole of the adjustment plate on the right-hand hinge is aligned with the hole on the equipment. If it is not, turn the adjustment screw to match the hole.

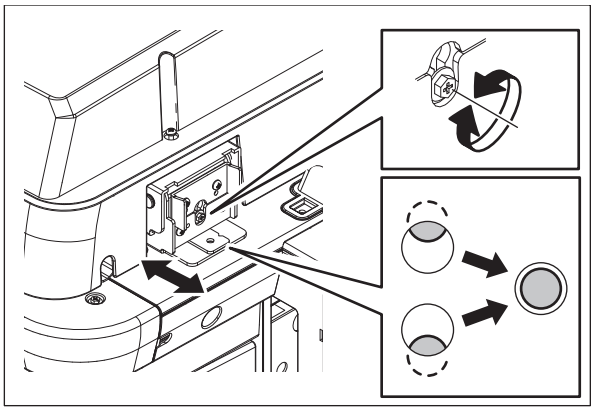

Fig. 16-150

(9) Install 1 fixing screw (rear side) on the right-hand hinge bracket.

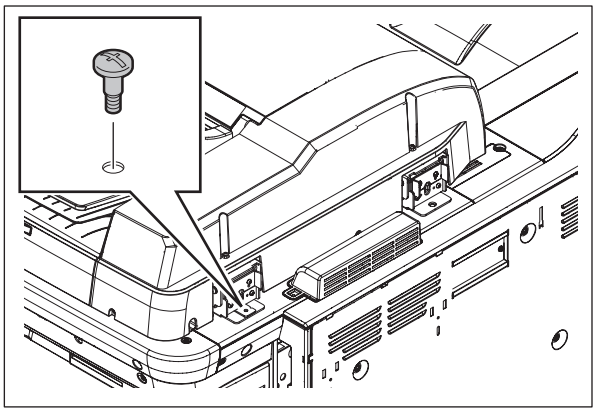

Fig. 16-151

(10) Insert a washer, and install 1 fixing screw (rear side) on the left-hand hinge bracket.

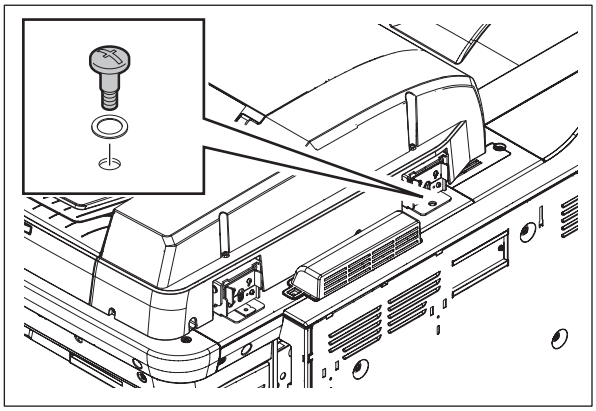

Fig. 16-152

(11) Tighten the 2 fixing screws (front side) on the hinge bracket.

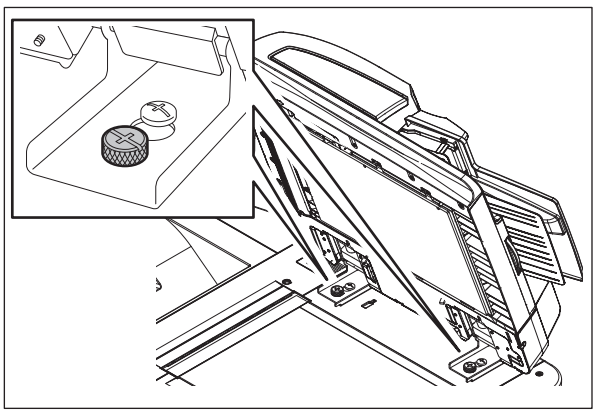

Fig. 16-153

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(12) Open the RADF and remove 2 positioning pins.

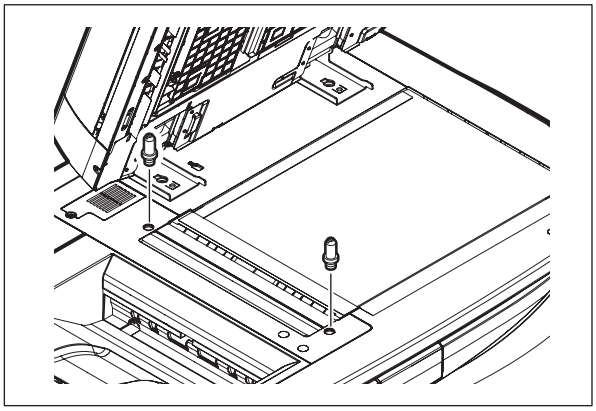

Fig. 16-154

(13) Install 2 screws.

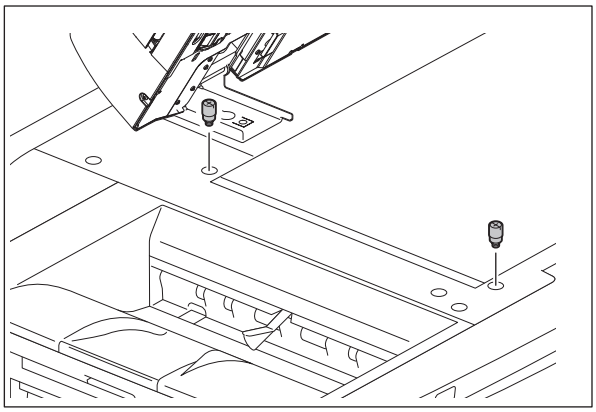

Fig. 16-155

(14) Place the platen sheet on the original glass and align it to the top left corner.
Close the RADF gently and open it to check if the platen sheet is attached properly.

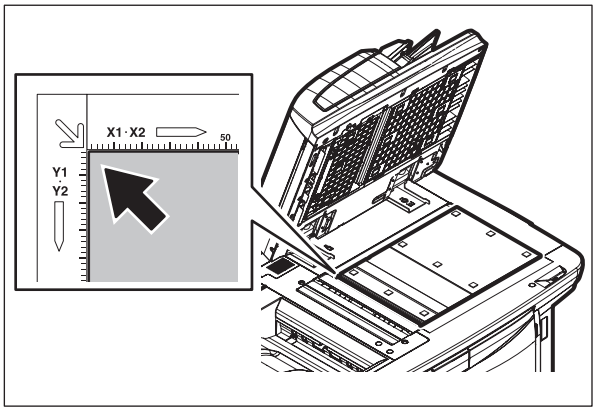

Fig. 16-156

(15) Install the gaskets.

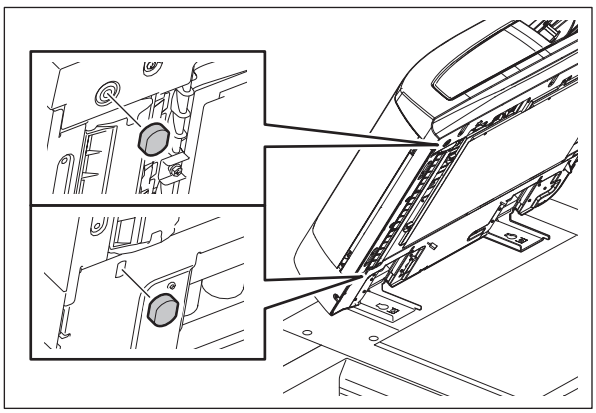

Fig. 16-157

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16.6.2 RADF height adjustment

Note:
Check if the image adjustment for the equipment is performed properly before this adjustment of the RADF.

[A] Adjustment

(1) Remove the top left cover.
📖 P.3-42 "3.5.6 Top left cover"
(2) Close the RADF.
(3) Light the exposure lamp.
- Turn the power ON while pressing [0] and [3] simultaneously.
- Key in [267] and then press the [START] button. The exposure lamp is turned ON for a given length of time.

(4) Visually check the gap between platen guide holder “A” and upper surface of the original glass “B” from the left hand side of the equipment. If the value is not within the tolerance, perform the adjustment according to the following procedure.
[Tolerance of the gap]
Rear side: 0 - 0.2 mm
Front side: 0 mm

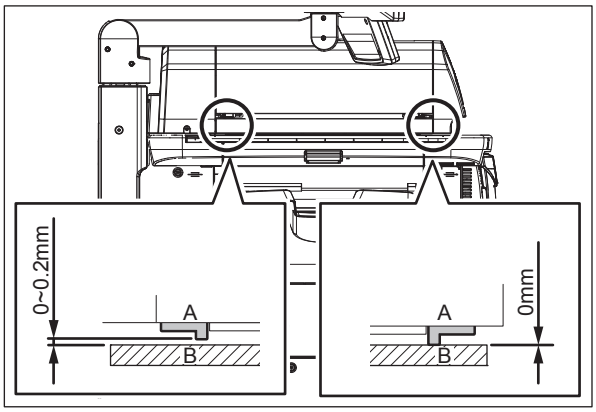

Fig. 16-158

(5) Close the RADF. Adjust it by turning the adjustment screws on the hinges.
- Adjust the gap on the rear side by means of the screw on the hinge on the feed side (right side) of the RADF.
  Turn it clockwise ..... Heightened
  Turn it counterclockwise .... Lowered

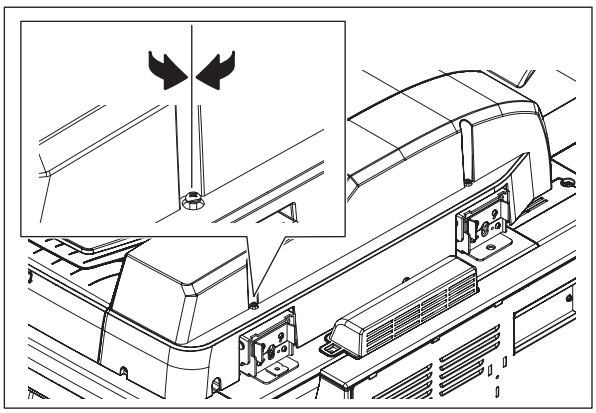
Fig. 16-159

- Adjust the gap on the front side by means of the screw on the hinge on the exit side (left side) of the RADF.
  Turn it clockwise ..... Lowered
  Turn it counterclockwise .... Heightened

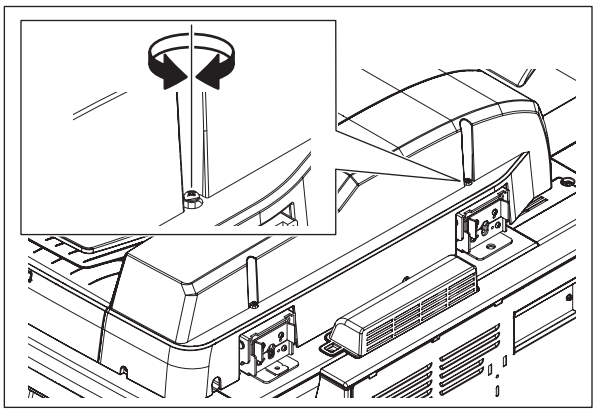
Fig. 16-160

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Note:

Open the original jam access cover and check the height adjustment pointer on the front and rear side. When taking off / reinstalling the RADF, be sure to check the position of the height adjustment pointer before taking off the RADF. Check the position of the pointer again after the RADF is reinstalled. Perform the RADF height adjustment only when the position is not aligned with that before the reinstallation.

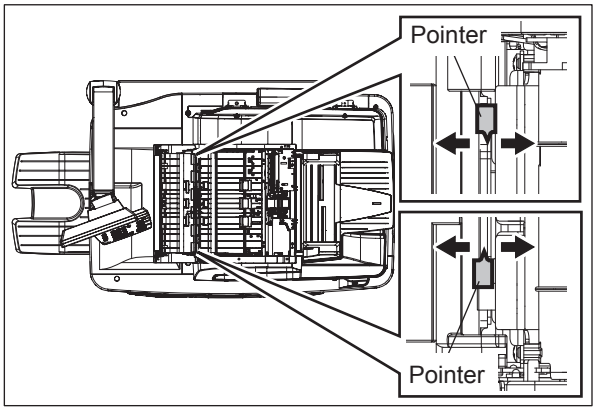

Fig. 16-161

16

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16.6.3 RADF image skew adjustment

Note:

First check if the image adjustment has been performed properly and then start this adjustment for the RADF. Also, the RADF position and height shall be adjusted correctly.

[A] Simplex copying:

(1) Check the image using the chart (original) with vertical and horizontal lines in the following procedure.
Place the chart provided as an original with its face up on the original tray of the RADF, select [1 Sided -> 1 Sided] and make copies.

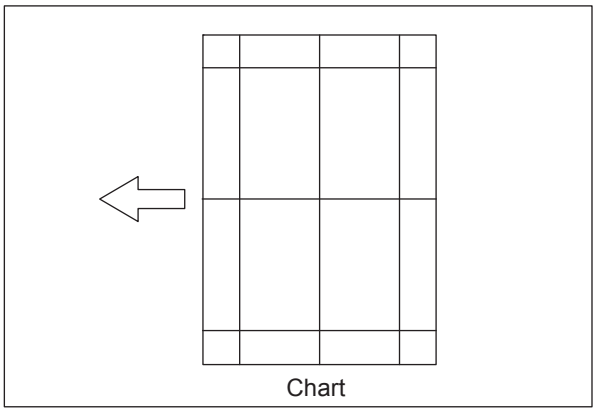

Fig. 16-162

(2) Superimpose the chart on the copy and check the inclination of the copy image.

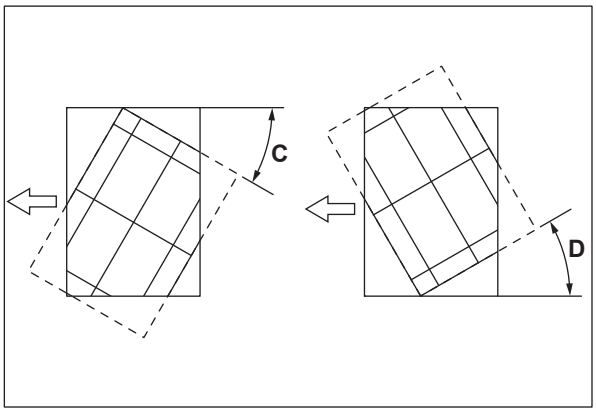

Fig. 16-163

(3) If the adjustment is necessary, open the original jam access cover and change the position of the lower screw fixing the plate. Loosen the screw, and then if the image skew is “C” as shown in the figure above, shift the aligning plate in the direction of “+”, and if “D”, shift it to “-”.

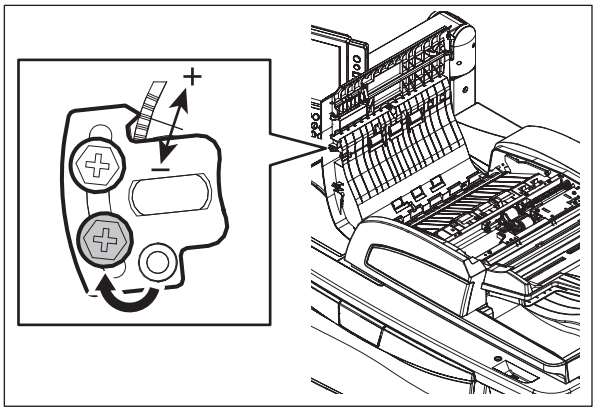

Fig. 16-164

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[B] Duplex copying:

(1) Check the image using the chart (original) with vertical and horizontal lines in the following procedure.
Place the chart provided as an original with its face up on the original tray of the RADF, select [2 Sided -> 2 Sided] and make copies.

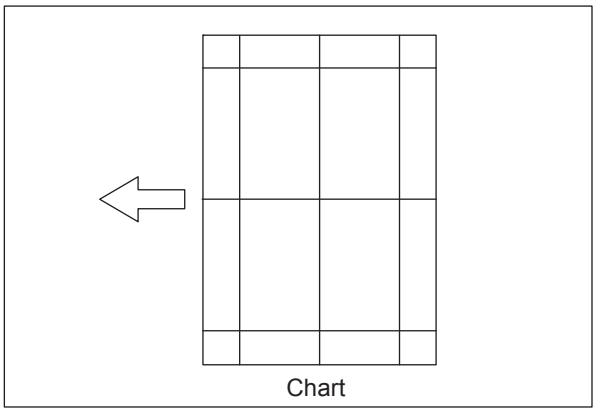

Fig. 16-165

(2) Superimpose the chart on the copy and check the inclination of the copy image.

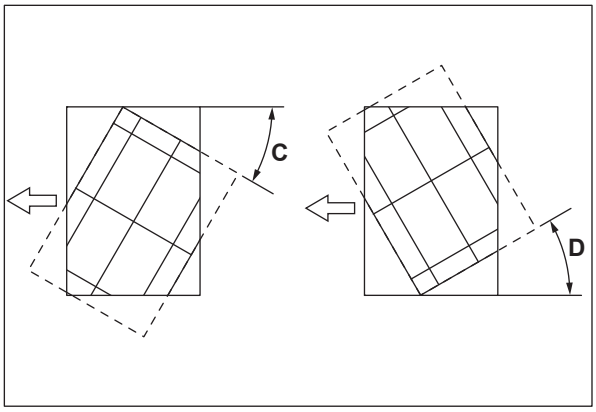

Fig. 16-166

(3) If the adjustment is necessary, open the original jam access cover and change the position of the lower screw fixing the plate. Loosen the screw, lift the guide and then if the image skew is “C” as shown in the figure above, shift the aligning plate in the direction of “+”, and if “D”, shift it to “-”.

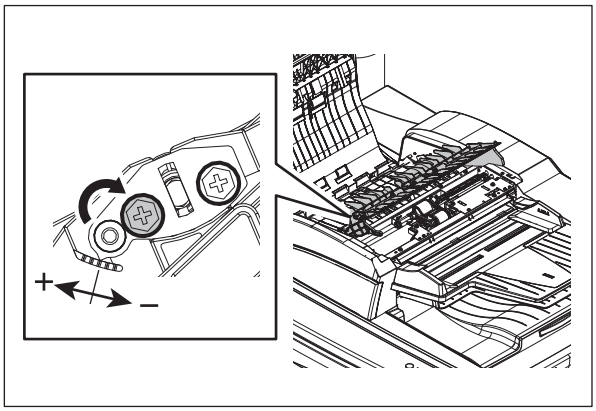

Fig. 16-167

16

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16.6.4 RADF leading edge position adjustment

Note:
First check if the image adjustment has been performed properly and then start this adjustment for the RADF. Also, the RADF position and height shall be adjusted correctly.

[A] Simplex copying:

(1) Check the image using the chart (original) with vertical and horizontal lines in the following procedure.
Place the chart provided as an original with its face up on the original tray of the RADF, select [1 Sided -> 1 Sided] and make copies.

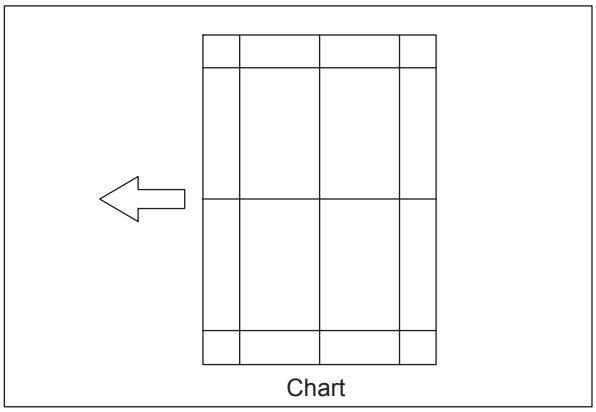

Fig. 16-168

(2) Superimpose the chart on the copy and check the leading edge E of the chart and F of the copy.
(3) If the adjustment is necessary, shut down the equipment and turn the power ON while pressing [0] and [5] simultaneously, key in [365] and then press the [START] button.
(4) Enter the value.
If the leading edge (F) margin of the copy image is larger than the (E) margin of the chart, enter a value smaller than the current one. If the leading edge (F) margin of the copy image is smaller than the (E) margin of the chart, enter a value larger than the current one.

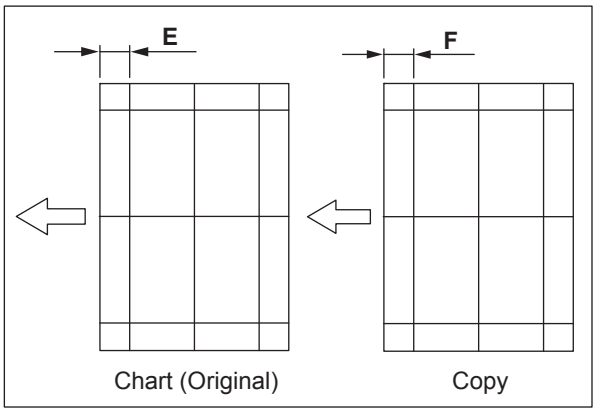

Fig. 16-169

Note:
Changing one value shifts the copy image by 0.2 mm.

(5) Press the [ENTER] button.

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[B] Duplex copying:

(1) Check the image using the chart (original) with vertical and horizontal lines in the following procedure.
Place the chart provided as an original with its face up on the original tray of the RADF, select [2 Sided -> 2 Sided] and make copies.

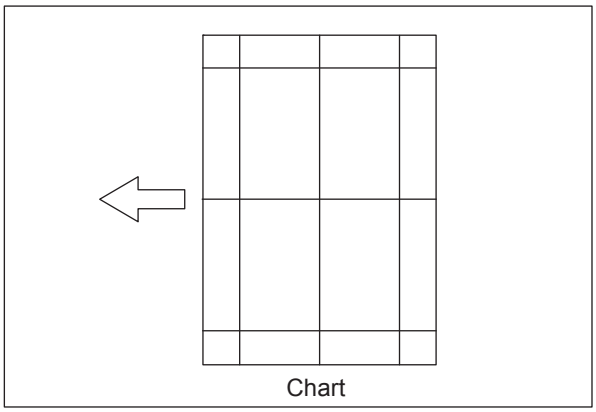

Fig. 16-170

(2) Superimpose the chart on the copy and check the leading edge E of the chart and F of the copy.
(3) If the adjustment is necessary, shut down the equipment and turn the power ON while pressing [0] and [5] simultaneously, key in [366] and then press the [START] button.
(4) Enter the value.

If the leading edge (F) margin of the copy image is larger than the (E) margin of the chart, enter a value smaller than the current one. If the leading edge (F) margin of the copy image is smaller than the (E) margin of the chart, enter a value larger than the current one.

Note:
Changing one value shifts the copy image by 0.2 mm.

(5) Press the [ENTER] button.

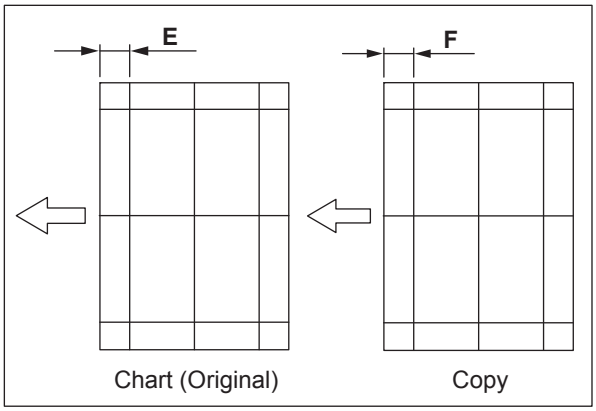

Fig. 16-171

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16.6.5 RADF horizontal position adjustment

Note:
First check if the image adjustment has been performed properly and then start this adjustment for the RADF. Also, the RADF position and height shall be adjusted correctly.

(1) Check the image using the chart (original) with a center line in the following procedure. Place the chart provided as an original with its face up on the original tray of the RADF, and then make copies.

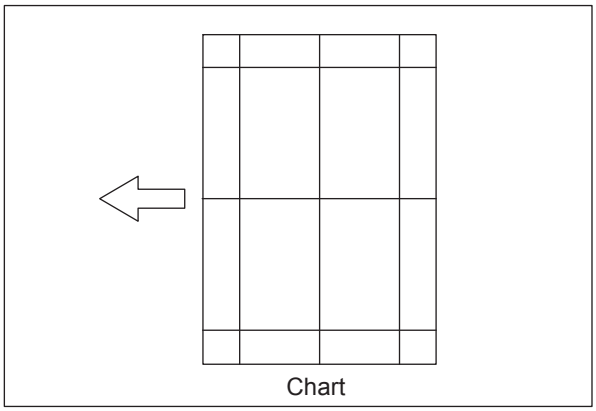

Fig. 16-172

(2) Fold the copy in half and check if the center line is misaligned.
(3) If the adjustment is necessary, shut down the equipment and turn the power ON while pressing [0] and [5] simultaneously.
(4) Key in [358] and then press the [START] button.
(5) If the center line of the copy image is shifted to the front side of the equipment (G), enter a value larger than the current one.

Note:
Changing one value shifts the copy image by 0.08 mm.

(6) If the center line of the copy image is shifted to the rear side of the equipment (H), enter a value smaller than the current one.
(7) Press the [ENTER] button.

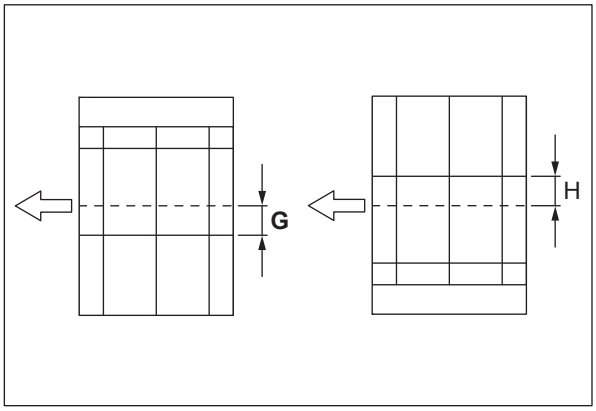

Fig. 16-173

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16.6.6 RADF copy ratio adjustment

Note:
First check if the image adjustment has been performed properly and then start this adjustment for the RADF. Also, the RADF position and height shall be adjusted correctly.

(1) Check the image using the chart (original) with vertical and horizontal lines in the following procedure.
Place the chart provided as an original with its face up on the original tray of the RADF.

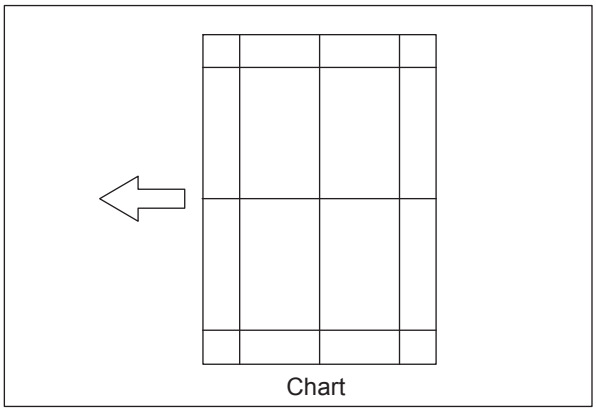

Fig. 16-174

(2) Press the [START] button.
(3) Superimpose the chart on the copy and check the image dimension “I“.
(4) If the adjustment is necessary, shut down the equipment and turn the power ON while pressing [0] and [5] simultaneously.
(5) Key in [357] and then press the [START] button.
(6) If the copy image dimension “I” is larger than the chart dimension, enter a value smaller than the current one. If the copy image dimension “I” is smaller than the chart dimension, enter a value larger than the current one.

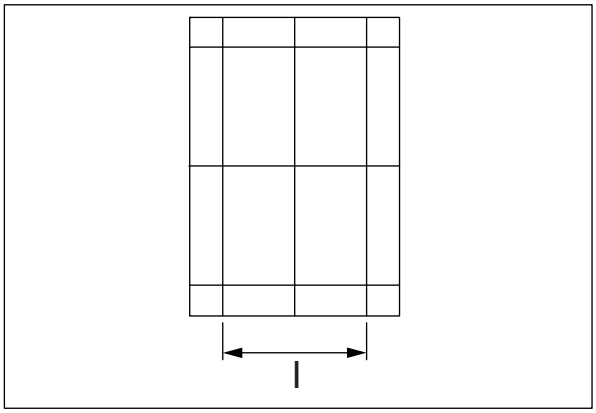

Fig. 16-175

Note:
When the value is increased (decreased) by 1, the copy image (ratio in the secondary scanning direction) is affected correspondingly by 1%.

(7) Press the [ENTER] button.

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16.6.7 RADF opening/closing switch adjustment

Adjust the bracket position so that the sensor is turned ON when the height “J” becomes 145 mm or less (within the empty weight falling limit).

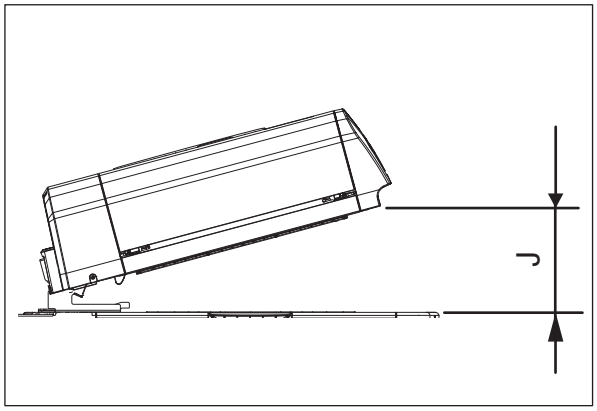

Fig. 16-176

(1) Take off the RADF rear cover.
📖 P.16-16 "16.5.3 RADF rear cover"
(2) Loosen the fixing screw of the bracket. Slide the bracket vertically using the scale as a guide to adjust the position where the switch is turned ON.
(3) Tighten the fixing screw of the bracket. Install the RADF rear cover.

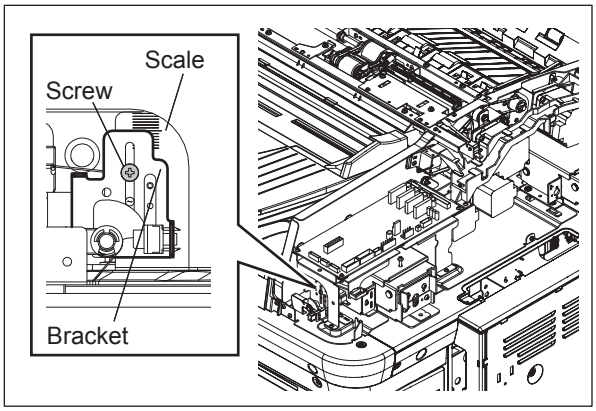

Fig. 16-177

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16.6.8 Original reading start sensor adjustment

When the RADF board or the original reading start sensor (sensor section or prism) is replaced, be sure to perform this adjustment. If not, paper jams (E721, E725, E774) or operational problems may occur.

[A] Automatic adjustment

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Key in [356] and then press the [START] button.

Notes:
1. Be sure to close all of the RADF cover before the adjustment is performed.
2. Check that there is no paper on the original reading start sensor so that the light is not shielded.

[B] Manual adjustment

Note:
When the reading start sensor is replaced or re-installed, perform this manual adjustment.

(1) Take off the left RADF cover.
(2) Close the original jam access cover and the RADF.
(3) Turn the power ON while pressing [0] and [5] simultaneously.
(4) Key in [353] and then press the [START] button.

Note:
Be sure not to close or open the original jam access cover and the RADF until step 6 is finished. If you do so, the adjustment value will be reset. In this case, repeat the adjustment from step 2.

(5) Loosen 2 prism vertical adjustment screws of the prism.

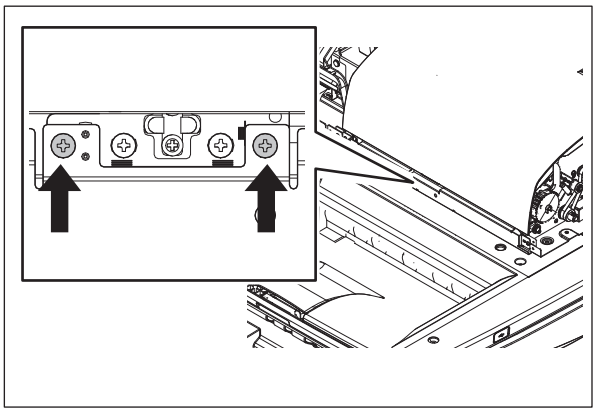

Fig. 16-178

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(6) Slide the prism vertically. When the prism comes to the proper adjustment position, LED 3 on the RADF board lights. At this position, tighten 2 prism vertical adjustment screws.

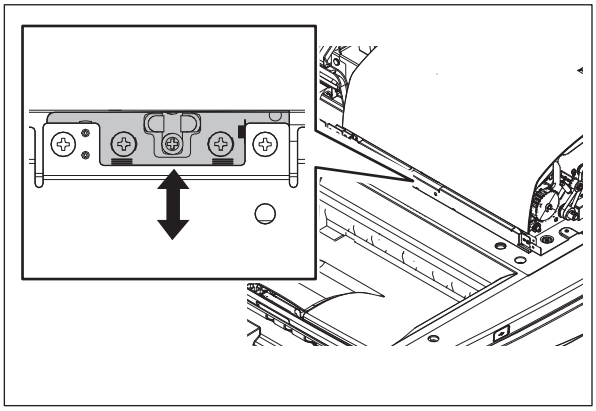

Fig. 16-179

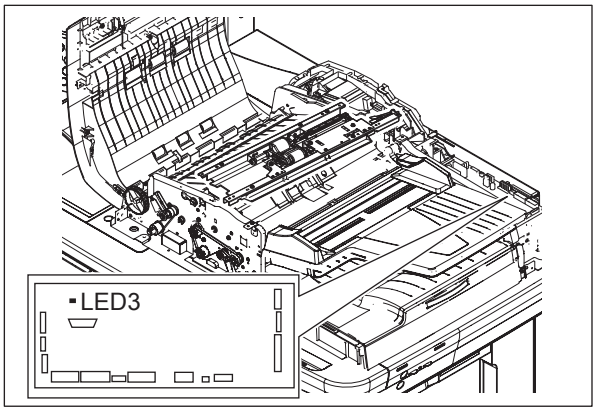

Fig. 16-180

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Notes:

If LED 3 does not light, follow the procedure below.

1. Tighten 2 prism vertical fixing screws aligning with the forth mark-off line from the top.

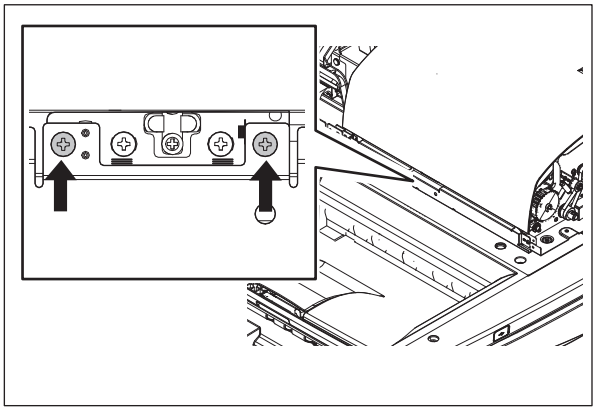

Fig. 16-181

2. Loosen the 2 prism horizontal adjustment screws.

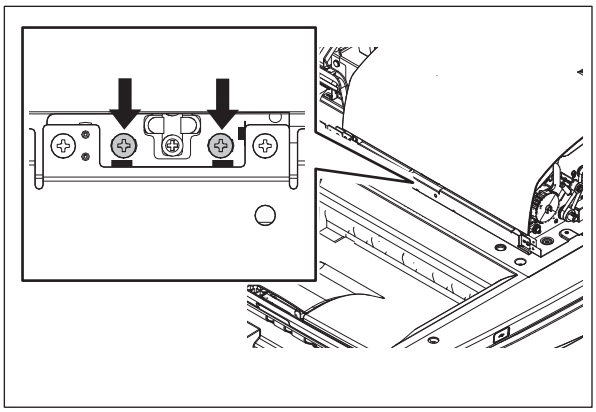

Fig. 16-182

3. Slide the prism horizontally. When the prism comes to the proper adjustment position, LED 3 on the RADF board lights. At this position, tighten 2 prism horizontal adjustment screws.

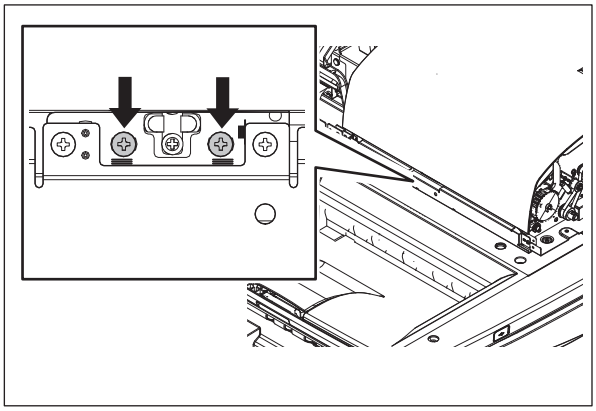

Fig. 16-183

(7) Perform the automatic adjustment (05-356).

Note:

After the manual adjustment is performed, be sure to do the automatic one.

(8) Turn the power OFF and install the cover.

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16.6.9 Platen Sheet

If a shadow-like dark area appears on the edge of the image, reset the platen sheet

(1) Open the RADF and remove the platen sheet.

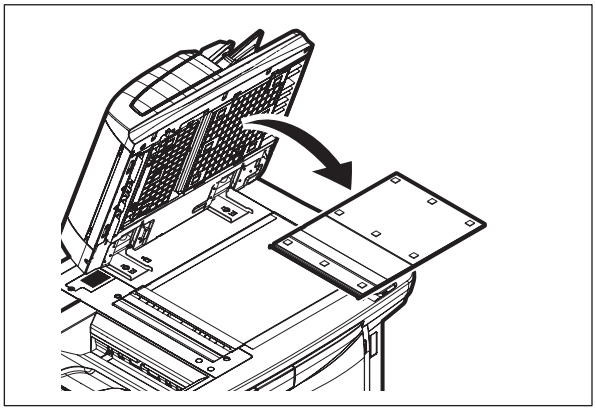

Fig. 16-184

(2) Place the platen sheet on the original glass and align it to the top left corner. Close the RADF gently and open it to check if the platen sheet is attached properly.

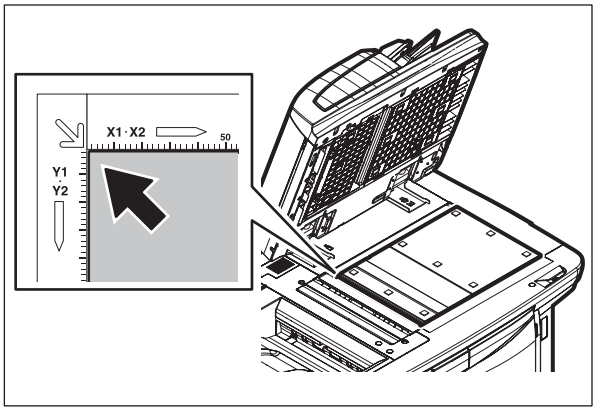

Fig. 16-185

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17. POWER SUPPLY UNIT

17.1 Construction

The power supply unit consists of the AC filter, insulation type DC output circuits and heater lamp control circuit.

Note:
In a model with 2 power cables, the total current capacity to be used should not exceed the breaker rating.

1. AC filter
   Eliminates noise from the outside and prevents the noise generated by the equipment from leaking to the outside.

2. DC output circuits
   Converts AC voltage input from outside to DC voltage and supplies it to each electric part. The DC voltage is divided into the following two lines.

   a. Main switch line: Power supply used in the entire equipment during image forming process. Two kinds of voltage (+5.1 V and +12V) are output when the main switch of the equipment is turned ON.

   b. Cover switch line: Power supply used in the entire equipment during image forming process, being supplied via the cover switch. Two kinds of voltage (+5.1VD and +24VD) are output only when the main switch of the equipment is turned ON and two covers (front cover and automatic duplexing unit) are closed.

3. Heater lamp control circuit
   TRC (Triac) is driven by the control signal from the LGC board and then AC power is supplied to each heater lamp in the pressure roller.

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17.2 Operation of DC Output Circuits

1. Starting operation of the equipment
   When the main switch of the equipment is turned ON, power starts supplying to all the lines only when two covers (front cover and duplexing unit) are closed.

2. Stopping operation of the equipment
   When the main switch of the equipment is turned OFF, PER-DN signal is output after the instantaneous outage insurance time (20 ms or more) elapses and then the supply of each voltage stops. If the supply of voltage of the main switch line (+5.1VS, +5.1VA, +12VA) stops earlier than the 24 V line does, it may cause the damage of the electron device on each control circuit. To prevent this, the supply of these voltages stops after the PWR-DN signal is output and the minimum retaining time (50 ms) elapses.

3. Normal stopping (shifting to auto shut off mode)
   When the [ON/OFF] button on the control panel is pressed for 1 second or more while the main switch of the equipment is toggled ON, an auto shut off mode shifting signal (SYS-EN) is output from the SYS board after the initialization is finished and then all lines for output voltage except +5.1 VS are closed.

4. Normal starting (recovering from auto shut off mode)
   When the [ON/OFF] button on the control panel is pressed for 1 second or more during the auto shut off mode, an auto shut off mode recovery signal (PWR-SW) is output from the SYS board and then voltage starts being supplied to all the lines, if no error was detected.

5. Output protection
   Each output system includes an overcurrent and overvoltage protection circuits (a fuse and internal protection circuit). This is to prevent the defectives (damage or abnormal operation of the secondary circuit) which may be caused by an overcurrent due to a short circuit or an overvoltage due to a short circuit between different voltages. If the protection circuit is activated (except the case the fuse is blown out), remove the causes such as short-circuit. Turn ON the power again 1 minute later to clear the overcurrent protection.

6. State of the power supply
   - Power OFF
     The main power switch of the equipment is turned OFF. Since DC voltage is not supplied to each board, the equipment is not operable.

   - Normal state (including Energy saving mode)
     The main power switch of the equipment is turned ON and DC voltage is supplied to each board. When the cover of the equipment is closed, 24V DC voltage is supplied and the equipment enters into the ready/printing state.

   - Sleep mode
     Since +5VB, +5VD, +12VB and +24V DC voltages are not supplied but +12VA, +5.1VA and +5.1VS DC voltages only, the equipment does not enter into the ready state.

   - Off mode
     Only DC voltage and +5VS are output from the power supply unit. The [POWER] button is monitored and the LED of the main power switch is lit.

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17.3 Output Channel

The following are 2 output channels for the main switch line.

1. +5.1 V
   - +5.1VS: CN402 Pin 6
     Output to the SYS board
   - +5.1VA: CN402 Pins 8, 9 and 10
     Output to the SYS board
   - +5.1VB: CN402 Pins 19. 20
     Output to the SYS board
   - +5.1VB: CN403 Pins 2 and 3
     Output to the IMG board
   - +5.1VB: CN404 Pin 1
     Output to the LGC, PFP/LCF (via LGC board)
   - +5.1VB: CN405 Pin 1
     Output to the LGC board
   - +5.1VB: CN406 Pin 4
     Output to the Finisher
   - +5.1VB: CN407 Pins 1 and 2
     Output to the SLG board and RADF

2. +12 V
   - +12VA: CN402 Pins 13 and 14
     Output to the SYS board
   - +12VB: CN402 Pin 18
     Output to the SYS board
   - +12VB: CN404 Pin 7
     Output to the LGC board
   - +12VB: CN407 Pin 14
     Output to the SLG board

The following are 2 output channels for the cover switch line.

1. +5.1 V
   - +5.1VD: CN405 Pin 4
     Output to the LGC board

2. +24 V
   - +24VD1: CN405 Pin 5
     Output to the LGC board
   - +24VD2: CN405 Pin 6
     Output to the LGC board, PFC board (via LGC board), high-voltage transformer (via LGC board)
   - +24VD3: CN405 Pins 7
     Output to the PFC board (via LGC board)
   - +24VD4: CN406 Pin 2
     Output to the Finisher
   - +24VD5: CN407 Pins 9, 10, 11 and 12
     Output to the SLG board, RADF

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Output voltage by the type of connector

Main switch line

Connector	Destination	Voltage
J898	For the SYS board (via relay harness)	+5.1VA, +5.1VB, +5.1VS, +12VA, +12VB
CN403	For the IMG board	+5.1VB
CN404	For the LGC board, LCF (via LGC board)	+5.1VB, +12VB
CN405	For the LGC board	+5.1VB
CN406	For the Finisher	+5.1VB
CN407	For the SLG board, RADF	+5.1V, +12VB

Cover switch line

Connector	Destination	Voltage
CN405	For the LGC board, LCF (via LGC board), high-voltage transformer (via LGC board)	+5.1VD, +24VD1, +24VD2, +24VD3
CN406	For the Finisher	+24VD4
CN407	For the SLG, RADF	+24VD5

AC line

Connector	Destination	Voltage
CN401	AC input	-
CN408	Heater lamp	Lamp output
CN425	Output from the LIVE of AC inlet to the reactor	AC input (cover switch line)
CN426	Input from the reactor to the LIVE	AC input (cover switch line)

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17.4 Fuse

When the power supply secondary fuse is blown out, confirm that there is no abnormality with each part using the following table.

Voltage	Board/Unit	Part		Fuse type
+24VD1	LGC board	Fuser motor	M6	F201: 8 A (Semi time-lag)
		2nd transfer motor	M9	
		Transfer belt cam motor	M14	
		Toner motor-K	M15	
		Toner motor-C	M16	
		Toner motor-M	M17	
		Toner motor-Y	M18	
		Drum motor-K	M27	
		Drum motor-YMC	M28	
		Developer unit motor-K	M29	
		Developer unit mixer motor-K	M30	
		Developer unit motor-YMC	M31	
		Developer unit mixer motor-YMC	M32	
		Pressure roller contact/release clutch	CLT1	
		2nd transfer roller contact/release clutch	CLT2	
		2nd transfer roller drive clutch	CLT3	
		Discharge LED-Y	ERS-Y	
		Discharge LED-M	ERS-M	
		Discharge LED-C	ERS-C	
		Discharge LED-K	ERS-K	
		Laser optical unit cooling fan (Rear)	F23	
		Key copy counter, copy key card, coin controller		

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Voltage	Board/Unit	Part		Fuse type
+24VD2	LGC board	Transfer belt motor	M13	F202: 8 A (Semi time-lag)
		Sub-hopper toner motor-K	M19	
		Sub-hopper toner motor-C	M20	
		Sub-hopper toner motor-M	M21	
		Sub-hopper toner motor-Y	M22	
		Needle electrode cleaner motor-K	M23	
		Needle electrode cleaner motor-C	M24	
		Needle electrode cleaner motor-M	M25	
		Needle electrode cleaner motor-Y	M26	
		Waste toner transport motor	M33	
		Polygonal motor	M34	
		Mirror motor-M	M35	
		Mirror motor-C	M36	
		Mirror motor-K	M37	
		Shutter motor	M38	
		Auto-toner sensor-K	S26	
		Auto-toner sensor-C	S27	
		Auto-toner sensor-M	S28	
		Auto-toner sensor-Y	S29	
		Drum surface potential (V0) sensor-K	S34	
		Drum surface potential (V0) sensor-C	S35	
		Drum surface potential (V0) sensor-M	S36	
		Drum surface potential (V0) sensor-Y	S37	
		Image quality shutter solenoid	SOL3	
		V0 sensor shutter solenoid-K	SOL4	
		V0 sensor shutter solenoid-C	SOL5	
		V0 sensor shutter solenoid-M	SOL6	
		V0 sensor shutter solenoid-Y	SOL7	
		IH board cooling fan-1	F8	
		IH board cooling fan-2	F9	
		EPU cooling fan	F14	
		Toner cartridge heat insulation fan	F21	
		Laser optical unit cooling fan (Front)	F22	
		Ozone suctioning fan	F24	
		Scattered toner suctioning fan	F25	
		Toner cooling exhaust fan	F31	
		High-voltage transformer-1	HVT1	
		High-voltage transformer-2	HVT2	
	PFC board	Tray-up motor-1	M44	
		3rd drawer transport clutch	CLT4	
		3rd drawer feed clutch	CLT5	
		4th drawer transport clutch	CLT6	
		4th drawer feed clutch	CLT7	
		Bridge unit cooling fan (front)	F6	
		Bridge unit cooling fan (rear)	F7	
		Stopper opening/closing solenoid (front)	SOL10	
		Stopper opening/closing solenoid (rear)	SOL11	

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Voltage	Board/Unit	Part		Fuse type
+24VD3	PFC board	Exit motor	M2	F203: 8 A (Semi time-lag)
		Reverse motor	M3	
		Bridge unit transport entrance motor	M4	
		Bridge unit transport exit motor	M5	
		ADU motor-1	M7	
		ADU motor-2	M8	
		TRU waste toner motor	M10	
		TRU waste toner transport motor	M11	
		Bypass motor	M12	
		Registration motor	M39	
		Transport motor-1	M40	
		Transport motor-2	M41	
		Feed motor	M42	
		Feed/transport motor	M43	
		Tray-up motor-2	M45	
		Tandem LCF tray-up motor	M46	
		Tandem LCF end fence motor	M47	
		Transport path switching solenoid-1	SOL1	
		Transport path switching solenoid-2	SOL2	
		Bypass pickup solenoid	SOL8	
		Reversed paper cooling fan	F11	
+24VD4	Finisher			F204: 8 A (Semi time-lag)
+24VD5	SLG board			F205: 8 A (Semi time-lag)
	RADF			
+5VB	LGC board			F210: 5 A (Semi time-lag)
+5VS	SYS board, Control panel			F211: 0.4 A (PolySwitch)

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17.5 Configuration of Power Supply Unit

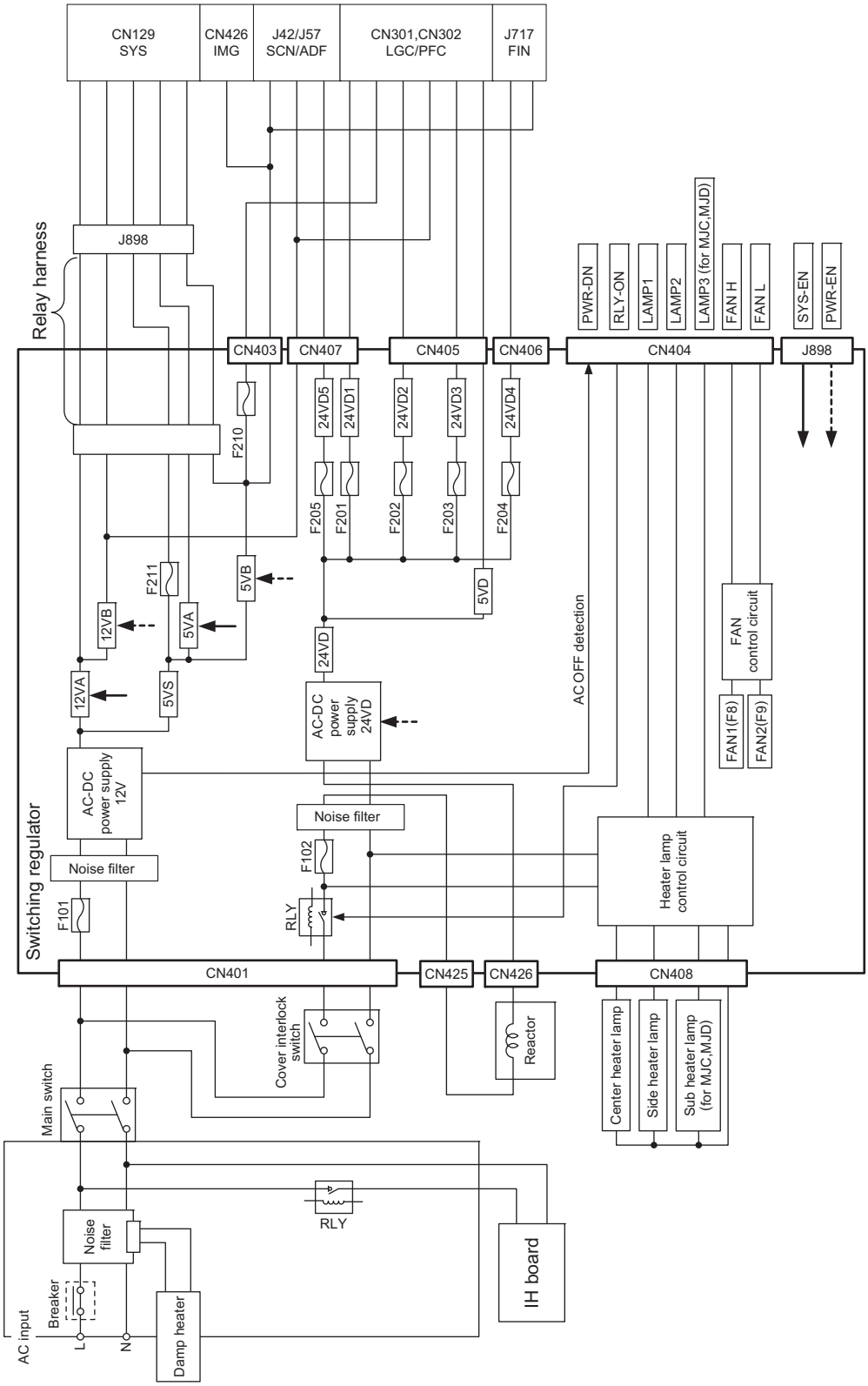

Fig. 17-1

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17.6 Sequence of Power Supply

- Power ON, Power failure, Power OFF

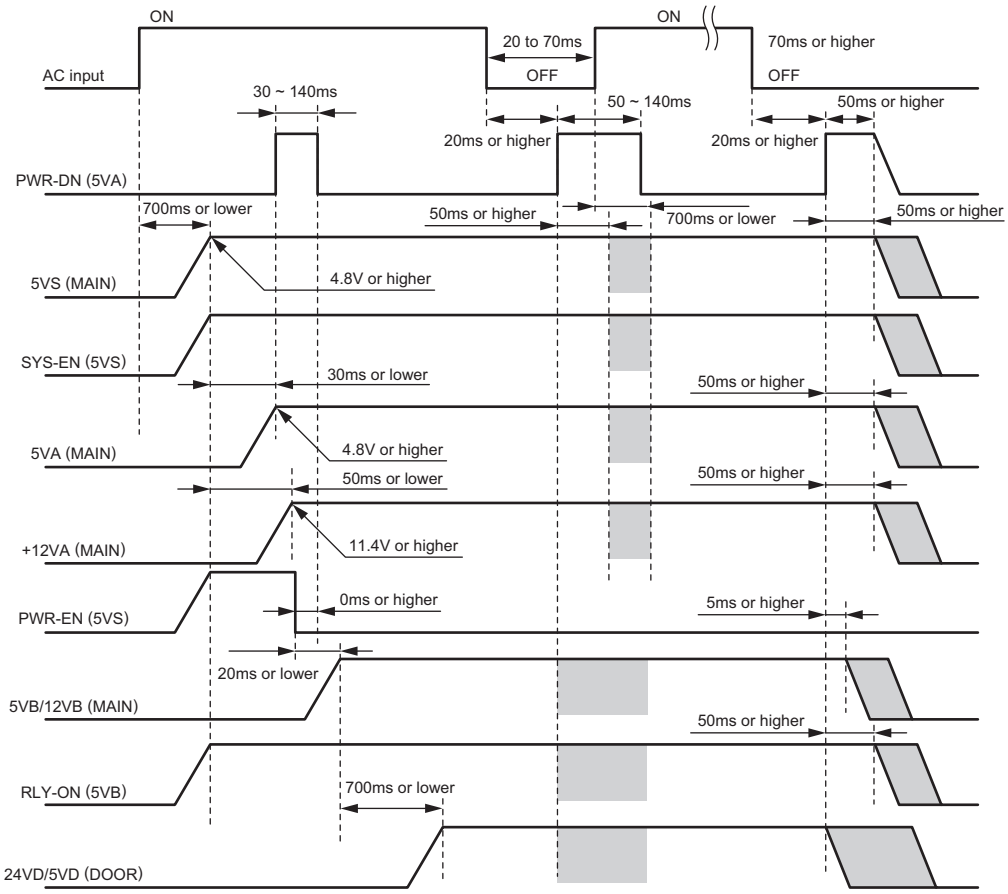

Fig. 17-2

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- Sleep mode, OFF mode

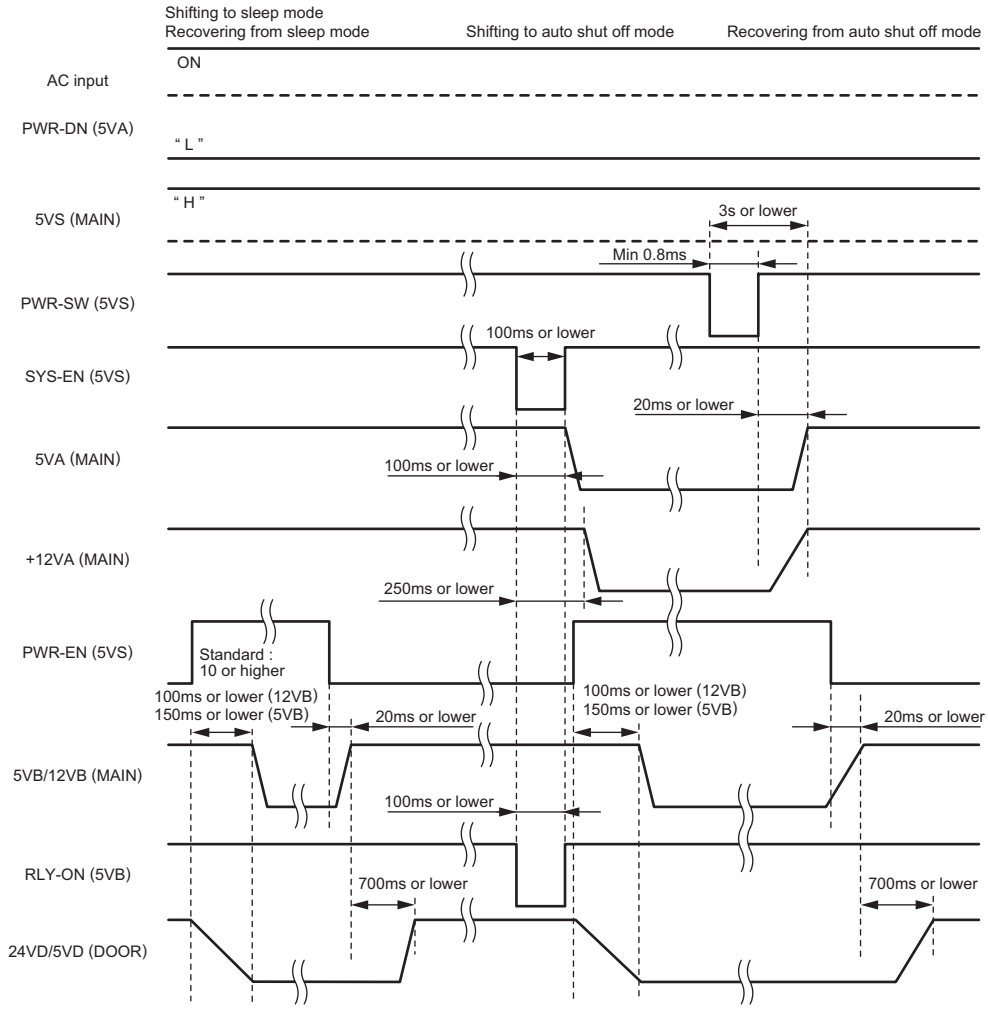

Fig. 17-3

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17.7 AC Wire Harness

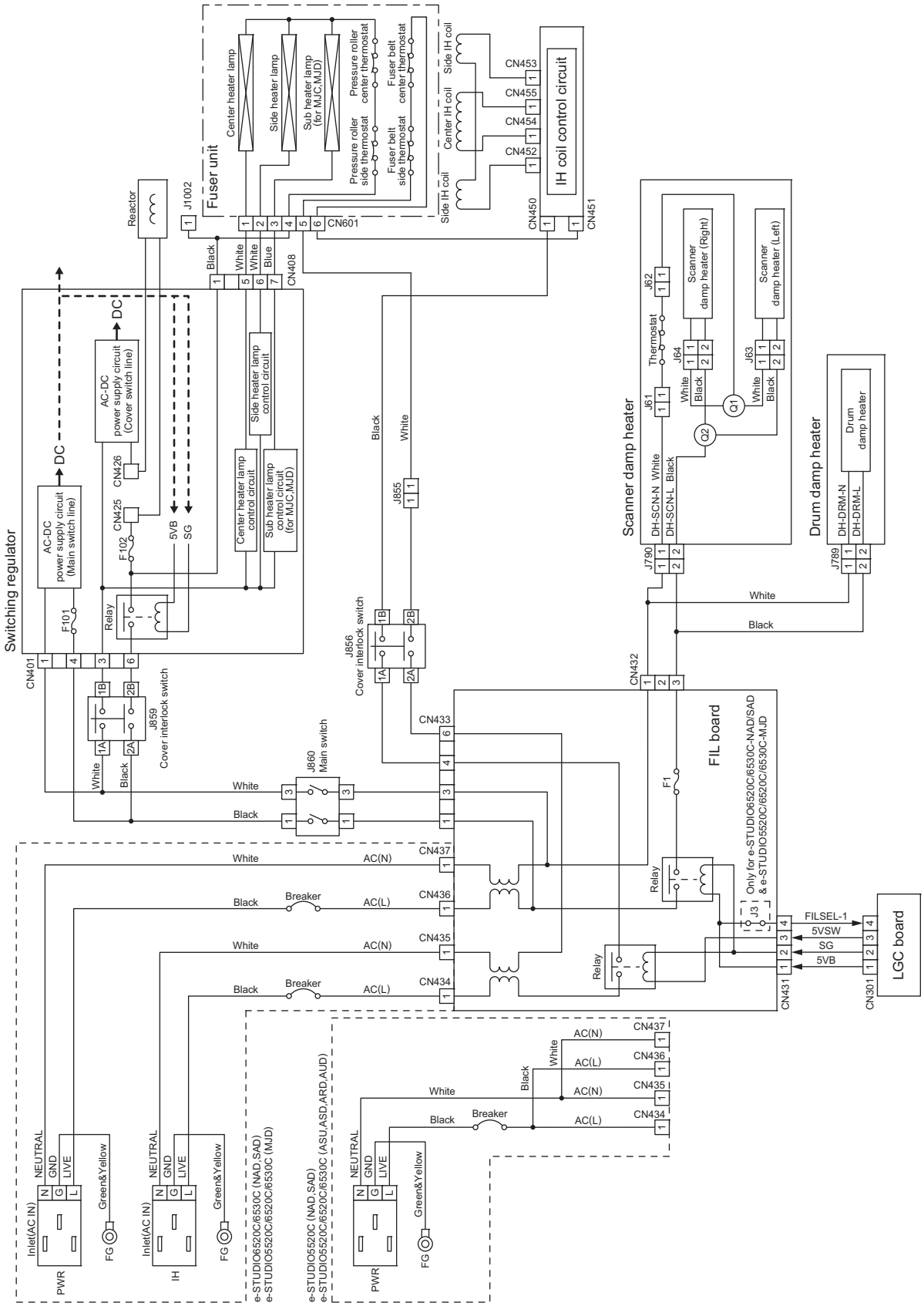

Fig. 17-4

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18. PREVENTIVE MAINTENANCE (PM)

18.1 General Description

The purpose of preventive maintenance (PM) is to maintain the quality level of this equipment by periodically inspecting and cleaning this equipment and also replacing the parts whose replacement timing has come according to the maintenance contract. There are PM kits packaged for each unit or a group of parts with the same replacement number of output pages, allowing you to carry out efficient parts replacement.
Also to maintain the quality level of the equipment, overhauling is required when a specified number of pages has been printed or when a specified period of time has passed, regardless of the number of output pages.

18.2 PM Display

18.2.1 General Description

The maintenance timing for the PM parts of the process unit, such as the drum and main charger needle, and the PM parts of the units other than the process unit, such as the 2nd transfer roller and fuser belt varies depending on the conditions of the use, such as the ratio of color/black printing. Therefore, this equipment shows the appropriate maintenance timing of each part on the control panel LCD.

18.2.2 PM Display Conditions

The conditions of the PM display consist of the codes of the setting mode (08) for “the setting value treated as a threshold of the PM display”, “the counter indicating the current number of prints and driving time” and “the setting value which determines the display conditions”.
The PM timing is displayed when the counter exceeds the setting value according to the display condition based on “the setting value which determines the display conditions”.

- Setting value treated as a threshold of the PM display

  Note:
  When “0” is entered as the setting value, PM timing is not displayed.

  08-251 : Setting value of PM counter [process unit (K)]
  08-375 : Setting value of PM time counter [process unit (K)]
  08-6192 : Setting value of PM counter [process unit (Y)]
  08-6193 : Setting value of PM time counter [process unit (Y)]
  08-5550 : Setting value of PM counter [process unit (M)]
  08-5551 : Setting value of PM time counter [process unit (M)]
  08-5552 : Setting value of PM counter [process unit (C)]
  08-5553 : Setting value of PM time counter [process unit (C)]
  08-5562 : Setting value of PM counter [parts other than the PM parts of the process unit]
  08-5563 : Setting value of PM time counter [parts other than the PM parts of the process unit]

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- Counter indicating the current number of prints and driving time
  - 08-252 : Current value of PM counter [process unit (K)]
  - 08-376 : Current value of PM time counter [process unit (K)]
  - 08-6196 : Current value of PM counter [process unit (Y)]
  - 08-6197 : Current value of PM time counter [process unit (Y)]
  - 08-5564 : Current value of PM counter [process unit (M)]
  - 08-5565 : Current value of PM time counter [process unit (M)]
  - 08-5566 : Current value of PM counter [process unit (C)]
  - 08-5567 : Current value of PM time counter [process unit (C)]
  - 08-5576 : Current value of PM counter [parts other than the PM parts of the process unit]
  - 08-5577 : Current value of PM time counter [parts other than the PM parts of the process unit]

- Setting value which determines the display conditions
  - 08-223 : Switching of output pages/driving counts at PM [process unit (K)]
  - 08-5578 : Switching of output pages/driving counts at PM [process unit (Y)]
  - 08-5579 : Switching of output pages/driving counts at PM [process unit (M)]
  - 08-5580 : Switching of output pages/driving counts at PM [process unit (C)]
  - 08-5585 : Switching of output pages/driving counts at PM [parts other than the PM parts of the process unit]

18.2.3 PM Display Contents

When the counter value exceeds the setting value, the equipment notifies you of when the maintenance time has come by displaying the message “Time for periodic maintenance ****” on the control panel LCD. “****” in the message is a 4-digit hexadecimal number code. This number is allocated in the following manner, therefore the parts needing maintenance can be identified.

PM parts of the process unit (K)	: 0008
PM parts of the process unit (Y)	: 0001
PM parts of the process unit (M)	: 0002
PM parts of the process unit (C)	: 0004
Parts other than the PM parts of the process unit	: 0100

If multiple parts have reached the maintenance time, the sum of the corresponding code values listed above is displayed in hexadecimal numbers.

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For example, if the peripheral parts of the process units (K) and (C) reach the maintenance time, the 4-digit hexadecimal number code will be “000C” in hexadecimal numbers: 0008+0004=000C.

4th digit	3rd digit		2nd digit		1st digit	
None	Part (transfer roller)		Developer material		Photoconductive drum	
	Hexadecimal number code	Explanation	Hexadecimal number code	Explanation	Hexadecimal number code	Explanation
Always “0”	0	No maintenance required	0	No maintenance required	0	No maintenance required
	1	Maintenance required	1	Y	1	Y
			2	M	2	M
			3	M+Y	3	M+Y
			4	C	4	C
			5	Y+C	5	Y+C
			6	C+M	6	C+M
			7	Y+M+C	7	Y+M+C
			8	K	8	K
			9	K+Y	9	K+Y
			A	K+M	A	K+M
			B	K+M+Y	B	K+M+Y
			C	K+C	C	K+C
			D	K+Y+C	D	K+Y+C
			E	K+C+M	E	K+C+M
			F	K+Y+M+C	F	K+Y+M+C

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18.2.4 Counter Clearing

The counter indicating “current number of prints and driving time” used for the PM display function is reset by entering “0” in it or clearing it in the PM support mode.

Note:
Even if “0” is entered in the PM management setting value of the setting mode (08), the corresponding counter for the PM display is not reset. Be sure to clear the counter in the PM support mode when the maintenance is finished.

The reset condition of each counter is as follows:

- 08-252: Current value of PM counter [process unit (K)]
- 08-376: Current value of PM time counter [process unit (K)]
  When the current value of “CLEANER/DRUM/CHARGER (K)” on the main screen or “DRUM (K)” on the sub-screen in the PM support mode is cleared, the counter is reset.

- 08-6196: Current value of PM time counter [process unit (Y)]
- 08-6197: Current value of PM time counter [process unit (Y)]
  When the current value of “CLEANER/DRUM/CHARGER (Y)” on the main screen or “DRUM (Y)” on the sub-screen in the PM support mode is cleared, the counter is reset.

- 08-5564: Current value of PM counter [process unit (M)]
- 08-5565: Current value of PM time counter [process unit (M)]
  When the current value of “CLEANER/DRUM/CHARGER (M)” on the main screen or “DRUM (M)” on the sub-screen in the PM support mode is cleared, the counter is reset.

- 08-5566: Current value of PM counter [process unit (C)]
- 08-5567: Current value of PM time counter [process unit (C)]
  When the current value of “CLEANER/DRUM/CHARGER (C)” on the main screen or “DRUM (C)” on the sub-screen in the PM support mode is cleared, the counter is reset.

- 08-5576: Current value of PM counter [parts other than the PM parts of the process unit]
- 08-5577: Current value of PM time counter [parts other than the PM parts of the process unit]
  When the current value of “2nd TRANSFER” on the main screen or “2nd TRANSFER ROLLER” on the sub screen in the PM support mode is cleared, the counter is reset.

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18.3 General Descriptions for PM Procedure

(1) Preparation
- Ask the user about the current conditions of the equipment and note them down.
- Before starting maintenance, make some sample copies and store them.
- See the replacement record and check the parts to be replaced in the PM support mode (6S-2) or list printing mode (9S-103).
  6S-2 : [6] + [START] + [POWER] ON → [2] → [START]
  9S-103 : [9] + [START] + [POWER] ON → [103] → [START]

PM SUPPORT CODE LIST

MM-DD-YY HH:MM

UNIT	OUTPUT PAGES/ DEVELOP COUNTS	PM OUTPUT PAGE/ DEVELOP COUNTS	DRIVE COUNTS	PM DRIVE COUNTS
DRUM(K)	342	70000	4377	130000
DRUM BLADE(K)	342	70000	4377	130000
DRUM BRUSH(K)	342	70000	4377	130000
GRID(K)	342	70000	4377	130000
MAIN CHARGER NEEDLE(K)	342	70000	4377	130000
CHARGER CLEANING PAD(K)	177	70000	3681	130000

Fig. 18-1

- Turn OFF the power and make sure to unplug the equipment.

(2) Perform a preventive maintenance using the following checklist and illustrations.

(3) Plug in the equipment after the maintenance has been finished. Then turn ON the power and make some copies to confirm that the equipment is working properly.

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18.4 PM Support Mode

18.4.1 General Description

This equipment has a PM support mode which enables you to confirm the use status of each part (the number of output pages or developed pages, and drive counts) requiring periodic replacement and also the replacement record, as well as resetting counter values efficiently. This record can be printed out in the list print mode.

18.4.2 Operational flow

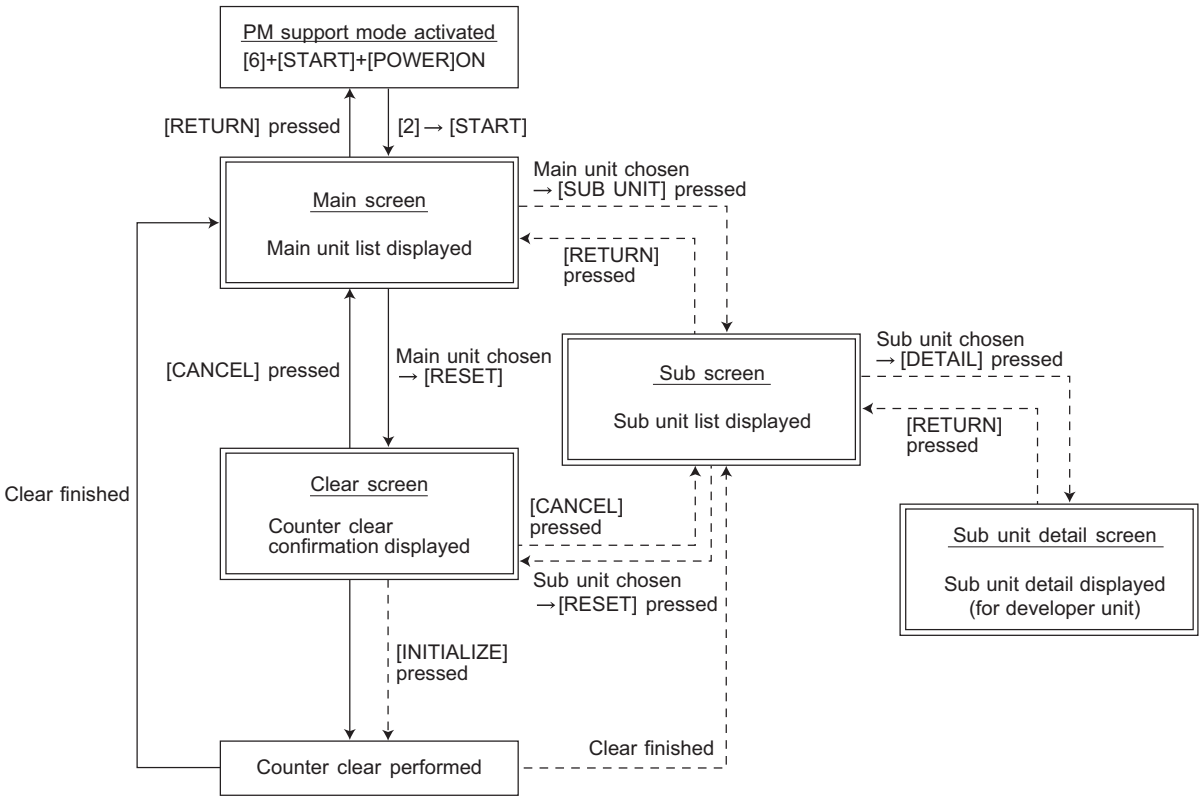

Fig. 18-2

* The screen goes back to the main screen when the counter clear is performed or the [CANCEL] button is pressed after moving from the main screen, while it goes back to the sub screen after moving from the sub screen.

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18.4.3 Operational screen

The description of the display (including the function of each button) on the LCD screen is shown below.

1. Main screen

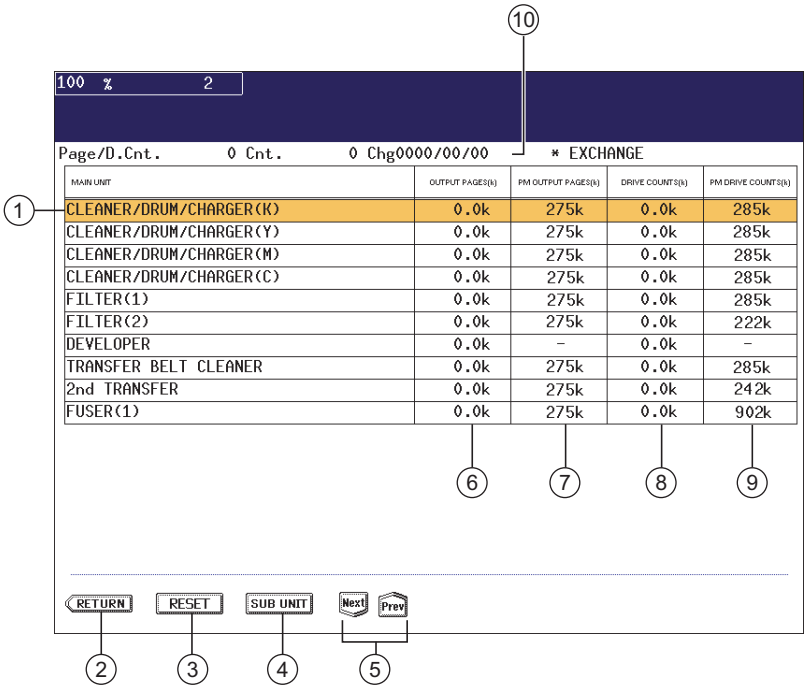

Fig. 18-3

① Displaying of the main unit name

② Back to the PM support mode activation screen

③ Moving to the clear screen to clear the selected unit counters ⑥ and ⑧, including all sub unit (parts) counters belonging to that unit When the unit is not selected, all counters are cleared.

④ Moving to the sub screen of the selected unit

⑤ Moving to the next/previous page

⑥ Displaying of the present number of printed / developed pages
When there are differences among the sub units (parts), "-" is displayed and "CHECK SUBUNIT" is displayed at the top
"*" is displayed next to the present number when the number of printed / developed pages has exceeded its PM standard number.

⑦ Displaying of the standard number of printed / developed pages to replace the unit parts

⑧ Displaying of the present drive counts
"*" is displayed next to the present number when the number of drive counts has exceeded its PM standard number.

⑨ Displaying of the standard number of drive counts to replace the unit parts

⑩ Displaying of the number of printed / developed pages (Page/D. cnt), drive counts (Cnt.) and previous replacement date (Chg.) for a chosen unit
When the replacement date for the sub unit is different, press the [SUB UNIT] button to move to the sub screen and see each information, otherwise information is not displayed

Notes:

1. "—" is always displayed at the drive counts section for the reversing automatic document feeder (RADF) and feed unit.
2. "—" is displayed at the numeric section for the paper source which is not installed since the paper source is different depending on the structure of options.

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2. Sub screen (for other than the developer unit)

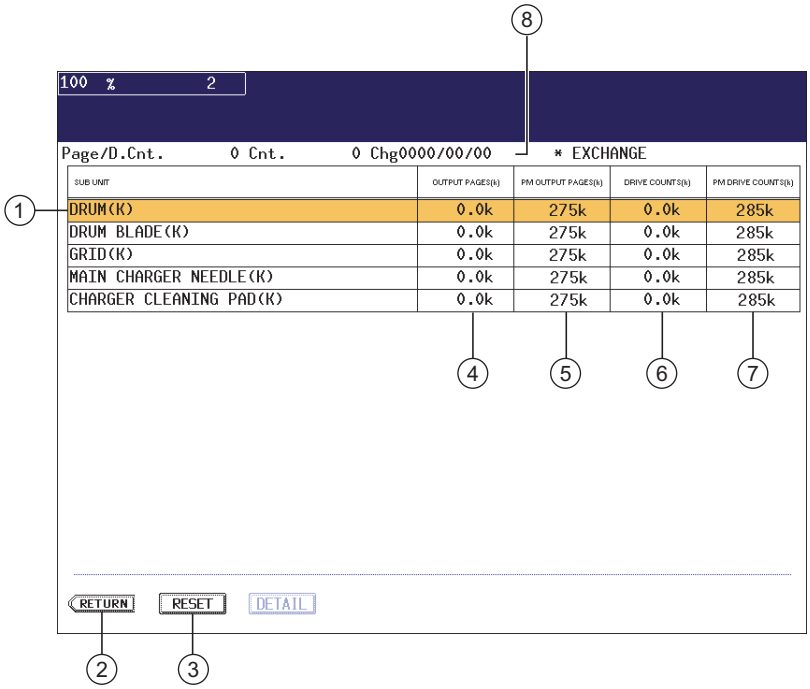

Fig. 18-4

① Displaying of the sub unit (parts) name

② Back to the main screen

③ Moving to the clear screen to clear the selected unit (parts) counters

④ Displaying of the present number of printed / developed pages
"*" is displayed next to the present number when the number of printed / developed pages has exceeded its PM standard number.

⑤ Displaying of the standard number of printed / developed pages to replace the sub unit (parts)

⑥ Displaying of the present drive counts
"*" is displayed next to the present number when the number of drive counts has exceeded its PM standard number.

⑦ Displaying of the standard number of drive counts to replace the sub unit (parts)

⑧ Displaying of the number of printed / developed pages and drive counts and previous replacement date for a chosen sub unit

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3. Sub screen (for the developer unit)

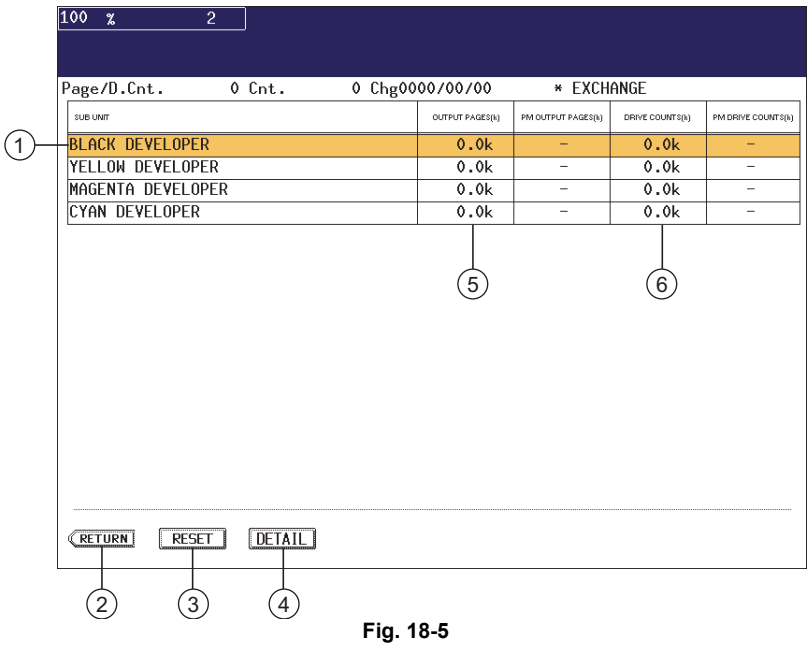

Fig. 18-5

① Displaying of the sub unit (parts) name

② Back to the main screen

③ Moving to the clear screen to clear the selected unit (parts) counters
Be sure to clear the counter after the selected sub unit (developer) is replaced.

④ Moving to the sub unit detail screen of the developer unit

⑤ Displaying of the present number of print / developer pages

⑥ Displaying of the present drive counts

Note:
"—" is displayed since there is no standard number in the number of printed / developed pages and drive count.

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4. Sub unit detail screen (for the developer material)

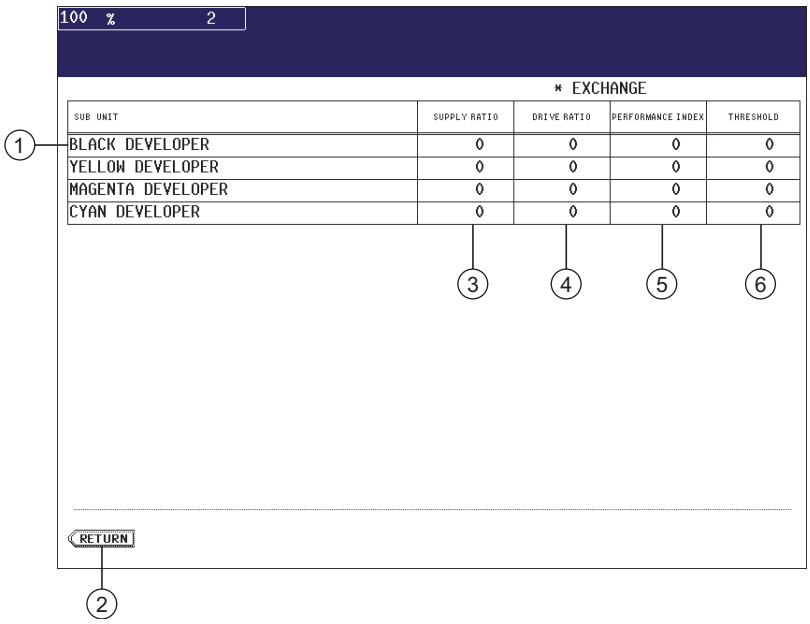

Fig. 18-6

① Displaying of the sub unit (parts) name

② Back to the sub unit screen

③ Displaying of the present number of supply ratio

④ Displaying of the present number of drive ratio

⑤ Displaying of the present number of performance index
"*" is displayed next to the present number of the performance index if it has exceeded its threshold number.

⑥ Displaying of the threshold number of performance index

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5. Clear screen

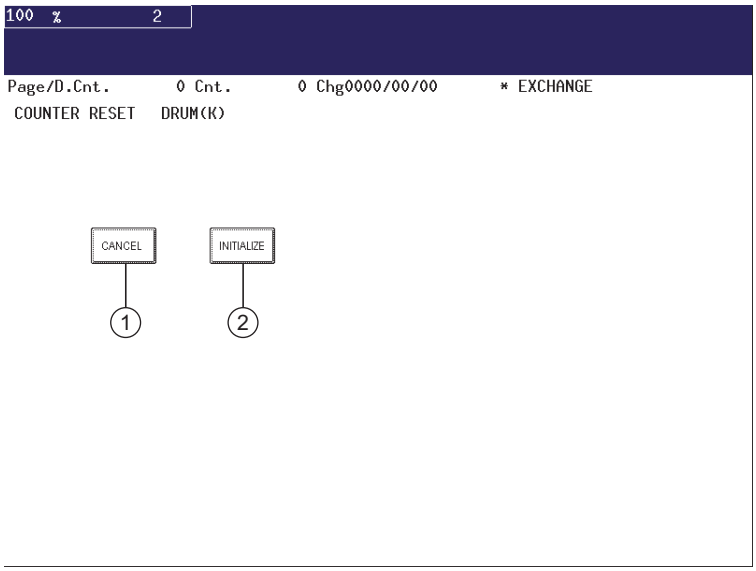

Fig. 18-7

① When the [CANCEL] button is pressed, the counter is not cleared and the display returns to the main or sub screen.

② When the [INITIALIZE] button is pressed, “Present number of printed / developed pages” and Present driving counts” are cleared and “Previous replacement date” is updated.

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18.4.4 Access tree

The relation between the main unit and the sub unit is shown below.

Note:

Some parts in this manual are described with different names on the LCD screen. In this case, the name in this manual is indicated in square brackets [ ].

Main screen	Sub-screen
CLEANER/DRUM/CHARGER (K) [Process unit (K)]	DRUM (K) DRUM BLADE (K) [Drum cleaning blade] GRID (K) [Main charger grid] MAIN CHARGER NEEDLE (K) [Needle electrode] CHARGER CLEANING PAD (K) [Needle electrode cleaner]
CLEANER/DRUM/CHARGER (Y) [Process unit (Y)]	DRUM (Y) DRUM BLADE (Y) [Drum cleaning blade] GRID (Y) [Main charger grid] MAIN CHARGER NEEDLE (Y) [Needle electrode] CHARGER CLEANING PAD (Y) [Needle electrode cleaner]
CLEANER/DRUM/CHARGER (M) [Process unit (M)]	DRUM (M) DRUM BLADE (M) [Drum cleaning blade] GRID (M) [Main charger grid] MAIN CHARGER NEEDLE (M) [Needle electrode] CHARGER CLEANING PAD (M) [Needle electrode cleaner]
CLEANER/DRUM/CHARGER (C) [Process unit (C)]	DRUM DRUM BLADE (C) [Drum cleaning blade] GRID (C) [Main charger grid] MAIN CHARGER NEEDLE (C) [Needle electrode] CHARGER CLEANING PAD (C) [Needle electrode cleaner]
FILTER 1	OZONE FILTER 1
FILTER 2	TONER FILTER OZONE FILTER 2
DEVELOPER	BLACK DEVELOPER [Developer material K] YELLOW DEVELOPER [Developer material Y] MAGENTA DEVELOPER [Developer material M] CYAN DEVELOPER [Developer material C]
TRANSFER BELT CLEANER [Transfer belt cleaning unit]	BELT BLADE [Transfer belt cleaning blade] CLEANING PAD [2nd transfer facing roller cleaning pad]
2nd TRANSFER	2nd TRANSFER ROLLER 2nd TRANSFER BLADE [2nd transfer roller cleaning blade] 2nd TRANSFER TONER BAG 2nd TRANSFER LUBRICANT UNIT
FUSER (1)	FUSER ROLLER FUSER BELT FUSER BELT GUIDE
FUSER (2)	PRESS ROLLER PRESS ROLLER FINGER
1st CST. [1st drawer]	PICK UP ROLLER (1st CST.) FEED ROLLER (1st CST.) SEP ROLLER (1st CST.) [Separation roller]
2nd CST. [2nd drawer]	PICK UP ROLLER (2nd CST.) FEED ROLLER (2nd CST.) SEP ROLLER (2nd CST.) [Separation roller]
3rd CST. [3rd drawer]	PICK UP ROLLER (3rd CST.) FEED ROLLER (3rd CST.) SEP ROLLER (3rd CST.) [Separation roller]

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Main screen	Sub-screen
4th CST. [4th drawer]	PICK UP ROLLER (4th CST.) FEED ROLLER (4th CST.) SEP ROLLER (4th CST.) [Separation roller]
SFB [Bypass unit]	PICK UP ROLLER (SFB) FEED ROLLER (SFB) SEP ROLLER (SFB) [Separation roller]
T-LCF [Tandem LCF]	PICK UP ROLLER (T-LCF) FEED ROLLER (T-LCF) SEP ROLLER (T-LCF) [Separation roller]
O-LCF [Option LCF]	PICK UP ROLLER (O-LCF) FEED ROLLER (O-LCF) SEP ROLLER (O-LCF) [Separation roller]
RADF	PICK UP ROLLER (RADF) FEED ROLLER (RADF) SEP ROLLER (RADF) [Separation roller]

Note:

When the counter value of any of the pickup roller, feed roller and separation roller in each unit is reset, the value of the feeding retry counter is also reset simultaneously. When the [RESET] button is pressed after selecting the feed unit in the Main Screen, the value of the feeding retry counter is also reset simultaneously.

The feeding retry counter:

- 1st drawer Reset the feeding retry counter (08-1390)
- 2nd drawer Reset the feeding retry counter (08-1391)
- 3rd drawer Reset the feeding retry counter (08-1392)
- 4th drawer Reset the feeding retry counter (08-1393)
- Bypass unit Reset the feeding retry counter (08-1394)
- T-LCF Reset the feeding retry counter (08-1395)
- O-LCF Reset the feeding retry counter (08-1402)

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18.5 General Description

The life span of the parts changes depending on their general use, such as the ratio of the color/black printing or the adjustment for keeping the printing quality. Therefore, it is necessary to consider not only the number of printed/developed pages but also the drive counts when deciding the timing for parts replacement. Even if the number of printed / developed pages has reached the level of replacement, for instance, the part may still be usable with its drive counts not reaching the specified drive counts. On the other hand, the part may need replacement even if the number of printed / developed pages has not reached the level of replacement with its driving time exceeding the specified drive counts. The life span of some parts such as feed roller is heavily dependent on the number of output pages rather than the drive counts.
The following work flow diagram shows how to judge the timing of replacement with the number of printed / developed pages.

Example 1:
When the number of printed / developed pages has reached the specified level

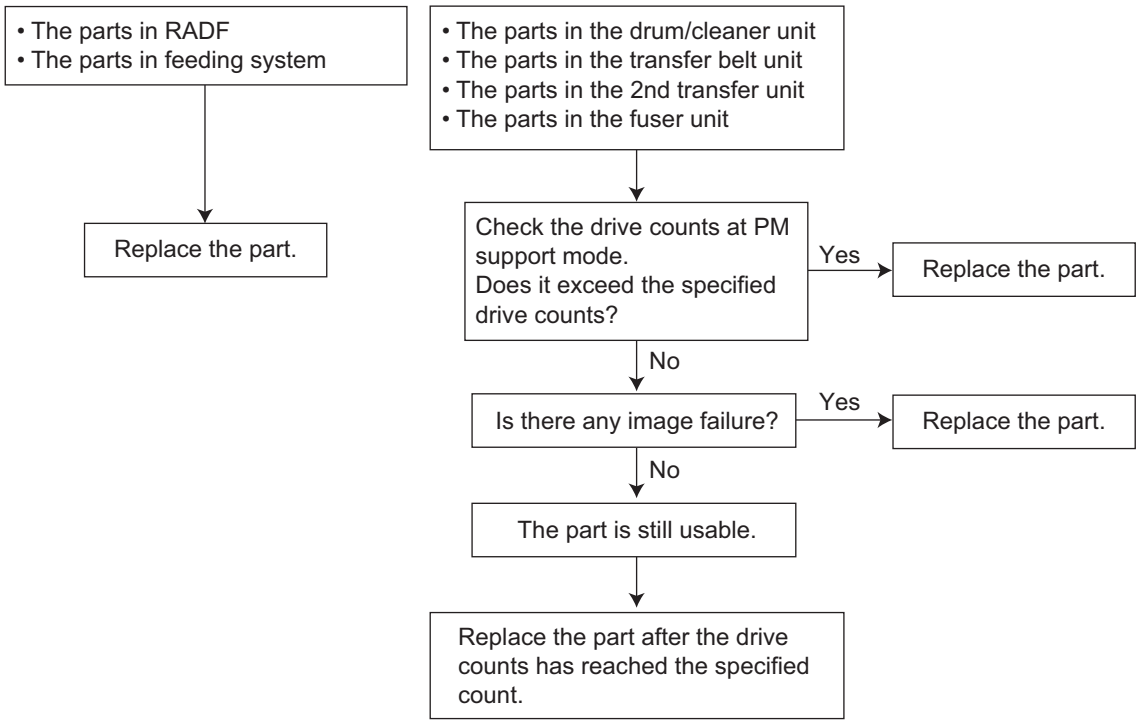

Fig. 18-8

Example 2:
When the image failure occurred before the number of printed / developed pages has reached the specified level

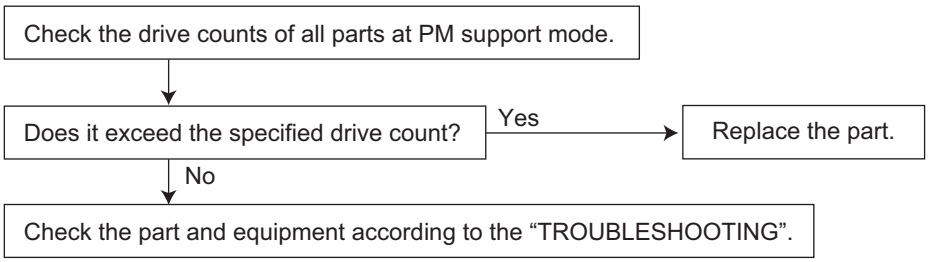

Fig. 18-9

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Example 3:
When the performance index of the developer exceeds its threshold number

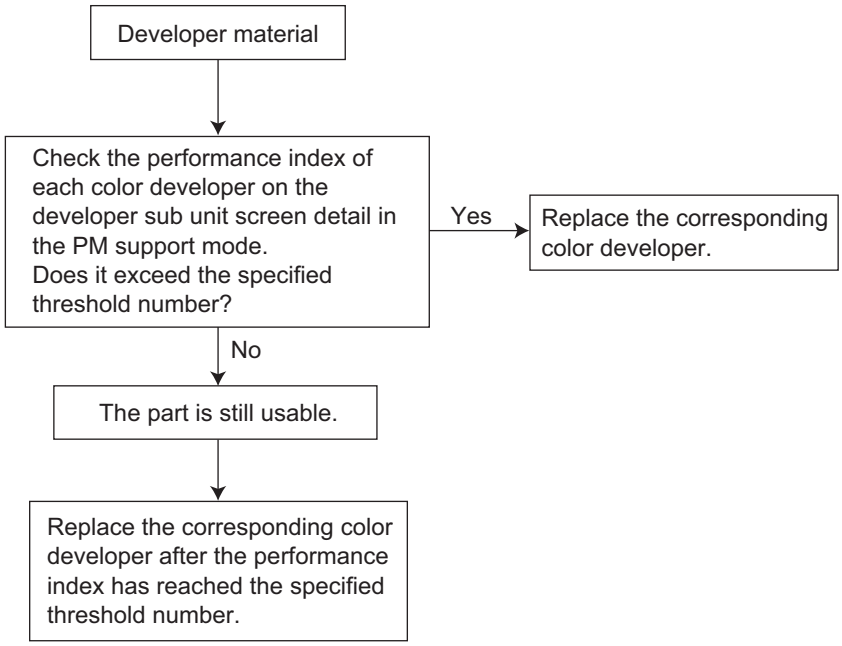

Fig. 18-10

Example 4:
When an image failure occurs though the performance index does not exceed the threshold number

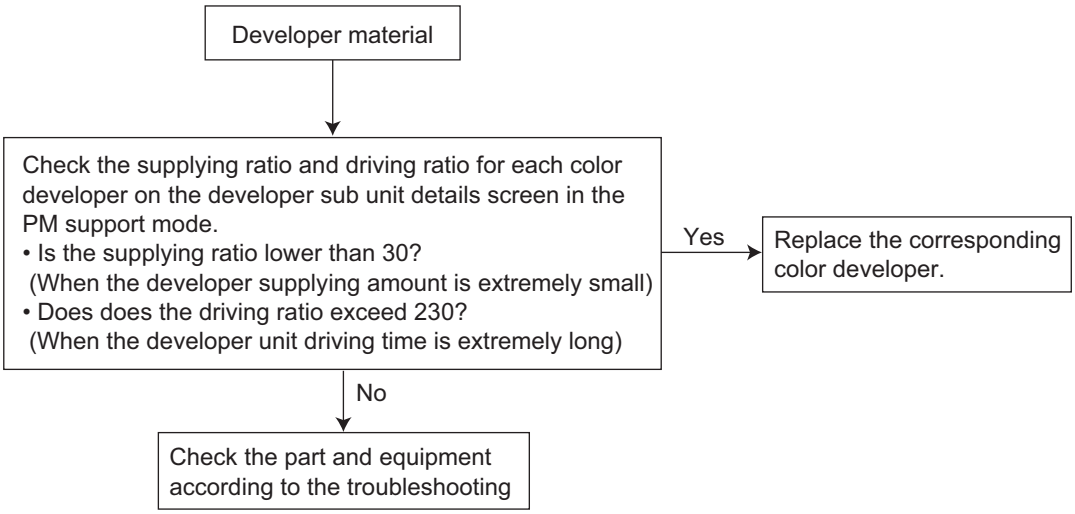

Fig. 18-11

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18.6 Preventive Maintenance Checklist

Symbols/value used in the checklist

Cleaning	Lubrication/Coating	Replacement	Operation check
A: Clean with alcohol B: Clean with soft pad, cloth or vacuum cleaner	L: Launa 40 SI: Silicon oil W1: White grease (Molykote EM-30L) W2: White grease (Molykote HP-300) AV: Alvania No.2 FL: Floil (GE-334C)	Value: Replacement cycle R: Replace if deformed or damaged	O: After cleaning or replacement, confirm there is no problem.

Notes:

1. Perform cleaning and lubricating in the following timing. Lubricate the replacement parts according to the replacement cycle.

Model name	Black	Full color
e-STUDIO5520C	every 225,000 sheets	every 225,000 sheets
e-STUDIO6520C	every 250,000 sheets	every 250,000 sheets
e-STUDIO6530C	every 275,000 sheets	every 275,000 sheets

2. The value in the “Replacement” field of the table below indicates the replacement number of output pages in either the black or the full color mode. If they differ according to the model, they are indicated in the order of the e-STUDIO5520C, e-STUDIO6520C and e-STUDIO65300C.
3. The replacement cycle of the parts in the feeding section equals to the number of sheets fed from each paper source.
4. Be careful not to put oil on the rollers, belts and belt pulleys when lubricating.
5. Parts list <P-I> represents the page item in “e-STUDIO5520C/6520C/6530C Service Parts List”.
6. Check if the toner supply opening of each sub-hopper, the shutter of the waste toner box and the entrance of the waste toner transport path are dirty every time you pull out the process unit or take off the drum cleaner unit or the developer unit. Clean them if required.
7. When the entire drum cleaner unit is replaced, install the color chips of the old unit to the new drum cleaner unit.
8. When you pull out the process unit and then set it back to the equipment, perform the code 05-2416 (forcible mixing in the developer unit) from 20 to 30 seconds to mix the developer material.

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18.6.1 Scanner

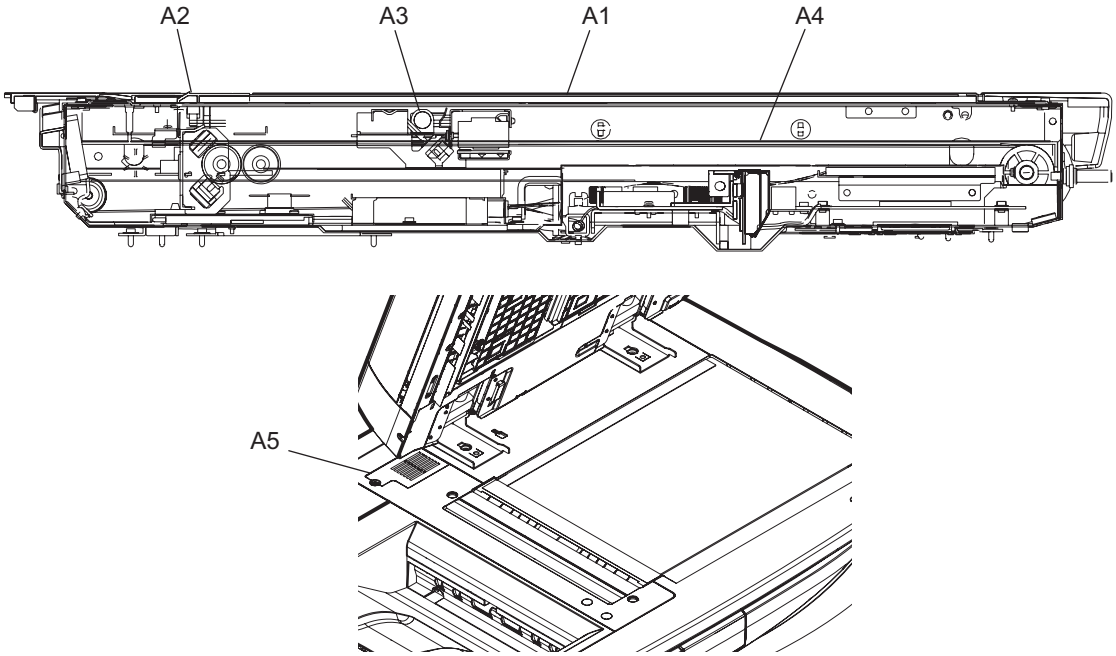

Fig. 18-12

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
A1	Original glass	B					51-15
A2	RADF original glass	B					51-18
A3	Exposure lamp			R	R	O	52-9
A4	Slide sheet (front and rear)			R	R		
A5	Filter cover	B					1-36

* A1: Original glass, A2: ADF original glass
Clean both sides of the original glass and ADF original. Make sure that there is no dust on the mirrors-1, -2, -3 and lens after cleaning. Then install the original glass and ADF original glass.

Note:
Make sure that there is no fingerprints or oil staining on part of the original glass on where the original scale is mounted since the shading correction plate is located below the scale to be scanned.

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18.6.2 Feed unit

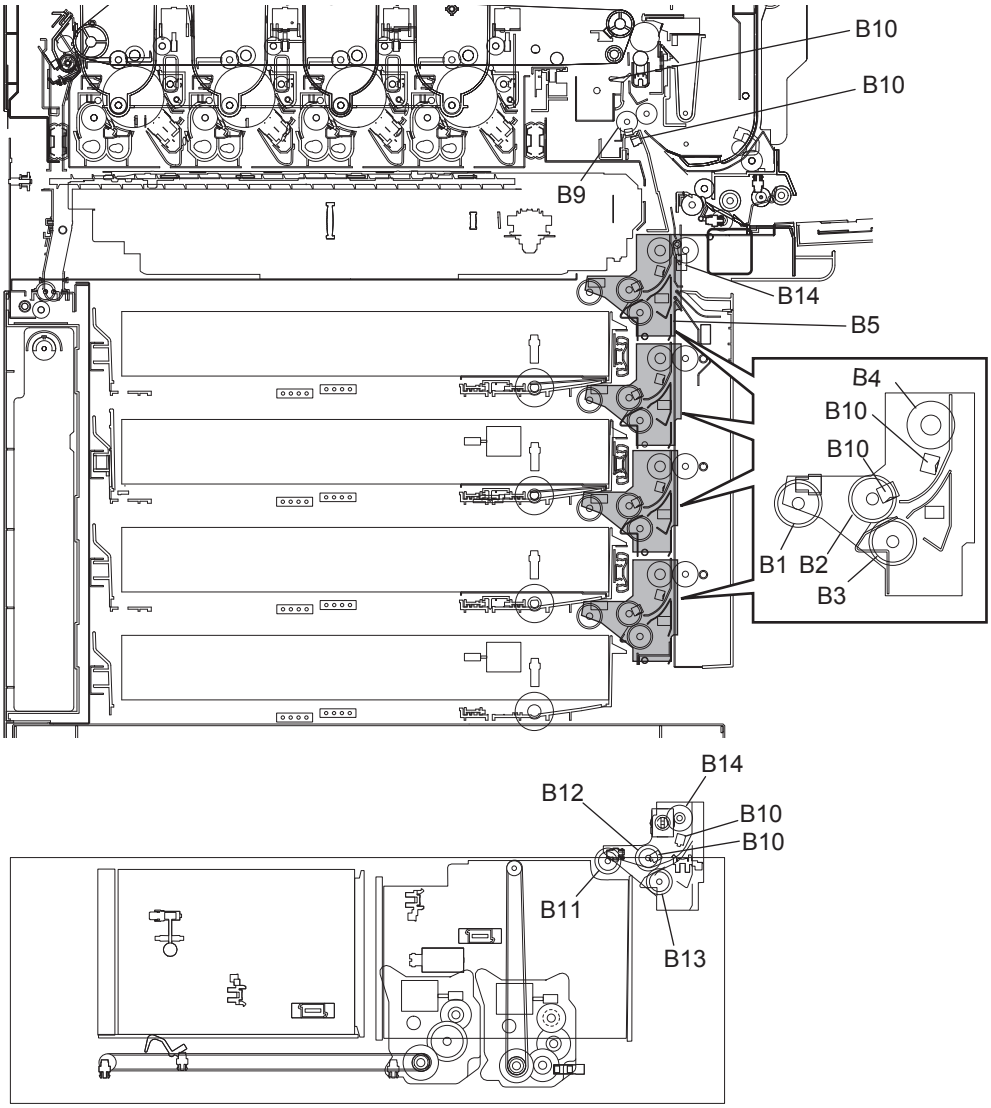

Fig. 18-13

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Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
B1	Pickup roller			200	-		11-36
B2	Feed roller			200	-		11-36
B3	Separation roller			200	-		11-35
B4	Transport roller	A		R	R		11-22
B5	Paper guide	B					
B6	Drive gear (tooth face and shaft)		W1				
B7	GCB bushing bearing		L				
B8	One side of the plastic bushing to which the shaft is inserted		W1				
B9	Registration roller (metal)	A		R	R		10-1
B10	Sensor section	A					
B11	Pickup roller (Tandem LCF)	A		400	-		11-36
B12	Feed roller (Tandem LCF)	A		400	-		11-36
B13	Separation roller (Tandem LCF)	A		400	-		11-35
B14	Transport roller (Tandem LCF)	A		R	R		11-22

* B6: Drive gear

Apply some white grease (Molykote EM-30L) to the teeth of gears and shafts of the drive gears.

Note:

Make sure that oil is not running over or scattered around as the gear is rotated coming into the clutch after applying molykote to the gear which is located near the clutch. The quantity of molykote should be smaller than that to be applied to the other parts.

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18.6.3 Duplexing unit

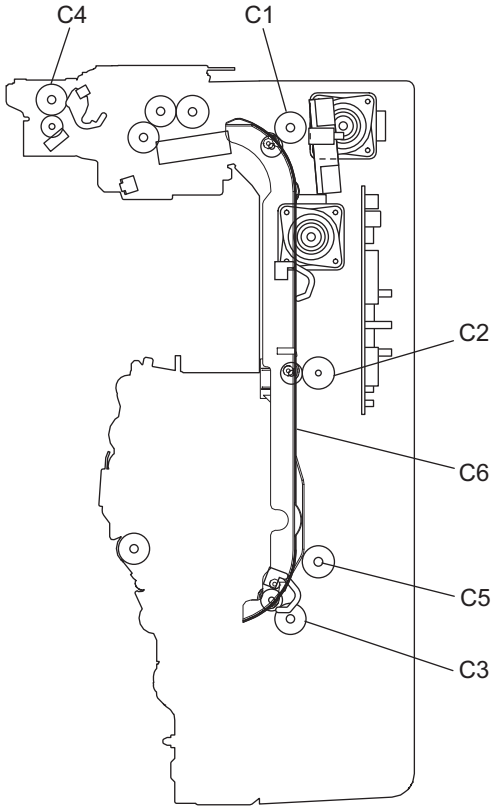

Fig. 18-14

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
C1	ADU transport roller 1	A		R	R		18-6
C2	ADU transport roller 2	A		R	R		18-5
C3	ADU transport roller 3	A		R	R		18-7
C4	Duplexing bridge transport roller	A		R	R		20-12
C5	Pulley stud		W1				
C6	Paper guide	B					19-2

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18.6.4 Bypass feed unit

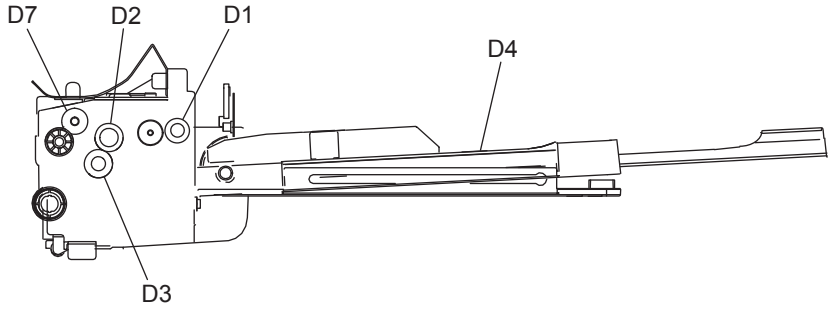

Fig. 18-15

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
D1	Pickup roller			100	-		15-15
D2	Feed roller			100	-		15-10
D3	Separation roller		AV, W2	100	-		16-43
D4	Bypass tray	B					17-5
D5	Drive gear (shaft)		W1				
D6	GCB bushing bearing		L				
D7	Transport roller	A		R	R		15-8

* D3: Separation roller

Apply an even coat of grease (Alvania No.2) to all round the inside of the spring.
When replacing the separation roller, apply 1 rice-sized grain of white grease (Molykote HP-300) on the places of the holder shown in the figure (4 places).

Note:

Make sure that the grease does not adhere to the roller surface. Wipe it off with alcohol if adhered.

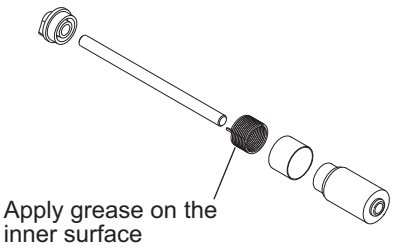

Fig. 18-16

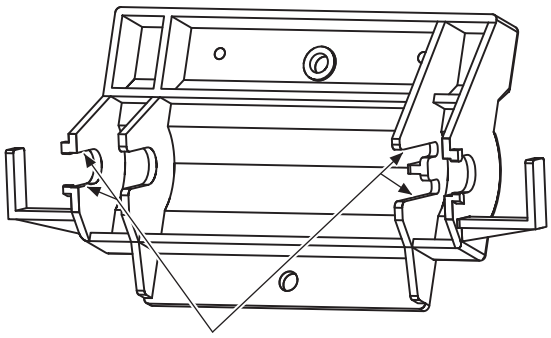

Fig. 18-17

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18.6.5 Main charger

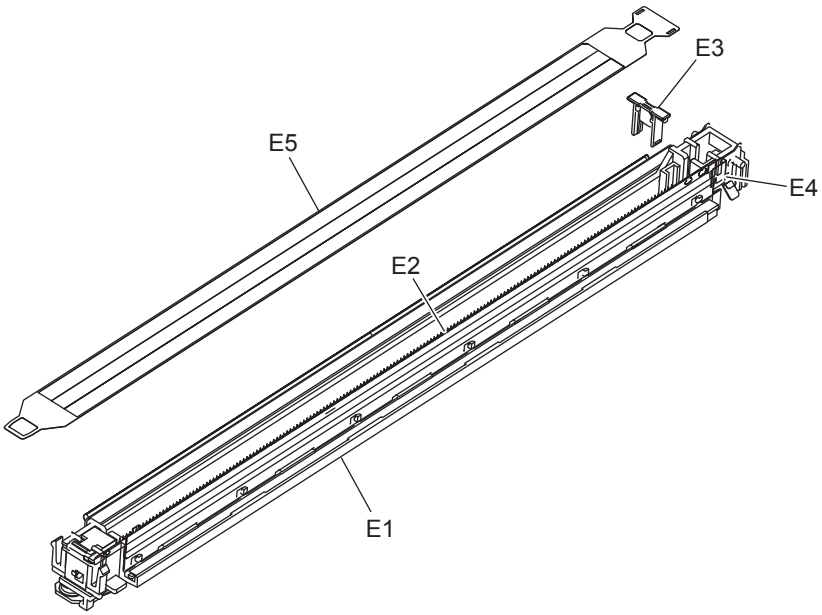

Fig. 18-18

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
E1	Main charger case	B					64-1
E2	Needle electrode			225/250/275	285	O	64-13
E3	Needle electrode cleaner			225/250/275	285	O	64-16
E4	Contact point of terminals	B					64-2
E5	Main charger grid			225/250/275	285	O	64-17

* E1: Main charger case
Clean the main charger case with a cloth soaked in water and squeezed tightly, and then wipe them with a dry cloth.

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18.6.6 Drum / Cleaner unit / Filter

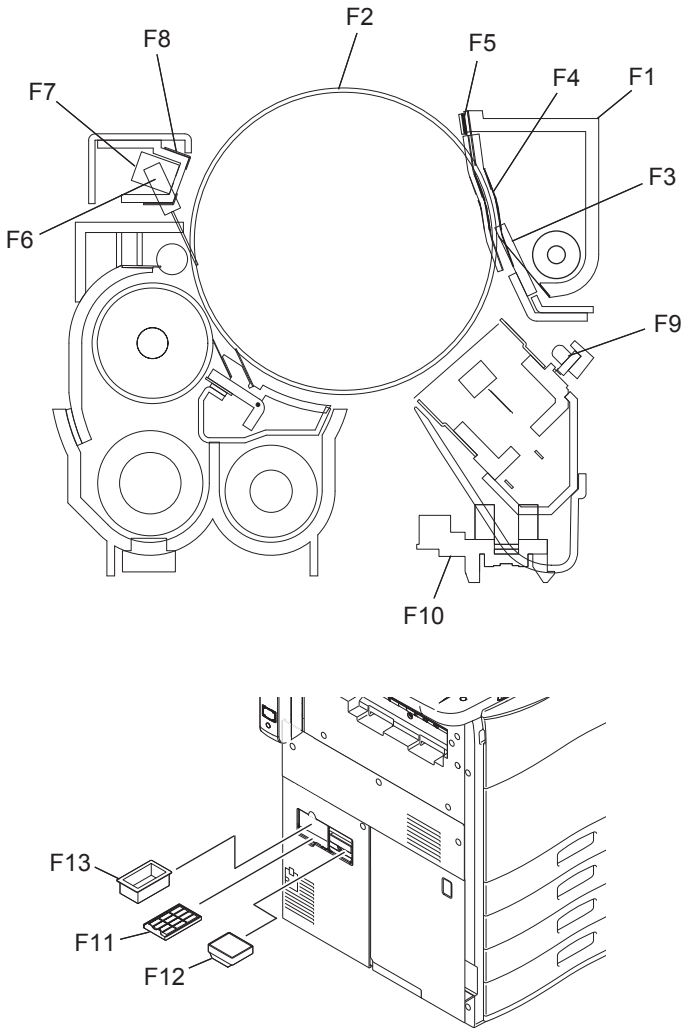

Fig. 18-19

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Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
F1	Whole cleaner unit	B					
F2	Drum			225/250/275	285		203-1
F3	Drum cleaning blade			225/250/275	285		63-21
F4	Blade side seal			225/250/275	285		63-23
F5	Recovery blade	B		R	R		63-25
F6	Drum thermistor	B					59-27
F7	Drum surface potential (V0) sensor	B					59-22
F8	Drum surface potential (V0) sensor shutter	B					59-24
F9	Discharge LED	B					64-20
F10	Needle electrode cleaner detection sensor	B					59-4
F11	Ozone filter-1			225/250/275	285		49-14
F12	Ozone filter-2			225/250/275	222		49-4
F13	Toner filter			225/250/275	222		49-11

* F1: Whole cleaner unit

Remove any toner on the waste toner section of the drum cleaner unit and the upper section of the EPU tray toner duct.

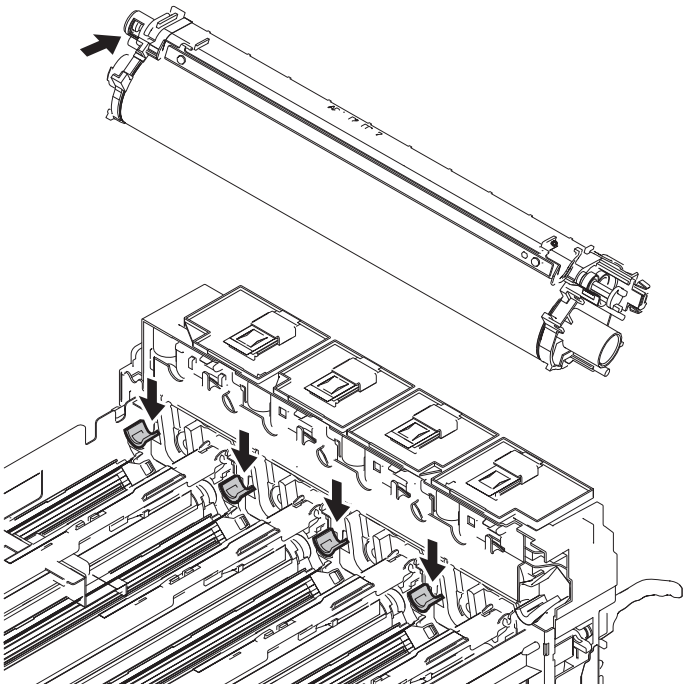

Fig. 18-20

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* F2: Drum
  - Handling precautions
    If fingerprints or oil adhere to the surface of the drum, its properties may degrade, affecting the quality of the copy image. So, wear gloves to avoid touching the drum surface with your bare hands. Be sure to handle the drum carefully when installing and removing it so as not to damage its surface.
    After you installed the process unit to the equipment, there may be grease at the inner side of the drum flange (shown as “B” in the figure below) that was transferred from the drum coupling. So hold the levers (shown as “A” in the figure below) when you hold the drum or the drum cleaner unit. Do not hook your finger on the flange hole on the rear side.

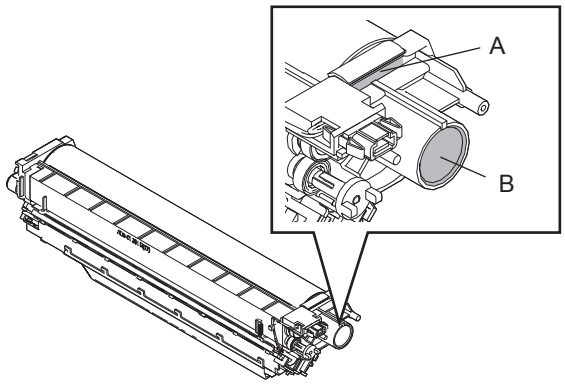

Fig. 18-21

  - Clearing the drum counter
    When the drum has been replaced with a new one, the drum counter for the new drum (K, Y, M, C) must be cleared to 0 (zero). This clearing can be performed in PM support mode.

    - Drum counter
    Drum (K): 08-1150-0, 3, 6, 7
    Drum (Y): 08-1152-0, 3, 6, 7
    Drum (M): 08-1154-0, 3, 6, 7
    Drum (C): 08-1156-0, 3, 6, 7

  - Storage location of drums
    The drum should be stored in a dark place where the ambient temperature is between 10°C to 35°C (no condensation). Be sure to avoid places where drums may be subjected to high humidity, chemicals and/or their fumes.
    Do not place the drum in a location where it is exposed to direct sunlight or high intensity light such as near a window. Otherwise the drum will fatigue, and will not produce sufficient image density immediately after being installed in the equipment.

  - Cleaning the drum
    At periodic maintenance calls, wipe the entire surface of the drum clean using the designated cleaning cotton. Note that there is no need to clean the surface of the new drum unless there is a problem. Use sufficiently thick cleaning cotton (dry soft pad) so as not to scratch the drum surface inadvertently with your fingertips or nails. Also, remove your rings and wristwatch before starting cleaning work to prevent accidental damage to the drum.
    Do not use alcohol, selenium refresher and other organic solvents or silicon oil as they will have an adverse effect on the drum.
    Also clean the doctor blade when the drum is being replaced.

  - Scratches on drum surface
    If the surface is scratched in such a way that the aluminum substrate is exposed, no copy image will be produced on this area. In addition, the cleaning blade will be damaged so replacement with a new drum will be necessary.

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- Collecting used drums
  If the surface is scratched in such a way that the aluminum substrate is exposed, no copy image will be produced on this area. In addition, the cleaning blade will be damaged so replacement with a new drum will be necessary.

* F3: Drum cleaning blade

- Handling precautions
  Pay attention to the following points as the cleaning blade life is determined by the condition of its edge. Since the edge of the blade is vulnerable and can be easily damaged by factors such as the adherence of paper dust.
  - Do not allow hard objects to hit or rub against blade edge.
  - Do not rub the edge with a cloth or soft pad.
  - Do not leave oil (or fingerprints, etc.) on the edge.
  - Do not apply solvents such as paint thinner to the blade.
  - Do not allow paper fibers or dirt to contact the blade edge.
  - Do not place the blade near a heat source.

- Cleaning procedure
  Clean the blade edge with a cloth moistened with water and squeezed lightly.
  Replace the cleaning blade with new ones if poor images are copied due to the damaged blade regardless of the number of output pages which have been made

* F4: Blade side seal

Be sure to attach the blade side seals according to the criteria in the figure below.
Part A: Pay attention to the following. If the blade is caught by the side seal or comes up on to it, the blade may turn up. If the gap between the blade and the side seal is too wide, this will cause toner scattering.
Part B:Be sure not to have any gap since it would cause toner scattering.

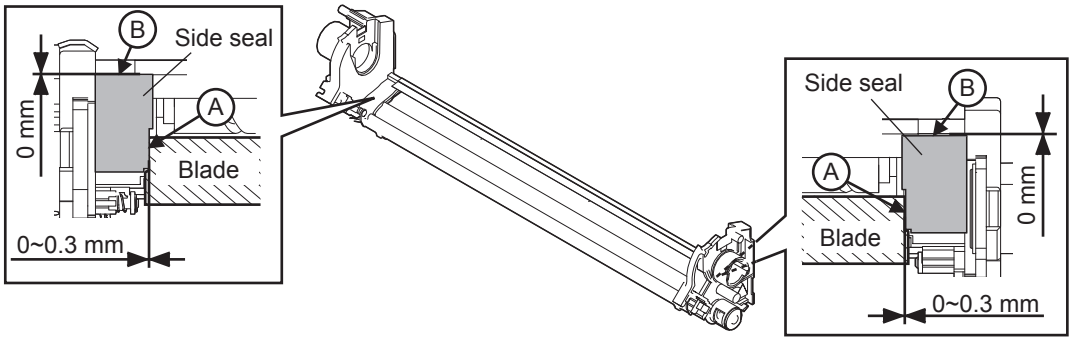
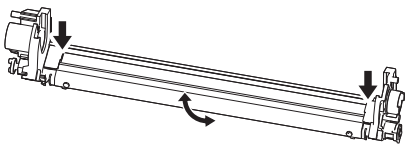


Fig. 18-22

After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.



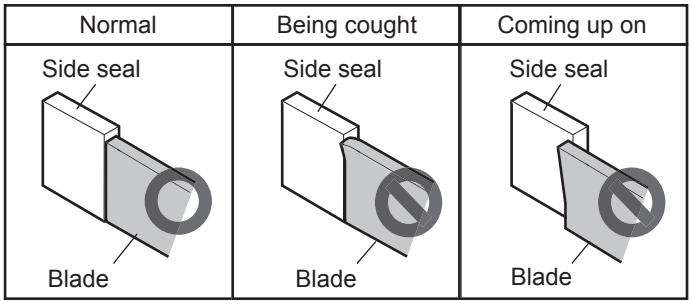


Fig. 18-23

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* F5: Recovery blade
  Clean the surface of the recovery blade with a soft pad or cloth, if dirt cannot be removed with a vacuum cleaner. If the edge of recovery blade is damaged, replace the blade regardless of the number of output pages.

  Note:
  Never use water or alcohol for cleaning the transfer belt recovery blade.

* F7: Drum surface potential (VO) sensor / G8: Drum surface potential (VO) sensor shutter
  Clean them with a vacuum cleaner.

  Note:
  When cleaning them, be careful not to let any toner or developer material enter into the detecting section of each drum surface potential (VO) sensor.

* F13: Toner filter
  If the toner filter is not replaced at the specified replacement timing, the suction efficiency against the scattered toner decreases, and thus it may cause suction failure and the amount of scattered toner in the equipment may increase. So be sure to replace it periodically.

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18.6.7 Developer unit (K, Y, M, and C)

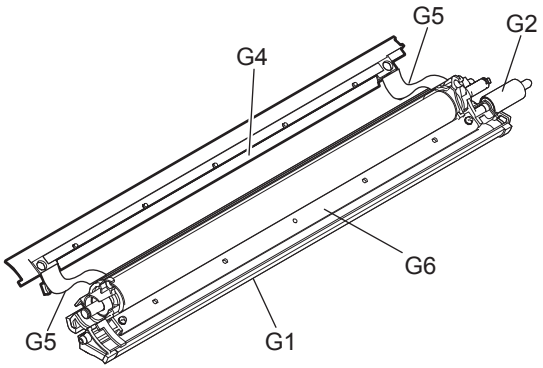

Fig. 18-24

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
G1	Developer unit	B					204-6
G2	Developer unit drive gear		W1				62-39
G3	Developer material			R	R		203-2
G4	Front shield	B		R	R		62-32
G5	Side shield	B		R	R		63-23 63-24
G6	Doctor blade	B		R	R		62-30

* G1: Developer unit

- Cleaning
  Clean the doctor blade so as to prevent developer material from adhering to it when the drum is being replaced.
  Space the front shield from the developer sleeve and then insert a doctor blade cleaning jig into the doctor sleeve gap. Then clean the doctor blade by running the jig for 3 times to and fro along with the edge of the blade.

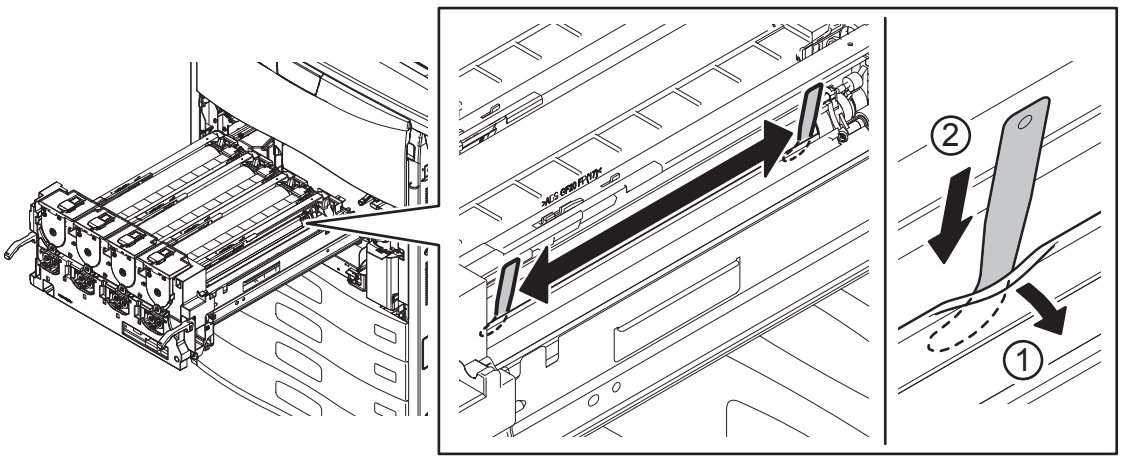

Fig. 18-25

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- Removal of foreign matter in the developer unit
  (1) Pull out the process unit (EPU).
  (2) Lift up the urethane sheet.
  (3) Insert the cleaning jig all the way in the developer unit at a position approx. 30 mm away from the white streak.

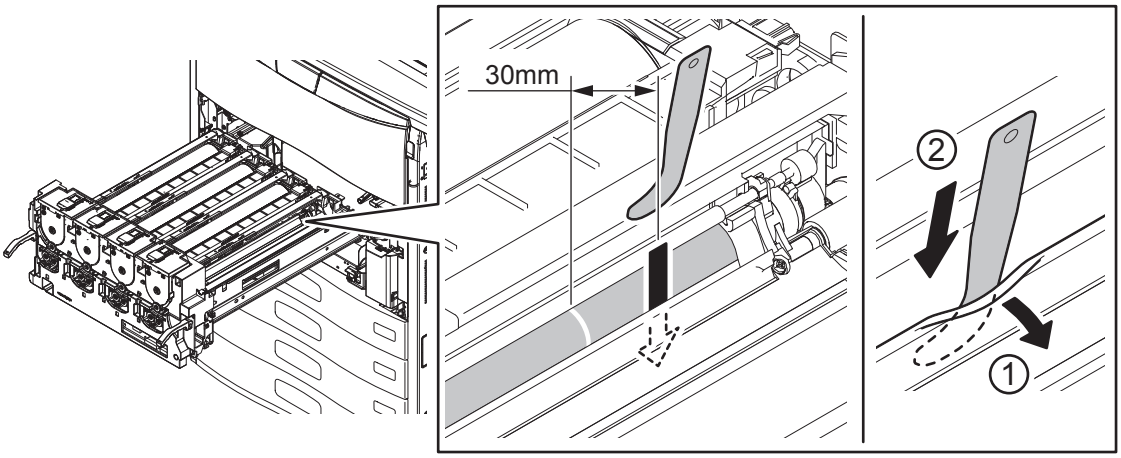

Fig. 18-26

(4) Slide the cleaning jig to where the white streak appears.
(5) Pull out the cleaning jig while manually turning the gear to rotate the developer sleeve.

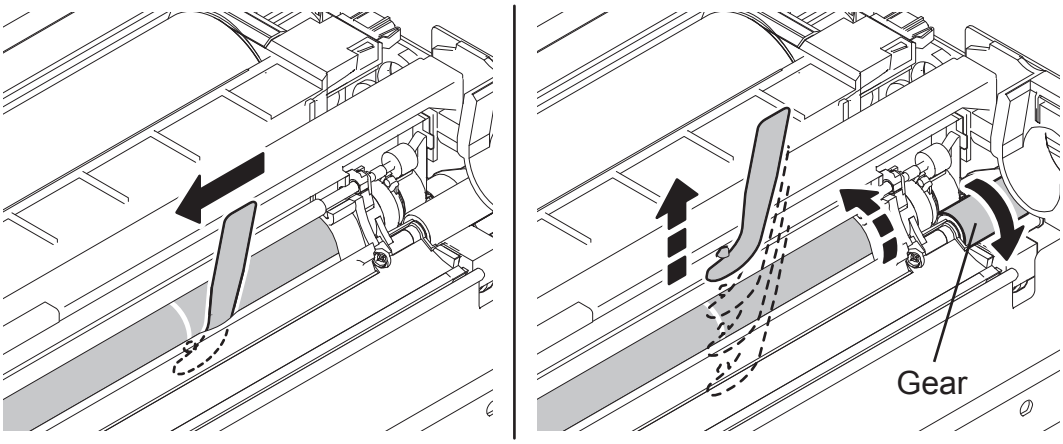

Fig. 18-27

Tip:
If foreign matter is not removed by the above procedure, take off the developer unit, discharge the developer material on to a sheet of clean paper and then remove any foreign matter found. If you cannot find any foreign matter, exchange the developer material.

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- Removal of foreign matter on the developer sleeve
  (1) Apply a sheet of paper to the developer sleeve.
  (2) Scrape off foreign matter and developer material on the developer sleeve using the jig.

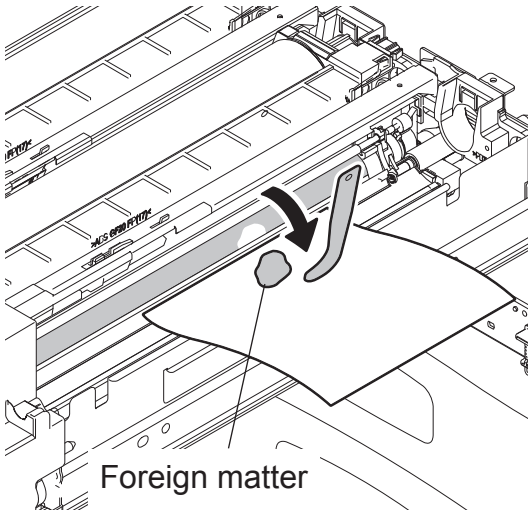

Fig. 18-28

- Scattered toner
  If toner is scattered in the developer unit or has accumulated in the developer unit duct, check if the toner filter has been periodically replaced. If not, it may increase the amount of the toner scattered around the developer unit.

Note:
After the toner filter was replaced, check if the following parts are stained with toner and clean them if required:
G1: Developer unit, G2: Developer unit drive section, G4: Front shield, G5: Side shield

* G3: Developer material
After replacing the developer material, be sure to perform the auto-toner sensor adjustment and then image quality control initialization.
📖 P.8-10 "8.5.2 Adjustment of the Auto-Toner Sensor"
📖 P.8-12 "8.5.3 Performing Image Quality Control (IQC)"

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18.6.8 Waste toner box

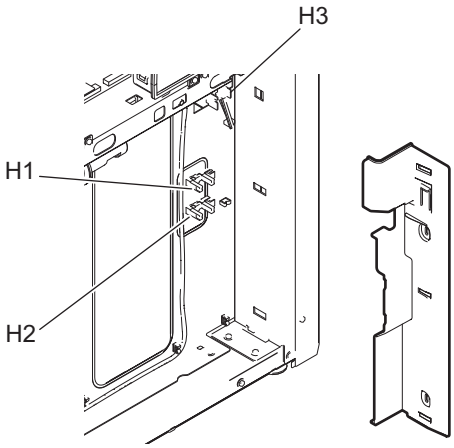

Fig. 18-29

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
H1	Waste toner box full detection sensor	B					65-45
H2	Waste toner amount detection sensor	B					65-45
H3	Waste toner detection sensor	B					5-17

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18.6.9 Transfer belt unit / Transfer belt cleaning unit

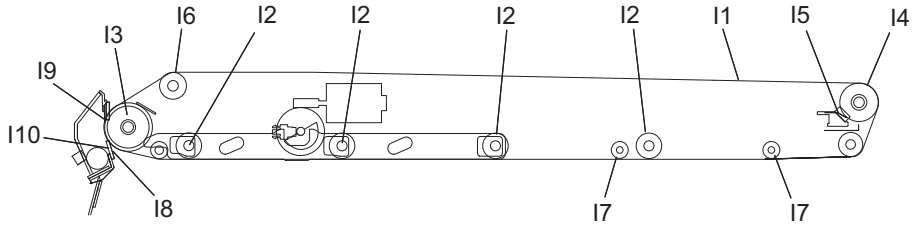

Fig. 18-30

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
I1	Transfer belt			R	R		31-33
I2	1st transfer roller			R	R		30-58 31-23
I3	Drive roller			R	R		31-16
I4	2nd transfer facing roller			R	R		30-34
I5	2nd transfer facing roller cleaning mylar			225/250/275	285		30-51
I6	Tension roller			R	R		33-11
I7	Idling roller			R	R		30-55
I8	Transfer belt cleaning blade			225/250/275	285		34-1
I9	Recovery blade	B		R	R		34-17
I10	Transfer belt cleaner side seal			225/250/275	285		34-18 34-22

* I1: Transfer belt

- Handling precautions
  - Do not touch the front and rear surfaces of the transfer belt surface with bare hands.
  - Prevent oil or other foreign matter from adhering to both surfaces of the transfer belt.
  - Do not apply external pressure that might scratch the transfer belt.
  - When replacing the belt and transfer belt cleaning unit, apply patting powder sufficiently and evenly. Otherwise, it may reduce the cleaning efficiency.
  - When replacing the transfer belt, clean the drive roller, 2nd transfer facing roller and tension roller with alcohol. Then make sure that there is no foreign matter on the 1st transfer roller surface and then install a new transfer belt.

- Cleaning procedure
  Fully clean up the toner and such adhering to the roller with alcohol, and then wipe it with a dry cloth until no trace remains. Take care not to have the transfer belt surface being damaged or dented. Replace the transfer belt with a new one regardless of the number of output pages, if any crack or major scar is found.

- Resetting the counter at the replacement
  Counter resetting is not possible in the PM support mode because the transfer belt is not a PM part. Therefore reset the counter in the PM management setting (08-1228-0) after the transfer belt has been replaced.

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* I2: 1st transfer roller
    - When the 1st transfer roller is replaced, apply FLOIL (GE-334C) all around the shaft on both edges of the 1st transfer roller contacting with the bushing inside the 1st transfer roller holder

    - Counter resetting is not possible in the PM support mode because the 1st transfer roller is not a PM part. Therefore reset the counter in the following PM management settings after the 1st transfer roller was replaced.
        - 08-1214-0: 1st transfer roller (K)
        - 08-1216-0: 1st transfer roller (Y)
        - 08-1218-0: 1st transfer roller (M)
        - 08-1220-0: 1st transfer roller (C)

* I3: Drive roller, I4: 2nd transfer facing roller, I6: Tension roller, I7: Idling roller
  Fully clean up the toner and such adhering to the roller with alcohol, since an image failure may occur if there is any dirt remaining on the roller. Also, remove dust and toner scattering adhering to the inside of the transfer belt unit in order to keep rollers clean.

* I8: Transfer belt cleaning blade
    - Handling precautions
        - Do not allow hard objects to hit or rub against blade edge.
        - Do not rub the edge with a cloth or soft pad.
        - Do not leave oil (or fingerprints, etc.) on the edge.
        - Do not apply solvents such as paint thinner to the blade.
        - Do not allow paper fibers or dirt to contact the blade edge.
        - Do not place the blade near a heat source.

    - Cleaning procedure
      Clean the blade edge with a cloth moistened with water and squeezed lightly.

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* I10: Transfer belt cleaner side seal

Be sure to attach the transfer belt cleaner side seals according to the criteria in the figure below.
Part A: Pay attention to the following. If the blade is caught by the side seal or comes up on to it, the blade may turn up. If the gap between the blade and the side seal is too wide, this will cause toner scattering.

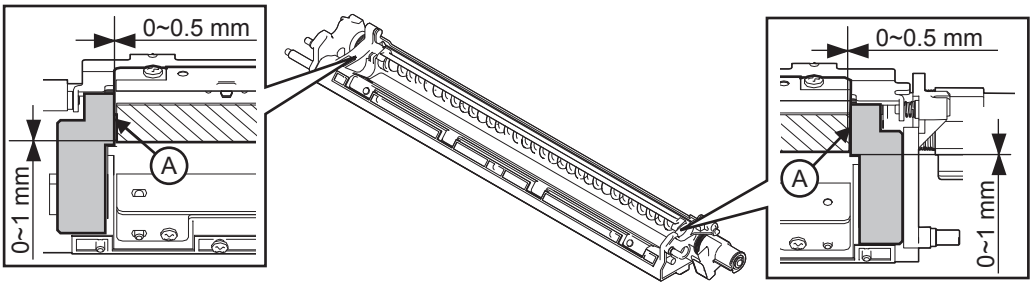
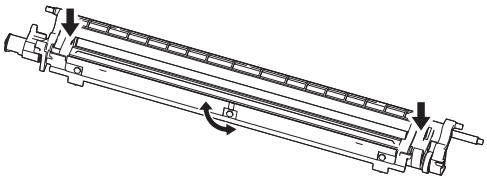


Fig. 18-31

After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.



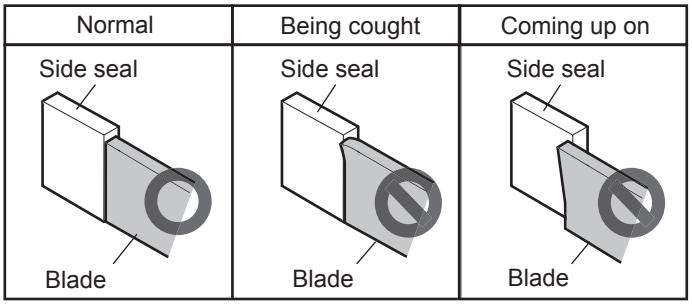


Fig. 18-32

When replacing the transfer belt cleaner side seal, check if the molded part on the back side of the removed recovery blade is dirty. Clean it if required.

Notes:

- Do not use alcohol because urethane foam will be removed.
- Cleaning on the back side of the Mylar is not necessary even if it is dirty.

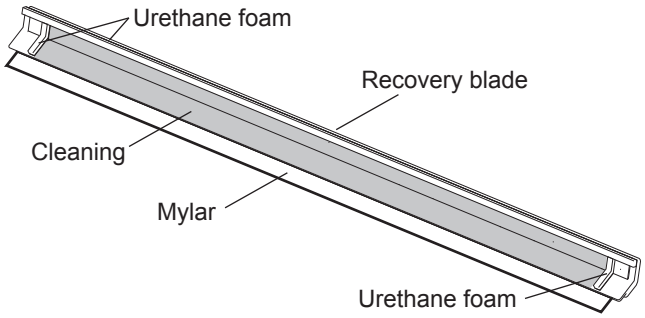


Fig. 18-33

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18.6.10 Image quality control unit

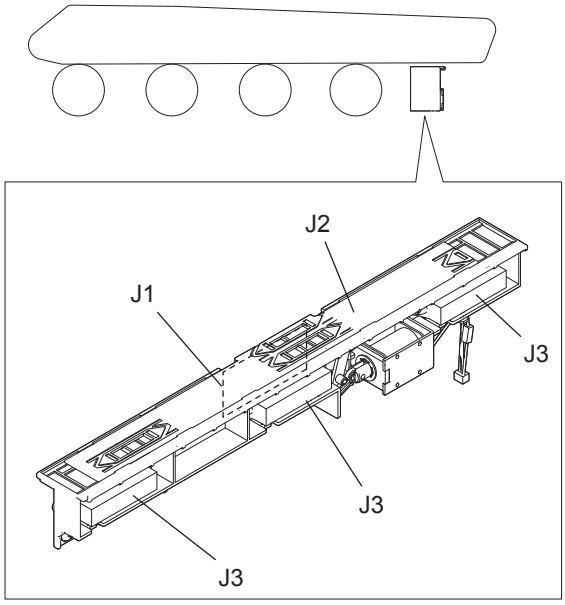

Fig. 18-34

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
J1	Image quality sensor	A		R	R		6-6
J2	Sensor shutter	B		R	R		6-28
J3	Image position aligning sensor (Front/Center/Rear)	A		R	R		6-5

* J1: Image quality sensor, J2: Sensor shutter, J3: Image position aligning sensor
Clean the image quality sensor, image position aligning sensor (Front/Center/Rear) and the sensor shutter when replacing the transfer belt cleaning blade and the blade seal, or the transfer belt itself.

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18.6.11 2nd transfer roller unit

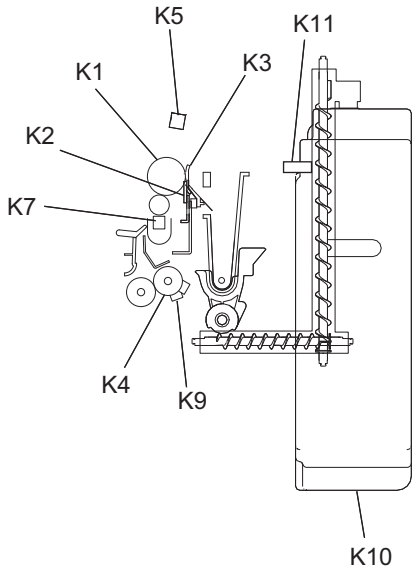

Fig. 18-35

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
K1	2nd transfer roller			225/250/275	242		29-31
K2	2nd transfer roller cleaning blade			225/250/275	242		29-24
K3	2nd transfer roller side seal			225/250/275	242		29-34
K4	Registration roller (rubber)	A		R	R		21-28
K5	2nd transfer side paper clinging detection sensor	B					
K6	2nd transfer roller paper guide	A					29-41
K7	2nd transfer lubricant unit	A		225/250/275	242		29-9
K8	Grounding plate		FL				29-35
K9	Paper dust cleaning brush	B					22-45
K10	TRU waste toner box			225/250/275	242		27-47
K11	TRU waste toner amount detection sensor	B					27-46
K12	TRU waste toner auger drive gear (tooth face and shaft)		W1				

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* K1: 2nd transfer roller
Since the bearing is press-fitted in the bushing, be sure to remove it straight so that it does not fall off.

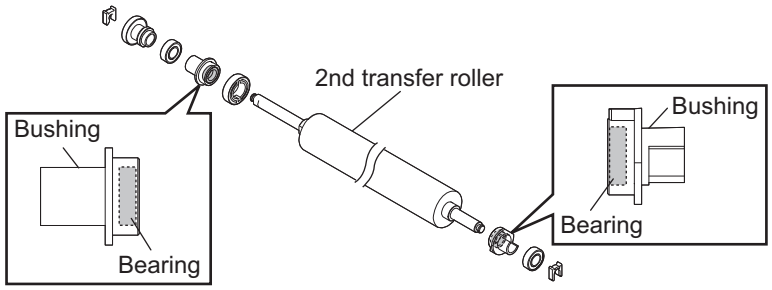

Fig. 18-36

* K3: 2nd transfer roller side seal
Be sure to attach the 2nd transfer roller side seal according to the criteria in the figure below.
Part A: Pay attention to the following. If the blade is caught by the side seal or comes up on to it, the blade may turn up. If the gap between the blade and the side seal is too wide, this will cause toner scattering.

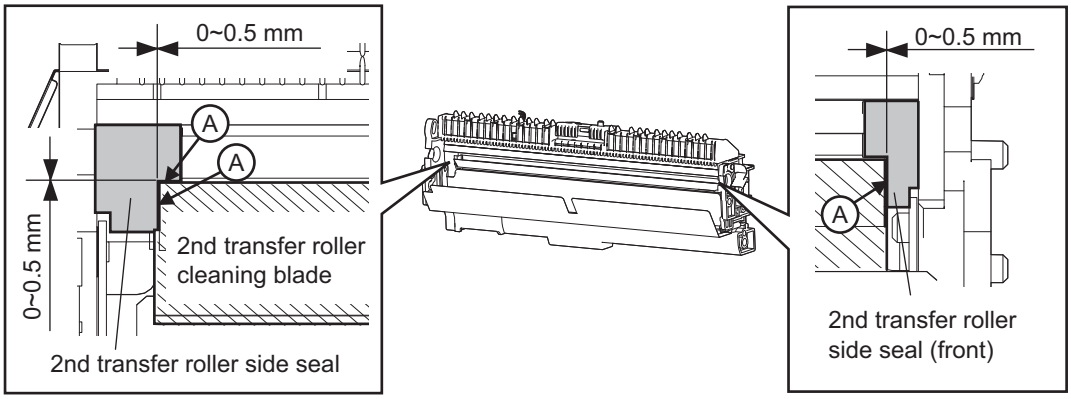

Fig. 18-37

After the side seals are attached, move the bracket retaining the blade and check that it is neither caught nor comes up on to the side seal.

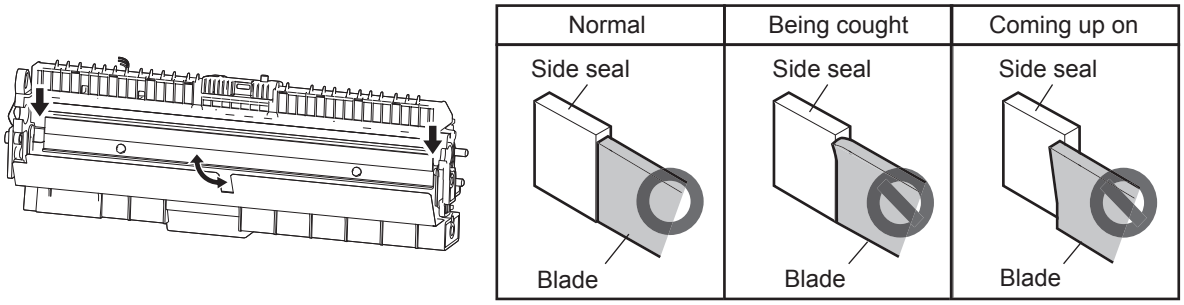

Fig. 18-38

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* K8: Grounding plate
  Apply 1 rice-sized grain of Floil (GE-334C) at the point that contacts with the shaft of the 2nd transfer roller.

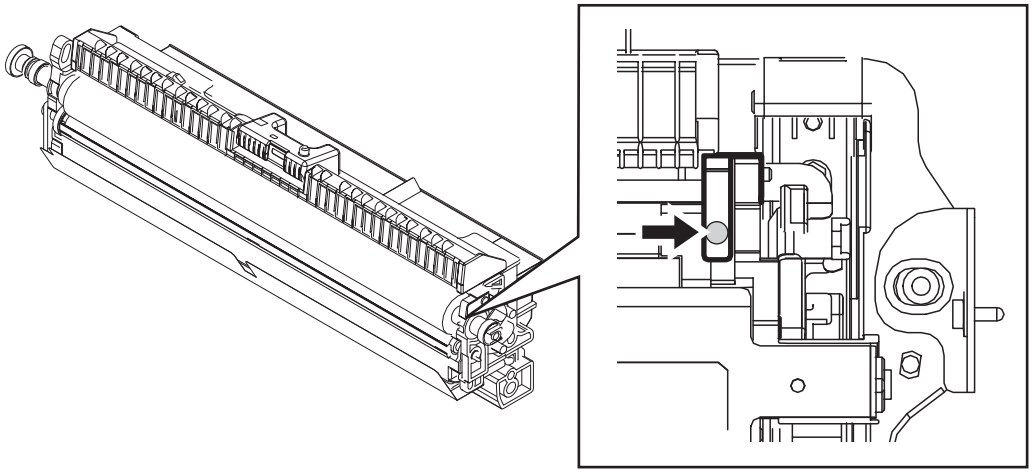

Fig. 18-39

* K9: Paper dust cleaning brush (registration roller)
  Take off the paper dust removing brush (registration roller) from the 2nd transfer unit, and then remove the paper dust on the brush with a vacuum cleaner.

* K12: TRU waste toner auger drive gear
  After the TRU waste toner box was replaced, apply 1 rice-sized grain of white grease (Molykote EM30-L) over the teeth of the TRU waste toner auger drive gear.

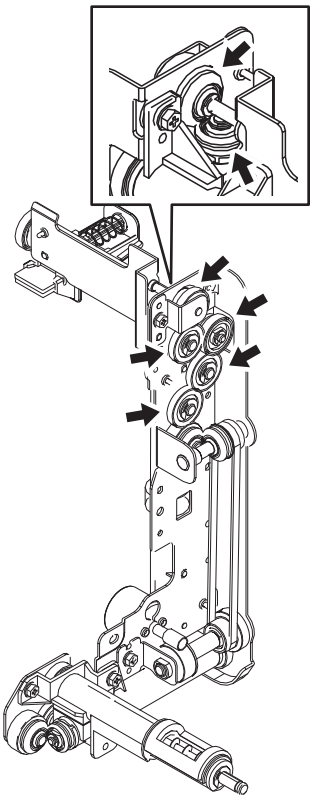

Fig. 18-40

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18.6.12 Fuser unit

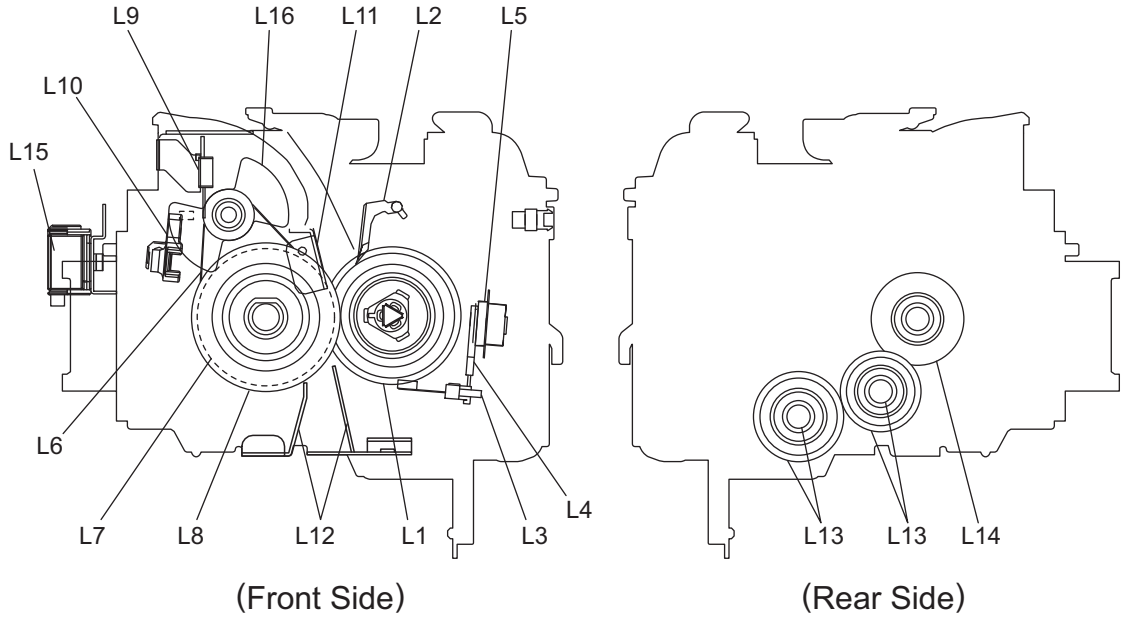

Fig. 18-41

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
L1	Pressure roller			450/500/550	1804		42-1
L2	Pressure roller separation finger			450/500/550	1804		41-3
L3	Pressure roller thermistor (edge)	A		R	R		42-15
L4	Pressure roller thermistor (center/side)	A		R	R		42-15
L5	Pressure roller thermostat (center/side)	A		R	R		42-16 42-17
L6	Fuser belt			225/250/275	902		43-16
L7	Fuser roller			225/250/275	902		43-17
L8	Fuser belt guide			225/250/275	902		43-18
L9	Fuser belt thermistor (edge)	A		R	R		40-23
L10	Fuser belt thermostat (center/side)	A		R	R		43-42
L11	Separation plate	A					43-53
L12	Entry guide	A					
L13	Fuser unit gear (tooth face and shaft)		W2				
L14	Fuser unit gear (tooth face)		W2				
L15	Fuser belt thermopile (center/side)	A		R	R		38-2
L16	Rotor	A					

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Note:
When the energy saver or the sleep mode is OFF or the settings are changed, PM parts of the fuser unit must be managed with the driving count together with the printing count.

* L1: Pressure roller, M6: Fuser belt

- Handling precautions
  Pressure roller
  - Do not leave any oil (fingerprints, etc.) on the pressure roller.
  - Be careful not to allow any hard object to hit or rub against the pressure roller, or it may be damaged, possibly resulting in poor cleaning.

  Fuser belt
  - Be careful not to fold the surface of the fuser belt.
  - Do not touch the fuser belt surface with bare hands.
  - Prevent oil or other foreign matter from staining the fuser belt surface.
  - Do not apply external pressure that might scratch the fuser belt.

- Cleaning procedure
  When the fuser belt and pressure roller become dirty, they will cause jamming. If this happens, wipe the surface clean with a suitable cloth. For easier cleaning, clean the belt and roller while they are still warm.
  However, toner adhering to and hardened on the surface of the fuser belt or the pressure roller may not be cleaned out only with dry cloth.
  In this case, use alcohol (e.g. ethanol) to clean it. If the toner is still not removed completely, use a toner remover.
  When using alcohol or a toner remover, soak soft cloth in it and wipe over the surface.

Notes:

- Be careful not to rub the fuser belt and pressure roller surface with your nails or hard objects because it can be easily damaged. Do not use silicone oil on the fuser belt and pressure roller.
- If alcohol or a toner remover has been used, trail marks may be left. In this case, remove them by wiping with dry cloth.
- Be careful not to make any scratch, dent or crease on the surface of the pressure roller.

- Checking
  - Check for stain and damage on the fuser belt and pressure roller, and clean if necessary.
  - Check the separation plate and fingers and check for chipped tips.
  - Check the thermistors contact and non-contact status.
  - Check the fused and fixed condition of the toner.
  - Check the gap between the inlet guide and pressure roller.
  - Check the fuser belt for proper transportation.
  - Check the pressure roller for proper rotation.

- Checking after the assembly of the fuser belt unit
  After the assembly, rotate the fuser belt for a round to confirm that the belt is neither folded nor scratched.
  A folded or scratched belt may be broken when it is in use.

Note:
Never rotate the fuser belt in the reverse direction as it will cause deformation of the thermistor and discharge brush.

* L2: Pressure roller separation finger
The paper jam may be caused if the tip of the finger is damaged or deformed. If there is any problem with it, replace the finger with a new one regardless of the number of output pages which have been made. Do not damage the tip of the finger during the cleaning. The finger may be damaged if the toner adhering to the tip of it is scraped off forcibly. Replace the finger if the toner is sticking to it heavily.

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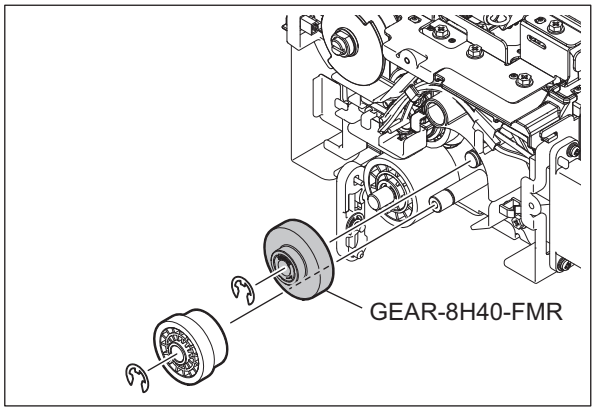
* L3, L4: Pressure roller thermistor
  Clean the thermistor with alcohol if the toner or dirt is sticking to it when the fuser belt is replaced. Do not deform or damage the thermistor during the cleaning. Replace the thermistor with a new one if it is damaged or deformed regardless of degree.

* L11: Separation plate
  If toner adheres to the separation plate, wipe it off with dry cloth.
  Do not take off the separation plate unless otherwise required.

* L13: Fuser unit gear (tooth face and shaft)
  Wipe off any old grease, and then apply 3 to 4 rice-sized grains of white grease (Molykote HP-300) onto the gear teeth and shafts.

* L14: Fuser unit gear (tooth face)
  Wipe off any old grease, and then apply 3 to 4 rice-sized grains of white grease (Molykote HP-300) onto the gear teeth.

  Note:
  Since the one-way clutch is pressed into the gear (GEAR-8H40-FMR) that is attached to the shaft of the fuser roller, apply grease on the tooth face only. Do not apply grease on the shaft.



* L15: Fuser belt thermopile
  Take off the fuser belt thermopile from the equipment and wipe off the dirt using a cloth with a small amount of alcohol. Do not touch the lens of the thermopile by hand. Clean the thermopile at the timing shown below.

Model name	Black	Full color
e-STUDIO5520C	every 225,000 sheets	every 225,000 sheets
e-STUDIO6520C	every 250,000 sheets	every 250,000 sheets
e-STUDIO6530C	every 275,000 sheets	every 275,000 sheets

* L16: Rotor
  If the surface of the rotor is dirty, wipe off the dirt.

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18.6.13 Bridge unit

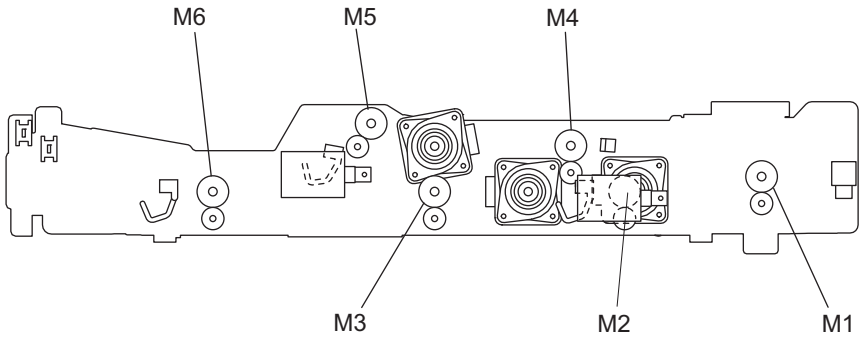

Fig. 18-42

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
M1	Bridge unit transport roller-1	A					24-17
M2	Bridge unit transport roller-2	A					23-3
M3	Bridge unit transport roller-3	A					23-4
M4	Reverse roller	A					24-25
M5	Bridge unit exit roller-1	A					24-26
M6	Bridge unit exit roller-2	A					23-5

18.6.14 Paper exit unit

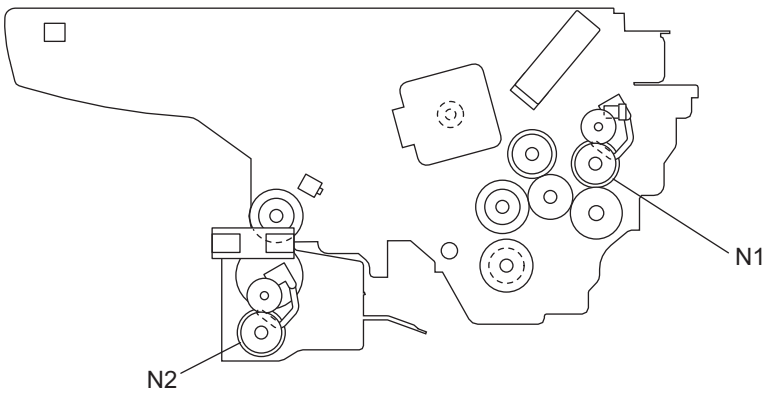

Fig. 18-43

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
N1	Upper paper exit roller	A					36-6
N2	Lower paper exit roller	A					35-27

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18.6.15 RADF

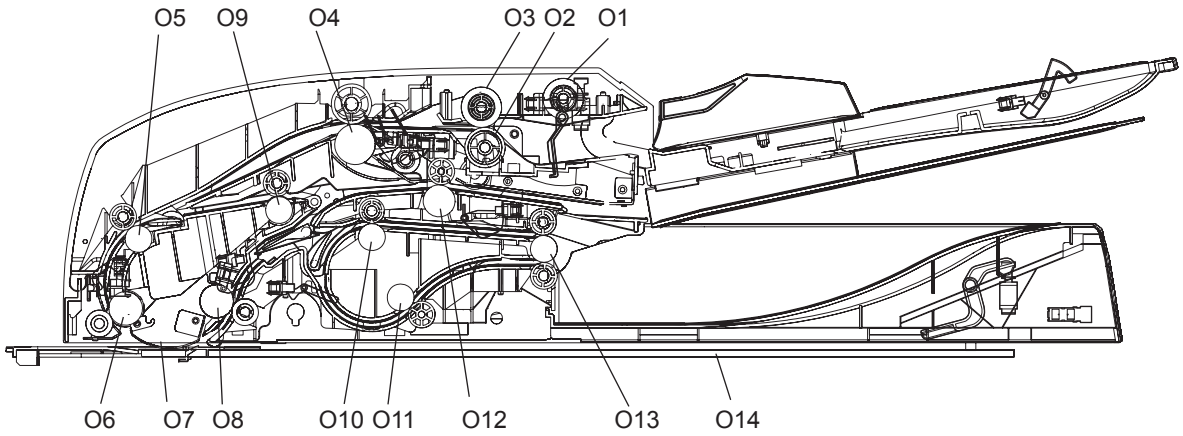

Fig. 18-44

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
O1	Pickup roller	A		120	-		81-12
O2	Separation roller	A		120	-		82-8
O3	Feed roller	A		120	-		81-12
O4	Original registration roller	A					84-12
O5	Intermediate transfer roller	A					84-4
O6	Reading start roller	A					84-6
O7	RADF original glass	A					51-18
O8	Reading end roller	A					84-2
O9	Reverse registration roller	A					84-1
O10	Exit intermediate roller	A					86-26
O11	Exit/reverse roller	A					86-26
O12	Reverse roller	A					83-16
O13	Exit roller	A					86-28
O14	Platen sheet	B or A					92-3

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18.6.16 LCF (MP-2501)

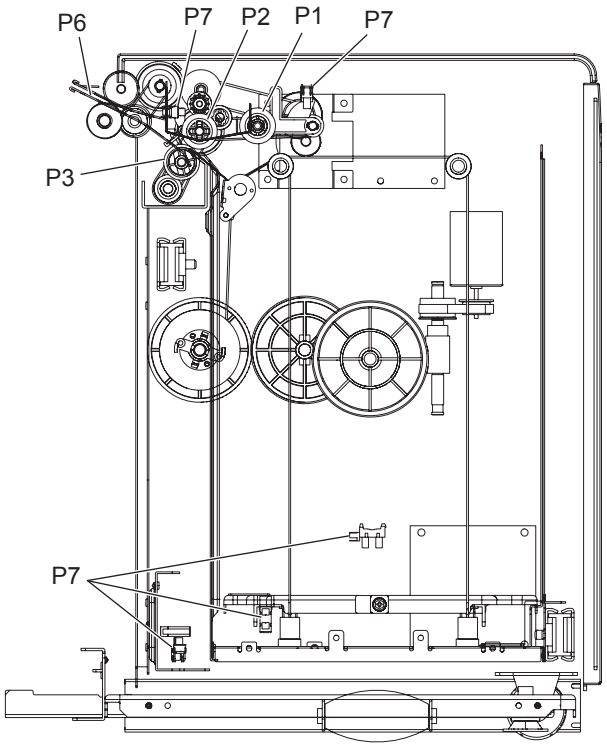

Fig. 18-45

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
P1	Pickup roller	A		500	-		5-46
P2	Feed roller	A		500	-		4-2
P3	Separation roller	A		500	-		4-3
P4	Drive gear (tooth face)		W1				
P5	Brush unit	B					
P6	Paper path section	B					
P7	Sensor section	B					2-3

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* P5: Brush unit
  Remove the brush unit, and clean the paper dust of the entire brush unit.

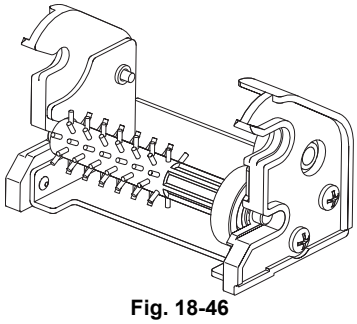

Fig. 18-46

* P6: Paper path section
  Remove the brush unit and feed roller, clean the paper dust of paper path section and the shaded area of figure bellow.

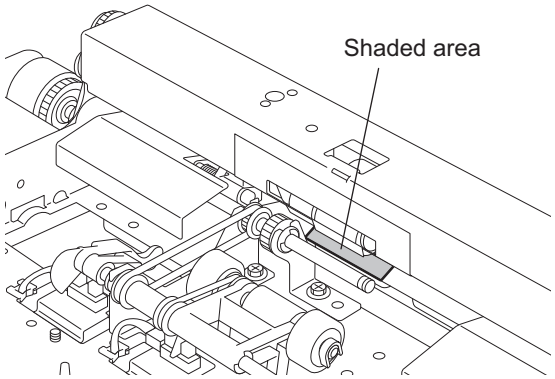

Fig. 18-47

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18.7 Storage of Supplies and Replacement Parts

Precautions for storing supplies and replacement parts are shown below.

1. Toner/Developer
   Toner and developer should be stored in a place where the ambient temperature is between 10°C to 35°C (no condensation), and should also be protected against direct sunlight during transportation.

2. Photoconductive drum
   Like the toner and developer, photoconductive drum should be stored in a dark place where the ambient temperature is between 10°C to 35°C (no condensation). Be sure to avoid places where drums may be subjected to high humidity, chemicals and/or their fumes.

3. Drum cleaning blade / Transfer belt cleaning blade
   This item should be stored in a flat place where the ambient temperature is between 10°C to 35°C, and should also be protected against high humidity, chemicals and/or their fumes.

4. Transfer belt / Transfer roller / Fuser belt / Pressure roller
   Avoid places where the rollers may be subjected to high humidity, chemicals and/or their fumes.

5. Paper
   Avoid storing copy paper in places where it may be subjected to high humidity.
   After a package is opened, be sure to place and store it in a storage bag.

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18.8 PM KIT

A PM kit is a package for each unit of replacement parts requiring PM

KIT name	Component	Part name	Qty.
EPU-KIT-FC55	Needle electrode	PIN_ARRAY-CHARGR-MAIN-430	4
	Main charger grid	GRID-CHARGR-MAIN-430	4
	Needle electrode cleaner	ASYS-HLDR-CLNR-CH	4
	Drum cleaning blade	BL-FC55D	4
	Blade side seal (front)	SEAL-BLADE-SIDE-FRT	4
	Blade side seal (rear)	SEAL-BLADE-SIDE-RER	4
TBU-KIT-FC55	2nd transfer facing roller cleaning pad	ASYB-CLN-RLR-TBU	1
	Transfer belt cleaning blade	BL-FC55-TBU	1
	Transfer belt cleaner side seal (front)	SEAL-CLN-TBU-F	1
	Transfer belt cleaner side seal (rear)	SEAL-CLN-TBU-R	1
TR2-KIT-FC55	2nd transfer roller	CR-FC55TR2	1
	2nd transfer roller cleaning blade*	BL-FC55TR2	1
	2nd transfer Lubricant unit	LB-FC55TR2	1
FLTR-KIT-FC55	Toner filter	FLTR-TONER-430_N	1
	Ozone filter 1	FLTR-OZ-430_TR	1
	Ozone filter 2	FLTR-OZ-TNR-430_TR	1
FR-KIT-FC55	Fuser roller	FR-FC55-U	1
	Fuser belt	BT-FC55-FU	1
	Pressure roller	HR-FC55-L	1
	Pressure roller separation finger	SCRAPR-FUS-350	5
	Fuser belt guide	COLLAR-BLT-MCR	2
ROL-KIT-81CST	Pickup roller	ASYS-ROL-FEED	1
	Feed roller	ASYS-ROL-FEED	1
	Separation roller	ASYS-ROL-SPT	1
DF-KIT-3018	Pickup roller	ASYS-ROL-FEED	1
	Feed roller	ASYS-ROL-FEED	1
	Separation roller	ASYS-ROL-RET	1
ROL-KIT-4004	Pickup roller	ASYS-ROL-PICK-L	2
	Feed roller	ASYS-ROL-FEED	2
	Separation roller	ASYS-ROL-SPT-LCF	2

* The following seal is attached to the 2nd transfer roller cleaning blade.

Part	Part name	Qty.
2nd transfer roller side seal	SHLD-BLADE-TR2-SIDE-R	1

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18.9 Maintenance Part List

The parts used for the maintenance of this equipment are as follows.

No.	Item	Purpose	Parts list <P-I>*1
1	Cleaning brush	Cleaning inside of the equipment	201-1
2	Doctor blade cleaning jig*2	Cleaning the doctor blade	201-7
3	Wire holder jig	Fixing the wire at the assembly of the carriage wire	201-2
4	RADF positioning pin	Determining the position of the RADF	201-5
5	Doctor-sleeve jig	Measuring the gap between the development sleeve and the doctor blade	201-6
6	Belt tension jig	Adjusting the belt tension at the installation of the scan motor	201-3
7	Separation plate gap jig*2	Measuring the gap between the separation plate and the fuser belt	201-11
8	Thermostat gap confirmation jig*2	Measuring the gap between the thermostat and the fuser belt, and the thermostat and the pressure roller	201-9
9	Thermistor gap confirmation jig*2	Measuring the gap between the thermistor and the pressure roller	201-10
10	Drum bag	Storing the drum	201-4
11	Download jig (DLM board)	Updating the scanner/options ROM	202-1
12	ROM	Installing the DLM board	202-10
13	Download jig-2 (6 Flash ROMs)	Updating the system/engine ROM	202-2
14	ROM writer adapter (For 1881)	Writing the data of PWA-DWNLD-350-JIG2	202-4
15	ROM writer adapter (For 1931)	Writing the data of PWA-DWNLD-350-JIG2	202-5
16	Toner seal plate*2	Preventing foreign matter from entering into the toner supply opening (for transporting the unpacked equipment)	201-8

*1: Part list <P-I> represents the page item in “e-STUDIO5520C/6520C/6530C Service Parts List”.

*2: This part has been newly added in e-STUDIO5520C/6520C/6530C, others are common to those used for other models.

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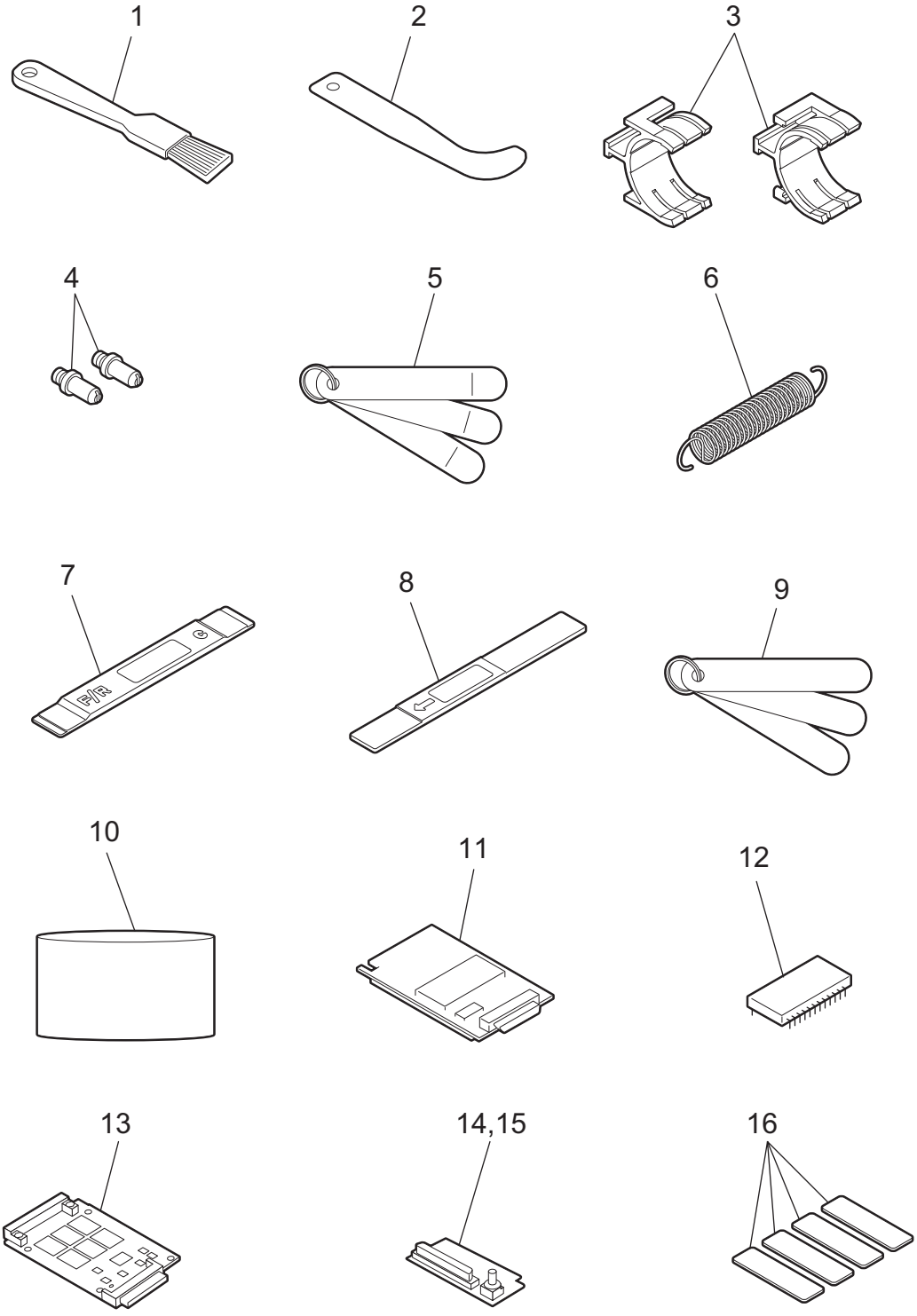

Fig. 18-48

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18.10 Grease List

The parts used for the maintenance of this equipment are as follows.

Symbol	Grease name	Volume	Container	Parts list <P-I>*
L	Launa 40	100 cc	Oiler	201-21
W1	White grease (Molykote EM-30L)	100 g	Tube	201-24
W2	White grease (Molykote HP-300)	100 g	Bottle	201-22A
W2	White grease (Molykote HP-300)	10 g	Bottle	201-22B
AV	Alvania No.2	100 g	Tube	201-23
FL	Floil (GE-334C)	20 g	Bottle	

* Part list <P-I> represents the page item in “e-STUDIO5520C/6520C/6530C Service Parts List”.

18.11 Operational Items in Overhauling

Overhauling must be performed in order to maintain the quality level of this equipment at the following timing.

e-STUDIO5520C: When the number of output pages has reached 900,000 or 2.5 years have passed from the start of use (Whichever is earlier.)

e-STUDIO6520C: When the number of output pages has reached 1,000,000 or 2.5 years have passed from the start of use (Whichever is earlier.)

e-STUDIO6530C: When the number of output pages has reached 1,000,000 or 2.5 years have passed from the start of use (Whichever is earlier.)

(1) Replace all the PM parts.
(2) Check the components in the drive section (gears, pulleys, timing belts, etc.). Replace them with new ones if they are damaged.
(3) Check all the adhesives such as tape and Mylar if they are damaged or have become unstuck. Replace them with new ones if necessary.
(4) Check the performance of all the switches and sensors. Replace them with new ones if necessary.
(5) Clean inside the equipment thoroughly.

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19. FIRMWARE UPDATING

When you want to update the firmware to the latest one or the equipment becomes inoperable due to some defect in the firmware, updating can be performed as follows.

Equipment

Firmware	Updating method
Master data (HDD program data, System firmware, UI data)	USB media
System ROM (OS data)	USB media
	Download jig (PWA-DWNLD-350-JIG2)
PFC ROM	USB media
	Download jig (PWA-DWNLD-350-JIG2)
Engine ROM (Main firmware)	USB media
	Download jig (PWA-DWNLD-350-JIG2)
Scanner ROM (Scanner firmware)	USB media
	Download jig (K-PWA-DLM-320)
Reversing Automatic Document Feeder (RADF)	Download jig (K-PWA-DLM-320)

Options

Model name	Firmware	Updating method
Finisher (MJ-1103)	Finisher firmware	Download jig (K-PWA-DLM-320)
	Converter firmware	
Saddle Stitch Finisher (MJ-1104)	Finisher firmware	
	Saddle stitcher firmware	
	Converter firmware	
Hole Punch Unit (MJ-6102)	Hole punch unit firmware	
Fax Unit (GD-1270)	FAX firmware	
Imaging Acceleration Board (GE-1170)	Imaging Acceleration Board firmware	USB media

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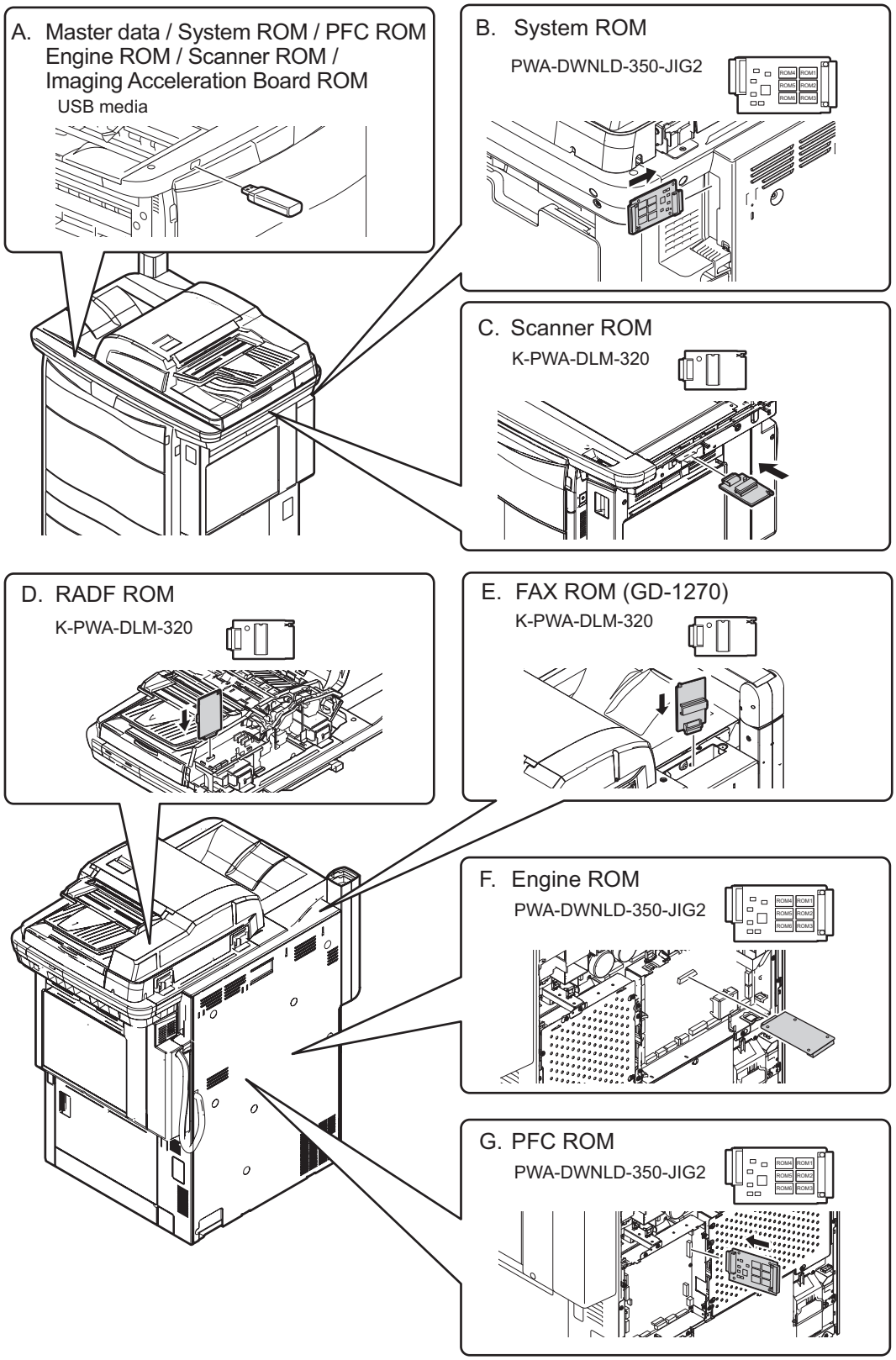

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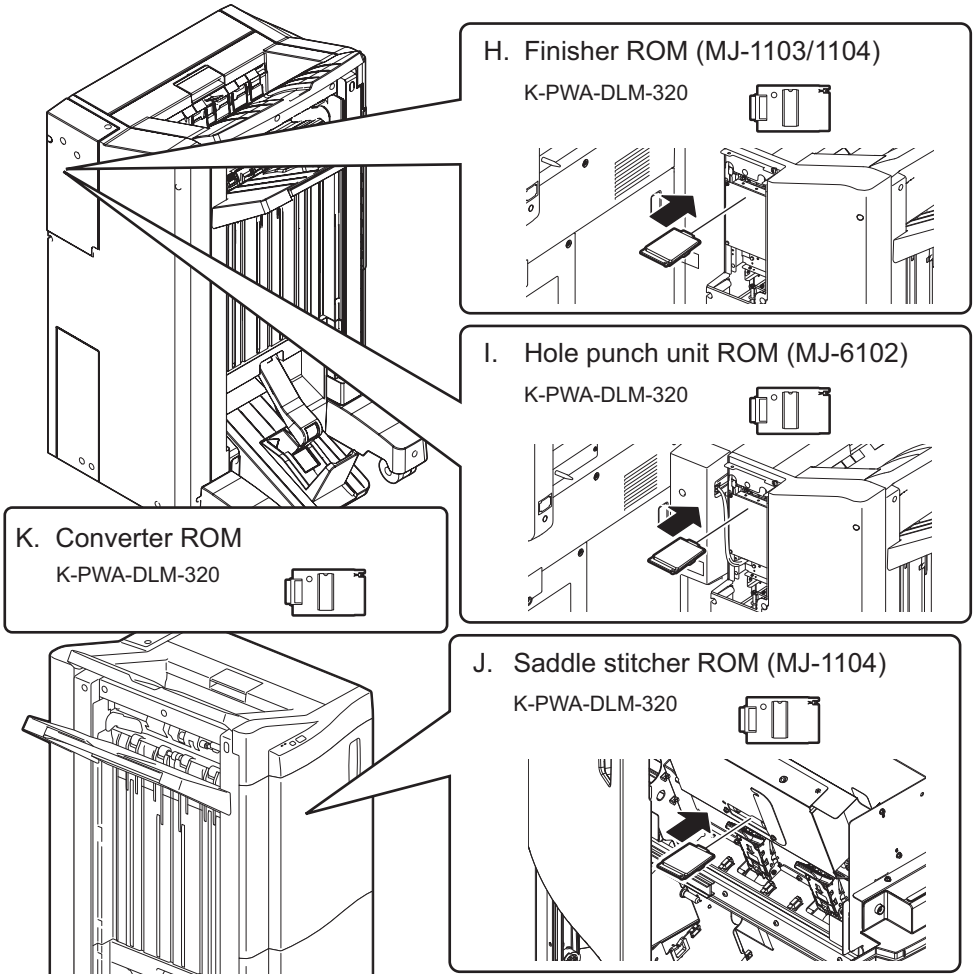

A	Master data, System ROM, PFC ROM, Engine ROM, Scanner ROM	P. 19-7
	Imaging Acceleration Board ROM	P. 19-17
B	System ROM	P. 19-26
C	Scanner ROM	P. 19-33
D	RADF ROM	P. 19-36
E	FAX ROM (GD-1270)	P. 19-47
F	Engine ROM	P. 19-28
G	PFC ROM	P. 19-30
H	Finisher ROM (MJ-1103/1104)	P. 19-38
I	Hole punch unit ROM (MJ-6102)	P. 19-42
J	Saddle stitcher ROM (MJ-1104)	P. 19-40
K	Converter ROM (MJ-1103/1104)	P. 19-45

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Notes:

- Written firmware varies depending on the kinds of the boards provided as service parts. For updating, only the minimum firmware is installed on the system control PC board, logic PC board, PFC PC board, and scanning section control PC board. No firmware is installed on the FAX board. The latest version of the firmware at the time of delivery is written on the RADF control PC board and finisher control PC board.
  When any of above boards is replaced with a new one in the field, check the other firmware version used and then update with a corresponding suitable version.
- The firmware (master data) is not installed on the hard disk provided as a service part. When the hard disk is replaced with a new one, check the other firmware version used and then write a corresponding suitable version.
- "Can't fetch Ver." is displayed in the Installed Version field when the version of the installed ROM cannot be acquired properly. If a normal power on is not performed after the firmware is updated and the [ON/OFF] button is pressed while simultaneously holding down the [4] and [9] buttons, "Can't fetch Ver." may be displayed on the control panel for some ROMS. A normal power on must be performed.

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19.1 Firmware Updating with USB Media

Firmware can be updated by storing update programs and firmware data files in the USB media.

Note:
When performing the update, use the latest program.

Program necessary for updating

Update program	Data file name	Remarks
Update program loader	mentusb2.o	An error occurs at a time of the [4] + [9] startup, unless this program is stored in the USB media. * Be sure to save this data file to the root directory of the USB media.
Model specific update program	dlFirmWare_5520C_6530C	An error occurs at a time of the [4] + [9] startup, unless this program is stored in the USB media.

Firmware type and data file name for updating

Equipment

Firmware	Stored	Data file name	Remarks
System ROM	System control PC board (SYS board)	firmImage0.bin	OS data
Master data	Hard disk	hdd.bin	HDD program data, System firmware, UI data
PFC ROM	Paper feeding control board (PFC board)	T430FWW.xxx * xxx is version.	PFC firmware
Engine ROM	Logic PC board (LGC board)	T430MWW.xxx * xxx is version.	Main firmware
Scanner ROM	Scanning section control PC board (SLG board)	T430SLGWW.xxx * xxx is version.	Scanner firmware

Options

Firmware	Stored	Data file name	Remarks
Imaging Acceleration Board ROM	Imaging Acceleration Board (MEP board)	T430IWW.xxx * xxx is version.	Imaging Acceleration Board firmware

Store the update program loader (mentusb2.o) in the root directory, and store the model specific update program (dlFirmWare_5520C_6530C) and the data file for updating in the model specific folder.

Model specific folder name	5520C_6530C

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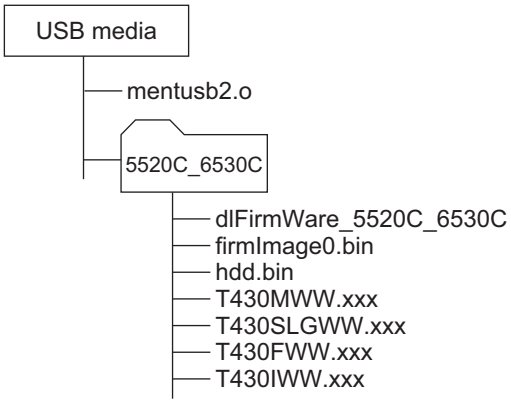

Fig. 19-1

Notes:

- Since the date and time set in the equipment are recorded in the firmware update log, make sure that they are correct before updating the firmware.
- Never change the model specific folder name, since it is used for identifying the data file when the data files used for updating multiple models are stored in the USB media.

Important:

- Only the USB media which meet the following conditions should be used for updating. Be careful since updating with any device other than the above is never guaranteed.
  - A combination USB media with a flash memory (to be connected directly to the USB port) and its capacity is between 256 MB and 512 MB (or 1 GB).
  - Operation of the USB media used for updating has been confirmed at the input check of this equipment (Test mode 03).
    (📖 P.22-4 "22.1 Input check (Test mode 03)")
  - USB media which comply with the following standards regulated by USB-IF (USB Implementers Forum)
    Class number: 8 (=08h) (Mass-storage class)
    Sub-class number: 6 (=06h) (SCSI transfer command set)
    Protocol number: 80 (=50h) (Bulk-Only)
    * Most common USB media comply with the specification above and can be used for updating. However, the operation in all the Multi Functional Digital Color Systems and Multi Functional Digital Systems is not necessarily guaranteed since the most of these devices are developed based on use in a PC environment (Windows or Macintosh). Therefore, check thoroughly that the device is operational in the equipment for which the updating will be performed when purchasing it.

- The USB media complying with USB1.1 and USB2.0 can be used for updating.

- Do not update the firmware by any storage device other than a flash memory (such as a USB connection type memory card reader, CD/DVD drive or hard disk), since it is never guaranteed.

- It is possible to store the model specific update program and the data file for updating directly in the root directory when you store the updating data file for one specific model in the USB media. However, if the model specific folder for the same model as that of the data file stored in the root directory already exists, this will have priority.

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19.1.1 Master data/System ROM/PFC ROM/Engine ROM/Scanner ROM

Important:

- The file system of USB media should be formatted in the FAT or FAT32 format. Be careful since the devices formatted in NTFS format will not be able to be operated. The file system can be confirmed on the properties in applications such as Explorer of Windows.
- Never shut down the equipment during the update. Firmware data and the following option data (if installed) could be damaged and may not be able to be operated properly.
  - Data Overwrite Enabler (GP-1070)
  - Meta Scan Enabler (GS-1010)
  - External Interface Enabler (GS-1020)
  - IPSec Enabler (GP-1080)

[A] Update procedure

(1) Connect the USB media to the PC and write the model specific folder in which the data file is stored.
Store the update program loader (mentusb2.o) in the root directory, and store the model specific update program (dlFirmWare_5520C_6530C) and the data file for updating in the model specific folder.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Connect the USB media to the USB port on the right upper cover.

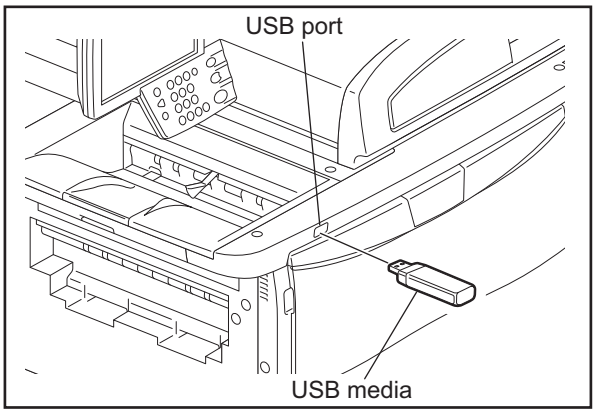

Fig. 19-1

Note:

Updating cannot be performed with multiple USB media connected at the same time.

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(4) Press the [ON/OFF] button while simultaneously holding down the [4] and [9] buttons.
Data in the USB media are checked and the checking status is displayed on the screen.

The screen for selecting items to be updated is displayed after approx. 1 minute.
On this screen, the current firmware version of this equipment and the firmware version of data to be updated are displayed.

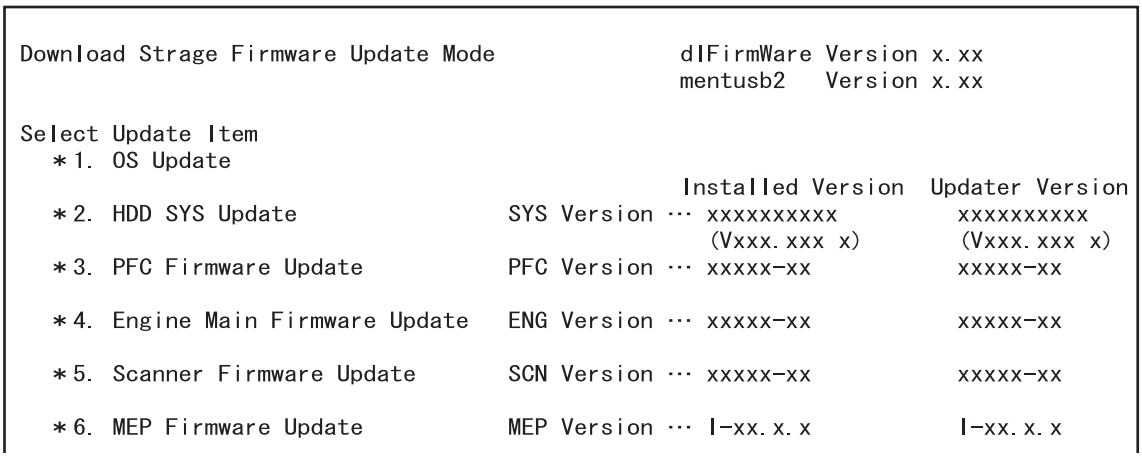

Fig. 19-2

Notes:

- The display of items on this screen varies depending on the types of data written on the USB media. Each item is displayed only when each data file is written on the USB media in the following conditions.

Item	Condition
1. OS Update	firmImage0.bin is written.
2. HDD SYS Update	hdd.bin is written.
3. PFC Firmware Update	T430FWW.xxx is written. (xxx is version.)
4. Engine Main Firmware Update	T430MWW.xxx is written. (xxx is version.)
5. Scanner Firmware Update	T430SLGWW.xxx is written. (xxx is version.)
6. MEP Firmware Update	For the details, see the following page: 📖 P.19-17 "19.1.2 Imaging Acceleration Board ROM (GE-1170)"

- If the USB media are not recognized properly, “Set Correct USB Storage Device” message is displayed. In this case, disconnect the USB media and connect it again within 3 minutes, or shut down the equipment and connect the device properly. Then repeat the procedure from (4).
- If any of the error messages below is displayed, confirm if the update program or the data file in the USB media is correct. Then repeat the procedure from (4)

Error number	Error message	Cause
-	There is no mentusb2.o	Update program loader (mentusb2.o) is not stored.
01	There is no dlFirmWare_5520C_6530C	Model specific update program (dlFirmWare_5520C_6530C) is not stored.
02	Error Loadmodule	Module loading failed.
03	Machine Model Get Error	Model information was not downloaded.
04	Please Change USB Storage or Please Check ROMDATA	Checking of data file failed.
05	Other models ROMDATA Vxxxx.xxx x * The version name comes at “xxxx.xxx.x”.	Master data of other model (hdd.bin) are stored.

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(5) Select the item with the digital keys.
"*" is displayed next to the selected item. Display or delete the "*" by pressing the number of the item.

Item	Remarks
1. OS Update	Updating OS data and UI data
2. HDD SYS Update	Updating Master data and System data
3. PFC Firmware Update	Updating PFC ROM
4. Engine Main Firmware Update	Updating Engine ROM
5. Scanner Firmware Update	Updating Scanner ROM

(6) Press the [START] button.
Updating starts and the processing status is displayed on the LCD screen.

Status display during update	Status display when update is completed
OS Update.....FROM write	OS Update.....Completed
HDD SYS Update ..... Copy file	HDD SYS Update ..... Completed
PFC Firm Update .....Flash Update	PFC Firm Update .....Completed
Engine Firm Update.....Flash Update	Engine Firm Update.....Completed
Scanner Firm Update .....Flash Update	Scanner Firm Update .....Completed

(7) "Update Completed." is displayed at the bottom of the LCD screen after the updating is completed properly.

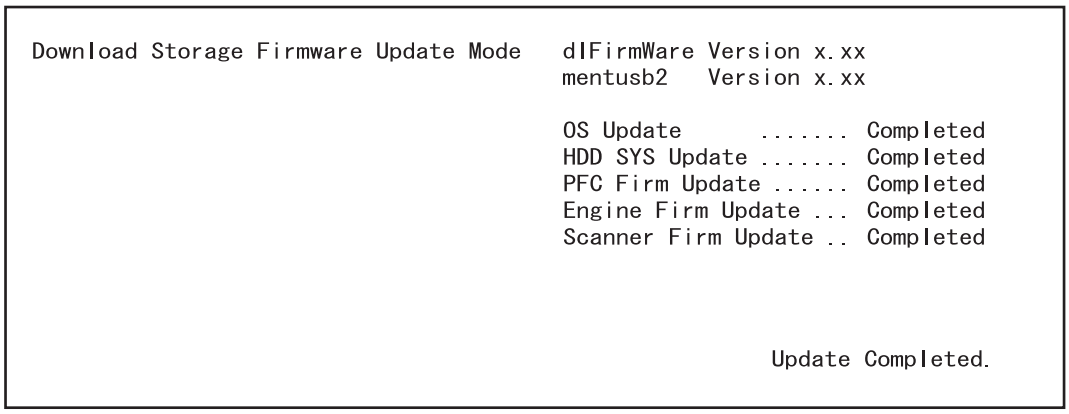

Fig. 19-3

19

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Notes:

- "Update Failed." is displayed at the bottom of the LCD screen when the updating is not completed properly. "Failed" appears next to the failed item on the status display. In this case, shut down the equipment after all the updates are stopped (when either "Completed" or "Failed" is displayed for each item), and then check the following.
  - Do the USB media meet the conditions to be used for updating?
  - Is the data file written properly on the USB media?
  - Are the USB media installed properly?
  - Do the USB media and equipment operate properly?
- When an error occurred and the update failed, "Update Failed" or "Failed" appears on the screen and an error code appears next to the message. The content of each error code is shown below.

OS update Error	
Error number	**Error content**
O01	FROM writing failed
O02	FROM verification error
O03	File operation error
O04	SRAM flag set error
O05	Electronic key data backup error
O06	Device error

HDD update Error	
Error number	**Error content**
H01	File creation error
H02	File decompression error
H03	Partition mount error
H00	Other errors

Engine Update Error		
Error number	**Error message**	**Error content**
M01	Time out (When the download is requested)	Communication timeout (When the download is requested)
M02	Time out (When the download is written)	Communication timeout (When the download is written)
M03	Time out (When the download is finished)	Communication timeout (When the download is finished)
M04	Reception failed (When the download is requested)	Downloading request was denied. (When the download is requested)
M05	Deletion error (When the download is written)	Deletion error (When the download is written)
M06	Writing error (When the download is written)	Writing error (When the download is written)
M07	Checksum error (When the download is finished)	Checksum error (When the download is finished)
M08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
M09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
M10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
M00	Other error	Other error

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PFC Update Error		
Error number	**Error message**	**Error content**
F01	Time out (When the download is requested)	Communication timeout (When the download is requested)
F02	Time out (When the download is written)	Communication timeout (When the download is written)
F03	Time out (When the download is finished)	Communication timeout (When the download is finished)
F04	Reception failed (When the download is requested)	Downloading request was denied. (When the download is requested)
F05	Deletion error (When the download is written)	Deletion error (When the download is written)
F06	Writing error (When the download is written)	Writing error (When the download is written)
F07	Checksum error (When the download is finished)	Checksum error (When the download is finished)
F08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
F09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
F10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
F00	Other error	Other error

Scanner Update Error		
Error number	**Error message**	**Error content**
S01	Time out (When the download is requested)	Communication timeout (When the download is requested)
S02	Time out (When the download is written)	Communication timeout (When the download is written)
S03	Time out (When the download is finished)	Communication timeout (When the download is finished)
S05	Deletion error (When the download is written)	Deletion error (When the download is written)
S06	Writing error (When the download is written)	Writing error (When the download is written)
S08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
S09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
S10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
S00	Other error	Other error

(8) Press the [ON/OFF] button to shut down the equipment, and then remove the USB media.

(9) Perform the initialization of the updating data.
- Turn ON the power while [0] button and [8] button are pressed simultaneously.
- Key in “947”, and then press the [START] button.
- Press the [INITIALIZE] button.

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[B] Confirmation of the updated data

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data were overwritten properly.

📖 P.19-50 "19.4 Confirmation of the updated data"

[C] Adjustment

Perform the adjustment of the equipment.

- Performing Image Quality Control (05-396):
  📖 P.8-12 "8.5.3 Performing Image Quality Control (IQC)"

- Adjustment of Color Registration Control (05-4719):
  📖 P.8-14 "8.5.4 Adjustment of Color Registration Control"

- Automatic gamma adjustment <PPC> (05-1642) (using [4][FAX] test pattern):
  📖 P.8-40 "8.6.1 Automatic gamma adjustment"

- Automatic gamma adjustment < PRT > (05-1008) (using [70][FAX] test pattern):
  📖 P.8-55 "8.7.1 Automatic gamma adjustment"

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[D] Display during the update

Update is performed in parallel as shown in the transition diagram below.

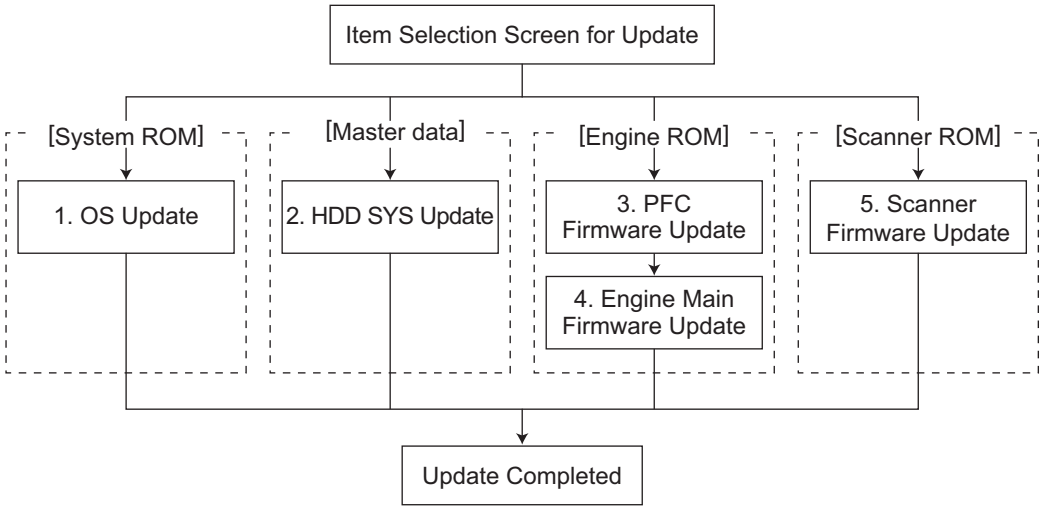

Fig. 19-4

Below is an example of the changes of the LCD screen during update.

System ROM

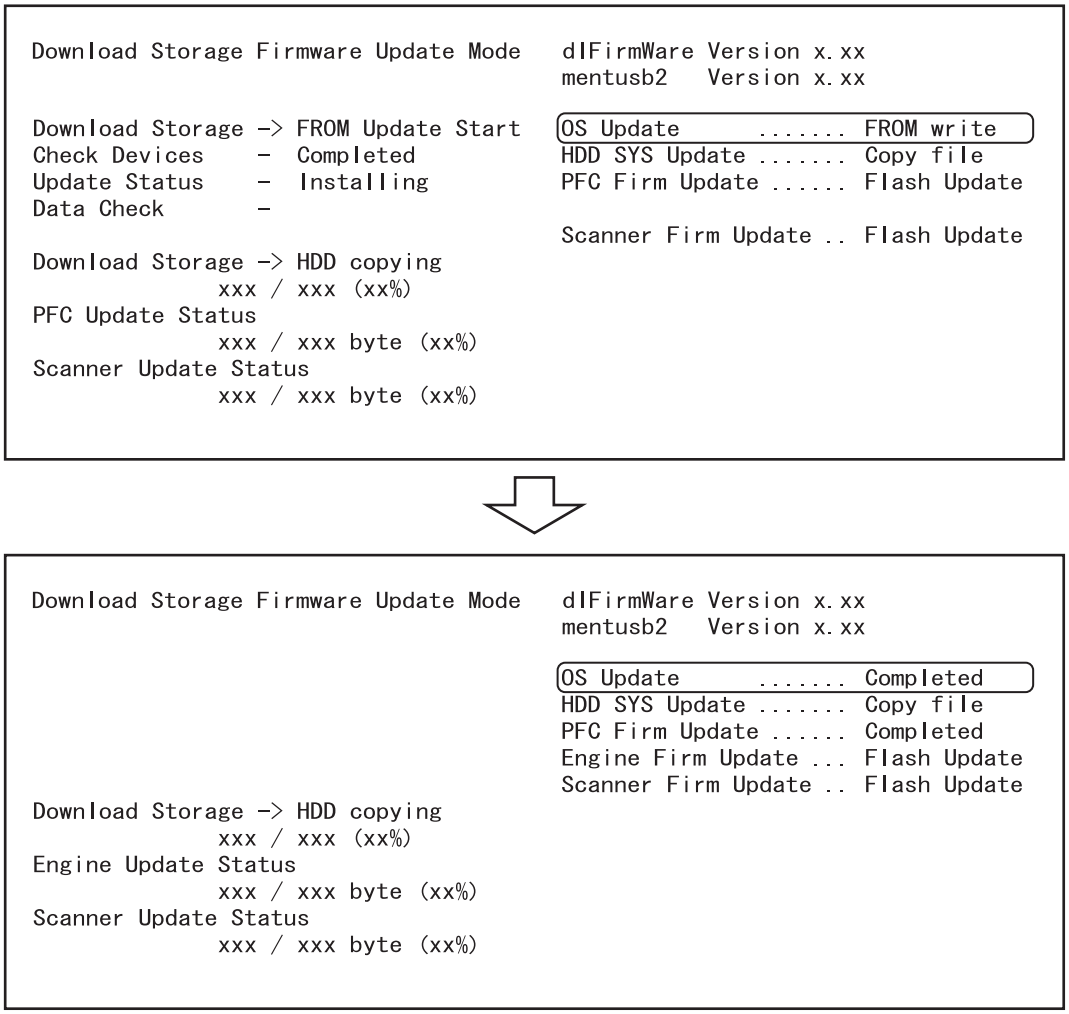

Fig. 19-5

19

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Master data

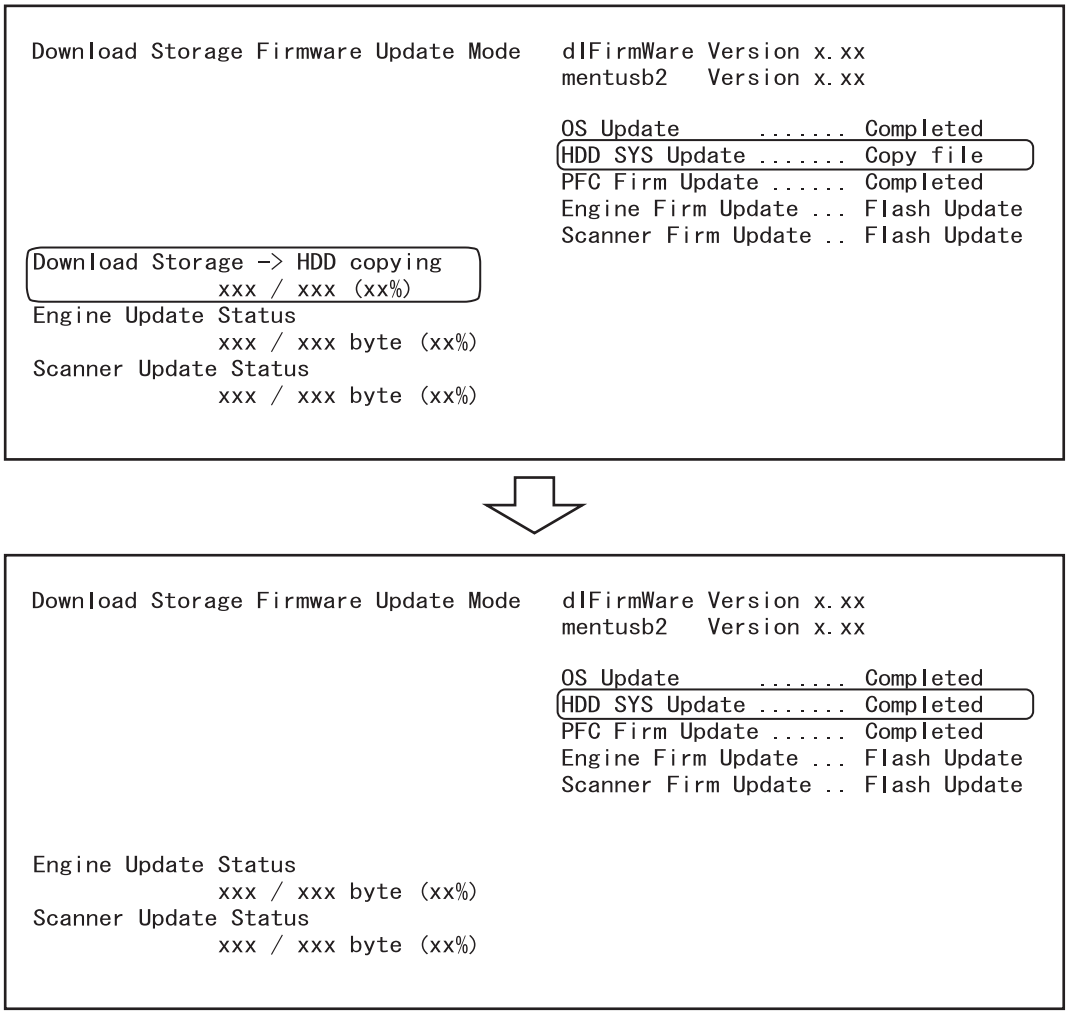

Fig. 19-6

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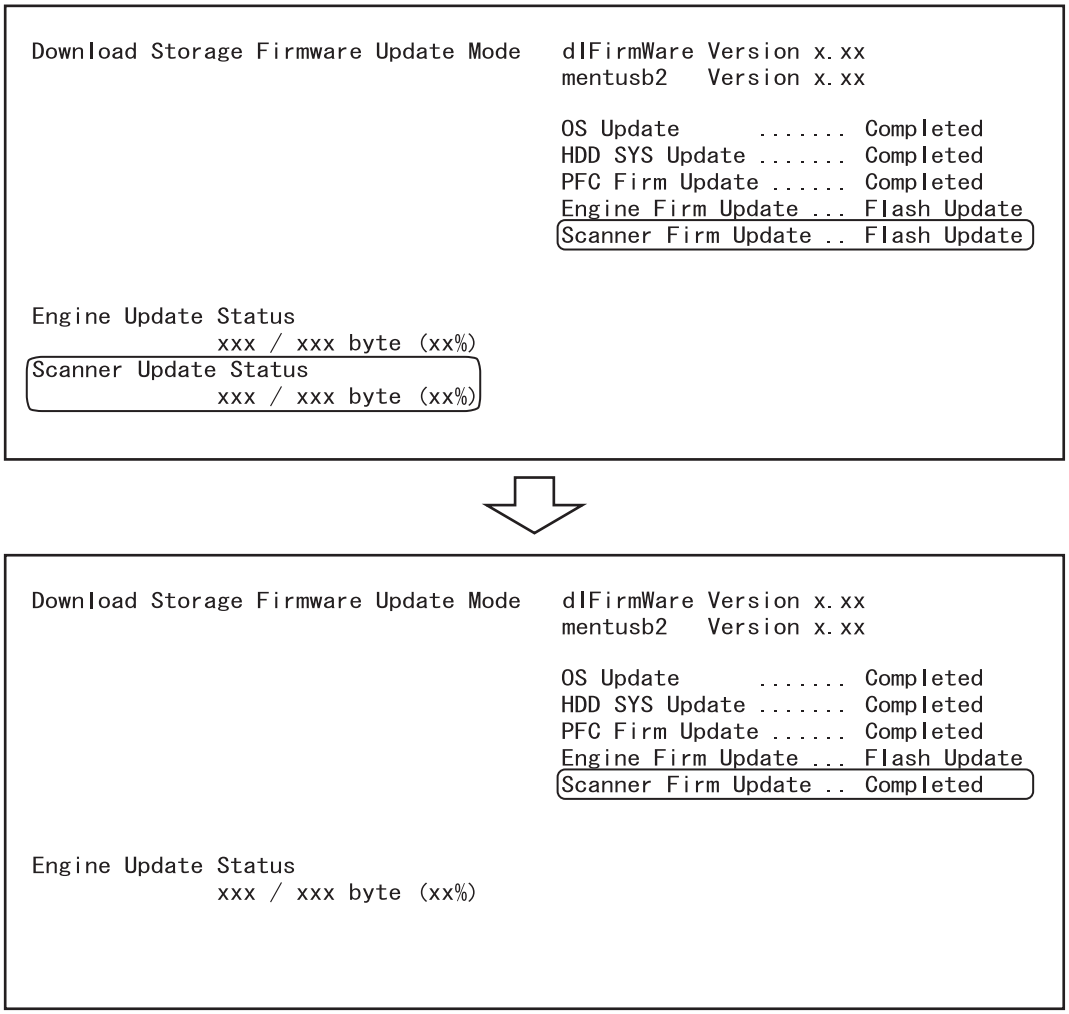

Fig. 19-7

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PFC ROM / Engine ROM

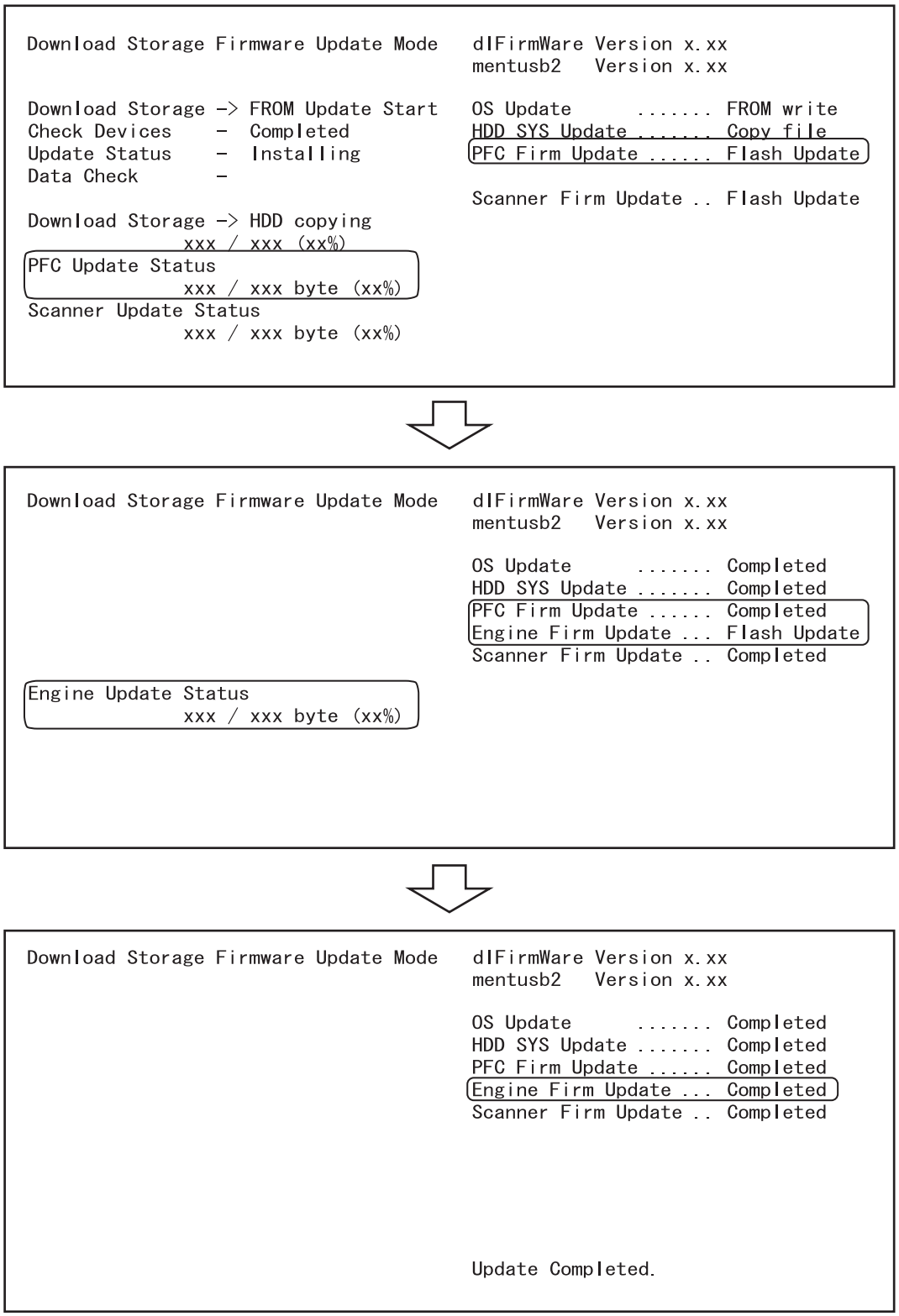

Fig. 19-8

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19.1.2 Imaging Acceleration Board ROM (GE-1170)

Important:

- The file system of USB media should be formatted in the FAT or FAT32 format. Be careful since the devices formatted in NTFS format will not be able to be operated. The file system can be confirmed on the properties in applications such as Explorer of Windows.
- The firmware version of the Imaging Acceleration Board ROM differs depending on the version of the system firmware.
  Therefore confirm in advance that the version is the correct one before updating the Imaging Acceleration Board ROM.

[A] Update procedure

(1) Connect the USB media to the PC and write the model specific folder in which the data file is stored.
Store the update program loader (mentusb2.o) in the root directory, and store the model specific update program (dlFirmWare_5520C_6530C) and the data file for updating in the model specific folder.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Connect the USB media to the USB port on the right upper cover.

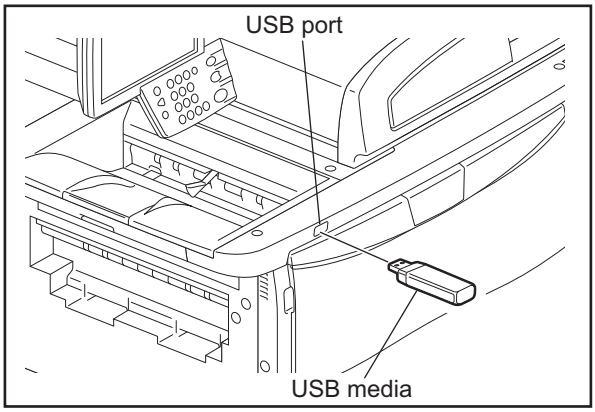

Fig. 19-9

Note:

Updating cannot be performed with multiple USB media connected at the same time.

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(4) Press the [ON/OFF] button while simultaneously holding down the [4] and [9] buttons.
Data in the USB media are checked and the checking status is displayed on the screen.

The screen for selecting items to be updated is displayed after approx. 1 minute.
On this screen, the current firmware version of this equipment and the firmware version of data to be updated are displayed.

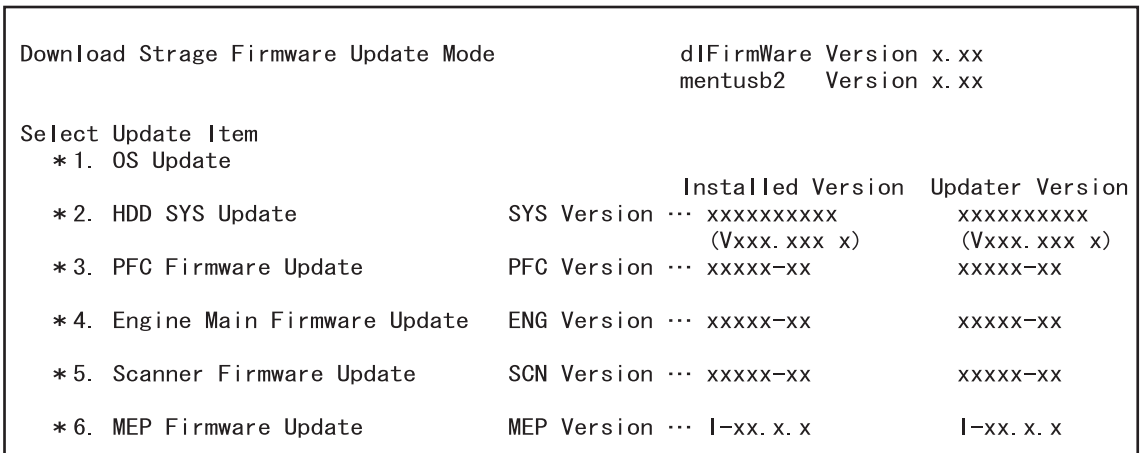

Fig. 19-10

Notes:

- The display of items on this screen varies depending on the types of data written on the USB media. Each item is displayed only when each data file is written on the USB media in the following conditions.

Item	Condition
1. OS Update	For the details, see the following page: 📖 P.19-7 "19.1.1 Master data/System ROM/PFC ROM/Engine ROM/Scanner ROM"
2. HDD SYS Update	
3. PFC Firmware Update	
4. Engine Main Firmware Update	
5. Scanner Firmware Update	
6. MEP Firmware Update	• The Imaging Acceleration Board (GE-1170, optional) must be installed. • T430IWW.xxx is written. * xxx is version.

- If the USB media are not recognized properly, “Set Correct USB Storage Device” message is displayed. In this case, disconnect the USB media and connect it again within 3 minutes, or shut down the equipment and connect the device properly. Then repeat the procedure from (4).
- If any of the error messages below is displayed, confirm if the update program or the data file in the USB media is correct. Then repeat the procedure from (4)

Error number	Error message	Cause
-	There is no mentusb2.o	Update program loader (mentusb2.o) is not stored.
01	There is no dlFirmWare_5520C_6530C	Model specific update program (dlFirmWare_5520C_6530C) is not stored.
02	Error Loadmodule	Module loading failed.
03	Machine Model Get Error	Model information was not downloaded.
04	Please Change USB Storage or Please Check ROMDATA	Checking of data file failed.
05	Other models ROMDATA Vxxxx.xxx x * The version name comes at “xxxx.xxx.x”.	Master data of other model (hdd.bin) are stored.

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(5) Select “6. MEP Firmware Update” with the digital keys.
“*” is displayed next to the selected item. Display or delete the “*” by pressing the number of the item.

Item	Remarks
6. MEP Firmware Update	Updating the Imaging Acceleration Board ROM

(6) Press the [START] button.
Updating starts and the processing status is displayed on the LCD screen.

Status display during update	Status display when update is completed
MEP Firm Update ..... SROM Update	MEP Firm Update ..... Completed

(7) “Update Completed.” is displayed at the bottom of the LCD screen after the updating is completed properly.

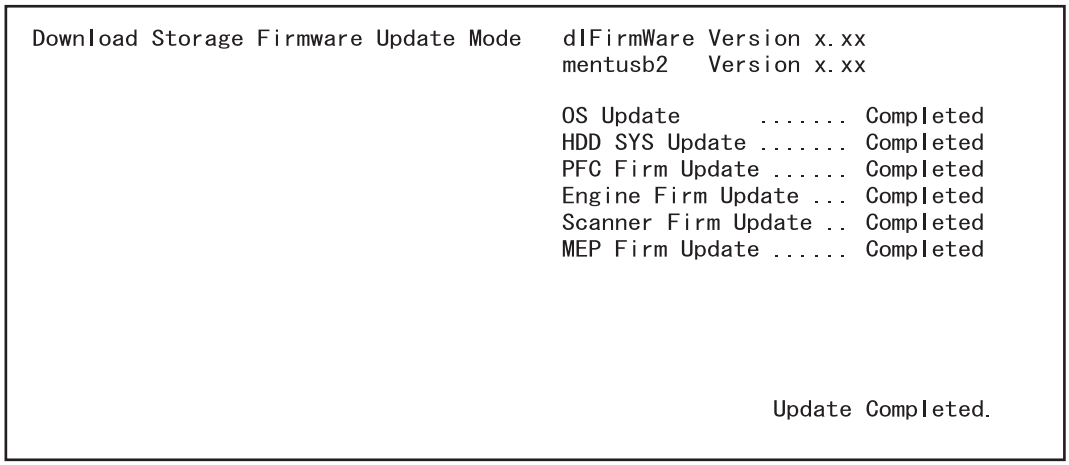

Fig. 19-11

Notes:

- “Update Failed.” is displayed at the bottom of the LCD screen when the updating is not completed properly. “Failed” appears next to the failed item on the status display. Even if though an update fails, do not turn the power OFF until all other updates are finished. If "Update Failed" appears at the bottom of the screen, turn OFF the power and then check the following items. After confirming and clearing the problems, restart updating from the beginning.
  - Do the USB media meet the conditions to be used for updating?
  - Is the data file written properly on the USB media?
  - Are the USB media installed properly?
  - Do the USB media and equipment operate properly?
- When an error occurred and the update failed, “Update Failed” or “Failed” appears on the screen and an error code appears next to the message. The content of each error code is shown below.

Imaging Acceleration Board update Error		
Error number	**Error message**	**Error content**
I01	Board Error	The MEP board is not operating properly.
I02	Parameter Error	The parameter for API function is incorrect.
I03	File Read Failed	An error occurred during a file input operation.
I04	Temporary File Error	An error occurred during a temporary file operation.
I05	File Format Error	The format of the input file is incorrect.
I06	Memory Allocation Failed	An error occurred during the memory allocation.
I00	Other error	Other error

(8) Press the [ON/OFF] button to shut down the equipment, and then remove the USB media.

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[B] Confirmation of the updated data

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data were overwritten properly.

📖 P.19-50 "19.4 Confirmation of the updated data"

Note:

Check that the icon of the Imaging Acceleration Board on the scan menu is displayed in color.

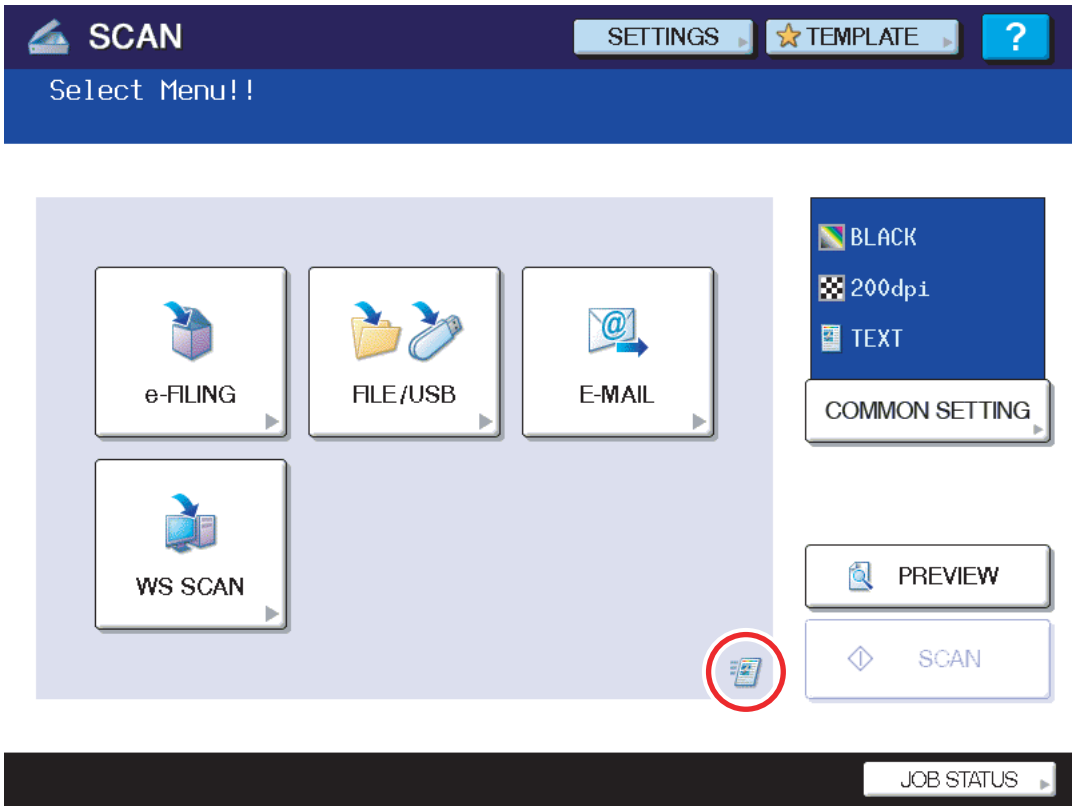

Fig. 19-12

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[C] Display during the update

Below is an example of the changes of the LCD screen during update.

Imaging Acceleration Board ROM

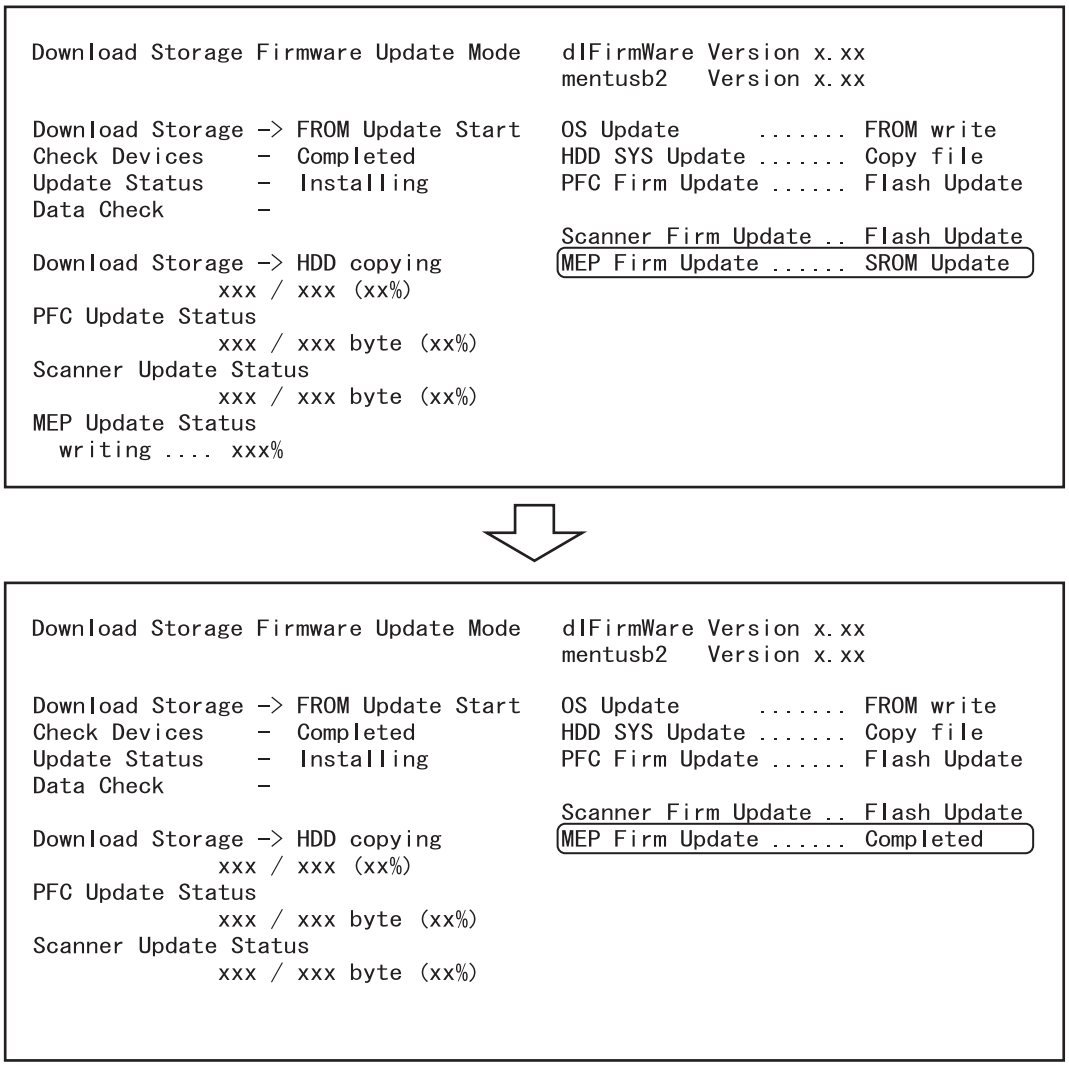

Fig. 19-13

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19.2 Firmware Updating with PWA-DWNLD-350-JIG2

The data to be overwritten by this update are as follows.
Update the ROM data written on each board according to the need such as the case of replacing the system control PC board, logic PC board or scanning section control PC board.

Equipment

Firmware	Stored
System ROM (OS data)	Hard disk
Engine ROM (Main firmware)	Logic PC board (LGC board)
PFC ROM	Paper feeding control board (PFC board)

PWA-DWNLD-350-JIG2 (48MB)

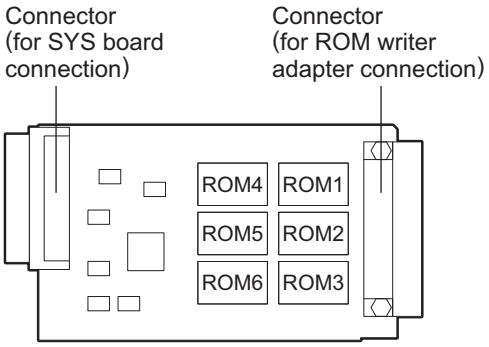

Fig. 19-14 Jig board: PWA-DWNLD-350-JIG2 (48 MB)

Important:

The download jig (PWA-DWNLD-350-JIG2) is the jig in which the Flash ROM is mounted on the board directly. Therefore, ROM writer adapter (PWA-DL-ADP-350) is required to write the data to these Flash ROMs. Refer to the following to write the data.

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19.2.1 Writing the data to the download jig (PWA-DWNLD-350-JIG2)

The download jig (PWA-DWNLD-350-JIG) is the jig in which the Flash ROM is mounted on the board directly. The ROM writer adapter (PWA-DL-ADP-350) is required to write data to these Flash ROMs. Connect the download jig with the ROM writer via ROM writer adapter to write data. For the procedure to write data, refer to the download procedure, instruction manual of each ROM writer, or others.

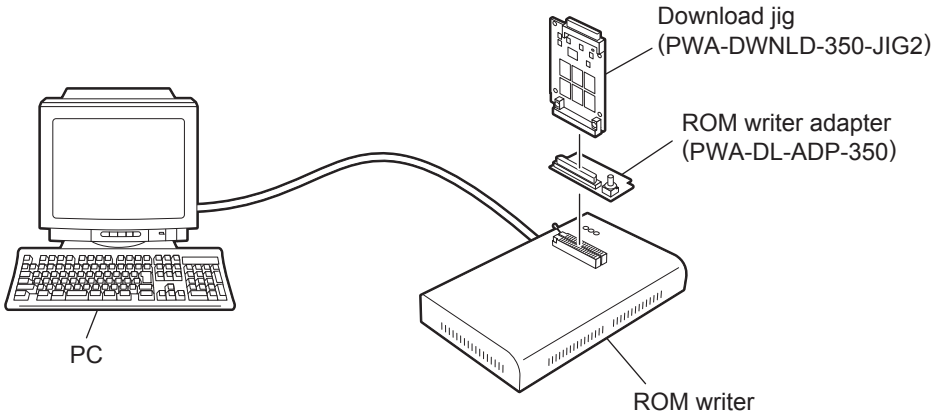
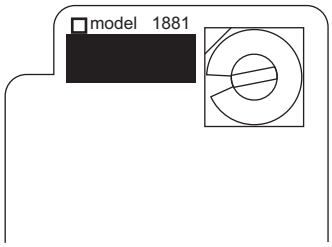


Fig. 19-15

Note:

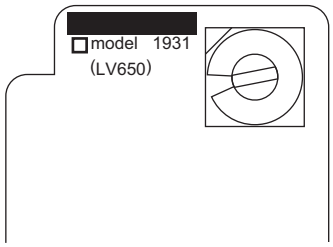
There are two types of the ROM writer adapter. Use the proper one according to the ROM writer to be used. Applicable type of the adapter for the ROM writer can be confirmed by the model name indicated on the board. Confirm that the adapter is available for the ROM writer to be used before connecting them. If an unapplied adapter is connected, the application of the ROM writer judges it as an error and writing the data cannot be implemented. Applicable combinations of the ROM writer and adapter are as follows.

ROM writer	ROM writer adapter
Minato Electronics MODEL 1881XP/1881UXP (or equivalent)	PWA-DL-ADP-350-1881 (model 1881)
Minato Electronics MODEL 1893/1895/1931/1940 (or equivalent)	PWA-DL-ADP-350-1931 (model 1931)



[PWA-DL-ADP-350-1881]

Fig. 19-16



[PWA-DL-ADP-350-1931]

Fig. 19-17

19

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[A] Precautions when writing the System ROM data

- Set the writing voltage (VID) to 3.3 V.
  When an error appears while the data are being written to the download jig, set the writing voltage (VID) to 12 V and then write them.
- When writing the data, set the address from 0 to 3FFFFF. The data may not be written correctly if it is not set.
- Load the data file into the buffer by means of the following settings.

Auto Format Detected	Binary
From File	Normal
To Buffer	Normal
From File Address	0
To Buffer Address	0
Buffer Size	800100
Clear Buffer Before Loading the file	Clear buffer with blank state

[A-1] System ROM

Rotary Switch	File Name	Flash ROM
1	firmImage_jig0.bin	ROM1
2	firmImage_jig1.bin	ROM2
3	N/A	ROM3
4	N/A	ROM4
5	N/A	ROM5
6	N/A	ROM6

Note:
Be sure not to confuse different ROM Versions since the file name is identical although the ROM version is different.

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[B] Precautions when writing the Engine/PFC ROM data

- Clear the buffer of the ROM writer by means of the following settings.

From Address	To Address	Code
0	800000	FF
800000	8000FF	00

- Set the writing voltage (VID) to 3.3 V.
  When an error appears while the data are being written to the download jig, set the writing voltage (VID) to 12 V and then write them.
- When writing the data, set the address from 0 to 3FFFFF. The data may not be written correctly if it is not set.
- Load the data file into the buffer by means of the following settings.

Auto Format Detected	Binary
From File	Normal
To Buffer	Normal
From File Address	0
To Buffer Address	300000
Buffer Size	800000
Clear Buffer Before Loading the file	Clear buffer with blank state

[B-1] Engine ROM

Rotary Switch	File Name	Flash ROM
1	T430MWW.xxx	ROM1
2	N/A	ROM2
3	N/A	ROM3
4	N/A	ROM4
5	N/A	ROM5
6	N/A	ROM6

[B-2] PFC ROM

Rotary Switch	File Name	Flash ROM
1	T430FWW.xxx	ROM1
2	N/A	ROM2
3	N/A	ROM3
4	N/A	ROM4
5	N/A	ROM5
6	N/A	ROM6

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19.2.2 System ROM

The firmware of the system ROM can be updated individually by using WA-DWNLD-350-JIG2.

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update procedure

(1) Write the ROM data to be updated to the download jig (PWA-DWNLD-350-JIG2).

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Take off the cover plate.

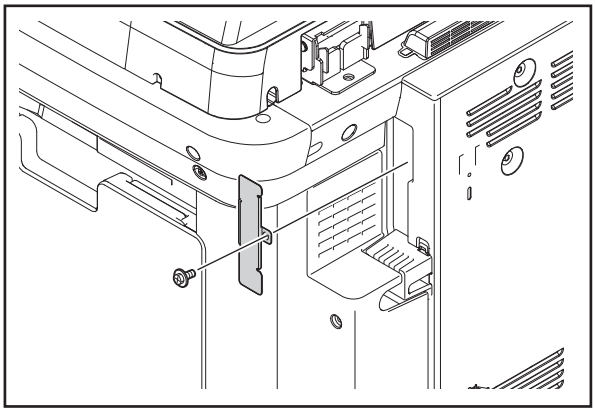

Fig. 19-18

(4) Connect the download jig with the jig connector on the SYS board.

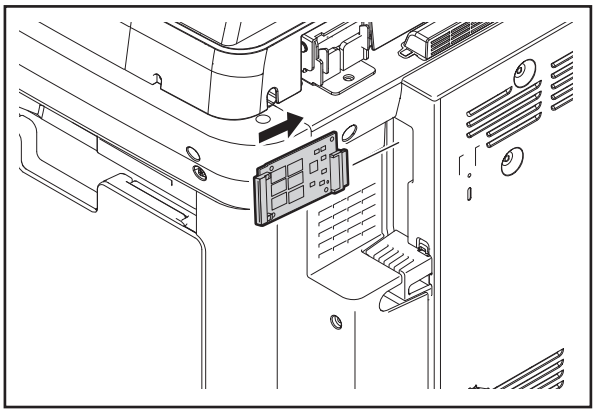

Fig. 19-19

(5) Press the [ON/OFF] button while simultaneously holding down the [8] and [9] buttons.

(6) Select the item with the digital keys.
"*" is displayed next to the selected item. Display or delete the "*" by pressing the number of the item. All items are selected in the default settings.

(7) Press the [START] button.
Updating starts and the processing status is displayed on the LCD screen.

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(8) “Update Completed.” is displayed at the bottom of the LCD screen after the updating is completed properly.

Note:
“Update Failed.” is displayed at the bottom of the LCD screen when the updating is not completed properly. “Failed” appears next to the failed item on the status display. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the updating data written to the download jig properly?
- Do the download jig and the equipment operate properly?

(9) Turn the power OFF using the main power switch on the right-hand surface of the equipment, remove the download jig, and then install the cover plate.

(10) Perform the initialization of the updating data.
- Turn the power ON using the main power switch while pressing the [0] and [8] buttons simultaneously.
- Key in “947”, and then press the [START] button.
- Press the [INITIALIZE] button.

[B] Confirmation of the updated data

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.2.3 Engine ROM

The firmware of the engine ROM can be updated individually by using PWA-DWNLD-350-JIG2.

Important:

- Be sure to unplug the power cable before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.
- When servicing the equipment with the power cable plugged in, be sure not to touch live sections or motors, etc.

[A] Update Procedure

(1) Write the ROM data to be updated to the download jig (PWA-DWNLD-350-JIG2).

(2) Turn the power OFF using the main power switch on the right-hand surface of the equipment.

(3) Unplug the power cable from the outlet.

(4) Take off the rear cover.

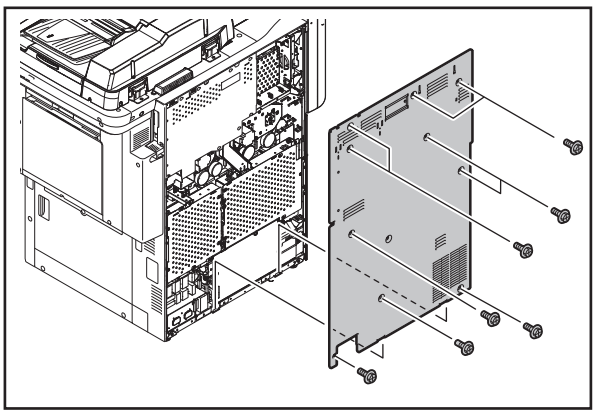

Fig. 19-20

(5) Take off the cover plate.

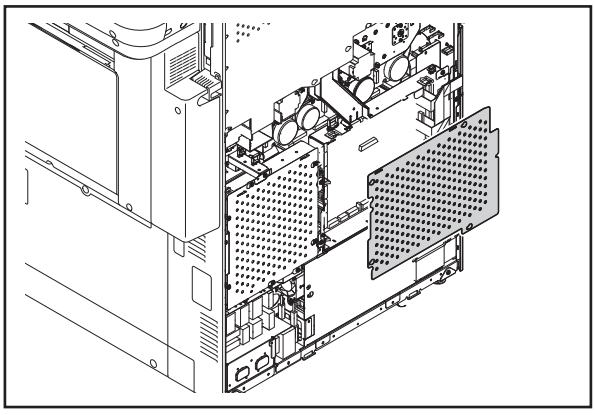

Fig. 19-21

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(6) Connect the download jig with the jig connector (CN334) on the logic PC board (LGC board).

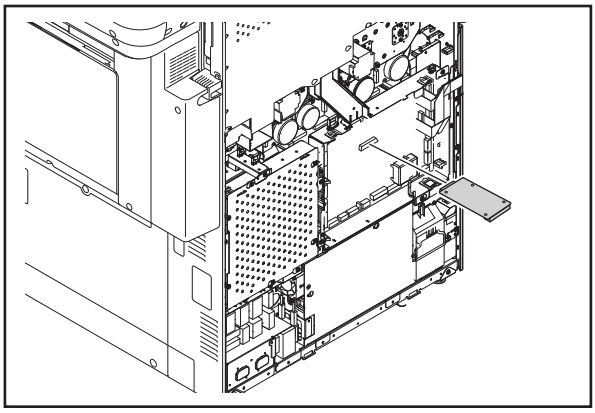

Fig. 19-22

(7) Open the duplexing unit.

(8) Plug the power cable into the outlet.

(9) Turn the power ON using the main power switch while simultaneously holding down the [0] and [8] buttons.
Updating starts automatically and the LED on the download jig lights.

(10) When the update is completed properly, the LED (END) on the download jig blinks.
The LED starts blinking approx. 15 sec. after the update starts. It is assumed that the update has failed if it does not start blinking even though 1 min. has passed. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the updating data written on the ROM of the download jig properly?
- Do the download jig and the equipment operate properly?

(11) Turn the power OFF using the main power switch on the right-hand surface of the equipment.

(12) Unplug the power cable from the outlet and remove the download jig.

(13) Install the cover plate and rear cover, and then close the duplexing unit.

(14) Plug the power cable into the outlet.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.2.4 PFC ROM

The firmware of the PFC ROM can be updated individually by using PWA-DWNLD-350-JIG2.

Important:

- Be sure to unplug the power cable before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.
- When servicing the equipment with the power cable plugged in, be sure not to touch live sections or motors, etc.

[A] Update Procedure

(1) Write the ROM data to be updated to the download jig (PWA-DWNLD-350-JIG2).

(2) Turn the power OFF using the main power switch on the right-hand surface of the equipment.

(3) Unplug the power cable from the outlet.

(4) Take off the rear cover.

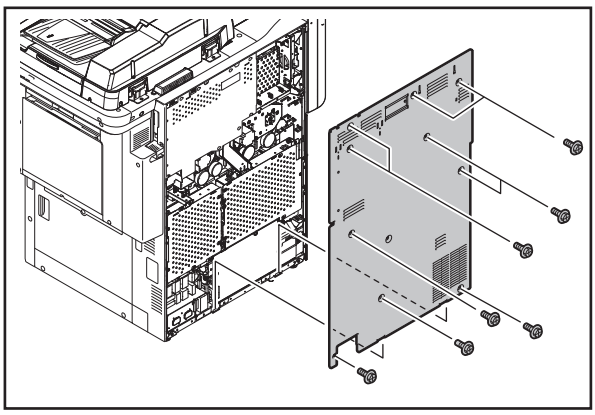

Fig. 19-23

(5) Take off the cover plate.

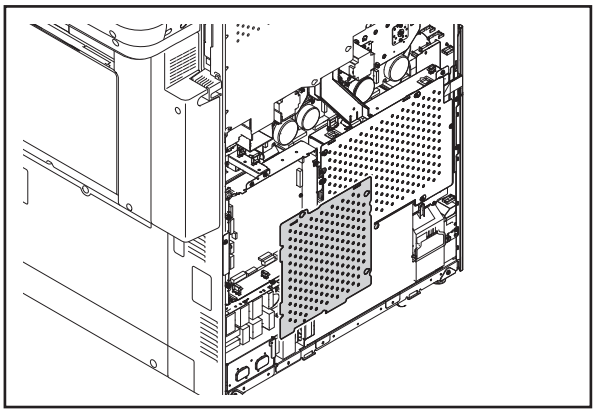

Fig. 19-24

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(6) Connect the download jig with the jig connector (CN518) on the paper feeding control board (PFC board).

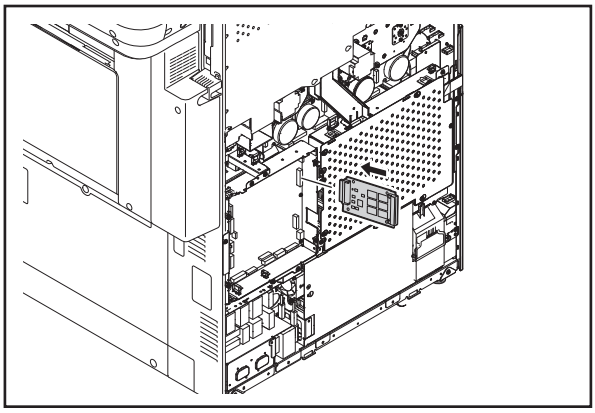

Fig. 19-25

(7) Open the duplexing unit.

(8) Plug the power cable into the outlet.

(9) Turn the power ON using the main power switch while simultaneously holding down the [0] and [8] buttons.
Updating starts automatically and the LED on the download jig lights.

(10) When the update is completed properly, the LED (END) on the download jig blinks.
The LED starts blinking approx. 15 sec. after the update starts. It is assumed that the update has failed if it does not start blinking even though 1 min. has passed. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the updating data written on the ROM of the download jig properly?
- Do the download jig and the equipment operate properly?

(11) Turn the power OFF using the main power switch on the right-hand surface of the equipment.

(12) Unplug the power cable from the outlet and remove the download jig.

(13) Install the cover plate and rear cover, and then close the duplexing unit.

(14) Plug the power cable into the outlet.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3 Firmware Updating with K-PWA-DLM-320

The firmware of the equipment (scanner ROM) and the option (RADF ROM, Finisher ROM, FAX ROM) can be updated individually by using K-PWA-DLM-320. Update the ROM data written on each board according to the need such as the case of replacing the board.

Equipment

Firmware	Stored
Scanner ROM (Scanner firmware)	Scanning section control PC board (SLG board)
Reversing Automatic Document Feeder (RADF) (RADF firmware)	RADF control PC board (RADF board)

Options

Model name	Firmware	Stored
Finisher (MJ-1103)	Finisher firmware	Finisher control PC board
	Converter firmware	LGC board
Saddle Stitch Finisher (MJ-1104)	Finisher firmware	Finisher control PC board
	Saddle stitcher firmware	Saddle stitcher PC board
	Converter firmware	LGC board
Hole Punch Unit (MJ-6102)	Hole punch unit firmware	Hole punch control PC board
Fax Unit (GD-1270)	Fax unit firmware	FAX board

K-PWA-DLM-320

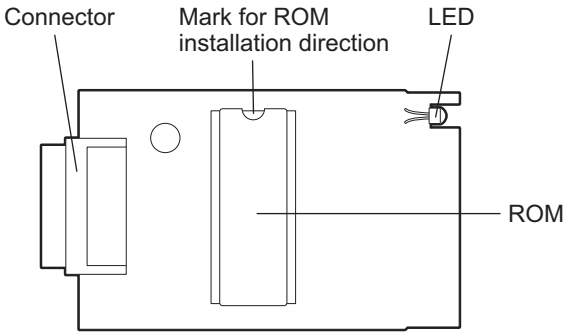

Fig. 19-26 Jig board: K-PWA-DLM-320

Important:

Pay attention to the direction of the ROM.

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19.3.1 Scanner ROM

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update Procedure

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Take off the top right cover.

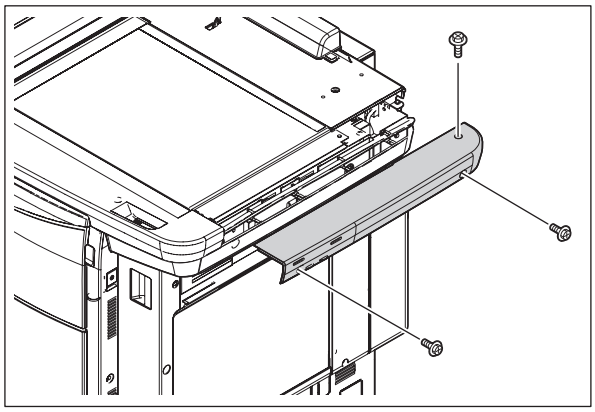

Fig. 19-27

(4) Take off the right top cover.

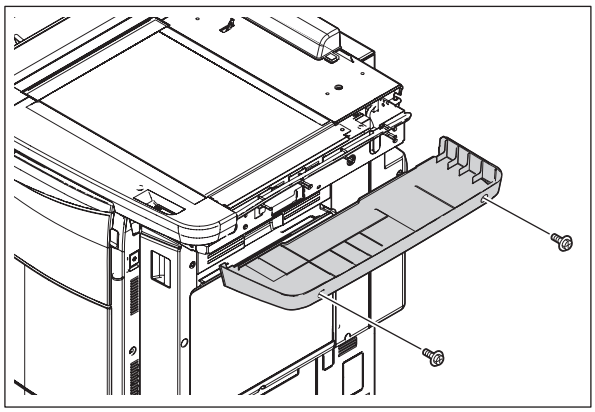

Fig. 19-28

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(5) Remove the cover plate.

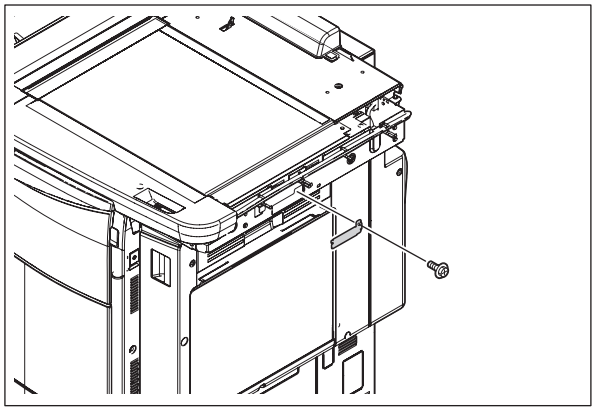

Fig. 19-29

(6) Connect the download jig with the jig connector on the scanning section control PC board (SLG board).

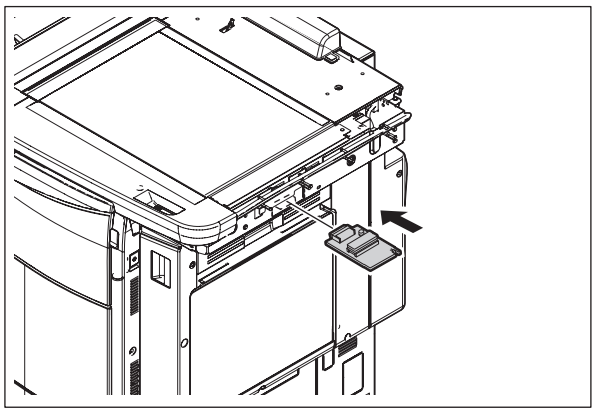

Fig. 19-30

(7) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts automatically and the LED on the download jig lights.

(8) After the update is completed properly, the LED on the download jig blinks.
The LED starts blinking approx. 20 sec. after the update starts. It is assumed that the update has failed if it does not start blinking even though 1 min. has passed. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the ROM installed to the download jig properly?
- Is the updating data written on the ROM of the download jig properly?
- Do the download jig and the equipment operate properly?

(9) Turn the power OFF using the main power switch on the right-hand surface of the equipment, remove the download jig, and then install the cover plate, top right cover and right top cover.

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[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.

📖 P.19-50 "19.4 Confirmation of the updated data"

Important:

If the exposure lamp blinks twice at the time of start-up and a “C270” error occurs, the model of the scanner ROM updated may be incorrect.
Check the model of the scanner ROM and retry updating.

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19.3.2 RADF firmware

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update Procedure

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Take off the upper exhaust fan cover.
📖 P.3-47 "3.5.19 Upper exhaust fan cover"

(4) Take off the RADF rear cover.

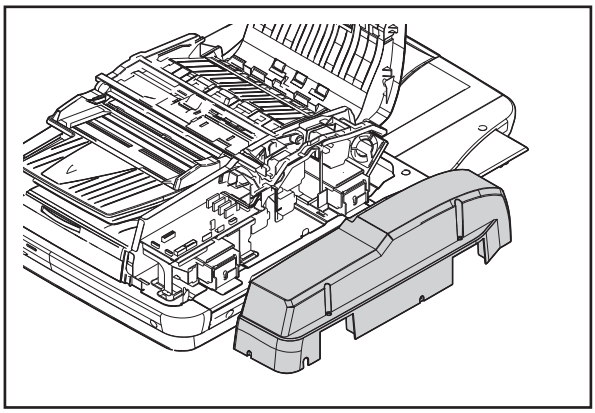

Fig. 19-31

(5) Connect the download jig with the jig connector on the RADF control PC board.

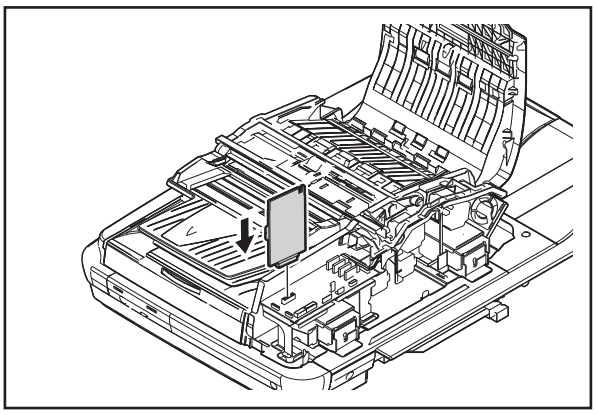

Fig. 19-32

(6) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts automatically and the LED on the download jig lights.

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(7) After the update is completed properly, the LED on the download jig blinks (at an interval of approx. 1 sec.).
The LED starts blinking approx. 50 sec. after the update starts. It is assumed that the update has failed if it does not start blinking even though 2 min. has passed. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the ROM installed to the download jig properly?
- Is the updating data written on the ROM of the download jig properly?
- Do the download jig and the equipment operate properly?

(8) Turn the power OFF using the main power switch on the right-hand surface of the equipment, remove the download jig, and then install the RADF rear cover and upper exhaust fan cover.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3.3 Finisher firmware (MJ-1103/1104)

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update Procedure

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Remove 2 screws and take off the board access cover.

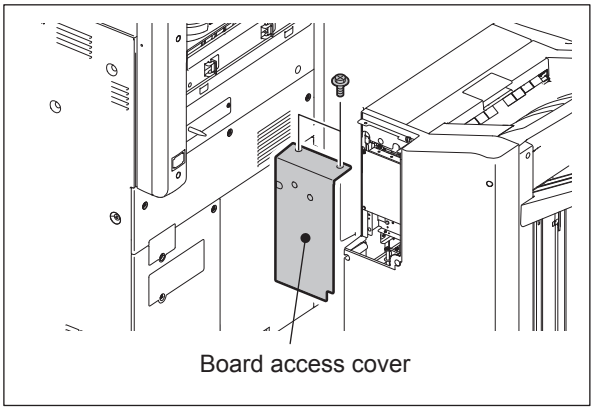

Fig. 19-33

(4) Connect the download jig with the jig connector (CN28) on the Finisher control board.

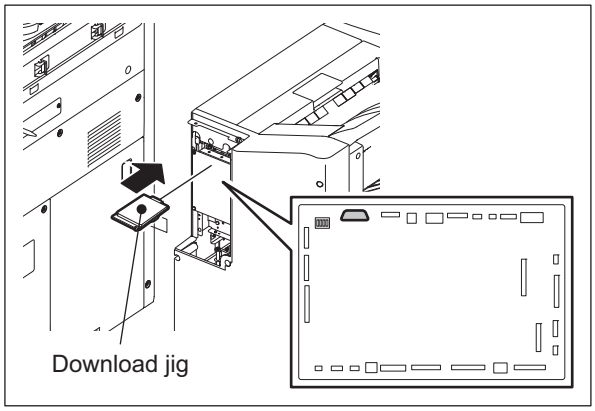

Fig. 19-34

(5) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts and the LED on the download jig lights.

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(6) When the update completes normally, the LED on the download jig starts blinking.
The LED on the download jig starts blinking approx. 12 seconds after the update started.
It is assumed that the update has failed if the LED does not start blinking even after 20 seconds have elapsed.
In this case, turn the power OFF and check the following items.
Then, clear the problem and restart updating from the beginning.
- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

(7) Turn the power OFF using the main power switch on the right-hand surface of the equipment and remove the download jig.

(8) Install the board access cover.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3.4 Saddle stitcher firmware (MJ-1104)

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update Procedure

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Open the front upper cover and then pull out the saddle unit.

(4) Loosen 2 screws and turn the saddle control PC board access cover in the direction of the arrow.

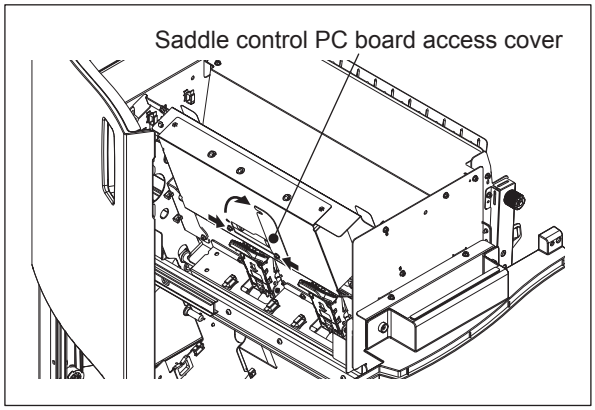

Fig. 19-35

(5) Connect the download jig with the jig connector (CN16) on the Saddle control board.

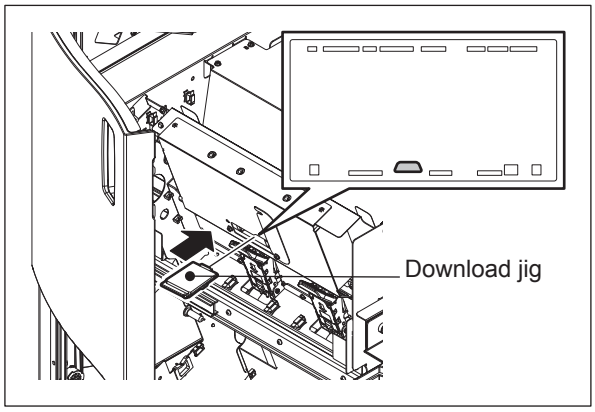

Fig. 19-36

(6) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts and the LED on the download jig lights.

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(7) When the update completes normally, the LED on the download jig starts blinking.
The LED on the download jig starts blinking approx. 8 seconds after the update started.
It is assumed that the update has failed if the LED does not start blinking even after 15 seconds have elapsed.
In this case, turn the power OFF and check the following items.
Then, clear the problem and restart updating from the beginning.
- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

(8) Turn the power OFF using the main power switch on the right-hand surface of the equipment and remove the download jig.

(9) Return the saddle control PC board access cover to its original position.

(10) Set the saddle unit back to the main unit and then close the upper front cover.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3.5 Hole punch unit firmware (MJ-6102)

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Checking the hole punch position

Follow the procedure below to check the stopping position of the paper transport during the punching operation before updating the firmware, as the value for the position is defaulted when the firmware is updated.

(1) Press the [ON/OFF] button on the control panel to shut down the equipment.

(2) Remove the finisher board access cover and change the setting of the DIP-SW1 (SW1) on the finisher control PC board as shown in the figure below.

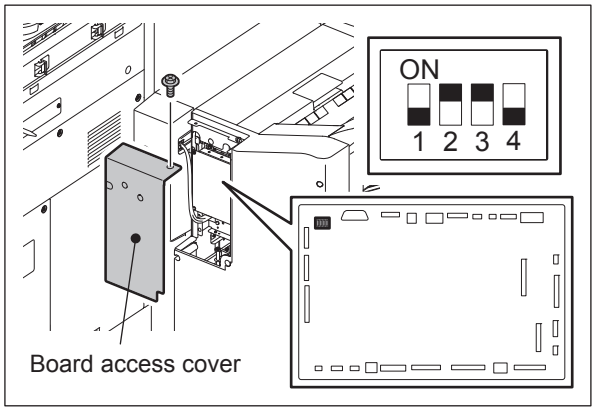

Fig. 19-37

(3) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons. The [LED1] on the finisher control panel starts blinking. Count the number of times it blinks. If the number of blinks is “6”, this indicates that the value for the stopping position is the default. If the number is other than “6”, record it because the value needs to be reset after the firmware is updated.

(4) Return the DIP-SW1 to the status before checking.

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[B] Firmware update

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Remove 2 screws and take off the finisher board access cover.

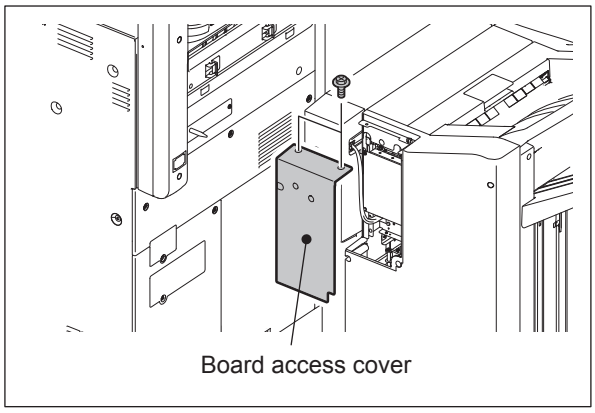

Fig. 19-38

(4) Connect the download jig with the jig connector (CN28) on the finisher control PC board.

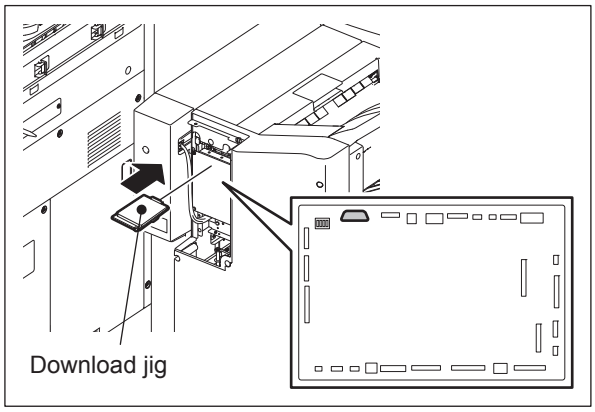

Fig. 19-39

(5) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts and the LED on the download jig lights.

(6) When the update is completed normally, the LED on the download jig starts blinking. The LED on the download jig starts blinking approx. 60 seconds after the update started. It is assumed that the update has failed if the LED does not start blinking even after 90 seconds have elapsed, or if it repeats blinking 5 times, going out for 2 sec., blinking twice and going out for 2 more sec. This is a blinking error.
In this case, turn the power OFF and check the following items. Then, clear the problem and restart updating from the beginning.
- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?
- Is the connector (CN25) on the finisher control PC board properly connected with the one (CN5) on the interface PC board?
- Are the connector (CN4) on the Interface PC board and the connector (CN4) on the hole punch control PC board connected properly?

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(7) Turn the power OFF using the main power switch on the right-hand surface of the equipment and remove the download jig.

Note:
When the number of blinks is other than “6” (which indicates that the adjustment value is “0”) at the section “[A]Checking the hole punch position”, follow the steps of “5.1 Stopping Position Adjustment” in the MJ-6102 Service Manual to adjust the value to the one that has been set before the update.

(8) Install the finisher board access cover.

[C] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3.6 Converter Firmware (MJ-1103/1104)

Important:

- Be sure to shut down the equipment before installing and removing the download jig.
- Do not shut down the equipment during the update. The data could be damaged and not be able to be operated properly.

[A] Update Procedure

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Remove 2 screws and take off the board access cover.

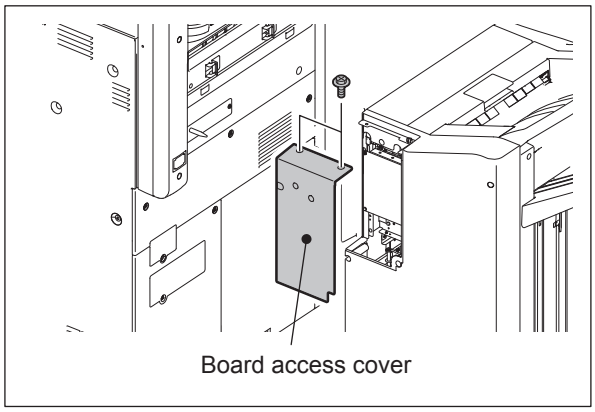

Fig. 19-40

(4) Set the SW1 on the Finisher control board as shown in the figures below.

(5) Connect the download jig with the jig connector (CN28) on the Finisher control board.

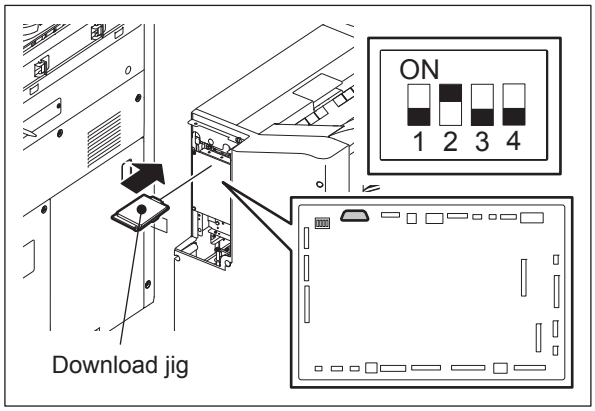

Fig. 19-41

(6) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons.
Updating starts and the LED on the download jig lights.

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(7) When the update completes normally, the LED on the download jig starts blinking.
The LED on the download jig starts blinking approx. 12 seconds after the update started.
It is assumed that the update has failed if the LED does not start blinking even after 20 seconds have elapsed.
In this case, turn the power OFF and check the following items.
Then, clear the problem and restart updating from the beginning.
- Is the downloading jig connected properly?
- Is the ROM attached to the downloading jig properly?
- Has the update data been written correctly to the ROM on the jig?
- Is the download jig or the equipment damaged?

(8) Turn OFF all bits of the SW1 on the Finisher control board.

(9) Turn the power OFF using the main power switch on the right-hand surface of the equipment and remove the download jig.

(10) Install the board access cover.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.
📖 P.19-50 "19.4 Confirmation of the updated data"

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19.3.7 Fax unit firmware (GD-1270)

Important:

- Before updating the FAX ROM, make sure to print out the current Function list for maintenance, Function list (ADMIN), Address book list and Group number information. In case the updating is failed and the registered information of the users is lost for some reason, re-register the user information referring to the lists and recover it.
- Confirm the following items before turning OFF the power of the equipment. Turning OFF the power may clear the data below.
  - Confirm that the “MEMORY RX” LED is OFF and there are no memory reception data.
  - Print the “Mailbox/Relay box report” and then confirm that there are no F code data.
  - Press the [JOB STATUS] button to display the screen and then confirm that there are no memory transmission data.

[A] Firmware update

(1) Install the ROM to the download jig (K-PWA-DLM-320).
Make sure the direction is correct.

(2) Press the [ON/OFF] button on the control panel to shut down the equipment.

(3) Remove the modular cable cover.

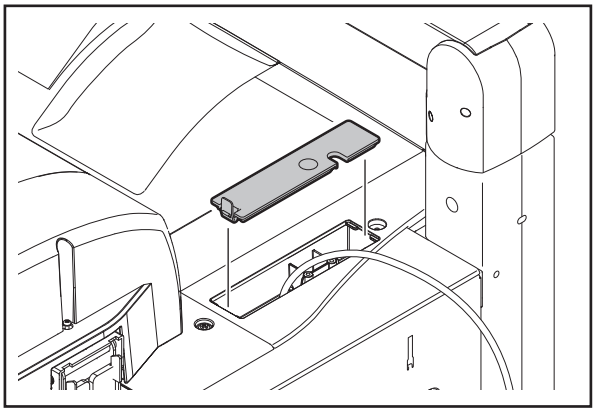

Fig. 19-42

(4) Remove the FAX cover.

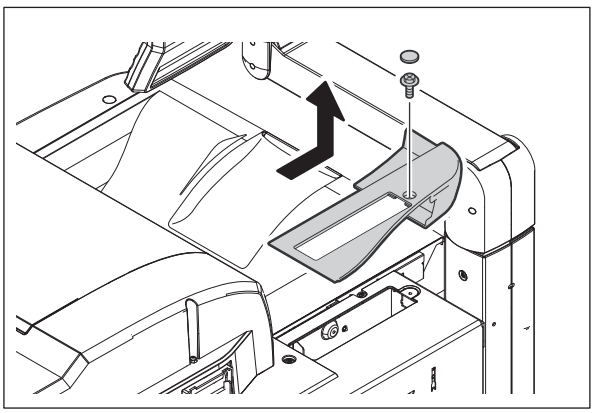

Fig. 19-43

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(5) Remove the internal cover.

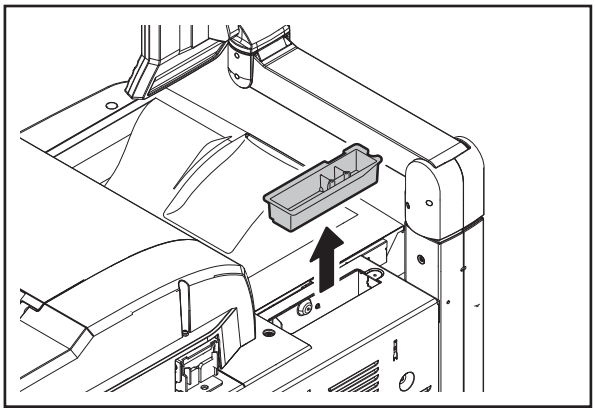

Fig. 19-44

(6) Remove the cover plate.

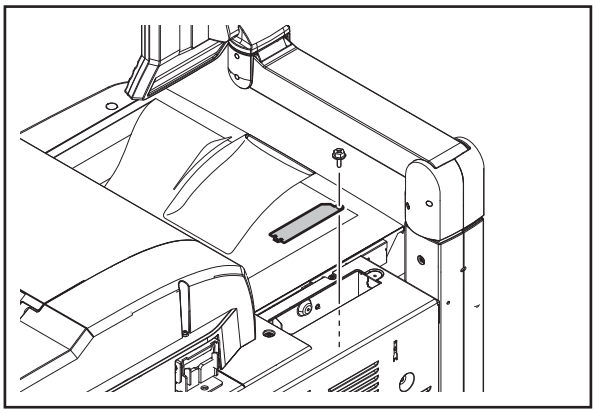

Fig. 19-45

(7) Connect the download jig with the jig connector on the FAX board.

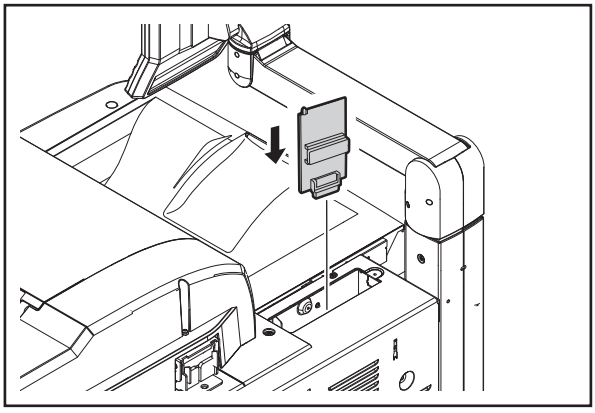

Fig. 19-46

(8) Press the [ON/OFF] button while simultaneously holding down the [0] and [8] buttons. Updating starts automatically and the LED on the download jig lights.

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(9) After the update is completed properly, the LED on the download jig blinks. The LED starts blinking approx. 30 sec. after the update starts. It is assumed that the update has failed if it does not start blinking even though 1 min. has passed. In this case, shut down the equipment and check the following items. Then clear the problems and restart updating from the beginning.
- Is the download jig connected properly?
- Is the ROM installed to the download jig properly?
- Is the updating data written on the ROM of the download jig properly?
- Do the download jig and the equipment operate properly?

(10) Turn the power OFF using the main power switch on the right-hand surface of the equipment, remove the download jig, and then install the cover plate.

(11) In the FAX Clearing Mode, perform the “FAX Set Up”.
- Confirm the destination setting is correct in the Setting Mode (08).
  08-201: Destination setting of the equipment
  08-701: Destination setting of the FAX machine
- Turn ON the power while [1] button and [*] button are pressed simultaneously.
- Key in “100”.
- Press the [START] button.

Notes:

If the equipment does not work properly after the operation (9), follow the procedure below and then perform the “Clearing the image data” in the FAX Clearing Mode to erase the image data in the memory.
- Confirm the destination setting is correct in the Setting Mode (08).
  08-201: Destination setting of the equipment
  08-701: Destination setting of the FAX machine
- Turn ON the power while [1] button and [*] button are pressed simultaneously.
- Key in “102”.
- Press the [START] button.

[B] Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.

📖 P.19-50 "19.4 Confirmation of the updated data"

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19.4 Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.

Firmware	Code	Remarks
Updating HDD/UI data	08-944	HDD Version
	08-924	Version of UI data language 1 in HDD
Updating System ROM	08-900	System firmware ROM version
	08-921	System firmware ROM internal program version
Updating OS	08-920	FROM basic section software version
Updating Engine ROM	08-903	Engine ROM version
Updating Scanner ROM	08-905	Scanner ROM version
Updating PFC ROM	08-906	PFC ROM version
Updating RADF ROM	08-907	RADF ROM version
Updating Finisher ROM	08-908	Finisher ROM version Saddle stitcher ROM version
	08-911	Hole punch unit ROM version
	08-9945	Converter ROM version
Updating FAX ROM	08-915	FAX ROM version
Imaging Acceleration Board ROM	08-9965	Imaging Acceleration Board SROM version

* If “NGD” is displayed for the PFC ROM version (08-906), the downloading of PFC ROM fails. Update the firmware again.

📖 P.19-51 "19.5 When Firmware Updating Fails"

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19.5 When Firmware Updating Fails

When the equipment was shut down during firmware updating or it could not be started after updating for some reason, perform firmware updating again following the procedure below.

19.5.1 Procedure

(1) Update “System ROM” of the system control PC board (SYS board) using the download jig (PWA-DWNLD-350-JIG2).
Updating with the USB media becomes possible only after the “System ROM” (OS data) has been updated.
See the updating procedure below for details.
📖 P.19-26 "19.2.2 System ROM"

(2) Update “Master Data”, “PFC ROM”, “Engine ROM” and “Scanner ROM” using the USB media.
See the updating procedure below for details.
📖 P.19-5 "19.1 Firmware Updating with USB Media"

(3) When the update with the USB media for “Engine ROM”, “PFC ROM” and “Scanner ROM” failed, update these ROMs using the respective download jigs in the table below.

Firmware	Storage location	Download jig
Engine ROM	Logic PC board (LGC board)	PWA-DWNLD-350-JIG2 📖 P.19-28 "19.2.3 Engine ROM"
PFC ROM	Paper feeding control board (PFC board)	PWA-DWNLD-350-JIG2 📖 P.19-30 "19.2.4 PFC ROM"
Scanner ROM	Scanning section control PC board (SLG board)	K-PWA-DLM-320 📖 P.19-33 "19.3.1 Scanner ROM"

Important:
If the equipment cannot be started even when the above update has been performed, check that there is no damage to the “SYS board”, “LGC board”, “PFC board” or “SLG board”. Replace them if necessary.

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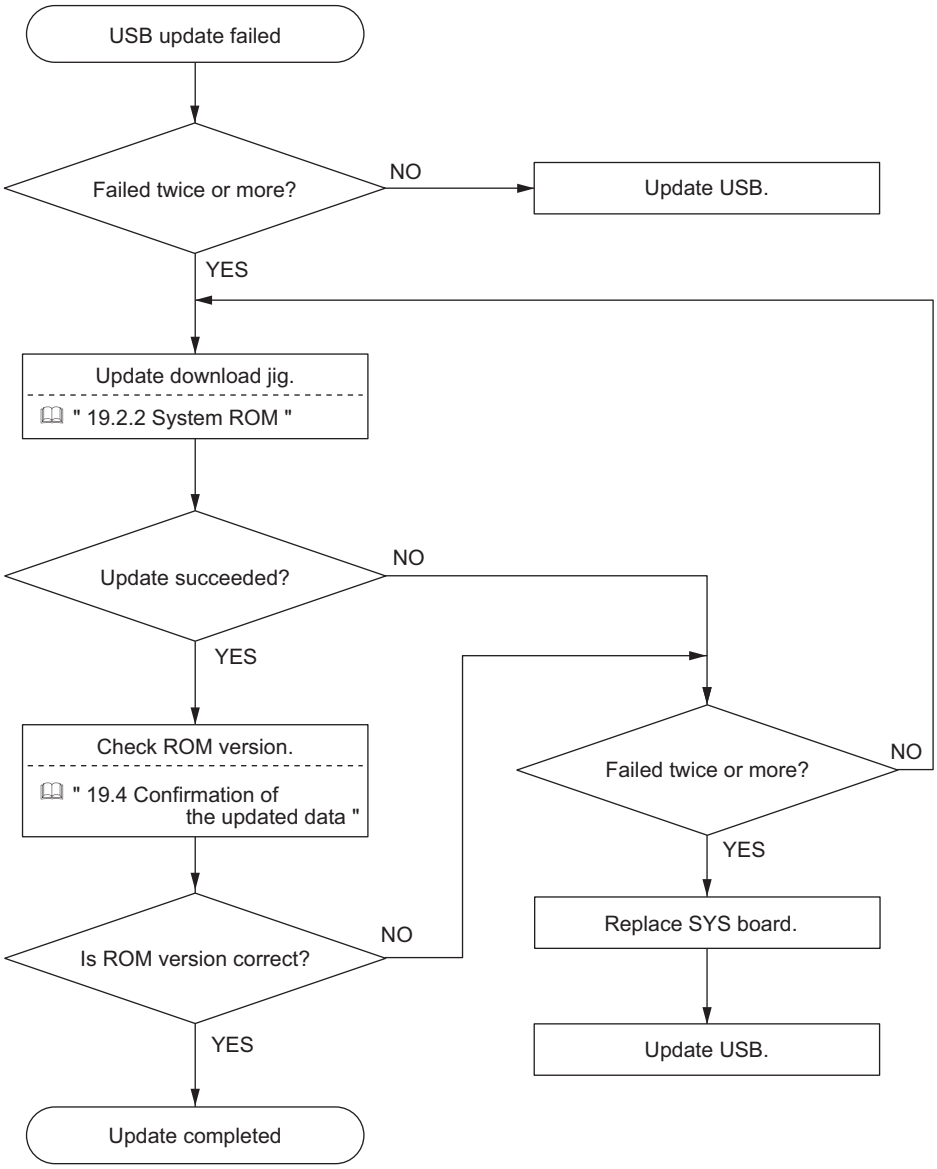
19.5.2 Flow chart for correcting USB update failure

[A] When the update of the System ROM (OS data) failed



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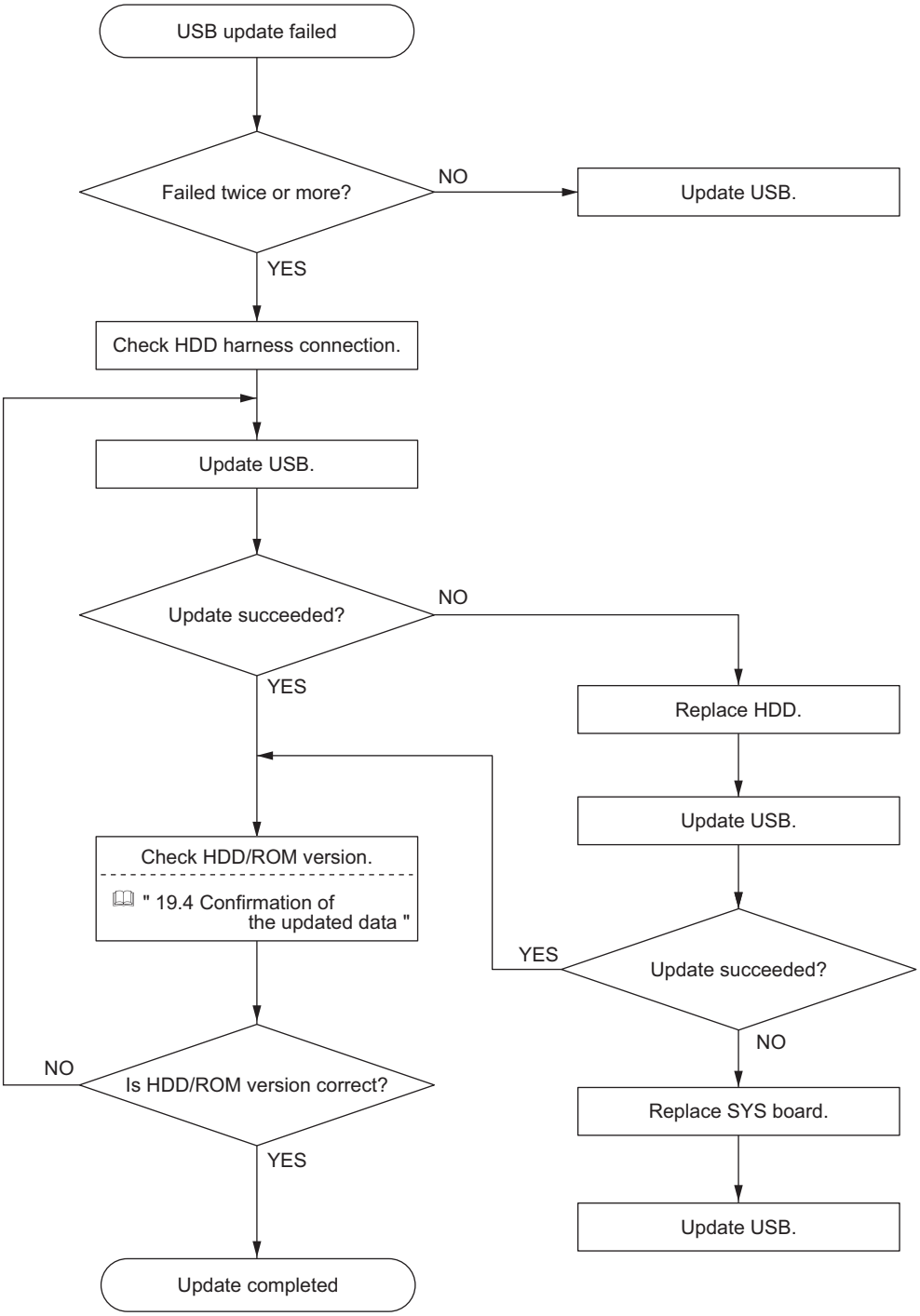
[B] When the update of HDD program data / system firmware / UI data (master data) failed



19

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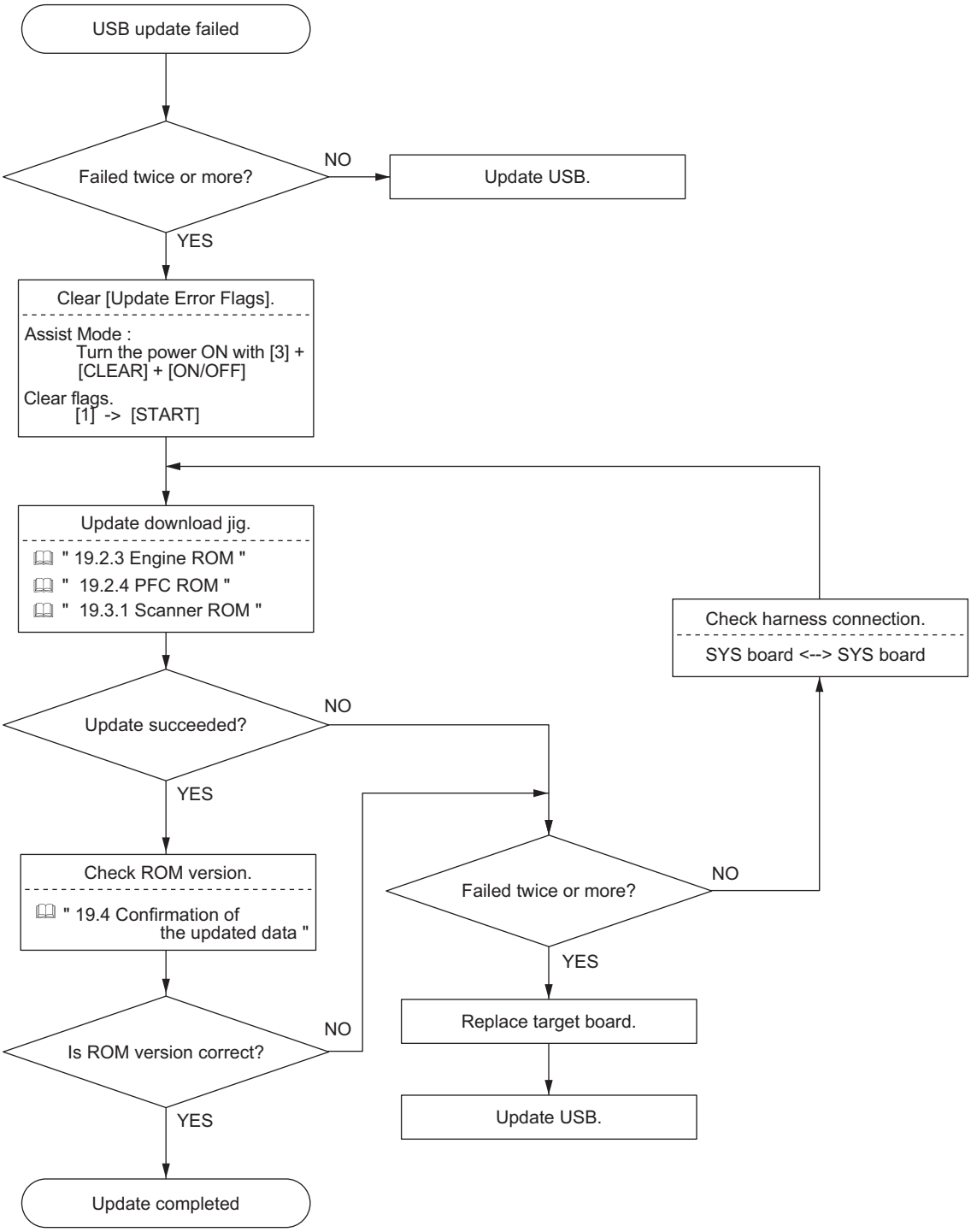
[C] When the update of Engine ROM / PFC ROM failed / Scanner ROM failed



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20. REPLACEMENT OF PC BOARDS/HDD

20.1 Removal and Installation of PC Boards/HDD

Notes:

- When the PC board/HDD is replaced, refer to the respective Notes and Cautions of “Replacement of PC boards and HDD” in Chapter 📖 P.20-19 "20.2 Precautions, Procedures and Settings for Replacing PC Boards and HDD".
- If the PC board has to be replaced due to an operational defect, this may have been caused by a contact failure of the connector. Before replacing the board, disconnect and then reconnect the connector to check if this action eliminates the operational defect.

20.1.1 SYS board cover

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Loosen 11 screws and take off the SYS board cover by slightly sliding it.

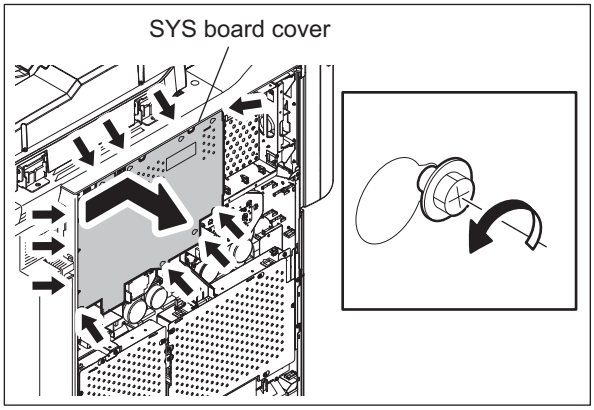

Fig. 20-1

20.1.2 SYS board (SYS)

(1) Take off the SYS board cover.
📖 P.20-1 "20.1.1 SYS board cover"
(2) Disconnect 1 USB terminal and 6 connectors.

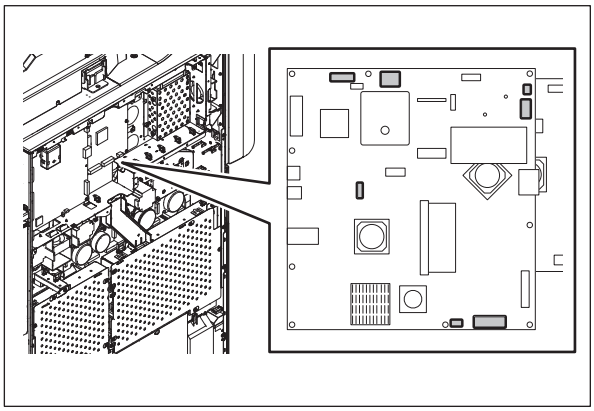

Fig. 20-2

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(3) Remove 6 screws, release 2 locking supports and take off the SYS board.

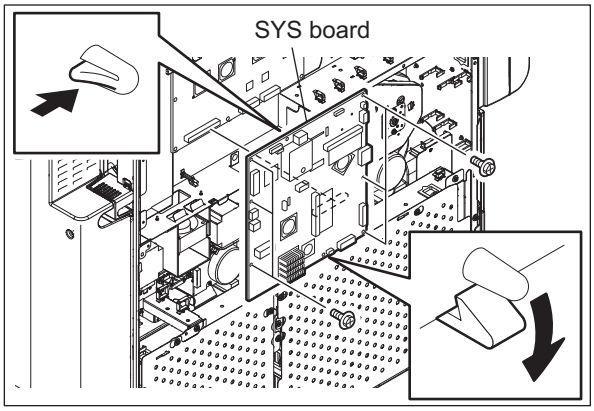

Fig. 20-3

20.1.3 SYS board case

(1) Take off the SYS board cover.
📖 P.20-1 "20.1.1 SYS board cover"
(2) Disconnect 3 connectors on the IMG board.

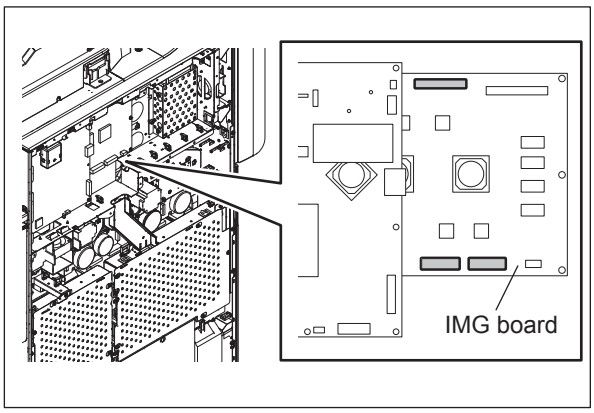

Fig. 20-4

(3) Remove 5 screws.

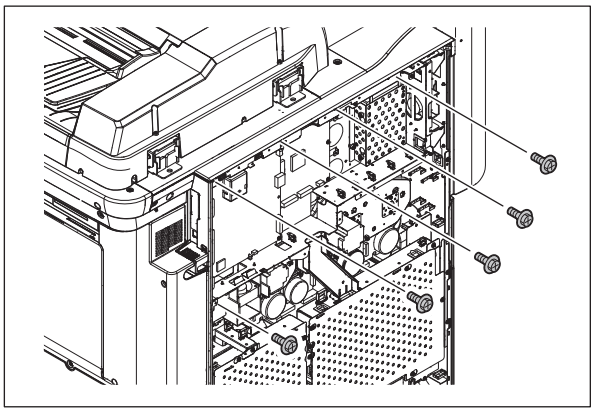

Fig. 20-5

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(4) Open the SYS board case slightly. Then release harness from 2 clamps.

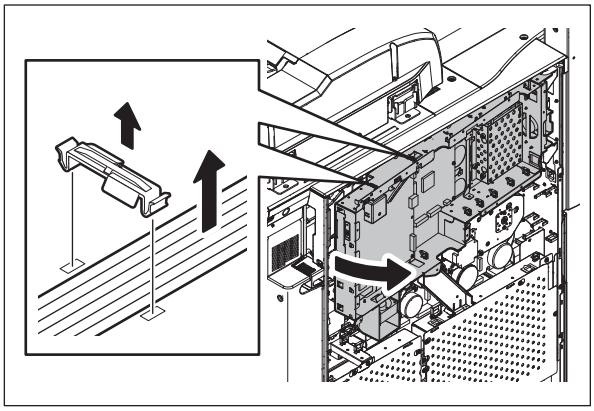

Fig. 20-6

(5) Open the SYS board case for approx. 90 degrees.

Note:
Open the board case gently during maintenance work or similar.

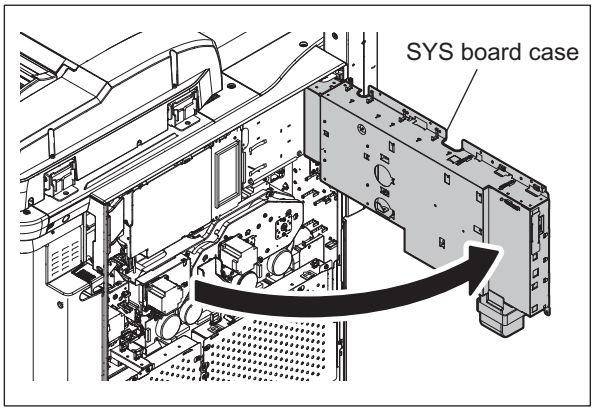

Fig. 20-7

20.1.4 SYS board cooling fan (F27)

(1) Take off the SYS board cover.
P.20-1 "20.1.1 SYS board cover"
(2) Disconnect 1 connector.

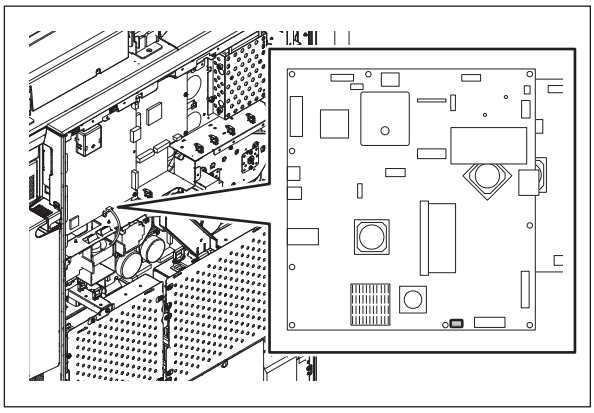

Fig. 20-8

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(3) Slide the SYS board cooling fan in the direction of the arrow in the figure to take it off.

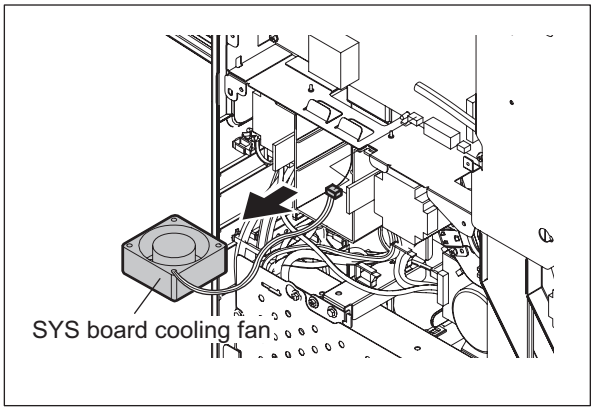

Fig. 20-9

20.1.5 IMG board (IMG)

(1) Take off the SYS board.
📖 P.20-1 "20.1.2 SYS board (SYS)"
(2) Disconnect 4 connectors.

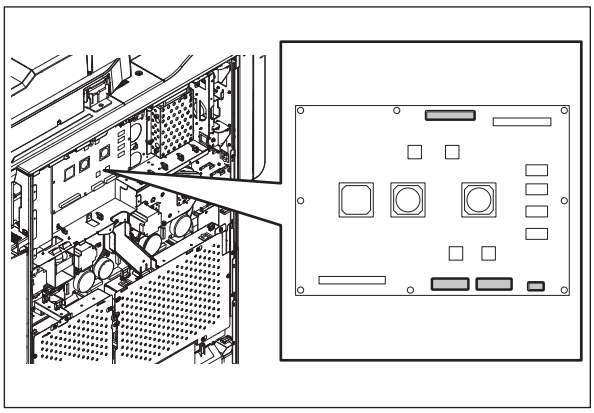

Fig. 20-10

(3) Remove 8 screws and take off the IMG board.

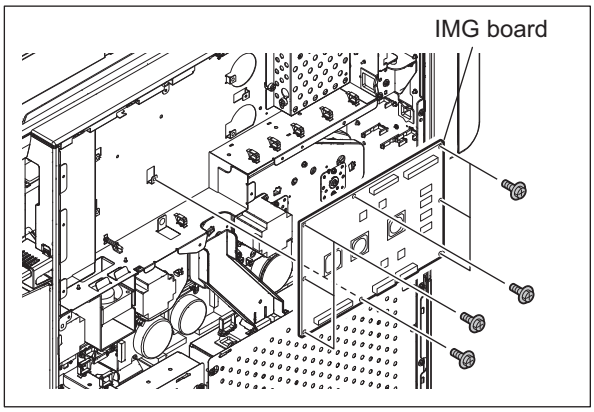

Fig. 20-11

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20.1.6 LGC board (LGC)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 28 connectors.

Note:
When installing, be sure to connect the flat cables at the proper positions.

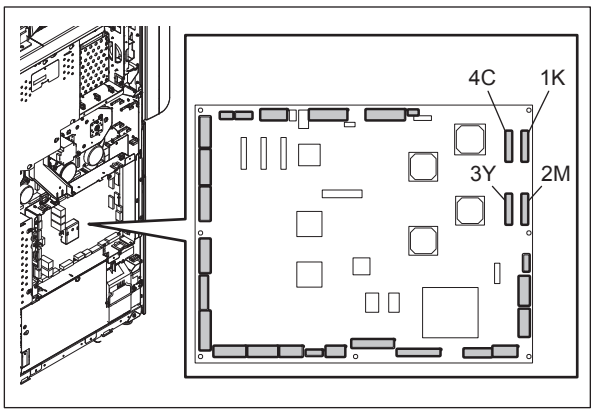

Fig. 20-12

(3) Remove 8 screws and take off the LGC board.

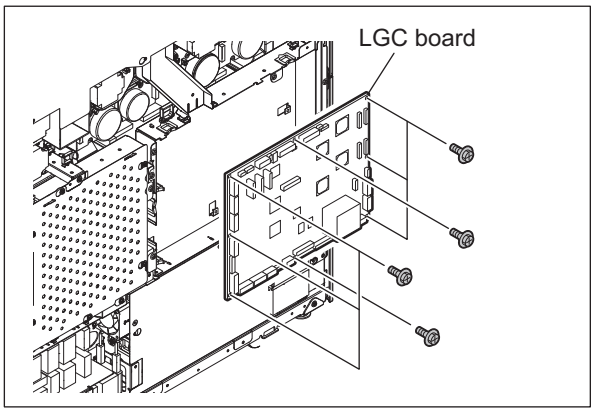

Fig. 20-13

20

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20.1.7 LGC board case

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 28 connectors.

Note:
When installing, be sure to connect the flat cables at the proper positions.

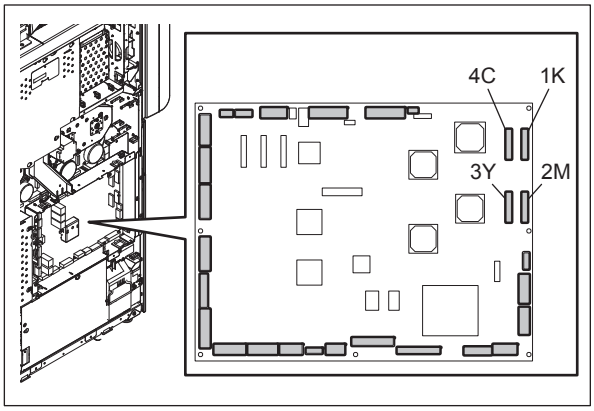

Fig. 20-14

(3) Release harness from 4 clamps and 4 clamps with a lock.

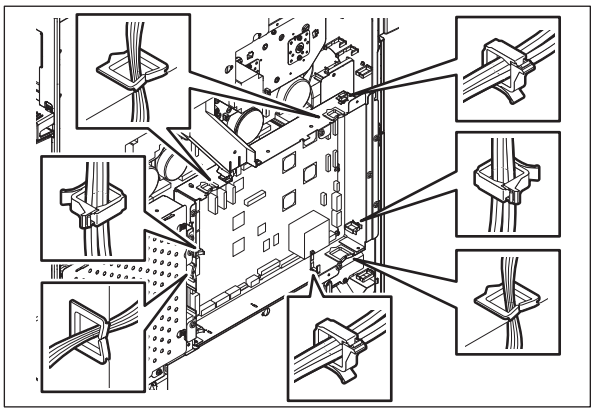

Fig. 20-15

(4) Remove the harness guide.

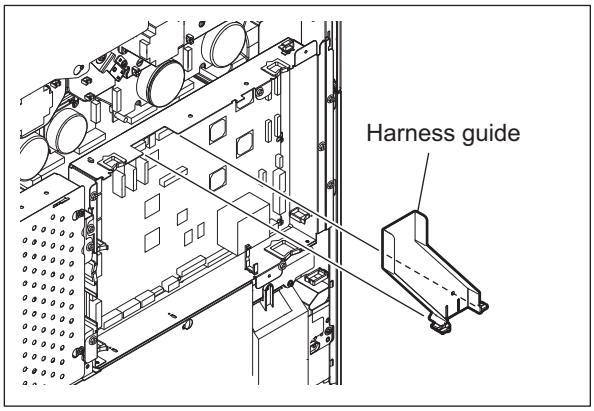

Fig. 20-16

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(5) Remove 4 screws and take off the LGC board case.

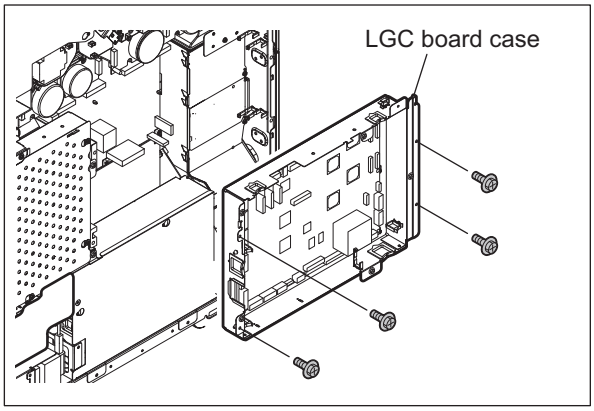

Fig. 20-17

20.1.8 PFC board (PFC)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 15 connectors. (in case of a 4-drawer model)

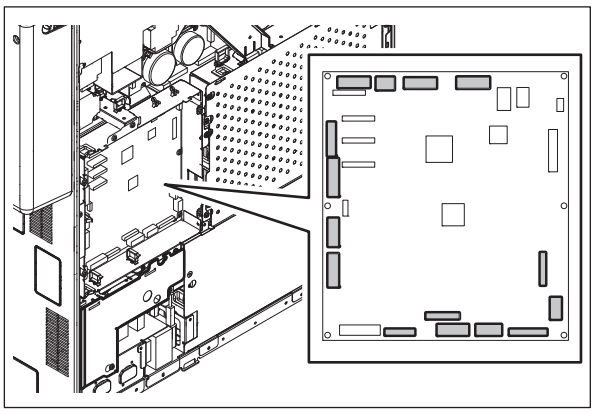

Fig. 20-18

Note:
If the equipment is a tandem LCF-model, disconnect 13 connectors.

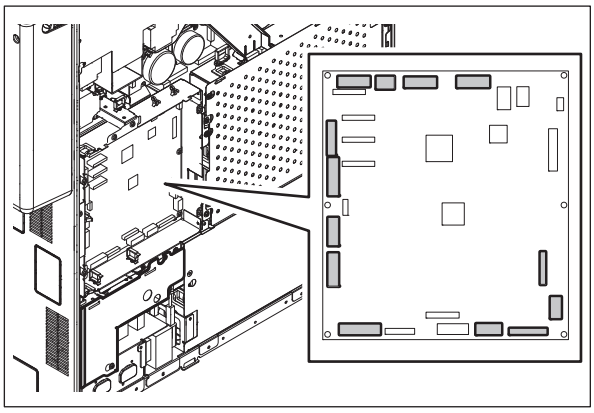

Fig. 20-19

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(3) Remove 6 screws and take off the PFC board.

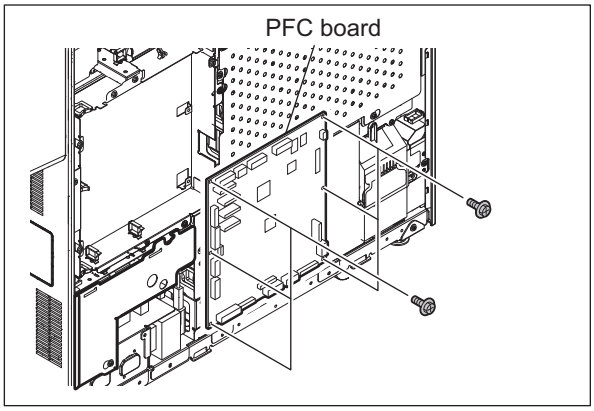

Fig. 20-20

20.1.9 PFC board case

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 15 connectors. (in case of a 4-drawer model)

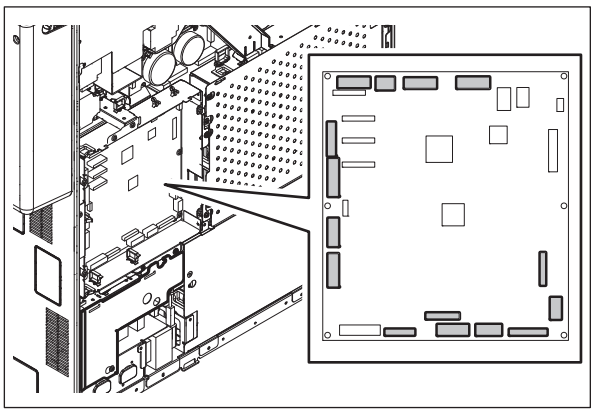

Fig. 20-21

Note:
If the equipment is a tandem LCF-model, disconnect 13 connectors.

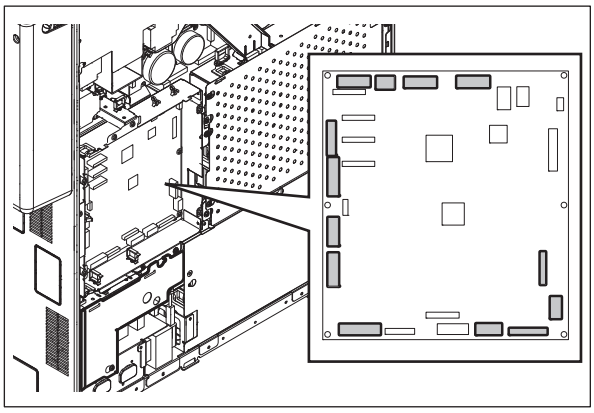

Fig. 20-22

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(3) Remove 2 harness clamps on the upper side of the case. Release harness from 2 clamps with a lock.

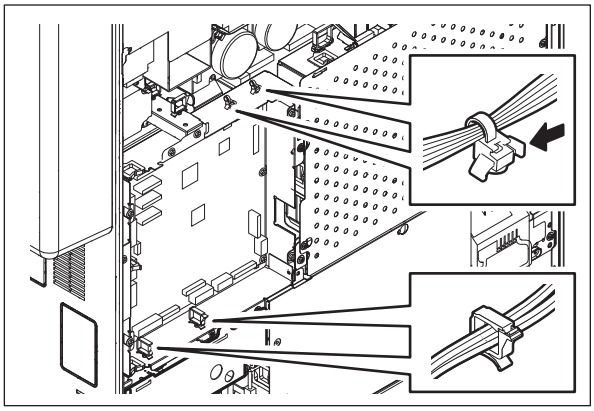

Fig. 20-23

(4) Remove 4 screws and take off the PFC board case.

Note:
The removed PFC board case can be hooked on the equipment temporarily.

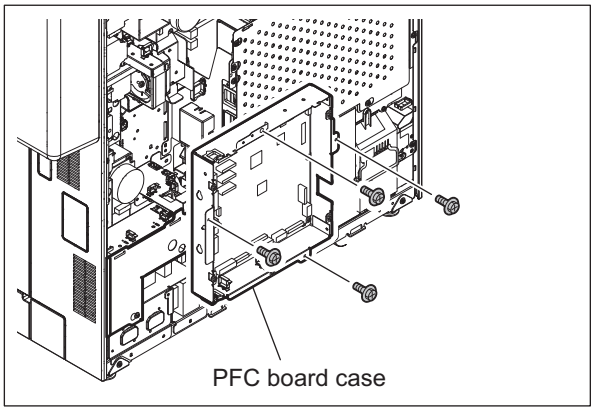

Fig. 20-24

20.1.10 Hard disk (HDD)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Disconnect 2 connectors.

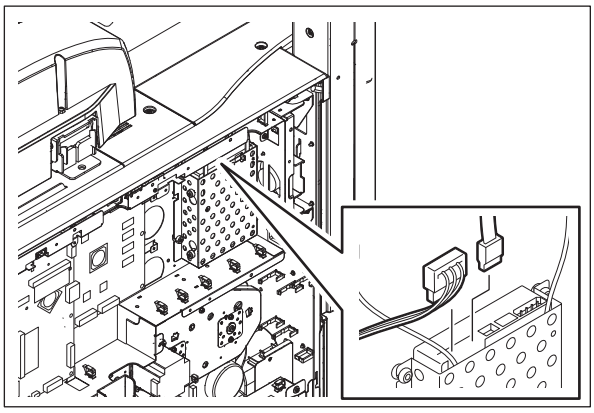

Fig. 20-25

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(3) Remove 6 screws and take off the hard disk.

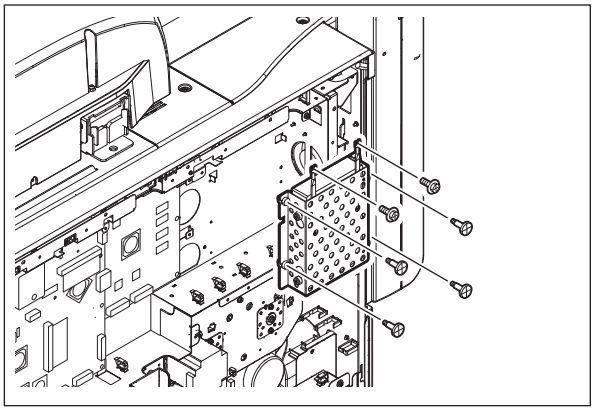

Fig. 20-26

(4) Remove 4 screws and take off the hard disk from the bracket.
(5) Remove 2 screws and take off the 2 cables.

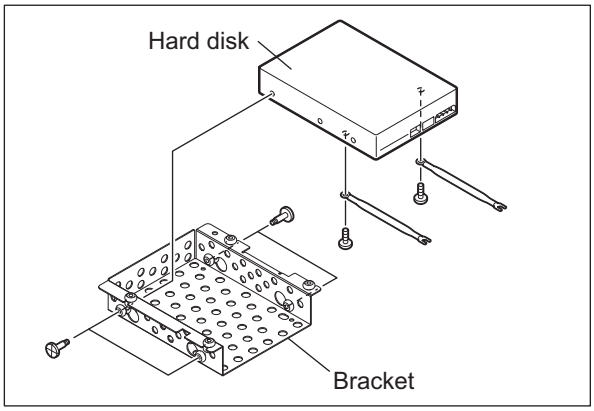

Fig. 20-27

20.1.11 HDD cooling fan (F28)

(1) Open the SYS board case for approx. 90 degrees.
📖 P.20-2 "20.1.3 SYS board case"

Note:
Open the board case gently during maintenance work or similar.

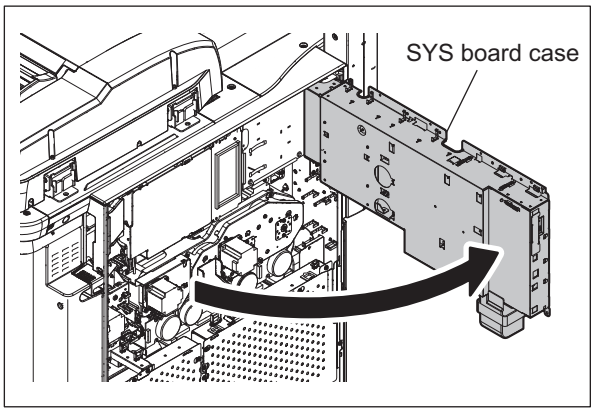

Fig. 20-28

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(2) Disconnect 1 USB terminal and 3 connectors.

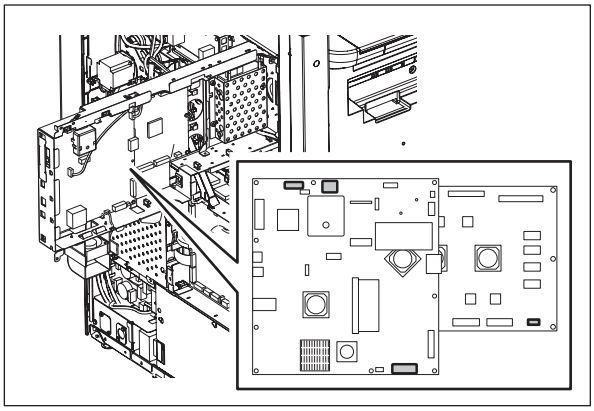

Fig. 20-29

(3) Release a harness from 1 harness clamp and 10 harness clamps with a lock.

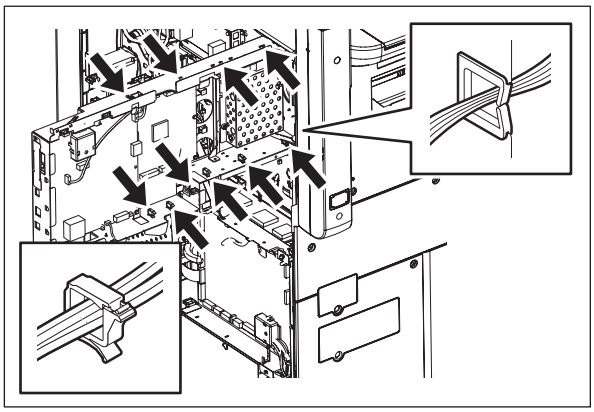

Fig. 20-30

(4) Lift the SYS board case to remove it.

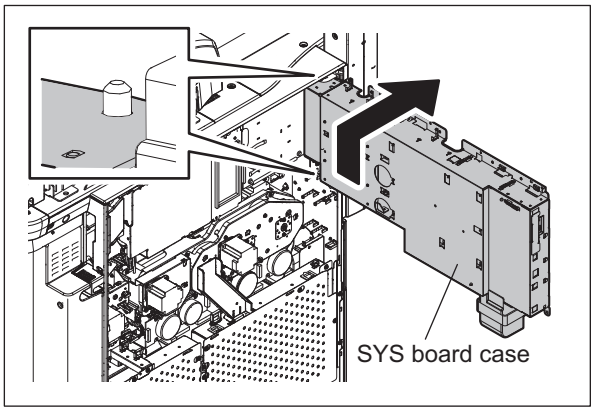

Fig. 20-31

(5) Disconnect 1 connector.
(6) Remove 5 harness clamps with a lock.

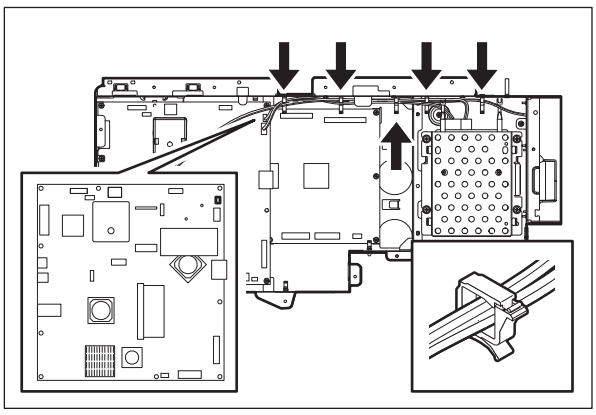

Fig. 20-32

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(7) Release harness from 1 clamp.
(8) Remove 2 screws and take off the HDD cooling fan and duct.

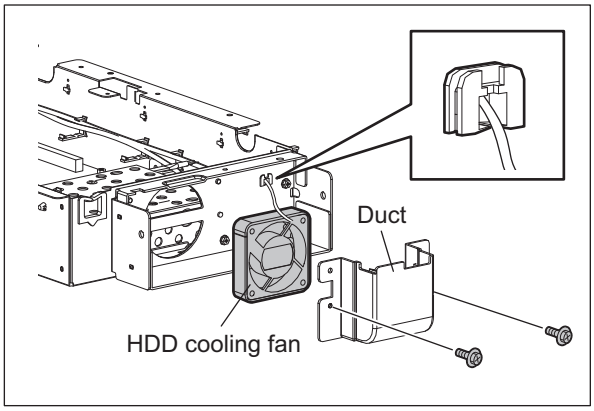

Fig. 20-33

20.1.12 SRAM board <for LGC board> (RAM-L)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Release 2 latches and take off the SRAM board for the LGC board with the case.

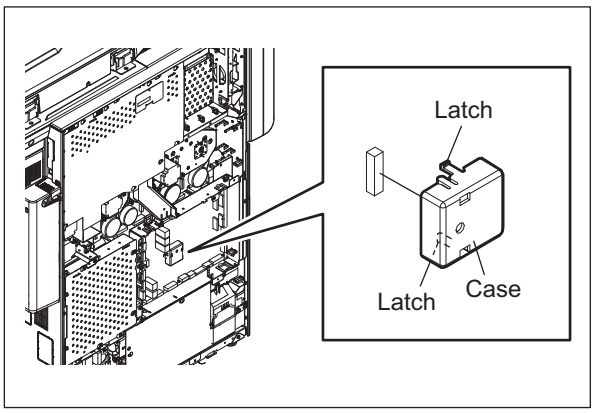

Fig. 20-34

(3) Release 2 latches and take off the SRAM board for LGC board from the case.

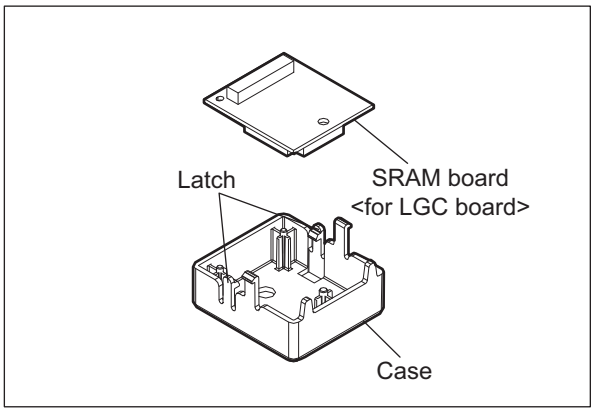

Fig. 20-35

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Note:

The shape of the SRAM board for the LGC board differs from the one for the SYS board. Be sure to assemble the correct SRAM board.

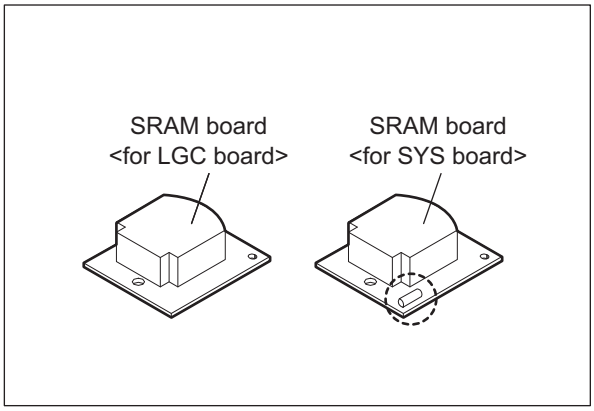

Fig. 20-36

20.1.13 SRAM board <for SYS board> (RAM-S)

(1) Take off the SYS board cover.
📖 P.20-1 "20.1.1 SYS board cover"

(2) Release 2 latches and take off the SRAM board for the SYS board with the case.

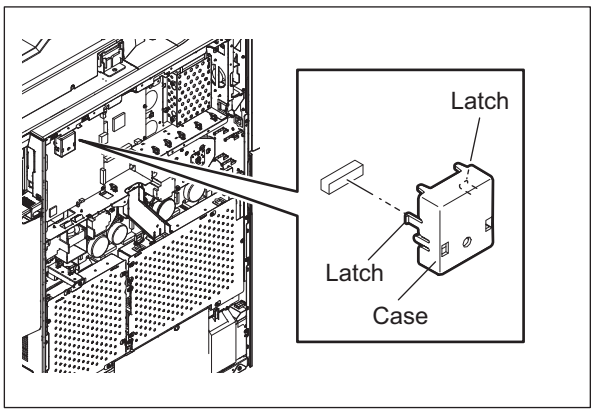

Fig. 20-37

(3) Release 2 latches and take off the SRAM board for SYS board from the case.

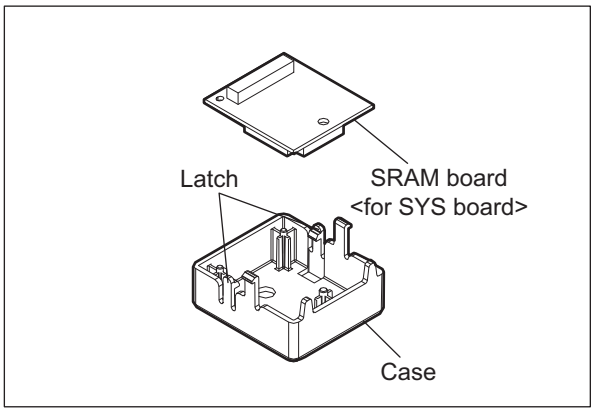

Fig. 20-38

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Note:

The shape of the SRAM board for the SYS board differs from the one for the LGC board. Be sure to assemble the correct SRAM board.

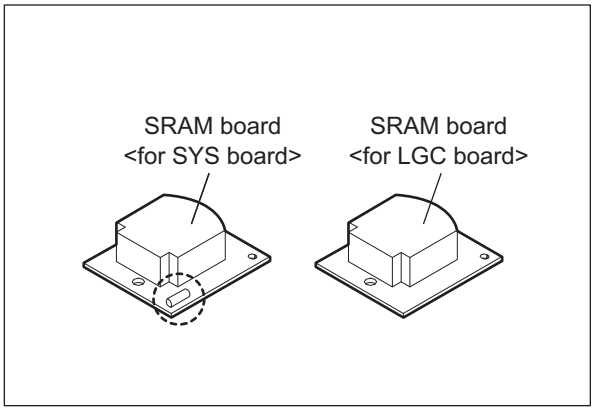

Fig. 20-39

20.1.14 Switching regulator (PS)

(1) Take off the rear cover.
📖 P.3-46 "3.5.18 Rear cover"
(2) Take off the PSU cover.

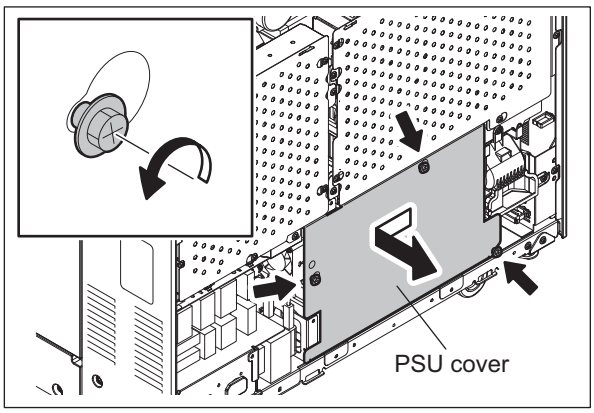

Fig. 20-40

(3) Disconnect 2 connectors.

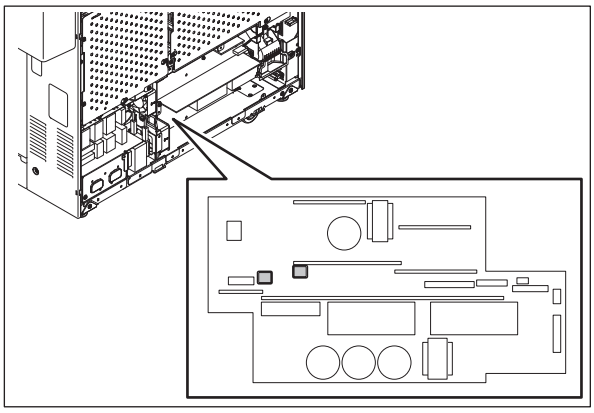

Fig. 20-41

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(4) Release the harness from 1 harness clamp.
(5) Remove 3 screws and take off the reactor (trance).

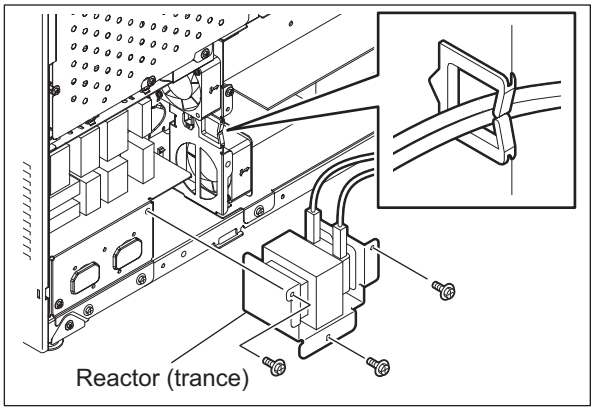

Fig. 20-42

(6) Remove 2 screws and take off the duct.

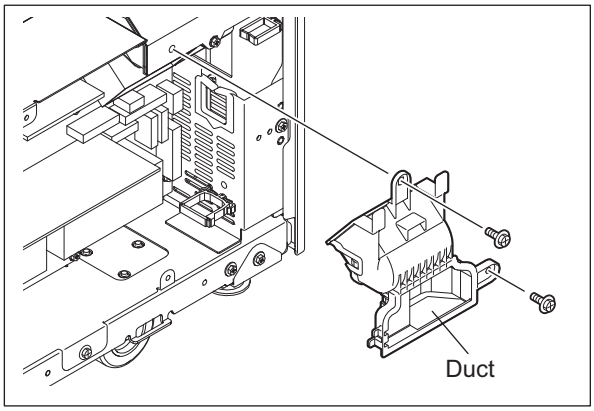

Fig. 20-43

(7) Disconnect 7 connectors.

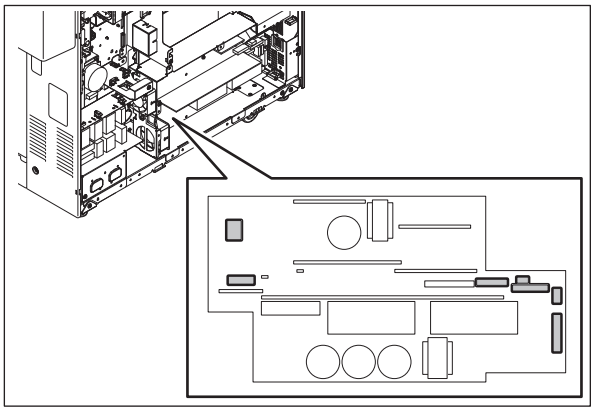

Fig. 20-44

(8) Remove 4 screws and take off the switching regulator.

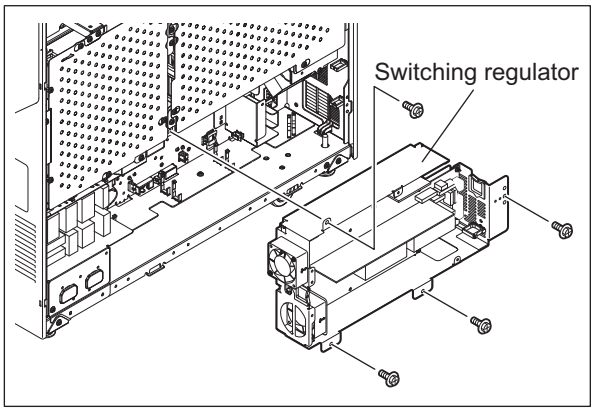

Fig. 20-45

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20.1.15 High-voltage transformer-1 (HVT1)

(1) Take off the LGC board case.
📖 P.20-6 "20.1.7 LGC board case"
(2) Take off the PFC board case.
📖 P.20-8 "20.1.9 PFC board case"
(3) Disconnect 18 connectors.

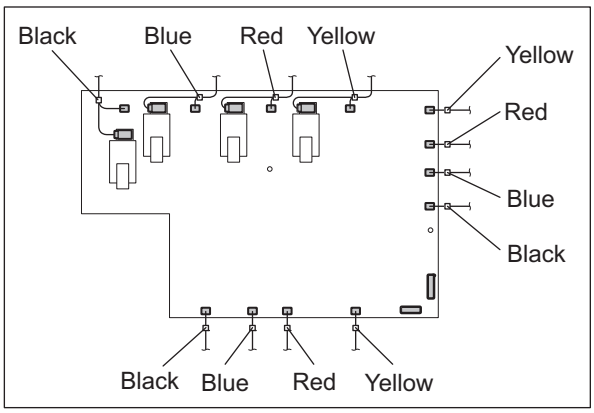

Fig. 20-46

(4) Remove 7 screws, release 2 locking supports and then take off the high-voltage transformer-1.

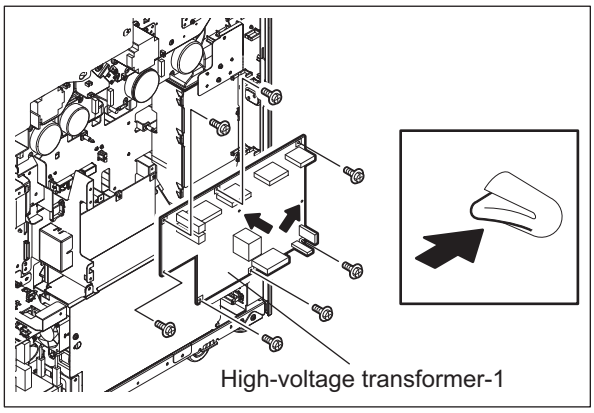

Fig. 20-47

20.1.16 High-voltage transformer-2 (HVT2)

(1) Take off the LGC board case.
📖 P.20-6 "20.1.7 LGC board case"
(2) Take off the PFC board case.
📖 P.20-8 "20.1.9 PFC board case"
(3) Take off the switching regulator.
📖 P.20-14 "20.1.14 Switching regulator (PS)"
(4) Disconnect 7 connectors.

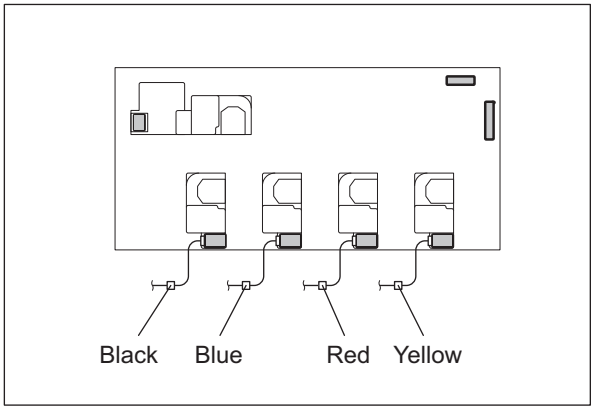

Fig. 20-48

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(5) Remove 6 screws, release 1 locking support and then take off the high-voltage transformer-2.

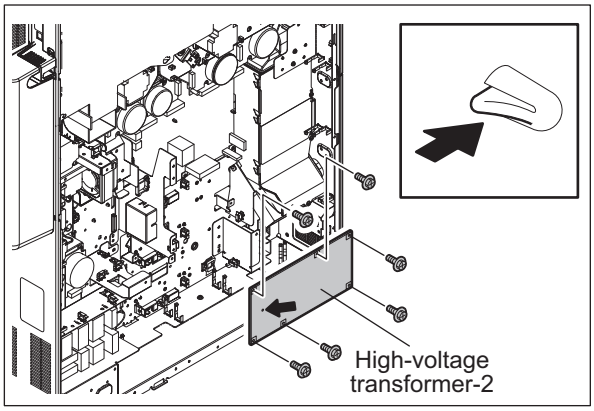

Fig. 20-49

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20.1.17 FIL board

(1) Take off the rear cover.
P.3-46 "3.5.18 Rear cover"
(2) Loosen 1 screw and take off the FIL board cover by slightly sliding it.

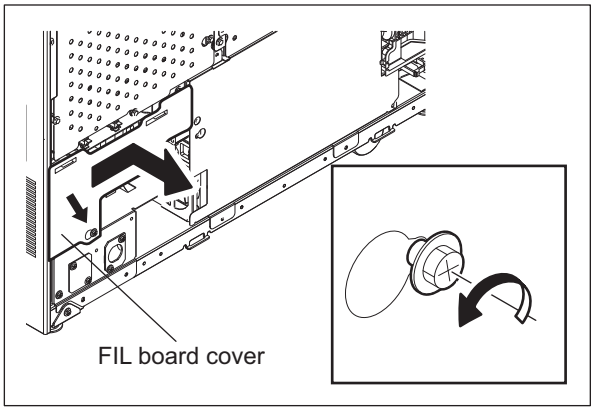

Fig. 20-50

(3) Disconnect 8 connectors.

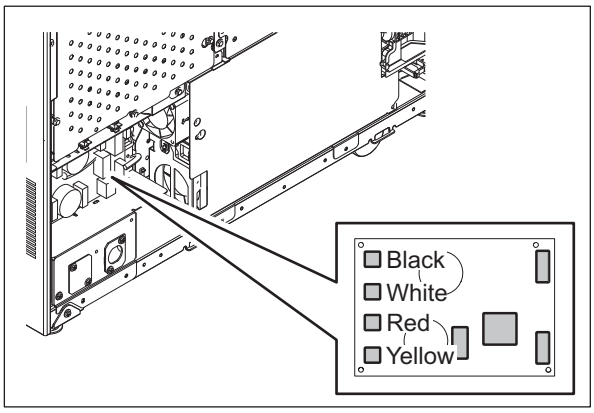

Fig. 20-51

(4) Remove 4 screws and take off the FIL board.

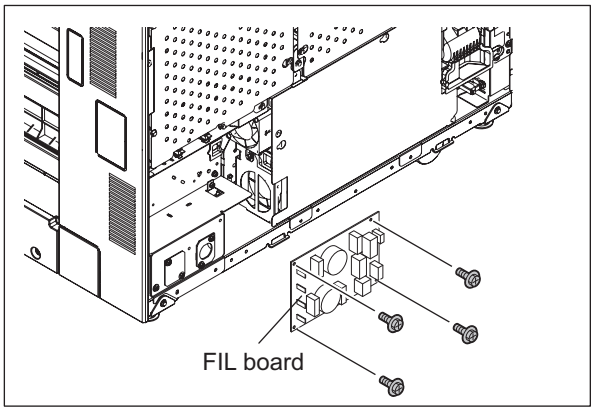

Fig. 20-52

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20.2 Precautions, Procedures and Settings for Replacing PC Boards and HDD

20.2.1 Precautions when replacing PC boards

- The ID for each equipment is registered on the LGC board, the IMG board, the SYS board and the SLG board. So, if their replacement is required, be sure to replace only one board at a time.

- If more than one of the LGC board, the IMG board and the SYS board require replacement, replace them in the following procedure.
  1. First, replace one of the board to be replaced.
  2. Turn the power ON and confirm that “READY” is displayed.
  3. Turn the power OFF.
  4. Replace another board that requires replacement.
  5. Repeat steps 2 to 4.

- The LGC board and IMG board can be replaced without other settings.

- When the HDD requires replacement, see 🕮 P.20-22 "20.2.3 Precautions and procedures when replacing the HDD".

- When the SYS board requires replacement, see 🕮 P.20-27 "20.2.4 Precautions and Procedures when replacing the SYS board".

- When the SLG board requires replacement, see 🕮 P.20-28 "20.2.5 Procedures and settings when replacing the SLG board".

- When SRAM requires replacement, see 🕮 P.20-29 "20.2.6 Precautions and Procedures when replacing SRAM board (for SYS board)" / 🕮 P.20-33 "20.2.7 Precautions and Procedures when replacing SRAM board (for LGC board)".

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20.2.2 HDD fault diagnosis

This code displays the HDD operation history, which is recorded in the HDD, on the control panel. HDD failure can be diagnosed or predicted with the information displayed.

1. Display
   The following screen is displayed with setting code 08-670.

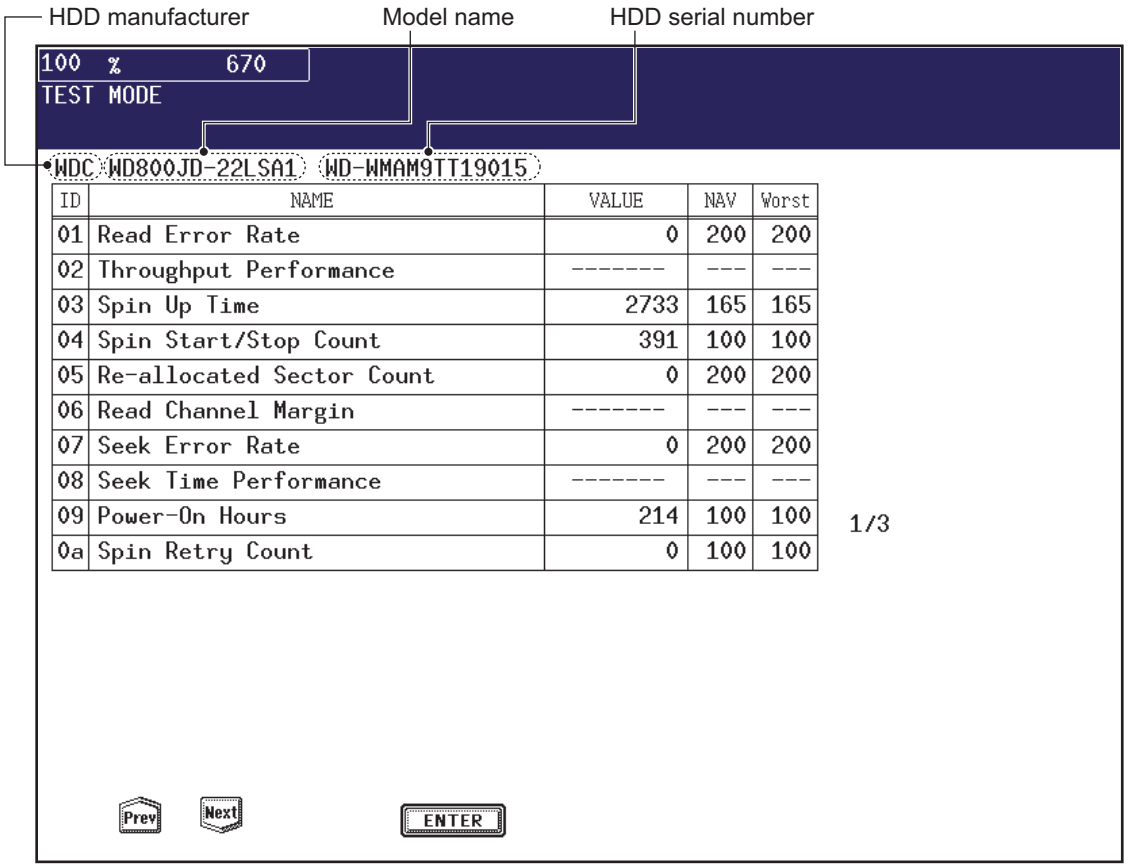

Fig. 20-53

- Items supported differ depending on the HDD manufacturer.
- "---" is displayed on the VALUE, NAV and Worst columns if items are not supported.

2. Usage
   The combination of the values of ID=05 and c5 is used to diagnose whether or not the HDD has a physical failure when HDD failure is suspected (service call F100-108 or 120 occurred).

Result		Description	Diagnosis
ID	VALUE		
05	0	Low possibility of physical failure	HDD replacement is not required.
c5	0		
05	From 1 to 999	Defective sector has been reassigned and HDD is recovered.	HDD replacement is not required.
c5	0		
05	Any value	High possibility of defective sector existence. (There will be a possibility of physical failure depending on the use of HDD.)	HDD replacement is recommended.
c5	1 or more		
05	Either one is at least 1000.	High possibility of physical failure	HDD replacement is recommended.
c5			
05	All values are displayed as "-------".	High possibility of physical failure (A HDD connector, harness or SYS board may be one of the causes.)	HDD replacement is recommended.
c5			

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3. ID=05 and c5

ID	Name	Description	Remarks
05	Re-allocated Sector Count	The number of sectors reassigned	This value tends to increase at HDD failure.
c5	Current Pending Sector Count	The number of candidate sectors to be reassigned	This value tends to increase at HDD failure.

4. Description of each ID

ID	Name	Meaning
01	Read Error Rate	This attribute is a measure of the read error rate.
02	Throughput Performance	This attribute is a measure of the throughput performance.
03	Spin Up Time	This attribute is a measure of how quickly the drive is able to spin up from a spun down condition.
04	Spin Start/Stop Count	This attribute is a measure of the total number of spin ups from a spun down condition.
05	Re-allocated Sector Count	This attribute is a measure of the total number of reallocated sectors.
07	Seek Error Rate	This is a measure of the seek error rate.
08	Seek Time Performance	This attribute is a measure of a drive's seek performance during normal online operations.
09	Power-On Hours	This attribute is a measure of the total time (hours or minutes depending on disk manufacturer) the drive has been on.
0a	Spin Retry Count	This attribute is a measure of the total number of spin retries.
0c	Power Cycle Count	This attribute is a measure of the number of times the drive has been turned on.
c0	Power off Retract Count	This attribute is a measure of the total number of emergency unloads.
c1	Load Cycle Count	This attribute is a measure of the total number of load/ unloads.
c2	Temperature	This attribute is a measure of the temperature in the HDD.
c3	ECC On the Fly Count	This attribute is a measure of the total number of the ECC On the Fly.
c4	Reallocation Event Count	This attribute is a measure of the total number of the reallocation events.
c5	Current Pending Sector Count	This attribute is a measure of the total number of candidate sectors to be reallocated.
c6	Off-Line Scan Uncorrectable Sector Count	This attribute is a measure of the total number of uncorrectable sectors found during the off-line scan.
c7	Ultra DMA CRC Error Count (Rate)	This attribute is a measure of the total number of errors found in data transfer in the Ultra-DMA mode.
c8	Write Error Rate	This attribute is a measure of the write error rate.

Note:
"Over-range" is displayed if the number of digits acquired from the HDD exceeds the maximum digits which can be displayed on the control panel; however, this does not indicate an error.

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20.2.3 Precautions and procedures when replacing the HDD

Notes:

- When the HDD is replaced, it is necessary to back up the data in the HDD before replacing and to recover them after replacing.
- To maintain the security, ask users to perform the backup/restore for users' data/information in the HDD. The service technician can perform them only when users permit it.
- Some data in the HDD cannot be backed up and can be kept only on the paper.
- When 08-690 is performed, the HDD self-certificate is not available, so the SSL-related setting becomes disabled.
- Do not replace the HDD and the SRAM board (for the SYS board) together.

A procedure for replacing the HDD is shown below.

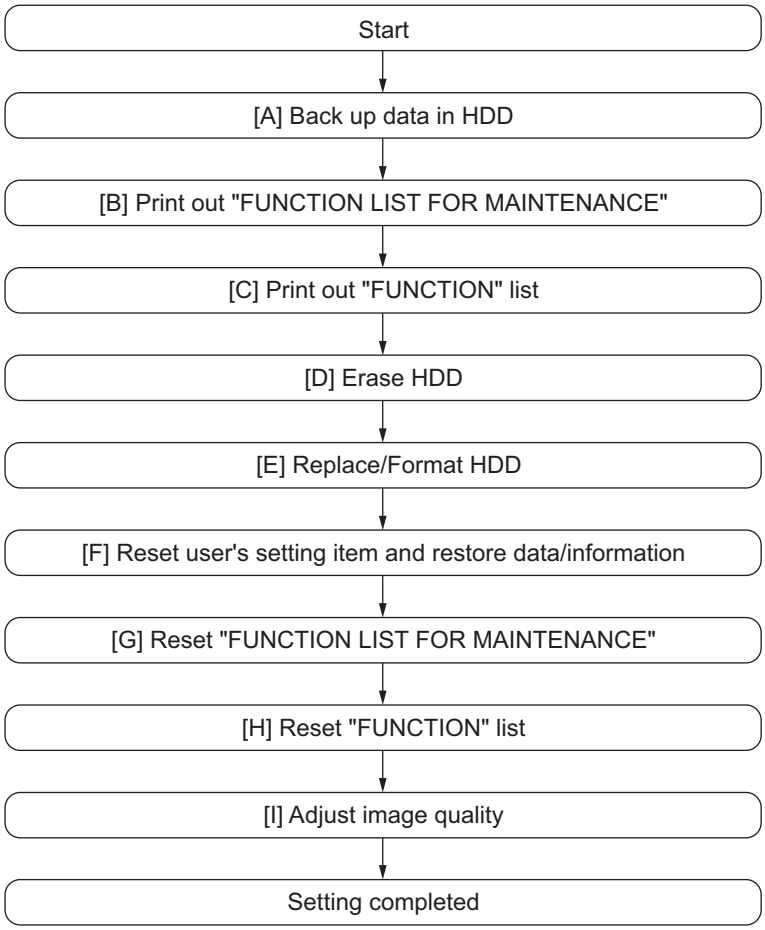

Fig. 20-54

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[A] Back up in HDD

Ask the user (machine administrator) to back up the data in the HDD. Refer to the table below for the type of data, availability and method of backup.

Type of data in HDD	Availability	Backup method
Image data in the e-Filing	Available	Archive them in the “e-Filing” of TopAccess. As for the backup in Box data, all data (selectable by the box) can be backed up / restored in one go by using “e-Filing Backup/ Restore Utility”.
F-code information, Template registration information, Address book data	Available	Back them up in the “Administrator” menu of TopAccess.
Department management data	Available	Export them in “Administrator” menu of TopAccess.
Log data (Print, Scan, FAX (Transmission/Reception)	Available	Export them in the “Administrator” menu of TopAccess. (Import cannot be performed.)
Data in the shared folder (Scanned data, Saved data of copy / FAX transmission)	Available	Copy them to the client computer via the network. (The data which have been copied to the client computer cannot be copied to the shared folder.)
Print waiting data (Copying data and FAX reception data that are waiting to be printed due to the paper run-out and jam, etc.)	Not available	Finish printing them after supplying paper or releasing the jam, etc. (The data cannot be left.)
Print job (Private print data, Schedule print data)	Not available	If any jobs are left, print them. (The data cannot be backed up.)
FAX saved data (Confidential / Bulletin board data)	Not available	Print them. (The data cannot be backed up.)
Registration data for FAX transmission (Delayed transmission / Recovery transmission)	Not available	Print them. (The data cannot be backed up.)

[B] Print out “FUNCTION LIST FOR MAINTENANCE”

(1) Press the [USER FUNCTIONS] button and then the [USER] button.

(2) Press the [LIST] button.

(3) Key in [*] [#] [*] [*] [3] [3] and then press the [START] button. The “FUNCTION LIST FOR MAINTENANCE” is printed out.

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[C] Print out “FUNCTION” list

(1) Press the [USER FUNCTIONS] button.

(2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.

Note:
Explain the procedure to the user (machine administrator) and ask him/her to enter his/her password.

(3) Press the [LIST/REPORT] button and then the [LIST] button.

(4) Press the [FUNCTION] button. The “FUNCTION” list is printed out.

[D] Erase HDD

When the Data Overwrite Enabler (GP-1070) is installed, be sure to perform 08-1426 (forcible HDD data clearing) and confirm that deleting of the HDD data is completed.
📖 P.20-37 "20.3.1 Precautions for Installation of GP-1070 and Disposal of HDD/Board"

[E] Replace / Format HDD

(1) Confirm that the power is turned OFF.

(2) Replace the HDD. (📖 P.20-9 "20.1.10 Hard disk (HDD)")

(3) Clear the partitions on the HDD.
1. Turn the power ON while pressing [3] and [CLEAR] button simultaneously.
2. When “Firmware Version Up Mode” appears on the LCD, key in [3] to select “3: All Partition Delete and Create Loader Partition.” and then press the [START] button.
3. When “Initialize completed.” is displayed on the LCD, clearing of the partitions is completed.

(4) Turn the power OFF.

(5) Update the master data using the USB media.
See “19.1Firmware Updating with USB Media” for details.

(6) Start up with the Setting Mode (08).

(7) Format the HDD (08-690).
- When “REBOOT THE MACHINE” is displayed on the LCD, formatting of the HDD is completed.

(8) Turn the power OFF.

(9) When the Fax Unit (GD-1270) is installed, perform “Fax Set Up” (1*-100) and “Clearing the image data” (1*-102).Then turn the power OFF.

(10) Start up with the Setting mode (08).

(11) Check the version of the HDD (08-944).
- Confirm the version displayed on the LCD, and then press the [ENTER] button.

(12) Turn the power OFF.

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[F] Reset user's setting items and restore data/information

Ask the user (machine administrator) to reset the user's setting items and to restore data or information. Refer to the following for the reset and restore:

Items to reset/restore	Method
Printer driver	Upload them in the "Administrator" menu of TopAccess.
F-code information, Template registering information, Address book data	Restore them in the "Administrator" menu of TopAccess
Department management data	Import them in the "Administrator" menu of TopAccess.
Image data in the Electronic Filing	Upload them in the "e-Filing" of TopAccess.

* When the SSL is enabled, perform the setting of the following items again with "Create self-certificate" of TopAccess.

Country Name
State or Province Name
Locality Name
Organization Name
Organizational Unit Name
Common Name
Email Address

* When wireless LAN is used, perform the setting again on the LCD panel.
(only when security with a certificate is used)
Also, upload the following certificate file with "Install Certificate for Wireless LAN" of TopAccess.

CA certificate
User certificate

[G] Reset "FUNCTION LIST FOR MAINTENANCE"

(1) Print out the "FUNCTION LIST FOR MAINTENANCE" list after the formatting. For how to print it out, refer to 🕮 P.20-23 "[B] Print out "FUNCTION LIST FOR MAINTENANCE"".

(2) While pressing [1] and [3] simultaneously, turn the power ON. (Function Mode)

(3) Compare the lists which were printed before and after the formatting to check the setting items having the different setting values. Set the value which was set before the formatting.

(4) Turn the power OFF.

[H] Reset "FUNCTION" list

Reset the fax function by referring to the "FUNCTION" list that was printed out in "🕮 P.20-24 "[C] Print out "FUNCTION" list".

(1) Press the [USER FUNCTIONS] button.

(2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.

Note:
Explain the user (machine administrator) about the next operation and ask him/her to enter his/her password.

(3) Press the [FAX] button and then the [TERMINAL ID] button to set each item.

(4) Press the [INITIAL SETUP] button to set each item.

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[I] Adjust image quality

(1) Start up with the Adjustment mode (05).

(2) Perform “Automatic gamma adjustment” <PPC> (05-580).
📖 P.8-40 "8.6.1 Automatic gamma adjustment"

(3) Turn the power OFF.

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20.2.4 Precautions and Procedures when replacing the SYS board

A procedure for SYS board replacement is shown below.

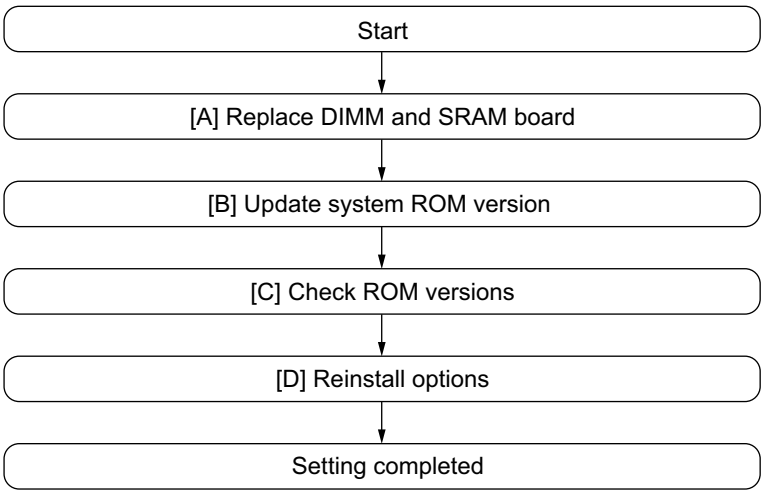

Fig. 20-55

[A] Replace DIMM and SRAM boards

Note:
Before replacing the SYS board, perform the following procedure.
📖 P.20-19 "20.2.1 Precautions when replacing PC boards"

(1) Confirm that the power is turned OFF.

(2) Replace the SYS board.

(3) Install DIMM (main memory, page memory) to the new SYS board (from the old SYS board).

(4) Install SRAM board to the new SYS board (from the old SYS board).

[B] Update system ROM version

Update the version of system ROMs (OS data, UI data, System Firmware) with the USB media.
📖 P.19-5 "19.1 Firmware Updating with USB Media"

[C] Check ROM versions

- System firmware ROM version (08-900)
- FROM basic section software version (08-920)
- System firmware internal program version (08-921)
- Version of UI data in FROM displayed at power ON (08-930)

[D] Reinstall options

When any of the options below was installed, reinstall a license for the corresponding option following its unpacking instructions.

- Meta Scan Enabler (GS-1010)
- External Interface Enabler (GS-1020)
- IPSec Enabler (GP-1080)

When GP-1070 (Data Overwrite Enabler) has been installed, “F200” service call occurs. In this case, perform cancelling the “F200” service call (installing the OS / HDD SYS / PFC Firmware / Engine MainFirmware / Scanner Firmware using the USB media), and then install GP-1070 (Data Overwrite Enabler) again.

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20.2.5 Procedures and settings when replacing the SLG board

Note:
Before replacing the SLG board, perform the following procedure.
📖 P.20-19 "20.2.1 Precautions when replacing PC boards"

When the SLG board has been replaced, make sure to follow the procedure below.

(1) Confirm that the power is turned OFF.

(2) Replace the SLG board.
📖 P.7-37 "7.6.18 SLG board (SLG)"

(3) Update the scanner ROM using the USB Media.
📖 P.19-5 "19.1 Firmware Updating with USB Media"

(4) Start up with the Adjustment Mode (05).

(5) Perform “Data transfer of characteristic value of scanner / SYS board -> SLG board (05-363)”.

(6) Perform “Shading correction plate Automatic dust detection adjustment (05-349)”.

(7) Turn the power OFF.

(8) Start up with the Setting Mode (08).

(9) Check the version of the scanner ROM (08-905).

(10) Turn the power OFF.

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20.2.6 Precautions and Procedures when replacing SRAM board (for SYS board)

Note:

Do not replace the HDD and the SRAM board (for the SYS board) together.
Be careful not to damage the board when replacing the SRAM board.
When you replace the SRAM board while the data encryption function is enabled, readout of the user data/information stored in the HDD becomes impossible.

A procedure for replacing the SRAM board is shown below.
When disposing of the SRAM board, perform the items in 📖 P.20-37 "20.3.3 Precautions when disposing of the SRAM board".

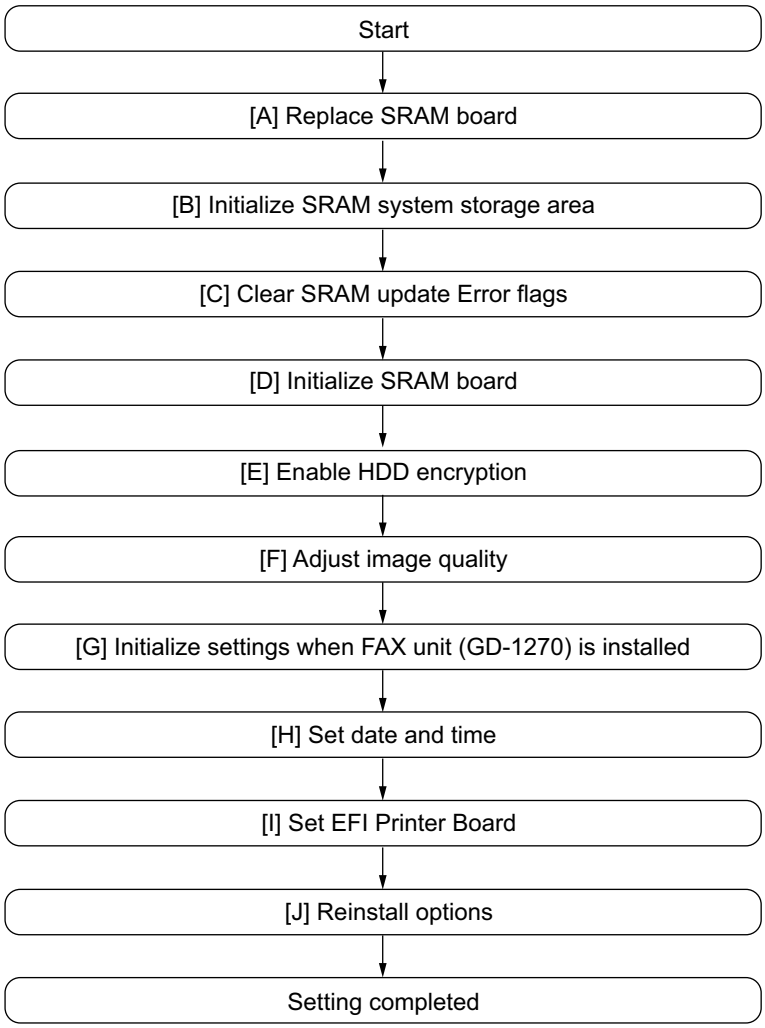

Fig. 20-56

[A] Replace SRAM board

(1) Confirm that the power is turned OFF.

(2) Take off the Fax Unit (GD-1270) if it is installed.

(3) Replace the SRAM board (for the SYS board).
📖 P.20-13 "20.1.13 SRAM board <for SYS board> (RAM-S)"

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[B] Initialized SRAM system storage area

(1) Turn the power ON while pressing [3] and [CLEAR] simultaneously.

(2) When “Firmware Version Up Mode” appears on the LCD, check that “4: SRAM Data Format.” is marked and then press the [START] button. If not marked, key in [4] and then press the [START] button.

(3) When “SRAM Data Format Complete.” is displayed on the LCD, the formatting is completed.

(4) Turn the power OFF.

[C] Clear SRAM update Error flags

(1) Turn the power ON while pressing [3] and the [CLEAR] button simultaneously.

(2) After “Firmware Version Up Mode” is displayed on the LCD, check that “1: Clear SRAM update Error flags.” is marked and press the [START] button.
If not, key in [1] and then press the [START] button.

(3) When “SRAM update Error flags cleared.” is displayed on the LCD, clearing the flag is completed.

(4) Turn the power OFF.

[D] Initialize SRAM board

(1) Start up with the Setting Mode (08).

(2) Initialize the SRAM error.
1. When “SRAM ERROR DOES IT INITIALIZE” is displayed on the LCD, check the destination and then press the [START] button.
   If the destination is not correct, key in the correct one and then press the [START] button.
2. After the confirmation message is displayed, press the [INTERRUPT] button.

(3) Perform the panel calibration (08-692).
1. Touch the center of “+” mark displayed on the upper left of the LCD.
2. Touch the center of “+” mark displayed on the lower right of the LCD.

(4) Perform the initialization at the software version upgrade (08-947).

(5) Initialize the NIC information (08-693).

(6) Enter the serial number (08-995).
Key in the serial number on the label attached to the rear cover of the equipment, and then press the [OK] button.

(7) Turn the power off.

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[E] Enable HDD encryption

If the HDD encryption function has been set, perform the following procedure.

(1) Start up with the Setting mode (08).

(2) Enable the HDD encryption function (08-9379).

(3) Format the HDD (08-690).

(4) Turn the power OFF.

[F] Adjust image quality

(1) Start up with the Adjustment mode (05).

(2) Perform “Data transfer of characteristic value of scanner” (05-364).

(3) Perform “Automatic gamma adjustment” <PPC> (05-1642).
📖 P.8-40 "8.6.1 Automatic gamma adjustment"

(4) Perform “Automatic gamma adjustment” <PRT> (600dpi: 05-1008, 1200dpi: 05-1009).
📖 P.8-55 "8.7.1 Automatic gamma adjustment"

(5) Turn the power OFF.

[G] Initialize settings when FAX Unit (GD-1270) is installed

(1) Reinstall the FAX Unit (GD-1270) which was taken off at step (1) of 📖 P.20-29 "[A] Replace SRAM board".

(2) Start up with the Setting mode (08).

(3) Set the destination of FAX (08-701).

(4) Turn the power OFF.

(5) Start up with the FAX Clearing Mode (1*).

(6) Perform the FAX Set Up (1*-100).

(7) Turn the power OFF and then back ON.

(8) Set the dial type according to these buttons: [USER FUNCTIONS] -> [ADMIN] -> [FAX] -> [INITIAL SETUP]

[H] Set date and time

Set the date and time according to these buttons.
[USER FUNCTIONS] → [ADMIN] → [GENERAL] → [CLOCK] → [DATE/TIME]

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[I] Set EFI Printer Board

If the EFI Printer Board (GA-1310) is installed, perform the following procedure.

(1) Turn the power OFF.

(2) Start the setting mode (08).

(3) Initialize the EFI Printer Board (08-700).

(4) Turn the power OFF.

[J] Reinstall options

When any of the options below was installed, reinstall a license for the corresponding option following its unpacking instructions.

- Meta Scan Enabler (GS-1010)
- External Interface Enabler (GS-1020)
- IPSec Enabler (GP-1080)

When GP-1070 (Data Overwrite Enabler) has been installed, “F200” service call occurs. In this case, perform cancelling the “F200” service call (installing the OS / HDD SYS / PFC Firmware / Engine MainFirmware / Scanner Firmware using the USB media), and then install GP-1070 (Data Overwrite Enabler) again.

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20.2.7 Precautions and Procedures when replacing SRAM board (for LGC board)

Note:
Be careful not to damage the board when replacing the SRAM board.

A procedure for replacing the SRAM board is shown below.
When disposing of the SRAM board, perform the items in 📖 P.20-37 "20.3.3 Precautions when disposing of the SRAM board"

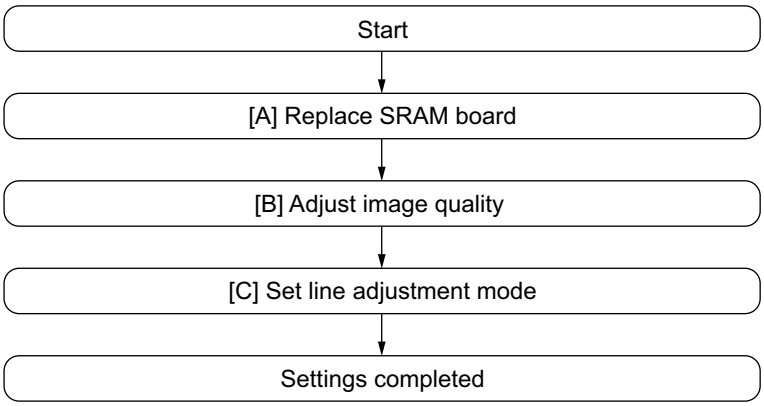

Fig. 20-57

[A] Replace SRAM board

(1) Confirm that the power is turned OFF.

(2) Replace the SRAM board (for the LGC board).
📖 P.20-12 "20.1.12 SRAM board <for LGC board> (RAM-L)"

Note:
After the TRU waste toner amount detection sensor has detected the near-full status, and the number of prints has reached the specified value (08-4597), the TRU waste toner box is judged as being full. The count value of the number of prints is stored in the SRAM board until it reaches the specified value. When the SRAM board is replaced, the data stored in the SRAM board are reset. Check the TRU waste toner box and if the amount of the waste toner exceeds the position of the line shown in the following figure, replace the TRU waste toner box.
📖 P.12-33 "12.6.20 TRU waste toner box"

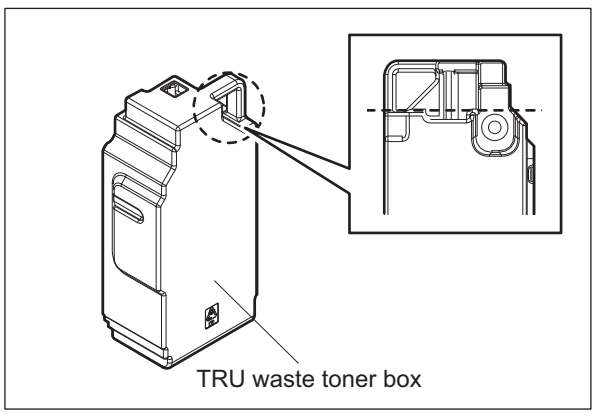

Fig. 20-58

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[B] Adjust image quality

(1) Take off the front lower cover.
🕮 P.3-41 "3.5.1 Front lower cover"

(2) Correctly write down the adjustment values of the following (05) codes attached on the laser optical unit cooling duct.

	L (0)	H (1)
05/2622		
05/2623		
05/2624		
05/2625		
05/2627		
05/2628		
05/2629		
05/2630		

(3) Start up with the Adjustment mode (05).

(4) Enter the all adjustment values written down in step (1).

(5) Reset the auto toner sensor.
1. Turn the power OFF.
2. Take off the developer units of 4 colors (Y, M, C and K).
🕮 P.11-43 "11.5.24 Developer unit"
3. Discharge developer material in each developer unit and make sure that the developer unit is completely empty. Or prepare empty developer units of 4 colors (Y, M, C and K).
🕮 P.11-45 "11.5.25 Developer material"
4. Install the empty developer units of 4 colors (Y, M, C and K) to the equipment
🕮 P.11-43 "11.5.24 Developer unit"
5. Install the developer cartridges of 4 colors (Y, M, C and K) to the equipment.
6. Install the front cover.
🕮 P.3-41 "3.5.2 Front cover"
7. Perform automatic adjustment of auto-toner sensor.
Start up with the Adjustment mode (05), enter [200] and press the [START] button.
8. Turn the power OFF.
9. Take off the front cover.
🕮 P.3-41 "3.5.2 Front cover"
10. Take out all the developer cartridges and then install the sub-hoppers of 4 colors (Y, M, C and K).
🕮 P.11-33 "11.5.11 Sub-hopper"
11. Install the front cover.
🕮 P.3-41 "3.5.2 Front cover"

Note:
You can reset the auto-toner sensor by directly entering the adjustment values for (05) 205-0 to 3 with the Adjustment mode data list, which has been printed during normal operation of equipment such as when it is setup, when preventive maintenance (PM) is performed or when developer material is replaced, etc.

(6) Adjust the image quality control (05-396).

(7) Perform “Tilt motor initial excitation setting” (05-4721).

(8) Perform the enforced position adjustment (05-4719).

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(9) Perform printer related adjustment and scanner related adjustment.
📖 P.8-23 "8.5.7 Printer-related image dimensional adjustment"
📖 P.8-31 "8.5.8 Scanner-related image dimensional adjustment"

(10) Perform “Automatic gamma adjustment” <PPC> (05-1642).

(11) Perform “Automatic gamma adjustment” <PRT> (600dpi : 05-1008, 1200dpi : 05-1009).

Note:
Usually, it is only necessary to perform automatic gamma adjustment for [Plain paper]; however if other paper is used, perform automatic gamma adjustment per paper type.

[C] Set line adjustment mode

(1) Turn the power OFF.

(2) Start up with the Setting Mode (08).

(3) Set “Line adjustment mode” to “0: For factory shipment” (08-203).

Note:
Be sure to change the setting of “Line adjustment mode” (08-203) to “0: For factory shipment”. Since “1: For line” is set for “Line adjustment mode” in SRAM supplied as a service part, number of prints is not counted unless it is changed.

20.2.8 Firmware confirmation after the PC board/HDD replacement

After replacing the PC board/HDD, check the firmware version in the setting mode (08) and confirm if the firmware combination is correct.

Firmware	Code	Remarks
Updating HDD/UI data	08-944	HDD Version
	08-924	Version of UI data language 1 in HDD
Updating System ROM	08-900	System firmware ROM version
	08-921	System firmware ROM internal program version
Updating OS	08-920	FROM basic section software version
Updating Engine ROM	08-903	Engine ROM version
Updating Scanner ROM	08-905	Scanner ROM version
Updating PFC ROM	08-906	PFC ROM version
Updating RADF ROM	08-907	RADF ROM version
Updating Finisher ROM	08-908	Finisher ROM version Saddle stitcher ROM version
	08-911	Hole punch unit ROM version
	08-9945	Converter ROM version
Updating FAX ROM	08-915	FAX ROM version
Imaging Acceleration Board ROM	08-9965	Imaging Acceleration Board SROM version

* If “NGD” is displayed for the PFC ROM.version (08-906), the downloading of PFC ROM fails. Update the firmware again.

📖 P.19-51 "19.5 When Firmware Updating Fails"

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20.2.9 Electronic key re-registration using the one-time dongle

[A] When the board is replaced

The Electronic key registered using the one-time dongle can be re-registered only in the same equipment. When the SYS board or SRAM board (for SYS board) is replaced, follow the procedures for re-registration given below.

(1) After the SYS board or SRAM board is replaced, set up the equipment referring to the following procedures.
📖 P.20-27 "20.2.4 Precautions and Procedures when replacing the SYS board"
📖 P.20-29 "20.2.6 Precautions and Procedures when replacing SRAM board (for SYS board)"

(2) Perform 08-3840 with the one-time dongle previously used for registering the Electronic key.
📖 P.20-27 "[D] Reinstall options"
📖 P.20-32 "[J] Reinstall options"

(3) When the authentication succeeds, the re-registration screen appears and the available reregistration numbers are displayed after the option names.

(4) Perform the registration in the same manner as a regular one.

Note:
This procedure is available only with the one-time dongle used for the previous registration, since the model information registered in it is utilized. Use the same one-time dongle and the equipment when registering the Electronic key.

[B] When the equipment is replaced due to malfunction

When the equipment has to be replaced due to a malfunction, return the Electronic key registered in the equipment to the one-time dongle and register it to the new equipment following the procedure below.

Note:
The Electronic key of the IPSec option (GP-1080) cannot be re-registered.

(1) Start up with the Setting mode (08).

(2) Perform 08-3870 and check the registered Electronic key.

(3) Connect the one-time dongle used for registering the Electronic key to the USB port of the equipment.

Note:
The one-time dongle to be used is the one for the previous registration of the Electronic key.

(4) Perform 08-3841. The Electronic keys which can be returned to the one-time dongle are displayed.

(5) Select one and press the [RETURN] button.

Note:
The Electronic key is deleted from the equipment and is stored in the one-time dongle.

(6) After the equipment is replaced, start up with the Setting mode (08).

(7) Connect the one-time dongle to the USB port and perform 08-3840.

(8) Perform the re-registration in the same manner as a regular one.

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20.3 Precautions for Installation of GP-1070 and Disposal of HDD/ Board

20.3.1 Precautions for Installation of GP-1070 and Disposal of HDD/ Board

When installing the Data Overwrite Enabler (GP-1070), perform the following setting:

08-1422: HDD data overwriting type setting
This setting is the overwriting method complying with DoD 5220.22-M.
0: LOW: This is the standard overwriting method. (This method is used normally.)
1: MEDIUM: This overwriting method is more secure than LOW. The erasing time is between LOW and HIGH.
2: HIGH: This is the most secure overwriting method. It takes the longest time to erase data

If disposing of the HDD when the Data Overwrite Enabler (GP-1070) has been installed, perform the following settings for security.
📖 P.24-124 "24.8 System"

08-1424: HDD data clearing type setting (forcible clearing)
This setting is the overwriting method complying with DoD 5220.22-M.
0: LOW: This is the standard overwriting method. (This method is used normally.)
1: MEDIUM: This overwriting method is more secure than LOW. The erasing time is between LOW and HIGH.
2: HIGH: This is the most secure overwriting method. It takes the longest time to erase data.

08-1426: Forcible HDD data clearing
HDD data are cleared according to the setting of 08-1424

Note:
The process is displayed as a percentage during forcible HDD data clearing. Never turn the power OFF until 100% is displayed and the process is completed.

20.3.2 Precautions when disposing of the SYS board

When disposing of the SYS board, data clearing is not required since important data, such as user information, etc. are stored in the SRAM board.

20.3.3 Precautions when disposing of the SRAM board

When disposing of the SRAM board, perform 08-1428 (Forcible SRAM backup data all clearing) for security reasons.

Note:
If these codes are performed, the equipment cannot be started up.

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21. BACKUP FUNCTION

21.1 Data Cloning

21.1.1 General description

Data cloning is a function that backs up user data, setting data and SRAM data into a USB media and also restores these data into the equipment. The types of data to back up or restore are selectable. You can back up or restore all data in a batch, or only the required one separately.

21.1.2 Precautions

1. Programs required for data cloning are as follows:

System ROM version	Storage location	Program file name
---	Root directory	rootusb2 clone_5520C_6530C.xxx

2. Be sure to check the “Status display of the USB data cloning permission (08-9889)” before data cloning. When the value of 08-9889 is “1 (Prohibited)”, data cloning cannot be performed. Contact and ask the user (machine administrator) to change the setting on the [Data Cloning Function] in TopAccess, or set “0 (Accepted)” in 08-9889.
3. It is assumed that data cloning is to be performed when equipment is installed or options are installed. If the address book has been registered, do not perform restore. Registered / set data are lost.
4. The USB media for the data cloning must meet the following conditions. A data cloning operation with any devices other than the following will not be guaranteed.
   - A combination USB medium with a flash memory (to be connected directly to the USB port) having a capacity of 256 MB to 512 MB (or 1 GB) or more.
   - A device compliant with the following specifications established by USB-IF (USB Implementers Forum)
     Class number: 8 (=08h) (Mass storage class)
     Sub-Class number: 6 (=06h) (SCSI transfer command set)
     Protocol number: 80 (=50h) (Bulk-only)
   - Most of the common USB medias are compliant with the above specifications and are therefore applicable to this data cloning. However, most of these devices were originally developed to be used in an environment for PCs (e.g. Windows or Macintosh) and thus operations exclusively with this equipment have not been fully guaranteed. Therefore, the user must thoroughly check in advance whether there will be any problem in operating with this equipment when adopting one of these devices.
5. The USB medias compliant with both USB 1.1 and USB 2.0 can be used for this data cloning.
6. Data cloning with any storage devices other than a flash memory (e.g. USB-connectable memory card reader, CD/DVD drive, hard disk) will never be guaranteed. Therefore never use them for this operation.
7. Be sure to unplug the LAN cable and Fax line before data are backed up / restored. Also, do not use the RADF and open the cover, drawer, etc. during the data cloning.
8. Data can be backed up / restored only for the same model and version. If the version is different, update the firmware and back up / restore data in the same version.
9. Restore data to equipment which has the same options as when the data are backed up.
10. If “Department management” or “User management information” is restored, the counter values are copied as well, so clear all of them. However, the total counter is not copied.
11. Delete the backed up data in the USB media after the data cloning.
12. [ERROR12: Device is Busy] is displayed if the equipment is in one of the following statuses when running data cloning.
    - When backing up
      - Control panel is in use
      - JOB is in process

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- When restoring
  - Control panel is in use
  - JOB is in process
  - Private job has been reserved
  - Schedule print job has been reserved
  - Proof print job has been reserved
  - Hold print job has been reserved
  - Invalid job is pending

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21.1.3 Backup files

Data files that are available for backup are limited to user data, setting data and SRAM data.The detailed descriptions for each file are shown below. Note that backup files are encrypted.

1.User data file

The folder “user_data” is created in the root directory and the following files are stored in it.

Data item	folder	File name
Address book	user_data	BACKUP_ADDR.sct
Mailbox	user_data	BACKUP_MBOX.sct
Template	user_data	BACKUP_TEMP.sct
Back up the Address book, Mailbox and Template in a batch	user_data	BACKUP_ALL.sct
Department management information	user_data	BACKUP_Department.sct
User management information	user_data	BACKUP_User.sct
Role information	user_data	BACKUP_Role.sct
Mata Scan information	user_data\metaScan	xxxx.sct * The file name that the user has set for saving this file comes at “XXXX”.

2.Setting data file

The folder “setting_data” is created in the root directory and the following files are stored in it.

Data item	folder	File name
Network / Print service	setting_data	network.sct IPsec.sct*
SaveAsFile / Email / InternetFAX	setting_data	scan.sct
Notification setting	setting_data	notice.sct
Directory Service	setting_data	ldap.sct
FAX setting	setting_data	fax.sct fax08.sct
Wireless LAN setting / Bluetooth setting	setting_data	wl.sct bl.sctt
COPY setting	setting_data	copy.sct
GENERAL setting	setting_data	general.sct
User management setting	setting_data	Usrmng.sct

* Enabled when IPSec (GP-1080, optional) is installed

3.SRAM data file

The folder “sram_data” is created in the root directory and the following files are stored in it.

Data item	folder	File name
SRAM	sram_data	sram.sct

Note:

In addition to the backed up data, the following files are created in each folder

Data item	folder	File name
User data	user_data	user_data.txt
Setting data	setting_data	setting_data.txt
SRAM data	sram_data	sram_data.txt

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<Contents of file>

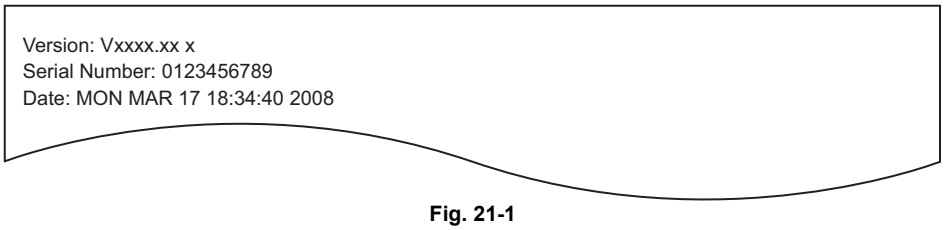

Fig. 21-1

- File format (user_data.txt, setting_data.txt, sram_data.txt: all in common)
  Line 1: Version
  Line 2: Serial number
  Line 3: Date

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21.1.4 List of codes available for cloning

Setting mode (08)

08-204	08-205	08-206	08-209	08-218
08-219	08-221	08-250	08-254	08-259
08-260	08-264	08-272	08-273	08-274
08-288	08-290	08-291	08-292	08-293
08-294	08-295	08-296	08-297	08-298
08-299	08-300	08-302	08-331	08-342
08-503	08-550	08-603	08-610	08-611
08-619	08-620	08-621	08-622	08-623
08-624	08-629	08-634	08-638	08-640
08-642	08-645	08-649	08-650	08-651
08-652	08-653	08-658	08-659	08-671
08-702	08-703	08-707	08-721	08-723
08-726	08-727	08-728	08-729	08-730
08-780	08-781	08-782	08-783	08-784
08-785	08-786	08-787	08-788	08-789
08-790	08-945	08-969	08-970	08-973
08-976	08-978	08-979	08-1002	08-1007
08-1011	08-1012	08-1014	08-1015	08-1016
08-1017	08-1018	08-1019	08-1020	08-1022
08-1024	08-1025	08-1026	08-1027	08-1028
08-1029	08-1030	08-1031	08-1032	08-1037
08-1038	08-1039	08-1040	08-1041	08-1042
08-1043	08-1044	08-1045	08-1046	08-1047
08-1048	08-1049	08-1050	08-1051	08-1052
08-1055	08-1059	08-1060	08-1063	08-1065
08-1066	08-1069	08-1070	08-1073	08-1074
08-1075	08-1076	08-1078	08-1079	08-1080
08-1089	08-1090	08-1091	08-1092	08-1094
08-1095	08-1096	08-1097	08-1098	08-1099
08-1100	08-1101	08-1102	08-1103	08-1111
08-1114	08-1123	08-1125	08-1138	08-1432
08-1440	08-1441	08-1442	08-1444	08-1445
08-1446	08-1447	08-1448	08-1449	08-1450
08-1451	08-1464	08-1472	08-1661	08-1662
08-1665	08-1666	08-1667	08-1668	08-1669
08-1670	08-1671	08-1672	08-1673	08-1674
08-1675	08-1676	08-1677	08-1678	08-1685
08-1686	08-1689	08-1690	08-1691	08-1692
08-1693	08-1696	08-1697	08-1699	08-1700
08-1701	08-1704	08-1705	08-1706	08-1707
08-1708	08-1710	08-1711	08-1712	08-1713
08-1714	08-1715	08-1719	08-1720	08-1721
08-1722	08-1723	08-1724	08-1725	08-1726
08-1727	08-1728	08-1729	08-1730	08-1731
08-1732	08-1733	08-1734	08-1735	08-1736
08-1737	08-1738	08-1739	08-1740	08-1741
08-1743	08-1744	08-1745	08-1746	08-1748
08-1749	08-1750	08-1755	08-1756	08-1759
08-1760	08-1762	08-1764	08-1765	08-1766
08-1767	08-1772	08-1779	08-1780	08-1781-0
08-1781-1	08-1782	08-1783	08-1784-0	08-1784-1
08-1785	08-1786	08-1920	08-1937	08-1941
08-1950	08-1951	08-1953	08-1958	08-1959
08-3506	08-3507	08-3508	08-3631	08-3722

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08-3723	08-3724	08-3736	08-3737	08-3738
08-3739	08-3740	08-3741	08-3742	08-3743
08-3745	08-3746	08-3747	08-3748	08-3754
08-3755	08-3757	08-3758	08-3759	08-3760
08-3767	08-3768	08-3774	08-3775	08-3776
08-3777	08-3778	08-3779	08-3780	08-3781
08-3782	08-3783	08-3785	08-3789	08-3793
08-3796	08-3797	08-3812	08-3833	08-3846
08-3847	08-3848	08-3849	08-3851	08-3852
08-3853	08-3854	08-3855	08-3856	08-3857
08-3858	08-3859	08-3860	08-3861	08-3862
08-3863	08-8504	08-8511	08-8543	08-8580
08-8581	08-8582	08-8583	08-8584	08-8585
08-8586	08-8587	08-8588	08-8589	08-8590-0
08-8590-1	08-8590-2	08-8590-3	08-8590-4	08-8591
08-8592	08-8593	08-8604	08-8605	08-8606
08-8608	08-8609	08-8610	08-8615	08-8616
08-8617	08-8618	08-8619	08-8620	08-8624
08-8625	08-8626	08-8628	08-8629	08-8800
08-8801	08-8803	08-8804	08-8805	08-8817
08-8818	08-9015	08-9103	08-9117	08-9120
08-9121	08-9122	08-9123	08-9124	08-9125
08-9126	08-9193	08-9294	08-9384	08-9394
08-9629	08-9700	08-9746	08-9747	08-9748
08-9791	08-9799	08-9829	08-9889	08-9891
08-9946	08-9947	08-9957	08-9958	08-9980
08-9981	08-9984-0	08-9984-1	08-9984-2	08-9984-3
08-9984-4				

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Fax function mode (13)

13-100	13-101	13-102	13-103	13-104
13-105	13-106	13-107	13-108	13-109
13-110	13-111	13-112	13-116	13-117
13-122	13-123	13-125	13-127	13-128
13-129	13-132	13-135	13-137	13-138
13-139	13-140	13-141	13-142	13-143
13-149	13-150	13-151	13-152	13-153
13-200	13-201	13-203	13-206	13-210
13-211	13-213	13-216	13-220	13-221
13-222	13-223	13-224	13-225	13-226
13-227	13-228	13-229	13-230	13-231
13-232	13-236	13-245	13-247	13-249
13-262	13-267	13-268	13-269	13-270
13-271	13-272	13-273	13-279	13-280
13-281	13-282	13-283	13-312	13-313
13-317	13-325	13-328	13-331	13-335
13-338	13-339	13-340	13-346	13-350
13-351	13-355	13-356	13-357	13-359
13-361	13-362	13-363	13-365	13-367
13-368	13-370	13-371	13-372	13-373
13-375	13-377	13-378	13-379	13-382
13-389	13-391	13-394	13-398	13-430
13-433	13-501	13-509	13-510	13-511
13-512	13-517	13-518	13-519	13-564
13-565	13-566	13-567	13-569	13-571
13-574	13-575	13-576	13-577	13-578
13-580	13-581	13-584	13-585	13-586
13-587	13-601	13-602	13-605	13-606
13-607	13-610	13-611	13-612	13-614
13-615	13-616	13-706	13-707	13-709
13-711	13-720	13-722	13-723	13-724
13-725	13-726	13-727	13-728	13-922
13-923	13-924	13-925	13-926	13-927
13-930	13-931	13-940	13-941	13-944
13-955	13-961	13-962	13-970	13-971

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21.1.5 Cloning procedure

[A] Backup procedure

(1) Shut down the equipment.

(2) Connect the USB media to the USB port on the right upper cover.

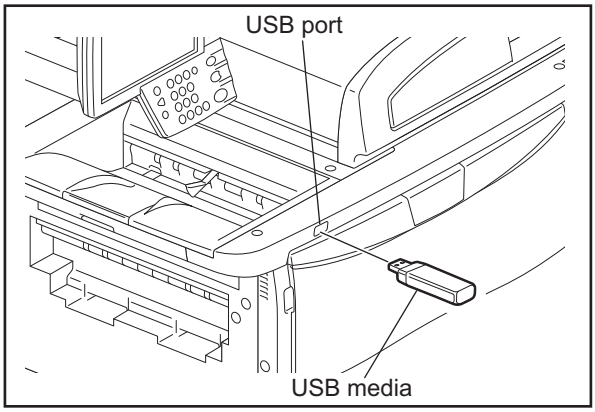

Fig. 21-2

Note:
Backing up cannot be performed with multiple USB media connected at the same time.

(3) Turn the power ON while pressing the [5] and [9] buttons simultaneously.
A screen for selecting items to back up is displayed. Select the number (any of “1”, “3” and “5”) for data you want to back up. Press the [START] button.

Number	Backup Item
1: User Data Back Up	Backing up User data
3: Setting Back Up	Backing up Setting item
5: SRAM Data Back Up	Backing up SRAM data

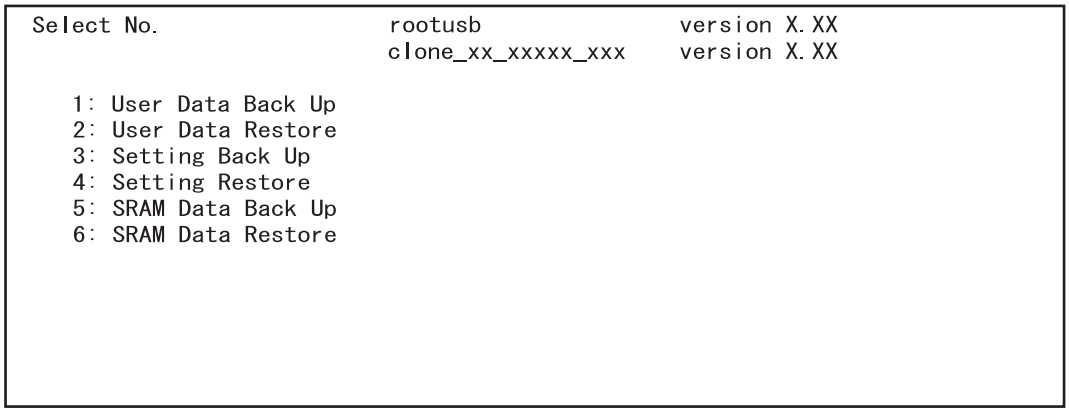

Fig. 21-3

Notes:
- It may take some time for the next screen to appear after you key in the number for the item.
- The screen above is not displayed if the data cloning function is disabled. In this case, ask the user (machine administrator) to enable the data cloning function on the TopAccess menu, or set “0 (Accepted)” in 08-9889.
- To clear the selection, press the [CLEAR] or [FUNCTION CLEAR] button.

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(4) A certain time after the [START] button is pressed, the following screen is displayed. Select the number of the desired data. The selected item will be displayed with an asterisk.

<When “1: User Data Back Up” is selected>

Number	Backup Item
1: Address Book	Backing up Address book
2: MailBoxes	Backing up Mail box
3: Template	Backing up Template and meta scan definition file
4: Combined	Backing up Address Book, Mail Box, Template, and meta scan definition file in a batch
5: FAX Kit	Backing up Department management
6: User Info	Backing up User management information
7: Role Info	Backing up Role information

* The items “4”, “5”, “6”, and “7” are selected in the screen by default.

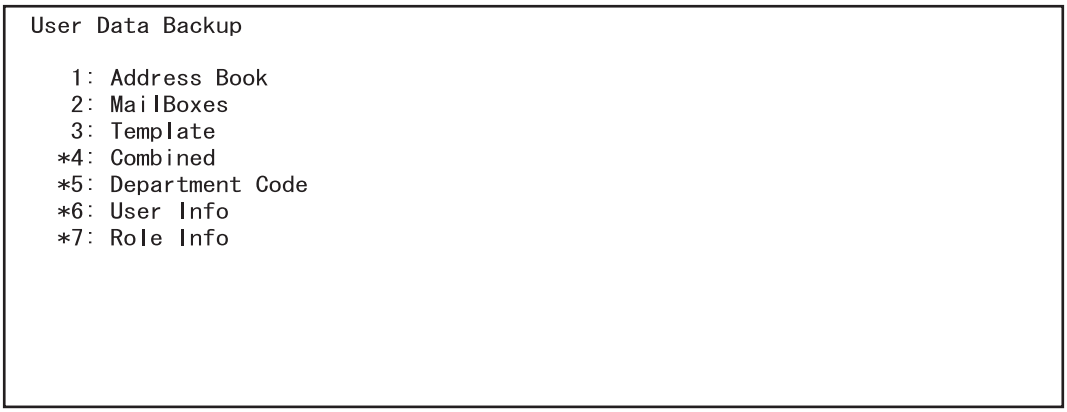

Fig. 21-4

<When “3: Setting Back Up” is selected>

Number	Backup Item
1: Network/Print Service	Backing up TopAccess: Network/Print Service
2: SaveAsFile/Email/InternetFAX	Backing up TopAccess: SaveAsFile/Email/InternetFAX
3: Notification	Backing up TopAccess: Notification
4: Directory Service	Backing up TopAccess: Directory Service
5: FAX Kit	Backing up Option: Fax setting
6: WirelessLAN/Bluetooth Kit	Backing up Option: WirelessLAN/Bluetooth setting
7: Copy	Backing up TopAccess: Copy setting
8: General	Backing up TopAccess: General setting
9: User Management	Backing up TopAccess: User management setting

* No items are selected in the screen by default.

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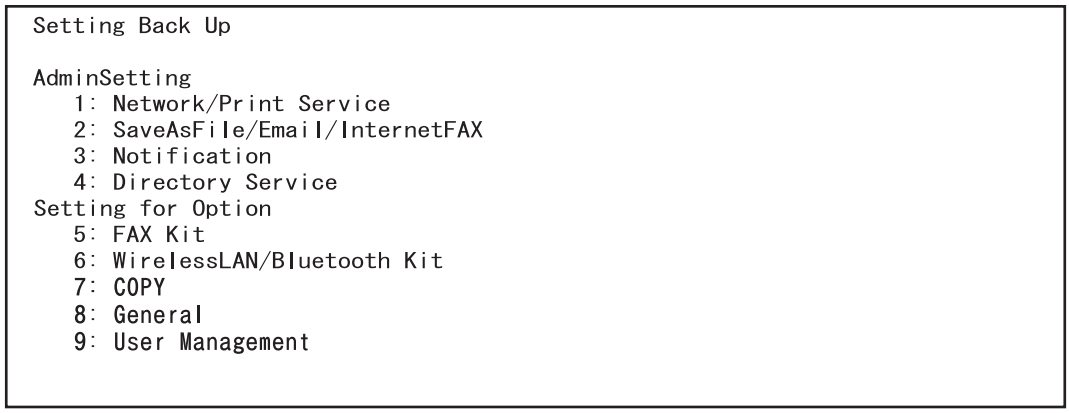

Fig. 21-5

<When “5: SRAM Data Back Up” is selected>

Number	Backup Item
1. SRAM	Backing up SRAM Data

* No items are selected in the screen by default.

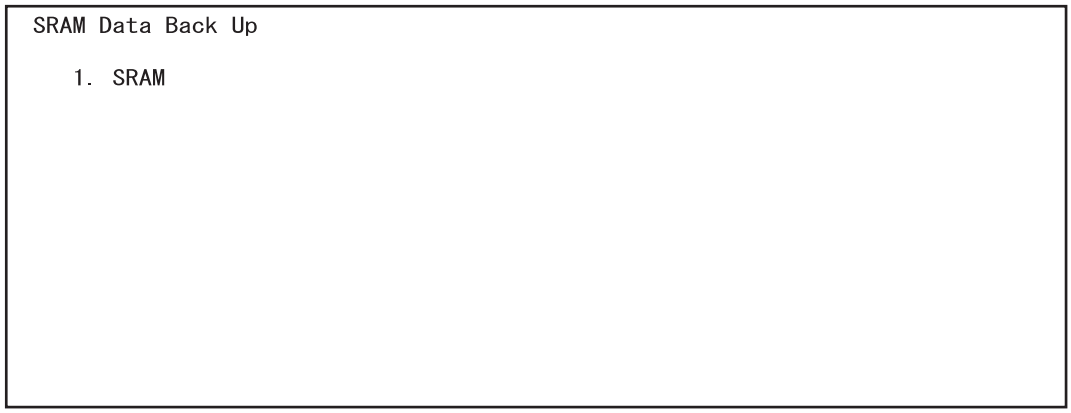

Fig. 21-6

(5) Press the [START] button. The backup starts and the backing up status is displayed on the LCD screen.

(6) “Back Up Completed” is displayed on the LCD screen when the backup has been properly completed.

(7) Turn the power OFF and remove the USB media.

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[B] Restoring procedure

(1) Shut down the equipment.

(2) Connect the USB media to the USB port on the right upper cover.

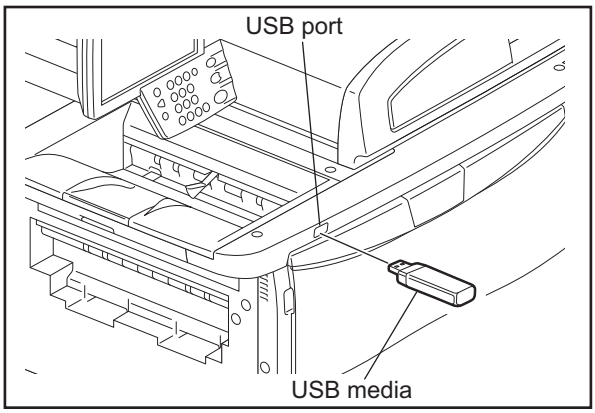

Fig. 21-7

Note:
Restoring cannot be performed with multiple USB medias connected simultaneously.

(3) Turn the power ON while pressing the [5] and [9] buttons simultaneously.
A screen for selecting items to restore is displayed. Select the number (any of “2”, “4” and “6”) for data you want to restore. Press the [START] button.

Number	Restore Item
2: User Data Restore	Restoring up User data
4: Setting Restore	Restoring up Setting item
6: SRAM Data Restore	Restoring up SRAM data

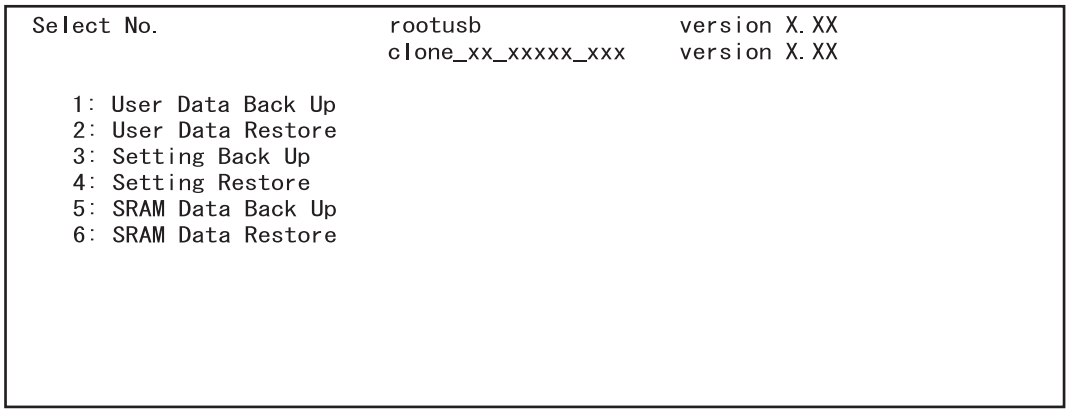

Fig. 21-8

Notes:
- It may take some time for the next screen to appear after you key in the number for the item.
- The screen above is not displayed if the data cloning function is disabled.In this case, ask the user (machine administrator) to enable the data cloning function on the TopAccess menu, or set “0 (Accepted)” in 08-9889.
- To clear the selection, press the [CLEAR] or [FUNCTION CLEAR] button.

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(4) A certain time after the [START] button is pressed, the following screen is displayed. Select the number of the desired data. The selected item will be displayed with an asterisk.

<When “2: User Data Restore” is selected>

Number	Restore Item
1: Address Book	Restoring Address book
2: MailBoxes	Restoring Mail box
3: Template	Restoring Template and meta scan definition file
4: Combined	Restoring Address Book, Mail Box, Template, and meta scan definition file in a batch
5: Department Code	Restoring Department management
6: User Info	Restoring User management information
7: Role Info	Restoring role information

* The items “4”, “5”, “6”, and “7” are selected in the screen by default.

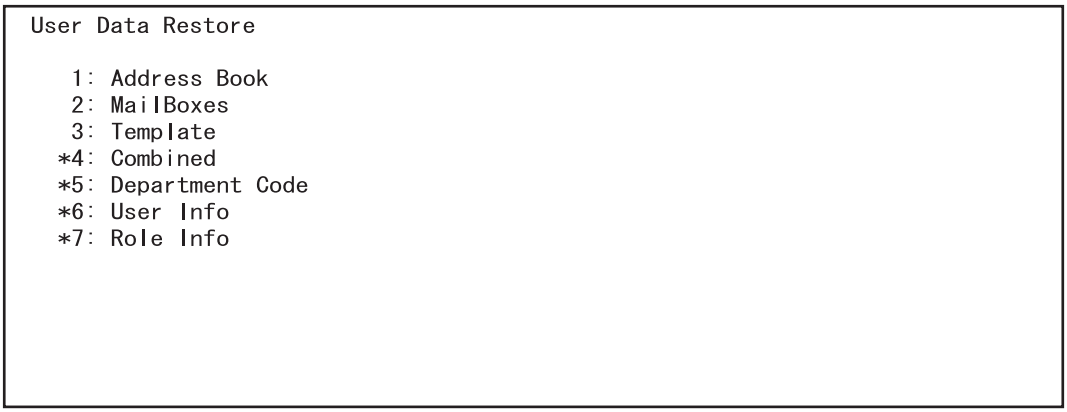

Fig. 21-9

<When “4: Setting Restore” is selected>

Number	Restore Item
1: Network/Print Service	Restoring TopAccess: Network/Print Service
2: SaveAsFile/Email/InternetFAX	Restoring TopAccess: SaveAsFile/Email/InternetFAX
3: Notification	Restoring TopAccess: Notification
4: Directory Service	Restoring TopAccess: Directory Service
5: FAX Kit	Restoring Option: Fax setting
6: WirelessLAN/Bluetooth Kit	Restoring Option: WirelessLAN/Bluetooth setting
7: Copy	Restoring TopAccess: Copy setting
8: General	Restoring TopAccess: General setting
9: User Management	Restoring TopAccess: User management setting

* No items are selected in the screen by default.
* Be sure to restore the same option items in the same condition as when the option items were backed up.

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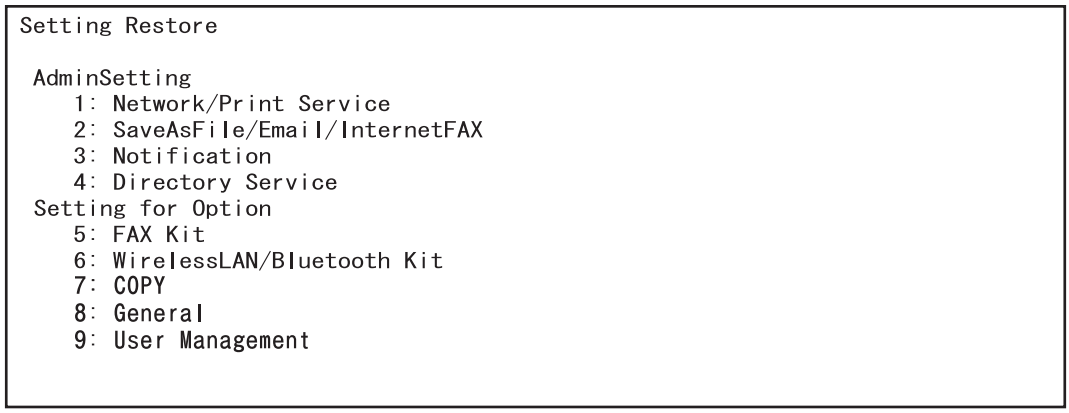

Fig. 21-10

<When “6: SRAM Data Restore” is selected>

Number	Restore Item
1. SRAM	Restoring SRAM Data

* No items are selected in the screen by default.

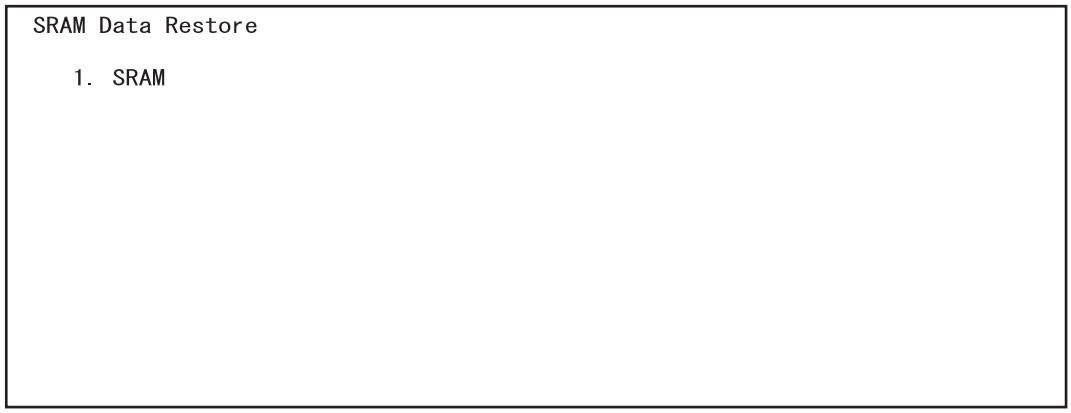

Fig. 21-11

(5) Press the [START] button. The restore starts and the restoring status is displayed on the LCD screen.

(6) “Restore Completed” is displayed on the LCD screen when restoring has been properly completed.

(7) Turn the power OFF and remove the USB media.

* When “department management data” or “user management data” are restored, clear their counter values in a procedure below.

(8) Counter values can be all cleared as the data are copied. Note that the total counter values are not copied.

<Procedure>
Press the buttons as follows: [COUNTER]→[DEPARTMANT MANAGEMENT]→Enter the password→[RESET ALL COUNTERS]

* Enable the department management when the [RESET ALL COUNTERS] buttons is set to be disabled.

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[C] Confirmation of the error

“Back Up ERROR X” (X: Error number) is displayed at the top of the LCD screen when the data have not been properly backed up / restored. In this case, turn the power OFF and then check the following items. After confirming and solving the problem, back up / restore the data again from the beginning.

- Does the USB media meet the conditions being used for this cloning?
- Is the updated program file written on the USB media properly?
- Is the USB media installed properly?
- Is the USB media or the equipment damaged?

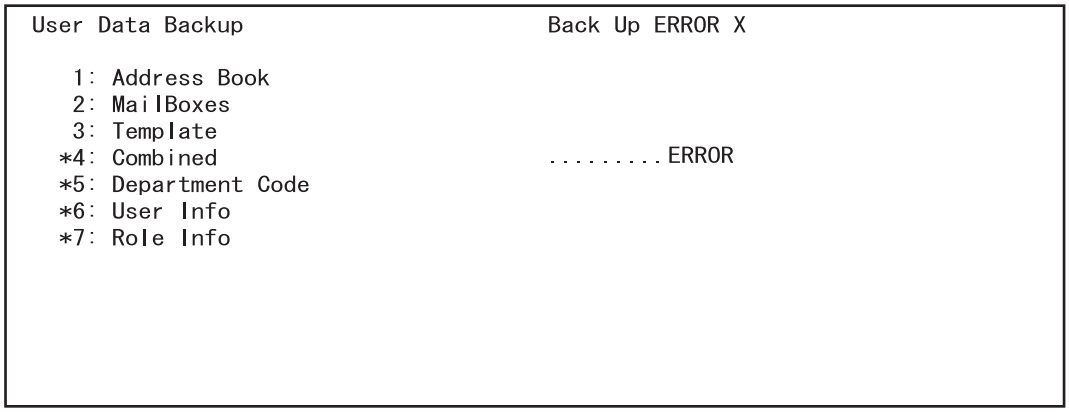

Fig. 21-12

Error number	Error content
ERROR 1	Copy error
ERROR 2	I/F error
ERROR 3	USB memory full error
ERROR 4	Working folder error
ERROR 5	File not found error
ERROR 6	Security error
ERROR 7	Checksum error
ERROR 8	Model check error
ERROR 9	Version check error
ERROR 10	Destination check error
ERROR 11	Serial number check error
ERROR 12	Device is Busy

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21.2 AES Data Encryption Function Setting

21.2.1 General description

Data encryption is a function that encrypts data in the HDD to enhance the security.
Note that this function may affect the equipment performance.

21.2.2 Precautions

When the data encryption function is set enabled, data currently stored in the HDD will not be retrieved. Therefore when data encryption function needs to be enabled after the installation of the equipment, it is necessary to back up the data in the HDD before setting this function and then recover them after the setting.

- To ensure security, ask the user (machine administrator) to back up or restore the user's data and information in the HDD. A service technician can back up or restore them only when the user (machine administrator) permits it.
- Some data in the HDD cannot be backed up and can be left only on printouts.

21.2.3 Setting procedure

A procedure for setting the data encryption function is shown below.

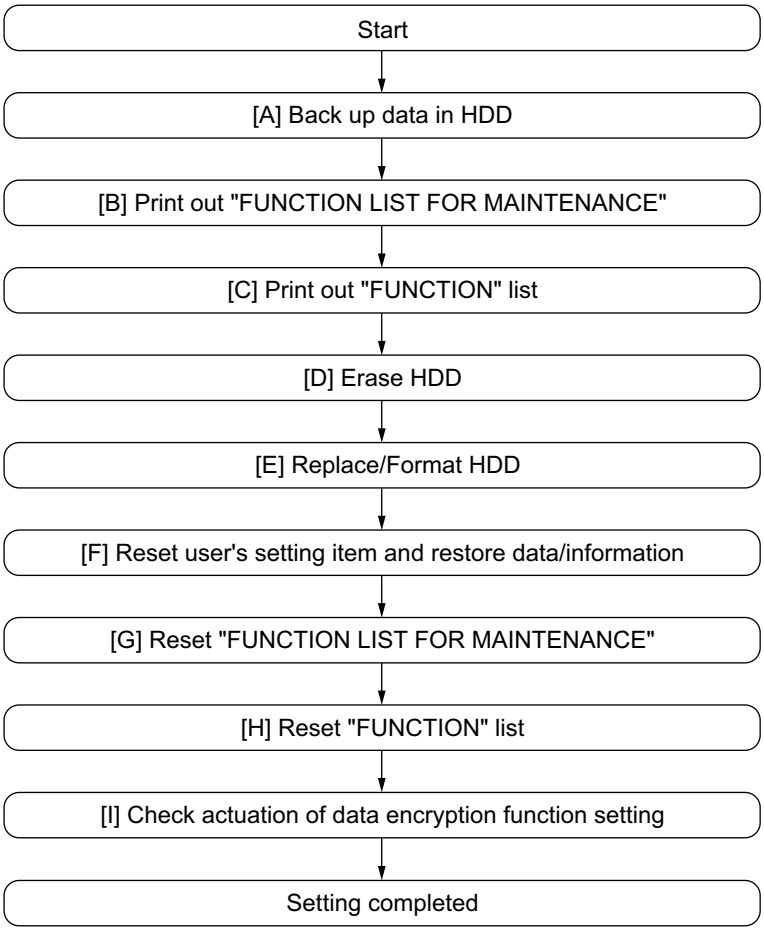

Fig. 21-13

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[A] Back up in HDD

Ask the user (machine administrator) to back up the data in the HDD. Refer to the table below for the type of data, availability and method of backup.

Type of data in HDD	Availability	Backup method
Image data in the e-Filing	Available	Archive them in the “e-Filing” of TopAccess. As for the backup in Box data, all data (selectable by the box) can be backed up / restored in one go by using “e-Filing Backup/ Restore Utility”.
F-code information, Template registration information, Address book data	Available	Back them up in the “Administrator” menu of TopAccess.
Department management data	Available	Export them in “Administrator” menu of TopAccess.
Log data (Print, Scan, FAX (Transmission/Reception)	Available	Export them in the “Administrator” menu of TopAccess. (Import cannot be performed.)
Data in the shared folder (Scanned data, Saved data of copy / FAX transmission)	Available	Copy them to the client computer via the network. (The data which have been copied to the client computer cannot be copied to the shared folder.)
Role information	Available	Export role information on the TopAccess menus. [User Management] tab > [User Confirm/Create/Modify] > [Role Information]
Print waiting data (Copying data and FAX reception data that are waiting to be printed due to the paper run-out and jam, etc.)	Not available	Finish printing them after the paper supply and the jam release, etc. (The data cannot be kept.)
Print job (Private print data, Schedule print data)	Not available	If any jobs are left, print them. (The data cannot be backed up.)
FAX saved data (Confidential / Bulletin board data)	Not available	Print them. (The data cannot be backed up.)
Registration data for FAX transmission (Delayed transmission / Recovery transmission)	Not available	Print them. (The data cannot be backed up.)

[B] Print out “FUNCTION LIST FOR MAINTENANCE”

(1) Press the [USER FUNCTIONS] button and then the [USER] tab.

(2) Press the [LIST] button.

(3) Key in [*] [#] [*] [*] [3] [3] and then press the [START] button. The “FUNCTION LIST FOR MAINTENANCE” is printed out.

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[C] Print out "FUNCTION" list

(1) Press the [USER FUNCTIONS] button.

(2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.

(3) Press the [LIST/REPORT] button and then the [LIST] button.

(4) Press the [FUNCTION] button. The "FUNCTION" list is printed out.

Note:
Explain the procedure to the user (machine administrator) and ask him/her to enter his/her password.

[D] Enable data encryption function

Perform the setting of the data encryption function in the code 08-9379. The setting values are shown below.

0: Encryption disabled
1: Encryption enabled (Security priority)
2: Encryption enabled (Performance priority)

Security priority: All user data are encrypted.
Performance priority: Encryption data are generated only in a copying or a printing process temporarily. All user data except files which are deleted in a corresponding process are encrypted.

[E] Format HDD

Perform the code 08-690:2 to format the HDD.

When the FAX Unit (GD-1250) is installed, perform "Fax Set Up (1*-100)" and "Clearing the image data (1*-102)". Then turn the power OFF.

1. Turn the power ON while pressing the digital keys [1] and [*] simultaneously.
2. Key in [100] and then press the [START] button.
3. Key in [102] and then press the [START] button.
4. Turn the power OFF.

[F] Reset user's setting items and restore data/information

Ask the user (machine administrator) to reset the user's setting items and to restore data or information. Refer to the following for the reset and restore:

Items to reset/restore	Method
Printer driver	Upload them in the "Administrator" menu of TopAccess.
F-code information, Template registering information, Address book data	Restore them in the "Administrator" menu of TopAccess.
Department management data	Import them in the "Administrator" menu of TopAccess.
Image data in the e-Filing	Restore them in the "e-Filing" of the TopAccess.
Role information	Import role information on the TopAccess menus. [User Management] tab > [User Confirm/Create/Modify] > [Role Information]

* When the SSL is enabled, perform the setting of the following items again with "Create self-certificate" of TopAccess.

Country Name
State or Province Name
Locality Name
Organization Name
Organizational Unit Name
Common Name
Email Address

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* When wireless LAN is used, perform the setting again on the LCD panel. (only when security with a certificate is used)
  Also, upload the following certificate file with “Install Certificate for Wireless LAN” of TopAccess.

  CA certificate
  User certificate

[G] Reset “FUNCTION LIST FOR MAINTENANCE”

(1) Print out the “FUNCTION LIST FOR MAINTENANCE” list after the formatting.For how to print it out, refer to 🕮 P.21-16 "[B] Print out “FUNCTION LIST FOR MAINTENANCE”".

(2) While pressing [1] and [3] simultaneously, turn the power ON. (Function Mode)

(3) Compare the lists which were printed before and after the formatting to check the setting items having the different setting values. Set the value which was set before the formatting.

(4) Turn the power OFF.

[H] Reset “FUNCTION” list

- Reset the fax function by referring to the “function list” that was printed out in 🕮 P.21-17 "[C] Print out “FUNCTION” list".

(1) Press the [USER FUNCTIONS] button.

(2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.

(3) Press the [FAX] button and then the [TERMINAL ID] button to set each item.

(4) Press the [INITIAL SETUP] button to set each item.

Note:
Explain to the user (machine administrator) about the next operation and ask him/her to enter his/her password.

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[I] Check actuation of data encryption function setting

Check if the data encryption function is in operation.

- Press the [COUNTER] button on the control panel. If a key-shaped icon is displayed at the top right of the screen, the data encryption function is in operation.

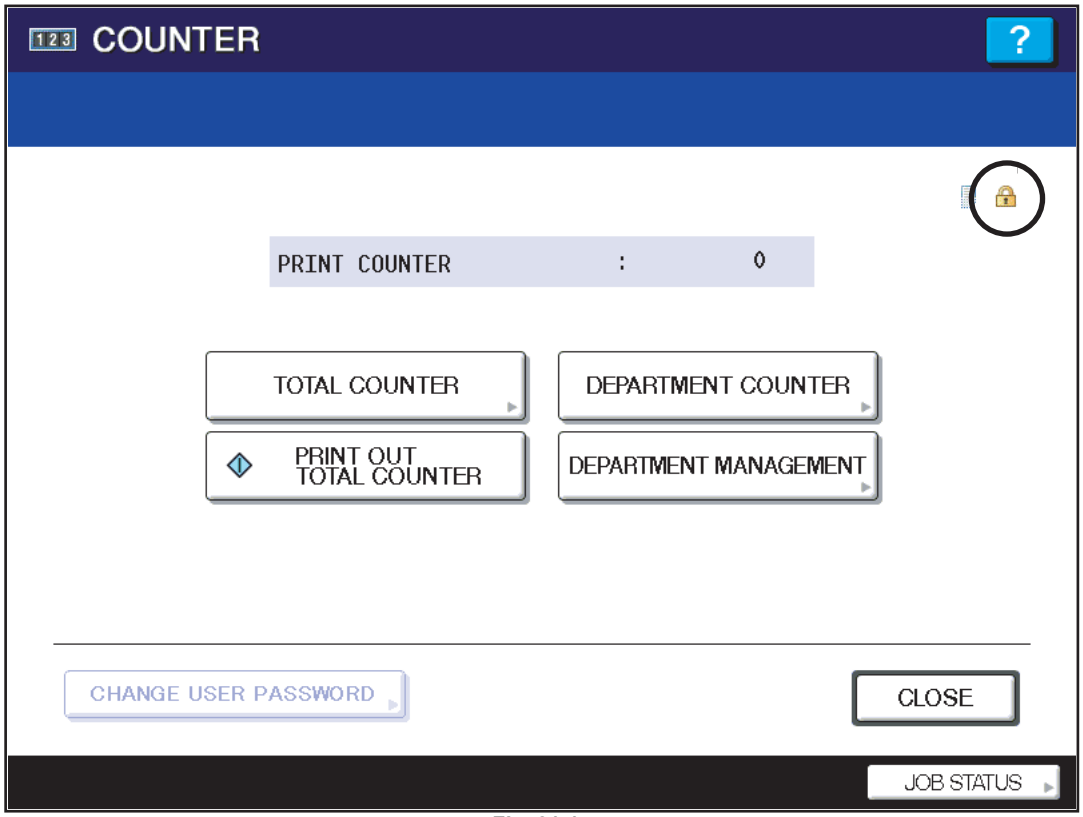

Fig. 21-14

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21.2.4 Procedure for disabling data encryption function

The basic procedure is the same as the one for enabling this function. To disable it, set “0 (Invalid)” in the code 08-9379 at step “🕮 P.21-17 "[D] Enable data encryption function".

21.2.5 Procedure for discarding HDD when data encryption function is enabled

Set the data encryption function disabled following the procedure shown in 21.2.4. Then perform the code 08-1426 (Forcible HDD data clearing) to completely erase the data in the HDD.

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21.3 Assist Mode

21.3.1 Assist Mode

This equipment has the Assist Mode to enable the following functions.

(1) Update Error flags clearing (“Clear update Error Flags.”)
Even if the firmware downloading has been completed normally, the Recovery Mode may accidentally start up when the power is turned ON again. In this case, clear the update error flags used in the download process with this function. (Normally, the flags are automatically cleared in the download process.)
Also in the case the Recovery Mode accidentally starts up after the replacement of SRAM on the SYS board, the flags are cleared with this function.

(2) Data storage partition formatting (“Format Loader Partition.”)
When a defection occurs on the UI data, etc. which are stored in the HDD, the partition with the stored UI data, etc. is formatted with this function. (Do not use this function since it is not normally necessary.)

(3) HDD partition creation (“All Partition Delete and Create Loader Partition.”)
When the HDD is replaced or UI data, etc. are downloaded using the USB storage, it is necessary to format a partition in the HDD before downloading. In this case, the partition is created in the HDD with this function.

Notes:
1. When downloading with a download jig, it is not necessary to format a partition in advance.
2. Perform the HDD partition formatting only when a new HDD is installed since all data in the current HDD are erased by this operation.

(4) SRAM data format
When SRAM board is replaced with a new one on the SYS board, abnormal values may be written in the new SRAM. In such cases, SRAM data must be formatted with this function.

Notes:
1. This function is required only when a new SRAM board is installed.
2. Do not perform this function in cases other than the installation of a new SRAM board because all data in the SRAM will be deleted as a result.

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21.3.2 Operating Procedure of Assist Mode

(1) Turn ON the power while [3] button and [CLEAR] button are pressed simultaneously.
- The following screen is displayed.

```
Firmware Version Up Mode

Select Number(1-4) and Press START key.

> 1 : Clear Update Error Flags.
  2 : Format Loader Partition.
  3 : All Partition Delete and Create Loader Partition.
  4 : SRAM Data Format.
```

Fig. 21-15

(2) Select the item with the digital keys and press the [START] button.

Note:
Explain the user (machine administrator) about the next operation and ask him/her to enter his/her password.

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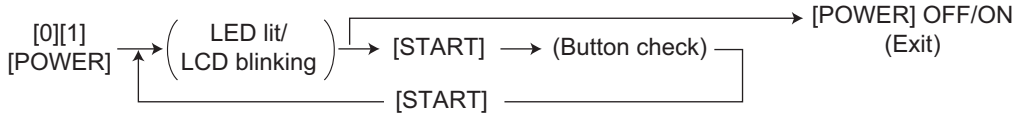
22. SELF-DIAGNOSTIC MODE

Mode	For start	Contents	For exit	Display
Control panel check mode	[0] + [1] + [POWER]	All LEDs on the control panel are lit, and all the LCD pixels blink.	[POWER] OFF/ON	-
Test mode	[0] + [3] + [POWER]	Checks the status of input/output signals.	[POWER] OFF/ON	100% C A4 TEST MODE
Test print mode	[0] + [4] + [POWER]	Outputs the test patterns.	[POWER] OFF/ON	100% P A4 TEST PRINT
Adjustment mode	[0] + [5] + [POWER]	Adjusts various items.	[POWER] OFF/ON	100% A A4 TEST MODE
Setting mode	[0] + [8] + [POWER]	Sets various items.	[POWER] OFF/ON	100% D TEST MODE
List print mode	[9] + [START] + [POWER]	Prints out the data lists of the codes 05 and 08, PM support mode, pixel counter, error history, firmware upgrade log and power ON/ OFF log, and also outputs them in a CSV format.	[POWER] OFF/ON	100% L A4 LIST PRINT
PM support mode	[6] + [START] + [POWER]	Clears each counter.	[POWER] OFF/ON	100% K TEST MODE
Firmware update mode	[8] + [9] + [POWER]	Performs updating of the system firmware.	[POWER] OFF/ON	-

Note:
To enter the desired mode, turn the power ON while pressing two digital keys designated to each mode (e.g. [0] and [5]) simultaneously. Hold the two keys until the [COPY] [e-FILING] [SCAN] [PRINT] [FAX] buttons are lit.

To exit from Adjustment mode and Setting mode:
Shut down the equipment. When the power should be turned OFF, be sure to shut down the equipment by pressing the [ON/OFF] button for a few seconds.

- Control panel check mode (01):
<Operation procedure>



Notes:
1. A mode can be cancelled by [POWER] OFF/ON when the LED is lit and the LCD is blinking.
2. Button Check
   Buttons with LED (Press to turn OFF the LED.)
   Buttons without LED (Press to display the message on the control panel.)
   Button on touch panel (Press to display the initial screen displayed at power-ON. Press [execution] on the touch panel and then the [CLEAR] button on the control panel. The screen then returns to the Button Check menu.)

- Test mode (03): Refer to P.22-4 "22.1 Input check (Test mode 03)" and P.22-15 "22.2 Output check (test mode 03)".

- Test print mode (04): Refer to P.22-22 "22.3 Test print mode (test mode 04)".

- Adjustment mode (05): Refer to P.23-1 "23. ADJUSTMENT MODE (05)".

- Setting mode (08): Refer to P.24-1 "24. SETTING MODE (08)".

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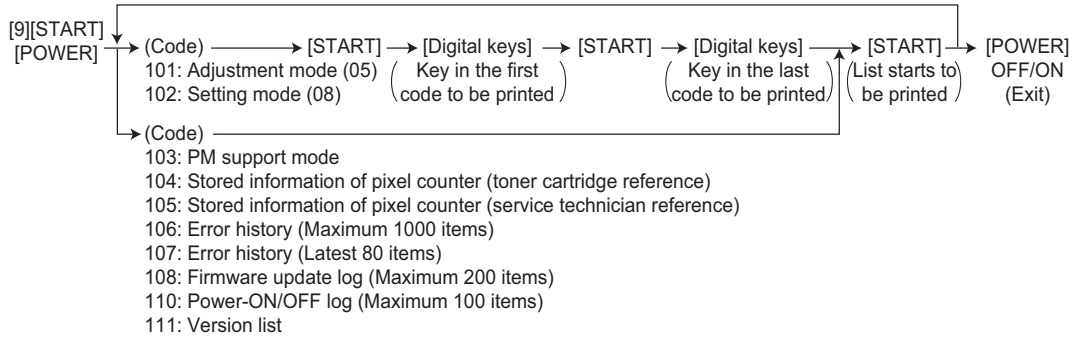
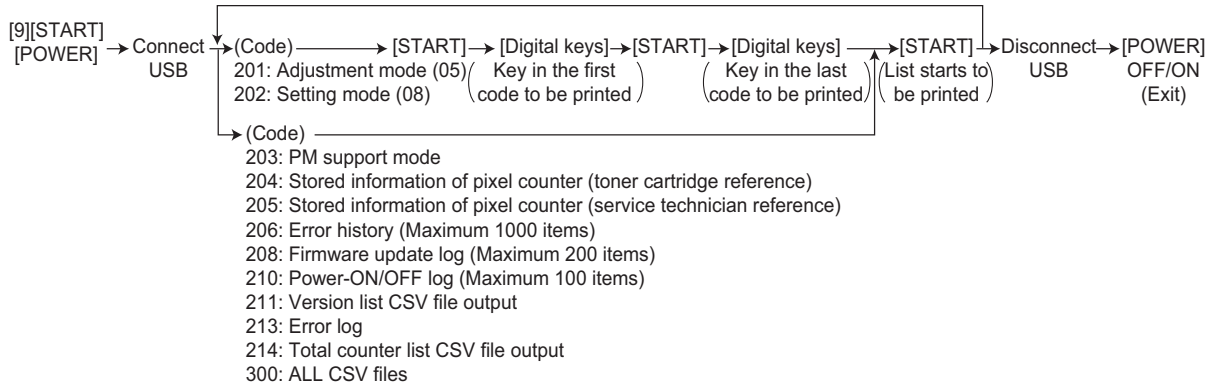
- List print mode (9S): The procedure varies depending on the code.
  <Operation procedure>

PRINT



USB (CSV format, txt format)



Notes:

Precautions when storing information into USB media

- When storing the setting information of the equipment into a USB media, be sure to obtain permission from a user in advance.
- When storing the setting information of the equipment into a USB media, the information is printed out in a CSV format. Handle and manage the information with extra care.
- Do not lose or leak the setting information of the equipment.
- Do not use the setting information of the equipment for purposes other than maintenance or product services.
- Provide the information promptly if a user requires so.

Remark:

In the USB storage procedure above, lists are stored in a CSV format. The names of the CSV files are shown below (the numbers represent the serial number of the machine: “0123456789”.)

201:ADJUSTMENT_LIST_0123456789.csv
202:SETTING_LIST_0123456789.csv
203:PM_LIST_0123456789.csv
204:PIXEL_TONER_LIST_0123456789.csv
205:PIXEL_SERVICE_LIST_0123456789.csv
206:ERROR_LOG_0123456789.csv
208:FW_UPGRADE_LOG0123456789.csv
210:POWER_ONOFF_LOG_0123456789.csv
211:VERSION_LIST_0123456789.csv
213:logdump.txt / i.txt
214:TOTAL_COUNTER_LIST_0123456789.csv

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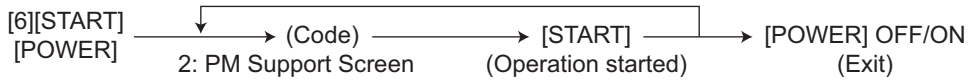
Remark:

The buttons on the control panel keep blinking while data are being stored in the USB media.

- Do not disconnect the USB media while data are being stored.
- When the data of a code are printed again on the same equipment, the CSV file will be overwritten because the names of these files contain the same serial number.

- PM support mode (6S):
  <Operation procedure>



- Firmware update mode (89): Refer to P.19-1 "19. FIRMWARE UPDATING".

- State transition diagram of self-diagnosis modes

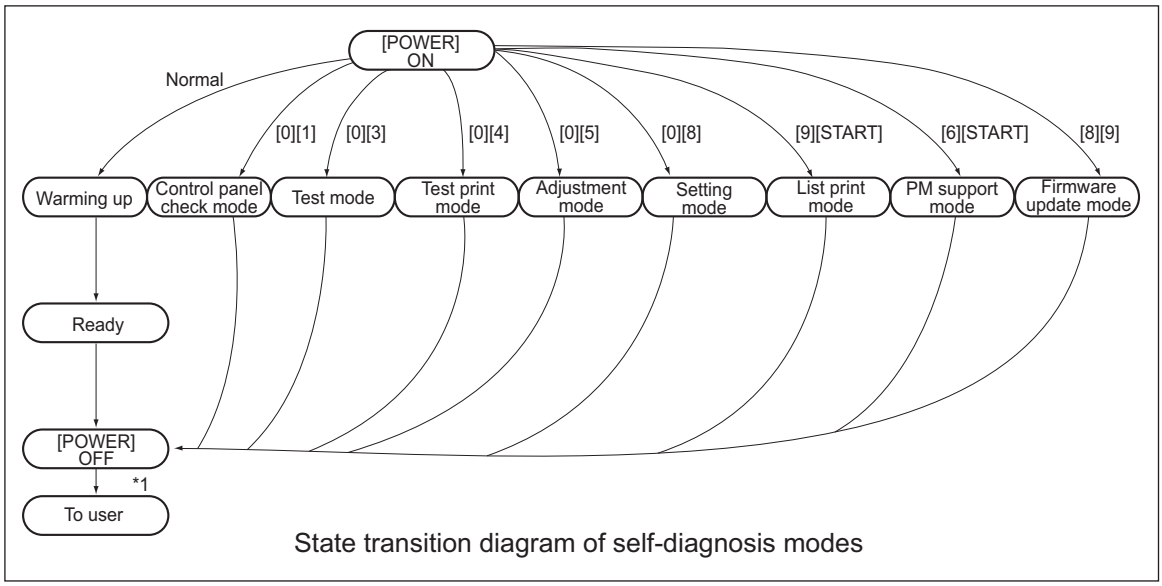


Fig. 22-1

*1 Turn OFF the power after using the self-diagnosis mode, and leave the equipment to the user.

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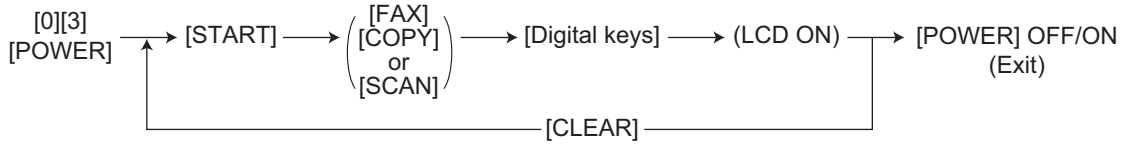
22.1 Input check (Test mode 03)

The status of each input signal can be checked by pressing the [FAX] button, [COPY] button, [SCAN] button and the digital keys in the test mode (03).

<Operation procedure>



Note:
Initialization is performed before the equipment enters the test mode.

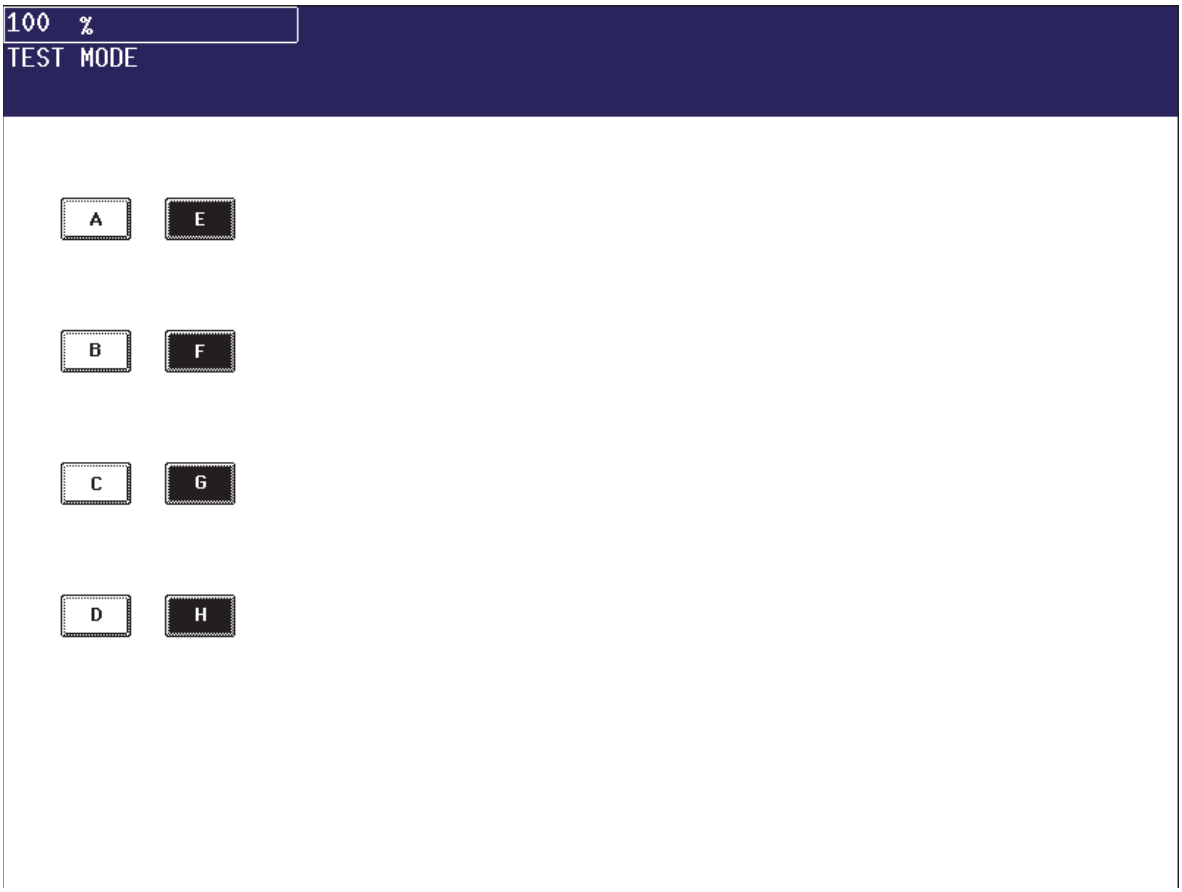


Fig. 22-2 Example of display during input check

Items to be checked and the condition of the equipment when the buttons [A] to [H] are highlighted are listed in the following pages.

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[FAX] button: OFF/[COPY] button: OFF/[SCAN] button: OFF
([FAX] LED: OFF/[COPY] LED: OFF/[SCAN] LED: OFF)

Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[1]	A	Bridge unit path exit sensor	Paper present	No paper
	B	Bridge unit path entrance sensor	Paper present	No paper
	C	Reverse path sensor	Paper present	No paper
	D	-	-	-
	E	Upper paper exit sensor	Paper present	No paper
	F	-	-	-
	G	-	-	-
	H	-	-	-
[2]	A	-	-	-
	B	Fuser belt temperature abnormality	Normal	Excessively high
	C	Fuser transport sensor	No paper	Paper present
	D	Thermopile wire breaking detection signal	Normal	Broken
	E	Fusing control abnormality	Normal	Abnormal
	F	-	-	-
	G	-	-	-
	H	-	-	-
[3]	A	-	-	-
	B	FIL board power cable detection signal (Detecting the number of cables)	1 cable	2 cables
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	Pressure roller contact/release detection sensor	Released	Contacted
	G	Pressure roller sub heater lamp (800W coil) control ON/OFF (only for MJD model)	ON	OFF
	H	Fuser roller rotation detection	Rotated	Damaged or stopped
[4]	A	-	-	-
	B	Registration sensor	Paper present	No paper
	C	Lower paper exit sensor	Paper present	No paper
	D	Sub-hopper toner motor-K locking	Rotated	Locked or stopped
	E	Sub-hopper toner motor-C locking	Rotated	Locked or stopped
	F	Sub-hopper toner motor-M locking	Rotated	Locked or stopped
	G	Sub-hopper toner motor-Y locking	Rotated	Locked or stopped
	H	-	-	-
[5]	A	Polygonal motor ready signal	No Ready (Stopped)	Ready (Rotated)
	B	Interlock switch	Cover closed (24 V normal)	Cover opened (24 V abnormal)
	C	Developer unit mixer motor-K locking signal	Abnormal	Normally rotated
	D	Developer unit mixer motor-YMC locking signal	Abnormal	Normally rotated
	E	TRU waste toner amount detection sensor	Toner bag full	Not full
	F	-	-	-
	G	TRU waste toner motor locking detection	Rotated	Locked or stopped
	H	Transfer belt contact / release detection sensor	Released (home position)	Contacted (No blocking)

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Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[6]	A	K-ATS connection detection	Not connected	Connected
	B	C-ATS connection detection	Not connected	Connected
	C	M-ATS connection detection	Not connected	Connected
	D	Y-ATS connection detection	Not connected	Connected
	E	-	-	-
	F	-	-	-
	G	-	-	-
	H	-	-	-
[7]	A	Pressure roller sub heater lamp wattage detection	800 W	200 W
	B	-	-	-
	C	-	-	-
	D	Shutter motor end position detection / Shutter sensor (end position) (Refer to table 1)	OFF (H)	ON (L)
	E	Shutter motor home position detection / Shutter sensor (home position) (Refer to table 1)	OFF (H)	ON (L)
	F	-	-	-
	G	-	-	-
	H	Pressure roller temperature abnormality	Normal	Excessively high
[8]	A	IH error signal-2 (Refer to table 2)	OFF (H)	ON (L)
	B	IH error signal-1 (Refer to table 2)	OFF (H)	ON (L)
	C	IH error signal-0 (Refer to table 2)	OFF (H)	ON (L)
	D	-	-	-
	E	-	-	-
	F	-	-	-
	G	Image position aligning sensor (rear)	Detecting reflection light from the belt	Not detecting reflection light from the belt
	H	Image position aligning sensor (front)	Detecting reflection light from the belt	Not detecting reflection light from the belt
[9]	A	Color drum phase sensor	Sensor shielded	Sensor not shielded
	B	K drum phase sensor	Sensor shielded	Sensor not shielded
	C	Transfer belt paper clinging detection sensor	Paper present	No paper
	D	2nd transfer side paper clinging detection sensor	Paper present	No paper
	E	-	-	-
	F	-	-	-
	G	Image position aligning sensor (Center)	Detecting reflection light from the belt	Not detecting reflection light from the belt
	H	2nd transfer roller contact / release detection sensor	Released (home position)	Contacted

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Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[0]	A	-	-	-
	B	Waste toner amount detection sensor	Nearly full	Not full
	C	-	-	-
	D	-	-	-
	E	Duplexing unit opening / closing detection sensor -LGC (Refer to table 3)	OFF(H)	ON(L)
	F	-	-	-
	G	Front cover opening / closing detection switch	Cover opened	Cover closed
	H	-	-	-

Table 1.Relation between signals of shutter motor end position detection and home position detection

Status	End position detection	Home position detection
Abnormal	H	H
Shutter opened	H	L
Shutter closed	L	H
Moving	L	L

Table 2.Relation between IH error signals and IH interlock switch

Status	IH error signal-2	IH error signal-1	IH error signal-0
Duplexing unit interlock switch ON (Duplexing unit closed)	L	L	H
Duplexing unit interlock switch OFF (Duplexing unit opened)	L	L	L
IH board abnormal	Other than the above		

Table 3.Relation between signals of duplexing unit cover opening/closing detection

Status	Duplexing unit opening/closing detection sensor (LGC side)	Duplexing unit opening/closing detection sensor (PFC side)
Closed	H	H
Opened	H	L
Opened	L	H
Opened	L	L

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([FAX] LED: ON/[COPY] LED: OFF/[SCAN] LED: OFF)

Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[1]	A	-	-	-
	B	Waste toner box full detection sensor	Toner bag full	Not full
	C	Waste toner detection sensor	No box (or cover opened)	Box present
	D	-	-	-
	E	-	-	-
	F	-	-	-
	G	-	-	-
	H	-	-	-
[2]	A	IH board destination detection signal-1 (Refer to table 4)	OFF (H)	ON (L)
	B	IH board destination detection signal-0 (Refer to table 4)	OFF (H)	ON (L)
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	-	-	-
	G	-	-	-
	H	-	-	-
[3]	A	Developer unit drive ready signal (Sync signal)	Abnormally rotated (or stopped)	Normally rotated
	B	Fuser unit drive ready signal	Abnormally rotated (or stopped)	Normally rotated
	C	Color developer units drive ready signal (Sync signal)	Abnormally rotated (or stopped)	Normally rotated
	D	Upper exit tray paper full detection sensor	Full	Not full
	E	K cartridge genuine toner detection signal	Normal	Abnormal
	F	C cartridge genuine toner detection signal	Normal	Abnormal
	G	M cartridge genuine toner detection signal	Normal	Abnormal
	H	Y cartridge genuine toner detection signal	Normal	Abnormal
[4]	A	-	-	-
	B	Thermopile wire breaking detection signal	Normal	Broken
	C	Fuser belt temperature abnormality	Normal	Excessively high
	D	Fuser unit connection status	Connected	Not connected
	E	IH enabling	IH forcible OFF	IH enabled
	F	Fuser belt rotation detection sensor damage detection	Normal	Fuser motor (damaged or stopped)
	G	-	-	-
	H	-	-	-
[5]	A	-	-	-
	B	Original exit/reverse sensor	Paper present	No paper
	C	Original reverse unit opening/closing sensor	Cover opened	Cover closed
	D	Original reading end sensor	Paper present	No paper
	E	-	-	-
	F	RADF connection	Connected	Not connected
	G	Platen sensor	RADF opened	RADF closed
	H	Carriage home position sensor	Home position	Other than home position

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Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[6]	A	-	-	-
	B	-	-	-
	C	-	-	-
	D	APS sensor (APS-R)	No original	Original present
	E	APS sensor (APS-C)	No original	Original present
	F	APS sensor (APS-3)	No original	Original present
	G	APS sensor (APS-2)	No original	Original present
	H	APS sensor (APS-1)	No original	Original present
[7]	A	Original tray sensor	ON	OFF
	B	Original empty sensor	Original present	No original
	C	Original jam access cover opening/ closing sensor	Cover opened	Cover closed
	D	RADF open/close sensor	RADF opened	RADF closed
	E	Original exit sensor	Original present	No original
	F	Original intermediate transport sensor	Original present	No original
	G	Original reading start sensor	Original present	No original
	H	Original registration sensor	Original present	No original
[8]	A	Original tray width sensor (TWID0S) (Refer to table 5)	OFF (H)	ON (L)
	B	Original tray width sensor (TWID1S) (Refer to table 5)	OFF (H)	ON (L)
	C	Original tray width sensor (TWID2S) (Refer to table 5)	OFF (H)	ON (L)
	D	-	-	-
	E	-	-	-
	F	Original width sensor 1	Original present	No original
	G	Original width sensor 2	Original present	No original
	H	Original width sensor 3	Original present	No original
[9]	A	Sub-hopper toner sensor-M	Normal	Empty
	B	-	-	-
	C	M Needle electrode cleaner home position detection	Home position	Other than home
	D	Sub-hopper toner sensor-Y	Normal	Empty
	E	-	-	-
	F	Y needle electrode cleaner home position detection	Home position	Other than home
	G	Sub-hopper connection detection	All sub-hoppers connected	More than one sub-hopper disconnected
	H	-	-	-
[0]	A	Drawer installation detection (EPU tray installation detection)	Connected	Not connected
	B	Auger lock detection sensor	Sensor shielded	Sensor not shielded
	C	Sub-hopper toner sensor-K	Normal	Empty
	D	-	-	-
	E	K needle electrode cleaner home position detection	Home position	Other than home
	F	Sub-hopper toner sensor-C	Normal	Empty
	G	-	-	-
	H	C needle electrode cleaner home position detection	Home position	Other than home

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Table 4.Relation between IH board destination detection signals-1 and -0

Status	IH board destination detection signal-1	IH board destination detection signal-0
MJD	L	L
SAD/ASU	H	L
NAD/TWD	L	H
JPD	H	H

Table 5. Relation between the status of the original tray width sensor and paper size (width).

Original tray width sensor			Paper width size (LT series)	Paper width size (A4 series)
TWID2S	TWID1S	TWID0S		
H	H	L	-	B5-R
H	L	H	ST-R	A5-R
H	L	L	LD / LT	A3 / A4
L	H	L	8.5 x 8.5 / LT-R / LG / 13"LG	A4-R / FOLIO
L	L	L	COMPUTER	B4 / B5

H (= high level): Open L (= low level): Short

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([FAX] LED: OFF/[COPY] LED: ON/[SCAN] LED: OFF)

Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[1]	-	Temperature/humidity sensor (displays temperature inside of the equipment)	-	Temperature [°C]
[2]	-	Temperature/humidity sensor (displays humidity inside of the equipment)	-	Humidity [%RH]
[3]	-	Drum thermistor-K (displays temperature on the drum surface of K color)	-	Temperature [°C]
[4]	-	Drum thermistor-Y (displays temperature on the drum surface of Y color)	-	Temperature [°C]
[5]	A	-	-	-
	B	5V SW monitor	OFF	ON
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	Fuser transport sensor	No paper	Paper present
	G	Lower paper exit sensor	Paper present	No paper
	H	Registration sensor	Paper present	No paper
[6]	A	Interlock detection (24 V shut-off detection)	Normal	24 V shut off
	B	-	-	-
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	-	-	-
	G	-	-	-
	H	-	-	-
[7]	A	Upper paper exit sensor	Paper present	No paper
	B	Bridge unit connecting detection switch (Refer to table 7)	OFF(H)	ON(L)
	C	-	-	-
	D	-	-	-
	E	Bypass paper size detection sensor-3 (Refer to table 8)	OFF (H)	ON (L)
	F	Bypass paper size detection sensor-2 (Refer to table 8)	OFF (H)	ON (L)
	G	Bypass paper size detection sensor-1 (Refer to table 8)	OFF (H)	ON (L)
	H	Bypass paper size detection sensor-0 (Refer to table 8)	OFF (H)	ON (L)
[8]	A	Reverse path cover switch	Cover opened	Cover closed
	B	Stopper opening/closing detection sensor (front)	Stopper opened	Stopper closed
	C	Stopper opening/closing detection sensor (rear)	Stopper opened	Stopper closed
	D	-	-	-
	E	Detecting connection between bridge unit and drawers (Refer to table 7)	OFF (H)	ON (L)
	F	Reverse section paper transport detection sensor	Paper present	No paper
	G	Standby side tray paper amount detection sensor	No paper	Paper present
	H	Feed cover sensor	Cover closed	Cover opened

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Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[9]	A	4th drawer bottom sensor	Bottom position	Normal
	B	3rd drawer bottom sensor	Bottom position	Normal
	C	2nd drawer bottom sensor	Bottom position	Normal
	D	1st drawer bottom sensor	Bottom position	Normal
	E	4th drawer tray-up sensor / End fence home position sensor	Upper limit position / Tray initial position	Normal
	F	3rd drawer/tandem LCF tray-up sensor	Upper limit position	Normal
	G	2nd drawer tray-up sensor	Upper limit position	Normal
	H	1st drawer tray-up sensor	Upper limit position	Normal
[0]	A	-	-	-
	B	-	-	-
	C	-	-	-
	D	Security enabler	Connectable	Not connectable
	E	Judgement for acceptable USB storage device (*1)	Acceptable	Not acceptable
	F	-	-	-
	G	-	-	-
	H	-	-	-

*1
- Be sure to install the USB storage device to the equipment and check if the device can be used with this code.
- Be sure to turn OFF the write protection (the function to prevent data from erasure by the accidental recording or deleting) of the USB storage device before performing the check, otherwise this code cannot be used.
- It may take some time (2 sec. to 10 sec.) before this check is completed depending on the USB storage device.

Table 7.Relation between the bridge unit connecting detection switch and connection detection for the bridge unit and drawers

Status	Bridge unit connecting detection switch	Connection detection between bridge unit and drawers
Connected	L	L
Not connected	L	H
Not connected	H	L
Not connected	H	H

Table 8. Relation between the status of the bypass paper width sensor and paper size (width).

Bypass paper width sensor				Paper width size
3	2	1	0	
L	H	H	H	A3/LD
H	L	H	H	A4-R/LT-R
H	H	L	H	A5-R/ST-R
H	H	H	L	Card size
L	L	H	H	B4-R/LG
H	L	L	H	B5-R

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([FAX] LED: OFF/[COPY] LED: OFF/[SCAN] LED: ON)

Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[1]	A	4th drawer transport sensor	Paper present	No paper
	B	3rd drawer transport sensor / Tandem LCF transport sensor	Paper present	No paper
	C	2nd drawer transport sensor	Paper present	No paper
	D	1st drawer transport sensor	Paper present	No paper
	E	4th drawer feed sensor / End fence stop position sensor	Paper present / After the tray was moved	No paper / In cases other than the noted left
	F	3rd drawer/tandem LCF feed sensor	Paper present	No paper
	G	2nd drawer feed sensor	Paper present	No paper
	H	1st drawer feed sensor	Paper present	No paper
[2]	A	4th drawer empty sensor / Tandem LCF standby side empty sensor	No paper / No paper	Paper present/ Paper present
	B	3rd drawer/tandem LCF empty sensor	No paper / No paper	Paper present/ Paper present
	C	2nd drawer empty sensor	No paper	Paper present
	D	1st drawer empty sensor	No paper	Paper present
	E	4th drawer detection sensor / Tandem LCF bottom sensor	Drawer closed / Tray lifted down	Drawer opened / In cases other than the noted left
	F	3rd drawer/tandem LCF detection sensor	Drawer closed	Drawer opened
	G	2nd drawer detection sensor	Drawer closed	Drawer opened
	H	1st drawer detection sensor	Drawer closed	Drawer opened
[3]	A	Bypass feed sensor	No paper	Paper present
	B	Bypass paper sensor	No paper	Paper present
	C	Bridge unit path exit sensor	Paper present	No paper
	D	Bridge unit path entrance sensor	Paper present	No paper
	E	Reverse path sensor (Bridge unit)	Paper present	No paper
	F	Reverse sensor	Paper present	No paper
	G	Duplexing unit path exit sensor	Paper present	No paper
	H	Duplexing unit path entrance sensor	Paper present	No paper
[4]	A	Reverse section stationary jam detection sensor	Paper present	No paper
	B	-	-	-
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	Duplexing unit cover opening/closing detection sensor-1	Cover closed	Cover opened
	G	Duplexing unit opening/closing detection sensor (PFC side) (Refer to table 3)	OFF (H)	ON (L)
	H	-	-	-
[5]	A	-	-	-
	B	-	-	-
	C	Option LCF installation sensor	Not installed	Installed
	D	Option LCF tray position sensor	Tray unit opened	Tray unit closed
	E	Option LCF feed sensor	No paper	Paper present
	F	Option LCF empty sensor	No paper	Paper present
	G	Option LCF bottom sensor	Lower limit position	Normal
	H	Option LCF top sensor	Upper limit position	Normal

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Digital key	Button	Items to check	Contents	
			Highlighted display e.g. A	Normal display e.g. A
[6]	A	-	-	-
	B	-	-	-
	C	-	-	-
	D	-	-	-
	E	-	-	-
	F	-	-	-
	G	Standby side tray detection sensor	No tray	Tray present
	H	-	-	-
[7]	A	1st drawer paper size detection sensor-7	OFF	ON
	B	1st drawer paper size detection sensor-6	OFF	ON
	C	1st drawer paper size detection sensor-5	OFF	ON
	D	1st drawer paper size detection sensor-4	OFF	ON
	E	1st drawer paper size detection sensor-3	OFF	ON
	F	1st drawer paper size detection sensor-2	OFF	ON
	G	1st drawer paper size detection sensor-1	OFF	ON
	H	1st drawer paper size detection sensor-0	OFF	ON
[8]	A	2nd drawer paper size detection sensor-7	OFF	ON
	B	2nd drawer paper size detection sensor-6	OFF	ON
	C	2nd drawer paper size detection sensor-5	OFF	ON
	D	2nd drawer paper size detection sensor-4	OFF	ON
	E	2nd drawer paper size detection sensor-3	OFF	ON
	F	2nd drawer paper size detection sensor-2	OFF	ON
	G	2nd drawer paper size detection sensor-1	OFF	ON
	H	2nd drawer paper size detection sensor-0	OFF	ON
[9]	A	3rd drawer paper size detection sensor-7	OFF	ON
	B	3rd drawer paper size detection sensor-6	OFF	ON
	C	3rd drawer paper size detection sensor-5	OFF	ON
	D	3rd drawer paper size detection sensor-4	OFF	ON
	E	3rd drawer paper size detection sensor-3	OFF	ON
	F	3rd drawer paper size detection sensor-2	OFF	ON
	G	3rd drawer paper size detection sensor-1	OFF	ON
	H	3rd drawer paper size detection sensor-0	OFF	ON
[0]	A	4th drawer paper size detection sensor-7	OFF	ON
	B	4th drawer paper size detection sensor-6	OFF	ON
	C	4th drawer paper size detection sensor-5	OFF	ON
	D	4th drawer paper size detection sensor-4	OFF	ON
	E	4th drawer paper size detection sensor-3	OFF	ON
	F	4th drawer paper size detection sensor-2	OFF	ON
	G	4th drawer paper size detection sensor-1	OFF	ON
	H	4th drawer paper size detection sensor-0	OFF	ON

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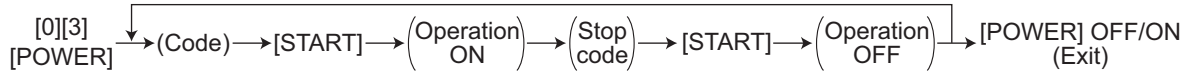
22.2 Output check (test mode 03)

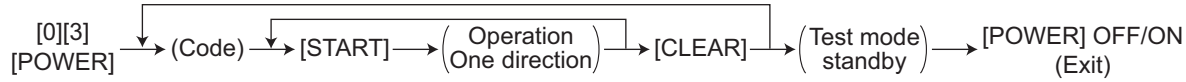
Status of the output signals can be checked by entering the following codes in the test mode 03.

<Operation procedure>

Procedure 1

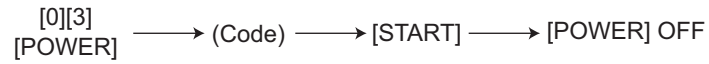


Procedure 2



Procedure 3

Procedure 4



Code	Function	Code	Function	Procedure
101	2nd transfer roller release / Transfer belt cam motor Contacted Transfer belt motor ON Drum motor-K ON Drum motor-YMC ON Developer unit motor-K ON Developer unit motor-YMC ON Developer unit mixer motor-K ON Developer unit mixer motor-YMC ON (Operation available with the process unit installed)	151	Code No.101 function OFF	1
103	Polygonal motor (600dpi) ON	153	Code No.103 function OFF	1
104	Laser ON * Do not radiate laser beam onto the photoconductive drums for a long time.	154	Code No.104 function OFF	1
110	Drum motor-K ON (Operation available without the process unit)	160	Code No.110 function OFF	1 (*1)
111	Drum motor-YMC ON (Operation available without the process unit)	161	Code No.111 function OFF	1 (*1)
112	Developer unit motor-K ON (Operation available without the process unit)	162	Code No.112 function OFF	1
113	Developer unit motor-YMC ON (Operation available without the process unit)	163	Code No.113 function OFF	1
114	Developer unit mixer motor-K ON	164	Code No.114 function OFF	1
115	Developer unit mixer motor-YMC ON	165	Code No.115 function OFF	1
116	Transfer belt motor ON (Operation available without the process unit)	166	Code No.116 function OFF	1(*2)

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Code	Function	Code	Function	Procedure
117	Image position aligning sensors (front, center, rear) LED ON * The LED cannot be seen if the shutters of the image quality sensor and the image position aligning sensors are closed. Open the shutters by hand or perform No. 118 below in advance.	167	Code No.117 function OFF	1
118	Shutter for image quality sensor and image position aligning sensors ON	168	Code No.118 function OFF	1
119	2nd transfer motor ON	169	Code No.119 function OFF	1(*3)
120	Feed motor (normal rotation) ON (Paper fed from 1st drawer)	170	Code No.120 function OFF	1
121	Feed motor (reverse rotation) ON (Paper fed from 2nd drawer)	171	Code No.121 function OFF	1
122	Feed/transport motor ON	172	Code No.122 function OFF	1
123	Tandem LCF feed motor ON	173	Code No.123 function OFF	1
124	Transport motor-1 ON	174	Code No.124 function OFF	1
125	Transport motor-2 ON(	175	Code No.125 function OFF	1
126	Bypass motor ON	176	Code No.126 function OFF	1
127	Option LCF transport motor ON	177	Code No.127 function OFF	1
128	Registration motor ON	178	Code No.128 function OFF	1
129	Fuser motor (normal rotation) ON	179	Code No.129 function OFF	1
130	Bridge unit transport entrance motor ON	180	Code No.130 function OFF	1
132	Reverse motor (normal rotation) ON	182	Code No.132 function OFF	1
134	Reverse motor (reverse rotation) ON	184	Code No.134 function OFF	1
136	Bridge unit transport exit motor (normal rotation) ON (lower exit tray direction)	186	Code No.136 function OFF	1
138	Bridge unit transport exit motor (reverse rotation) ON (upper exit tray direction)	188	Code No.138 function OFF	1
140	Exit motor (normal rotation) ON (lower exit tray direction)	190	Code No.140 function OFF	1
142	Exit motor (reverse rotation) ON (upper exit tray direction)	192	Code No.142 function OFF	1
144	ADU motor-2 ON	194	Code No.144 function OFF	1
146	ADU motor-1 ON	196	Code No.146 function OFF	1

* 1

Fully pull out the EPU tray toward you while the transfer belt remains. If it is not fully pulled out, the drum shaft and the drum flange may scratch each other and thus the flange may be worn out.

* 2

Follow the procedure below.

1. Pull the duplexing unit lever and then separate the transfer belt and the 2nd transfer roller.
2. Pull out the EPU (developer unit) tray until it comes to a stop while the transfer belt is left.
   *: Pull out the EPU tray completely otherwise the transfer belt and the photoconductive drum may scratch each other.
3. Insert a door-switch jig into the cover interlock switch on the left upper side of the fuser unit in order not to turn the 24 V power OFF.

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* 3
The procedure requires either of steps 1 and 2 below.
1. Pull out the EPU tray and then take off the transfer belt.
2. Pull out the duplexing unit lever and then separate the transfer belt and the 2nd transfer roller. Insert a door-switch jig into the cover interlock switch on the left upper side of the fuser unit in order not to turn the 24 V power OFF.

Code	Function	Procedure
201	LSU shutter opening/closing operation (Operation stops after the shutter is closed)	2
203	Fuser unit jam releasing LED	3
204	Needle electrode cleaner motor-Y reciprocating movement (Movement stops at the standby position)	2
205	Needle electrode cleaner motor-M reciprocating movement (Movement stops at the standby position)	2
206	Needle electrode cleaner motor-C reciprocating movement (Movement stops at the standby position)	2
207	Needle electrode cleaner motor-K reciprocating movement (Movement stops at the standby position)	2
209	Drum surface potential sensor shutter-Y opening/closing operation (Operation stops after the shutter is closed)	2
210	Drum surface potential sensor shutter-M opening/closing operation (Operation stops after the shutter is closed)	2
211	Drum surface potential sensor shutter-C opening/closing operation (Operation stops after the shutter is closed)	2
212	Drum surface potential sensor shutter-K opening/closing operation (Operation stops after the shutter is closed)	2
214	Discharge LED-K ON/OFF	3
215	Discharge LED-YMC ON/OFF	3
216	Toner motor-Y ON/OFF (Pull out the Y toner cartridge if the toner does not need to be supplied.) * When the front cover is kept opened during the operation, turn the toner motor interlock switch ON using a door switch jig; otherwise, the operation is not available.	3
217	Toner motor-M ON/OFF (Pull out the M toner cartridge if the toner does not need to be supplied.) * When the front cover is kept opened during the operation, turn the toner motor interlock switch ON using a door switch jig; otherwise, the operation is not available.	3
218	Toner motor-C ON/OFF (Pull out the C toner cartridge if the toner does not need to be supplied.) * When the front cover is kept opened during the operation, turn the toner motor interlock switch ON using a door switch jig; otherwise, the operation is not available.	3
219	Toner motor-K ON/OFF (Pull out the K toner cartridge if the toner does not need to be supplied.) * When the front cover is kept opened during the operation, turn the toner motor interlock switch ON using a door switch jig; otherwise, the operation is not available.	3
220	Sub-hopper toner motor-Y (normal rotation) ON/OFF (Pull out the sub-hopper unit or the Y toner cartridge if the toner does not need to be supplied.)	3
221	Sub-hopper toner motor-M (normal rotation) ON/OFF (Pull out the sub-hopper unit or the M toner cartridge if the toner does not need to be supplied.)	3
222	Sub-hopper toner motor-C (normal rotation) ON/OFF (Pull out the sub-hopper unit or the C toner cartridge if the toner does not need to be supplied.)	3
223	Sub-hopper toner motor-K (normal rotation) ON/OFF (Pull out the sub-hopper unit or the K toner cartridge if the toner does not need to be supplied.)	3

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Code	Function	Procedure
224	Sub-hopper toner motor-Y (reverse rotation) ON/OFF (The toner will not be supplied but only mixed within the Y sub-hopper)	3 (*4)
225	Sub-hopper toner motor-M (reverse rotation) ON/OFF (The toner will not be supplied but only mixed within the M sub-hopper)	3 (*4)
226	Sub-hopper toner motor-C (reverse rotation) ON/OFF (The toner will not be supplied but only mixed within the C sub-hopper)	3 (*4)
227	Sub-hopper toner motor-K (reverse rotation) ON/OFF (The toner will not be supplied but only mixed within the K sub-hopper)	3 (*4)
234	Waste toner transport motor ON/OFF	3
237	Transfer belt cam motor ON/OFF (Operation stops after the belt is released)	2
239	TRU waste toner motor (normal rotation) ON/OFF (DC motor driving the auger for transporting waste toner from the 2nd transfer unit)	3
240	TRU waste toner transport motor ON/OFF (DC motor driving the auger for transporting waste toner to a TRU waste toner box)	3
241	2nd transfer unit waste toner exit mode ON/OFF (A mode used for transporting waste toner accumulated in the 2nd transfer unit to a TRU waste toner box)* Perform the codes 03-239 and 03-240 simultaneously.	3
243	2nd transfer roller contact/release (2nd transfer motor ON/OFF & 2nd transfer roller contact/release clutch ON/OFF)	3
244	2nd transfer roller drive clutch ON/OFF	3
246	Tray-up motor-1(1st drawer) ON (Tray up)	2
247	Tray-up motor-1(2nd drawer) ON (Tray up)	2
248	Tray-up motor-2(3rd drawer) ON (Tray up)	2
249	Tray-up motor-2(4th drawer) ON (Tray up)	2
250	3rd drawer feed clutch or tandem LCF feed clutch ON/OFF (Each clutch turns ON or OFF according to the installation status of the corresponding drawer.)	3
251	4th drawer feed clutch ON/OFF	3
252	3rd drawer transport clutch or tandem LCF transport clutch ON/OFF (Each clutch turns ON or OFF according to the installation status of the corresponding drawer.)	3
253	4th drawer transport clutch ON/OFF	3
254	Bypass pickup solenoid ON/OFF	3
255	Tandem LCF solenoid ON/OFF	3
256	Tandem LCF end fence motor reciprocating movement	2
257	Tandem LCF tray-up motor (Tray up/down)	2
258	Tandem LCF stopper opening/closing solenoid (front) ON/OFF	3
259	Tandem LCF stopper opening/closing solenoid (rear) ON/OFF	3
261	Scan motor ON (Automatically stops at limit position)	2
264	Scanner fan motor (high speed) ON/OFF	3
265	Scanner fan motor (low speed) ON/OFF	3
267	Scanner exposure lamp ON/OFF	3
268	Option LCF feed clutch ON/OFF	3
269	Option LCF transport clutch ON/OFF	3
270	Option LCF tray-up motor (Tray up/down)	2
272	Pressure roller contact/release (Fuser motor (reverse rotation) ON & Pressure roller contact/release clutch ON, operation stops after the roller is released)	2
273	Pressure roller contact/release clutch ON/OFF	3

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Code	Function	Procedure
275	Transport path switching solenoid-1 ON/OFF (A solenoid on the right side when seen from a user. Switches transport paths to the upper exit tray direction (or reverse path) and the lower exit tray direction.)	3
276	Transport path switching solenoid-2 ON/OFF (A solenoid on the left side when seen from a user. Switches transport paths to the upper exit tray direction and the reverse path.)	3
281	RADF original feed motor ON/OFF (normal rotation)	3
282	RADF original feed motor ON/OFF (reverse rotation)	3
283	RADF read motor ON/OFF	3
284	RADF original exit motor ON/OFF (normal rotation)	3
285	RADF original exit motor ON/OFF (reverse rotation)	3
286	RADF original reverse motor (normal rotation) ON/OFF	3
287	RADF original reverse motor (reverse rotation) ON/OFF	3
288	RADF original reverse solenoid ON/OFF	3
294	RADF original exit solenoid ON/OFF	3
297	RADF cooling fan ON/OFF	3
433	Power supply unit cooling fan-1 & 2 (high speed) ON/OFF	3
434	Power supply unit cooling fan-1 & 2 (low speed) ON/OFF	3
437	Laser optical unit cooling fan (Front) (high speed) ON/OFF	3
438	Laser optical unit cooling fan (Front) (low speed) ON/OFF	3
439	Laser optical unit cooling fan (Rear) (high speed) ON/OFF	3
440	Laser optical unit cooling fan (Rear) (low speed) ON/OFF	3
441	EPU cooling fan (high speed) ON/OFF	3
442	EPU cooling fan (low speed) ON/OFF	3
443	Bridge unit cooling fan (rear) (high speed) ON/OFF	3
444	Bridge unit cooling fan (rear) (low speed) ON/OFF	3
445	Main charger blowing fan ON/OFF	3
447	Ozone suctioning fan (high speed) ON/OFF	3
448	Ozone suctioning fan (low speed) ON/OFF	3
449	Scattered toner suctioning fan ON/OFF	3
451	Toner cartridge heat insulation fan (high speed) ON/OFF	3
452	Toner cartridge heat insulation fan (low speed) ON/OFF	3
453	IH board cooling fan (high speed) ON/OFF	3
454	IH board cooling fan (low speed) ON/OFF	3
455	Reversed paper cooling fan (high speed) ON/OFF	3
456	Reversed paper cooling fan (low speed) ON/OFF	3
457	Exit paper cooling fan (front) (high speed) ON/OFF	3
458	Exit paper cooling fan (front) (low speed) ON/OFF	3
459	Bridge unit cooling fan (front) (high speed) ON/OFF	3
460	Bridge unit cooling fan (front) (low speed) ON/OFF	3
461	Exit paper cooling fan (rear) (high speed) ON/OFF	3
462	Exit paper cooling fan (rear) (low speed) ON/OFF	3
463	Upper exhaust fan (left) ON/OFF	3
464	Upper exhaust fan (right) ON/OFF	3
465	Toner cooling exhaust fan ON/OFF	3
466	Upper exit section cooling fan-1&2 ON/OFF	3
467	Lower exit section cooling fan-1&2 ON/OFF	3

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Code	Function	Procedure
468	Lower exit section cooling fan-3 ON/OFF	3
470	Automatic power OFF at fuser unit temperature abnormality	4

* 4
Do not let the sub-hopper toner motors rotate in reverse when toner cartridges are installed because the cartridges will become locked.

For e-STUDIO6530c only

Code	Function	Code	Function	Procedure
503	Polygonal motor (600dpi) ON	553	Code No.503 function OFF	1
510	Drum motor-K ON (Operation available without the process unit)	560	Code No.510 function OFF	1(*5)
511	Drum motor-YMC ON (Operation available without the process unit)	561	Code No.511 function OFF	1(*5)
512	Developer unit motor-K ON (Operation available without the process unit)	562	Code No.512 function OFF	1
513	Developer unit motor-YMC ON (Operation available without the process unit)	563	Code No.513 function OFF	1
516	Transfer belt motor ON (Operation available without the process unit)	566	Code No.516 function OFF	1(*6)
519	2nd transfer motor ON	569	Code No.519 function OFF	1(*7)
520	Feed motor (normal rotation) ON (Paper fed from 1st drawer)	570	Code No.520 function OFF	1
521	Feed motor (reverse rotation) ON (Paper fed from 2nd drawer)	571	Code No.521 function OFF	1
522	Feed/transport motor ON	572	Code No.522 function OFF	1
523	Tandem LCF feed motor ON	573	Code No.523 function OFF	1
524	Transport motor-1 ON	574	Code No.524 function OFF	1
525	Transport motor-2 ON	575	Code No.525 function OFF	1
526	Bypass motor ON	576	Code No.526 function OFF	1
527	Option LCF transport motor ON	577	Code No.527 function OFF	1
528	Registration motor ON	578	Code No.528 function OFF	1
529	Fuser motor (normal rotation) ON	579	Code No.529 function OFF	1
530	Bridge unit transport entrance motor ON	580	Code No.530 function OFF	1
532	Reverse motor (normal rotation) ON	582	Code No.532 function OFF	1
534	Reverse motor (reverse rotation) ON	584	Code No.534 function OFF	1
536	Bridge unit transport exit motor (normal rotation) ON (lower exit tray direction)	586	Code No.536 function OFF	1
538	Bridge unit transport exit motor (reverse rotation) ON (upper exit tray direction)	588	Code No.538 function OFF	1
540	Exit motor (normal rotation) ON (lower exit tray direction)	590	Code No.540 function OFF	1
542	Exit motor (reverse rotation) ON (upper exit tray direction)	592	Code No.542 function OFF	1
544	ADU motor-2 ON	594	Code No.544 function OFF	1
546	ADU motor-1 ON	596	Code No.546 function OFF	1

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* 5
Fully pull out the EPU tray toward you while the transfer belt remains. If it is not fully pulled out, the drum shaft and the drum flange may scratch each other and thus the flange may be worn out.

* 6
Follow the procedure below.
1. Pull the duplexing unit lever and then separate the transfer belt and the 2nd transfer roller.
2. Pull out the EPU (developer unit) tray until it comes to a stop while the transfer belt is left.
   *: Pull out the EPU tray completely otherwise the transfer belt and the photoconductive drum may scratch each other.
3. Insert a door-switch jig into the cover interlock switch on the left upper side of the fuser unit in order not to turn the 24V power OFF.

* 7
The procedure requires either of steps 1 and 2 below.
1. Pull out the EPU tray and then take off the transfer belt.
2. Pull out the duplexing unit lever and then separate the transfer belt and the 2nd transfer roller. Insert a door-switch jig into the cover interlock switch on the left upper side of the fuser unit in order not to turn the 24V power OFF.

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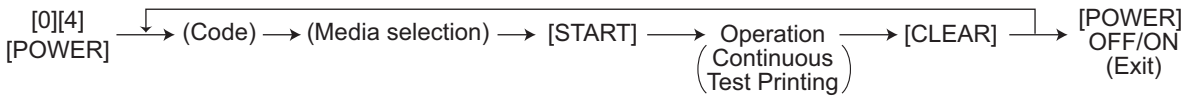
22.3 Test print mode (test mode 04)

The embedded test pattern can be printed out by keying in the following codes in the test print mode (04).

<Procedure 1>



<Procedure 2>

Notes:

1. When an error occurs, it is indicated on the panel, but the recovery operation is not performed.
   Turn OFF the power and then back ON to clear the error.
2. During test printing, the [CLEAR] button is disabled when “Wait adding toner” is displayed.

Code	Types of test pattern	Remarks	Remarks	Output from
70	Pattern for checking uneven image density correction in primary scanning direction	Available only when A4/LT paper is selected (Not available for bypass feeding)	1	LGC
142	Grid pattern (black)	Pattern width: 2 dots, Pitch: 10 mm	1	LGC
204	Grid pattern (color)	Pattern width: 1 dot, Pitch: 10 mm	2	LGC
219	6% test pattern		2	LGC
220	8% test pattern		2	LGC
231	Secondary scanning direction 33 gradation steps	3 pixels standard, Width: 10 mm	2	LGC
237	Halftone		2	LGC
262	Ladder pattern (4 lines ON / 4 lines OFF)	For color deviation confirmation	2	LGC
270	Image quality control test pattern	For checking the image quality control	2	LGC
286	Laser array damage detection pattern	For finding damaged parts on the laser array if any abnormality has been detected	1	LGC

Note:

In the (Color selection) of <Procedure 2>, the printing method is different between [K(1)] and [K(4)] as follows.

[K(1)] ..... Printing by bringing one K color developer unit into contact with the transfer belt

[K(4)] ..... The developer units of four (YMCK) colors are brought into contact with the transfer belt, but the test pattern is printed in K color only.

* The number in parentheses indicates the contact of the developer unit and the transfer belt.

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22.4 List Printing

Lists below are output in the list print mode.
List data are printed out or output in a CSV or a txt format by storing them in a USB media. Paper sizes available for this printing are A4 or LT or larger. This section introduces a sample of each list.
Starting the list print mode: [9] + [START] + [ON/OFF]

Lists	List code		
	Printout	CSV file output	txt file output
Adjustment mode (05) data list	101	201	-
Setting mode (08) data list	102	202	-
PM support mode data list	103	203	-
Pixel counter list (toner cartridge reference)	104	204	-
Pixel counter list (service call reference)	105	205	-
Error history list	106 (Maximum 1000 items)	206 (Maximum 1000 items)	-
Error history list	107 (Latest 80 items)	-	-
Firmware upgrade log	108 (Maximum 200 items)	208 (Maximum 200 items)	-
Power ON/OFF log	110 (Maximum 100 items)	210 (Maximum 100 items)	-
Version list	111	211	-
Error log	-	-	213
Total counter list	-	214	-
Output all CSV files	-	300	-

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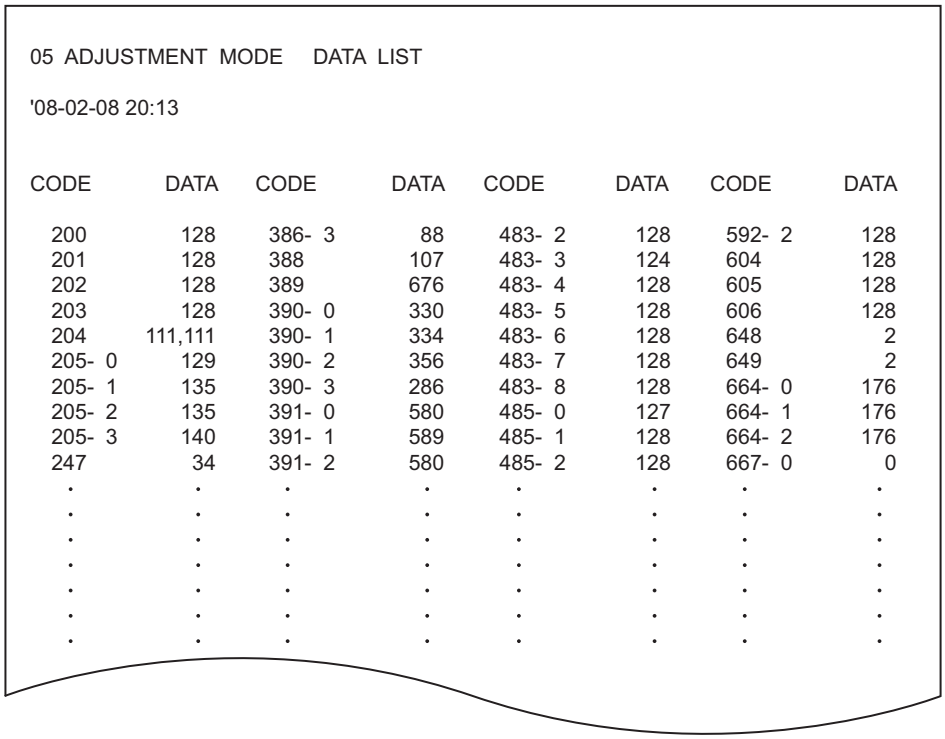
- Adjustment mode (05)



05 ADJUSTMENT MODE DATA LIST

'08-02-08 20:13

CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
200	128	386- 3	88	483- 2	128	592- 2	128
201	128	388	107	483- 3	124	604	128
202	128	389	676	483- 4	128	605	128
203	128	390- 0	330	483- 5	128	606	128
204	111,111	390- 1	334	483- 6	128	648	2
205- 0	129	390- 2	356	483- 7	128	649	2
205- 1	135	390- 3	286	483- 8	128	664- 0	176
205- 2	135	391- 0	580	485- 0	127	664- 1	176
205- 3	140	391- 1	589	485- 1	128	664- 2	176
247	34	391- 2	580	485- 2	128	667- 0	0

Fig. 22-3

The selected adjustment codes and the current adjustment value for each code are output in a list.
See the following page for the adjustment code (05):
📖 P.23-1 "23. ADJUSTMENT MODE (05)"

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- Setting mode (08)

08 SETTING MODE DATA LIST

'08-02-08 20:13

CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
201	2	288	12	304-10	0	307-11	0
202	0	289	5	304-11	0	307-12	0
203	0	290	1	304-12	0	307-13	0
204	0	291	6	304-13	0	307-14	0
205	15	292	0	304-14	0	307-15	0
206	20	293	0	304-15	0	307-16	0
207	0	294	1	304-16	0	307-17	0
209	1	295	0	304-17	0	307-18	0
210	148,105	296	1200	304-18	0	307-19	0
218	1	297	1000	304-19	0	307-21	0

Fig. 22-4

The selected setting codes and the current setting value for each code are output in a list. See the following page for the setting code (08):
📖 P.24-1 "24. SETTING MODE (08)"

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- PM support mode

PM SUPPORT CODE LIST

'08-02-08 20:13

UNIT	OUTPUT PAGES/ DEVELOP COUNTS	PM OUTPUT PAGE/ DEVELOP COUNTS	DRIVE COUNTS	PM DRIVE COUNTS
DRUM (K)	2516	70000	11735	170000
DRUM BLADE (K)	2516	70000	11735	170000
GRID (K)	2516	70000	11735	170000
MAIN CHARGER NEEDLE (K)	2516	70000	11735	170000
CHARGER CLEANING PAD (K)	2516	70000	11735	170000
DRUM (Y)	411	70000	8625	170000
DRUM BLADE (Y)	411	70000	8625	170000
GRID (Y)	411	70000	8625	170000
MAIN CHARGER NEEDLE (Y)	411	70000	8625	170000
CHARGER CLEANING PAD (Y)	411	70000	8625	170000
DRUM (M)	411	70000	8625	170000
DRUM BLADE (M)	411	70000	8625	170000
GRID (M)	411	70000	8625	170000
MAIN CHARGER NEEDLE (M)	411	70000	8625	170000
CHARGER CLEANING PAD (M)	411	70000	8625	170000
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

Fig. 22-5

The number of pages currently output (OUTPUT PAGES/DEVELOP COUNTS), the recommended number of output pages for PM (PM OUTPUT PAGES/DEVELOP COUNTS), the current drive count (DRIVE COUNTS) and the recommended drive count for PM (PM DRIVE COUNTS) are output together with PM units. Use this list for confirming the PM units to be replaced at each PM. See the following page for PM:

📖 P.18-1 "18. PREVENTIVE MAINTENANCE (PM)"

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- Stored information of pixel counter (toner cartridge reference)

PIXEL COUNTER CODE LIST

'08-02-08 20:13

TONERCARTRIDGE

No	DATE	COL.		PPC	PRN	FAX	TOTAL
0	20080208	Y	Print Count[LT/A4]	181	45	---	226
1	20080208	Y	Average Pixel Count[%]	2.70	1.74	---	2.51
2	20080208	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
3	20080208	M	Print Count[LT/A4]	181	45	---	226
4	20080208	M	Average Pixel Count[%]	6.11	2	---	5.29
5	20080208	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
6	20080208	C	Print Count[LT/A4]	181	45	---	226
7	20080208	C	Average Pixel Count[%]	5.46	2	---	4.81
8	20080208	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
9	20080208	K	Print Count[LT/A4]	278	145	9	432
10	20080208	K	Average Pixel Count[%]	6.15	3.86	23.25	5.74
11	20080208	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig. 22-6

Pixel counter data (toner cartridge reference) are output in a list. See the following page for the pixel counter:
📖 P.24-240 "24.9 Pixel counter"

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- Stored information of pixel counter (service technician reference)

PIXEL COUNTER CODE LIST

'08-02-08 20:13

SERVICEMAN

No	DATE	COL.		PPC	PRN	FAX	TOTAL
0	20080208	F	Print Count[LT/A4]	181	45	---	226
1	20080208	F	Average Pixel Count[%]	4.95	2.34	---	4.43
2	20080208	F	Latest Pixel Count[%]	8.36	2.34	---	2.34
3	20080208	Y	Print Count[LT/A4]	181	45	---	226
4	20080208	Y	Average Pixel Count[%]	2.7	1.74	---	2.51
5	20080208	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
6	20080208	M	Print Count[LT/A4]	181	45	---	226
7	20080208	M	Average Pixel Count[%	6.11	2	---	5.29
8	20080208	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
9	20080208	C	Print Count[LT/A4]	181	45	---	226
10	20080208	C	Average Pixel Count[%]	5.46	2.18	---	4.81
11	20080208	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
12	20080208	K	Print Count[LT/A4]	181	45	---	226
13	20080208	K	Average Pixel Count[%]	5.51	3.43	---	5.10
14	20080208	K	Latest Pixel Count[%]	14.05	4.10	---	4.10
15	20080208	K	Print Count[LT/A4]	97	100	9	206
16	20080208	K	Average Pixel Count[%]	7.36	4.06	23.25	6.45
17	20080208	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig. 22-7

Pixel counter data (service call reference) are output in a list. See the following page for the pixel counter:
📖 P.24-240 "24.9 Pixel counter"

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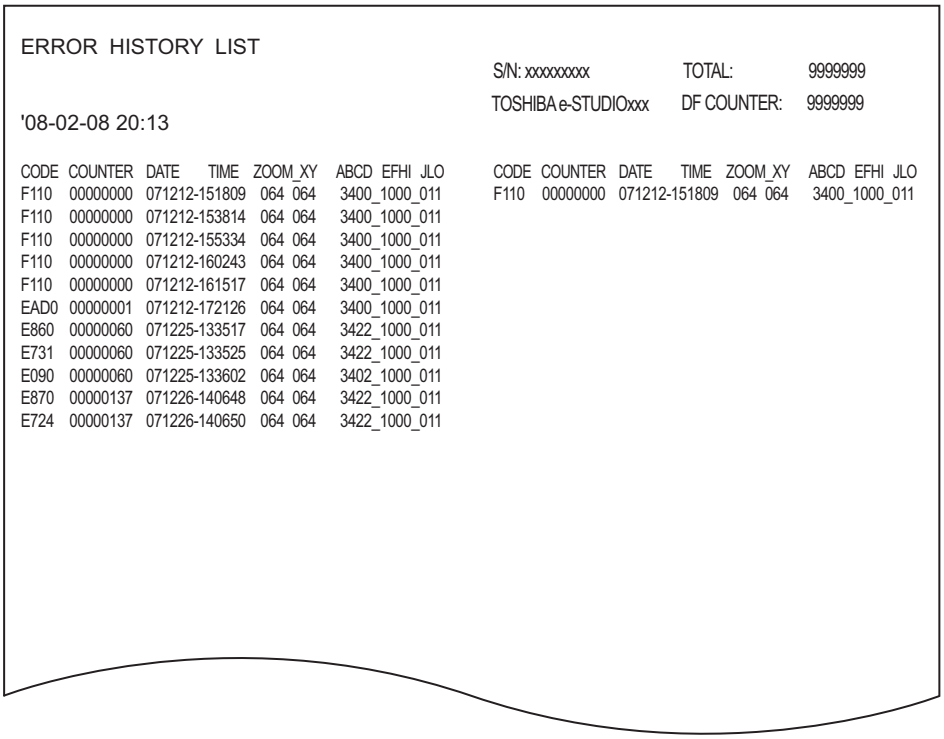
- Error history



ERROR HISTORY LIST

S/N: xxxxxxxxx TOTAL: 9999999

TOSHIBA e-STUDIOxxx DF COUNTER: 9999999

'08-02-08 20:13

CODE	COUNTER	DATE	TIME	ZOOM_XY	ABCD EFHI JLO
F110	00000000	071212-	151809	064 064	3400_1000_011
F110	00000000	071212-	153814	064 064	3400_1000_011
F110	00000000	071212-	155334	064 064	3400_1000_011
F110	00000000	071212-	160243	064 064	3400_1000_011
F110	00000000	071212-	161517	064 064	3400_1000_011
EAD0	00000001	071212-	172126	064 064	3400_1000_011
E860	00000060	071225-	133517	064 064	3422_1000_011
E731	00000060	071225-	133525	064 064	3422_1000_011
E090	00000060	071225-	133602	064 064	3402_1000_011
E870	00000137	071226-	140648	064 064	3422_1000_011
E724	00000137	071226-	140650	064 064	3422_1000_011

CODE	COUNTER	DATE	TIME	ZOOM_XY	ABCD EFHI JLO
F110	00000000	071212-	151809	064 064	3400_1000_011

Fig. 22-8

The error history is output. See the following page for the parameters for each error:
📖 P.25-27 "25.2.4 Printer function error"

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- Firmware update log

FW UPGRADE LOG

'08-05-10 17:35

S / N : 12345678901
TOSHIBA e-STUDIO6530C

STATE	DATE	TOTAL	COPY(B)	COPY(2)	COPY(C)	PRINT(B)	PRINT(2)	PRINT(C)	LIST	FAX
MANUFACTURE	2007-04-17									
UNPACKING	2007-04-17									
V1.00	2007-04-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430SY0J001	2007-04-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430S-01	2007-04-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430M-01	2007-05-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430F-02	2007-05-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
V1.01	2007-06-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430SY0J002	2007-06-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430S-02	2007-06-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430M-02	2007-06-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430F-03	2007-06-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
V1.02	2007-07-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430SY0J003	2007-07-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430S-03	2007-07-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430M-03	2007-07-17	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
T430F-04	2007-08-18	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999	99999999
.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.

Fig. 22-9

Firmware upgrade logs are output.

- The MANUFACTURE field shows the date of manufacture. The UNPACKING field shows the date that the equipment was unpacked.
- Only the versions of ROMs downloaded using a USB download jig are displayed.

Item	Content
STATE	Version name of ROM downloaded
DATE	Date that the ROM was downloaded
TOTAL	Total counter data when the ROM was downloaded
COPY (B)	Copier counter data (black) when the ROM was downloaded
COPY (2)	Copier counter data (twin color) when the ROM was downloaded
COPY (C)	Copier counter data (full color) when the ROM was downloaded
PRINT (B)	Printer counter data (black) when the ROM was downloaded
PRINT (2)	Printer counter data (twin color) when the ROM was downloaded
PRINT (C)	Printer counter data (full color) when the ROM was downloaded
LIST	List print counter data when the ROM was downloaded
FAX	Fax print counter data when the ROM was downloaded

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- Power-ON/OFF log

POWER ON_OFF LOG

S / N : 12345678901
'08-05-10 17:35 TOSHIBA e-STUDIO6530C

DATE TIME	FUNCTION	TOTAL	DATE TIME	FUNCTION	TOTAL
030619-144650	ON	99999999	030624-163459	ON	99999999
030619-181201	OFF	99999999	030624-163459	OFF	99999999
030620-103551	ON	99999999	030624-163510	ON	99999999
030620-134930	OFF	99999999	030624-163735	OFF	99999999
030620-135026	ON	99999999	030624-164138	RMT_OFF	99999999
030620-141110	OFF	99999999			
030623-112540	ON	99999999			
030624-112524	OFF	99999999			
030624-162102	RMT_OFF	99999999			
030624-163459	OFF	99999999			

Fig. 22-10

Power ON/OFF logs are output.

- Note that cases that the power was turned OFF with the main switch (not with the [ON/OFF] button on the control panel) will not be displayed.

Item	Content
DATE	Date that the power was turned ON or OFF
TIME	Time that the power was turned ON or OFF
FUNCTION	Whether the power was turned ON or OFF, or if it was turned ON or OFF with a remote reset function
TOTAL	Total counter data when the power was turned OFF and then back ON

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- Version list

VERSION LIST

TIME : 04-12-'00 09:00
SERIAL NUMBER: 01234567890123456789

SYSTEM FIRMWARE ROM VERSION	: T410SY0J230
SYSTEM FIRMWARE INTERNAL ROM VERSION	: VTD12.000 J
PRINTER ROM VERSION	: 390M-915
SCANNER ROM VERSION	: 390S-915
RADF ROM VERSION	: DF-9010
FINISHER STACKER ROM VERSION	: FIN-90
FINISHER SADDLE ROM VERSION	: SDL-07
FINISHER PUNCH ROM VERSION	:
CONVERTER ROM VERSION	:
FAX BOARD FIRMWARE ROM VERSION	:
SYSTEM FIRMWARE OS VERSION	: 3901-00
UI DATA FIX SECTION VERSION	: V0.70/0.B3
UI DATA COMMON SECTION VERSION	: V002.000 0
UI DATA INITIAL LANGUAGE AT POWER ON	: V002.000 0
UI DATA 1ST LANGUAGE IN HDD	: V002.000 3
UI DATA 2ND LANGUAGE IN HDD	: V002.000 3
UI DATA 3RD LANGUAGE IN HDD	: V034.000 7
UI DATA 4TH LANGUAGE IN HDD	: V034.000 6
UI DATA 5TH LANGUAGE IN HDD	: V034.000 11
UI DATA 6TH LANGUAGE IN HDD	: V034.000 10
UI DATA 7TH LANGUAGE IN HDD	: V030.000 4
HDD DATA VERSION	: T410HD0J230
WEB UI DATA 1ST LANGUAGE IN HDD	: V022.000 1
WEB UI DATA 2ND LANGUAGE IN HDD	: V022.000 2
WEB UI DATA 3RD LANGUAGE IN HDD	: V022.000 3
WEB UI DATA 4TH LANGUAGE IN HDD	: V022.000 4
WEB UI DATA 5TH LANGUAGE IN HDD	: V022.000 5
WEB UI DATA 6TH LANGUAGE IN HDD	: V022.000 6
CAPACITY OF HDD	: 74.5 GB
DEVICE INFORMATION OF HDD	:
SERIAL NUMBER OF HDD	:
MEMORY SIZE	: 512 MB
INSTALLED ELK NAME	: Data overwrite enabler IPSec enabler Meta scan enabler External interface enabler

Fig. 22-11

The list of versions is output.

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- Error log
  The error logs stored in the HDD is copied to the USB media in the following structure.
  \LOG folder
  \LOG folder\yyyymmddhhmm_ss_xxxx(Date and time of the error log creation + error code)
  \LOG folder\logdump.txt
  \LOG folder\i.txt

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- Total counter list

TOTAL COUNTER LIST
2010/9/28 17:07
TOSHIBA e-STUDIO6530C
CUE800200 TOTAL 220 DF TOTAL 22

PRINT COUNTER

TOTAL

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
COPY	37	0	1	38
FAX	0	0	0	0
PRINTER	122	0	60	182
LIST	0	0	0	0
TOTAL	159	0	61	220

COPY

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	37	0	1	38
LARGE	0	0	0	0
TOTAL	37	0	1	38

FAX

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	0	0	0	0
LARGE	0	0	0	0
TOTAL	0	0	0	0

PRINTER

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	118	0	60	178
LARGE	4	0	0	4
TOTAL	122	0	60	182

LIST

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	0	0	0	0
LARGE	0	0	0	0
TOTAL	0	0	0	0

SCAN COUNTER

TOTAL

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
COPY	7	0	1	8
FAX	0	0	0	0
NETWOR	0	0	0	0
TOTAL	7	0	1	8

COPY

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	7	0	1	8
LARGE	0	0	0	0
TOTAL	7	0	1	8

FAX

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	0	0	0	0
LARGE	0	0	0	0
TOTAL	0	0	0	0

NETWORK

	FULL COLOR	TWIN/MONO COLOR	BLACK	TOTAL
SMALL	0	0	0	0
LARGE	0	0	0	0
TOTAL	0	0	0	0

CALIBRATION COUNTER 0

Fig. 22-12

The list of Total counter is output.

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23. ADJUSTMENT MODE (05)

Items in the adjustment mode list in the following pages can be corrected or changed in this adjustment mode (05). Turn ON the power with pressing the digital keys [0] and [5] simultaneously in order to enter this mode.

Note:

When the power should be turned OFF, be sure to shut down the equipment by pressing the [ON/OFF] button for a few seconds.

Remarks:

- The Service Handbook contains only the selected codes while the Service Manual contains all codes.
- The digit after the hyphen in “Code” of the following table is a sub code.
- In “RAM”, the SRAM of the board in which the data of each code is stored is indicated. “M” stands for the LGC board and “SYS” stands for the SYS board.

23.1 Classification List of Adjustment Mode (05)

Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Scanner	[Log table]	361, 362	
	[Image position]		305, 306
	[Carriage position]	359, 360	
	[Fixed value]		363, 364
	[Shading position]	350, 351	
	[Distortion]		308
	[Reproduction ratio]		340
	[Automatic dust detection]	349	
Image	[ACS]		1675
	[RGB]	1080, 1081, 1082, 8372	
	[Black header density level adjustment]	7811, 7812, 7816	
	[Fine line enhancement switchover]	7322-0 to 2, 7323-0 to 2, 8102-0 to 2, 8103-0 to 2	
	[Leading edge adjustment]		408, 410, 411, 417-0 to 2, 428, 429, 440, 441, 442, 443, 444, 445, 494, 495, 498-0 to 2, 4065, 4066, 4067-0 to 7, 4068, 4069, 4562-0 to 3, 4563-0 to 3, 4564-0 to 3, 4565-0 to 3, 4566-0 to 3, 4567-0 to 8, 4568-0 to 5, 4569-0 to 3
	[Adjustment of drawer sideways deviation]		497-0 to 6

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Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Image	[Image density]	8340, 8341, 8342, 8344, 8345, 8346, 8348, 8349, 8350	503, 504, 505, 507, 508, 510, 514, 515, 700, 710, 714, 725, 729, 845, 846, 847, 848, 860, 861, 862, 863, 931, 934, 937, 940, 1585, 1586, 1587, 1588, 1589, 7475, 7478, 7641-0 to 2, 7642-0 to 2, 8210-0 to 3, 8211-0 to 3, 8212-0 to 3, 8213, 8214, 8215, 8249-0 to 4, 8250-0 to 4, 8251-0 to 4, 8252-0 to 4, 8253-0 to 4, 8254-0 to 4, 8371, 8380, 8381, 8382
	[Color balance]		1779-0 to 2, 1780-0 to 2, 1781-0 to 2, 1782-0 to 2, 1783-0 to 2, 1784-0 to 2, 1785-0 to 2, 1786-0 to 2, 1787-0 to 2, 1788-0 to 2, 1789-0 to 2, 1790-0 to 2, 1791-0 to 2, 1792-0 to 2, 1793-0 to 2, 1794-0 to 2, 1795-0 to 2, 1796-0 to 2, 1797-0 to 2, 1798-0 to 2, 7980-0 to 2, 7981-0 to 2, 7982-0 to 2, 7983-0 to 2, 8026-0 to 2, 8027-0 to 2, 8028-0 to 2, 8029-0 to 2, 8030-0 to 2, 8031-0 to 2, 8032-0 to 2, 8033-0 to 2, 8034-0 to 2, 8035-0 to 2, 8036-0 to 2, 8037-0 to 2, 8038-0 to 2, 8039-0 to 2, 8040-0 to 2, 8041-0 to 2, 8042-0 to 2, 8043-0 to 2, 8044-0 to 2, 8045-0 to 2, 8046-0 to 2, 8047-0 to 2, 8048-0 to 2, 8049-0 to 2, 8050-0 to 2, 8051-0 to 2, 8052-0 to 2, 8053-0 to 2, 8054-0 to 2, 8055-0 to 2, 8056-0 to 2, 8057-0 to 2, 8058-0 to 2, 8059-0 to 2, 8060-0 to 2, 8061-0 to 2, 8062-0 to 2, 8063-0 to 2, 8064-0 to 2, 8065-0 to 2, 8066, 8150-0 to 2, 8151-0 to 2, 8152-0 to 2, 8153-0 to 2, 8154-0 to 2, 8155-0 to 2, 8156-0 to 2, 8157-0 to 2, 8268-0 to 2, 8269-0 to 2, 8270-0 to 2, 8271-0 to 2, 8272-0 to 2, 8273-0 to 2, 8274-0 to 2, 8275-0 to 2
	[Gamma adjustment]	580, 1642, 1644-0 to 8, 7380-0 to 2	1004-0 to 8, 1005-0 to 8, 1008, 1009,
	[Gamma balance]		590-0 to 2, 591-0 to 2, 592-0 to 2, 880-0 to 2, 881-0 to 2, 882-0 to 2, 883-0 to 2, 949-0 to 2, 7309-0 to 2, 7310-0 to 2, 7315-0 to 2, 7316-0 to 2, 7317-0 to 2, 7318-0 to 2, 7319-0 to 2, 7320-0 to 2, 7480-0 to 2, 7956-0 to 2, 7957-0 to 2, 7958-0 to 2, 7959-0 to 2

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Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Image	[Black reproduction switching]	1761	
	[Graphic line density]		8242-0 to 1, 8243-0 to 3
	[Highlight pen]	1769-0 to 5	
	[Color / Black selection]	8218	
	[Line width minimum value adjustment]	8240, 8241	
	[Reproduction level adjustment]	1725, 7841	
	[Maximum text density]	1630, 1631, 1632, 1633	
	[Background/Black density]	1075, 1076, 1077	
	[Saturation]	8325, 8326, 8327, 8373	
	[Background processing]		1070, 1071, 1072, 1688, 1689, 1690, 1691, 1692, 1698, 1699, 1700, 1701, 1702, 7025, 7033, 7034, 7041, 7042, 7043, 7044, 7048, 7049, 7279, 7280, 7468, 7675, 7676, 7677, 7678, 7679, 7754, 7755, 7756, 7757, 7758, 7759, 7760, 7761, 7762, 7763, 7764, 7765, 7766, 8010-0 to 2, 8011-0 to 2, 8012-0 to 2, 8013-0 to 2, 8014-0 to 2, 8015-0 to 2, 8016-0 to 2, 8018-0 to 2, 8019-0 to 2, 8021-0 to 2, 8370, 8385, 8386, 8387, 8389, 8390, 8391, 8392, 8394, 8395, 8400, 8402, 8403, 8404, 8405, 8407, 8408, 8409
	[Sharpness]		604, 605, 606, 840, 841, 842, 843, 1086, 1087, 1088, 1737, 1738, 1739, 1740, 1741, 1757, 7470, 7795, 7807, 7808, 7809, 8110-0 to 2, 8111-0 to 2, 8112-0 to 2, 8113-0 to 2, 8118-0 to 2, 8119-0 to 2, 8375
	[Switchover on screens]		8176, 8179, 8187, 8188, 8190, 8191
	[Smudged/faint text]		648, 649, 654, 925, 7102, 7103, 7340, 7341, 8130, 8131, 8132
	[Toner saving]		664-0 to 2, 1055-0 to 2, 7302-0 to 2, 8161-0 to 2
	[Toner limit threshold]		8070-0 to 9, 8071-0 to 9, 8089-0 to 9, 8090-0 to 9
	[Toner amount]		1050, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 7903, 8149
	[Blank page judgment]	7618	
	[Background processing]	9104, 9107	
	[Setting beam level conversion]	667-0 to 4, 672-0 to 4, 678-0 to 4	

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Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Image	[Image void correction]	4731-0 to 7, 7489	
	[Margin]		430, 431, 432, 433, 434-0 to 5, 435, 436, 437, 438
	[Range correction]		7236, 7237, 7283, 7284, 7286, 7287, 7295, 7296, 7416, 7417, 7418, 7419, 7421, 7422, 7423, 7424, 7425, 7426, 7667, 7668, 7669, 7670, 7767, 7768, 7769, 7770, 7771, 7772, 7773, 7774, 7775, 7776, 7777, 7778, 8330, 8331, 8332, 8334, 8361, 8362, 8363, 8365
Color registration	[Color registration adjustment]		4719, 4720-0 to 1
Image control	[Temperature/ Humidity]	393	
	[Color/Black developer]	386-0 to 3	
	[Contrast voltage]	330-0 to 3, 380-0 to 3, 381-0 to 3, 1815-0 to 3, 2675-0 to 3	
	[Performing]		394, 396
	[Drum surface potential sensor]		2780-0 to 3, 2782-0 to 13, 2787-0 to 8, 2788, 2789-0 to 3
	[image quality sensor]		388, 389, 390-0 to 3, 392
	[Main charger]	385-0 to 3	
	[Laser power]	382-0 to 3, 383-0 to 3, 384-0 to 3	
	[TRC control]	2801-0 to 11 2802-0 to 11	2800-0 to 11 2803-0 to 11
Drive system	[2nd transfer motor]	4748-0 to 11	
	[ADU motor]	491-0 to 17, 4747-0 to 17	
	[3rd / 4th drawer feed motor]	4707-0 to 17	
	[T-LCF motor]	4708-0 to 17	
	[O-LCF motor]	4762-0 to 17	
	[Feed/transport motor]		489-0 to 17, 4740-0 to 17, 4741-0 to 17, 4742-0 to 17, 4743-0 to 17
	[Transfer belt motor]		487-0 to 11
	[Drum motor]	481-0 to 11	
	[Exit motor]	446-0 to 17	
	[Fuser belt]	485-0 to 11	
	[Registration motor]	483-0 to 17	
	[Reverse motor]	4744-0 to 17	
	[Bridge unit transport motor]	4745-0 to 17, 4746-0 to 17	

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Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Feeding system / Paper transport	[Aligning amount]		473-0 to 3, 480, 4100-0 to 4, 4101-0 to 4, 4103-0 to 4, 4104-0 to 4, 4105-0 to 4, 4106-0 to 4, 4107-0 to 4, 4108-0 to 4, 4109-0 to 4, 4110-0 to 4, 4111, 4115-0 to 4, 4116-0 to 4, 4117-0 to 4, 4118-0 to 4, 4120-0 to 4, 4122-0 to 4, 4123-0 to 4, 4124-0 to 4, 4125-0 to 4, 4126, 4127-0 to 4, 4128-0 to 4, 4129-0 to 4, 4580-0 to 4, 4581-0 to 4, 4582-0 to 4, 4583-0 to 4, 4584-0 to 4, 4585-0 to 4, 4586-0 to 4, 4587-0 to 4, 4588-0 to 4, 4589-0 to 4, 4590-0 to 4, 4591-0 to 4, 4592-0 to 4, 4593-0 to 4, 4600-0 to 4, 4601-0 to 4, 4602-0 to 4, 4603-0 to 4, 4604-0 to 4, 4605-0 to 4, 4606-0 to 4, 4607-0 to 4, 4608-0 to 4, 4609-0 to 4, 4610-0 to 4, 4611-0 to 4, 4612-0 to 4, 4613-0 to 4, 4615-0 to 4
	[Paper pushing amount]	466-0 to 10	
	[Remaining amount of paper]	476-0 to 5, 477-0 to 5	
	[Media Sensor]	4784, 9092	
Laser	[Clock cycle for image reproduction ratio]	4772, 4773, 4782	
Transfer	[1st transfer]	2900-0 to 18, 2905-0 to 18, 2920-0 to 18, 2921-0 to 18, 2981-0 to 1, 2985-0 to 1, 2986-0 to 1, 2987-0 to 1, 2988-0 to 1, 2991-0 to 1, 2992-0 to 1, 2993-0 to 1	
	[2nd transfer]	2924-0 to 9, 2925-0 to 9, 2926-0 to 9, 2927-0 to 9, 2983-0 to 1, 2984-0 to 1	
	[Color registration]	4789	
	[Temperature/ humidity]	247, 270	
	[Cleaning]	2962-0 to 1	
	[Bias offset]	2934-0 to 9, 2935-0 to 9, 2936-0 to 9, 2937-0 to 9, 2938-0 to 9, 2939-0 to 9, 2940-0 to 9, 2941-0 to 9	
Charger	[Charger grid calibration]	241, 242, 243, 244, 248, 2622-0 to 1, 2623-0 to 1, 2624-0 to 1, 2625-0 to 1, 2764	
Development	[Auto-toner]		200, 201, 202, 203, 204, 205-0 to 3, 206
	[Developer]	2627-0 to 1, 2628-0 to 1, 2629-0 to 1, 2630-0 to 1	2417
	[Mixer]		2416

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Classification		Adjustment Mode (05)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
RADF	[Aligning amount]	354, 355	
	[Sensor/EEPROM]		352, 353, 356
	[Transporting]		357, 358, 365, 366
Maintenance	[Equipment number]	976	
	[Tilt motor initial excitation]		4721

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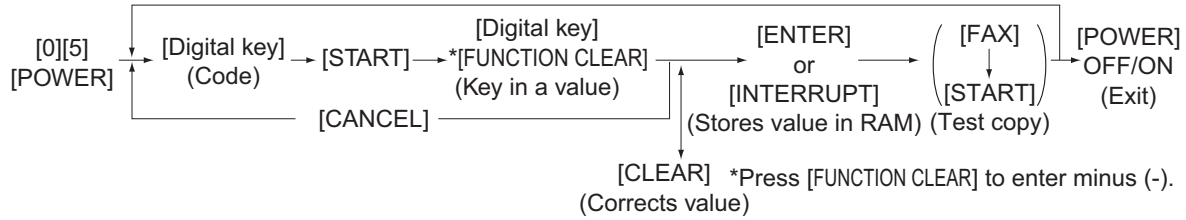
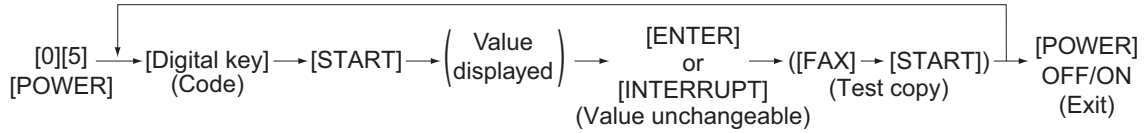
23.2 Operating Procedure

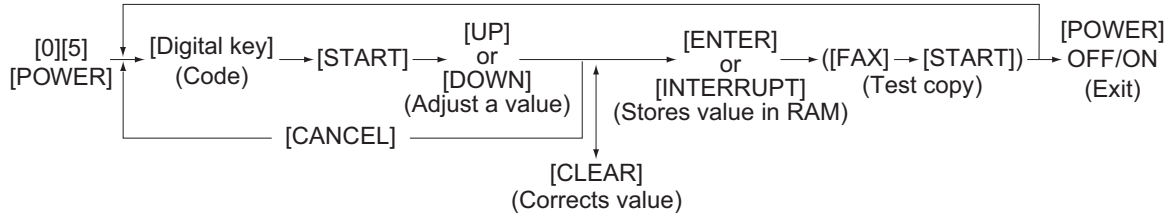
Procedure 1



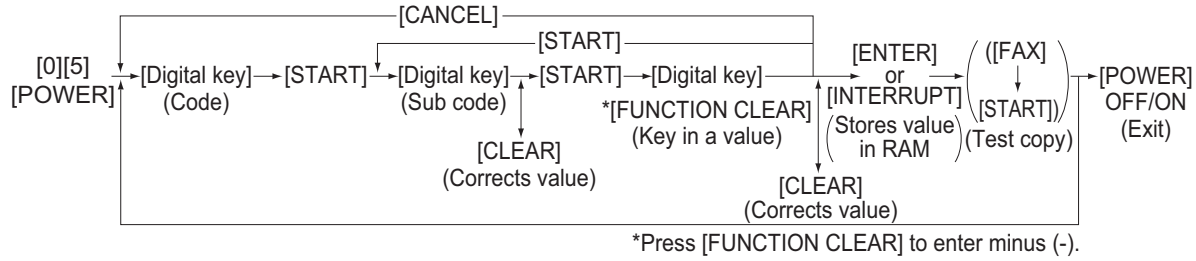
Procedure 2



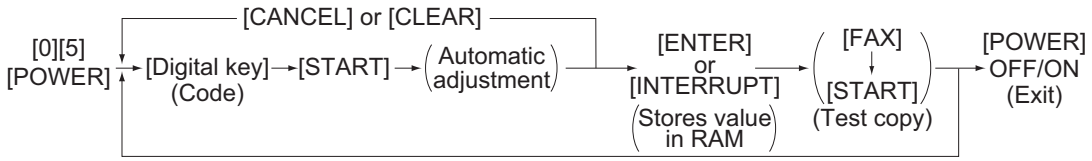
Procedure 3



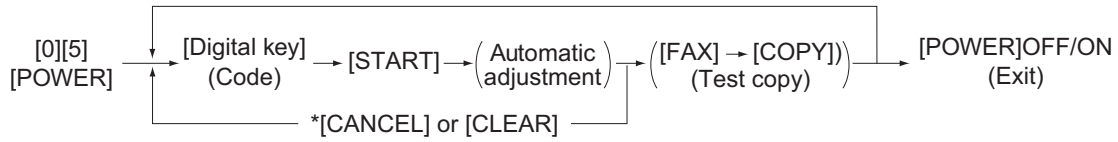
Procedure 4



Procedure 5



Procedure 6



* When the automatic adjustment ends abnormally, an error message is displayed.

* Return to standby screen by pressing the [CANCEL] or [CLEAR] button.

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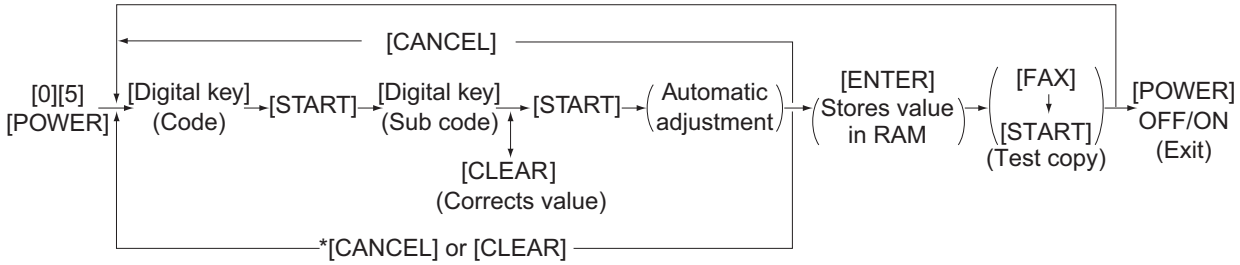
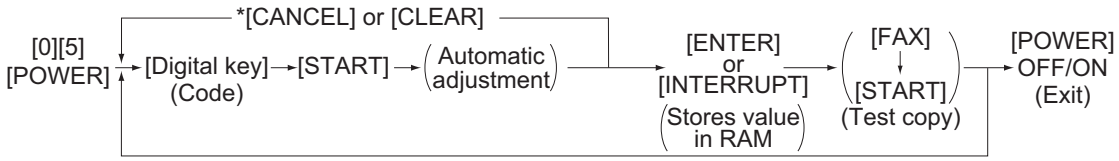
Procedure 7



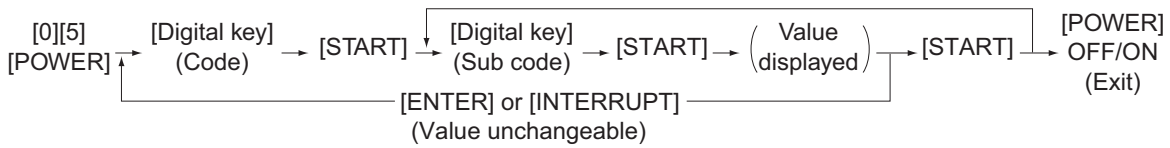
* When the automatic adjustment ends abnormally, an error message is displayed.
* Return to standby screen by pressing the [CANCEL] or [CLEAR] button.

Procedure 8

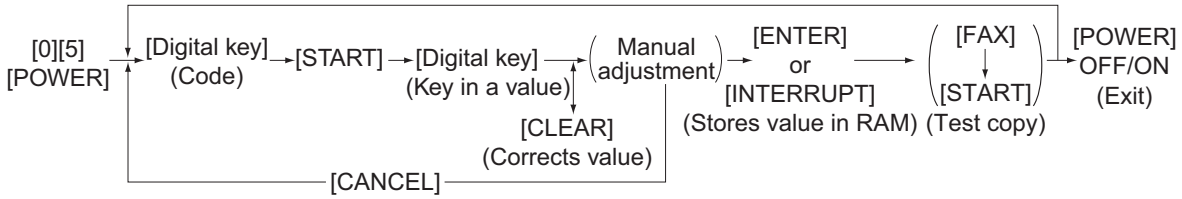


* When the automatic adjustment ends abnormally, an error message is displayed.
* Return to standby screen by pressing the [CANCEL] or [CLEAR] button.

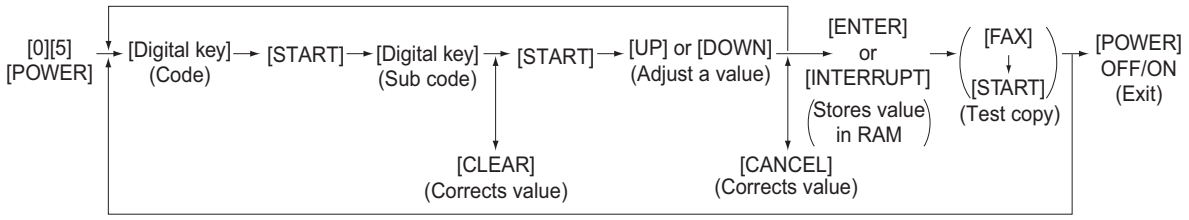
Procedure 10



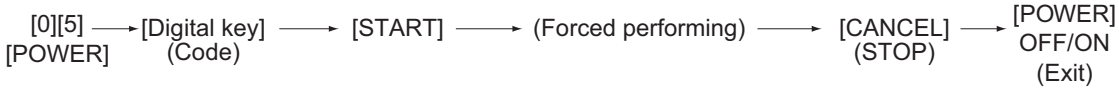
Procedure 12



Procedure 14



Procedure 15



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23.3 Test print pattern in Adjustment Mode (05)

Operation:
One test print is printed out when the [FAX] button is pressed after the code is keyed in at Standby Screen.

Code	Types of test pattern	Remarks
1	Grid pattern (Black)	For printer related adjustment
3	Grid pattern (Black/Duplex printing)	Refer to 8.5.7Printer-related image dimensional adjustment
4	Copier gamma adjustment pattern (Color & black / All media types)	Refer to 8.6.1Automatic gamma adjustment
5	Copier gamma adjustment pattern (Color / All media types)	Refer to 8.6.1Automatic gamma adjustment
6	Copier gamma confirmation pattern (Black / All media types)	Refer to 8.6.1Automatic gamma adjustment
7	Copier gamma confirmation pattern (Color / All media types)	Refer to 8.6.1Automatic gamma adjustment
8	Grid pattern (Color)	
10	For gamma adjustment (Black)	Refer to 8.6.1Automatic gamma adjustment
12	Secondary scanning direction 33 gradation steps (Y)	For checking the image of printer section
13	Secondary scanning direction 33 gradation steps (M)	For checking the image of printer section
14	Secondary scanning direction 33 gradation steps (C)	For checking the image of printer section
15	Secondary scanning direction 33 gradation steps (K)	For checking the image of printer section
55	Grid pattern (Full Color / Thick paper 2)	Refer to 8.5.6Paper alignment at the registration roller
56	Grid pattern (Full Color / Thick paper 3)	Refer to 8.5.6Paper alignment at the registration roller
57	Grid pattern (Full Color / OHP)	Refer to 8.5.6Paper alignment at the registration roller
58	Grid pattern (Black / Thick paper 2)	Refer to 8.5.6Paper alignment at the registration roller
59	Grid pattern (Black / Thick paper 3)	Refer to 8.5.6Paper alignment at the registration roller
60	Grid pattern (Black / OHP)	Refer to 8.5.6Paper alignment at the registration roller
63	For color deviation correction (Full Color)	Only for A3/LD size
70	Printer gamma correction table creation pattern (PS: 600dpi) (Plain paper 1)	Refer to 8.7.1Automatic gamma adjustment
71	Printer gamma correction table confirmation pattern (PS: 600dpi) (Plain paper 1)	Refer to 8.7.1Automatic gamma adjustment
72	Printer gamma correction table creation pattern (PS: 600dpi) (Plain paper 2)	Refer to 8.7.1Automatic gamma adjustment
73	Printer gamma correction table confirmation pattern (PS: 600dpi) (Plain paper 2)	Refer to 8.7.1Automatic gamma adjustment
74	Printer gamma correction table creation pattern (PS: 600dpi) (Recycled paper)	Refer to 8.7.1Automatic gamma adjustment

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Code	Types of test pattern	Remarks
75	Printer gamma correction table confirmation pattern (PS: 600dpi) (Recycled paper)	Refer to 8.7.1Automatic gamma adjustment
76	Printer gamma correction table creation pattern (PS: 600dpi) (Thick paper 1)	Refer to 8.7.1Automatic gamma adjustment
77	Printer gamma correction table confirmation pattern (PS: 600dpi) (Thick paper 1)	Refer to 8.7.1Automatic gamma adjustment
78	Printer gamma correction table creation pattern (PS: 600dpi) (Thick paper 2)	Refer to 8.7.1Automatic gamma adjustment
79	Printer gamma correction table confirmation pattern (PS: 600dpi) (Thick paper 2)	Refer to 8.7.1Automatic gamma adjustment
80	Printer gamma correction table creation pattern (PS: 600dpi) (Thick paper 3)	Refer to 8.7.1Automatic gamma adjustment
81	Printer gamma correction table confirmation pattern (PS: 600dpi) (Thick paper 3)	Refer to 8.7.1Automatic gamma adjustment
82	Printer gamma correction table creation pattern (PS: 600dpi) (Thick paper 4)	Refer to 8.7.1Automatic gamma adjustment
83	Printer gamma correction table confirmation pattern (PS: 600dpi) (Thick paper 4)	Refer to 8.7.1Automatic gamma adjustment
84	Printer gamma correction table creation pattern (PS: 600dpi) (Special paper 1)	Refer to 8.7.1Automatic gamma adjustment
85	Printer gamma correction table confirmation pattern (PS: 600dpi) (Special paper 1)	Refer to 8.7.1Automatic gamma adjustment
86	Printer gamma correction table creation pattern (PS: 600dpi) (Special paper 2)	Refer to 8.7.1Automatic gamma adjustment
87	Printer gamma correction table confirmation pattern (PS: 600dpi) (Special paper 2)	Refer to 8.7.1Automatic gamma adjustment
98	Grid pattern -2 (For printing K(4) / Plain paper)	Refer to 8.5.7Printer-related image dimensional adjustment
99	Grid pattern -2 (For printing K(4) / Thick paper 1)	Refer to 8.6.1Automatic gamma adjustment
100	Grid pattern - 1 (Full color / Thick paper 1)	Refer to 8.6.1Automatic gamma adjustment
101	Grid pattern - 1 (Black / Thick paper 1)	Refer to 8.6.1Automatic gamma adjustment
104	Color deviation confirmation pattern (A3/LD)	Refer to 8.6.1Automatic gamma adjustment
112	Media sensor feeding check	Printing on blank paper
138	Grid pattern - 2 (For printing K (4) / duplex printing)	
151	Pattern for checking uneven image density correction in primary scanning direction	Available only when A4/LT paper is selected (Not available for bypass feeding)
200	Copier gamma adjustment pattern (Color & black / Plain paper 1)	Refer to 8.6.1Automatic gamma adjustment
201	Copier gamma confirmation pattern (Color / Plain paper 1)	Refer to 8.6.1Automatic gamma adjustment

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Code	Types of test pattern	Remarks
202	Copier gamma adjustment pattern (Color & black / Plain paper 2)	Refer to 8.6.1Automatic gamma adjustment
203	Copier gamma confirmation pattern (Color / Plain paper 2)	Refer to 8.6.1Automatic gamma adjustment
204	Copier gamma adjustment pattern (Color & black / Recycled paper)	Refer to 8.6.1Automatic gamma adjustment
205	Copier gamma confirmation pattern (Color / Recycled paper)	Refer to 8.6.1Automatic gamma adjustment
206	Copier gamma adjustment pattern (Color & black / Thick paper 1)	Refer to 8.6.1Automatic gamma adjustment
207	Copier gamma confirmation pattern (Color / Thick paper 1)	Refer to 8.6.1Automatic gamma adjustment
208	Copier gamma adjustment pattern (Color & black / Thick paper 2)	Refer to 8.6.1Automatic gamma adjustment
209	Copier gamma confirmation pattern (Color / Thick paper 2)	Refer to 8.6.1Automatic gamma adjustment
210	Copier gamma adjustment pattern (Color & black / Thick paper 3)	Refer to 8.6.1Automatic gamma adjustment
211	Copier gamma confirmation pattern (Color / Thick paper 3)	Refer to 8.6.1Automatic gamma adjustment
212	Copier gamma adjustment pattern (Color & black / Thick paper 4)	Refer to 8.6.1Automatic gamma adjustment
213	Copier gamma confirmation pattern (Color / Thick paper 4)	Refer to 8.6.1Automatic gamma adjustment
214	Copier gamma adjustment pattern (Color & black / Special paper 1)	Refer to 8.6.1Automatic gamma adjustment
215	Copier gamma confirmation pattern (Color / Special paper 1)	Refer to 8.6.1Automatic gamma adjustment
216	Copier gamma adjustment pattern (Color & black / Special paper 2)	Refer to 8.6.1Automatic gamma adjustment
217	Copier gamma confirmation pattern (Color / Special paper 2)	Refer to 8.6.1Automatic gamma adjustment
230	Printer gamma correction table creation pattern (PS: 1200dpi) (Plain paper 1)	Refer to 8.7.1Automatic gamma adjustment
231	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Plain paper 1)	Refer to 8.7.1Automatic gamma adjustment
232	Printer gamma correction table creation pattern (PS: 1200dpi) (Plain paper 2)	Refer to 8.7.1Automatic gamma adjustment
233	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Plain paper 2)	Refer to 8.7.1Automatic gamma adjustment
234	Printer gamma correction table creation pattern (PS: 1200dpi) (Recycled paper)	Refer to 8.7.1Automatic gamma adjustment
235	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Recycled paper)	Refer to 8.7.1Automatic gamma adjustment
236	Printer gamma correction table creation pattern (PS: 1200dpi) (Thick paper 1)	Refer to 8.7.1Automatic gamma adjustment
237	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Thick paper 1)	Refer to 8.7.1Automatic gamma adjustment

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Code	Types of test pattern	Remarks
238	Printer gamma correction table creation pattern (PS: 1200dpi) (Thick paper 2)	Refer to 8.7.1Automatic gamma adjustment
239	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Thick paper 2)	Refer to 8.7.1Automatic gamma adjustment
240	Printer gamma correction table creation pattern (PS: 1200dpi) (Thick paper 3)	Refer to 8.7.1Automatic gamma adjustment
241	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Thick paper 3)	Refer to 8.7.1Automatic gamma adjustment
242	Printer gamma correction table creation pattern (PS: 1200dpi) (Thick paper 4)	Refer to 8.7.1Automatic gamma adjustment
243	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Thick paper 4)	Refer to 8.7.1Automatic gamma adjustment
244	Printer gamma correction table creation pattern (PS: 1200dpi) (Special paper 1)	Refer to 8.7.1Automatic gamma adjustment
245	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Special paper 1)	Refer to 8.7.1Automatic gamma adjustment
246	Printer gamma correction table creation pattern (PS: 1200dpi) (Special paper 2)	Refer to 8.7.1Automatic gamma adjustment
247	Printer gamma correction table confirmation pattern (PS: 1200dpi) (Special paper 2)	Refer to 8.7.1Automatic gamma adjustment

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23.4 Process

Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
200	Development	Automatic adjustment for developer material supply and auto-toner sensors	All (Y,M,C,K)	ALL	128 <0-255>	M	Sets the auto-toner sensor output and supply of developer material automatically. The larger the value is, the larger the sensor output becomes.	5
201			Y	ALL	128 <0-255>	M		5
202			M	ALL	128 <0-255>	M		5
203			C	ALL	128 <0-255>	M		5
204			K	ALL	128 <0-255>	M		5
205-0	Development	Adjustment of auto-toner initial adjustment reference setting value (YMCK)	Y	ALL	130 <0-255>	M		4
205-1			M	ALL	130 <0-255>	M		4
205-2			C	ALL	130 <0-255>	M		4
205-3			K	ALL	130 <0-255>	M		4
206	Development	Automatic adjustment for developer material supply and auto-toner sensors	3 colors (Y, M, C)	ALL	128 <0-255>	M	Sets the auto-toner sensor output and supply of developer material automatically. The larger the value is, the larger the sensor output becomes.	5
241	Transfer	Main charger grid bias adjustment	Y	ALL	73 <0-255>	M	Judges the presence of the developer unit-K. If it is judged as present, the input of this code will be refused.	3
242			M	ALL	73 <0-255>	M		3
243			C	ALL	73 <0-255>	M		3
244			K	ALL	73 <0-255>	M		3
247	Transfer	Temperature/humidity sensor humidity display		ALL	50 <0-100>	M	Displays the preset humidity at the beginning of warming-up.	2
248	Charger	Drum thermistor temperature display (K)		ALL	23 <0-100>	M	(Unit: °C)	2
270	Transfer	Temperature/humidity sensor temperature display		ALL	23 <0-100>	M	Displays the preset temperature at the completion of a print job.	2
330-0	Image control	Image quality closed-loop control contrast voltage correction/ maximum number of time corrected	Y	ALL	5 <0-16>	M	Sets the maximum correction number of time of the contrast voltage in the closed-loop control.	4
330-1			M	ALL	5 <0-16>	M		4
330-2			C	ALL	5 <0-16>	M		4
330-3			K	ALL	5 <0-16>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
380-0	Image control	Image quality open-loop control/ contrast voltage initial value display	Y	ALL	310 <0-999>	M	Displays the contrast voltage initial value set by the open-loop control. (Unit: V)	10
380-1			M	ALL	310 <0-999>	M		10
380-2			C	ALL	310 <0-999>	M		10
380-3			K	ALL	260 <0-999>	M		10
381-0	Image control	Contrast voltage actual value display	Y	ALL	250 <0-999>	M	Displays the contrast voltage when printing is operated. (Unit: V)	10
381-1			M	ALL	250 <0-999>	M		10
381-2			C	ALL	250 <0-999>	M		10
381-3			K	ALL	250 <0-999>	M		10
382-0	Image control	Image quality open-loop control/ laser power initial value display	Y	ALL	120 <0-999>	M	Displays the laser power initial value set by the open-loop control. (Unit: µW)	10
382-1			M	ALL	120 <0-999>	M		10
382-2			C	ALL	120 <0-999>	M		10
382-3			K	ALL	120 <0-999>	M		10
383-0	Image control	Laser power actual value display	Y	ALL	108 <0-255>	M	Displays the laser power when printing is operated. (bit value)	10
383-1			M	ALL	108 <0-255>	M		10
383-2			C	ALL	108 <0-255>	M		10
383-3			K	ALL	108 <0-255>	M		10
384-0	Image control	Laser power actual value display	Y	ALL	120 <0-999>	M	Displays the laser power when printing is operated. (Unit: µW)	10
384-1			M	ALL	120 <0-999>	M		10
384-2			C	ALL	120 <0-999>	M		10
384-3			K	ALL	120 <0-999>	M		10
385-0	Image control	Main charger grid bias actual value display	Y	ALL	73 <0-255>	M	Displays the main charger grid bias when printing is operated. (bit value)	10
385-1			M	ALL	73 <0-255>	M		10
385-2			C	ALL	73 <0-255>	M		10
385-3			K	ALL	73 <0-255>	M		10
386-0	Image control	Developer bias DC (-) actual value display	Y	ALL	80 <0-255>	M	Displays the developer bias when printing is operated. (bit value)	10
386-1			M	ALL	80 <0-255>	M		10
386-2			C	ALL	80 <0-255>	M		10
386-3			K	ALL	80 <0-255>	M		10

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
388	Image control	Output value display of image quality sensor	When the light source is OFF	ALL	0 <0-1023>	M	Displays the output value of image quality sensor when the sensor light source is OFF.	2
389			Transfer belt surface	ALL	0 <0-1023>	M	Displays the output value of image quality sensor (when there is no test pattern) on the transfer belt.	2
390-0			High density pattern Y	ALL	0 <0-1023>	M	Displays the output value of image quality sensor when a high-density test pattern is written. The larger the value is, the smaller the toner amount adhered becomes.	10
390-1			High density pattern M	ALL	0 <0-1023>	M		10
390-2			High density pattern C	ALL	0 <0-1023>	M		10
390-3			High density pattern K	ALL	0 <0-1023>	M		10
392	Image control	Light amount adjustment result of image quality sensor		ALL	0 <0-255>	M	The LED light amount adjustment value of this sensor is the reference value to set the reflected light from the belt surface.	2
393	Image control	Relative humidity display during latest closed-loop control		ALL	0 <0-100>	M	Displays the relative humidity at the latest performing of the closed-loop control.	2
394	Image control	Enforced performing of image quality open-loop control		ALL	-	-	Performs the image quality open-loop control.	6
396	Image control	Image quality control initialization		ALL	-	M	Performs the image quality control, initialize each control value.	6
1815-0	Image control	Contrast voltage/ correction number of time display	Y	ALL	0 <0-255>	M	Displays the actual number of time the contrast voltage has been corrected at the closed-loop control.	10
1815-1			M	ALL	0 <0-255>	M		10
1815-2			C	ALL	0 <0-255>	M		10
1815-3			K	ALL	0 <0-255>	M		10
2416	Developer	Forcible mixing in the developer unit		ALL	-	-	Decelerates the rotation of each developer unit mixer motor to mix the developer material in the developer unit forcibly. Perform this code when the process unit is installed or removed.	5
2417	Developer	Manual forcible discharge of developer material		ALL	-	-	Discharges developer material forcibly.	5

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2622-0	Charger	Main charger grid calibration voltage (Y)	Low	ALL	250 <0-1400>	M	(Unit: V)	4
2622-1			High	ALL	1200 <0-1400>	M		4
2623-0	Charger	Main charger grid calibration voltage (M)	Low	ALL	250 <0-1400>	M	(Unit: V)	4
2623-1			High	ALL	1200 <0-1400>	M		4
2624-0	Charger	Main charger grid calibration voltage (C)	Low	ALL	250 <0-1400>	M	(Unit: V)	4
2624-1			High	ALL	1200 <0-1400>	M		4
2625-0	Charger	Main charger grid calibration voltage (K)	Low	ALL	250 <0-1400>	M	(Unit: V)	4
2625-1			High	ALL	1200 <0-1400>	M		4
2627-0	Developer	Developer bias DC (-) calibration voltage (Y)	Low	ALL	100 <0-1000>	M	(Unit: V)	4
2627-1			High	ALL	900 <0-1000>	M		4
2628-0	Developer	Developer bias DC (-) calibration voltage (M)	Low	ALL	100 <0-1000>	M	(Unit: V)	4
2628-1			High	ALL	900 <0-1000>	M		4
2629-0	Developer	Developer bias DC (-) calibration voltage (C)	Low	ALL	100 <0-1000>	M	(Unit: V)	4
2629-1			High	ALL	900 <0-1000>	M		4
2630-0	Developer	Developer bias DC (-) calibration voltage (K)	Low	ALL	100 <0-1000>	M	(Unit: V)	4
2630-1			High	ALL	900 <0-1000>	M		4
2675-0	Image control	Closed-loop/ contrast voltage 1 maximum number of correction time	Y	ALL	1 <0-16>	M		4
2675-1			M	ALL	1 <0-16>	M		4
2675-2			C	ALL	1 <0-16>	M		4
2675-3			K	ALL	1 <0-16>	M		4
2764	Charger	Drum thermistor temperature display (Y)		ALL	23 <0-100>	M	(Unit: °C)	2
2780-0	Image control	Drum surface potential sensor controlling status	Sensor shutter-Y	ALL	0 <0-2>	M	Displays the controlling status of the drum surface potential sensor with a digit as follows: 0: Normally finished 1: Control paused 2: Sensor abnormality	10
2780-1			Sensor shutter-M	ALL	0 <0-2>	M		10
2780-2			Sensor shutter-C	ALL	0 <0-2>	M		10
2780-3			Sensor shutter-K	ALL	0 <0-2>	M		10

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2782-0	Image control	Drum surface potential sensor output	Y (low bias)	ALL	292 <0-1020>	M	Outputs the detection value of the drum surface potential sensor when the drum surface potential sensor shutter is opened.	10
2782-1			M (low bias)	ALL	292 <0-1020>	M		10
2782-2			C (low bias)	ALL	292 <0-1020>	M		10
2782-3			K (low bias)	ALL	292 <0-1020>	M		10
2782-5			Y (high bias)	ALL	886 <0-1020>	M		10
2782-6			M (high bias)	ALL	886 <0-1020>	M		10
2782-7			C (high bias)	ALL	886 <0-1020>	M		10
2782-8			K (high bias)	ALL	886 <0-1020>	M		10
2782-10			Y (medium bias)	ALL	490 <0-1020>	M		10
2782-11			M (medium bias)	ALL	490 <0-1020>	M		10
2782-12			C (medium bias)	ALL	490 <0-1020>	M		10
2782-13			K (medium bias)	ALL	490 <0-1020>	M		10
2787-0	Image control	Drum surface potential sensor output (Shutter closed)	Y (high bias)	ALL	0 <0-1020>	M	Outputs the detection value of the drum surface potential sensor when the drum surface potential sensor shutter is closed.	10
2787-1			M (high bias)	ALL	0 <0-1020>	M		10
2787-2			C (high bias)	ALL	0 <0-1020>	M		10
2787-3			K (high bias)	ALL	0 <0-1020>	M		10
2787-5			Y (medium bias)	ALL	0 <0-1020>	M		10
2787-6			M (medium bias)	ALL	0 <0-1020>	M		10
2787-7			C (medium bias)	ALL	0 <0-1020>	M		10
2787-8			K (medium bias)	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2788	Image control	Inspection of the sensors around the process unit		ALL	-	-	Displays the controlling status of the drum surface potential (V0) sensor and the drum surface potential (V0) sensor shutter closing in each of Y, M, C and K when [ERROR] occurs. Upper row: Drum surface potential (V0) sensor Lower row: Drum surface potential (V0) sensor shutter closing 0: Normally finished 1: Control paused 2: Sensor / shutter closing abnormality	6
2789-0	Image control	Drum surface potential sensor shutter closing controlling status	Sensor shutter-Y	ALL	0 <0-2>	M	Displays the controlling status of the drum surface potential sensor shutter closing with a digit as follows: 0: Normally finished 1: Control paused 2: Sensor abnormality	10
2789-1			Sensor shutter-M	ALL	0 <0-2>	M		10
2789-2			Sensor shutter-C	ALL	0 <0-2>	M		10
2789-3			Sensor shutter-K	ALL	0 <0-2>	M		10
2800-0	Image control	TRC control pattern detection value	Y color Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for low gradation 1, low gradation 2, low gradation 3 of each color	10
2800-1			Y color Low Gradation 2	ALL	0 <0-1020>	M		10
2800-2			Y color Low Gradation 3	ALL	0 <0-1020>	M		10
2800-3	Image control	TRC control pattern detection value	M color Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for low gradation 1, low gradation 2, low gradation 3 of each color	10
2800-4			M color Low Gradation 2	ALL	0 <0-1020>	M		10
2800-5			M color Low Gradation 3	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2800-6	Image control	TRC control pattern detection value	C color Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for low gradation 1, low gradation 2, low gradation 3 of each color	10
2800-7			C color Low Gradation 2	ALL	0 <0-1020>	M		10
2800-8			C color Low Gradation 3	ALL	0 <0-1020>	M		10
2800-9	Image control	TRC control pattern detection value	K color Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for low gradation 1, low gradation 2, low gradation 3 of each color	10
2800-10			K color Low Gradation 2	ALL	0 <0-1020>	M		10
2800-11			K color Low Gradation 3	ALL	0 <0-1020>	M		10
2801-0	Image control	TRC control pattern detection value	Y color Middle Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle low gradation 1, middle low gradation 2, and middle low gradation 3 of each color	10
2801-1			Y color Middle Low Gradation 2	ALL	0 <0-1020>	M		10
2801-2			Y color Middle Low Gradation 3	ALL	0 <0-1020>	M		10
2801-3	Image control	TRC control pattern detection value	M color Middle Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle low gradation 1, middle low gradation 2, and middle low gradation 3 of each color	10
2801-4			M color Middle Low Gradation 2	ALL	0 <0-1020>	M		10
2801-5			M color Middle Low Gradation 3	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2801-6	Image control	TRC control pattern detection value	C color Middle Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle low gradation 1, middle low gradation 2, and middle low gradation 3 of each color	10
2801-7			C color Middle Low Gradation 2	ALL	0 <0-1020>	M		10
2801-8			C color Middle Low Gradation 3	ALL	0 <0-1020>	M		10
2801-9	Image control	TRC control pattern detection value	K color Middle Low Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle low gradation 1, middle low gradation 2, and middle low gradation 3 of each color	10
2801-10			K color Middle Low Gradation 2	ALL	0 <0-1020>	M		10
2801-11			K color Middle Low Gradation 3	ALL	0 <0-1020>	M		10
2802-0	Image control	TRC control pattern detection value	Y color Middle High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle high gradation 1, middle high gradation 2, and middle high gradation 3 of each color	10
2802-1			Y color Middle High Gradation 2	ALL	0 <0-1020>	M		10
2802-2			Y color Middle High Gradation 3	ALL	0 <0-1020>	M		10
2802-3	Image control	TRC control pattern detection value	M color Middle High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle high gradation 1, middle high gradation 2, and middle high gradation 3 of each color	10
2802-4			M color Middle High Gradation 2	ALL	0 <0-1020>	M		10
2802-5			M color Middle High Gradation 3	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2802-6	Image control	TRC control pattern detection value	C color Middle High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle high gradation 1, middle high gradation 2, and middle high gradation 3 of each color	10
2802-7			C color Middle High Gradation 2	ALL	0 <0-1020>	M		10
2802-8			C color Middle High Gradation 3	ALL	0 <0-1020>	M		10
2802-9	Image control	TRC control pattern detection value	K color Middle High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for middle high gradation 1, middle high gradation 2, and middle high gradation 3 of each color	10
2802-10			K color Middle High Gradation 2	ALL	0 <0-1020>	M		10
2802-11			K color Middle High Gradation 3	ALL	0 <0-1020>	M		10
2803-0	Image control	TRC control pattern detection value	Y color High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for high gradation 1, high gradation 2, and high gradation 3 of each color	10
2803-1			Y color High Gradation 2	ALL	0 <0-1020>	M		10
2803-2			Y color High Gradation 3	ALL	0 <0-1020>	M		10
2803-3	Image control	TRC control pattern detection value	M color High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for high gradation 1, high gradation 2, and high gradation 3 of each color	10
2803-4			M color High Gradation 2	ALL	0 <0-1020>	M		10
2803-5			M color High Gradation 3	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2803-6	Image control	TRC control pattern detection value	C color High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for high gradation 1, high gradation 2, and high gradation 3 of each color	10
2803-7			C color High Gradation 2	ALL	0 <0-1020>	M		10
2803-8			C color High Gradation 3	ALL	0 <0-1020>	M		10
2803-9	Image control	TRC control pattern detection value	K color High Gradation 1	ALL	0 <0-1020>	M	TRC control pattern Detection values for high gradation 1, high gradation 2, and high gradation 3 of each color	10
2803-10			K color High Gradation 2	ALL	0 <0-1020>	M		10
2803-11			K color High Gradation 3	ALL	0 <0-1020>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2900-0	Transfer	1st transfer bias RMS value in the normal mode	Y normal speed	ALL	90 <0-255>	M	Displays the 1st transfer bias in printing. (bit value)	10
2900-1			M normal speed	ALL	90 <0-255>	M		10
2900-2			C normal speed	ALL	90 <0-255>	M		10
2900-3			K normal speed	ALL	90 <0-255>	M		10
2900-4			K(4) normal speed	ALL	90 <0-255>	M		10
2900-5			K(1) normal speed	ALL	90 <0-255>	M		10
2900-6			Y decelerating 1	ALL	56 <0-255>	M		10
2900-7			M decelerating 1	ALL	56 <0-255>	M		10
2900-8			C decelerating 1	ALL	56 <0-255>	M		10
2900-9			K decelerating 1	ALL	56 <0-255>	M		10
2900-10			K(4) decelerating 1	ALL	56 <0-255>	M		10
2900-11			K(1) decelerating 1	ALL	56 <0-255>	M		10
2900-12			K(1) High speed	ALL	108 <0-255>	M		10
2900-13			Y decelerating 2	ALL	46 <0-255>	M		10
2900-14			M decelerating 2	ALL	46 <0-255>	M		10
2900-15			C decelerating 2	ALL	46 <0-255>	M		10
2900-16			K decelerating 2	ALL	46 <0-255>	M		10
2900-17			K(4) decelerating 2	ALL	46 <0-255>	M		10
2900-18			K(1) decelerating 2	ALL	46 <0-255>	M		10

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2905-0	Transfer	1st transfer bias resistance detection offset	Y normal speed	ALL	5 <0-10>	M	Sets the offset amount of the 1st transfer bias. Offsetting level 0: 0.75 1: 0.80 2: 0.85 3: 0.90 4: 0.95 5: 1.00 6: 1.05 7: 1.10 8: 1.15 9: 1.20 10: 1.25 (Unit: Correcting factor)	4
2905-1			M normal speed	ALL	5 <0-10>	M		4
2905-2			C normal speed	ALL	5 <0-10>	M		4
2905-3			K normal speed	ALL	5 <0-10>	M		4
2905-4			K(4) normal speed	ALL	5 <0-10>	M		4
2905-5			K(1) normal speed	ALL	5 <0-10>	M		4
2905-6			Y decelerating 1	ALL	5 <0-10>	M		4
2905-7			M decelerating 1	ALL	5 <0-10>	M		4
2905-8			C decelerating 1	ALL	5 <0-10>	M		4
2905-9			K decelerating 1	ALL	5 <0-10>	M		4
2905-10			K(4) decelerating 1	ALL	5 <0-10>	M		4
2905-11			K(1) decelerating 1	ALL	5 <0-10>	M		4
2905-12			K(1) High speed	ALL	5 <0-10>	M		4
2905-13			Y decelerating 2	ALL	5 <0-10>	M		4
2905-14			M decelerating 2	ALL	5 <0-10>	M		4
2905-15			C decelerating 2	ALL	5 <0-10>	M		4
2905-16			K decelerating 2	ALL	5 <0-10>	M		4
2905-17			K(4) decelerating 2	ALL	5 <0-10>	M		4
2905-18			K(1) decelerating 2	ALL	5 <0-10>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2920-0	Transfer	1st transfer roller bias actual value display of the leading/ trailing edge of the paper	Y normal speed	ALL	79 <0-255>	M	Displays the 1st transfer roller bias (leading/trailing edge of the paper) in printing (bit value)	10
2920-1			M normal speed	ALL	79 <0-255>	M		10
2920-2			C normal speed	ALL	79 <0-255>	M		10
2920-3			K normal speed	ALL	79 <0-255>	M		10
2920-4			K(4) normal speed	ALL	79 <0-255>	M		10
2920-5			K(1) normal speed	ALL	79 <0-255>	M		10
2920-6			Y decelerating 1	ALL	50 <0-255>	M		10
2920-7			M decelerating 1	ALL	50 <0-255>	M		10
2920-8			C decelerating 1	ALL	50 <0-255>	M		10
2920-9			K decelerating 1	ALL	50 <0-255>	M		10
2920-10			K(4) decelerating 1	ALL	50 <0-255>	M		10
2920-11			K(1) decelerating 1	ALL	50 <0-255>	M		10
2920-12			K(1) High speed	ALL	95 <0-255>	M		10
2920-13			Y decelerating 2	ALL	42 <0-255>	M		10
2920-14			M decelerating 2	ALL	42 <0-255>	M		10
2920-15			C decelerating 2	ALL	42 <0-255>	M		10
2920-16			K decelerating 2	ALL	42 <0-255>	M		10
2920-17			K(4) decelerating 2	ALL	42 <0-255>	M		10
2920-18			K(1) decelerating 2	ALL	42 <0-255>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2921-0	Transfer	1st transfer roller bias correction factor of the leading/ trailing edge of the paper	Y normal speed	ALL	85 <50-100>	M	Corrects the 1st transfer leading/trailing edge bias	4
2921-1			M normal speed	ALL	85 <50-100>	M		4
2921-2			C normal speed	ALL	85 <50-100>	M		4
2921-3			K normal speed	ALL	85 <50-100>	M		4
2921-4			K(4) normal speed	ALL	85 <50-100>	M		4
2921-5			K(1) normal speed	ALL	85 <50-100>	M		4
2921-6			Y decelerating 1	ALL	85 <50-100>	M		4
2921-7			M decelerating 1	ALL	85 <50-100>	M		4
2921-8			C decelerating 1	ALL	85 <50-100>	M		4
2921-9			K decelerating 1	ALL	85 <50-100>	M		4
2921-10			K(4) decelerating 1	ALL	85 <50-100>	M		4
2921-11			K(1) decelerating 1	ALL	85 <50-100>	M		4
2921-12			K(1) High speed	ALL	85 <50-100>	M		4
2921-13			Y decelerating 2	ALL	85 <50-100>	M		4
2921-14			M decelerating 2	ALL	85 <50-100>	M		4
2921-15			C decelerating 2	ALL	85 <50-100>	M		4
2921-16			K decelerating 2	ALL	85 <50-100>	M		4
2921-17			K(4) decelerating 2	ALL	85 <50-100>	M		4
2921-18			K(1) decelerating 2	ALL	85 <50-100>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2924-0	Transfer	2nd transfer bias RMS value in the color mode (Top side)	Plain paper	ALL	168 <0-255>	M	Displays the 2nd transfer bias when printing the top side in the color mode. (bit value)	10
2924-1			Thick paper 1	ALL	168 <0-255>	M		10
2924-2			Thick paper 2	ALL	168 <0-255>	M		10
2924-3			Thick paper 3	ALL	165 <0-255>	M		10
2924-4			Overhead transparencies	ALL	165 <0-255>	M		10
2924-5			Special paper 1	ALL	168 <0-255>	M		10
2924-6			Special paper 2	ALL	168 <0-255>	M		10
2924-7			Recycled paper	ALL	161 <0-255>	M		10
2924-8			Thick paper 4	ALL	165 <0-255>	M		10
2924-9			Special mode for waterproof paper	ALL	182 <0-255>	M		10
2925-0	Transfer	2nd transfer bias RMS value in the color mode (Back side)	Plain paper	ALL	163 <0-255>	M	Displays the 2nd transfer bias when printing the back side in the color mode. (bit value)	10
2925-1			Thick paper 1	ALL	163 <0-255>	M		10
2925-2			Thick paper 2	ALL	163 <0-255>	M		10
2925-3			Thick paper 3	ALL	160 <0-255>	M		10
2925-5			Special paper 1	ALL	163 <0-255>	M		10
2925-6			Special paper 2	ALL	163 <0-255>	M		10
2925-7			Recycled paper	ALL	156 <0-255>	M		10
2925-8			Thick paper 4	ALL	160 <0-255>	M		10
2925-9			Special mode for waterproof paper	ALL	159 <0-255>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2926-0	Transfer	2nd transfer bias RMS value in the black mode (Top side)	Plain paper	ALL	168 <0-255>	M	Displays the 2nd transfer bias when printing the top side in the black mode. (bit value)	10
2926-1			Thick paper 1	ALL	168 <0-255>	M		10
2926-2			Thick paper 2	ALL	168 <0-255>	M		10
2926-3			Thick paper 3	ALL	165 <0-255>	M		10
2926-4			Overhead transparencies	ALL	165 <0-255>	M		10
2926-5			Special paper 1	ALL	168 <0-255>	M		10
2926-6			Special paper 2	ALL	168 <0-255>	M		10
2926-7			Recycled paper	ALL	161 <0-255>	M		10
2926-8			Thick paper 4	ALL	165 <0-255>	M		10
2926-9			Special mode for waterproof paper	ALL	182 <0-255>	M		10
2927-0	Transfer	2nd transfer bias RMS value in the black mode (Back side)	Plain paper	ALL	163 <0-255>	M	Displays the 2nd transfer bias when printing the back side in the black mode. (bit value)	10
2927-1			Thick paper 1	ALL	163 <0-255>	M		10
2927-2			Thick paper 2	ALL	163 <0-255>	M		10
2927-3			Thick paper 3	ALL	160 <0-255>	M		10
2927-5			Special paper 1	ALL	163 <0-255>	M		10
2927-6			Special paper 2	ALL	163 <0-255>	M		10
2927-7			Recycled paper	ALL	156 <0-255>	M		10
2927-8			Thick paper 4	ALL	160 <0-255>	M		10
2927-9			Special mode for waterproof paper	ALL	159 <0-255>	M		10

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2934-0	Transfer	Bias offset in the color mode (Top side)	Plain paper	ALL	5 <0-10>	M	Sets the bias offset amount of the 2nd transfer bias in the color mode (Top side). Offsetting level 0: 0 1: 0.2 2: 0.4 3: 0.6 4: 0.8 5: 1.0 6: 1.2 7: 1.4 8: 1.6 9: 1.8 10: 2.0	4
2934-1			Thick paper 1	ALL	5 <0-10>	M		4
2934-2			Thick paper 2	ALL	5 <0-10>	M		4
2934-3			Thick paper 3	ALL	5 <0-10>	M		4
2934-4			Overhead transparencies	ALL	5 <0-10>	M		4
2934-5			Special paper 1	ALL	5 <0-10>	M		4
2934-6			Special paper 2	ALL	5 <0-10>	M		4
2934-7			Recycled paper	ALL	5 <0-10>	M		4
2934-8			Thick paper 4	ALL	5 <0-10>	M		4
2934-9			Special mode for waterproof paper	ALL	5 <0-10>	M		4
2935-0	Transfer	Bias offset in the color mode (Back side)	Plain paper	ALL	5 <0-10>	M	Sets the bias offset amount of the 2nd transfer bias in the color mode (Back side). Offsetting level 0: 0 1: 0.2 2: 0.4 3: 0.6 4: 0.8 5: 1.0 6: 1.2 7: 1.4 8: 1.6 9: 1.8 10: 2.0	4
2935-1			Thick paper 1	ALL	5 <0-10>	M		4
2935-2			Thick paper 2	ALL	5 <0-10>	M		4
2935-3			Thick paper 3	ALL	5 <0-10>	M		4
2935-5			Special paper 1	ALL	5 <0-10>	M		4
2935-6			Special paper 2	ALL	5 <0-10>	M		4
2935-7			Recycled paper	ALL	5 <0-10>	M		4
2935-8			Thick paper 4	ALL	5 <0-10>	M		4
2935-9			Special mode for waterproof paper	ALL	5 <0-10>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2936-0	Transfer	Bias offset in the black mode (Top side)	Plain paper	ALL	5 <0-10>	M	Sets the bias offset amount of the 2nd transfer bias in the black mode (Top side). Offsetting level 0: 0 1: 0.2 2: 0.4 3: 0.6 4: 0.8 5: 1.0 6: 1.2 7: 1.4 8: 1.6 9: 1.8 10: 2.0	4
2936-1			Thick paper 1	ALL	5 <0-10>	M		4
2936-2			Thick paper 2	ALL	5 <0-10>	M		4
2936-3			Thick paper 3	ALL	5 <0-10>	M		4
2936-4			Overhead transparencies	ALL	5 <0-10>	M		4
2936-5			Special paper 1	ALL	5 <0-10>	M		4
2936-6			Special paper 2	ALL	5 <0-10>	M		4
2936-7			Recycled paper	ALL	5 <0-10>	M		4
2936-8			Thick paper 4	ALL	5 <0-10>	M		4
2936-9			Special mode for waterproof paper	ALL	5 <0-10>	M		4
2937-0	Transfer	Bias offset in the black mode (Back side)	Plain paper	ALL	5 <0-10>	M	Sets the bias offset amount of the 2nd transfer bias in the black mode (Back side). Offsetting level 0: 0 1: 0.2 2: 0.4 3: 0.6 4: 0.8 5: 1.0 6: 1.2 7: 1.4 8: 1.6 9: 1.8 10: 2.0	4
2937-1			Thick paper 1	ALL	5 <0-10>	M		4
2937-2			Thick paper 2	ALL	5 <0-10>	M		4
2937-3			Thick paper 3	ALL	5 <0-10>	M		4
2937-5			Special paper 1	ALL	5 <0-10>	M		4
2937-6			Special paper 2	ALL	5 <0-10>	M		4
2937-7			Recycled paper	ALL	5 <0-10>	M		4
2937-8			Thick paper 4	ALL	5 <0-10>	M		4
2937-9			Special mode for waterproof paper	ALL	5 <0-10>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2938-0	Transfer	2nd transfer leading/ trailing edge bias correction factor (Top side in the color mode)	Plain paper	ALL	0 <0-10>	M	Corrects the 2nd transfer leading/trailing edge bias (Top side in the color mode). Offsetting level 0: 1.00 1: 0.95 2: 0.90 3: 0.85 4: 0.80 5: 0.75 6: 0.70 7: 0.65 8: 0.60 9: 0.55 10: 0.50	4
2938-1			Thick paper 1	ALL	0 <0-10>	M		4
2938-2			Thick paper 2	ALL	0 <0-10>	M		4
2938-3			Thick paper 3	ALL	0 <0-10>	M		4
2938-4			Overhead transparencies	ALL	0 <0-10>	M		4
2938-5			Special paper 1	ALL	0 <0-10>	M		4
2938-6			Special paper 2	ALL	0 <0-10>	M		4
2938-7			Recycled paper	ALL	0 <0-10>	M		4
2938-8			Thick paper 4	ALL	0 <0-10>	M		4
2938-9			Special mode for waterproof paper	ALL	0 <0-10>	M		4
2939-0	Transfer	2nd transfer leading/ trailing edge bias correction factor (Back side in the color mode)	Plain paper	ALL	0 <0-10>	M	Corrects the 2nd transfer leading/trailing edge bias (Back side in the color mode). Offsetting level 0: 1.00 1: 0.95 2: 0.90 3: 0.85 4: 0.80 5: 0.75 6: 0.70 7: 0.65 8: 0.60 9: 0.55 10: 0.50	4
2939-1			Thick paper 1	ALL	0 <0-10>	M		4
2939-2			Thick paper 2	ALL	0 <0-10>	M		4
2939-3			Thick paper 3	ALL	0 <0-10>	M		4
2939-5			Special paper 1	ALL	0 <0-10>	M		4
2939-6			Special paper 2	ALL	0 <0-10>	M		4
2939-7			Recycled paper	ALL	0 <0-10>	M		4
2939-8			Thick paper 4	ALL	0 <0-10>	M		4
2939-9			Special mode for waterproof paper	ALL	0 <0-10>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2940-0	Transfer	2nd transfer leading/ trailing edge bias correction factor (Top side in the black mode)	Plain paper	ALL	0 <0-10>	M	Corrects the 2nd transfer leading/trailing edge bias (Top side in the black mode). Offsetting level 0: 1.00 1: 0.95 2: 0.90 3: 0.85 4: 0.80 5: 0.75 6: 0.70 7: 0.65 8: 0.60 9: 0.55 10: 0.50	4
2940-1			Thick paper 1	ALL	0 <0-10>	M		4
2940-2			Thick paper 2	ALL	0 <0-10>	M		4
2940-3			Thick paper 3	ALL	0 <0-10>	M		4
2940-4			Overhead transparencies	ALL	0 <0-10>	M		4
2940-5			Special paper 1	ALL	0 <0-10>	M		4
2940-6			Special paper 2	ALL	0 <0-10>	M		4
2940-7			Recycled paper	ALL	0 <0-10>	M		4
2940-8			Thick paper 4	ALL	0 <0-10>	M		4
2940-9			Special mode for waterproof paper	ALL	0 <0-10>	M		4
2941-0	Transfer	2nd transfer leading/ trailing edge bias correction factor (Back side in the black mode)	Plain paper	ALL	0 <0-10>	M	Corrects the 2nd transfer leading/trailing edge bias (Back side in the black mode). Offsetting level 0: 1.00 1: 0.95 2: 0.90 3: 0.85 4: 0.80 5: 0.75 6: 0.70 7: 0.65 8: 0.60 9: 0.55 10: 0.50	4
2941-1			Thick paper 1	ALL	0 <0-10>	M		4
2941-2			Thick paper 2	ALL	0 <0-10>	M		4
2941-3			Thick paper 3	ALL	0 <0-10>	M		4
2941-5			Special paper 1	ALL	0 <0-10>	M		4
2941-6			Special paper 2	ALL	0 <0-10>	M		4
2941-7			Recycled paper	ALL	0 <0-10>	M		4
2941-8			Thick paper 4	ALL	0 <0-10>	M		4
2941-9			Special mode for waterproof paper	ALL	0 <0-10>	M		4
2962-0	Transfer	Number of time of cleaning at jam recovery / bypass non-standard printing / tab paper printing.	Normal speed / High speed	ALL	0 <0-7>	M	0: Disabled 1: once 2: twice 3: 3times 4: 5times 5: 7times 6: 10times 7: 12times	4
2962-1			Decelerating 1 / Decelerating 2	ALL	0 <0-7>	M		4
2981-0	Transfer	1st transfer bias constant-current transformer calibration value (K only)	Low	ALL	5 <0-99>	M	(Unit: µA)	4
2981-1			High	ALL	50 <0-99>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2983-0	Transfer	2nd transfer bias constant-current transformer calibration value	Low	ALL	-50 <-60-0>	M	(Unit: µA)	4
2983-1			High	ALL	-5 <-60-0>	M		4
2984-0	Transfer	2nd transfer bias constant-voltage transformer calibration value	Low	ALL	-7500 <-8000-2000>	M	(Unit: V)	4
2984-1			High	ALL	1500 <-8000-2000>	M		4
2985-0	Transfer	1st transfer bias constant-voltage calibration value (Y)	Low	ALL	400 <300-8000>	M	(Unit: V)	4
2985-1			High	ALL	7500 <300-8000>	M		4
2986-0	Transfer	1st transfer bias constant-voltage calibration value (M)	Low	ALL	400 <300-8000>	M	(Unit: V)	4
2986-1			High	ALL	7500 <300-8000>	M		4
2987-0	Transfer	1st transfer bias constant-voltage calibration value (C)	Low	ALL	400 <300-8000>	M	(Unit: V)	4
2987-1			High	ALL	7500 <300-8000>	M		4
2988-0	Transfer	1st transfer bias constant-voltage calibration value (K)	Low	ALL	400 <300-8000>	M	(Unit: V)	4
2988-1			High	ALL	7500 <300-8000>	M		4
2991-0	Transfer	1st transfer bias constant-current transformer calibration value (Y only)	Low	ALL	5 <0-99>	M	(Unit: µA)	4
2991-1			High	ALL	50 <0-99>	M		4
2992-0	Transfer	1st transfer bias constant-current transformer calibration value (M only)	Low	ALL	5 <0-99>	M	(Unit: µA)	4
2992-1			High	ALL	50 <0-99>	M		4
2993-0	Transfer	1st transfer bias constant-current transformer calibration value (C only)	Low	ALL	5 <0-99>	M	(Unit: µA)	4
2993-1			High	ALL	50 <0-99>	M		4

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23.5 Image Processing

Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
503	Image	Density adjustment Manual adjustment / Center value	Text/Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image at the center value becomes.	1
504			Text	PPC (black)	128 <0-255>	SYS		1
505	Image	Density adjustment Manual adjustment / Light step value	Text/Photo	PPC (black)	20 <0-255>	SYS	The larger the value is, the lighter the image of the “light” step becomes.	1
507			Text	PPC (black)	20 <0-255>	SYS		1
508	Image	Density adjustment Manual adjustment / Dark step value	Text/Photo	PPC (black)	20 <0-255>	SYS	The larger the value is, the darker the image of the “dark” step becomes.	1
510			Text	PPC (black)	20 <0-255>	SYS		1
514	Image	Density adjustment Automatic adjustment	Text/Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image becomes.	1
515			Text	PPC (black)	128 <0-255>	SYS		1
580	Image	Automatic gamma adjustment (Black)	All media types	PPC (black)	-	-	• When color deviation is found in gradation reproduction, the gradation reproduction of color K can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied to all media types.	Image
590-0	Image	Gamma balance adjustment (Text / Photo)	Low density	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the area surrounding the target area becomes.	Image
590-1			Medium density	PPC (black)	128 <0-255>	SYS		
590-2			High density	PPC (black)	128 <0-255>	SYS		
591-0	Image	Gamma balance adjustment (Text)	Low density	PPC (black)	128 <0-255>	SYS		Image
591-1			Medium density	PPC (black)	128 <0-255>	SYS		
591-2			High density	PPC (black)	128 <0-255>	SYS		
592-0	Image	Gamma balance adjustment (Photo)	Low density	PPC (black)	128 <0-255>	SYS		Image
592-1			Medium density	PPC (black)	128 <0-255>	SYS		
592-2			High density	PPC (black)	128 <0-255>	SYS		

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
604	Image	Sharpness adjustment (Black)	Text/Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
605			Text	PPC (black)	128 <0-255>	SYS		1
606			Photo	PPC (black)	128 <0-255>	SYS		1
648	Image	Smudged/ faint text adjustment	Text/Photo	PPC (black)	2 <0-4>	SYS	0: Faint text is suppressed most. 4: Smudged text is suppressed most.	1
649			Text	PPC (black)	2 <0-4>	SYS		1
654	Image	Smudged/ faint text adjustment (1200dpi)	PS	PRT (black)	5 <0-9>	SYS	The larger the value is, the lighter the small letters or fine lines become and the less smudged text appears.	1
664-0	Image	Upper limit value in toner saving mode (Black / 600 dpi)	PS	PRT (black)	176 <0-255>	SYS	The smaller the value is, the lighter the printed image becomes.	4
664-1			PCL	PRT (black)	176 <0-255>	SYS		4
664-2			XPS	PRT (black)	176 <0-255>	SYS		4
667-0	Image	Setting beam level conversion	Beam level 0/4	PPC (black)	0 <0-255>	SYS	The smaller the value is, the narrower the beam width becomes and the smaller the dots are reproduced.	4
667-1			Beam level 1/4	PPC (black)	63 <0-255>	SYS		4
667-2			Beam level 2/4	PPC (black)	127 <0-255>	SYS		4
667-3			Beam level 3/4	PPC (black)	191 <0-255>	SYS		4
667-4			Beam level 4/4	PPC (black)	255 <0-255>	SYS		4
672-0	Image	Setting beam level conversion	Beam level 0/4	PRT (black)	0 <0-255>	SYS	The smaller the value is, the narrower the beam width becomes and the smaller the dots are reproduced.	4
672-1			Beam level 1/4	PRT (black)	63 <0-255>	SYS		4
672-2			Beam level 2/4	PRT (black)	127 <0-255>	SYS		4
672-3			Beam level 3/4	PRT (black)	191 <0-255>	SYS		4
672-4			Beam level 4/4	PRT (black)	255 <0-255>	SYS		4
678-0	Image	Setting beam level conversion (FAX)	Beam level 0/4	FAX (black)	0 <0-255>	SYS	The smaller the value is, the narrower the beam width becomes and the smaller the dots are reproduced.	4
678-1			Beam level 1/4	FAX (black)	63 <0-255>	SYS		4
678-2			Beam level 2/4	FAX (black)	127 <0-255>	SYS		4
678-3			Beam level 3/4	FAX (black)	191 <0-255>	SYS		4
678-4			Beam level 4/4	FAX (black)	255 <0-255>	SYS		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
700	Image	Density adjustment Manual adjustment / Center value	Text	FAX (black)	128 <0-255>	SYS	The larger the value is, the lighter the image at the center value becomes.	1
710	Image		Photo	FAX (black)	128 <0-255>	SYS	The larger the value is, the darker the image at the center value becomes.	1
714			Text/Photo	FAX (black)	128 <0-255>	SYS		1
725	Image	Density adjustment Automatic adjustment	Photo	FAX (black)	128 <0-255>	SYS	The larger the value is, the darker the image becomes.	1
729			Text/Photo	FAX (black)	128 <0-255>	SYS		1
840	Image	Sharpness adjustment (Black)	Text/Photo	SCN (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
841			Text	SCN (black)	128 <0-255>	SYS		1
842			Photo	SCN (black)	128 <0-255>	SYS		1
843			Image smoothing	SCN (black)	128 <0-255>	SYS		1
845	Image	Density adjustment Manual adjustment / Center value	Text/Photo	SCN (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the center value becomes.	1
846			Text	SCN (black)	128 <0-255>	SYS		1
847			Photo	SCN (black)	128 <0-255>	SYS		1
848			Image smoothing	SCN (black)	128 <0-255>	SYS		1
860	Image	Density adjustment “automatic density” fine adjustment	Text/Photo	SCN (black)	128 <0-255>	SYS	When the value increases, the image becomes darker.	1
861			Text	SCN (black)	64 <0-255>	SYS		1
862			Photo	SCN (black)	128 <0-255>	SYS		1
863			Gray scale	SCN (black)	128 <0-255>	SYS		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
880-0	Image	Gamma balance adjustment (Text/Photo)	Low density	SCN (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the area surrounding the target area becomes.	4
880-1			Medium density	SCN (black)	128 <0-255>	SYS		4
880-2			High density	SCN (black)	128 <0-255>	SYS		4
881-0	Image	Gamma balance adjustment (Text)	Low density	SCN (black)	128 <0-255>	SYS		4
881-1			Medium density	SCN (black)	128 <0-255>	SYS		4
881-2			High density	SCN (black)	128 <0-255>	SYS		4
882-0	Image	Gamma balance adjustment (Photo)	Low density	SCN (black)	128 <0-255>	SYS		4
882-1			Medium density	SCN (black)	128 <0-255>	SYS		4
882-2			High density	SCN (black)	128 <0-255>	SYS		4
883-0	Image	Gamma balance adjustment (Image smoothing)	Low density	SCN (black)	128 <0-255>	SYS		4
883-1			Medium density	SCN (black)	128 <0-255>	SYS		4
883-2			High density	SCN (black)	128 <0-255>	SYS		4
922	Image	Sharpness adjustment (Black)	User custom	PPC (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
925	Image	Smudged/ faint text adjustment	User custom	PPC (black)	2 <0-4>	SYS	0: Faint text is suppressed most. 4: Smudged text is suppressed most.	1
931	Image	Density adjustment Manual adjustment/ Center value	User custom	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the center value becomes.	1
934	Image	Density adjustment Manual adjustment/ Light step value	User custom	PPC (black)	20 <0-255>	SYS	The larger the value is, the lighter the image of the “light” step becomes.	1
937	Image	Density adjustment Manual adjustment/ Dark step value	User custom	PPC (black)	20 <0-255>	SYS	The larger the value is, the darker the image of the “dark” step becomes.	1
940	Image	Density adjustment Automatic adjustment	User custom	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image becomes.	1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
949-0	Image	Gamma balance adjustment (User custom)	Low density	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the target area becomes.	4
949-1			Medium density	PPC (black)	128 <0-255>	SYS		4
949-2			High density	PPC (black)	128 <0-255>	SYS		4
1004-0	Image	Automatic gamma adjustment (600dpi)	Plain paper 1	PRT (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied for each media type.	7
1004-1			Plain paper 2	PRT (color)	-	SYS		7
1004-2			Recycled paper	PRT (color)	-	SYS		7
1004-3			Thick paper 1	PRT (color)	-	SYS		7
1004-4			Thick paper 2	PRT (color)	-	SYS		7
1004-5			Thick paper 3	PRT (color)	-	SYS		7
1004-6			Thick paper 4	PRT (color)	-	SYS		7
1004-7			Special paper 1	PRT (color)	-	SYS		7
1004-8			Special paper 2	PRT (color)	-	SYS		7
1005-0	Image	Automatic gamma adjustment (1200dpi)	Plain paper 1	PRT (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied for each media type.	7
1005-1			Plain paper 2	PRT (color)	-	SYS		7
1005-2			Recycled paper	PRT (color)	-	SYS		7
1005-3			Thick paper 1	PRT (color)	-	SYS		7
1005-4			Thick paper 2	PRT (color)	-	SYS		7
1005-5			Thick paper 3	PRT (color)	-	SYS		7
1005-6			Thick paper 4	PRT (color)	-	SYS		7
1005-7			Special paper 1	PRT (color)	-	SYS		7
1005-8			Special paper 2	PRT (color)	-	SYS		7
1008	Image	Automatic gamma adjustment (600dpi)	All media types	PRT (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied to all media types.	7

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1009	Image	Automatic gamma adjustment (1200dpi)	All media types	PRT (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied to all media types.	7
1050	Image	Maximum toner density adjustment to OHP film (600 dpi)		PRT (color)	200 <0-255>	SYS	The larger the value is, the darker the image becomes. The smaller the value is, the lighter the image becomes. * Image offset may occur if the value is too large.	1
1055-0	Image	Upper limit value in toner saving mode (Color / 600 dpi)	PS	PRT (color)	176 <0-255>	SYS	The smaller the value is, the lighter the printed image becomes.	4
1055-1			PCL	PRT (color)	176 <0-255>	SYS		4
1055-2			XPS	PRT (color)	176 <0-255>	SYS		4
1070	Image	Background adjustment	Text	SCN (color)	50 <0-50>	SYS	The smaller the value is, the lighter the background becomes.	1
1071			Printed image	SCN (color)	50 <0-50>	SYS		1
1072			Photo	SCN (color)	50 <0-50>	SYS		1
1075	Image	Fine adjustment of black density	Text	SCN (color)	0 <0-4>	SYS	The larger the value is, the darker the black side of the image becomes.	1
1076			Printed image	SCN (color)	0 <0-4>	SYS		1
1077			Photo	SCN (color)	0 <0-4>	SYS		1
1080	Image	RGB conversion method selection	Text	SCN (color)	0 <0-3>	SYS	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1
1081			Printed image	SCN (color)	0 <0-3>	SYS		1
1082			Photo	SCN (color)	0 <0-3>	SYS		1
1086	Image	Sharpness adjustment (Full color)	Text	SCN (color)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
1087			Printed image	SCN (color)	128 <0-255>	SYS		1
1088			Photo	SCN (color)	128 <0-255>	SYS		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1585	Image	Density adjustment Automatic/ Manual adjustment/ Center value	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the darker the image becomes.	1
1586			Text	PPC (color)	128 <0-255>	SYS		1
1587			Printed image	PPC (color)	128 <0-255>	SYS		1
1588			Photo	PPC (color)	128 <0-255>	SYS		1
1589			Map	PPC (color)	128 <0-255>	SYS		1
1612	Image	Maximum toner density adjustment to paper type	Plain paper 1	PPC (color)	255 <0-255>	SYS	The smaller the value is, the less toner is adhered to the high-density section of the image.	1
1613			Thick paper 1	PPC (color)	255 <0-255>	SYS		1
1614			Thick paper 2	PPC (color)	255 <0-255>	SYS		1
1615			Thick paper 3	PPC (color)	255 <0-255>	SYS		1
1616			OHP film	PPC (color)	240 <0-255>	SYS		1
1617			Special paper 1	PPC (color)	255 <0-255>	SYS		1
1618			Special paper 2	PPC (color)	255 <0-255>	SYS		1
1619			Recycled paper	PPC (color)	255 <0-255>	SYS		1
1620			Thick paper 4	PPC (color)	255 <0-255>	SYS		1
1630	Image	Maximum text density adjustment	Y	PPC (color)	5 <0-10>	SYS	The larger the value is, the darker the text becomes.	1
1631			M	PPC (color)	5 <0-10>	SYS		1
1632			C	PPC (color)	5 <0-10>	SYS		1
1633			K	PPC (color)	5 <0-10>	SYS		1
1642	Image	Automatic gamma adjustment (Color / Black)	All media types	PPC (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied to all media types.	7

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1644-0	Image	Automatic gamma adjustment (Color / Black)	Plain paper 1	PPC (color)	-	SYS	• When color deviation is found in gradation reproduction, the gradation reproduction of 4 colors can be corrected with the automatic gamma adjustment. • The result of the correction above will be applied for each media type.	7
1644-1			Plain paper 2	PPC (color)	-	SYS		7
1644-2			Recycled paper	PPC (color)	-	SYS		7
1644-3			Thick paper 1	PPC (color)	-	SYS		7
1644-4			Thick paper 2	PPC (color)	-	SYS		7
1644-5			Thick paper 3	PPC (color)	-	SYS		7
1644-6			Thick paper 4	PPC (color)	-	SYS		7
1644-7			Special paper 1	PPC (color)	-	SYS		7
1644-8			Special paper 2	PPC (color)	-	SYS		7
1675	Image	ACS judgment threshold		PPC/ SCN	70 <0-255>	SYS	The larger the value is, the more an original tends to be judged as black even in the auto color mode. The smaller value is, the more it tends to be judged as color.	1
1688	Image	Background adjustment (Full color / Automatic density adjustment)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
1689			Text	PPC (color)	128 <0-255>	SYS		1
1690			Printed image	PPC (color)	128 <0-255>	SYS		1
1691			Photo	PPC (color)	128 <0-255>	SYS		1
1692			Map	PPC (color)	128 <0-255>	SYS		1
1698	Image	Background adjustment (Full color / Manual density adjustment)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
1699			Text	PPC (color)	128 <0-255>	SYS		1
1700			Printed image	PPC (color)	128 <0-255>	SYS		1
1701			Photo	PPC (color)	128 <0-255>	SYS		1
1702			Map	PPC (color)	128 <0-255>	SYS		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1725	Image	Text/Photo reproduction level adjustment (Text/Photo reproduction)	Text/Photo	PPC (color)	0 <0-5>	SYS	0: Default 1: Photo-oriented 2 (The reproduction level of printed image is higher than that of the Photo-oriented 1) 2: Photo-oriented 1 (The reproduction level of printed image is higher than that of the default setting) 3: Equivalent to the default setting 4: Text-oriented 1 (The reproduction level of text is higher than that of the default setting) 5: Text-oriented 2 (The reproduction level of text is higher than that of text-oriented 1)	1
1737	Image	Sharpness adjustment (Full color)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
1738			Text	PPC (color)	128 <0-255>	SYS		1
1739			Printed image	PPC (color)	128 <0-255>	SYS		1
1740			Photo	PPC (color)	128 <0-255>	SYS		1
1741			Map	PPC (color)	128 <0-255>	SYS		1
1757	Image	Sharpness adjustment (Auto color)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
1761	Image	Black reproduction level switchover in twin color copy mode		PPC (color)	0 <0-1>	SYS	0: Default 1: Black reproduction level is higher	1
1769-0	Image	Marker color adjustment	Yellow	PPC (color)	3 <0-6>	SYS	The color of the one-touch adjustment “Marker” can be adjusted. Ch.8.6.10	4
1769-1			Magenta	PPC (color)	3 <0-6>	SYS		4
1769-2			Cyan	PPC (color)	3 <0-6>	SYS		4
1769-3			Red	PPC (color)	3 <0-6>	SYS		4
1769-4			Green	PPC (color)	3 <0-6>	SYS		4
1769-5			Blue	PPC (color)	3 <0-6>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1779-0	Image	Color balance adjustment for “Y” (Text/ Photo)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L: Low density area M: Medium density area H: High density area	4
1779-1			M	PPC (color)	128 <0-255>	SYS		4
1779-2			H	PPC (color)	128 <0-255>	SYS		4
1780-0	Image	Color balance adjustment for “Y” (Text)	L	PPC (color)	128 <0-255>	SYS		4
1780-1			M	PPC (color)	128 <0-255>	SYS		4
1780-2			H	PPC (color)	128 <0-255>	SYS		4
1781-0	Image	Color balance adjustment for “Y” (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1781-1			M	PPC (color)	128 <0-255>	SYS		4
1781-2			H	PPC (color)	128 <0-255>	SYS		4
1782-0	Image	Color balance adjustment for “Y” (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1782-1			M	PPC (color)	128 <0-255>	SYS		4
1782-2			H	PPC (color)	128 <0-255>	SYS		4
1783-0	Image	Color balance adjustment for “Y” (Map)	L	PPC (color)	128 <0-255>	SYS		4
1783-1			M	PPC (color)	128 <0-255>	SYS		4
1783-2			H	PPC (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1784-0	Image	Color balance adjustment for “M” (Text/ Photo)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L: Low density area M: Medium density area H: High density area	4
1784-1			M	PPC (color)	128 <0-255>	SYS		4
1784-2			H	PPC (color)	128 <0-255>	SYS		4
1785-0	Image	Color balance adjustment for “M” (Text)	L	PPC (color)	128 <0-255>	SYS		4
1785-1			M	PPC (color)	128 <0-255>	SYS		4
1785-2			H	PPC (color)	128 <0-255>	SYS		4
1786-0	Image	Color balance adjustment for “M” (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1786-1			M	PPC (color)	128 <0-255>	SYS		4
1786-2			H	PPC (color)	128 <0-255>	SYS		4
1787-0	Image	Color balance adjustment for “M” (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1787-1			M	PPC (color)	128 <0-255>	SYS		4
1787-2			H	PPC (color)	128 <0-255>	SYS		4
1788-0	Image	Color balance adjustment for “M” (Map)	L	PPC (color)	128 <0-255>	SYS		4
1788-1			M	PPC (color)	128 <0-255>	SYS		4
1788-2			H	PPC (color)	128 <0-255>	SYS		4
1789-0	Image	Color balance adjustment for “C” (Text/ Photo)	L	PPC (color)	128 <0-255>	SYS		4
1789-1			M	PPC (color)	128 <0-255>	SYS		4
1789-2			H	PPC (color)	128 <0-255>	SYS		4
1790-0	Image	Color balance adjustment for “C” (Text)	L	PPC (color)	128 <0-255>	SYS		4
1790-1			M	PPC (color)	128 <0-255>	SYS		4
1790-2			H	PPC (color)	128 <0-255>	SYS		4
1791-0	Image	Color balance adjustment for “C” (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1791-1			M	PPC (color)	128 <0-255>	SYS		4
1791-2			H	PPC (color)	128 <0-255>	SYS		4
1792-0	Image	Color balance adjustment for “C” (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1792-1			M	PPC (color)	128 <0-255>	SYS		4
1792-2			H	PPC (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1793-0	Image	Color balance adjustment for "C" (Map)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L: Low density area M: Medium density area H: High density area	4
1793-1			M	PPC (color)	128 <0-255>	SYS		4
1793-2			H	PPC (color)	128 <0-255>	SYS		4
1794-0	Image	Color balance adjustment for "K" (Text/ Photo)	L	PPC (color)	128 <0-255>	SYS		4
1794-1			M	PPC (color)	128 <0-255>	SYS		4
1794-2			H	PPC (color)	128 <0-255>	SYS		4
1795-0	Image	Color balance adjustment for "K" (Text)	L	PPC (color)	128 <0-255>	SYS		4
1795-1			M	PPC (color)	128 <0-255>	SYS		4
1795-2			H	PPC (color)	128 <0-255>	SYS		4
1796-0	Image	Color balance adjustment for "K" (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1796-1			M	PPC (color)	128 <0-255>	SYS		4
1796-2			H	PPC (color)	128 <0-255>	SYS		4
1797-0	Image	Color balance adjustment for "K" (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1797-1			M	PPC (color)	128 <0-255>	SYS		4
1797-2			H	PPC (color)	128 <0-255>	SYS		4
1798-0	Image	Color balance adjustment for "K" (Map)	L	PPC (color)	128 <0-255>	SYS		4
1798-1			M	PPC (color)	128 <0-255>	SYS		4
1798-2			H	PPC (color)	128 <0-255>	SYS		4
7025	Image	Background offset adjustment for ADF	Text/Photo Text User custom mode	PPC (black)	128 <0-255>	SYS	The larger the adjustment value is, the lighter the background becomes. The smaller the adjustment value is, the darker the background becomes.	1
7033	Image	Background adjustment (Black / Automatic density adjustment)	Text/Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7034	Image		Text	PPC (black)	128 <0-255>	SYS		1
7041	Image	Background adjustment (Black / Manual density adjustment)	Text/Photo	PPC (black)	128 <0-255>	SYS		1
7042	Image		Text	PPC (black)	128 <0-255>	SYS		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7043	Image	Background adjustment (Black / Automatic density adjustment)	Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7044	Image		Image smoothing	PPC (black)	128 <0-255>	SYS		1
7048	Image	Background adjustment (Black / Manual density adjustment)	Photo	PPC (black)	128 <0-255>	SYS		1
7049	Image		Image smoothing	PPC (black)	128 <0-255>	SYS		1
7102	Image	Smudged/ faint text adjustment (Auto color & black)	Text/Photo	PPC (black)	2 <0-4>	SYS	0: Faint text is suppressed most. 4: Smudged text is suppressed most.	1
7103	Image		Text	PPC (black)	2 <0-4>	SYS		1
7236	Image	Range correction adjustment (Black / Automatic density adjustment)	User custom	PPC (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7237	Image	Range correction adjustment (Black / Manual density adjustment)	User custom	PPC (black)	1 <0-1>	SYS		1
7279	Image	Background adjustment (Black / Automatic density adjustment)	User custom	PPC (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7280	Image	Background adjustment (Black / Manual density adjustment)	User custom	PPC (black)	128 <0-255>	SYS		1
7283	Image	Range correction adjustment (Black / Automatic density adjustment)	Text/Photo	PPC (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7284	Image		Text	PPC (black)	1 <0-1>	SYS		1
7286	Image	Range correction adjustment (Black / Manual density adjustment)	Text/Photo	PPC (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7287	Image		Text	PPC (black)	1 <0-1>	SYS		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7295	Image	Range correction adjustment (Automatic density adjustment)	Image smoothing	PPC (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7296	Image	Range correction adjustment (Manual density adjustment)	Image smoothing	PPC (black)	0 <0-1>	SYS		1
7302-0	Image	Upper limit value in toner saving mode (black / 1200 dpi)	PS	PRT (black)	176 <0-255>	SYS	The smaller the value is, the lighter the printed image becomes.	4
7302-1			PCL	PRT (black)	176 <0-255>	SYS		4
7302-2			XPS	PRT (black)	176 <0-255>	SYS		4
7309-0	Image	Gamma balance adjustment (PS / Smooth / 1200 dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7309-1			M	PRT (black)	128 <0-255>	SYS		4
7309-2			H	PRT (black)	128 <0-255>	SYS		4
7310-0	Image	Gamma balance adjustment (PS / Detail / 1200 dpi)	L	PRT (black)	128 <0-255>	SYS		4
7310-1			M	PRT (black)	128 <0-255>	SYS		4
7310-2			H	PRT (black)	128 <0-255>	SYS		4
7315-0	Image	Gamma balance adjustment (PS / Smooth / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7315-1			M	PRT (black)	128 <0-255>	SYS		4
7315-2			H	PRT (black)	128 <0-255>	SYS		4
7316-0	Image	Gamma balance adjustment (PS / Detail / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7316-1			M	PRT (black)	128 <0-255>	SYS		4
7316-2			H	PRT (black)	128 <0-255>	SYS		4
7317-0	Image	Gamma balance adjustment (PCL / Smooth / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7317-1			M	PRT (black)	128 <0-255>	SYS		4
7317-2			H	PRT (black)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7318-0	Image	Gamma balance adjustment (PCL / Detail / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7318-1			M	PRT (black)	128 <0-255>	SYS		4
7318-2			H	PRT (black)	128 <0-255>	SYS		4
7319-0	Image	Gamma balance adjustment (XPS / Smooth / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7319-1			M	PRT (black)	128 <0-255>	SYS		4
7319-2			H	PRT (black)	128 <0-255>	SYS		4
7320-0	Image	Gamma balance adjustment (XPS / Detail / 600dpi)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L: Low density area M: Medium density area H: High density area	4
7320-1			M	PRT (black)	128 <0-255>	SYS		4
7320-2			H	PRT (black)	128 <0-255>	SYS		4
7322-0	Image	Fine line enhancement switchover (e-BRIDGE)	PS	PRT (black)	1 <0-1>	SYS	0: OFF 1: ON	4
7322-1			PCL	PRT (black)	1 <0-1>	SYS		4
7322-2			XPS	PRT (black)	1 <0-1>	SYS		4
7323-0 (EFI)	Image	Fine line enhancement switchover (EFI)	PS	PRT (black)	1 <0-1>	SYS	0: OFF 1: ON	4
7323-1 (EFI)			PCL	PRT (black)	1 <0-1>	SYS		4
7323-2 (EFI)			XPS	PRT (black)	1 <0-1>	SYS		4
7340	Image	Smudged/ faint text adjustment	PS	PRT (black)	0 <0-8>	SYS	The larger the value is, the darker the small text and fine lines become and the more faint text is suppressed.	1
7341			PCL	PRT (black)	0 <0-8>	SYS		1
7342			XPS	PRT (black)	0 <0-8>	SYS		1
7380-0	Image	Monocolor network printer target gamma switchover	PS	PRT (black)	0 <0-1>	SYS	0: Darker 1: Lighter When “1” is set, the whole graphics area is reproduced with a lighter tone and more shading.	4
7380-1			PCL	PRT (black)	0 <0-1>	SYS		4
7380-2			XPS	PRT (black)	0 <0-1>	SYS		4
7416	Image	Range correction adjustment (Black / Automatic density adjustment)	Text/Photo	SCN (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7417			Text	SCN (black)	1 <0-1>	SYS		1
7418			Photo	SCN (black)	1 <0-1>	SYS		1
7419			Image smoothing	SCN (black)	1 <0-1>	SYS		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7421	Image	Range correction adjustment (Black / Manual density adjustment)	Text/Photo	SCN (black)	0 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7422			Text	SCN (black)	0 <0-1>	SYS		1
7423			Photo	SCN (black)	0 <0-1>	SYS		1
7424			Image smoothing	SCN (black)	0 <0-1>	SYS		1
7425	Image	Range correction adjustment (Black / Automatic density adjustment)	User custom	SCN (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7426	Image	Range correction adjustment (Black / Manual density adjustment)	User custom	SCN (black)	0 <0-1>	SYS		1
7468	Image	Background offset adjustment for ADF		SCN (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7470	Image	Sharpness adjustment (Black)	User custom	SCN (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
7475	Image	Density adjustment Manual density adjustment / Center value	User custom	SCN (black)	128 <0-255>	SYS	The larger the value is, the darker the image at the center value becomes.	1
7478	Image	Density adjustment Automatic density adjustment	User custom	SCN (black)	128 <0-255>	SYS	The larger the value is, the darker the image becomes.	1
7480-0	Image	Gamma balance adjustment (User custom)	L	SCN (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the area surrounding the target area becomes. L: Low density area M: Medium density area H: High density area	4
7480-1			M	SCN (black)	128 <0-255>	SYS		4
7480-2			H	SCN (black)	128 <0-255>	SYS		4
7489	Image	Amount of surrounding void (network scanning)		SCN	0 <0-255>	SYS	When the value increases, the blank area around the scanned image becomes wider. (e.g.: In network scanning with 600 dpi, if the setting value is "1", the blank area increases by 1 dot.)	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7618	Image	Blank page judgment threshold adjustment		PPC/ SCN	128 <0-255>	SYS	The larger the value is, the more the original tends to be judged as a blank page.	1
7641-0	Image	Black area adjustment in twin color copy mode (Selected 2 colors)	H	PPC (color)	128 <0-255>	SYS	The larger the value is, the larger the area recognized as black in the original becomes. The smaller the value is, the larger the area recognized as colors other than black becomes. L: Low density area M: Medium density area H: High density area	4
7641-1			M	PPC (color)	128 <0-255>	SYS		4
7641-2			L	PPC (color)	128 <0-255>	SYS		4
7642-0	Image	Black area adjustment in twin color copy mode (Black and red)	H	PPC (color)	128 <0-255>	SYS	The larger the value is, the larger the area recognized as red in the original becomes. The smaller the value is, the larger the area recognized as colors other than red becomes. L: Low density area M: Medium density area H: High density area	4
7642-1			M	PPC (color)	128 <0-255>	SYS		4
7642-2			L	PPC (color)	128 <0-255>	SYS		4
7667	Image	Range correction adjustment (Auto color & black / Automatic density adjustment)	Text/Photo	PPC (black)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7668	Image		Text	PPC (black)	1 <0-1>	SYS		1
7669	Image	Range correction adjustment (Auto color & black / Manual density adjustment)	Text/Photo	PPC (black)	1 <0-1>	SYS		1
7670	Image		Text	PPC (black)	1 <0-1>	SYS		1
7675	Image	Background offset adjustment for ADF	Auto color & black	PPC (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7676	Image	Background adjustment (Auto color & black / Automatic density adjustment)	Text/Photo	PPC (black)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7677	Image		Text	PPC (black)	128 <0-255>	SYS		1
7678	Image	Background adjustment (Auto color & black / Manual density adjustment)	Text/Photo	PPC (black)	128 <0-255>	SYS		1
7679	Image		Text	PPC (black)	128 <0-255>	SYS		1
7754	Image	Background adjustment (Monocolor / Automatic density adjustment)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7755			Text	PPC (color)	128 <0-255>	SYS		1
7756			Printed image	PPC (color)	128 <0-255>	SYS		1
7757			Photo	PPC (color)	128 <0-255>	SYS		1
7758			Map	PPC (color)	128 <0-255>	SYS		1
7759	Image	Background adjustment (Twin color / Manual density adjustment)	Text/Photo	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7760			Text	PPC (color)	128 <0-255>	SYS		1
7761			Printed image	PPC (color)	128 <0-255>	SYS		1
7762	Image	Background adjustment (Monocolor / Automatic density adjustment)	User custom	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7763	Image	Background adjustment (Monocolor / Manual density adjustment)	User custom	PPC (color)	128 <0-255>	SYS		1
7764	Image	Background offset adjustment for ADF	Full color	PPC (color)	128 <0-255>	SYS	The larger the value is, the lighter the background becomes.	1
7765	Image		Mono color	PPC (color)	128 <0-255>	SYS		1
7766	Image		Twin color	PPC (color)	128 <0-255>	SYS		1
7767	Image	Range correction adjustment (Full color / Automatic adjustment)	Text/Photo	PPC (color)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7768	Image		Text	PPC (color)	1 <0-1>	SYS		1
7769	Image		Printed image	PPC (color)	1 <0-1>	SYS		1
7770	Image		Photo	PPC (color)	1 <0-1>	SYS		1
7771	Image		Map	PPC (color)	1 <0-1>	SYS		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
7772	Image	Range correction adjustment (Full color / Manual adjustment)	Text/Photo	PPC (color)	0 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7773	Image		Text	PPC (color)	0 <0-1>	SYS		1
7774	Image		Printed image	PPC (color)	0 <0-1>	SYS		1
7775	Image		Photo	PPC (color)	0 <0-1>	SYS		1
7776	Image		Map	PPC (color)	0 <0-1>	SYS		1
7777	Image	Range correction adjustment (Full color / Automatic adjustment)	User custom	PPC (color)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
7778	Image	Range correction adjustment (Full color / Manual adjustment)	User custom	PPC (color)	0 <0-1>	SYS		1
7795	Image	Sharpness adjustment (Full color)	User custom	PPC (color)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes and the less moire appears.	1
7807	Image	Sharpness adjustment (Auto color)	Text	PPC (color)	128 <0-255>	SYS		1
7808	Image	Sharpness adjustment (Auto color)	Photo	PPC (color)	128 <0-255>	SYS		1
7809	Image	Sharpness adjustment (black)	Image smoothing	PPC (black)	128 <0-255>	SYS		1
7811	Image	Black header density level adjustment	Text/Photo	PPC (color)	0 <0-8>	SYS	The larger the value is, the darker the header becomes. The smaller the value is, the lighter the header becomes.	1
7812	Image		Text	PPC (color)	0 <0-8>	SYS		1
7816	Image		User custom	PPC (color)	0 <0-8>	SYS		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
7841	Image	Text/Photo reproduction level adjustment (Text/Photo reproduction)	User custom	PPC (color)	0 <0-5>	SYS	0: Default 1: Photo-oriented 2 (The reproduction level of printed image is higher than that of the Photo-oriented 1) 2: Photo-oriented 1 (The reproduction level of printed image is higher than that of the default setting) 3: Equivalent to the default setting 4: Text-oriented 1 (The reproduction level of text is higher than that of the default setting) 5: Text-oriented 2 (The reproduction level of text is higher than that of text-oriented 1)	1
7903	Image	Maximum toner density adjustment to paper type	Plain paper 2	PPC (color)	255 <0-255>	SYS	The smaller the value is, the less toner is adhered to the high-density section of the image.	1
7956-0	Image	Gamma balance adjustment (Black / Image smoothing)	L	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the area surrounding the target area becomes. L: Low density area M: Medium density area H: High density area	4
7956-1			M	PPC (black)	128 <0-255>	SYS		4
7956-2			H	PPC (black)	128 <0-255>	SYS		4
7957-0	Image	Gamma balance adjustment (Auto color & black / Text/ photo)	L	PPC (black)	128 <0-255>	SYS	The larger the value is, the darker the image of the area surrounding the target area becomes. L: Low density area M: Medium density area H: High density area	4
7957-1			M	PPC (black)	128 <0-255>	SYS		4
7957-2			H	PPC (black)	128 <0-255>	SYS		4
7958-0	Image	Gamma balance adjustment (Auto color & black / Text)	L	PPC (black)	128 <0-255>	SYS		4
7958-1			M	PPC (black)	128 <0-255>	SYS		4
7958-2			H	PPC (black)	128 <0-255>	SYS		4
7959-0	Image	Gamma balance adjustment (Auto color & black / Photo)	L	PPC (black)	128 <0-255>	SYS		4
7959-1			M	PPC (black)	128 <0-255>	SYS		4
7959-2			H	PPC (black)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
7980-0	Image	Color balance adjustment for “Y” (User custom)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L: Low density area M: Medium density area H: High density area	4
7980-1			M	PPC (color)	128 <0-255>	SYS		4
7980-2			H	PPC (color)	128 <0-255>	SYS		4
7981-0	Image	Color balance adjustment for “M” (User custom)	L	PPC (color)	128 <0-255>	SYS		4
7981-1			M	PPC (color)	128 <0-255>	SYS		4
7981-2			H	PPC (color)	128 <0-255>	SYS		4
7982-0	Image	Color balance adjustment for “C” (User custom)	L	PPC (color)	128 <0-255>	SYS		4
7982-1			M	PPC (color)	128 <0-255>	SYS		4
7982-2			H	PPC (color)	128 <0-255>	SYS		4
7983-0	Image	Color balance adjustment for “K” (User custom)	L	PPC (color)	128 <0-255>	SYS		4
7983-1			M	PPC (color)	128 <0-255>	SYS		4
7983-2			H	PPC (color)	128 <0-255>	SYS		4
8010-0	Image	Background adjustment (Smooth / Color / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8010-1			PCL	PRT (color)	128 <0-255>	SYS		4
8010-2			XPS	PRT (color)	128 <0-255>	SYS		4
8011-0	Image	Background adjustment (Smooth / Twin color / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8011-1			PCL	PRT (color)	128 <0-255>	SYS		4
8011-2			XPS	PRT (color)	128 <0-255>	SYS		4
8012-0	Image	Background adjustment (Smooth / Monocolor / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8012-1			PCL	PRT (color)	128 <0-255>	SYS		4
8012-2			XPS	PRT (color)	128 <0-255>	SYS		4
8013-0	Image	Background adjustment (Detail / Color / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8013-1			PCL	PRT (color)	128 <0-255>	SYS		4
8013-2			XPS	PRT (color)	128 <0-255>	SYS		4
8014-0	Image	Background adjustment (Detail / Twin color / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8014-1			PCL	PRT (color)	128 <0-255>	SYS		4
8014-2			XPS	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8015-0	Image	Background adjustment (Detail / Monocolor / 600 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8015-1			PCL	PRT (color)	128 <0-255>	SYS		4
8015-2			XPS	PRT (color)	128 <0-255>	SYS		4
8016-0	Image	Background adjustment (Smooth / Color / 1200 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8016-1			PCL	PRT (color)	128 <0-255>	SYS		4
8016-2			XPS	PRT (color)	128 <0-255>	SYS		4
8018-0	Image	Background adjustment (Smooth / Monocolor / 1200 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8018-1			PCL	PRT (color)	128 <0-255>	SYS		4
8018-2			XPS	PRT (color)	128 <0-255>	SYS		4
8019-0	Image	Background adjustment (Detail / Color / 1200 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8019-1			PCL	PRT (color)	128 <0-255>	SYS		4
8019-2			XPS	PRT (color)	128 <0-255>	SYS		4
8021-0	Image	Background adjustment (Detail / Monocolor / 1200 dpi)	PS	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker the background becomes. The smaller the value is, the lighter the background becomes.	4
8021-1			PCL	PRT (color)	128 <0-255>	SYS		4
8021-2			XPS	PRT (color)	128 <0-255>	SYS		4
8026-0	Image	Color balance adjustment for twin color mode (PS/ smooth/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8026-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8026-2			High density	PRT (color)	128 <0-255>	SYS		4
8027-0	Image	Color balance adjustment for twin color mode (PS/ smooth/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8027-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8027-2			High density	PRT (color)	128 <0-255>	SYS		4
8028-0	Image	Color balance adjustment for twin color mode (PS/ smooth/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8028-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8028-2			High density	PRT (color)	128 <0-255>	SYS		4
8029-0	Image	Color balance adjustment for twin color mode (PS/ smooth/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8029-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8029-2			High density	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8030-0	Image	Color balance adjustment for twin color mode (PS/ detail/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8030-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8030-2			High density	PRT (color)	128 <0-255>	SYS		4
8031-0	Image	Color balance adjustment for twin color mode (PS/ detail/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8031-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8031-2			High density	PRT (color)	128 <0-255>	SYS		4
8032-0	Image	Color balance adjustment for twin color mode (PS/ detail/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8032-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8032-2			High density	PRT (color)	128 <0-255>	SYS		4
8033-0	Image	Color balance adjustment for twin color mode (PS/ detail/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8033-0			Medium density	PRT (color)	128 <0-255>	SYS		4
8033-0			High density	PRT (color)	128 <0-255>	SYS		4
8034-0	Image	Color balance adjustment for twin color mode (PCL/ smooth/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8034-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8034-2			High density	PRT (color)	128 <0-255>	SYS		4
8035-0	Image	Color balance adjustment for twin color mode (PCL/ smooth/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8035-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8035-2			High density	PRT (color)	128 <0-255>	SYS		4
8036-0	Image	Color balance adjustment for twin color mode (PCL/ smooth/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8036-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8036-2			High density	PRT (color)	128 <0-255>	SYS		4
8037-0	Image	Color balance adjustment for twin color mode (PCL/ smooth/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8037-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8037-2			High density	PRT (color)	128 <0-255>	SYS		4
8038-0	Image	Color balance adjustment for twin color mode (PCL/ detail/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8038-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8038-2			High density	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8039-0	Image	Color balance adjustment for twin color mode (PCL/ detail/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8039-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8039-2			High density	PRT (color)	128 <0-255>	SYS		4
8040-0	Image	Color balance adjustment for twin color mode (PCL/ detail/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8040-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8040-2			High density	PRT (color)	128 <0-255>	SYS		4
8041-0	Image	Color balance adjustment for twin color mode (PCL/ detail/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8041-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8041-2			High density	PRT (color)	128 <0-255>	SYS		4
8042-0	Image	Color balance adjustment (Y) (XPS/ smooth/600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8042-1			M	PRT (color)	128 <0-255>	SYS		4
8042-2			H	PRT (color)	128 <0-255>	SYS		4
8043-0	Image	Color balance adjustment (M) (XPS/ smooth/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8043-1			M	PRT (color)	128 <0-255>	SYS		4
8043-2			H	PRT (color)	128 <0-255>	SYS		4
8044-0	Image	Color balance adjustment (C) (XPS/ smooth/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8044-1			M	PRT (color)	128 <0-255>	SYS		4
8044-2			H	PRT (color)	128 <0-255>	SYS		4
8045-0	Image	Color balance adjustment (K) (XPS/ smooth/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8045-1			M	PRT (color)	128 <0-255>	SYS		4
8045-2			H	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8046-0	Image	Color balance adjustment (Y) (XPS/ detail/600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8046-1			M	PRT (color)	128 <0-255>	SYS		4
8046-2			H	PRT (color)	128 <0-255>	SYS		4
8047-0	Image	Color balance adjustment (M) (XPS/ detail/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8047-1			M	PRT (color)	128 <0-255>	SYS		4
8047-2			H	PRT (color)	128 <0-255>	SYS		4
8048-0	Image	Color balance adjustment (C) (XPS/ detail/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8048-1			M	PRT (color)	128 <0-255>	SYS		4
8048-2			H	PRT (color)	128 <0-255>	SYS		4
8049-0	Image	Color balance adjustment (K) (XPS/ detail/600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8049-1			M	PRT (color)	128 <0-255>	SYS		4
8049-2			H	PRT (color)	128 <0-255>	SYS		4
8050-0	Image	Color balance adjustment (Y) (PS / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8050-1			M	PRT (color)	128 <0-255>	SYS		4
8050-2			H	PRT (color)	128 <0-255>	SYS		4
8051-0	Image	Color balance adjustment (M) (PS / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8051-1			M	PRT (color)	128 <0-255>	SYS		4
8051-2			H	PRT (color)	128 <0-255>	SYS		4
8052-0	Image	Color balance adjustment (C) (PS / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8052-1			M	PRT (color)	128 <0-255>	SYS		4
8052-2			H	PRT (color)	128 <0-255>	SYS		4
8053-0	Image	Color balance adjustment (K) (PS / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8053-1			M	PRT (color)	128 <0-255>	SYS		4
8053-2			H	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8054-0	Image	Color balance adjustment (Y) (PS / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8054-1			M	PRT (color)	128 <0-255>	SYS		4
8054-2			H	PRT (color)	128 <0-255>	SYS		4
8055-0	Image	Color balance adjustment (M) (PS / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8055-1			M	PRT (color)	128 <0-255>	SYS		4
8055-2			H	PRT (color)	128 <0-255>	SYS		4
8056-0	Image	Color balance adjustment (C) (PS / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8056-1			M	PRT (color)	128 <0-255>	SYS		4
8056-2			H	PRT (color)	128 <0-255>	SYS		4
8057-0	Image	Color balance adjustment (K) (PS / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8057-1			M	PRT (color)	128 <0-255>	SYS		4
8057-2			H	PRT (color)	128 <0-255>	SYS		4
8058-0	Image	Color balance adjustment (Y) (PCL / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8058-1			M	PRT (color)	128 <0-255>	SYS		4
8058-2			H	PRT (color)	128 <0-255>	SYS		4
8059-0	Image	Color balance adjustment (M) (PCL / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8059-1			M	PRT (color)	128 <0-255>	SYS		4
8059-2			H	PRT (color)	128 <0-255>	SYS		4
8060-0	Image	Color balance adjustment (C) (PCL / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8060-1			M	PRT (color)	128 <0-255>	SYS		4
8060-2			H	PRT (color)	128 <0-255>	SYS		4
8061-0	Image	Color balance adjustment (K) (PCL / Smooth / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8061-1			M	PRT (color)	128 <0-255>	SYS		4
8061-2			H	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8062-0	Image	Color balance adjustment (Y) (PCL / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8062-1			M	PRT (color)	128 <0-255>	SYS		4
8062-2			H	PRT (color)	128 <0-255>	SYS		4
8063-0	Image	Color balance adjustment (M) (PCL / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8063-1			M	PRT (color)	128 <0-255>	SYS		4
8063-2			H	PRT (color)	128 <0-255>	SYS		4
8064-0	Image	Color balance adjustment (C) (PCL / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8064-1			M	PRT (color)	128 <0-255>	SYS		4
8064-2			H	PRT (color)	128 <0-255>	SYS		4
8065-0	Image	Color balance adjustment (K) (PCL / Detail / 600 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8065-1			M	PRT (color)	128 <0-255>	SYS		4
8065-2			H	PRT (color)	128 <0-255>	SYS		4
8066	Image	Color balance adjustment mode switchover (Network print)		PRT (color)	0 <0-1>	SYS	Switches the image processing method for color balance adjustment for network printing by changing the default value “0” to “1” so that the density of solid images will become lighter along with the adjustment. 0: Adjusts color balance with the solid image density fixed 1: Adjusts color balance with the solid image density varied	1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8070-0	Image	Maximum toner density Threshold adjustment (Detail / 600 dpi)	Plain paper 1	PRT (color)	128 <0-255>	SYS	The larger the value is, the larger the maximum amount of toner to be adhered becomes. The smaller the value is, the smaller the maximum amount of toner to be adhered becomes.	4
8070-1			Plain paper 2	PRT (color)	128 <0-255>	SYS		4
8070-2			Recycled paper	PRT (color)	128 <0-255>	SYS		4
8070-3			Thick paper 1	PRT (color)	128 <0-255>	SYS		4
8070-4			Thick paper 2	PRT (color)	128 <0-255>	SYS		4
8070-5			Thick paper 3	PRT (color)	128 <0-255>	SYS		4
8070-6			Thick paper 4	PRT (color)	128 <0-255>	SYS		4
8070-7			Special paper 1	PRT (color)	128 <0-255>	SYS		4
8070-8			Special paper 2	PRT (color)	128 <0-255>	SYS		4
8070-9			OHP film	PRT (color)	128 <0-255>	SYS		4
8071-0	Image	Maximum toner density Threshold adjustment (Smooth / 600 dpi)	Plain paper	PRT (color)	128 <0-255>	SYS	The larger the value is, the larger the maximum amount of toner to be adhered becomes. The smaller the value is, the smaller the maximum amount of toner to be adhered becomes.	4
8071-1			Plain paper 2	PRT (color)	128 <0-255>	SYS		4
8071-2			Recycled paper	PRT (color)	128 <0-255>	SYS		4
8071-3			Thick paper 1	PRT (color)	128 <0-255>	SYS		4
8071-4			Thick paper 2	PRT (color)	128 <0-255>	SYS		4
8071-5			Thick paper 3	PRT (color)	128 <0-255>	SYS		4
8071-6			Thick paper 4	PRT (color)	128 <0-255>	SYS		4
8071-7			Special paper 1	PRT (color)	128 <0-255>	SYS		4
8071-8			Special paper 2	PRT (color)	128 <0-255>	SYS		4
8071-9			OHP film	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8089-0	Image	Maximum toner density Threshold adjustment (Detail / 1200 dpi)	Plain paper 1	PRT (color)	128 <0-255>	SYS	The larger the value is, the larger the maximum amount of toner to be adhered becomes. The smaller the value is, the smaller the maximum amount of toner to be adhered becomes.	4
8089-1			Plain paper 2	PRT (color)	128 <0-255>	SYS		4
8089-2			Recycled paper	PRT (color)	128 <0-255>	SYS		4
8089-3			Thick paper 1	PRT (color)	128 <0-255>	SYS		4
8089-4			Thick paper 2	PRT (color)	128 <0-255>	SYS		4
8089-5			Thick paper 3	PRT (color)	128 <0-255>	SYS		4
8089-6			Thick paper 4	PRT (color)	128 <0-255>	SYS		4
8089-7			Special paper 1	PRT (color)	128 <0-255>	SYS		4
8089-8			Special paper 2	PRT (color)	128 <0-255>	SYS		4
8089-9			OHP film	PRT (color)	128 <0-255>	SYS		4
8090-0	Image	Maximum toner density Threshold adjustment (Smooth / 1200 dpi)	Plain paper	PRT (color)	128 <0-255>	SYS	The larger the value is, the larger the maximum amount of toner to be adhered becomes. The smaller the value is, the smaller the maximum amount of toner to be adhered becomes.	4
8090-1			Plain paper 2	PRT (color)	128 <0-255>	SYS		4
8090-2			Recycled paper	PRT (color)	128 <0-255>	SYS		4
8090-3			Thick paper 1	PRT (color)	128 <0-255>	SYS		4
8090-4			Thick paper 2	PRT (color)	128 <0-255>	SYS		4
8090-5			Thick paper 3	PRT (color)	128 <0-255>	SYS		4
8090-6			Thick paper 4	PRT (color)	128 <0-255>	SYS		4
8090-7			Special paper 1	PRT (color)	128 <0-255>	SYS		4
8090-8			Special paper 2	PRT (color)	128 <0-255>	SYS		4
8090-9			OHP film	PRT (color)	128 <0-255>	SYS		4
8102-0	Image	Fine line enhancement switchover (e-BRIDGE)	PS	PRT (color)	1 <0-1>	SYS	0: OFF 1: ON	4
8102-1			PCL	PRT (color)	1 <0-1>	SYS		4
8102-2			XPS	PRT (color)	1 <0-1>	SYS		4
8103-0 (EFI)	Image	Fine line enhancement switchover (EFI)	PS	PRT (color)	1 <0-1>	SYS	0: OFF 1: ON	4
8103-1 (EFI)			PCL	PRT (color)	1 <0-1>	SYS		4
8103-2 (EFI)			XPS	PRT (color)	1 <0-1>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8110-0	Image	Sharpness adjustment (e-BRIDGE / PS / General)	Text	PRT (color)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes.	4
8110-1			Graphics	PRT (color)	128 <0-255>	SYS		4
8110-2			Image	PRT (color)	128 <0-255>	SYS		4
8111-0	Image	Sharpness adjustment (e-BRIDGE / PS / Photograph)	Text	PRT (color)	128 <0-255>	SYS		4
8111-1			Graphics	PRT (color)	128 <0-255>	SYS		4
8111-2			Image	PRT (color)	128 <0-255>	SYS		4
8112-0	Image	Sharpness adjustment (e-BRIDGE / PS / Presentation)	Text	PRT (color)	128 <0-255>	SYS		4
8112-1			Graphics	PRT (color)	128 <0-255>	SYS		4
8112-2			Image	PRT (color)	128 <0-255>	SYS		4
8113-0	Image	Sharpness adjustment (e-BRIDGE / PS / Line art)	Text	PRT (color)	128 <0-255>	SYS		4
8113-1			Graphics	PRT (color)	128 <0-255>	SYS		4
8113-2			Image	PRT (color)	128 <0-255>	SYS		4
8118-0	Image	Sharpness adjustment (e-BRIDGE / PS)	Text	PRT (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes.	4
8118-1			Graphics	PRT (black)	128 <0-255>	SYS		4
8118-2			Image	PRT (black)	128 <0-255>	SYS		4
8119-0 (EFI)	Image	Sharpness adjustment (EFI / PS)	Text	PRT (black)	128 <0-255>	SYS	The larger the value is, the sharper the image becomes. The smaller the value is, the softer the image becomes.	4
8119-1 (EFI)			Graphics	PRT (black)	128 <0-255>	SYS		4
8119-2 (EFI)			Image	PRT (black)	128 <0-255>	SYS		4
8130	Image	Smudged/ faint text adjustment	PS	PRT (color)	0 <0-8>	SYS	The larger the value is, the darker the small text and fine lines become and the more faint text is suppressed.	1
8131			PCL	PRT (color)	0 <0-8>	SYS		1
8132			XPS	PRT (color)	0 <0-8>	SYS		1
8149	Image	Maximum toner density adjustment to OHP film (1200 dpi)		PRT (color)	200 <0-255>	SYS	The larger the value is, the darker the image becomes. The smaller the value is, the lighter the image becomes. * Image offset may occur if the value is too large.	1
8150-0	Image	Color balance adjustment for twin color mode (XPS/ smooth/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8150-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8150-2			High density	PRT (color)	128 <0-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8151-0	Image	Color balance adjustment for twin color mode (XPS/ smooth/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8151-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8151-2			High density	PRT (color)	128 <0-255>	SYS		4
8152-0	Image	Color balance adjustment for twin color mode (XPS/ smooth/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8152-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8152-2			High density	PRT (color)	128 <0-255>	SYS		4
8153-0	Image	Color balance adjustment for twin color mode (XPS/ smooth/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8153-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8153-2			High density	PRT (color)	128 <0-255>	SYS		4
8154-0	Image	Color balance adjustment for twin color mode (XPS/ detail/Y/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the yellow density of the area becomes.	4
8154-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8154-2			High density	PRT (color)	128 <0-255>	SYS		4
8155-0	Image	Color balance adjustment for twin color mode (XPS/ detail/M/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the magenta density of the area becomes.	4
8155-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8155-2			High density	PRT (color)	128 <0-255>	SYS		4
8156-0	Image	Color balance adjustment for twin color mode (XPS/ detail/C/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the cyan density of the area becomes.	4
8156-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8156-2			High density	PRT (color)	128 <0-255>	SYS		4
8157-0	Image	Color balance adjustment for twin color mode (XPS/ detail/K/ 600dpi)	Low density	PRT (color)	128 <0-255>	SYS	The larger the value is, the higher the black density of the area becomes.	4
8157-1			Medium density	PRT (color)	128 <0-255>	SYS		4
8157-2			High density	PRT (color)	128 <0-255>	SYS		4
8161-0	Image	Upper limit value in toner saving mode (Color / 1200 dpi)	PS	PRT (color)	176 <0-255>	SYS	The smaller the value is, the lighter the printed image becomes.	4
8161-1			PCL	PRT (color)	176 <0-255>	SYS		4
8161-2			XPS	PRT (color)	176 <0-255>	SYS		4
8176	Image	Screen switchover (e-BRIDGE)		PRT (color)	0 <0-1>	SYS	0: High screen ruling value (smoother image) 1: Low screen ruling value (rougher image)	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8179 (EFI)	Image	Screen switchover (EFI)		PRT (color)	0 <0-1>	SYS	0: High screen ruling value (smoother image) 1: Low screen ruling value (rougher image)	1
8187	Image	Screen switchover	Graphics	PRT (black)	11 <0-15>	SYS	3: High screen ruling value (smoother image) 11: Low screen ruling value (rougher image) Only “3” and “11” are acceptable.	1
8188			Image	PRT (black)	11 <0-15>	SYS		1
8190 (EFI)	Image	Screen switchover (EFI)	Graphics	PRT (black)	11 <0-15>	SYS	3: High screen ruling value (smoother image) 11: Low screen ruling value (rougher image) Only “3” and “11” are acceptable.	1
8191 (EFI)			Image	PRT (black)	11 <0-15>	SYS		1
8210-0	Image	PureBlack / Gray threshold adjustment (PCL / Graphics)	General	PRT (color)	8 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8210-1			Photograph	PRT (color)	8 <1-255>	SYS		4
8210-2			Presentation	PRT (color)	8 <1-255>	SYS		4
8210-3			Line art	PRT (color)	8 <1-255>	SYS		4
8211-0	Image	PureBlack / Gray threshold adjustment (PCL / Image)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8211-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8211-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8211-3			Line art	PRT (color)	8 <1-255>	SYS		4
8212-0	Image	PureBlack / Gray threshold adjustment (PCL / Image)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8212-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8212-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8212-3			Line art	PRT (color)	8 <1-255>	SYS		4
8213	Image	PureBlack / Gray threshold adjustment (Twin color print) / General	Text	PRT (color)	8 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	1
8214			Graphics	PRT (color)	1 <1-255>	SYS		1
8215			Image	PRT (color)	1 <1-255>	SYS		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8218	Image	Twin color copy mode / black selection	Image	PRT (color)	0 <0-1>	SYS	Sets whether the image on an original is printed in the color or the black mode. 0: OFF (printed in color) 1: ON (printed in black)	1
8240	Image	Line width minimum value adjustment(600 dpi)		PRT (color)	2 <1-9>	SYS	The larger the value is, the darker the fine lines become.	1
8241		Line width minimum value adjustment(1200 dpi)		PRT (color)	4 <1-9>	SYS		1
8242-0	Image	Graphic line density adjustment (1200dpi)	Gray (K)	PRT	3 <0-5>	SYS	The larger the value is, the darker the fine lines become.	4
8242-1			Color (CMYK)	PRT	1 <0-5>	SYS		4
8243-0	Image	Effective range of graphic line density adjustment (1200dpi)	Gray (K) lower limit value	PRT	1 <0-255>	SYS	Sets the value in which 05-8242 is effective from the density range (0-255).	4
8243-1			Gray (K) upper limit value	PRT	200 <0-255>	SYS		4
8243-2			Color (CMYK) lower limit value	PRT	1 <0-255>	SYS		4
8243-3			Color (CMYK) upper limit value	PRT	255 <0-255>	SYS		4
8249-0	Image	PureBlack / Gray threshold adjustment (XPS / Text)	General	PRT (color)	8 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8249-1			Photograph	PRT (color)	8 <1-255>	SYS		4
8249-2			Presentation	PRT (color)	8 <1-255>	SYS		4
8249-3			Line art	PRT (color)	8 <1-255>	SYS		4
8249-4			Advanced	PRT (color)	8 <1-255>	SYS		4
8250-0	Image	PureBlack / Gray threshold adjustment (XPS / Graphic)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8250-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8250-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8250-3			Line art	PRT (color)	8 <1-255>	SYS		4
8250-4			Advanced	PRT (color)	1 <1-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8251-0	Image	PureBlack / Gray threshold adjustment (XPS / Image)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8251-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8251-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8251-3			Line art	PRT (color)	8 <1-255>	SYS		4
8251-4			Advanced	PRT (color)	1 <1-255>	SYS		4
8252-0	Image	PureBlack / Gray threshold adjustment (PS / Text)	General	PRT (color)	8 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8252-1			Photograph	PRT (color)	8 <1-255>	SYS		4
8252-2			Presentation	PRT (color)	8 <1-255>	SYS		4
8252-3			Line art	PRT (color)	8 <1-255>	SYS		4
8252-4			Advanced	PRT (color)	8 <1-255>	SYS		4
8253-0	Image	PureBlack / Gray threshold adjustment (PS / Graphic)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8253-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8253-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8253-3			Line art	PRT (color)	8 <1-255>	SYS		4
8253-4			Advanced	PRT (color)	1 <1-255>	SYS		4
8254-0	Image	PureBlack / Gray threshold adjustment (PS / Image)	General	PRT (color)	1 <1-255>	SYS	The larger the value is, the wider the range of colors to be replaced with black becomes. The smaller the value is, the narrower the range becomes.	4
8254-1			Photograph	PRT (color)	1 <1-255>	SYS		4
8254-2			Presentation	PRT (color)	1 <1-255>	SYS		4
8254-3			Line art	PRT (color)	8 <1-255>	SYS		4
8254-4			Advanced	PRT (color)	1 <1-255>	SYS		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8268-0	Image	Color balance adjustment (Y) (PS / Smooth / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8268-1			M	PRT (color)	128 <0-255>	SYS		4
8268-2			H	PRT (color)	128 <0-255>	SYS		4
8269-0	Image	Color balance adjustment (M) (PS / Smooth / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8269-1			M	PRT (color)	128 <0-255>	SYS		4
8269-2			H	PRT (color)	128 <0-255>	SYS		4
8270-0	Image	Color balance adjustment (C) (PS / Smooth / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8270-1			M	PRT (color)	128 <0-255>	SYS		4
8270-2			H	PRT (color)	128 <0-255>	SYS		4
8271-0	Image	Color balance adjustment (K) (PS / Smooth / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8271-1			M	PRT (color)	128 <0-255>	SYS		4
8271-2			H	PRT (color)	128 <0-255>	SYS		4
8272-0	Image	Color balance adjustment (Y) (PS / Detail / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS	The larger the value is, the darker only the target color becomes. L: Low density area M: Medium density area H: High density area	4
8272-1			M	PRT (color)	128 <0-255>	SYS		4
8272-2			H	PRT (color)	128 <0-255>	SYS		4
8273-0	Image	Color balance adjustment (M) (PS / Detail / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8273-1			M	PRT (color)	128 <0-255>	SYS		4
8273-2			H	PRT (color)	128 <0-255>	SYS		4
8274-0	Image	Color balance adjustment (C) (PS / Detail / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8274-1			M	PRT (color)	128 <0-255>	SYS		4
8274-2			H	PRT (color)	128 <0-255>	SYS		4
8275-0	Image	Color balance adjustment (K) (PS / Detail / 1200 dpi)	L	PRT (color)	128 <0-255>	SYS		4
8275-1			M	PRT (color)	128 <0-255>	SYS		4
8275-2			H	PRT (color)	128 <0-255>	SYS		4
8325	Image	Saturation adjustment	Text	SCN (color)	128 <0-255>	SYS	The larger the value is, the brighter the image becomes. The smaller the value is, the duller the image becomes.	1
8326			Photo	SCN (color)	128 <0-255>	SYS		1
8327			Printed image	SCN (color)	128 <0-255>	SYS		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8330	Image	Range correction adjustment (Full color / Automatic density adjustment)	Text	SCN (color)	1 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
8331			Printed image	SCN (color)	1 <0-1>	SYS		1
8332			Photo	SCN (color)	1 <0-1>	SYS		1
8334			User custom	SCN (color)	1 <0-1>	SYS		1
8340	Image	Density adjustment (Manual adjustment / Center value)	Text	SCN (color)	128 <0-255>	SYS	The larger the value is, the darker the image at the center value becomes.	1
8341			Printed image	SCN (color)	128 <0-255>	SYS		1
8342			Photo	SCN (color)	128 <0-255>	SYS		1
8344	Image	Density adjustment (Manual adjustment / Light step value)	Text	SCN (color)	20 <0-255>	SYS	Sets the changing amount per step of the density adjustment buttons on the control panel. The larger the value is, the lighter the image of the “light” step becomes.	1
8345			Printed image	SCN (color)	20 <0-255>	SYS		1
8346			Photo	SCN (color)	20 <0-255>	SYS		1
8348	Image	Density adjustment (Manual adjustment / Dark step value)	Text	SCN (color)	20 <0-255>	SYS	Sets the changing amount per step of the density adjustment buttons on the control panel. The larger the value is, the darker the image of the “dark” step becomes.	1
8349			Printed image	SCN (color)	20 <0-255>	SYS		1
8350			Photo	SCN (color)	20 <0-255>	SYS		1
8361	Image	Range correction adjustment (Full color / Manual density adjustment)	Text	SCN (color)	0 <0-1>	SYS	0: Background peak - Fixed 1: Background peak - Varied	1
8362			Printed image	SCN (color)	0 <0-1>	SYS		1
8363			Photo	SCN (color)	0 <0-1>	SYS		1
8365			User custom	SCN (color)	0 <0-1>	SYS		1
8370	Image	Background adjustment	User custom mode	SCN (color)	50 <0-50>	SYS	When the value increases, the background becomes darker.	1
8371	Image	Fine adjustment of black density	User custom mode	SCN (color)	0 <0-4>	SYS	Adjusts the black density of the scanned image. When the value increases, the black density becomes darker.	1
8372	Image	RGB conversion method selection	User custom mode	SCN (color)	0 <0-3>	SYS	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8373	Image	Saturation adjustment	User custom mode	SCN (color)	128 <0-255>	SYS	The larger the value is, the brighter the image becomes. The smaller the value is, the duller the image becomes.	1
8375	Image	Sharpness adjustment	User custom mode	SCN (color)	128 <0-255>	SYS	When the value increases, the image becomes sharper. When the value decreases, the image becomes softer. The smaller the value is, the less the moire becomes.	1
8380	Image	Density adjustment Fine curve compensation / Center value	User custom mode	SCN (color)	128 <0-255>	SYS	The larger the value is, the darker the image of the center step density becomes.	1
8381	Image	Density adjustment / Light step value	User custom mode	SCN (color)	20 <0-255>	SYS	Sets the changing amount by 1 step at density adjustment on the control panel The larger the value is, the lighter the image of the light steps becomes.	1
8382	Image	Density adjustment / Dark step value	User custom mode	SCN (color)	20 <0-255>	SYS	Sets the changing amount by 1 step at density adjustment on the control panel The larger the value is, the darker the image of the dark steps becomes.	1
8385	Image	Background offset adjustment (Automatic density adjustment)	Text	SCN (color)	128 <0-255>	SYS	The larger the value is, the less easily the background (low density area) is printed. The smaller the value is, the more easily the background (low density area) is printed.	1
8386			Printed image	SCN (color)	128 <0-255>	SYS		1
8387			Photo	SCN (color)	128 <0-255>	SYS		1
8389			User custom mode	SCN (color)	128 <0-255>	SYS		1
8390	Image	Background offset adjustment (Manual density adjustment)	Text	SCN (color)	128 <0-255>	SYS	The larger the value is, the less easily the background (low density area) is printed. The smaller the value is, the more easily the background (low density area) is printed.	1
8391			Printed image	SCN (color)	128 <0-255>	SYS		1
8392			Photo	SCN (color)	128 <0-255>	SYS		1
8394			User custom mode	SCN (color)	128 <0-255>	SYS		1
8395	Image	Background offset adjustment for ADF		SCN (color)	128 <0-255>	SYS	The larger the adjustment value is, the lighter the background becomes.	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
8400	Image	Background offset adjustment (Automatic density adjustment)	Text/Photo	SCN (black)	128 <0-255>	SYS	The larger the value is, the less easily the background (low density area) is printed. The smaller the value is, the more easily the background (low density area) is printed.	1
8402			Photo	SCN (black)	128 <0-255>	SYS		1
8403			Gray scale	SCN (black)	128 <0-255>	SYS		1
8404			User custom mode	SCN (black)	128 <0-255>	SYS		1
8405	Image	Background offset adjustment (Manual density adjustment)	Text/Photo	SCN (black)	128 <0-255>	SYS	The larger the value is, the less easily the background (low density area) is printed. The smaller the value is, the more easily the background (low density area) is printed.	1
8407			Photo	SCN (black)	128 <0-255>	SYS		1
8408			Gray scale	SCN (black)	128 <0-255>	SYS		1
8409			User custom mode	SCN (black)	128 <0-255>	SYS		1

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23.6 System

Adjustment mode (05)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
976	Maintenance	Equipment number (serial number) display	ALL	-	SYS	When this adjustment is performed with this code, the setting code (08-995) is also performed automatically. (10 digits)	1
9092	Feeding system / Paper transport	Media sensor position adjustment	ALL	-	-	Checks the reference voltage of the media sensor while no paper is inserted between the tray and copy paper and adjusts the position of the sensor accordingly. Ch.10.7.1	6
9104	Image	Compression quality of s SLIM PDF background processing	SCN (color)	5 <0-10>	SYS	0-10 0: High compression, low image quality 10: Low compression, high image quality	1
9107	Image	Resolution adjustment of SLIM PDF background processing	SCN (color)	1 <0-3>	SYS	0: 75dpi 1: 100dpi 2: 150dpi 3: 200dpi	1

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23.7 Scanner

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
305	Scanner	Image location adjustment of secondary scanning direction (scanner section)		ALL	124 <68-188>	SYS	When the value increases by “1”, the image shifts by approx. 0.09 mm toward the trailing edge of the paper.	1
306	Scanner	Image location adjustment of secondary scanning direction (scanner section)		ALL	113 <0-255>	SYS	When the value increases by “1”, the image shifts by approx. 0.0423 mm toward the front side of the paper.	1
308	Scanner	Distortion mode		ALL	-	-	Moves carriages to the adjusting position.	6
340	Scanner	Reproduction ratio adjustment of secondary scanning direction (scanner section)		ALL	128 <0-255>	SYS	When the value increases by “1”, the reproduction ratio in the secondary scanning direction (vertical to paper feeding direction) increases by approx. 0.025%.	1
349	Scanner	Shading correction plate Automatic dust detection adjustment		ALL	-	-	Performs adjustment for automatic dust detection with the shading correction plate.If dust is detected, shading correction is performed by avoiding the dust.	6
350	Scanner	Shading position adjustment	Original glass	ALL	117 <68-188>	SYS	0.0954 mm/step	1
351			RADF	ALL	133 <68-188>	SYS	0.0954 mm/step	1
352	RADF	EEPROM initialization		ALL	-	-	Initializes EEPROM for the RADF.	6
353		RADF original reading start sensor Manual adjustment		ALL	-	-	Adjusts the RADF original reading start sensor of the RADF manually.	6
354	RADF	Adjustment of RADF paper alignment	Front side	ALL	10 <0-20>	SYS	When the value increases by “1”, the aligning amount increases by approx. 0.4 mm.	1
355			Back side	ALL	5 <0-20>	SYS		1
356	RADF	Automatic adjustment of RADF original reading start sensor		ALL	-	SYS	Performs the adjustment and initialization when the RADF board or RADF original reading start sensor is replaced.	6
357	RADF	Fine adjustment of RADF transport speed		ALL	50 <0-100>	SYS	When the value increases by “1”, the reproduction ratio of the secondary scanning direction on original (fed from the RADF) increases by approx. 0.1%.	1

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Adjustment mode (05)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
358	RADF	RADF sideways deviation adjustment	ALL	128 <0-255>	SYS	When the value increases by “1”, the image of original fed from the RADF shifts toward the rear side of paper by approx. 0.0423 mm.	1
359	Scanner	Carriage position adjustment during scanning from RADF	ALL (black)	128 <0-255>	SYS	When the value increases by “1”, the carriage position shifts by approx. 0.1 mm toward the exit side when using the RADF.	1
360			ALL (color)	128 <0-255>	SYS		1
361	Scanner	Log table switching for RADF copying	ALL (color)	0 <0-4>	SYS	0: Same log table as the one used at copying with original glass 1: Background reproduction - Light 2 2: Background reproduction - Light 1 3: Background reproduction - Dark 1 4: Background reproduction - Dark 2	1
362			ALL (black)	0 <0-4>	SYS	0: Same log table as the one used at copying with original glass 1: Background reproduction - Light 2 2: Background reproduction - Light 1 3: Background reproduction - Dark 1 4: Background reproduction - Dark 2	1
363	Scanner	Data transfer of characteristic value of scanner / SYS board → SLG board	SCN	-	SYS	Transfers the characteristic values of the scanner (shading correction factor / RGB color correction / reproduction ratio color aberration correction / shading position correction factor / reproduction ratio correction value in primary scanning direction) from the SRAM of the SYS board to the SRAM of the SLG board.	6

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
364	Scanner	Data transfer of characteristic value of scanner / SLG board → SYS board		SCN	-	SYS	Transfers the characteristic values of the scanner (shading correction factor / RGB color correction / reproduction ratio color aberration correction / shading position correction factor / reproduction ratio correction value in primary scanning direction) from the SRAM of the SLG board to the SRAM of the SYS board.	6
365	RADF	RADF leading edge position 1 adjustment	Front side	ALL	50 <0-100>	SYS	When the value increases by "1", the copied image of original fed from the RADF shifts toward the trailing edge of paper by approx. 0.2 mm.	1
366			Back side	ALL	50 <0-100>	SYS		1

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23.8 Printer

Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
408	Image	Leading edge position adjustment (Normal speed)	Common items	PPC	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
410	Image	Adjustment of primary scanning laser writing start position		PPC	128 <0-255>	M	When the value increases by “1”, the writing start position shifts to the front side by approx. 0.0423 mm.	1
411				PRT	128 <0-255>	M		1
417-0	Image	Secondary scanning laser writing start position correction offset value		ALL	128 <118-138>	M	Corrects image position to be shifted to the trailing edge side of paper. 0.5 line/bit	4
417-1				ALL	128 <118-138>	M		4
417-2				ALL	128 <118-138>	M		4
428	Image	Leading edge position adjustment (Normal speed)	4th drawer	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
429	Image	Leading edge position adjustment (Normal speed)	T-LCF	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
430	Image	Top margin adjustment (blank area at the leading edge of the paper))		PPC	0 <0-255>	M	When the value increases by “1”, the blank area becomes wider by approx. 0.0423 mm.	1
431	Image	Left margin adjustment (blank area at the left of the paper along the paper feeding direction)		PPC	0 <0-255>	M		1
432	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction)		PPC	0 <0-255>	M		1
433	Image	Bottom margin adjustment (blank area at the trailing edge of the paper)		PPC	0 <0-255>	M		1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
434-0	Image	Bottom margin adjustment (blank area at the trailing edge of the paper) /Reverse side at duplexing (black)		PPC/ PRT	24 <0-255>	M	When the value increases, the blank area becomes wider.	4
434-1	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction) /Reverse side at duplexing (black)		PPC/ PRT	18 <0-255>	M		4
434-2	Image	Bottom margin adjustment (blank area at the trailing edge of the paper) /Reverse side at duplexing (color)		PPC/ PRT	24 <0-255>	M		4
434-3	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction) /Reverse side at duplexing (color)		PPC/ PRT	18 <0-255>	M		4
434-4	Image	Bottom margin adjustment (blank area at the trailing edge of the paper) /Reverse side at duplexing (Thick paper 1)		PPC/ PRT	18 <0-255>	M		4
434-5	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction) /Reverse side at duplexing (Thick paper 1)		PPC/ PRT	12 <0-255>	M		4
435	Image	Top margin adjustment (blank area at the leading edge of the paper)		PRT	24 <0-255>	M	When the value increases by “1”, the blank area becomes wider by approx. 0.0423 mm.	1
436	Image	Left margin adjustment (blank area at the left of the paper along the paper feeding direction)		PRT	0 <0-255>	M	When the value increases by “1”, the blank area becomes wider by approx. 0.0423 mm.	1
437	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction)		PRT	0 <0-255>	M		1
438	Image	Bottom margin adjustment (blank area at the trailing edge of the paper)		PRT	0 <0-255>	M		1
440	Image	Leading edge position adjustment (Normal speed)	1st drawer	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
441			2nd drawer	ALL	50 <0-100>	M		1
442			Bypass feeding	ALL	50 <0-100>	M		1
443			O-LCF	ALL	50 <0-100>	M		1
444			3rd drawer	ALL	50 <0-100>	M		1
445			Duplex feeding	ALL	50 <0-100>	M		1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
446-0	Drive	Fine adjustment of exit motor rotational speed	Transport speed: Normal speed	PRT	102 <0-255>	M		4
446-1				FAX	128 <0-255>	M		4
446-2				PPC	128 <0-255>	M		4
446-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
446-4				FAX	128 <0-255>	M		4
446-5				PPC	128 <0-255>	M		4
446-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
446-7				FAX	128 <0-255>	M		4
446-8				PPC	128 <0-255>	M		4
446-9			Transport speed: High speed	PRT	128 <0-255>	M		4
446-10				FAX	128 <0-255>	M		4
446-11				PPC	128 <0-255>	M		4
446-12			Transport speed: 1	ALL	128 <0-255>	M		4
446-13			Transport speed: 2	ALL	128 <0-255>	M		4
446-14			Transport speed: 3	ALL	128 <0-255>	M		4
446-15			Transport speed: 4	ALL	128 <0-255>	M		4
446-16			Transport speed: 5	ALL	128 <0-255>	M		4
446-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
466-0	Feeding system / Paper transport	Adjustment of paper pushing amount / Bypass feeding	Plain paper	ALL	30 <0-63>	M		4
466-1			Thick paper 1	ALL	30 <0-63>	M		4
466-2			Thick paper 2	ALL	30 <0-63>	M		4
466-3			Thick paper 3 (black)	ALL	30 <0-63>	M		4
466-4			Overhead transparencies	ALL	30 <0-63>	M		4
466-5			Thick paper 3 (color)	ALL	30 <0-63>	M		4
466-6			Thick paper 4 (black)	ALL	30 <0-63>	M		4
466-7			Thick paper 4 (color)	ALL	30 <0-63>	M		4
466-8			Special paper 1	ALL	30 <0-63>	M		4
466-9			Special paper 2	ALL	30 <0-63>	M		4
466-10			Plain paper / High speed (black)	ALL	30 <0-63>	M		4
473-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (T-LCF)	Thick paper 1	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm.	4
473-1			Thick paper 2	ALL	38 <0-63>	M		4
473-2			Thick paper 3 (black)	ALL	38 <0-63>	M		4
473-3			Thick paper 3 (color)	ALL	39 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
476-0	Feeding system / Paper transport	Adjustment of remaining amount of paper / Paper present	1st drawer	ALL	EUR: 7 UC: 9 JPN: 15 <0-63>	M		4
476-1			2nd drawer	ALL	EUR: 7 UC: 9 JPN: 15 <0-63>	M		4
476-2			3rd drawer	ALL	EUR: 7 UC: 9 JPN: 15 <0-63>	M		4
476-3			4th drawer	ALL	EUR: 7 UC: 9 JPN: 15 <0-63>	M		4
476-4			O-LCF	ALL	EUR: 12 UC: 16 JPN: 20 <0-63>	M		4
476-5			T-LCF	ALL	EUR: 8 UC: 8 JPN: 28 <0-63>	M		4
477-0	Feeding system / Paper transport	Adjustment of remaining amount of paper / No paper	1st drawer	ALL	53 <0-63>	M		4
477-1			2nd drawer	ALL	53 <0-63>	M		4
477-2			3rd drawer	ALL	53 <0-63>	M		4
477-3			4th drawer	ALL	53 <0-63>	M		4
477-4			O-LCF	ALL	50 <0-63>	M		4
477-5			T-LCF	ALL	60 <0-63>	M		4
480	Feeding system / Paper transport	Paper feed aligning amount adjustment (using icons)		ALL	-	M	Press the button on the LCD.	4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
481-0	Drive	Fine adjustment of drum motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
481-1				FAX	128 <0-255>	M		4
481-2				PPC	128 <0-255>	M		4
481-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
481-4				FAX	128 <0-255>	M		4
481-5				PPC	128 <0-255>	M		4
481-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
481-7				FAX	128 <0-255>	M		4
481-8				PPC	128 <0-255>	M		4
481-9			Transport speed: High speed	PRT	128 <0-255>	M		4
481-10				FAX	128 <0-255>	M		4
481-11				PPC	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
483-0	Drive	Fine adjustment of registration motor rotational speed	Transport speed: Normal speed	PRT	138 <0-255>	M		4
483-1				FAX	128 <0-255>	M		4
483-2				PPC	128 <0-255>	M		4
483-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
483-4				FAX	128 <0-255>	M		4
483-5				PPC	128 <0-255>	M		4
483-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
483-7				FAX	128 <0-255>	M		4
483-8				PPC	128 <0-255>	M		4
483-9			Transport speed: High speed	PRT	128 <0-255>	M		4
483-10				FAX	128 <0-255>	M		4
483-11				PPC	128 <0-255>	M		4
483-12			Transport speed: 1	ALL	128 <0-255>	M		4
483-13			Transport speed: 2	ALL	128 <0-255>	M		4
483-14			Transport speed: 3	ALL	128 <0-255>	M		4
483-15			Transport speed: 4	ALL	128 <0-255>	M		4
483-16			Transport speed: 5	ALL	128 <0-255>	M		4
483-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
485-0	Drive	Fine adjustment of fuser belt rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
485-1				FAX	128 <0-255>	M		4
485-2				PPC	128 <0-255>	M		4
485-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
485-4				FAX	128 <0-255>	M		4
485-5				PPC	128 <0-255>	M		4
485-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
485-7				FAX	128 <0-255>	M		4
485-8				PPC	128 <0-255>	M		4
485-9			Transport speed: High speed	PRT	128 <0-255>	M		4
485-10				FAX	128 <0-255>	M		4
485-11				PPC	128 <0-255>	M		4
487-0	Drive	Fine adjustment of transfer belt motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M	When the value increases, the reproduction ratio in the secondary scanning direction becomes larger. (Approx. 0.1 mm/1 steps)	4
487-1				FAX	128 <0-255>	M		4
487-2				PPC	128 <0-255>	M		4
487-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
487-4				FAX	128 <0-255>	M		4
487-5				PPC	128 <0-255>	M		4
487-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
487-7				FAX	128 <0-255>	M		4
487-8				PPC	128 <0-255>	M		4
487-9			Transport speed: High speed	PRT	128 <0-255>	M		4
487-10				FAX	128 <0-255>	M		4
487-11				PPC	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
489-0	Drive	Fine adjustment of feed/transport motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
489-1				FAX	128 <0-255>	M		4
489-2				PPC	128 <0-255>	M		4
489-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
489-4				FAX	128 <0-255>	M		4
489-5				PPC	128 <0-255>	M		4
489-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
489-7				FAX	128 <0-255>	M		4
489-8				PPC	128 <0-255>	M		4
489-9			Transport speed: High speed	PRT	128 <0-255>	M		4
489-10				FAX	128 <0-255>	M		4
489-11				PPC	128 <0-255>	M		4
489-12			Transport speed: 1	ALL	128 <0-255>	M		4
489-13			Transport speed: 2	ALL	128 <0-255>	M		4
489-14			Transport speed: 3	ALL	128 <0-255>	M		4
489-15			Transport speed: 4	ALL	128 <0-255>	M		4
489-16			Transport speed: 5	ALL	128 <0-255>	M		4
489-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
491-0	Drive system	Fine adjustment of ADU motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
491-1				FAX	128 <0-255>	M		4
491-2				PPC	128 <0-255>	M		4
491-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
491-4				FAX	128 <0-255>	M		4
491-5				PPC	128 <0-255>	M		4
491-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
491-7				FAX	128 <0-255>	M		4
491-8				PPC	128 <0-255>	M		4
491-9			Transport speed: High speed	PRT	128 <0-255>	M		4
491-10				FAX	128 <0-255>	M		4
491-11				PPC	128 <0-255>	M		4
491-12			Transport speed: 1	ALL	128 <0-255>	M		4
491-13			Transport speed: 2	ALL	128 <0-255>	M		4
491-14			Transport speed: 3	ALL	128 <0-255>	M		4
491-15			Transport speed: 4	ALL	128 <0-255>	M		4
491-16			Transport speed: 5	ALL	128 <0-255>	M		4
491-17			Transport speed: 6	ALL	128 <0-255>	M		4
494	Image	Leading edge position adjustment (Decelerated by 2/3)	Common items	ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
495	Image	Leading edge position adjustment (Decelerated by 2/3)	Common items (Black)	ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
497-0	Image	Adjustment of drawer sideways deviation	1st drawer	ALL	128 <0-255>	M	When the value increases by “1”, the image shifts toward the front side by 0.0423 mm.	4
497-1			2nd drawer	ALL	128 <0-255>	M		4
497-2			3rd drawer	ALL	128 <0-255>	M		4
497-3			4th drawer	ALL	128 <0-255>	M		4
497-4			T-LCF	ALL	128 <0-255>	M		4
497-5			Bypass feeding	ALL	128 <0-255>	M		4
497-6			O-LCF	ALL	128 <0-255>	M		4
498-0	Image	Adjustment of primary scanning laser writing start position at duplex feeding	Long size	ALL	128 <0-255>	M	When the value increases by “1”, the image shifts toward the front side by 0.0423 mm.	4
498-1			Short size (A4/LT or smaller)	ALL	128 <0-255>	M		4
498-2			Middle size	ALL	128 <0-255>	M		4
4065	Image	Leading edge position adjustment (Decelerated by 1/2)	Common items	ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
4066	Image	Leading edge position adjustment (High speed)	Common items	ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
4067-0	Image	Leading edge position adjustment (High speed)	1st drawer	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4067-1			2nd drawer	ALL	50 <0-100>	M		4
4067-2			3rd drawer	ALL	50 <0-100>	M		4
4067-3			4th drawer	ALL	50 <0-100>	M		4
4067-4			Bypass feed	ALL	50 <0-100>	M		4
4067-5			ADU	ALL	50 <0-100>	M		4
4067-6			T-LCF	ALL	50 <0-100>	M		4
4067-7			O-LCF	ALL	50 <0-100>	M		4
4068	Image	Leading edge adjustment/ Black print correction (Normal speed)		ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4069	Image	Leading edge adjustment/ Black print correction (Decelerated by 1/2)		ALL	100 <0-200>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	1
4100-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (1st drawer / Plain paper)	Plain paper Long size	ALL	48 <0~63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4100-1			Plain paper Middle size	ALL	38 <0~63>	M		4
4100-2			Plain paper Short size 1	ALL	35 <0-63>	M		4
4100-3			Plain paper Short size 2	ALL	35 <0-63>	M		4
4100-4			Plain paper Short size 3	ALL	35 <0-63>	M		4
4101-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (2nd drawer / Plain paper)	Plain paper Long size	ALL	33 <0~63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4101-1			Plain paper Middle size	ALL	38 <0~63>	M		4
4101-2			Plain paper Short size 1	ALL	35 <0-63>	M		4
4101-3			Plain paper Short size 2	ALL	35 <0-63>	M		4
4101-4			Plain paper Short size 3	ALL	35 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4103-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Plain paper)	Plain paper Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4103-1			Plain paper Middle size	ALL	30 <0-63>	M		4
4103-2			Plain paper Short size 1	ALL	30 <0-63>	M		4
4103-3			Plain paper Short size 2	ALL	30 <0-63>	M		4
4103-4			Plain paper Short size 3	ALL	30 <0-63>	M		4
4104-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 1)	Thick paper 1 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4104-1			Thick paper 1 Middle size	ALL	35 <0-63>	M		4
4104-2			Thick paper 1 Short size 1	ALL	35 <0-63>	M		4
4104-3			Thick paper 1 Short size 2	ALL	35 <0-63>	M		4
4104-4			Thick paper 1 Short size 3	ALL	35 <0-63>	M		4
4105-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 2)	Thick paper 2 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4105-1			Thick paper 2 Middle size	ALL	35 <0-63>	M		4
4105-2			Thick paper 2 Short size 1	ALL	35 <0-63>	M		4
4105-3			Thick paper 2 Short size 2	ALL	35 <0-63>	M		4
4105-4			Thick paper 2 Short size 3	ALL	35 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4106-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 3)	Thick paper 3 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4106-1			Thick paper 3 Middle size	ALL	35 <0-63>	M		4
4106-2			Thick paper 3 Short size 1	ALL	35 <0-63>	M		4
4106-3			Thick paper 3 Short size 2	ALL	35 <0-63>	M		4
4106-4			Thick paper 3 Short size 3	ALL	35 <0-63>	M		4
4107-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / OHP film)	OHP film Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4107-1			OHP film Middle size	ALL	35 <0-63>	M		4
4107-2			OHP film Short size 1	ALL	35 <0-63>	M		4
4107-3			OHP film Short size 2	ALL	35 <0-63>	M		4
4107-4			OHP film Short size 3	ALL	35 <0-63>	M		4
4108-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (3rd drawer / Plain paper)	Plain paper Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4108-1			Plain paper Middle size	ALL	35 <0-63>	M		4
4108-2			Plain paper Short size 1	ALL	35 <0-63>	M		4
4108-3			Plain paper Short size 2	ALL	35 <0-63>	M		4
4108-4			Plain paper Short size 3	ALL	35 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4109-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (4th drawer / Plain paper)	Plain paper Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4109-1			Plain paper Middle size	ALL	35 <0-63>	M		4
4109-2			Plain paper Short size 1	ALL	35 <0-63>	M		4
4109-3			Plain paper Short size 2	ALL	35 <0-63>	M		4
4109-4			Plain paper Short size 3	ALL	35 <0-63>	M		4
4110-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Plain paper)	Plain paper Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4110-1			Plain paper Middle size	ALL	30 <0-63>	M		4
4110-2			Plain paper Short size 1	ALL	30 <0-63>	M		4
4110-3			Plain paper Short size 2	ALL	30 <0-63>	M		4
4110-4			Plain paper Short size 3	ALL	30 <0-63>	M		4
4111	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (T-LCF)		ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm.	1

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4115-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (1st drawer / Thick paper 1)	Thick paper 1 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4115-1			Thick paper 1 Middle size	ALL	38 <0-63>	M		4
4115-2			Thick paper 1 Short size 1	ALL	38 <0-63>	M		4
4115-3			Thick paper 1 Short size 2	ALL	38 <0-63>	M		4
4115-4			Thick paper 1 Short size 3	ALL	38 <0-63>	M		4
4116-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (2nd drawer / Thick paper 1)	Thick paper 1 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4116-1			Thick paper 1 Middle size	ALL	38 <0-63>	M		4
4116-2			Thick paper 1 Short size 1	ALL	38 <0-63>	M		4
4116-3			Thick paper 1 Short size 2	ALL	38 <0-63>	M		4
4116-4			Thick paper 1 Short size 3	ALL	38 <0-63>	M		4
4117-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (3rd drawer / Thick paper 1)	Thick paper 1 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4117-1			Thick paper 1 Middle size	ALL	35 <0-63>	M		4
4117-2			Thick paper 1 Short size 1	ALL	38 <0-63>	M		4
4117-3			Thick paper 1 Short size 2	ALL	38 <0-63>	M		4
4117-4			Thick paper 1 Short size 3	ALL	38 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4118-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (4th drawer / Thick paper 1)	Thick paper 1 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4118-1			Thick paper 1 Middle size	ALL	35 <0-63>	M		4
4118-2			Thick paper 1 Short size 1	ALL	38 <0-63>	M		4
4118-3			Thick paper 1 Short size 2	ALL	38 <0-63>	M		4
4118-4			Thick paper 1 Short size 3	ALL	38 <0-63>	M		4
4120-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 1)	Thick paper 1 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4120-1			Thick paper 1 Middle size	ALL	30 <0-63>	M		4
4120-2			Thick paper 1 Short size 1	ALL	30 <0-63>	M		4
4120-3			Thick paper 1 Short size 2	ALL	30 <0-63>	M		4
4120-4			Thick paper 1 Short size 3	ALL	30 <0-63>	M		4
4122-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (1st drawer / Plain paper)	Plain paper Long size	ALL	40 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4122-1			Plain paper Middle size	ALL	29 <0-63>	M		4
4122-2			Plain paper Short size 1	ALL	27 <0-63>	M		4
4122-3			Plain paper Short size 2	ALL	27 <0-63>	M		4
4122-4			Plain paper Short size 3	ALL	27 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4123-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (2nd drawer / Plain paper)	Plain paper Long size	ALL	25 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4123-1			Plain paper Middle size	ALL	29 <0-63>	M		4
4123-2			Plain paper Short size 1	ALL	27 <0-63>	M		4
4123-3			Plain paper Short size 2	ALL	27 <0-63>	M		4
4123-4			Plain paper Short size 3	ALL	27 <0-63>	M		4
4124-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (3rd drawer / Plain paper)	Plain paper Long size	ALL	22 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4124-1			Plain paper Middle size	ALL	26 <0-63>	M		4
4124-2			Plain paper Short size 1	ALL	27 <0-63>	M		4
4124-3			Plain paper Short size 2	ALL	27 <0-63>	M		4
4124-4			Plain paper Short size 3	ALL	27 <0-63>	M		4
4125-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (4th drawer / Plain paper)	Plain paper Long size	ALL	22 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4125-1			Plain paper Middle size	ALL	26 <0-63>	M		4
4125-2			Plain paper Short size 1	ALL	27 <0-63>	M		4
4125-3			Plain paper Short size 2	ALL	27 <0-63>	M		4
4125-4			Plain paper Short size 3	ALL	27 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4126	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (T-LCF)		ALL	27 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm.	1
4127-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section: High speed / black (Bypass feed / Plain paper)	Plain paper Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4127-1			Plain paper Middle size	ALL	30 <0-63>	M		4
4127-2			Plain paper Short size 1	ALL	30 <0-63>	M		4
4127-3			Plain paper Short size 2	ALL	30 <0-63>	M		4
4127-4			Plain paper Short size 3	ALL	30 <0-63>	M		4
4128-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Special paper 1)	Special paper 1 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4128-1			Special paper 1 Middle size	ALL	35 <0-63>	M		4
4128-2			Special paper 1 Short size 1	ALL	35 <0-63>	M		4
4128-3			Special paper 1 Short size 2	ALL	35 <0-63>	M		4
4128-4			Special paper 1 Short size 3	ALL	35 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4129-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Special paper 2)	Special paper 2 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4129-1			Special paper 2 Middle size	ALL	35 <0-63>	M		4
4129-2			Special paper 2 Short size 1	ALL	35 <0-63>	M		4
4129-3			Special paper 2 Short size 2	ALL	35 <0-63>	M		4
4129-4			Special paper 2 Short size 3	ALL	35 <0-63>	M		4
4562-0	Image	Leading edge position adjustment / 1st drawer (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4562-1			Thick paper 2	ALL	50 <0-100>	M		4
4562-2			Thick paper 3	ALL	50 <0-100>	M		4
4562-3		Leading edge position adjustment / 1st drawer (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4
4563-0	Image	Leading edge position adjustment / 2nd drawer (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4563-1			Thick paper 2	ALL	50 <0-100>	M		4
4563-2			Thick paper 3	ALL	50 <0-100>	M		4
4563-3		Leading edge position adjustment / 2nd drawer (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4
4564-0	Image	Leading edge position adjustment / 3rd drawer (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4564-1			Thick paper 2	ALL	50 <0-100>	M		4
4564-2			Thick paper 3	ALL	50 <0-100>	M		4
4564-3		Leading edge position adjustment / 3rd drawer (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4565-0	Image	Leading edge position adjustment / 4th drawer (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4565-1			Thick paper 2	ALL	50 <0-100>	M		4
4565-2			Thick paper 3	ALL	50 <0-100>	M		4
4565-3		Leading edge position adjustment / 4th drawer (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4
4566-0	Image	Leading edge position adjustment / T-LCF (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4566-1			Thick paper 2	ALL	50 <0-100>	M		4
4566-2			Thick paper 3	ALL	50 <0-100>	M		4
4566-3		Leading edge position adjustment / T-LCF (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4
4567-0	Image	Leading edge position adjustment Bypass feed (Decelerated by 1/2)	Thick paper 1	ALL	51 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4567-1			Thick paper 2	ALL	52 <0-100>	M		4
4567-2			Thick paper 3	ALL	54 <0-100>	M		4
4567-3			Thick paper 4	ALL	55 <0-100>	M		4
4567-4		Leading edge position adjustment Bypass feed (Decelerated by 2/3)	OHP film	ALL	54 <0-100>	M		4
4567-5			Special paper 1	ALL	54 <0-100>	M		4
4567-6			Special paper 2	ALL	54 <0-100>	M		4
4567-7			Thick paper 3	ALL	54 <0-100>	M		4
4567-8			Thick paper 4	ALL	55 <0-100>	M		4
4568-0	Image	Leading edge position adjustment / ADU (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4568-1			Thick paper 2	ALL	50 <0-100>	M		4
4568-2			Thick paper 3	ALL	50 <0-100>	M		4
4568-3		Leading edge position adjustment / ADU (Decelerated by 2/3)	Special paper 1	ALL	50 <0-100>	M		4
4568-4			Special paper 2	ALL	50 <0-100>	M		4
4568-5			Thick paper 3	ALL	50 <0-100>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4569-0	Image	Leading edge position adjustment / O-LCF (Decelerated by 1/2)	Thick paper 1	ALL	50 <0-100>	M	When the value increases by “1”, the image shifts toward the trailing edge of the paper by approx. 0.1 mm.	4
4569-1			Thick paper 2	ALL	50 <0-100>	M		4
4569-2			Thick paper 3	ALL	50 <0-100>	M		4
4569-3		Leading edge position adjustment / O-LCF (Decelerated by 2/3)	Thick paper 3	ALL	50 <0-100>	M		4
4580-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Plain paper)	Plain paper Long size	ALL	30 <0~63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4580-1			Plain paper Middle size	ALL	35 <0~63>	M		4
4580-2			Plain paper Short size 1	ALL	35 <0~63>	M		4
4580-3			Plain paper Short size 2	ALL	35 <0~63>	M		4
4580-4			Plain paper Short size 3	ALL	35 <0~63>	M		4
4581-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Thick paper 1)	Thick paper 1 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4581-1			Thick paper 1 Middle size	ALL	35 <0-63>	M		4
4581-2			Thick paper 1 Short size 1	ALL	38 <0-63>	M		4
4581-3			Thick paper 1 Short size 2	ALL	38 <0-63>	M		4
4581-4			Thick paper 1 Short size 3	ALL	38 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4582-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (1st drawer / Thick paper 2)	Thick paper 2 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4582-1			Thick paper 2 Middle size	ALL	38 <0-63>	M		4
4582-2			Thick paper 2 Short size 1	ALL	38 <0-63>	M		4
4582-3			Thick paper 2 Short size 2	ALL	38 <0-63>	M		4
4582-4			Thick paper 2 Short size 3	ALL	38 <0-63>	M		4
4583-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (2nd drawer / Thick paper 2)	Thick paper 2 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4583-1			Thick paper 2 Middle size	ALL	38 <0-63>	M		4
4583-2			Thick paper 2 Short size 1	ALL	38 <0-63>	M		4
4583-3			Thick paper 2 Short size 2	ALL	38 <0-63>	M		4
4583-4			Thick paper 2 Short size 3	ALL	38 <0-63>	M		4
4584-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (3rd drawer / Thick paper 2)	Thick paper 2 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4584-1			Thick paper 2 Middle size	ALL	35 <0-63>	M		4
4584-2			Thick paper 2 Short size 1	ALL	38 <0-63>	M		4
4584-3			Thick paper 2 Short size 2	ALL	38 <0-63>	M		4
4584-4			Thick paper 2 Short size 3	ALL	38 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4585-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (4th drawer / Thick paper 2)	Thick paper 2 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4585-1			Thick paper 2 Middle size	ALL	35 <0-63>	M		4
4585-2			Thick paper 2 Short size 1	ALL	38 <0-63>	M		4
4585-3			Thick paper 2 Short size 2	ALL	38 <0-63>	M		4
4585-4			Thick paper 2 Short size 3	ALL	38 <0-63>	M		4
4586-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Thick paper 2)	Thick paper 2 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4586-1			Thick paper 2 Middle size	ALL	35 <0-63>	M		4
4586-2			Thick paper 2 Short size 1	ALL	38 <0-63>	M		4
4586-3			Thick paper 2 Short size 2	ALL	38 <0-63>	M		4
4586-4			Thick paper 2 Short size 3	ALL	38 <0-63>	M		4
4587-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / High speed)	Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4587-1			Middle size	ALL	30 <0-63>	M		4
4587-2			Short size 1	ALL	30 <0-63>	M		4
4587-3			Short size 2	ALL	30 <0-63>	M		4
4587-4			Short size 3	ALL	30 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4588-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (1st drawer / Thick paper 3) (black)	Thick paper 3 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4588-1			Thick paper 3 Middle size	ALL	38 <0-63>	M		4
4588-2			Thick paper 3 Short size 1	ALL	38 <0-63>	M		4
4588-3			Thick paper 3 Short size 2	ALL	38 <0-63>	M		4
4588-4			Thick paper 3 Short size 3	ALL	38 <0-63>	M		4
4589-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (2nd drawer / Thick paper 3) (black)	Thick paper 3 Long size	ALL	38 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4589-1			Thick paper 3 Middle size	ALL	38 <0-63>	M		4
4589-2			Thick paper 3 Short size 1	ALL	38 <0-63>	M		4
4589-3			Thick paper 3 Short size 2	ALL	38 <0-63>	M		4
4589-4			Thick paper 3 Short size 3	ALL	38 <0-63>	M		4
4590-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (3rd drawer / Thick paper 3) (black)	Thick paper 3 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4590-1			Thick paper 3 Middle size	ALL	35 <0-63>	M		4
4590-2			Thick paper 3 Short size 1	ALL	38 <0-63>	M		4
4590-3			Thick paper 3 Short size 2	ALL	38 <0-63>	M		4
4590-4			Thick paper 3 Short size 3	ALL	38 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4591-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (4th drawer / Thick paper 3) (black)	Thick paper 3 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4591-1			Thick paper 3 Middle size	ALL	35 <0-63>	M		4
4591-2			Thick paper 3 Short size 1	ALL	38 <0-63>	M		4
4591-3			Thick paper 3 Short size 2	ALL	38 <0-63>	M		4
4591-4			Thick paper 3 Short size 3	ALL	38 <0-63>	M		4
4592-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Thick paper 3) (black)	Thick paper 3 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4592-1			Thick paper 3 Middle size	ALL	35 <0-63>	M		4
4592-2			Thick paper 3 Short size 1	ALL	38 <0-63>	M		4
4592-3			Thick paper 3 Short size 2	ALL	38 <0-63>	M		4
4592-4			Thick paper 3 Short size 3	ALL	38 <0-63>	M		4
4593-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 3) (black)	Thick paper 3 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4593-1			Thick paper 3 Middle size	ALL	30 <0-63>	M		4
4593-2			Thick paper 3 Short size 1	ALL	30 <0-63>	M		4
4593-3			Thick paper 3 Short size 2	ALL	30 <0-63>	M		4
4593-4			Thick paper 3 Short size 3	ALL	30 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4600-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Plain paper) (High speed / black)	Plain paper Long size	ALL	22 <0~63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4600-1			Plain paper Middle size	ALL	26 <0~63>	M		4
4600-2			Plain paper Short size 1	ALL	27 <0-63>	M		4
4600-3			Plain paper Short size 2	ALL	27 <0-63>	M		4
4600-4			Plain paper Short size 3	ALL	27 <0-63>	M		4
4601-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 4) (black)	Thick paper 4 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4601-1			Thick paper 4 Middle size	ALL	35 <0-63>	M		4
4601-2			Thick paper 4 Short size 1	ALL	35 <0-63>	M		4
4601-3			Thick paper 4 Short size 2	ALL	35 <0-63>	M		4
4601-4			Thick paper 4 Short size 3	ALL	35 <0-63>	M		4
4602-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 4) (black)	Thick paper 4 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4602-1			Thick paper 4 Middle size	ALL	30 <0-63>	M		4
4602-2			Thick paper 4 Short size 1	ALL	30 <0-63>	M		4
4602-3			Thick paper 4 Short size 2	ALL	30 <0-63>	M		4
4602-4			Thick paper 4 Short size 3	ALL	30 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4603-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Special paper 1)	Special paper 1 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4603-1			Special paper 1 Middle size	ALL	30 <0-63>	M		4
4603-2			Special paper 1 Short size 1	ALL	30 <0-63>	M		4
4603-3			Special paper 1 Short size 2	ALL	30 <0-63>	M		4
4603-4			Special paper 1 Short size 3	ALL	30 <0-63>	M		4
4604-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Special paper 2)	Special paper 2 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4604-1			Special paper 2 Middle size	ALL	30 <0-63>	M		4
4604-2			Special paper 2 Short size 1	ALL	30 <0-63>	M		4
4604-3			Special paper 2 Short size 2	ALL	30 <0-63>	M		4
4604-4			Special paper 2 Short size 3	ALL	30 <0-63>	M		4
4605-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (1st drawer / Thick paper 3) (color)	Thick paper 3 Long size	ALL	39 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4605-1			Thick paper 3 Middle size	ALL	39 <0-63>	M		4
4605-2			Thick paper 3 Short size 1	ALL	39 <0-63>	M		4
4605-3			Thick paper 3 Short size 2	ALL	39 <0-63>	M		4
4605-4			Thick paper 3 Short size 3	ALL	39 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4606-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (2nd drawer / Thick paper 3) (color)	Thick paper 3 Long size	ALL	39 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4606-1			Thick paper 3 Middle size	ALL	39 <0-63>	M		4
4606-2			Thick paper 3 Short size 1	ALL	39 <0-63>	M		4
4606-3			Thick paper 3 Short size 2	ALL	39 <0-63>	M		4
4606-4			Thick paper 3 Short size 3	ALL	39 <0-63>	M		4
4607-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (3rd drawer / Thick paper 3) (color)	Thick paper 3 Long size	ALL	34 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4607-1			Thick paper 3 Middle size	ALL	34 <0-63>	M		4
4607-2			Thick paper 3 Short size 1	ALL	39 <0-63>	M		4
4607-3			Thick paper 3 Short size 2	ALL	39 <0-63>	M		4
4607-4			Thick paper 3 Short size 3	ALL	39 <0-63>	M		4
4608-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (4th drawer / Thick paper 3) (color)	Thick paper 3 Long size	ALL	34 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4608-1			Thick paper 3 Middle size	ALL	34 <0-63>	M		4
4608-2			Thick paper 3 Short size 1	ALL	39 <0-63>	M		4
4608-3			Thick paper 3 Short size 2	ALL	39 <0-63>	M		4
4608-4			Thick paper 3 Short size 3	ALL	39 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4609-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (O-LCF / Thick paper 3) (color)	Thick paper 3 Long size	ALL	34 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4609-1			Thick paper 3 Middle size	ALL	34 <0-63>	M		4
4609-2			Thick paper 3 Short size 1	ALL	39 <0-63>	M		4
4609-3			Thick paper 3 Short size 2	ALL	39 <0-63>	M		4
4609-4			Thick paper 3 Short size 3	ALL	39 <0-63>	M		4
4610-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 3) (color)	Thick paper 3 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4610-1			Thick paper 3 Middle size	ALL	30 <0-63>	M		4
4610-2			Thick paper 3 Short size 1	ALL	30 <0-63>	M		4
4610-3			Thick paper 3 Short size 2	ALL	30 <0-63>	M		4
4610-4			Thick paper 3 Short size 3	ALL	30 <0-63>	M		4
4611-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 4) (color)	Thick paper 4 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4611-1			Thick paper 4 Middle size	ALL	30 <0-63>	M		4
4611-2			Thick paper 4 Short size 1	ALL	30 <0-63>	M		4
4611-3			Thick paper 4 Short size 2	ALL	30 <0-63>	M		4
4611-4			Thick paper 4 Short size 3	ALL	30 <0-63>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4612-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 3) (color)	Thick paper 3 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4612-1			Thick paper 3 Middle size	ALL	35 <0-63>	M		4
4612-2			Thick paper 3 Short size 1	ALL	35 <0-63>	M		4
4612-3			Thick paper 3 Short size 2	ALL	35 <0-63>	M		4
4612-4			Thick paper 3 Short size 3	ALL	35 <0-63>	M		4
4613-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (Bypass feed / Thick paper 4) (color)	Thick paper 4 Long size	ALL	35 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4613-1			Thick paper 4 Middle size	ALL	35 <0-63>	M		4
4613-2			Thick paper 4 Short size 1	ALL	35 <0-63>	M		4
4613-3			Thick paper 4 Short size 2	ALL	35 <0-63>	M		4
4613-4			Thick paper 4 Short size 3	ALL	35 <0-63>	M		4
4615-0	Feeding system / Paper transport	Paper aligning amount adjustment at the registration section (ADU / Thick paper 2)	Thick paper 2 Long size	ALL	30 <0-63>	M	When the value increases by “1”, the aligning amount increases by approx. 0.54 mm. <Paper length> Long size: 330 mm or longer Middle size: 220 mm to 329 mm Short size 1: 205 mm to 219 mm Short size 2: 160 mm to 204 mm Short size 3: 159 mm or shorter	4
4615-1			Thick paper 2 Middle size	ALL	30 <0-63>	M		4
4615-2			Thick paper 2 Short size 1	ALL	30 <0-63>	M		4
4615-3			Thick paper 2 Short size 2	ALL	30 <0-63>	M		4
4615-4			Thick paper 2 Short size 3	ALL	30 <0-63>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4707-0	Drive	Fine adjustment of 3rd / 4th drawer feed motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4707-1				FAX	128 <0-255>	M		4
4707-2				PPC	128 <0-255>	M		4
4707-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4707-4				FAX	128 <0-255>	M		4
4707-5				PPC	128 <0-255>	M		4
4707-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4707-7				FAX	128 <0-255>	M		4
4707-8				PPC	128 <0-255>	M		4
4707-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4707-10				FAX	128 <0-255>	M		4
4707-11				PPC	128 <0-255>	M		4
4707-12			Transport speed: 1	ALL	128 <0-255>	M		4
4707-13			Transport speed: 2	ALL	128 <0-255>	M		4
4707-14			Transport speed: 3	ALL	128 <0-255>	M		4
4707-15			Transport speed: 4	ALL	128 <0-255>	M		4
4707-16			Transport speed: 5	ALL	128 <0-255>	M		4
4707-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4708-0	Drive	Fine adjustment of T-LCF motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4708-1				FAX	128 <0-255>	M		4
4708-2				PPC	128 <0-255>	M		4
4708-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4708-4				FAX	128 <0-255>	M		4
4708-5				PPC	128 <0-255>	M		4
4708-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4708-7				FAX	128 <0-255>	M		4
4708-8				PPC	128 <0-255>	M		4
4708-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4708-10				FAX	128 <0-255>	M		4
4708-11				PPC	128 <0-255>	M		4
4708-12			Transport speed: 1	ALL	128 <0-255>	M		4
4708-13			Transport speed: 2	ALL	128 <0-255>	M		4
4708-14			Transport speed: 3	ALL	128 <0-255>	M		4
4708-15			Transport speed: 4	ALL	128 <0-255>	M		4
4708-16			Transport speed: 5	ALL	128 <0-255>	M		4
4708-17			Transport speed: 6	ALL	128 <0-255>	M		4
4719	Image control	Color registration adjustment		ALL	-	M	Forcibly performs the color registration control adjustment in order to eliminate the color deviation of Y, M, C and K colors.	6
4720-0	Image control	Displaying parameters for color registration adjustment detection abnormality	Front & rear sides	ALL	0 <0-255>	M	Checks the cause of a “CA00” error when it occurs. Ch.25.3.20	10
4720-1			Center	ALL	0 <0-255>	M		10
4721	Maintenance	Tilt motor initial excitation setting		ALL	-	M	Perform this adjustment when the SRAM on the laser unit or the LGC board has been replaced.	6

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4731-0	Image	Image void correction code	Top margin	PPC (black)	0 <0-255>	M		4
4731-1				PPC (color)	48 <0-255>	M		4
4731-2				PRT (black)	29 <0-255>	M		4
4731-3				PRT (color)	29 <0-255>	M		4
4731-4			Bottom margin	PPC (black)	24 <0-255>	M		4
4731-5				PPC (color)	24 <0-255>	M		4
4731-6				PRT (black)	0 <0-255>	M		4
4731-7				PRT (color)	0 <0-255>	M		4
4740-0	Drive	Fine adjustment of 2nd drawer feed motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4740-1				FAX	128 <0-255>	M		4
4740-2				PPC	128 <0-255>	M		4
4740-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4740-4				FAX	128 <0-255>	M		4
4740-5				PPC	128 <0-255>	M		4
4740-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4740-7				FAX	128 <0-255>	M		4
4740-8				PPC	128 <0-255>	M		4
4740-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4740-10				FAX	128 <0-255>	M		4
4740-11				PPC	128 <0-255>	M		4
4740-12			Transport speed: 1	ALL	128 <0-255>	M		4
4740-13			Transport speed: 2	ALL	128 <0-255>	M		4
4740-14			Transport speed: 3	ALL	128 <0-255>	M		4
4740-15			Transport speed: 4	ALL	128 <0-255>	M		4
4740-16			Transport speed: 5	ALL	128 <0-255>	M		4
4740-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4741-0	Drive	Fine adjustment of 1st drawer transport motor rotational speed	Transport speed: Normal speed	PRT	160 <0-255>	M		4
4741-1				FAX	128 <0-255>	M		4
4741-2				PPC	128 <0-255>	M		4
4741-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4741-4				FAX	128 <0-255>	M		4
4741-5				PPC	128 <0-255>	M		4
4741-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4741-7				FAX	128 <0-255>	M		4
4741-8				PPC	128 <0-255>	M		4
4741-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4741-10				FAX	128 <0-255>	M		4
4741-11				PPC	128 <0-255>	M		4
4741-12			Transport speed: 1	ALL	128 <0-255>	M		4
4741-13			Transport speed: 2	ALL	128 <0-255>	M		4
4741-14			Transport speed: 3	ALL	128 <0-255>	M		4
4741-15			Transport speed: 4	ALL	128 <0-255>	M		4
4741-16			Transport speed: 5	ALL	128 <0-255>	M		4
4741-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4742-0	Drive	Fine adjustment of 2nd drawer transport motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4742-1				FAX	128 <0-255>	M		4
4742-2				PPC	128 <0-255>	M		4
4742-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4742-4				FAX	128 <0-255>	M		4
4742-5				PPC	128 <0-255>	M		4
4742-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4742-7				FAX	128 <0-255>	M		4
4742-8				PPC	128 <0-255>	M		4
4742-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4742-10				FAX	128 <0-255>	M		4
4742-11				PPC	128 <0-255>	M		4
4742-12			Transport speed: 1	ALL	128 <0-255>	M		4
4742-13			Transport speed: 2	ALL	128 <0-255>	M		4
4742-14			Transport speed: 3	ALL	128 <0-255>	M		4
4742-15			Transport speed: 4	ALL	128 <0-255>	M		4
4742-16			Transport speed: 5	ALL	128 <0-255>	M		4
4742-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4743-0	Drive	Fine adjustment of Bypass feeding feed motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4743-1				FAX	128 <0-255>	M		4
4743-2				PPC	128 <0-255>	M		4
4743-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4743-4				FAX	128 <0-255>	M		4
4743-5				PPC	128 <0-255>	M		4
4743-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4743-7				FAX	128 <0-255>	M		4
4743-8				PPC	128 <0-255>	M		4
4743-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4743-10				FAX	128 <0-255>	M		4
4743-11				PPC	128 <0-255>	M		4
4743-12			Transport speed: 1	ALL	128 <0-255>	M		4
4743-13			Transport speed: 2	ALL	128 <0-255>	M		4
4743-14			Transport speed: 3	ALL	128 <0-255>	M		4
4743-15			Transport speed: 4	ALL	128 <0-255>	M		4
4743-16			Transport speed: 5	ALL	128 <0-255>	M		4
4743-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4744-0	Drive	Fine adjustment of Reverse motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4744-1				FAX	128 <0-255>	M		4
4744-2				PPC	128 <0-255>	M		4
4744-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4744-4				FAX	128 <0-255>	M		4
4744-5				PPC	128 <0-255>	M		4
4744-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4744-7				FAX	128 <0-255>	M		4
4744-8				PPC	128 <0-255>	M		4
4744-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4744-10				FAX	128 <0-255>	M		4
4744-11				PPC	128 <0-255>	M		4
4744-12			Transport speed: 1	ALL	128 <0-255>	M		4
4744-13			Transport speed: 2	ALL	128 <0-255>	M		4
4744-14			Transport speed: 3	ALL	128 <0-255>	M		4
4744-15			Transport speed: 4	ALL	128 <0-255>	M		4
4744-16			Transport speed: 5	ALL	128 <0-255>	M		4
4744-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4745-0	Drive	Fine adjustment of Bridge unit transport motor-1 rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4745-1				FAX	128 <0-255>	M		4
4745-2				PPC	128 <0-255>	M		4
4745-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4745-4				FAX	128 <0-255>	M		4
4745-5				PPC	128 <0-255>	M		4
4745-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4745-7				FAX	128 <0-255>	M		4
4745-8				PPC	128 <0-255>	M		4
4745-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4745-10				FAX	128 <0-255>	M		4
4745-11				PPC	128 <0-255>	M		4
4745-12			Transport speed: 1	ALL	128 <0-255>	M		4
4745-13			Transport speed: 2	ALL	128 <0-255>	M		4
4745-14			Transport speed: 3	ALL	128 <0-255>	M		4
4745-15			Transport speed: 4	ALL	128 <0-255>	M		4
4745-16			Transport speed: 5	ALL	128 <0-255>	M		4
4745-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4746-0	Drive	Fine adjustment of Bridge unit transport motor-2 rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4746-1				FAX	128 <0-255>	M		4
4746-2				PPC	128 <0-255>	M		4
4746-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4746-4				FAX	128 <0-255>	M		4
4746-5				PPC	128 <0-255>	M		4
4746-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4746-7				FAX	128 <0-255>	M		4
4746-8				PPC	128 <0-255>	M		4
4746-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4746-10				FAX	128 <0-255>	M		4
4746-11				PPC	128 <0-255>	M		4
4746-12			Transport speed: 1	ALL	128 <0-255>	M		4
4746-13			Transport speed: 2	ALL	128 <0-255>	M		4
4746-14			Transport speed: 3	ALL	128 <0-255>	M		4
4746-15			Transport speed: 4	ALL	128 <0-255>	M		4
4746-16			Transport speed: 5	ALL	128 <0-255>	M		4
4746-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4747-0	Drive	Fine adjustment of ADU motor-1 rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4747-1				FAX	128 <0-255>	M		4
4747-2				PPC	128 <0-255>	M		4
4747-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4747-4				FAX	128 <0-255>	M		4
4747-5				PPC	128 <0-255>	M		4
4747-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4747-7				FAX	128 <0-255>	M		4
4747-8				PPC	128 <0-255>	M		4
4747-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4747-10				FAX	128 <0-255>	M		4
4747-11				PPC	128 <0-255>	M		4
4747-12			Transport speed: 1	ALL	128 <0-255>	M		4
4747-13			Transport speed: 2	ALL	128 <0-255>	M		4
4747-14			Transport speed: 3	ALL	128 <0-255>	M		4
4747-15			Transport speed: 4	ALL	128 <0-255>	M		4
4747-16			Transport speed: 5	ALL	128 <0-255>	M		4
4747-17			Transport speed: 6	ALL	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4748-0	Drive	Fine adjustment of 2nd transfer motor rotational speed	Transport speed: Normal speed	PRT	148 <0-255>	M		4
4748-1				FAX	128 <0-255>	M		4
4748-2				PPC	128 <0-255>	M		4
4748-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4748-4				FAX	128 <0-255>	M		4
4748-5				PPC	128 <0-255>	M		4
4748-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4748-7				FAX	128 <0-255>	M		4
4748-8				PPC	128 <0-255>	M		4
4748-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4748-10				FAX	128 <0-255>	M		4
4748-11				PPC	128 <0-255>	M		4

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Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4762-0	Drive	Fine adjustment of O-LCF motor rotational speed	Transport speed: Normal speed	PRT	128 <0-255>	M		4
4762-1				FAX	128 <0-255>	M		4
4762-2				PPC	128 <0-255>	M		4
4762-3			Transport speed: Decelerated by 1/2	PRT	128 <0-255>	M		4
4762-4				FAX	128 <0-255>	M		4
4762-5				PPC	128 <0-255>	M		4
4762-6			Transport speed: Decelerated by 2/3	PRT	128 <0-255>	M		4
4762-7				FAX	128 <0-255>	M		4
4762-8				PPC	128 <0-255>	M		4
4762-9			Transport speed: High speed	PRT	128 <0-255>	M		4
4762-10				FAX	128 <0-255>	M		4
4762-11				PPC	128 <0-255>	M		4
4762-12			Transport speed: 1	ALL	128 <0-255>	M		4
4762-13			Transport speed: 2	ALL	128 <0-255>	M		4
4762-14			Transport speed: 3	ALL	128 <0-255>	M		4
4762-15			Transport speed: 4	ALL	128 <0-255>	M		4
4762-16			Transport speed: 5	ALL	128 <0-255>	M		4
4762-17			Transport speed: 6	ALL	128 <0-255>	M		4
4772	Laser	Fine adjustment of image writing frequency (Reproduction ratio in primary scanning direction) / Normal speed		PRT	128 <0-255>	M	When the value increases by “1”, the reproduction ratio in the primary scanning direction is enlarged for approx. 0.05%.(0.1 mm / step)	1
4773				PPC	128 <0-255>	M		1
4782	Laser	Modulation adjustment for image writing frequency (Partial adjustment of reproduction ratio in primary scanning direction)		ALL	256 <0-512>	M	When the value increases by “1”, the reproduction ratio between the center and front sections of an image in the primary scanning direction is enlarged for approx. 0.003%.	1
4784	Feeding system / Paper transport	Media sensor / Border value for plain paper 1 and plain paper 2		ALL	EUR: 27 UC: 27 JPN: 32 <0~255>	M	3.22 mV/step	1

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Adjustment mode (05)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4789	Transfer	Temperature setting for determination of color registration control interval (K drum thermistor temperature)	ALL	10 <0-100>	M	When the temperature difference between the last control and the current control does not reach the specified value, the number of color registration controls is reduced. The larger the value is, the smaller the number of controls becomes. (Unit: Temperature value x 10)	1

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24. SETTING MODE (08)

The items in the setting code list can be set or changed in this setting mode (08).Turn ON the power with pressing the digital keys [0] and [8] simultaneously in order to enter this mode.

Note:

When the power should be turned OFF, be sure to shut down the equipment by pressing the [ON/OFF] button for a few seconds.

Remarks:

- The Service Handbook contains only the selected codes while the Service Manual contains all codes.
- The digit after the hyphen in “Code” of the following table is a sub code.
- In “RAM”, the SRAM of the board in which the data of each code is stored is indicated. “M” stands for the LGC board, “SYS”, “NIC” and “UTY” stands for the SYS board.

24.1 Classification List of Setting Mode (08)

Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
User interface	[ACS]	9698	
	[AMS]	605	
	[Feeding paper media]	9185-0 to 1	
	[X in 1]	650	
	[Color specification]	643, 644	
	[Indicator]	671	
	[Edit copying]	645, 646	
	[Sound]	610, 969, 970	
	[Counter]	202	
	[Cascade]	652, 653	
	[ACS]	268	
	[Screen]	207, 602, 983, 9985	
	[Administrator]	263, 9882	
	[Feeding setting]	658, 659	
	[Language]	220, 221, 1929, 1930, 1931, 1932, 1933, 1935	
	[Original counter]	302	
	[Original direction]	628	
	[Copy volume]	300	
	[Automatic calibration]	632	
	[Default setting]	276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 289, 331, 603, 604, 607, 618, 642, 9986	
	[Jam releasing]	9359	
	[Offsetting between jobs]	682	
	[Security level]	1708	
	[Sorting]	627, 634, 641, 649	
	[Timer]	204, 205, 206	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
User interface	[Template]	1140	
	[Image shift]	636, 1429, 1430, 8546	
	[Tray reset]	648	
	[Panel calibration]	9051	
	[Date]	640	
	[Annotation]	651, 657	
	[Displaying number]	342	
	[Job Build]	1130, 1131, 9891	
	[File]	209, 218, 219	
	[Department management]	617, 620, 621, 622, 623, 624, 629	
	[Black-free]		343
	[Book duplexing]	611	
	[Box printing]	951, 953, 954	
	[Paper size]	613	
	[Blank copy prevention]	625	
	[User mode]	506, 508, 580, 590	
	[EXTENSION button]	9955	
	[Icon]	8598, 9982	
	[Trial copy function]	3635	
	[ACC operation]	8591	
	[Display method of file name]	8624	
	[File name form for exporting]	8625	
	[Private print/Hold print job continue operation]	8626	
	[Print job list]	8633	
	[Auto-color print]	8634	
	[Meta Scan]	8635	
Scanner	[E-mail]	272, 273	
	[Pre-scan]	3015	
	[Date/time]	8540	
Fax	[FAX mistransmission prevention function]	3847, 3848, 3849	
	[Receiving confidential data]	3846	
	[Function]	1498, 1926, 8612	
	[Destination]		701
	[Default setting]	274	
	[Priority drawer]	689	
	[Setting retention]	9987	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Image	[ACS]	609-0 to 4, 9825, 9974, 9975, 9977	
	[All clearing]	7000, 7001, 7300, 7301, 7400, 7500	
	[Automatic calibration]	595	
	[Default setting]	1149, 9382, 9897, 9898, 9899	
	[Toner density ratio]	2707-0 to 3	
	[Smoothing]	560, 562	
	[Image repeat gap]	7612	
	[Outlining white text]	8011	
	[Blank page judgment]	9972, 9973	
	[Quantized coefficient correction]	8304-0 to 2	
Image control	[Abnormality detection]		573, 574, 575, 576
	[Contrast voltage]	2513-0 to 3, 2514-0 to 3, 2515, 2546-0 to 3	556
	[Automatic starting]	569, 570, 571, 572, 2492, 2494, 2496, 2498, 2499, 2500, 2501, 2703	
	[Smoothing]	560	
	[Drum surface potential sensor]	2508, 2560-0 to 3, 2561, 2577-0 to 3	
	[Potential on white background correction]	2548-0 to 3	
	[TRC control]	8103	2600

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Feeding system / Paper transport	[Feeding setting]	254, 619, 1438	
	[Paper source]	480, 481, 1135, 1431, 4016-0 to 1	
	[detection]	449, 1492, 4621, 4622	
	[Setting]	988	
	[Coated paper Mode]	675-0 to 4	
	[Paper size]	224, 225, 226, 227, 228, 256, 630, 8548	
	[Paper dimension]	210, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 470, 471, 4567, 4568, 4585	
	[Paper retry]	463-0 to 1, 464-0 to 1, 465-0 to 1, 466-0 to 1, 467-0 to 1, 468-0 to 1, 482, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1900-0 to 1, 6245	
	[Inserter Unit]	211	
	[Paper information]	9300, 9301, 9302, 9303, 9304, 9305, 9347	
	[Media Sensor]	4598, 4599, 8503	
	[Paper transport period]	4602	
	[Stop jam at registration sensor]	4603	
	[Color registration adjustment]	4550-0 to1, 4562, 4605	4546
	[Drum phase adjustment]	4766	
Laser	[Polygonal motor]	478, 483, 484, 485, 486, 489, 490, 4604, 9805	
	[Laser shutter]	4609	
Main charger	[Cleaning]	1389-0 to 1, 4606-0 to 3	
	[Charger]	808	
	[Drum rotation without fusing]	2380, 2381	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Development	[Toner nearly empty]	1415, 1416-0 to 3, 6452-0 to 3, 6453-0 to 3, 6454-0 to 3, 9804	
	[Developer material replacement timing]	2675-0 to 3	
	[Enforced toner supply]	2411, 2412, 2413	
	[Toner refreshing mode]	2677, 2678-0 to 3, 2679-0 to 3, 2681	
	[Developer replacement display]	2670	
	[Forcible detection of developer material]	2694, 2695	
	[Toner motor drive count]	1410-0 to 3	
	[Sub-hopper toner motor drive count]	1519-0 to 3	
	[Toner/carrier supply motor drive count]	6469-0 to 3	
	[Number of output pages available at toner cartridge replacement]	1520	
Waste toner	[Waste toner motor lock detection]	4595	
Transfer	[1st transfer]	816	
	[2nd transfer]	548, 2490, 4596, 4597	
	[Resistance detection]	2511	
	[Transfer bias]	2510	
Cleaner	[Drum and belt reverse rotation amount control]	2367	
	[Automatic interruption page number]	949, 2702	
	[2nd transfer roller reverse rotation amount control]	2376	
	[Ozone suctioning fan rotation period]	2370	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Fuser	[Temperature]	404, 405, 407, 410-0 to 1, 411-0 to 5, 412-0 to 1, 413-0 to 1, 416-0 to 1, 433-0 to 15, 434-0 to 9, 435-0 to 1, 436-0 to 1, 437-0 to 1, 438, 450-0 to 1, 451-0 to 1, 452-0 to 1, 453, 518-0 to 1, 531-0 to 9, 532, 534-0 to 1, 801-0 to 7, 885, 896-0 to 15, 1902, 1903, 1904, 2017-0 to 3, 2018-0 to 3, 2019-0 to 3, 2124-0 to 1, 2133-0 to 2, 2134-0 to 2, 2151-0 to 1, 2153-0 to 1, 2155-0 to 1, 2159-0 to 1, 2161, 2179-0 to 2, 2209-0 to 7, 2210-0 to 7, 2246-0 to 1, 2255, 2256-0 to 3, 4545, 4572, 5236-0 to 1, 5240-0 to 3, 5271-0 to 1, 5272-0 to 1, 5275-0 to 3,5277-0 to 7, 5278, 5281-0 to 1, 5282-0 to 1, 5283-0 to 3, 5284-0 to 1, 5289-0 to 7, 5291-0 to 7, 5292-0 to 7, 5293-0 to 1, 5294-0 to 1, 5296-0 to 3, 5300-0 to 15, 5301-0 to 15, 5315, 5323-0 to 3, 5390, 5391-0 to 9, 5401-0 to 9, 5402-0 to 14, 5413-0 to 3, 5417, 5409-0 to 1, 5410-0 to 1, 5411, 5412, 5430	
	[Intermittence setting]	5449-0 to 6	
	[Status counter]		400
	[Power supply at fusing error]	1906	
	[Pre-running]	417-0 to 1, 439-0 to 1, 440-0 to 1, 441-0 to 1, 461-0 to 9, 526, 583-0 to 1, 584-0 to 4, 2020-0 to 3, 2074, 5239, 5248, 5280-0 to 1, 5299-0 to 1, 5325	
	[Speed switchover]	2245-0 to 1, 5276-0 to 3, 5414-0 to 1	
	[Small size paper]	5316, 5455, 5456, 5457-0 to 1	
	[Energy saving mode]	5432-0 to 1	
	[Warming-up]	5207, 5208	
	[Heater being forcibly turned on]	415-0 to 3, 426-0 to 3, 427-0 to 3, 428-0 to 3, 429-0 to 1, 2016-0 to 7, 2033-0 to 1, 2248, 5279-0 to 3, 5297-0 to 3, 5324-0 to 1	
Image processing	[Counter]	1371, 1372, 1378, 1380, 1382, 1383, 1385, 1386, 1387, 1388	
RADF	[Switchback]	462	
Finisher	[Stapling]	704-0 to 1, 1911, 9811-0 to 3, 9937-0 to 3, 9938-0 to 3	
	[Hole punching]	1437, 9847	
	[Finisher model switching]	1912	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Network	[AppleTalk]	1014, 1015, 1936, 3729, 3730	
	[Bindery]	1026	
	[Cloning]	3789, 9791	
	[Community]	1065, 1066	
	[DDNS]	1020, 1112, 3737, 3745, 3746, 3747, 3748	
	[DHCP]	1755, 1756, 1757, 1759, 1760, 1762, 3772, 3773, 3774, 3778, 3779, 3780	
	[Directory]	1028, 1029	
	[DNS]	1017, 1018, 1019, 3736, 3781, 3782, 3784	
	[DPWS]	3749, 3750, 3751, 3752, 3753, 3754, 3755, 3757, 3758, 3759, 3760, 3765, 3766, 3785, 3796	
	[E-mail]	265, 1097, 1098, 1477, 1478, 1489, 1491, 3837, 8584, 8585, 8586, 8587, 8588, 9384, 9946, 9947, 9957, 9958, 9959, 9980, 9981	
	[File]	1779, 1782, 1783, 1784, 1785, 1786	
	[FTP]	1055, 1059, 1060, 1089, 1090, 1091, 1092, 3739, 3804	
	[HTTP]	1030, 1031, 1032, 3738	
	[IP Conflict]	1440	
	[IP Filter]	1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 8804	
	[IPP]	1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1447,1448, 1449, 1450, 1451, 3725, 3726	
	[IPv6]	3767, 3768, 3770, 3775, 3776, 3777	
	[IPX]	1011, 1099	
	[IP address]	1006, 1007, 1008, 1009, 1010, 1767, 1768	
	[LDAP]	1016, 1138, 1923, 1924, 3743, 9629, 9933	
	[LLTD]	3793	
	[LPD]	1075, 1076, 1077, 3727, 3728	
	[MAC address]	1141, 8805	
	[MIB]	1063	
	[Network logs]	8535, 8536, 8590, 8605, 8606	
	[NDS]	1027	
	[NIC]	1002	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Network	[Novell]	1093, 1094	
	[PCL setting]	973	
	[PMK]	9747	
	[POP3]	1046, 1047, 1048, 1049, 1050, 1051, 1052, 3742, 3744	
	[RawPort]	945	
	[Raw/TCP]	1073, 1074, 3731, 3732	
	[Raw printing]	290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 978, 979	
	[Rendezvous]	1103, 1104, 1105	
	[Role Base Access]	1493, 1928, 3871	
	[Samba]	1464, 3783, 3833	
	[SearchRoot]	1095	
	[SLP]	1021	
	[SMB]	1023, 1024, 1025, 1117, 1124, 1950, 1951	
	[SMTP]	1022, 1037, 1038, 1039, 1040, 1041, 1042, 1100, 1101, 1102, 1111, 3741	
	[SNMP]	3631, 3845, 8803	
	[SNTP]	1441, 1442, 1444, 1445, 1446, 3740	
	[SSL]	1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 9819, 9822	
	[TRAP]	1069, 1070	
	[WIA Scan Driver]	9749	
	[InternetFAX]	266, 1114, 1485, 3812	
	[Offramp]	1043, 1044, 1045	
	[Function]	1432, 1435, 1436	
	[Automatic transferring]	660, 661	
	[Initialization]	1119	
	[Scan setting]	1781-0 to 1, 1940, 3805, 3815, 3816, 3817, 3818, 3850	
	[Speed and settings]	1003	
	[Direct SMTP]	3810, 3811	
	[Data retention period]	259, 260, 264	
	[Domain]	1113, 1121, 1122, 1123, 8589	
	[Authentication]	1484, 1487, 1920, 1921, 1922, 1925, 1937, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 3722, 3723, 3724, 8608, 8609, 8610, 8823	
	[Print queue]	1096	
	[Prefix]	3771	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Network	[Frame type]	1012	
	[Temporary communication password]	9798	
	[Local I/F]	614	
	[telnet]	3864, 3865, 3866, 3867, 3868	
	[802.1X]	8800, 8801, 8816, 8819, 9746	
	[IPsec]	8802, 8815, 8820, 8821	
	[SCEP]	8806, 8807, 8808, 8809, 8810, 8811, 8812, 8813, 8814	
	[WS Pull Scan]	8817, 8818	
Wireless LAN	[Supplicant]	1679, 1681, 1682, 1684, 1685, 1686, 1689, 1690, 1691, 1692, 1693, 1696, 1697, 1699, 1700, 1701, 1704, 1705, 1706, 1707, 1764, 1765, 1766	
	[Driver]	1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678	
Bluetooth	[Data encryption]	1715	
	[Setting]	1710, 1711, 1712, 1713, 1714, 1719, 1941	
Counter	[ACS]	6853-0 to 2, 6854-0 to 2, 6855-0 to 2, 6856-0 to 2, 6857-0 to 2, 6858-0 to 2, 6859-0 to 2, 6860-0 to 2, 6861-0 to 2, 6862-0 to 2, 6863-0 to 2, 6864-0 to 2	
	[HDD]	390, 391, 392, 393	
	[JOB]	6850-0 to 2, 6851-0 to 2, 6852-0 to 2	
	[External counter]	381, 1126, 8549, 8594	
	[Image control]	6161, 6162	
	[Calibration counter]	6817	
	[Count method]	616, 663	
	[Paper source]	356, 357, 358, 359, 360, 370, 372, 374, 6118	
	[Paper size]	301-0 to 23, 303-0 to 23, 304-0 to 23, 305-0 to 23, 306-0 to 23, 307-0 to 23, 308-0 to 23, 309-0 to 23, 310-0 to 23, 311-0 to 23, 312-0 to 23, 313-0 to 23, 314-0 to 23, 315-0 to 23, 316-0 to 23, 6027-0 to 23, 6078-0 to 2	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Counter	[Accelerating/Decelerating mode]	1652, 1653, 1654, 1655, 1870, 1871-0 to 3, 1872-0 to 3, 1873-0 to 3, 1874-0 to 3, 1875-0 to 3, 1876-0 to 3, 1877-0 to 3, 1878-0 to 3, 1879-0 to 3, 1880-0 to 3, 1881-0 to 3, 6900, 6901, 6905-0 to 3, 6906-0 to 3, 6907-0 to 3, 6908-0 to 3, 6925-0 to 3, 6926-0 to 3, 6927-0 to 3, 6928-0 to 3, 6929-0 to 3, 6930-0 to 3, 6931-0 to 3, 6932-0 to 3, 6933-0 to 3, 6935-0 to 3, 6950-0 to 3, 6955-0 to 3, 6956-0 to 3, 6960-0 to 3, 6962-0 to 3	
	[Tab paper]	1412	
	[Special paper]	6243	
	[Extra long size]	3800-0 to 1	
	[Double count]	6018	344, 346, 347, 348, 349, 352, 353,
	[Large/Small size]	317-0 to 2, 318-0 to 2, 319-0 to 2, 320-0 to 2, 321-0 to 2, 322-0 to 2, 323-0 to 2, 324-0 to 2, 325-0 to 2, 326-0 to 2, 327-0 to 2, 328-0 to 2, 329-0 to 2, 330-0 to 2, 332-0 to 2, 333-0 to 2, 334-0 to 2, 335-0 to 2	
	[n-UP printing]	1530-0 to 7, 1531-0 to 7, 1532-0 to 7, 1533-0 to 7, 1534-0 to 7, 1535-0 to 7, 6806-0 to 7,6810-0 to 7, 6811-0 to 7, 6812-0 to 7, 6813-0 to 7,6814-0 to 7, 6815-0 to 7,6816-0 to 7	
	[Department counter]	8616, 8617, 8618, 8619, 8620	
Version	[FAX]		915
	[HDD]		944
	[Engine]		903, 905, 906, 907
	[System]		900, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 933, 934, 935, 936, 937, 938, 939
	[Finisher]	9945	908, 911
	[Imaging Acceleration Board]		9965
	[Inserter]		909

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
Maintenance	[FSMS]	999	
	[HTTP]	726, 727, 728, 729, 730, 731	
	[PM counter]	223, 5550, 5551, 5552, 5553, 5562, 5563, 5564, 5565, 5566, 5567, 5576, 5577, 5578, 5579, 5580, 5585, 6192, 6193, 6196, 6197	251, 252, 375, 376
	[Error history]		253
	[Equipment number]		995
	[Calibration]		9059
	[Emergency Mode]	710, 711	
	[Service notification]	702, 703, 707, 715, 716, 717, 718, 719, 720, 721, 723, 767, 768, 769, 770, 771, 772, 773, 775, 776, 777, 778, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 1145, 1495, 9739	774
	[Remote update]	3630	
	[Supply order]	732, 733, 734, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764	765
	[Telephone]		250
	[Panel calibration]		692
Electronic Filing	[Setting]	267, 270, 950, 976, 1497, 8613	
Data overwrite kit	[HDD]	1422, 1424	1426
	[SRAM]		1428
General	[HDD]	271, 691, 3625	670, 690, 693, 694, 9379
	[EFI]	700, 9950, 9956	
	[EWB]	3869	
	[PJL]	3797	
	[Raw printing]	8504, 9117	
	[S-ACS]	9934	
	[USB]	3615, 3802, 9889	
	[Thick paper]	8533, 8534	
	[TAT partition]	1118	
	[Address book]	1125, 3508	
	[Imaging Acceleration Board]	9966	
	[Overprint function setting]	8513-0	
	[Card authentication]	1776	
	[Card reader]	1772, 1773, 1774, 1775, 8595	
	[Custom size]	9381	
	[Administrator's password]	1778	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
General	[Summer time]	3852, 3853, 3854, 3855, 3856, 3857, 3858, 3859, 3860, 3861, 3862, 3863	
	[Destination]	201	
	[Initialization]		947
	[Setting]	975, 986, 1470, 1471, 9814, 9815, 9828, 9829, 9848, 9892, 9893, 9894, 9799	9826
	[Direct print]	3803	
	[Databases]	685, 686	684
	[Default repeat count]	9789	
	[Template]	3851, 9886, 9888	
	[Partition]		662, 666, 667
	[Banner]	678, 679, 680	
	[Date/Time]	200, 638	
	[File]	288, 1913, 1914, 1916	
	[Department management]	672	
	[Private print]	8537, 8597, 8601	
	[BANNER MESSAGE button]	681	
	[Memory]	615	
	[User data management]	1468, 1469, 1472, 1473, 1474, 1481, 1482, 1483, 1496	
	[Line]	203	
	[Duplex printing]	683	
	[KS/KSSM]	1960, 1961, 1963, 1964, 1965, 1966, 1967, 1968, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994	
	[Profile]	1790-0 to 53, 1791, 1792, 1793, 1794-0 to 53, 1795, 1796, 1797, 1798-0 to 53, 3600-0 to 53, 3601, 3602, 3603, 3604-0 to 53, 3605, 3606, 3607, 3608-0 to 53,	
	[SRAM board data check]	4586, 4587-0 to 15, 4588-0 to 15, 4589-0 to 15, 4590-0 to 15	
	[Date unpacked]	3612	
	[DIG partition]	3619	
	[Counter/job list print]	9954	
	[Default setting]	503, 550, 585, 587, 588	
	[Cartridge empty]	8506	

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Classification		Setting Mode (08)	
		Given in the Service Manual	Given in the Service Manual and Service Handbook
General	[Print image position adjustment in secondary scanning direction]	8508, 8509, 8510	
	[Wide A4 Mode (for PCL)]	8511	
	[Number of jobs in batch processing]	8512	
	[RIP standard paper judgment]	8514	
	[Outside erase]	8515, 8516, 8600	
	[Scan setting]	8517, 8518, 8519, 8526, 8527, 8528	
	[No paper message]	8525, 8524	
	[ACS release]	8529-0 to 2, 8530-0 to 2, 8531-0 to 2,	
	[Panel]	8532	
	[Hardcopy security printing]	9883, 9884	
	[Electronic key]	3840, 3841, 3842, 3870	
	[Easy setup]	9022	
	[Real time log notification]	3623, 3624, 3626	
	[Job status]	8596, 9984	
	[Folder name null character conversion]	8599	
	[Scan To File]	8602, 8622	
	[External option interface]	8603, 8604	
	[hrPrinterTable]	8611	
	[Saving log]	8615	
	[Operation of machine when coin controller is used]	8628	
	[Default setting of color mode]	8629	

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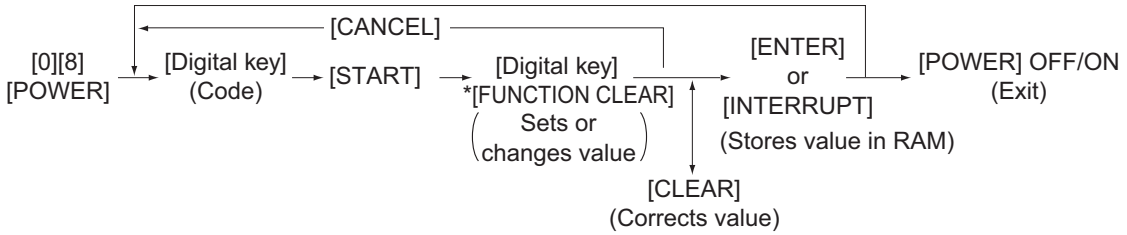
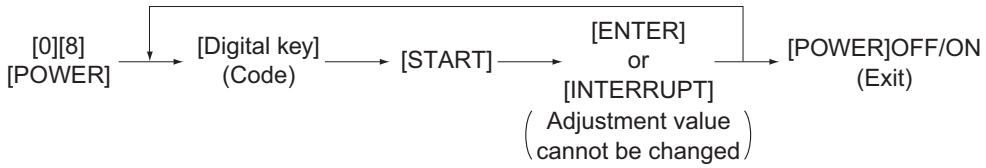
24.2 Operating Procedure

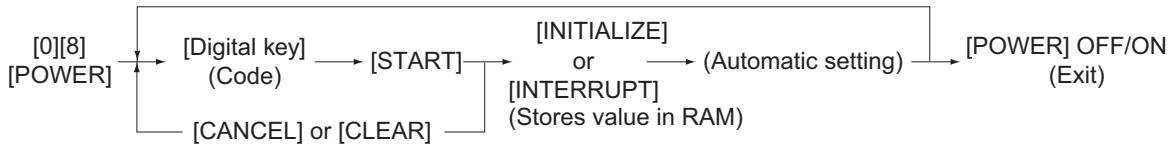


* Press [FUNCTION CLEAR] to enter minus (-).

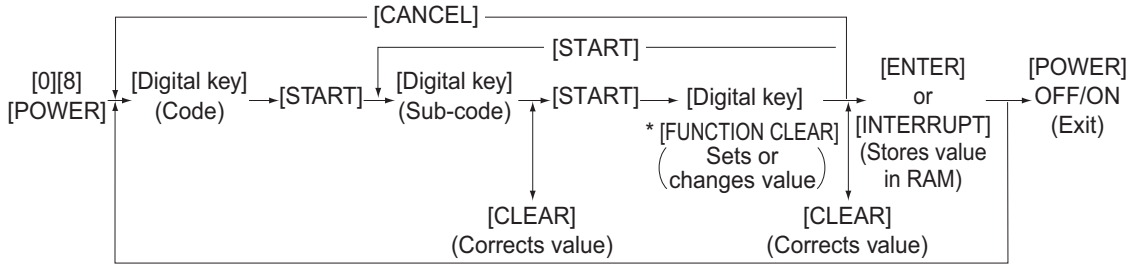
Procedure 2



Procedure 3

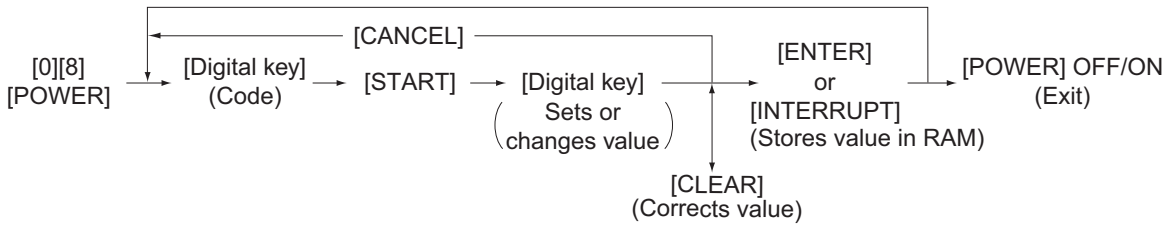


Procedure 4

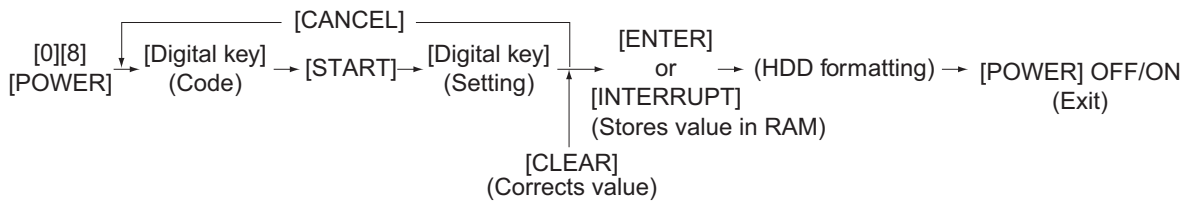


* Press [FUNCTION CLEAR] to enter minus (-).

Procedure 5



Procedure 7



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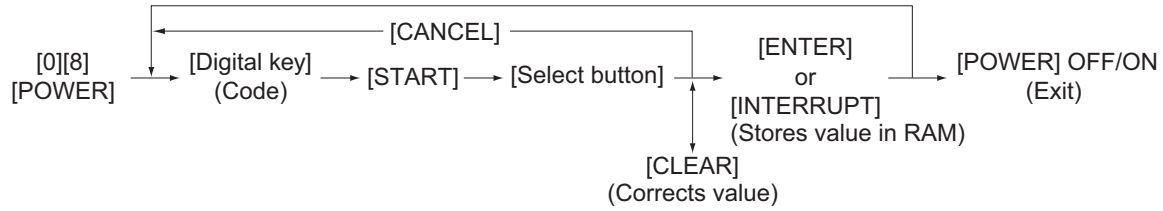
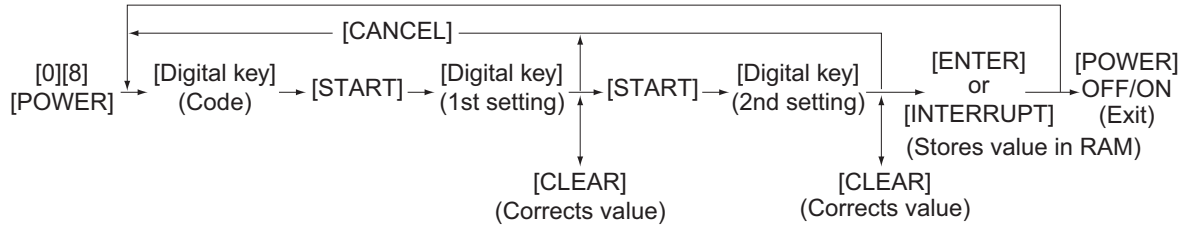
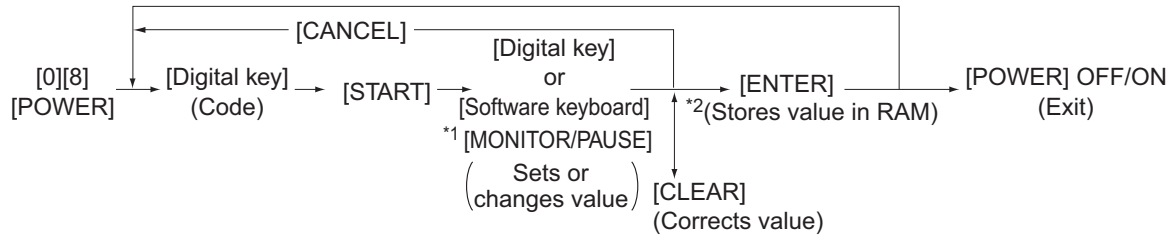
Procedure 9



Procedure 10

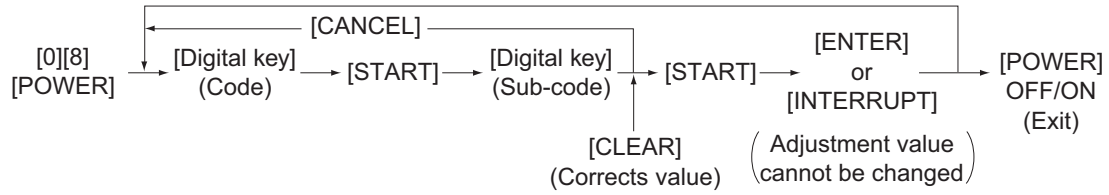


Procedure 11 and 12



*1 Press [MONITOR/PAUSE] to enter "-", when entering telephone number.
*2 The data are stored in SYS-RAM in procedure 11 and stored in NIC-RAM in procedure 12.

Procedure 14



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24.3 Process

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
400	Fuser	Fuser unit error status counter	ALL	0 <0-71>	M	0: No error 1: C411 2: C412 3: C443 4: - 5: C445, C465 6: C446, C466 7: C447, C467 8: C468 9: C449 10: C475 11: C471 12: C472 13: C473 14: C480 15: C481 16: C474 17: C490 18: C468 19: C449 20: C468 21: C449 22: C449 23: C449 24: C447, C446 25: C449 26: C468 27: C449 28: C468 29: C449 30: - 31: - 32: C448 33: C467 34: C467 35 to 49: - 50: C452 51: C452 52 to 60: - 61: C461 62: C462 63 to 69: - 70: C464 71: C464	1
404	Fuser	Temperature drop at ready status (Center of heat roller)	ALL	3 <0-16>	M	0: Disabled 1: Pattern 1 2: Pattern 2 3: Pattern 3 4: Pattern 4 5: Pattern 5 6: Pattern 6 7: Pattern 7 8: Pattern 8 9: Pattern 9 10: Pattern 10 11: Pattern 11 12: Pattern 12 13: Pattern 13 14: Pattern 14 15: Pattern 15 16: Pattern 16	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
405	Fuser	Temperature drop at ready status (Side of heat roller)		ALL	3 <0-16>	M	0: Disabled 1: Pattern 1 2: Pattern 2 3: Pattern 3 4: Pattern 4 5: Pattern 5 6: Pattern 6 7: Pattern 7 8: Pattern 8 9: Pattern 9 10: Pattern 10 11: Pattern 11 12: Pattern 12 13: Pattern 13 14: Pattern 14 15: Pattern 15 16: Pattern 16	1
407-0	Fuser	Fusing temperature at ready status (Side / Fuser belt)	Normal temperature	ALL	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
407-1			Low temperature	ALL	11 <0-16>	M		4
407-2			Normal temperature (when recovered from sleep mode)	ALL	EUR:11 UC:10 JPN:10 <0-16>	M		4
407-3			Low temperature (when recovered from sleep mode)	ALL	11 <0-16>	M		4
407-4			Normal temperature (when recovered from sleep mode)/ MJD model	ALL	10 <0-16>	M		4
407-5			Low temperature (when recovered from sleep mode)/ MJD model	ALL	11 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
410-0	Fuser	Fusing temperature during printing (Manual adjustment / Center / Fuser belt / Plain paper1)		ALL (black)	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
410-1				ALL (color)	10 <0-16>	M		4
411-0	Fuser	Temperature of the fuser unit at ready status (Heat roller/Center)	Normal temperature	ALL	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
411-1			Low temperature	ALL	11 <0-16>	M		4
411-2			Normal temperature (when recovered from sleep mode)	ALL	10 <0-16>	M		4
411-3			Low temperature (when recovered from sleep mode)	ALL	11 <0-16>	M		4
411-4			Normal temperature (when recovered from sleep mode) BAM not supported	ALL	10 <0-16>	M		4
411-5			Low temperature (when recovered from sleep mode) BAM not supported	ALL	11 <0-16>	M		4
412-0	Fuser	Fusing temperature during printing (Center / Fuser belt / Thick paper 3)	Normal length paper	ALL	8 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
412-1			Extra long size paper	ALL	8 <0-16>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
413-0	Fuser	Fusing temperature during printing (Center / Fuser belt / Thick paper 1)	Normal length paper	ALL	9 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
413-1			Extra long size paper	ALL	9 <0-16>	M		4
415-0	Fuser	Duration of Thick paper 3 heater being forcibly turned on	Heat roller / Normal length paper	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
415-1			Press Roller / Normal length paper	ALL	5 <0-10>	M		4
415-2			Heat roller / Extra long size paper	ALL	0 <0-10>	M		4
415-3			Press Roller / Extra long size paper	ALL	5 <0-10>	M		4
416-0	Fuser	Starting temperature for thick paper 3 abnormalities processing (Center and side of thermistor)	Simplex printing	ALL	5 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
416-1			Duplex printing	ALL	5 <0-12>	M		4
417-0	Fuser	Pre-running time for first printing (Thick paper 3)	Normal length paper	ALL	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
417-1			Extra long size paper	ALL	5 <0-16>	M		4
426-0	Fuser	Duration of plain paper heater being forcibly turned on	Heat roller: BK mode	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
426-1			Heat roller: C or CK mode	ALL	0 <0-10>	M		4
426-2			Press roller: BK mode	ALL	0 <0-10>	M		4
426-3			Press roller: C or CK mode	ALL	0 <0-10>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
427-0	Fuser	Duration of Thick paper 1 heater being forcibly turned on	Heat roller: Normal length paper	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
427-1			Heat roller: Extra long size paper	ALL	0 <0-10>	M		4
427-2			Press roller: Normal length paper	ALL	5 <0-10>	M		4
427-3			Press roller: Extra long size paper	ALL	5 <0-10>	M		4
428-0	Fuser	Duration of Thick paper 2 heater being forcibly turned on	Heat roller / Normal length paper	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
428-1			Press roller / Normal length paper	ALL	5 <0-10>	M		4
428-2			Heat roller / Extra long size paper	ALL	0 <0-10>	M		4
428-3			Press roller / Extra long size paper	ALL	5 <0-10>	M		4
429-0	Fuser	Duration of OHP film heater being forcibly turned on	Heat roller	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
429-1			Press roller	ALL	5 <0-10>	M		4
433-0	Fuser	Controlled temperature minimum threshold (Plain paper/ normal temperature environment)	Center of heat roller / BK mode / Simplex printing	ALL	16 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
433-1			Side of heat roller / BK mode / Simplex printing	ALL	16 <0-18>	M		4
433-2			Center of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
433-3	Fuser	Controlled temperature minimum threshold (Plain paper/ normal temperature environment)	Side of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
433-4			Center of heat roller / C or CK mode / Simplex printing	ALL	16 <0-18>	M		4
433-5			Side of heat roller / C or CK mode / Simplex printing	ALL	16 <0-18>	M		4
433-6			Center of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
433-7			Side of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
433-8			Center of heat roller / BK mode / Duplex printing	ALL	16 <0-18>	M		4
433-9			Side of heat roller / BK mode / Duplex printing	ALL	16 <0-18>	M		4
433-10			Center of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
433-11			Side of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
433-12			Center of heat roller / C or CK mode / Duplex printing	ALL	16 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
433-13	Fuser	Controlled temperature minimum threshold (Plain paper/ normal temperature environment)	Side of heat roller / C or CK mode / Duplex printing	ALL	16 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
433-14			Center of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
433-15			Side of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
434-0	Fuser	Starting temperature for plain paper abnormalities processing (Normal temperature environment) (Center and side of thermistor)	Manual adjustment: Plain paper 1 / Simplex printing	ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
434-1			Manual adjustment: Plain paper 2 / Simplex printing	ALL	8 <0-12>	M		4
434-2			Automatic adjustment: Plain paper 1 / Simplex printing	ALL	7 <0-12>	M		4
434-3			Automatic adjustment: Plain paper 2 / Simplex printing	ALL	8 <0-12>	M		4
434-4			Bypass feeding / Simplex printing	ALL	7 <0-12>	M		4
434-5			Manual adjustment: Plain paper 1 / Duplex printing	ALL	6 <0-12>	M		4
434-6			Manual adjustment: Plain paper 2 / Duplex printing	ALL	7 <0-12>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
434-7	Fuser	Starting temperature for plain paper abnormalities processing (Normal temperature environment) (Center and side of thermistor)	Automatic adjustment: Plain paper 1 / Duplex printing	ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
434-8			Automatic adjustment: Plain paper 2 / Duplex printing	ALL	7 <0-12>	M		4
434-9			Bypass feeding / Duplex printing	ALL	7 <0-12>	M		4
435-0	Fuser	Starting temperature for Thick paper 1 abnormalities processing (Center and side of thermistor)	Simplex printing	ALL	5 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
435-1			Duplex printing	ALL	5 <0-12>	M		4
436-0	Fuser	Starting temperature for Thick paper 2 abnormalities processing (Center and side of thermistor)	Simplex printing	ALL	5 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
436-1			Duplex printing	ALL	5 <0-12>	M		4
437-0	Fuser	Fusing temperature during printing (Center / Fuser belt / Thick paper 2)	Normal length paper	ALL	9 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
437-1			Extra long size paper	ALL	9 <0-16>	M		4
438	Fuser	Fusing temperature during printing (Center / Fuser belt / OHP film)		ALL	11 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
439-0	Fuser	Pre-running time for first printing (Thick paper 2)	Normal length paper	ALL	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
439-1			Extra long size paper	ALL	5 <0-16>	M		4
440-0	Fuser	Pre-running time for first printing (Plain paper/Low temperature environment)		ALL (black)	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
440-1				ALL (color)	5 <0-16>	M		4
441-0	Fuser	Pre-running time for first printing (Thick paper 1)	Normal length paper	ALL	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
441-1			Extra long size paper	ALL	5 <0-16>	M		4
450-0	Fuser	Fusing temperature during printing (Manual adjustment / Side / Fuser belt / Plain paper1)	BK mode	ALL (black)	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
450-1			C or CK mode	ALL (color)	10 <0-16>	M		4
451-0	Fuser	Fusing temperature during printing (Side / Fuser belt / Thick paper 1)	Normal length paper	ALL	8 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
451-1			Extra long size paper	ALL	8 <0-16>	M		4
452-0	Fuser	Fusing temperature during printing (Side / Fuser belt / Thick paper 2)	Normal length paper	ALL	9 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
452-1			Extra long size paper	ALL	9 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
453	Fuser	Fusing temperature during printing (Side / Fuser belt / Overhead transparencies)		ALL	11 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	1
461-0	Fuser	Actuation time of pre-running behavior for first printing (Plain paper/ low temperature environment)	Black	ALL	8 <0-11>	M	0: Disabled (always ON) 1: 0 min. 2: 0.5 min. 3: 1 min. 4: 2 min. 5: 3 min. 6: 5 min. 7: 7 min. 8: 10 min. 9: 15 min. 10: 30 min. 11: 60 min.	4
461-1			Color	ALL	8 <0-11>	M		4
461-2			Thick paper 1, 2	ALL	8 <0-11>	M		4
461-3			Thick paper 3, 4	ALL	8 <0-11>	M		4
461-4			Special paper 1, 2	ALL	8 <0-11>	M		4
461-5			OHP film	ALL	8 <0-11>	M		4
461-6			Recycled/ Black	ALL	8 <0-11>	M		4
461-7			Recycled/ Color	ALL	8 <0-11>	M		4
461-8			Water proof paper special mode	ALL	8 <0-11>	M		4
461-9			Extra long size paper	ALL	8 <0-11>	M		4
518-0	Fuser	Fusing temperature during printing (Side / Fuser belt / Thick paper 3)	Normal length paper	ALL	8 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
518-1			Extra long size paper	ALL	8 <0-16>	M		4
526	Fuser	Pre-running time for first printing (OHP film)		ALL	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
531-0	Fuser	Starting temperature for plain paper abnormalities processing (Low temperature)	Manual adjustment: Plain paper 1 / Simplex printing	ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
531-1			Manual adjustment: Plain paper 2/ Simplex printing	ALL	8 <0-12>	M		4
531-2			Automatic adjustment: Plain paper 1/ Simplex printing	ALL	7 <0-12>	M		4
531-3			Automatic adjustment: Plain paper 2/ Simplex printing	ALL	8 <0-12>	M		4
531-4			Bypass feeding/ Simplex printing	ALL	7 <0-12>	M		4
531-5			Manual adjustment: Plain paper 1 / Duplex printing	ALL	6 <0-12>	M		4
531-6			Manual adjustment: Plain paper 2 / Duplex printing	ALL	7 <0-12>	M		4
531-7			Automatic adjustment: Plain paper 1 / Duplex printing	ALL	6 <0-12>	M		4
531-8			Automatic adjustment: Plain paper 2 / Duplex printing	ALL	7 <0-12>	M		4
531-9			Bypass feeding / Duplex printing	ALL	7 <0-12>	M		4

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
532	Fuser	Starting temperature for OHP film abnormalities processing	ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	1
534-0	Fuser	Temperature drop control during printing	ALL (black)	6 <0-8>	M	0: Disabled 1: Enabled - Plain paper 1, plain paper 2, recycled paper, thick paper 1 (Fuser belt and pressure roller at the normal or low temperature) 2: Enabled - Plain paper 1, plain paper 2, recycled paper, thick paper 1 (Fuser belt at the normal or low temperature) 3: Enabled - Plain paper 1, plain paper 2, recycled paper (Fuser belt at the normal or low temperature) 4: Enabled - Plain paper 1, plain paper 2, recycled paper (Fuser belt at the normal temperature) 5: Enabled - Plain paper 1, plain paper 2, recycled paper, thick paper 1 (Fuser belt at the normal temperature) 6: Enabled - Plain paper 1, plain paper 2, recycled paper (Fuser belt and pressure roller at the normal or low temperature) 7: Enabled - Plain paper 1, plain paper 2, recycled paper (Fuser belt and pressure roller at the normal temperature) 8: Enabled - Plain paper 1, plain paper 2, recycled paper, thick paper 1 (Fuser belt and pressure roller at the normal temperature)	4
534-1	Fuser		ALL (color)	6 <0-8>	M		4

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
548	Transfer	Setting of 2nd transfer bias table (for each destination/ paper thickness)	ALL	EUR:0 UC:1 JPN:2 <0-5>	M	0: 80 g/m2 (21.3 lb.)/ EUR 1: 75 g/m2 (20 lb.)/UC 2: 64 g/m2 (17.1 lb.)/ JPN 3: - 4: - 5: -	1
556	Image control	Image quality closed-loop control/Contrast voltage	ALL	1 <0-1>	M	Sets whether or not correcting the contrast voltage in closed-loop control. 0: Invalid 1: Valid	1
569	Image control	Image quality closed-loop control automatic start-up/ Temperature setting of fuser unit at power-ON	ALL (color)	7 <0-20>	M	Sets the fuser unit temperature to perform closed-loop control. 0: 20°C 1: 25°C 2: 30°C 3: 35°C 4: 40°C 5: 45°C 6: 50°C 7: 55°C 8: 60°C 9: 65°C 10: 70°C 11: 75°C 12: 80°C 13: 85°C 14: 90°C 15: 95°C 16: 100°C 17: 105°C 18: 110°C 19: 115°C 20: 120°C	1
570	Image control	Image quality closed-loop control automatic start-up/ Relative humidity difference setting	ALL (color)	2 <1-6>	M	1: 5% 2: 10% 3: 15% 4: 20% 5: 25% 6: 30%	1
571	Image control	Image quality closed-loop control automatic start-up/ Setting of period of time unattended	ALL (color)	11 <0-15>	M	Sets the period of time unattended to perform closed-loop control automatically at the operation start when the equipment has not been used for a specified period of time in the energy saving mode. 0: 3 1: 5 2: 7 3: 10 4: 15 5: 20 6: 30 7: 45 8: 60 9: 90 10: 120 11: 150 12: 180 13: 240 14: 300 15: 360 (Unit: Minute)	1
572	Image control	Image quality closed-loop control automatic start-up/ Setting of accumulated print volume	ALL (color)	10 <0-30>	M	Sets the number of accumulated print volume to perform closed-loop control. Setting value x 100 (pages)	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
573	Image control	Abnormality detection count (Y) Display/0 clearing		ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1
574	Image control	Abnormality detection count (M) Display/0 clearing		ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1
575	Image control	Abnormality detection count (C) Display/0 clearing		ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1
576	Image control	Abnormality detection count (K) Display/0 clearing		ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1
583-0	Fuser	Pre-running time for first printing in ready status	At normal temperatures	ALL	0 <0-10>	M	0: 3 sec. 1: 6 sec. 2: 9 sec. 3: 12 sec. 4: 15 sec. 5: 4 sec. 6: 5 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 11 sec.	4
583-1			At low temperatures	ALL	0 <0-10>	M		4
584-0	Fuser	Fuser motor speed of pre-running	Warming up	ALL	1 <0-3>	M	0: High speed 1: Normal speed 2: Decelerating 1 3: Decelerating 2	4
584-1			Ready / contacted	ALL	1 <0-3>	M		4
584-2			Ready / released	ALL	3 <0-3>	M		4
584-3			Recovered from sleep mode	ALL	1 <0-3>	M		4
584-4			Recovered from sleep mode (for MJD model)	ALL	1 <0-3>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
801-0	Fuser	Controlled temperature minimum threshold (Thick paper 1)	Center of heat roller / Simplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
801-1			Side of heat roller / Simplex printing	ALL	15 <0-18>	M		4
801-2			Center of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
801-3			Side of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
801-4			Center of heat roller / Duplex printing	ALL	15 <0-18>	M		4
801-5			Side of heat roller / Duplex printing	ALL	15 <0-18>	M		4
801-6			Center of pressure roller / Duplex printing	ALL	6 <0-18>	M		4
801-7			Side of pressure roller / Duplex printing	ALL	6 <0-18>	M		4
808	Main charger	Main charger wire cleaning operation cycle setting		ALL	2 <0-9>	M	0: Invalid 1: 500pages 2: 1000pages 3: 2000pages 4: 3000pages 5: 5000pages 6: 7500pages 7: 10000pages 8: 20000pages 9: 30000pages	1
816	Transfer	1st transfer roller bias resistance detection control		ALL	1 <0-1>	M	0: Disabled 1: Enabled	1
885	Fuser	Temperature drop control at ready status		ALL	0 <0-2>	M	0: Disabled 1: Enabled 2: Disabled in low temperature environment	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
896-0	Fuser	Controlled temperature minimum threshold (Plain paper/ low temperature environment)	Center of heat roller / BK mode / Simplex printing	ALL	16 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
896-1			Side of heat roller / BK mode / Simplex printing	ALL	16 <0-18>	M		4
896-2			Center of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4
896-3			Side of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4
896-4			Center of heat roller / C or CK mode / Simplex printing	ALL	16 <0-18>	M		4
896-5			Side of heat roller / C or CK mode / Simplex printing	ALL	16 <0-18>	M		4
896-6			Center of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
896-7			Side of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
896-8			Center of heat roller / BK mode / Duplex printing	ALL	16 <0-18>	M		4
896-9			Side of heat roller / BK mode / Duplex printing	ALL	16 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
896-10	Fuser	Controlled temperature minimum threshold (Plain paper/ low temperature environment)	Center of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
896-11			Side of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
896-12			Center of heat roller / C or CK mode / Duplex printing	ALL	16 <0-18>	M		4
896-13			Side of heat roller / C or CK mode / Duplex printing	ALL	16 <0-18>	M		4
896-14			Center of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
896-15			Side of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
1415	Development	Detection/control that the toner cartridge is nearly empty		ALL	1 <0-1>	M	Sets ON or OFF of the detection/control that the toner cartridge is nearly empty. 0: OFF 1: ON	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2016-0	Fuser	Duration of Special paper heater being forcibly turned on	Heat roller: Special paper 1 / Normal length paper	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
2016-1			Heat roller: Special paper 2 / Normal length paper	ALL	0 <0-10>	M		4
2016-2			Press roller: Special paper 1 / Normal length paper	ALL	5 <0-10>	M		4
2016-3			Press roller: Special paper 2/ Normal length paper	ALL	5 <0-10>	M		4
2016-4			Heat roller: Special paper 1 / Extra long size paper	ALL	0 <0-10>	M		4
2016-5			Heat roller: Special paper 2 / Extra long size paper	ALL	0 <0-10>	M		4
2016-6			Press roller: Special paper 1 / Extra long size paper	ALL	5 <0-10>	M		4
2016-7			Press roller: Special paper 2 / Extra long size paper	ALL	5 <0-10>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2017-0	Fuser	Fusing temperature (Center / Fuser belt / Special paper)	Special paper 1 / Normal length paper	ALL	11 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2017-1			Special paper 2 / Normal length paper	ALL	11 <0-16>	M		4
2017-2			Special paper 1 / Extra long size paper	ALL	11 <0-16>	M		4
2017-3			Special paper 2 / Extra long size paper	ALL	11 <0-16>	M		4
2018-0	Fuser	Fusing temperature (Side / Fuser belt / Special paper)	Special paper 1 / Normal length paper	ALL	11 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2018-1			Special paper 2 / Normal length paper	ALL	11 <0-16>	M		4
2018-2			Special paper 1 / Extra long size paper	ALL	11 <0-16>	M		4
2018-3			Special paper 2 / Extra long size paper	ALL	11 <0-16>	M		4
2019-0	Fuser	Fusing temperature (Center / Pressure roller / Special paper)	Special paper 1 / Normal length paper	ALL	4 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2019-1			Special paper 2 / Normal length paper	ALL	4 <0-16>	M		4
2019-2			Special paper 1 / Extra long size paper	ALL	4 <0-16>	M		4
2019-3			Special paper 2 / Extra long size paper	ALL	4 <0-16>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2020-0	Fuser	Pre-running time for first printing (Special paper)	Special paper 1 / Normal length paper	ALL	5 <0-16>	M	0: Invalid 1: 0sec. 2: 2sec. 3: 3sec. 4: 4sec. 5: 5sec. 6: 6sec. 7: 7sec. 8: 8sec. 9: 10sec. 10: 12sec. 11: 14sec. 12: 16sec. 13: 18sec. 14: 20sec. 15: 25sec. 16: 30sec.	4
2020-1			Special paper 2 / Normal length paper	ALL	5 <0-16>	M		4
2020-2			Special paper 1 / Extra long size paper	ALL	5 <0-16>	M		4
2020-3			Special paper 2 / Extra long size paper	ALL	5 <0-16>	M		4
2033-0	Fuser	Pages printed before heater is forcibly turned on	Heat roller	ALL	0 <0-10>	M	0: None 1: 5pages 2: 10pages 3: 15pages 4: 20pages 5: 30pages 6: 40pages 7: 50pages 8: 60pages 9: 80pages 10: 100pages	4
2033-1			Press roller	ALL	0 <0-10>	M		4
2074	Fuser	Pre-running time at print end		ALL	4 <0-10>	M	0: Disabled 1: 3sec. 2: 5sec. 3: 10sec. 4: 15sec. 5: 20sec. 6: 25sec. 7: 30sec. 8: 40sec. 9: 50sec. 10: 60sec.	1
2124-0	Fuser	Fusing temperature at ready status (Center / Pressure roller)	Normal temperature	ALL	3 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2124-1			Low temperature	ALL	4 <0-16>	M		4
2133-0	Fuser	Temperature drop switching time at ready status (Center)	First drop	ALL	15 <2-60>	M	Setting value *1 (min)	4
2133-1			Second drop	ALL	30 <2-60>	M		4
2133-2			Third drop	ALL	60 <2-60>	M		4
2134-0	Fuser	Temperature drop switching time at ready status (Side)	First drop	ALL	15 <2-60>	M	Setting value *1 (min)	4
2134-1			Second drop	ALL	30 <2-60>	M		4
2134-2			Third drop	ALL	60 <2-60>	M		4
2151-0	Fuser	Fusing temperature during printing (Manual adjustment / Center / Pressure roller / Plain paper 1)		ALL (black)	3 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2151-1				ALL (color)	3 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2153-0	Fuser	Fusing temperature during printing (Center / Pressure roller / Thick paper 1)	Normal length paper	ALL	2 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2153-1			Extra long size paper	ALL	2 <0-16>	M		4
2155-0	Fuser	Fusing temperature during printing (Center / Pressure roller / Thick paper 2)	Normal length paper	ALL	2 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2155-1			Extra long size paper	ALL	2 <0-16>	M		4
2159-0	Fuser	Fusing temperature during printing (Center / Pressure roller / Thick paper 3)	Normal length paper	ALL	4 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
2159-1			Extra long size paper	ALL	5 <0-16>	M		4
2161	Fuser	Fusing temperature during printing (Center / Pressure roller / Overhead transparencies)		ALL	4 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	1
2179-0	Fuser	Print operation temperature retention time after printing	Plain paper	ALL	0 <0-10>	M	0: Disabled1: 10sec. 2: 20sec. 3: 30sec. 4: 40sec. 5: 50sec. 6: 60sec. 7: 90sec. 8: 120sec. 9: 150sec. 10: 180sec.	4
2179-1			Thick paper 1-3 / OHP film / Special paper 1-2	ALL	0 <0-10>	M		4
2179-2			Recycled paper	ALL	0 <0-10>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2209-0	Fuser	Controlled temperature minimum threshold (Thick paper 2)	Center of heat roller / Simplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
2209-1			Side of heat roller / Simplex printing	ALL	15 <0-18>	M		4
2209-2			Center of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
2209-3			Side of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
2209-4			Center of heat roller / Duplex printing	ALL	15 <0-18>	M		4
2209-5			Side of heat roller / Duplex printing	ALL	15 <0-18>	M		4
2209-6			Center of pressure roller / Duplex printing	ALL	6 <0-18>	M		4
2209-7			Side of pressure roller / Duplex printing	ALL	6 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2210-0	Fuser	Controlled temperature minimum threshold (Thick paper 3)	Center of heat roller / Simplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
2210-1			Side of heat roller / Simplex printing	ALL	15 <0-18>	M		4
2210-2			Center of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
2210-3			Side of pressure roller / Simplex printing	ALL	6 <0-18>	M		4
2210-4			Center of heat roller / Duplex printing	ALL	15 <0-18>	M		4
2210-5			Side of heat roller / Duplex printing	ALL	15 <0-18>	M		4
2210-6			Center of pressure roller / Duplex printing	ALL	6 <0-18>	M		4
2210-7			Side of pressure roller / Duplex printing	ALL	6 <0-18>	M		4
2245-0	Fuser	Printing speed switchover setting (Thick paper 3)	Fuser belt side	ALL	0 <0-2>	M	0: Invalid 1: Valid only for 5 minutes after warming-up 2: Always valid	4
2245-1			Pressure roller side	ALL	0 <0-2>	M		4
2246-0	Fuser	Starting temperature for Special paper abnormalities processing (Center and side of thermistor)	Special paper 1	ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	4
2246-1			Special paper 2	ALL	7 <0-12>	M		4
2248	Fuser	Threshold for pre-running application time at print end		ALL	2 <0-10>	M	0: Disabled1: 30sec. 2: 60sec. 3: 90sec. 4: 120sec. 5: 150sec. 6: 180sec. 7: 210sec. 8: 240sec. 9: 270sec. 10: 300sec.	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2255	Fuser	Fusing temperature in the low power mode (Center / Pressure roller)		ALL	9 <0-25>	M	0: OFF 1: 40°C 2: 45°C 3: 50°C 4: 55°C 5: 60°C 6: 65°C 7: 70°C 8: 75°C 9: 80°C 10: 85°C 11: 90°C 12: 95°C 13: 100°C 14: 105°C 15: 110°C 16: 115°C 17: 120°C 18: 125°C 19: 130°C 20: 135°C 21: 140°C 22: 145°C 23: 150°C 24: 155°C 25: 160°C	1
2256-0	Fuser	Allowable range correction / Ready status starting temperature after energy saving mode	Pressure roller/ Lower limit	ALL	EUR:1 UC:0 JPN:0 <0-5>	M	0: 0°C 1: -5°C 2: -10°C 3: -15°C 4: -20°C 5: -25°C	4
2256-1			Pressure roller/ Upper limit	ALL	0 <0-5>	M	0: 0°C 1: +5°C 2: +10°C 3: +15°C 4: +20°C 5: +25°C	4
2256-2			Pressure roller/ Lower limit (for MJD model)	ALL	0 <0-5>	M	0: 0°C 1: -5°C 2: -10°C 3: -15°C 4: -20°C 5: -25°C	4
2256-3			Pressure roller/ Upper limit (for MJD model)	ALL	0 <0-5>	M	0: 0°C 1: +5°C 2: +10°C 3: +15°C 4: +20°C 5: +25°C	4
2367	Cleaner	ON/OFF setting of drum and belt reverse rotation amount control		ALL	1 <0-1>	M	0: OFF 1: ON	1
2370	Cleaner	High-speed rotation period of ozone suctioning fan in ready status		ALL	5 <0-10>	M	0: No control 1: 15sec 2: 20sec 3: 25sec 4: 30sec 5: 40sec 6: 50sec 7: 60sec 8: 90sec 9: 2min 10: 3min	1
2376	Cleaner	ON/OFF setting of 2nd transfer roller reverse rotation amount control		ALL	1 <0-1>	M	0: OFF 1: ON	1
2380	Main charger	Setting for control of drum rotation without fusing in standby mode		ALL	1 <0-1>	M	0: OFF 1: ON	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
2381	Main charger	Starting time of drum rotation without fusing in standby mode	ALL	3 <0-6>	M	The drum starts rotating without fusing after the following period of time has passed since the start of the standby mode. 0: 1 minute and 30 seconds 1: 2 minutes and 50 seconds 2: 3 minutes and 50 seconds 3: 4 minutes and 50 seconds 4: 6 minutes and 50 seconds 5: 9 minutes and 50 seconds 6: 14 minutes and 50 seconds	1
2411	Development	Enforced toner supply / Motor ON setting value	ALL	30 <0-255>	M		1
2412	Development	Enforced toner supply / Motor OFF setting value	ALL	20 <0-255>	M		1
2413	Development	Enforced toner supply / Setting value of the number of repetition times	ALL	15 <0-255>	M		1
2490	Transfer	2nd transfer bias resistance detection control	ALL	1 <0-1>	M	0: Invalid 1: Valid	1
2492	Image control	Color/start-up of image quality control (Initial power-on (daily))	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2494	Image control	Color/start-up of image quality control (Relative humidity change)	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2496	Image control	Color/start-up of image quality control (Period of time unattended)	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2498	Image control	Color/start-up of image quality control (Accumulated copied/ printed number of sheets)	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2499	Image control	Color/start-up of image quality control (Drum humidity change)	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2500	Image control	Startup with previous color/ image quality setting (after recovery from toner empty)	ALL	2 <0-2>	M	0: Disabled 1: Mode 1 enabled 2: Mode 2 enabled	1
2501	Image control	Startup with previous image quality setting/ startup before calibration	ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
2508	Image control	Image quality closed-loop control automatic start-up/ Starting temperature for drum surface potential sensor control	ALL	7 <3-50>	M	Starts the drum surface potential sensor control when the drum thermistor temperature exceeds the default temperature since the last control.	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
2510	Transfer	Transfer bias control		ALL	1 <0-1>	M	0: Invalid 1: Valid	1
2511	Transfer	Main charger open-loop control for resistance detection		ALL	1 <0-1>	M	0: Invalid 1: Valid	1
2513-0	Image control	Contrast voltage offset correction setting (Normal speed)	Y	ALL	5 <0-10>	M	0: -80 1: -60 2: -40 3: -20 4: -10 5: 0 6: +10 7: +20 8: +40 9: +60 10: +80 (Unit: V)	4
2513-1			M	ALL	5 <0-10>	M		4
2513-2			C	ALL	5 <0-10>	M		4
2513-3			K	ALL	5 <0-10>	M		4
2514-0		Contrast voltage offset correction setting (Decelerating 1)	Y	ALL	5 <0-10>	M		4
2514-1			M	ALL	5 <0-10>	M		4
2514-2			C	ALL	5 <0-10>	M		4
2514-3			K	ALL	5 <0-10>	M		4
2515	Image control	Contrast voltage offset correction setting (High speed)		ALL	5 <0-10>	M		1
2546-0	Image control	Contrast voltage offset correction setting (Decelerating 2)	Y	ALL	5 <0-10>	M	0: -80 1: -60 2: 40 3: -20 4: -10 5: 0 6: +10 7: +20 8: +40 9: +60 10: +80 (Unit: V)	4
2546-1			M	ALL	5 <0-10>	M		4
2546-2			C	ALL	5 <0-10>	M		4
2546-3			K	ALL	5 <0-10>	M		4
2548-0	Image control	Potential on white background/ Correction setting	Y	ALL	5 <0-10>	M	0: -25 1: -20 2: -15 3: -10 4: -5 5: 0 6: +5 7: +10 8: +15 9: +20 10: +25 (Unit: V)	4
2548-1			M	ALL	5 <0-10>	M		4
2548-2			C	ALL	5 <0-10>	M		4
2548-3			K	ALL	5 <0-10>	M		4
2560-0	Image control	Number of drum surface potential sensor control abnormalities Counter setting	Y	ALL	0 <0-3>	M	Displays the number of drum surface potential sensor control abnormalities.	4
2560-1			M	ALL	0 <0-3>	M		4
2560-2			C	ALL	0 <0-3>	M		4
2560-3			K	ALL	0 <0-3>	M		4
2561	Image control	Drum surface potential sensor control setting		ALL	1 <0-1>	M	Sets whether drum surface potential sensor control is enabled or disabled. 0: Disabled 1: Enabled	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2577-0	Image control	Number of drum surface potential sensor control abnormalities Counter setting	Y	ALL	0 <0-2>	M	Displays the number of drum surface potential sensor shutter closing control abnormalities.	4
2577-1			M	ALL	0 <0-2>	M		4
2577-2			C	ALL	0 <0-2>	M		4
2577-3			K	ALL	0 <0-2>	M		4
2600	Image control	Pattern formation for image quality TRC control, Valid/ Invalid		ALL	1 <0-1>	M	Sets whether to perform TRC control correction. 0: Disabled 1: Enabled	1
2677	Development	ON/OFF setting of toner refreshing behavior after being unattended		ALL	0 <0-1>	M	Sets whether toner refreshing behavior is performed or not depending on the unattended time of the equipment or change of humidity. 0: Off 1: On	1
2678-0	Development	Display of number of executions for toner refreshing behavior after being unattended	Display of number of level 1 executions	ALL	0 <0-9999>	M	Displays the number of level 1 executions of toner refreshing behavior after being unattended.	4
2678-1			Display of number of level 2 executions	ALL	0 <0-9999>	M	Displays the number of level 2 executions of toner refreshing behavior after being unattended.	4
2678-2			Display of number of level 3 executions	ALL	0 <0-9999>	M	Displays the number of level 3 executions of toner refreshing behavior after being unattended.	4
2679-0	Development	Setting of number of repeated executions for toner refreshing behavior after being unattended	Setting of number of repeated level 1 executions	ALL	2 <1-8>	M	Sets the number of toner refresh pattern to be printed on the transfer belt when level 1 toner refresh behavior is executed after being unattended.	4
2679-1			Setting of number of repeated level 2 executions	ALL	4 <1-8>	M	Sets the number of toner refresh pattern to be printed on the transfer belt when level 2 toner refresh behavior is executed after being unattended.	4
2679-2			Setting of number of repeated level 3 executions	ALL	6 <1-8>	M	Sets the number of toner refresh pattern to be printed on the transfer belt when level 3 toner refresh behavior is executed after being unattended.	4

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2702	Cleaner	Setting of number of page interval for drum reverse rotation interrupting consecutive printing	ALL	0 <0-99>	SYS	This code is used to interrupt printing automatically and rotate the transfer belt and the photoconductive drum in reverse at shorter intervals than that of 08-949. 0: Setting of 08-949 is used 1 to 99: Executed at the interval of setting value x 1 sheet	1
2703	Image control	Setting of number of page interval for image quality control execution	ALL	0 <0-99>	M	This code is used to execute image quality control at shorter intervals than that of 08-572. 0: Setting of 08-572 is used 1 to 99: Executed at the interval of setting value x 1 sheet	1
8103	Image control	Tone correction with image quality TRC control, switching between enabled/disabled	ALL	1 <0-1>	SYS	Switches whether tone correction with TRC control correction is enabled or disabled. 0: Tone correction disabled 1: Tone correction enabled	1
2670	Development	DevelopmentDeveloper material replacement display	ALL	0 <0-1>	M	0: Displayed 1: Not displayed	1
2675-0	Development	Threshold for displaying replacement timing of developer material — Y	ALL	100 <50-150>	M	Sets the threshold for displaying the replacement timing (degree of degeneration) of developer material. When the message appears even if no defective image is printed, increase the threshold for approx. 10.	4
2675-1		M	ALL	100 <50-150>	M		4
2675-2		C	ALL	100 <50-150>	M		4
2675-3		K	ALL	100 <50-150>	M		4
2681	Development	Toner refreshing mode / Number of printing test pattern	ALL	2 <2-6>	M	Sets the number of times the toner refreshing mode test pattern is printed on the transfer belt surface when the equipment enters into the toner refreshing mode.	1
2694	Development	Forcible discharge of developer material / Discharging period	ALL	2 <0-4>	M	0: 30 sec. 1: 1 min. 2: 2 min. 3: 4 min. 4: 6 min.	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
2695	Development	Forcible discharge of developer material/ Threshold for 2nd judgment		ALL	65 <30-100>	M		1
2707-0	Development	Toner density ratio manual offset control	Y	ALL	0 <0-8>	M	0: Invalid 1: +2bit 2: +4bit 3: +6bit 4: +8bit 5: -2bit 6: -4bit 7: -6bit 8: -8bit	4
2707-1			M	ALL	0 <0-8>	M		4
2707-2			C	ALL	0 <0-8>	M		4
2707-3			K	ALL	0 <0-8>	M		4
5207	Fuser	Warming-up period extension control setting		ALL	0 <0-1>	M	0: Valid 1: Invalid	1
5208	Fuser	Threshold for disabling warming-up period extension		ALL	2 <0-15>	M	0: Invalid 1: 30°C 2: 40°C 3: 50°C 4: 60°C 5: 70°C 6: 80°C 7: 90°C 8: 100°C 9: 110°C 10: 120°C 11: 130°C 12: 140°C 13: 150°C 14: 160°C 15: 170°C	1
5236-0	Fuser	Fusing temperature at ready status (Side / Pressure roller)	Normal temperature	ALL	3 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5236-1			Low temperature	ALL	4 <0-16>	M		4
5239	Fuser	Starting temperature of pre-running at ready status		ALL	7 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5240-0	Fuser	Allowable range correction / Ready status starting temperature after sleep mode	Pressure roller/ Lower limit	ALL	EUR: Refer to content UC:0 JPN:0 <0-5>	M	0: 0°C 1: -5°C 2: -10°C 3: -15°C 4: -20°C 5: -25°C <Default> 5240-0: EUR e-STUDIO5520C : 3 e-STUDIO6520C : 2 e-STUDIO6530C : 2	4
5240-1			Pressure roller/ Upper limit	ALL	5 <0-5>	M	0: 0°C 1: +5°C 2: +10°C 3: +15°C 4: +20°C 5: +25°C	4
5240-2			Pressure roller/ Lower limit (for MJD model)	ALL	0 <0-5>	M	0: 0°C 1: -5°C 2: -10°C 3: -15°C 4: -20°C 5: -25°C	4
5240-3			Pressure roller/ Upper limit (for MJD model)	ALL	0 <0-5>	M	0: 0°C 1: +5°C 2: +10°C 3: +15°C 4: +20°C 5: +25°C	4
5248	Fuser	Pressure roller contact/ release selection for pre-running at ready status		ALL	JPC: 1 Other: 0 <0-1>	M	0: Contact 1: Release	1
5271-0	Fuser	Fusing temperature during printing (Manual adjustment / Side / Pressure roller / Plain paper 1)		ALL (black)	3 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5271-1				ALL (color)	3 <0-16>	M		4
5272-0	Fuser	Fusing temperature during printing (Side / Pressure roller / Thick paper 1)	Normal length paper	ALL	2 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5272-1			Extra long size paper	ALL	2 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5275-0	Fuser	Printing speed switching temperature (Plain paper)	Heat roller temperature in black mode	ALL	19 <0-26>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: 180°C 23: 185°C 24: 190°C 25: 195°C 26: 200°C	4
5275-1			Heat roller temperature in C or CK mode	ALL	19 <0-26>	M		4
5275-2			Pressure roller temperature in black mode	ALL	8 <0-26>	M		4
5275-3			Pressure roller temperature in C or CK mode	ALL	8 <0-26>	M		4
5276-0	Fuser	Printing speed switchover setting (Plain paper 1 / Plain paper 2)	Fuser belt side	ALL (black)	0 <0-2>	M	0: Invalid 1: Valid only for 5 minutes after warming-up 2: Always valid	4
5276-1			Fuser belt side	ALL (color)	0 <0-2>	M		4
5276-2			Pressure roller side	ALL (black)	0 <0-2>	M		4
5276-3			Pressure roller side	ALL (color)	0 <0-2>	M		4
5277-0	Fuser	Fusing temperature during printing (Thick paper 4 / Normal length paper)	Center / Fuser belt	ALL	9 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5277-1			Side / Fuser belt	ALL	9 <0-16>	M		4
5277-2			Center / Pressure roller	ALL	2 <0-16>	M		4
5277-3			Side / Pressure roller	ALL	2 <0-16>	M		4
5277-4		Fusing temperature during printing (Thick paper 4 / Extra long size paper)	Center / Fuser belt	ALL	9 <0-16>	M		4
5277-5			Side / Fuser belt	ALL	9 <0-16>	M		4
5277-6			Center / Pressure roller	ALL	2 <0-16>	M		4
5277-7			Side / Pressure roller	ALL	2 <0-16>	M		4
5278	Fuser	Fusing temperature during printing (Side / Pressure roller / Overhead transparencies)		ALL	4 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
5279-0	Fuser	Duration of Thick paper 4 heater being forcibly turned on	Heat roller / Normal length paper	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
5279-1			Press roller / Normal length paper	ALL	5 <0-10>	M		4
5279-2			Heat roller / Extra long size paper	ALL	0 <0-10>	M		4
5279-3			Press roller / Extra long size paper	ALL	5 <0-10>	M		4
5280-0	Fuser	Pre-running time for first printing (Thick paper 4)	Normal length paper	ALL	5 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
5280-1			Extra long size paper	ALL	5 <0-16>	M		4
5281-0	Fuser	Fusing temperature during printing (Side / Pressure roller / Thick paper 2)	Normal length paper	ALL	2 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5281-1			Extra long size paper	ALL	2 <0-16>	M		4
5282-0	Fuser	Fusing temperature during printing (Side / Pressure roller / Thick paper 3)	Normal length paper	ALL	1 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5282-1			Extra long size paper	ALL	1 <0-16>	M		4
5283-0	Fuser	Fusing temperature (Side / Pressure roller / Special paper)	Special paper 1 / Normal length paper	ALL	4 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5283-1			Special paper 2 / Normal length paper	ALL	4 <0-16>	M		4
5283-2			Special paper 1 / Extra long size paper	ALL	4 <0-16>	M		4
5283-3			Special paper 2 / Extra long size paper	ALL	4 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5284-0	Fuser	Temperature drop control during printing 2		ALL (black)	0 <0-8>	M	0: Disabled 1: Enabled - Thick paper 2, thick paper 3 (Fuser belt and pressure roller at the normal or low temperature) 2: Enabled - Thick paper 2, thick paper 3 (Fuser belt at the normal or low temperature) 3: Enabled - Thick paper 2 (Fuser belt at the normal or low temperature) 4: Enabled - Thick paper 2 (Fuser belt at the normal temperature) 5: Enabled - Thick paper 2, thick paper 3 (Fuser belt at the normal temperature) 6: Enabled - Thick paper 2 (Fuser belt and pressure roller at the normal or low temperature) 7: Enabled - Thick paper 2 (Fuser belt and pressure roller at the normal temperature) 8: Enabled - Thick paper 2, thick paper 3 (Fuser belt and pressure roller at the normal temperature)	4
5284-1	Fuser			ALL (color)	0 <0-8>	M		4
5289-0	Fuser	Fusing temperature correction setting during printing (Manual adjustment / Plain paper 2)	Center / Fuser belt	ALL (black)	5 <0-8>	M	0: -15°C 1: -10°C 2: -5°C 3: 0°C 4: +5°C 5: +10°C 6: +15°C 7: +20°C 8: +25°C	4
5289-1				ALL (color)	5 <0-8>	M		4
5289-2			Side / Fuser belt	ALL (black)	5 <0-8>	M		4
5289-3				ALL (color)	5 <0-8>	M		4
5289-4			Center / Pressure roller	ALL (black)	5 <0-8>	M		4
5289-5				ALL (color)	5 <0-8>	M		4
5289-6			Side / Pressure roller	ALL (black)	5 <0-8>	M		4
5289-7				ALL (color)	5 <0-8>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
5291-0	Fuser	Fusing temperature correction setting during printing (Automatic adjustment / Plain paper 1)	Center / Fuser belt	ALL (black)	3 <0-8>	M	0: -15°C 1: -10°C 2: -5°C 3: 0°C 4: +5°C 5: +10°C 6: +15°C 7: +20°C 8: +25°C	4
5291-1				ALL (color)	3 <0-8>	M		4
5291-2			Side / Fuser belt	ALL (black)	3 <0-8>	M		4
5291-3				ALL (color)	3 <0-8>	M		4
5291-4			Center / Pressure roller	ALL (black)	3 <0-8>	M		4
5291-5				ALL (color)	3 <0-8>	M		4
5291-6			Side / Pressure roller	ALL (black)	3 <0-8>	M		4
5291-7				ALL (color)	3 <0-8>	M		4
5292-0	Fuser	Fusing temperature correction setting during printing (Automatic adjustment / Plain paper 2)	Center / Fuser belt	ALL (black)	4 <0-8>	M	0: -15°C 1: -10°C 2: -5°C 3: 0°C 4: +5°C 5: +10°C 6: +15°C 7: +20°C 8: +25°C	4
5292-1				ALL (color)	4 <0-8>	M		4
5292-2			Side / Fuser belt	ALL (black)	4 <0-8>	M		4
5292-3				ALL (color)	4 <0-8>	M		4
5292-4			Center / Pressure roller	ALL (black)	4 <0-8>	M		4
5292-5				ALL (color)	4 <0-8>	M		4
5292-6			Side / Pressure roller	ALL (black)	4 <0-8>	M		4
5292-7				ALL (color)	4 <0-8>	M		4
5293-0	Fuser	Fusing temperature during printing (Center / Fuser belt / Recycled paper)		ALL (black)	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5293-1				ALL (color)	8 <0-16>	M		4
5294-0	Fuser	Fusing temperature during printing (Side / Fuser belt / Recycled paper)		ALL (black)	10 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5294-1				ALL (color)	8 <0-16>	M		4
5296-0	Fuser	Fusing temperature during printing (Pressure roller / Recycled paper)	Center / Pressure roller	ALL (black)	3 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5296-1				ALL (color)	1 <0-16>	M		4
5296-2			Side / Pressure roller	ALL (black)	3 <0-16>	M		4
5296-3				ALL (color)	1 <0-16>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5297-0	Fuser	Duration of Recycled paper heater being forcibly turned on	Heat roller BK mode	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
5297-1			Heat roller C or CK mode	ALL	0 <0-10>	M		4
5297-2			Press roller BK mode	ALL	5 <0-10>	M		4
5297-3			Press roller C or CK mode	ALL	5 <0-10>	M		4
5299-0	Fuser	Pre-running time for first printing (Recycled paper)		ALL (black)	5 <0-16>	M	0: Invalid 1: 0sec. 2: 2sec. 3: 3sec. 4: 4sec. 5: 5sec. 6: 6sec. 7: 7sec. 8: 8sec. 9: 10sec. 10: 12sec. 11: 14sec. 12: 16sec. 13: 18sec. 14: 20sec. 15: 25sec. 16: 30sec.	4
5299-1				ALL (color)	5 <0-16>	M		4
5300-0	Fuser	Controlled temperature minimum threshold (Recycled paper/normal temperature environment)	Center of heat roller / BK mode / Simplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
5300-1			Center of heat roller / C or CK mode / Simplex printing	ALL	15 <0-18>	M		4
5300-2			Side of heat roller / BK mode / Simplex printing	ALL	15 <0-18>	M		4
5300-3			Side of heat roller / C or CK mode / Simplex printing	ALL	15 <0-18>	M		4
5300-4			Center of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4
5300-5			Center of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
5300-6	Fuser	Controlled temperature minimum threshold (Recycled paper/normal temperature environment)	Side of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
5300-7			Side of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
5300-8			Center of heat roller / BK mode / Duplex printing	ALL	15 <0-18>	M		4
5300-9			Center of heat roller / C or CK mode / Duplex printing	ALL	15 <0-18>	M		4
5300-10			Side of heat roller / BK mode / Duplex printing	ALL	15 <0-18>	M		4
5300-11			Side of heat roller / C or CK mode / Duplex printing	ALL	15 <0-18>	M		4
5300-12			Center of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
5300-13			Center of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
5300-14			Side of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
5300-15			Side of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5301-0	Fuser	Controlled temperature minimum threshold (Recycled paper/low temperature environment)	Center of heat roller / BK mode / Simplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
5301-1			Center of heat roller / C or CK mode / Simplex printing	ALL	15 <0-18>	M		4
5301-2			Side of heat roller / BK mode / Simplex printing	ALL	15 <0-18>	M		4
5301-3			Side of heat roller / C or CK mode / Simplex printing	ALL	15 <0-18>	M		4
5301-4			Center of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4
5301-5			Center of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
5301-6			Side of pressure roller / BK mode / Simplex printing	ALL	6 <0-18>	M		4
5301-7			Side of pressure roller / C or CK mode / Simplex printing	ALL	6 <0-18>	M		4
5301-8			Center of heat roller / BK mode / Duplex printing	ALL	15 <0-18>	M		4
5301-9			Center of heat roller / C or CK mode / Duplex printing	ALL	15 <0-18>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5301-10	Fuser	Controlled temperature minimum threshold (Recycled paper/low temperature environment)	Side of heat roller / BK mode / Duplex printing	ALL	15 <0-18>	M	0: 80°C 1: 85°C 2: 90°C 3: 95°C 4: 100°C 5: 105°C 6: 110°C 7: 115°C 8: 120°C 9: 125°C 10: 130°C 11: 135°C 12: 140°C 13: 145°C 14: 150°C 15: 155°C 16: 160°C 17: 165°C 18: 170°C	4
5301-11			Side of heat roller / C or CK mode / Duplex printing	ALL	15 <0-18>	M		4
5301-12			Center of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
5301-13			Center of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
5301-14			Side of pressure roller / BK mode / Duplex printing	ALL	6 <0-18>	M		4
5301-15			Side of pressure roller / C or CK mode / Duplex printing	ALL	6 <0-18>	M		4
5315	Fuser	Fusing temperature correction setting during printing (Wide paper)		ALL	1 <0-1>	M	0: Disabled 1: Enabled	1
5316	Fuser	Copying speed control switchover setting		ALL	0 <0-1>	M	0: Disabled 1: Enabled	1
5323-0	Fuser	Fusing temperature during printing (Special mode for waterproof paper)	Center of heat roller	ALL	15 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
5323-1			Side of heat roller	ALL	15 <0-16>	M		4
5323-2			Center of pressure roller	ALL	8 <0-16>	M		4
5323-3			Side of pressure roller	ALL	8 <0-16>	M		4
5324-0	Fuser	Duration of waterproof paper special mode heater being forcibly turned on	Heat roller	ALL	0 <0-10>	M	0: Disabled 1 to 10:Setting value *1 (sec)	4
5324-1			Press roller	ALL	5 <0-10>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5325	Fuser	Pre-running time for first printing (Special mode for waterproof paper)		ALL	5 <0-16>	M	0: Invalid 1: 0sec. 2: 2sec. 3: 3sec. 4: 4sec. 5: 5sec. 6: 6sec. 7: 7sec. 8: 8sec. 9: 10sec. 10: 12sec. 11: 14sec. 12: 16sec. 13: 18sec. 14: 20sec. 15: 25sec. 16: 30sec.	1
5390	Fuser	Starting temperature for Thick paper 4 abnormalities processing (Side of heat roller)		ALL	5 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	1
5391-0	Fuser	Starting temperature of abnormalities processing (Side of pressure roller)	Manual adjustment: Plain paper 1 / Simplex printing	ALL	4 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5391-1			Manual adjustment: Plain paper 2 / Simplex printing	ALL	5 <0-22>	M		4
5391-2			Automatic adjustment: Plain paper 1 / Simplex printing	ALL	4 <0-22>	M		4
5391-3			Automatic adjustment: Plain paper 2 / Simplex printing	ALL	5 <0-22>	M		4
5391-4			Bypass feeding / Simplex printing	ALL	5 <0-22>	M		4
5391-5			Manual adjustment: Plain paper 1 / Duplex printing	ALL	4 <0-22>	M		4
5391-6			Manual adjustment: Plain paper 2 / Duplex printing	ALL	5 <0-22>	M		4
5391-7			Automatic adjustment: Plain paper 1 / Duplex printing	ALL	4 <0-22>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
5391-8	Fuser	Starting temperature of abnormalities processing (Side of pressure roller)	Automatic adjustment: Plain paper 2 / Duplex printing	ALL	5 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5391-9			Bypass feeding / Duplex printing	ALL	5 <0-22>	M		4
5401-0	Fuser	Starting temperature of abnormalities processing (Side of pressure roller/low temperature environment)	Manual adjustment: Plain paper 1 / Simplex printing	ALL	4 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5401-1			Manual adjustment: Plain paper 2 / Simplex printing	ALL	5 <0-22>	M		4
5401-2			Automatic adjustment: Plain paper 1 / Simplex printing	ALL	4 <0-22>	M		4
5401-3			Automatic adjustment: Plain paper 2 / Simplex printing	ALL	5 <0-22>	M		4
5401-4			Bypass feeding / Simplex printing	ALL	5 <0-22>	M		4
5401-5			Manual adjustment: Plain paper 1 / Duplex printing	ALL	4 <0-22>	M		4
5401-6			Manual adjustment: Plain paper 2 / Duplex printing	ALL	5 <0-22>	M		4
5401-7			Automatic adjustment: Plain paper 1 / Duplex printing	ALL	4 <0-22>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5401-8	Fuser	Starting temperature of abnormalities processing (Side of pressure roller/low temperature environment)	Automatic adjustment: Plain paper 2 / Duplex printing	ALL	5 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5401-9			Bypass feeding / Duplex printing	ALL	5 <0-22>	M		4
5402-0	Fuser	Starting temperature of abnormalities processing (Pressure roller) (Thick paper, OHP film, Special paper)	Thick paper 1 / Simplex printing	ALL	4 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5402-1			Thick paper 2 / Simplex printing	ALL	4 <0-22>	M		4
5402-2			Thick paper 3 / Simplex printing	ALL	4 <0-22>	M		4
5402-3			Thick paper 4	ALL	4 <0-22>	M		4
5402-4			OHP film	ALL	4 <0-22>	M		4
5402-5			Special paper 1	ALL	4 <0-22>	M		4
5402-6			Special paper 2	ALL	4 <0-22>	M		4
5402-7			Recycled paper / Under normal temperature / Simplex printing	ALL	4 <0-22>	M		4
5402-8			Recycled paper / Low temperature environment / Simplex printing	ALL	4 <0-22>	M		4
5402-9			Special mode for waterproof paper	ALL	8 <0-22>	M		4
5402-10			Recycled paper / Under normal temperature / Duplex printing	ALL	4 <0-22>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5402-11	Fuser	Starting temperature of abnormalities processing (Pressure roller) (Thick paper, OHP film, Special paper)	Recycled paper / Low temperature environment / Duplex printing	ALL	4 <0-22>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: Disabled	4
5402-12			Thick paper 1 / Duplex printing	ALL	5 <0-22>	M		4
5402-13			Thick paper 2 / Duplex printing	ALL	5 <0-22>	M		4
5402-14			Thick paper 3 / Duplex printing	ALL	5 <0-22>	M		4
5409-0	Fuser	Starting temperature for recycled paper abnormalities processing / Under normal temperature (Fuser belt)	Simplex printing	ALL	6 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Invalid	4
5409-1			Duplex printing	ALL	6 <0-12>	M		4
5410-0	Fuser	Starting temperature for recycled paper abnormalities processing / Under low temperature (Fuser belt)	Simplex printing	ALL	6 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Invalid	4
5410-1			Duplex printing	ALL	6 <0-12>	M		4
5411	Fuser	Starting temperature for abnormalities processing Period for additional temperature rising		ALL	0 <0-11>	M	0: 0 1: 0.5 2: 1 3: 1.5 4: 2 5: 3 6: 4 7: 5 8: 7 9: 10 10: 15 11: continuance (Unit: Minute)	1
5412	Fuser	Starting temperature for abnormalities processing Temperature setting for disabling additional temperature rising		ALL	5 <0-15>	M	0: Invalid 1: 30°C 2: 40°C 3: 50°C 4: 60°C 5: 70°C 6: 80°C 7: 90°C 8: 100°C 9: 110°C 10: 120°C 11: 130°C 12: 140°C 13: 150°C 14: 160°C 15: 170°C	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5413-0	Fuser	Printing speed switching temperature (Thick paper 3/4 black mode)	Thick paper 3 Heat roller temperature	ALL	17 <0-26>	M	0: 70°C 1: 75°C 2: 80°C 3: 85°C 4: 90°C 5: 95°C 6: 100°C 7: 105°C 8: 110°C 9: 115°C 10: 120°C 11: 125°C 12: 130°C 13: 135°C 14: 140°C 15: 145°C 16: 150°C 17: 155°C 18: 160°C 19: 165°C 20: 170°C 21: 175°C 22: 180°C 23: 185°C 24: 190°C 25: 195°C 26: 200°C	4
5413-1			Thick paper 4 Heat roller temperature	ALL	17 <0-26>	M		4
5413-2			Thick paper 3 Pressure roller temperature	ALL	6 <0-26>	M		4
5413-3			Thick paper 4 Pressure roller temperature	ALL	6 <0-26>	M		4
5414-0	Fuser	Printing speed switchover setting (Thick paper 4)	Fuser belt side	ALL	0 <0-2>	M	0: Invalid 1: Valid only for 5 minutes after warming-up 2: Always valid	4
5414-1			Pressure roller side	ALL	0 <0-2>	M		4
5417	Fuser	Starting temperature for waterproof paper special mode abnormalities processing (Low temperature)		ALL	10 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Disabled	1
5430	Fuser	Fusing temperature at low power mode (Side / Pressure roller)		ALL	9 <0-25>	M	0: OFF 1: 40°C 2: 45°C 3: 50°C 4: 55°C 5: 60°C 6: 65°C 7: 70°C 8: 75°C 9: 80°C 10: 85°C 11: 90°C 12: 95°C 13: 100°C 14: 105°C 15: 110°C 16: 115°C 17: 120°C 18: 125°C 19: 130°C 20: 135°C 21: 140°C 22: 145°C 23: 150°C 24: 155°C 25: 160°C	1
5432-0	Fuser	Warming period in energy saving mode	1st energy saving mode in a day	ALL	14 <0-14>	M	0: 0 1: 0.5 2: 1 3: 2 4: 3 5: 5 6: 10 7: 15 8: 30 9: 45 10: 60 11: 75 12: 90 13: 120 14: No limitation (Unit: Minute)	4
5432-1			2nd and after	ALL	0 <0-14>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5449-0	Fuser	Intermittence setting	Thick paper 1	ALL	0 <0-1>	M	0: Valid 1: Invalid	4
5449-1			Thick paper 2	ALL	0 <0-1>	M		4
5449-2			Thick paper 3	ALL	0 <0-1>	M		4
5449-3			Thick paper 4	ALL	0 <0-1>	M		4
5449-4			Special paper 1	ALL	1 <0-1>	M		4
5449-5			Special paper 2	ALL	0 <0-1>	M		4
5449-6			OHP film	ALL	0 <0-1>	M		4
5455	Fuser	Number of pages for small size paper feeding interval control		ALL	4 <0-10>	M	0: 10 1: 20 2: 30 3: 50 4: 75 5: 100 6: 150 7: 250 8: 300 9: 400 10: 500 (Unit: page)	1
5456	Fuser	Period for small size paper feeding interval control		ALL	9 <0-15>	M	0: 1 1: 2 2: 3 3: 4 4: 5 5: 6 6: 7 7: 8 8: 9 9: 10 10: 12 11: 14 12: 16 13: 18 14: 20 15: 22	1
5457-0	Fuser	Small size paper feeding interval control switchover	Under normal temperature	ALL	0 <0-1>	M	0: Disabled 1: Enabled	4
5457-1			Under low temperature	ALL	0 <0-1>	M		4

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24.4 Scanner

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
462	RADF	Setting for switchback operation in mixed-size copying using RADF	ALL	0 <0-1>	SYS	This setting is whether the original length is detected or not by transporting without scanning in reverse when A4-R/FOLIO paper or LT-R/LG paper is detected in a mixed-size copying. 0: Disabled - AMS: A series - Judges as A4-R without transporting in reverse with no scanning. LT series - Judges whether it is LT-R or LG by its length without transporting in reverse with no scanning. APS: A series - Judges whether it is A4-R or FOLIO without transporting in reverse with no scanning. LT series - Judges whether it is LT-R or LG without transporting in reverse with no scanning. 1: Enable 1 AMS: A series - Judges whether it is A4-R or FOLIO by transporting without scanning in reverse to detect its length. LT series - Judges whether it is LT-R or LG by transporting without scanning in reverse to detect its length. APS: The same as that of APS in 0: Disabled.	1
3015	Scanner	Pre-scan setting switchover	ALL	0 <0-1>	SYS	0: Not performing pre-scanning 1: Performing pre-scanning	1

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24.5 Printer

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
210	Feeding system / Paper transport	Paper size (A6-R) feeding/widthwise direction	PRT	148/105 <148-432/105-297>	M		10
224	Feeding system / Paper transport	Paper size for bypass feed	PPC	UNDEF (255) <0-255>	SYS	Press the button on the LCD to select the size.	9
225	Feeding system / Paper transport	Paper size for 1st drawer	ALL	EUR: A4 UC: LT JPN: A4	M	Press the button on the LCD to select the size. * The value of this code is overwritten every time the paper size is detected automatically.	9
226	Feeding system / Paper transport	Paper size for 2nd drawer	ALL	EUR: A3 UC: LD JPN: A3	M	Press the button on the LCD to select the size. * The value of this code is overwritten every time the paper size is detected automatically.	9
227	Feeding system / Paper transport	Paper size for 3rd drawer	ALL	EUR: A4-R UC: LG JPN: A4-R	M	Press the button on the LCD to select the size. * The value of this code is overwritten every time the paper size is detected automatically.	9
228	Feeding system / Paper transport	Paper size for 4th drawer	ALL	EUR: A4 UC: LD JPN: B4	M	Press the button on the LCD to select the size. * The value of this code is overwritten every time the paper size is detected automatically.	9
229	Feeding system / Paper transport	Paper size (A3-R) feeding/widthwise direction	ALL	420/297 <182-432/140-297>	M		10
230	Feeding system / Paper transport	Paper size (A4-R) feeding/widthwise direction	ALL	297/210 <182-432/140-297>	M		10
231	Feeding system / Paper transport	Paper size (A5-R) feeding/widthwise direction	ALL	210/148 <182-432/140-297>	M		10
232	Feeding system / Paper transport	Paper size (B4-R) feeding/widthwise direction	ALL	364/257 <182-432/140-297>	M		10
233	Feeding system / Paper transport	Paper size (B5-R) feeding/widthwise direction	ALL	257/182 <182-432/140-297>	M		10

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
234	Feeding system / Paper transport	Paper size (LT-R) feeding/widthwise direction		ALL	279/216 <182-432/140-297>	M		10
235	Feeding system / Paper transport	Paper size (LD) feeding/widthwise direction		ALL	432/279 <182-432/140-297>	M		10
236	Feeding system / Paper transport	Paper size (LG) feeding/widthwise direction		ALL	356/216 <182-432/140-297>	M		10
237	Feeding system / Paper transport	Paper size (ST-R) feeding/widthwise direction		ALL	216/140 <182-432/140-297>	M		10
238	Feeding system / Paper transport	Paper size (COMPUTER) feeding/widthwise direction		ALL	356/257 <182-432/140-297>	M		10
239	Feeding system / Paper transport	Paper size (FOLIO) feeding/widthwise direction		ALL	330/210 <182-432/140-297>	M		10
240	Feeding system / Paper transport	Paper size (13"LG) feeding/widthwise direction		ALL	330/216 <182-432/140-297>	M		10
241	Feeding system / Paper transport	Paper size (8.5” X 8.5”) feeding/widthwise direction		ALL	216/216 <182-432/140-297>	M		10
242	Feeding system / Paper transport	Paper size (Non-standard) feeding/widthwise direction		ALL	432/279 <148-432/105-297>	SYS		10
244	Feeding system / Paper transport	Paper size (8K) feeding/widthwise direction		ALL	390/270 <182-432/140-297>	M		10
245	Feeding system / Paper transport	Paper size (16K-R) feeding/widthwise direction		ALL	270/195 <182-432/140-297>	M		10
246	Feeding system / Paper transport	Paper size (A3-wide) feeding/widthwise direction		ALL	457/305 <182-457/140-305>	M		10
256	Feeding system / Paper transport	Paper size setting /T-LCF		ALL	EUR: A4 UC: LT JPN: A4	M	Press the icon on the LCD to select the size.	9
449	Feeding system / Paper transport	Switching for incorrect paper size jam detection		ALL	0 <0-1>	M	0: Enabled 1: Disabled	1
463-0	Feeding system / Paper transport	Feeding retry number setting (1st drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the 1st drawer.	4
463-1			Others	ALL	5 <0-5>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
464-0	Feeding system / Paper transport	Feeding retry number setting (2nd drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the 2nd drawer.	4
464-1			Others	ALL	5 <0-5>	M		4
465-0	Feeding system / Paper transport	Feeding retry number setting (3rd drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the 3rd drawer.	4
465-1			Others	ALL	5 <0-5>	M		4
466-0	Feeding system / Paper transport	Feeding retry number setting (4th drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the 4th drawer.	4
466-1			Others	ALL	5 <0-5>	M		4
467-0	Feeding system / Paper transport	Feeding retry number setting (bypass feed)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the bypass tray.	4
467-1			Others	ALL	5 <0-5>	M		4
468-0	Feeding system / Paper transport	Feeding retry number setting (T-LCF)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the LCF.	4
468-1			Others	ALL	5 <0-5>	M		4
470	Feeding system / Paper transport	Paper size (305 x 457 mm) feeding/widthwise direction		ALL	457/305 <148-457/105-305>	M		10
471	Feeding system / Paper transport	Paper size (Post card) feeding/widthwise direction		ALL	148/100 <148-432/100-297>	M	* Post card is supported only for JPN model.	10
478	Laser	Judged number of polygonal motor rotation error (Normal rotation)		ALL	0 <0-2>	M	Displays the error [CA10] when the set number of rotation error has been detected. 0: 2 times 1: 10 times 2: 20 times	1
480	Feeding system / Paper transport	Default setting of paper source		PPC	0 <0-6>	SYS	0: A4/LT 1: T-LCF 2: 1st drawer 3: 2nd drawer 4: 3rd drawer 5: 4th drawer 6: O-LCF	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
481	Feeding system / Paper transport	Paper of different direction	PPC	1 <0-2>	SYS	Sets whether or not changing the drawer automatically to the other drawer with the paper of the same size when paper in the selected drawer has run out. This code is set to "1" when a value is set at 08-8591. Only "1" or "2" can be entered in this code when "1" is set at 08-8591. 0: ACC prohibited 1: ON (Changes to the drawer with the same paper direction and size: ex. A4 to A4) 2: ON (Changes to the drawer with the same paper size. Paper with the different direction is acceptable as long as the size is the same: ex., A4 to A4-R, LT-R to LT. “1” is applied when the staple/holepunch is specified.)	1
482	Feeding system / Paper transport	Feeding retry setting	ALL	0 <0-1>	M	0: ON 1: OFF	1
482 (EFI)	Feeding system / Paper transport	Feeding retry setting	ALL	1 <0-1>	M	0: ON 1: OFF	1
483	Laser	Pre-running rotation of polygonal motor	ALL	0 <0-2>	SYS	Sets whether or not switching the polygonal motor from the standby rotation to the normal rotation when the original is set on the RADF or the RADF is opened. 0: Valid (when using RADF and the original is set manually) 1: Invalid 2: Valid (when using RADF only)	1
484	Laser	Polygonal motor rotational status switching at the Auto Clear Mode	ALL	0 <0-1>	SYS	Sets whether or not switching the polygonal motor from the normal rotation to the standby rotation at the Auto Clear Mode. 0: Valid 1: Invalid	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
485	Laser	Rotational status of polygonal motor on standby		ALL	0 <0-1>	SYS	Sets the rotational status of polygonal motor on standby. 0: Rotated (The rotational speed is set at 08-490.) 1: Stopped	1
486	Laser	Timing of auto-clearing of polygonal motor pre-running rotation		ALL	3 <0-6>	SYS	Switches the polygonal motor to the standby rotation when a certain period of time has passed from the pre-running. At this code, the period to switch the status to the standby rotation is set. 0: 15 sec. 1: 20 sec. 2: 25 sec. 3: 30 sec. 4: 35 sec. 5: 40 sec. 6: 45 sec. * This setting is effective when “0” or “2” is set at 08-483.	1
489	Laser	Polygonal motor rotation number on standby		ALL	3 <0-3>	M	0: 26574.8rpm 1: 20000rpm 2: 15000rpm 3: 10000rpm	1
490	Laser	Polygonal motor rotation in the energy saving mode		ALL	0 <0-3>	M	0: Stopped 1: 10000rpm 2: 15000rpm 3: 20000rpm	1
630	Paper feeding	Paper size setting /O-LCF		ALL	EUR: A4 UC: LT JPN: A4	M	Press the icon on the LCD to select the size.	9
1900-0	Feeding system / Paper transport	Feeding retry number setting (O-LCF)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the O-LCF.	4
1900-1			Others	ALL	5 <0-5>	M		4
1902	Fuser	Fusing error temperature (Temperature of the fuser belt center thermopile)		ALL	0 <0-255>	M		1
1903	Fuser	Fusing error temperature (Temperature of the fuser belt side thermopile)		ALL	0 <0-255>	M		1
1904	Fuser	Fusing error temperature (Temperature of the Fuser belt edge thermistor)		ALL	0 <0-255>	M		1
1905	Fuser	Fusing error temperature (Temperature of the pressure roller center thermopiles)		ALL	0 <0-255>	M		1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1906	Fuser	Power supply at fusing error		ALL	0 <0-63>	M	0:0W, 1:200W, 2:240W, 3:300W, 4:320W, 5:340W, 6:360W, 7:380W, 8:400W, 9:420W, 10:440W, 11:460W, 12:480W, 13:500W, 14:520W, 15:540W, 16:560W, 17:580W, 18:600W, 19:620W, 20:640W, 21:660W, 22:680W, 23:700W, 24:720W, 25:740W, 26:760W, 27:780W, 28:800W, 29:820W, 30:840W, 31:860W, 32:880W, 33:900W, 34:920W, 35:940W, 36:960W, 37:980W, 38:1000W, 39:1020W, 40:1040W, 41:1060W, 42:1080W, 43:1100W	1
1911	Feeding system / Paper transport	Manual stapling time-out period		ALL	15 <0-30>	M	3-30sec. (In increments of 1sec.)	1
1912	Feeding system / Paper transport	Finisher model switching setting value		ALL	1 <0-1>	M	0: - 1: MJ-1103/MJ-1104	1
4016-0	Paper feeding	ACC function when a drawer is specified	Copying	ALL	0 <0-1>	SYS	Sets whether the ACC function is enabled only for automatic drawer selection or enabled when a particular drawer is specified as well. 0: Enabled when a drawer is specified 1: Enabled only for automatic drawer selection	4
4016-1			Printing / BOX printing	ALL	0 <0-1>	SYS		4
4545	Fuser	Fusing error temperature (Temperature of the pressure roller rear thermistor)		ALL	0 <0-255>	M		1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4546	Feeding system / Paper transport	Color registration adjustment control mode setting		ALL	5 <0-5>	M	0: Not performed automatically 1: (a) 2: (b) 3: (a) + (b) 4: (b) + (c) 5: (a) + (b) + (c) [Description] (a) Performs the adjustment automatically at warming-up. (b) Performs the adjustment automatically when printing after a specified period of time has been completed. (c) Performs the adjustment automatically at a ready status after a specified period of time, or at a forcible interruption of large amount of printing.	1
4550-0	Feeding system / Paper transport	Start-up time setting value for color registration adjustment	1st start-up	ALL	3 <3-255>	M	1st color registration adjustment start-up time [unit: minute] automatically set when the color registration adjustment has not been performed automatically at power ON, recovery from the ready status or recovery from the sleep mode.	4
4550-1			2nd or subsequent start-ups	ALL	30 <3-255>	M	Start-up time [unit: minute] for 2nd or subsequent color registration adjustment start-ups automatically set when the color registration adjustment has been automatically performed after a specified period of time.	4
4562	Feeding system / Paper transport	Time of pausing continuous printing for color registration control		ALL	5 <1-60>	M	Sets the time from reaching the start-up for color registration control to pausing the printing (Unit: Minute)	1
4567	Feeding system / Paper transport	Paper size (SRA3) feeding/widthwise direction		ALL	450/320 <148-460/105-320>	M		10
4568	Feeding system / Paper transport	Paper size(460mm X 320mm) feeding/widthwise direction		ALL	460/320 <148-460/105-320>	M		10

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4572	Fuser	Fusing error temperature (Pressure roller side thermistor)		ALL	0 <0-255>	M		1
4575	Development	Waste toner box near-full status Display setting		ALL	1 <0-1>	M	0: Disabled 1: Enabled	1
4585	Feeding system / Paper transport	Paper size (13 X 19inch-R) feeding/widthwise direction		ALL	483/330 <148-483/105-330>	M		10
4586	General	Checking of SRAM board data on LGC board No. 1 (Models)		ALL	Refer to content <430-432>	M	430:e-STUDIO5520C 431:e-STUDIO6520C 432:e-STUDIO6530C	2
4587-0	General	Checking of SRAM board data on LGC board No. 2 (0 x 00)	Check data 1	ALL	0 <0-255>	M	Hexadecimal number (0 x 00)	14
4587-1			Check data 2	ALL	0 <0-255>	M		14
4587-2			Check data 3	ALL	0 <0-255>	M		14
4587-3			Check data 4	ALL	0 <0-255>	M		14
4587-4			Check data 5	ALL	0 <0-255>	M		14
4587-5			Check data 6	ALL	0 <0-255>	M		14
4587-6			Check data 7	ALL	0 <0-255>	M		14
4587-7			Check data 8	ALL	0 <0-255>	M		14
4587-8			Check data 9	ALL	0 <0-255>	M		14
4587-9			Check data 10	ALL	0 <0-255>	M		14
4587-10			Check data 11	ALL	0 <0-255>	M		14
4587-11			Check data 12	ALL	0 <0-255>	M		14
4587-12			Check data 13	ALL	0 <0-255>	M		14
4587-13			Check data 14	ALL	0 <0-255>	M		14
4587-14			Check data 15	ALL	0 <0-255>	M		14
4587-15			Check data 16	ALL	0 <0-255>	M		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4588-0	General	Checking of SRAM board data on LGC board No. 3 (0 x 55)	Check data 1	ALL	85 <0-255>	M	Hexadecimal number (0 x 55)	14
4588-1			Check data 2	ALL	85 <0-255>	M		14
4588-2			Check data 3	ALL	85 <0-255>	M		14
4588-3			Check data 4	ALL	85 <0-255>	M		14
4588-4			Check data 5	ALL	85 <0-255>	M		14
4588-5			Check data 6	ALL	85 <0-255>	M		14
4588-6			Check data 7	ALL	85 <0-255>	M		14
4588-7			Check data 8	ALL	85 <0-255>	M		14
4588-8			Check data 9	ALL	85 <0-255>	M		14
4588-9			Check data 10	ALL	85 <0-255>	M		14
4588-10			Check data 11	ALL	85 <0-255>	M		14
4588-11			Check data 12	ALL	85 <0-255>	M		14
4588-12			Check data 13	ALL	85 <0-255>	M		14
4588-13			Check data 14	ALL	85 <0-255>	M		14
4588-14			Check data 15	ALL	85 <0-255>	M		14
4588-15			Check data 16	ALL	85 <0-255>	M		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4589-0	General	Checking of SRAM board data on LGC board No. 4 (0 x AA)	Check data 1	ALL	170 <0-255>	M	Hexadecimal number (0 x AA)	14
4589-1			Check data 2	ALL	170 <0-255>	M		14
4589-2			Check data 3	ALL	170 <0-255>	M		14
4589-3			Check data 4	ALL	170 <0-255>	M		14
4589-4			Check data 5	ALL	170 <0-255>	M		14
4589-5			Check data 6	ALL	170 <0-255>	M		14
4589-6			Check data 7	ALL	170 <0-255>	M		14
4589-7			Check data 8	ALL	170 <0-255>	M		14
4589-8			Check data 9	ALL	170 <0-255>	M		14
4589-9			Check data 10	ALL	170 <0-255>	M		14
4589-10			Check data 11	ALL	170 <0-255>	M		14
4589-11			Check data 12	ALL	170 <0-255>	M		14
4589-12			Check data 13	ALL	170 <0-255>	M		14
4589-13			Check data 14	ALL	170 <0-255>	M		14
4589-14			Check data 15	ALL	170 <0-255>	M		14
4589-15			Check data 16	ALL	170 <0-255>	M		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
4590-0	General	Checking of SRAM board data on LGC board No. 5 (0 x FF)	Check data 1	ALL	255 <0-255>	M	Hexadecimal number (0 x FF)	14
4590-1			Check data 2	ALL	255 <0-255>	M		14
4590-2			Check data 3	ALL	255 <0-255>	M		14
4590-3			Check data 4	ALL	255 <0-255>	M		14
4590-4			Check data 5	ALL	255 <0-255>	M		14
4590-5			Check data 6	ALL	255 <0-255>	M		14
4590-6			Check data 7	ALL	255 <0-255>	M		14
4590-7			Check data 8	ALL	255 <0-255>	M		14
4590-8			Check data 9	ALL	255 <0-255>	M		14
4590-9			Check data 10	ALL	255 <0-255>	M		14
4590-10			Check data 11	ALL	255 <0-255>	M		14
4590-11			Check data 12	ALL	255 <0-255>	M		14
4590-12			Check data 13	ALL	255 <0-255>	M		14
4590-13			Check data 14	ALL	255 <0-255>	M		14
4590-14			Check data 15	ALL	255 <0-255>	M		14
4590-15			Check data 16	ALL	255 <0-255>	M		14
4595	Waste toner	Auger lock detection Enable/Disable		ALL	1 <0-1>	M	0: Disable 1: Enable	1
4596	Transfer	2nd transfer waste toner transport locking detection setting		ALL	1 <0-1>	M	0: Disabled 1: Enabled	1
4597	Transfer	2nd transfer waste toner full-status Display timing table setting		ALL	0 <0-2>	M	0: 10000 1: 5000 2: 4000	1
4598	Feeding system / Paper transport	Media sensor Media type mis-setting control setting		ALL	0 <0-1>	M	0: Enabled 1: Disabled	1
4599	Feeding system / Paper transport	Media sensor Media type setting at the sensor malfunction		ALL	EUR: 1 UC: 1 JPN: 0 <0-1>	M	0: Plain paper 1 1: Plain paper 2	1
4602	Feeding system / Paper transport	Paper transport period measuring function setting		ALL	0 <0-1>	M	0: Enabled 1: Disabled	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4603	Feeding system / Paper transport	Stop jam detection at registration sensor		ALL	0 <0-3>	M	0: Disabled 1: Enabled only for bypass feeding 2: Enabled only for drawer or duplexing unit feeding 3: Enabled for all paper feeders	1
4604	Laser	Waiting time for polygonal motor standby rotation shifting after W/U READY		ALL	6 <0-9>	M	0: 0 sec. 1 to 9: Setting value x 5 sec.	1
4605	Feeding system / Paper transport	Number of color registration control / Accumulated counter value		ALL	0 <8 digits>	M	Counts the number of color registration control for each starting mode. Color registration operations other than those performed at the specified timing are counted as 2.	1
4606-0	Main charger	Needle electrode cleaner operating status	K	ALL	0 <0-255>	M	0: Normal 1: Abnormality occurred during movement from rear side to front side 2: Abnormality occurred during movement from front side to rear side	14
4606-1			Y	ALL	0 <0-255>	M		14
4606-2			M	ALL	0 <0-255>	M		14
4606-3			C	ALL	0 <0-255>	M		14
4609	Laser	Laser shutter counter		ALL	0 <8 digits>	M	1 movement of opening and closing is counted as 1.	1
4621	Paper feeding	Bypass paper size detection setting		PPC/ PRT	0 <0-1>	M	Detects whether the size of paper fed by bypass feeding is the same as the paper size set on the control panel. If the sizes are not the same, the warning message is displayed (Paper jam does not occur). When the bypass paper size detection is broken, the equipment can be used without the size detection by disabling this setting. After repair, enable this setting. 0: Enabled 1: Disabled	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
4621 (EFI)	Paper feeding	Bypass paper size detection setting	PPC/ PRT	1 <0-1>	M	Detects whether the size of paper fed by bypass feeding is the same as the paper size set on the control panel. If the sizes are not the same, the warning message is displayed (Paper jam does not occur). When the bypass paper size detection is broken, the equipment can be used without the size detection by disabling this setting. After repair, enable this setting. 0: Enabled 1: Disabled	1
4622	Paper feeding	Bypass paper size detection counter	PPC/ PRT	0 <0-65535>	M	This is a counter for bypass paper size detection setting. If the printing is executed with the paper size that differs from the paper size set on the control panel, the counter is counted up.	1
4766	Feeding system / Paper transport	Drum phase adjustment control setting	ALL	1 <0-1>	M	0: Invalid 1: Valid	1

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24.6 Counter

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
223	Maintenance	Switching of output pages/ driving counts at PM / K	ALL (black)	2 <0-2>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-251.) 1: PM time counter (The timing is set at 08-375.) 2: Whichever comes faster	1
251	Maintenance	Setting value of PM counter / K	ALL (black)	Refer to content <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed <Default> e-STUDIO5520C : 225,000 e-STUDIO6520C : 250,000 e-STUDIO6530C : 275,000	1
252	Maintenance	Current value of PM counter Display/0 clearing / K	ALL (black)	0 <8 digits>	M	Counts up when the registration sensor is ON. 08-1150-0	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
301-0	Counter	Number of output pages at Full Color Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Copier Function for each paper size according to the setting for the count setting of large sized paper (08-352) and the definition setting of large-sized paper (08-353). 301-18: SRA3 (320 x 450 mm), 320 x 460 mm 301-21: Feeding direction: 483<n≤800 mm 301-22: Feeding direction: 800<n≤1200 mm 301-23: Feeding direction: 148<n≤483 mm	4
301-1			A4					
301-2			A5					
301-3			A6					
301-4			B4					
301-5			B5					
301-6			FOLIO					
301-7			LD					
301-8			LG					
301-9			LT					
301-10			ST					
301-11			COMP					
301-12			13"LG					
301-13			8.5" x 8.5"					
301-14			16K					
301-15			8K					
301-16			A3Wide					
301-17			LDWide					
301-18			SRA3					
301-19			13 x 19"					
301-21			Extra long size paper a					
301-22			Extra long size paper b					
301-23			Others					
303-0	Counter	Number of output pages at Full Color Mode in Printer Function	A3	PRT (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Printer Function for each paper size according to the setting for the count setting of large sized paper (08-352) and the definition setting of large-sized paper (08-353). 303-18: SRA3 (320 x 450 mm), 320 x 460 mm 303-21: Feeding direction: 483<n≤800 mm 303-22: Feeding direction: 800<n≤1200 mm 303-23: Feeding direction: 148<n≤483 mm	4
303-1			A4					
303-2			A5					
303-3			A6					
303-4			B4					
303-5			B5					
303-6			FOLIO					
303-7			LD					
303-8			LG					
303-9			LT					
303-10			ST					
303-11			COMP					
303-12			13"LG					
303-13			8.5" x 8.5"					
303-14			16K					
303-15			8K					
303-16			A3Wide					
303-17			LDWide					
303-18			SRA3					
303-19			13 x 19"					
303-21			Extra long size paper a					
303-22			Extra long size paper b					
303-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
304-0	Counter	Number of output pages at Twin Color / Monocolor Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the output pages at the Twin Color Mode in the Copier Function for each paper size according to the setting for the count setting of large sized paper (08-352) and the definition setting of large-sized paper (08-353). 304-18: SRA3 (320 x 450 mm), 320 x 460 mm 304-21: Feeding direction: 483<n≤800 mm 304-22: Feeding direction: 800<n≤1200 mm 304-23: Feeding direction: 148<n≤483 mm	4
304-1			A4					
304-2			A5					
304-3			A6					
304-4			B4					
304-5			B5					
304-6			FOLIO					
304-7			LD					
304-8			LG					
304-9			LT					
304-10			ST					
304-11			COMP					
304-12			13"LG					
304-13			8.5" x 8.5"					
304-14			16K					
304-15			8K					
304-16			A3Wide					
304-17			LDWide					
304-18			SRA3					
304-19			13 x 19"					
304-21			Extra long size paper a					
304-22			Extra long size paper b					
304-23			Others					
305-0	Counter	Number of output pages at Black Mode in Copier Function	A3	PPC (black)	0 <8 digits>	SYS	Counts the output pages at the Black Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 305-18: SRA3 (320 x 450 mm), 320 x 460 mm 305-21: Feeding direction: 483<n≤800 mm 305-22: Feeding direction: 800<n≤1200 mm 305-23: Feeding direction: 148<n≤483 mm	4
305-1			A4					
305-2			A5					
305-3			A6					
305-4			B4					
305-5			B5					
305-6			FOLIO					
305-7			LD					
305-8			LG					
305-9			LT					
305-10			ST					
305-11			COMP					
305-12			13"LG					
305-13			8.5" x 8.5"					
305-14			16K					
305-15			8K					
305-16			A3Wide					
305-17			LDWide					
305-18			SRA3					
305-19			13 x 19"					
305-21			Extra long size paper a					
305-22			Extra long size paper b					
305-23			Others					

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
306-0	Counter	Number of output pages at Black Mode in Printer Function	A3	PRT (black)	0 <8 digits>	SYS	Counts the output pages at the Black Mode in the Printer Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 306-18: SRA3 (320 x 450 mm), 320 x 460 mm 306-21: Feeding direction: 483<n≤800 mm 306-22: Feeding direction: 800<n≤1200 mm 306-23: Feeding direction: 148<n≤483 mm	4
306-1			A4					
306-2			A5					
306-3			A6					
306-4			B4					
306-5			B5					
306-6			FOLIO					
306-7			LD					
306-8			LG					
306-9			LT					
306-10			ST					
306-11			COMP					
306-12			13"LG					
306-13			8.5” x 8.5”					
306-14			16K					
306-15			8K					
306-16			A3Wide					
306-17			LDWide					
306-18			SRA3					
306-19			13 x 19”					
306-21			Extra long size paper a					
306-22			Extra long size paper b					
306-23			Others					
307-0	Counter	Number of output pages at List Print Mode	A3	PRT (black)	0 <8 digits>	SYS	Counts the output pages at the List Print Mode for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large sized paper (08-353). 307-18: SRA3 (320 x 450 mm), 320 x 460 mm 307-21: Feeding direction: 483<n≤800 mm 307-22: Feeding direction: 800<n≤1200 mm 307-23: Feeding direction: 148<n≤483 mm	4
307-1			A4					
307-2			A5					
307-3			A6					
307-4			B4					
307-5			B5					
307-6			FOLIO					
307-7			LD					
307-8			LG					
307-9			LT					
307-10			ST					
307-11			COMP					
307-12			13"LG					
307-13			8.5" x 8.5"					
307-14			16K					
307-15			8K					
307-16			A3Wide					
307-17			LDWide					
307-18			SRA3					
307-19			13 x 19"					
307-21			Extra long size paper a					
307-22			Extra long size paper b					
307-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
308-0	Counter	Number of output pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the output pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 308-18: SRA3 (320 x 450 mm), 320 x 460 mm 308-21: Feeding direction: 483<n≤800 mm 308-22: Feeding direction: 800<n≤1200 mm 308-23: Feeding direction: 148<n≤483 mm	4
308-1			A4					
308-2			A5					
308-3			A6					
308-4			B4					
308-5			B5					
308-6			FOLIO					
308-7			LD					
308-8			LG					
308-9			LT					
308-10			ST					
308-11			COMP					
308-12			13"LG					
308-13			8.5" x 8.5"					
308-14			16K					
308-15			8K					
308-16			A3Wide					
308-17			LDWide					
308-18			SRA3					
308-19			13 x 19"					
308-21			Extra long size paper a					
308-22			Extra long size paper b					
308-23			Others					
309-0	Counter	Number of scanning pages at Full Color Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the scanning pages at the Full Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 309-18: SRA3 (320 x 450 mm), 320 x 460 mm 309-21: Feeding direction: 483<n≤800 mm 309-22: Feeding direction: 800<n≤1200 mm 309-23: Feeding direction: 148<n≤483 mm	4
309-1			A4					
309-2			A5					
309-3			A6					
309-4			B4					
309-5			B5					
309-6			FOLIO					
309-7			LD					
309-8			LG					
309-9			LT					
309-10			ST					
309-11			COMP					
309-12			13"LG					
309-13			8.5" x 8.5"					
309-14			16K					
309-15			8K					
309-16			A3Wide					
309-17			LDWide					
309-18			SRA3					
309-19			13 x 19"					
309-21			Extra long size paper a					
309-22			Extra long size paper b					
309-23			Others					

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
310-0	Counter	Number of scanning pages at Full Color Mode in Scanning Function	A3	SCN (color)	0 <8 digits>	SYS	Counts the scanning pages at the Full Color Mode in the Scanning Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 310-18: SRA3 (320 x 450 mm), 320 x 460 mm 310-21: Feeding direction: 483<n≤800 mm 310-22: Feeding direction: 800<n≤1200 mm 310-23: Feeding direction: 148<n≤483 mm	4
310-1			A4					
310-2			A5					
310-3			A6					
310-4			B4					
310-5			B5					
310-6			FOLIO					
310-7			LD					
310-8			LG					
310-9			LT					
310-10			ST					
310-11			COMP					
310-12			13"LG					
310-13			8.5" x 8.5"					
310-14			16K					
310-15			8K					
310-16			A3Wide					
310-17			LDWide					
310-18			SRA3					
310-19			13 x 19"					
310-21			Extra long size paper a					
310-22			Extra long size paper b					
310-23			Others					
311-0	Counter	Number of scanning pages at Twin Color / Monocolor Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the scanning pages at the Twin Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 311-18: SRA3 (320 x 450 mm), 320 x 460 mm 311-21: Feeding direction: 483<n≤800 mm 311-22: Feeding direction: 800<n≤1200 mm 311-23: Feeding direction: 148<n≤483 mm	4
311-1			A4					
311-2			A5					
311-3			A6					
311-4			B4					
311-5			B5					
311-6			FOLIO					
311-7			LD					
311-8			LG					
311-9			LT					
311-10			ST					
311-11			COMP					
311-12			13"LG					
311-13			8.5" x 8.5"					
311-14			16K					
311-15			8K					
311-16			A3Wide					
311-17			LDWide					
311-18			SRA3					
311-19			13 x 19"					
311-21			Extra long size paper a					
311-22			Extra long size paper b					
311-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
312-0	Counter	Number of scanning pages at Black Mode in Copier Function	A3	PPC (black)	0 <8 digits>	SYS	Counts the scanning pages at the Black Mode in the Copier Function for each paper size according to the setting for the count setting of large sized paper (08-352) and the definition setting of large-sized paper (08-353). 312-18: SRA3 (320 x 450 mm), 320 x 460 mm 312-21: Feeding direction: 483<n≤800 mm 312-22: Feeding direction: 800<n≤1200 mm 312-23: Feeding direction: 148<n≤483 mm	4
312-1			A4					
312-2			A5					
312-3			A6					
312-4			B4					
312-5			B5					
312-6			FOLIO					
312-7			LD					
312-8			LG					
312-9			LT					
312-10			ST					
312-11			COMP					
312-12			13"LG					
312-13			8.5" x 8.5"					
312-14			16K					
312-15			8K					
312-16			A3Wide					
312-17			LDWide					
312-18			SRA3					
312-19			13 x 19"					
312-21			Extra long size paper a					
312-22			Extra long size paper b					
312-23			Others					
313-0	Counter	Number of scanning pages in Scanning Function	A3	SCN (black)	0 <8 digits>	SYS	Counts the scanning pages at the Black Mode in the Scanning Function for each paper size according to the setting for the count setting of large sized paper (08-352) and the definition setting of large-sized paper (08-353). 313-18: SRA3 (320 x 450 mm), 320 x 460 mm 313-21: Feeding direction: 483<n≤800 mm 313-22: Feeding direction: 800<n≤1200 mm 313-23: Feeding direction: 148<n≤483 mm	4
313-1			A4					
313-2			A5					
313-3			A6					
313-4			B4					
313-5			B5					
313-6			FOLIO					
313-7			LD					
313-8			LG					
313-9			LT					
313-10			ST					
313-11			COMP					
313-12			13"LG					
313-13			8.5" x 8.5"					
313-14			16K					
313-15			8K					
313-16			A3Wide					
313-17			LDWide					
313-18			SRA3					
313-19			13 x 19"					
313-21			Extra long size paper a					
313-22			Extra long size paper b					
313-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
314-0	Counter	Number of scanning pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the scanning pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large sized paper (08-353). 314-18: SRA3 (320 x 450 mm), 320 x 460 mm 314-21: Feeding direction: 483<n≤800 mm 314-22: Feeding direction: 800<n≤1200 mm 314-23: Feeding direction: 148<n≤483 mm	4
314-1			A4					
314-2			A5					
314-3			A6					
314-4			B4					
314-5			B5					
314-6			FOLIO					
314-7			LD					
314-8			LG					
314-9			LT					
314-10			ST					
314-11			COMP					
314-12			13"LG					
314-13			8.5" x 8.5"					
314-14			16K					
314-15			8K					
314-16			A3Wide					
314-17			LDWide					
314-18			SRA3					
314-19			13 x 19"					
314-21			Extra long size paper a					
314-22			Extra long size paper b					
314-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
315-0	Counter	Number of transmitted pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the transmitted pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large sized paper (08-353). 315-18: SRA3 (320 x 450 mm), 320 x 460 mm 315-21: Feeding direction: 483<n≤800 mm 315-22: Feeding direction: 800<n≤1200 mm 315-23: Feeding direction: 148<n≤483 mm	4
315-1			A4					
315-2			A5					
315-3			A6					
315-4			B4					
315-5			B5					
315-6			FOLIO					
315-7			LD					
315-8			LG					
315-9			LT					
315-10			ST					
315-11			COMP					
315-12			13"LG					
315-13			8.5" x 8.5"					
315-14			16K					
315-15			8K					
315-16			A3Wide					
315-17			LDWide					
315-18			SRA3					
315-19			13 x 19"					
315-21			Extra long size paper a					
315-22			Extra long size paper b					
315-23			Others					

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
316-0	Counter	Number of received pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the received pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large sized paper (08-353). 316-18: SRA3 (320 x 450 mm), 320 x 460 mm 316-21: Feeding direction: 483<n≤800 mm 316-22: Feeding direction: 800<n≤1200 mm 316-23: Feeding direction: 148<n≤483 mm	4
316-1			A4					
316-2			A5					
316-3			A6					
316-4			B4					
316-5			B5					
316-6			FOLIO					
316-7			LD					
316-8			LG					
316-9			LT					
316-10			ST					
316-11			COMP					
316-12			13"LG					
316-13			8.5" x 8.5"					
316-14			16K					
316-15			8K					
316-16			A3Wide					
316-17			LDWide					
316-18			SRA3					
316-19			13 x 19"					
316-21			Extra long size paper a					
316-22			Extra long size paper b					
316-23			Others					
317-0	Counter	Display of number of output pages at Full Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages at the Full Color Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
317-1	Counter		Small	PPC (color)	0 <8 digits>	SYS		14
317-2	Counter		Total	PPC (color)	0 <8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
318-0	Counter	Display of number of output pages at Full Color Mode in Printer Function	Large	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages at the Full Color Mode in the Printer Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
318-1	Counter		Small	PRT (color)	0 <8 digits>	SYS		14
318-2	Counter		Total	PRT (color)	0 <8 digits>	SYS		14
319-0	Counter	Display of number of output pages at Twin Color / Monocolor Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages at the Twin Color Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
319-1	Counter		Small	PPC (color)	0 <8 digits>	SYS		14
319-2	Counter		Total	PPC (color)	0 <8 digits>	SYS		14
320-0	Counter	Display of number of output pages at Black Mode in Copier Function	Large	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages at the Black Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
320-1	Counter		Small	PPC (black)	0 <8 digits>	SYS		14
320-2	Counter		Total	PPC (black)	0 <8 digits>	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
321-0	Counter	Display of number of output pages at Black Mode in Printer Function	Large	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages at the Black Mode in the Printer Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
321-1	Counter		Small	PRT (black)	0 <8 digits>	SYS		14
321-2	Counter		Total	PRT (black)	0 <8 digits>	SYS		14
322-0	Counter	Display of number of output pages at List Print Mode	Large	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages at the List Print Mode Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
322-1	Counter		Small	PRT (black)	0 <8 digits>	SYS		14
322-2	Counter		Total	PRT (black)	0 <8 digits>	SYS		14
323-0	Counter	Display of number of output pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of output pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
323-1	Counter		Small	FAX	0 <8 digits>	SYS		14
323-2	Counter		Total	FAX	0 <8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
324-0	Counter	Display of number of scanning pages at Full Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Full Color Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
324-1	Counter		Small	PPC (color)	0 <8 digits>	SYS		14
324-2	Counter		Total	PPC (color)	0 <8 digits>	SYS		14
325-0	Counter	Display of number of scanning pages at Full Color Mode in Scanning Function	Large	SCN (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Full Color Mode in the Scanning Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
325-1	Counter		Small	SCN (color)	0 <8 digits>	SYS		14
325-2	Counter		Total	SCN (color)	0 <8 digits>	SYS		14
326-0	Counter	Display of number of scanning pages at Twin Color / Monocolor Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Twin Color Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
326-1	Counter		Small	PPC (color)	0 <8 digits>	SYS		14
326-2	Counter		Total	PPC (color)	0 <8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
327-0	Counter	Display of number of scanning pages at Black Mode in Copier Function	Large	PPC (black)	0 <8 digits>	SYS	Counts the number of scanning pages at the Black Mode in the Copier Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
327-1	Counter		Small	PPC (black)	0 <8 digits>	SYS		14
327-2	Counter		Total	PPC (black)	0 <8 digits>	SYS		14
328-0	Counter	Display of number of scanning pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of scanning pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
328-1	Counter		Small	FAX	0 <8 digits>	SYS		14
328-2	Counter		Total	FAX	0 <8 digits>	SYS		14
329-0	Counter	Display of number of scanning pages in Scanning Function	Large	SCN (black)	0 <8 digits>	SYS	Counts the number of scanning pages in the Scanning Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
329-1	Counter		Small	SCN (black)	0 <8 digits>	SYS		14
329-2	Counter		Total	SCN (black)	0 <8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
330-0	Counter	Display of number of transmitted pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of transmitted pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
330-1	Counter		Small	FAX	0 <8 digits>	SYS		14
330-2	Counter		Total	FAX	0 <8 digits>	SYS		14
332-0	Counter	Display of number of received pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of received pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
332-1	Counter		Small	FAX	0 <8 digits>	SYS		14
332-2	Counter		Total	FAX	0 <8 digits>	SYS		14
333-0	Counter	Display of total number of pages at Full Color Mode	Large	ALL (color)	0 <8 digits>	SYS	Displays the total number of pages at Full Color Mode in the Copier/Printer/Scanning Functions.	14
333-1	Counter		Small	ALL (color)	0 <8 digits>	SYS		14
333-2	Counter		Total	ALL (color)	0 <8 digits>	SYS		14
334-0	Counter	Display of total number of pages at Twin Color / Monocolor Mode	Large	ALL (color)	0 <8 digits>	SYS	Displays the total number of pages at Twin Color Mode in the Copier Function.	14
334-1	Counter		Small	ALL (color)	0 <8 digits>	SYS		14
334-2	Counter		Total	ALL (color)	0 <8 digits>	SYS		14
335-0	Counter	Display of total number of pages at Black Mode	Large	ALL (black)	0 <8 digits>	SYS	Displays the total number of pages at Black Mode in the Copier/Printer/ Scanning/FAX Functions.	14
335-1	Counter		Small	ALL (black)	0 <8 digits>	SYS		14
335-2	Counter		Total	ALL (black)	0 <8 digits>	SYS		14
344	Counter	Count setting of tab paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
346	Counter	Count setting of large-sized paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
347	Counter	Definition setting of large sized paper (PM)		ALL	1 <0-1>	M	0: A3/LD 1: A3/LD/B4/LG/ FOLIO/COMP	1
348	Counter	Count setting of thick paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
349	Counter	Count setting of OHP film (PM)	ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
352	Counter	Count setting of large-sized paper (Fee charging system counter)	ALL	JPN: 0 OTHER: 1 <0-2>	M	0: Counted as 1 1: Counted as 2 2: Counted as 1 (Mechanical counter is double counter)	1
353	Counter	Definition setting of large sized paper (Fee charging system counter)	ALL	0 <0-1>	M	0: A3/LD 1: A3/LD/B4/LG/ FOLIO/COMP	1
356	Counter	Counter for 1st drawer feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from 1st drawer	2
357	Counter	Counter for 2nd drawer feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from 2nd drawer	2
358	Counter	Counter for bypass feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from bypass feed	2
359	Counter	Counter for T-LCF feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from T-LCF	2
360	Counter	Counter for 3rd drawer feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from 3rd drawer	2
370	Counter	Counter for 4th drawer feeding	ALL	0 <8 digits>	M	Counts the number of sheets fed from 4th drawer	2
372	Counter	Counter for ADU	ALL	0 <8 digits>	M	Counts the number of output pages of duplex printing.	2
374	Counter	Counter for RADF	ALL	0 <8 digits>	SYS	Counts the number of originals fed from RADF	2
375	Maintenance	Setting value of PM time counter display/0 clearing / K	ALL (black)	285,000 <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed	1
376	Maintenance	Current value of PM time counter / K	ALL (black)	0 <8 digits>	M	Counts the drum driving time. 08-1150-3	1
390	Counter	Number of errors in HDD (Copying)	PPC	0 <8 digits>	SYS	The number of error is reset at HDD formatting.	2
391	Counter	Number of errors in HDD (FAX)	FAX	0 <8 digits>	SYS		2
392	Counter	Number of errors in HDD (Scanning)	SCN	0 <8 digits>	SYS		2
393	Counter	Number of errors in HDD (Printer)	PRT	0 <8 digits>	SYS		2

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1371	Image processing	Accumulated counter of output pages since the performing of image quality control	ALL	0 <4 digits>	M	Cleared to “0” by the image quality closed-loop control. Counts up with the number of printing job received after this control.	2
1372	Image processing	Heater and energizing time accumulating counter Display/0 clearing	ALL	0 <8 digits>	M	Counts up the heater lamp control time accumulated (when power of the copier is ON) but does not count at the Sleep Mode. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1378	Image processing	Fuser roller ready temperature time accumulating counter	ALL	0 <8 digits>	M	Counts up the heater lamp control time accumulated (on standby). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1380	Image processing	Fuser roller printing temperature time accumulating counter	ALL	0 <8 digits>	M	Counts up the heater lamp control time accumulated (during printing). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1382	Image processing	Fuser roller energy saving temperature time accumulating counter Display/0 clearing	ALL	0 <8 digits>	M	Counts up the heater lamp control time accumulated (at energy saving mode). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1383	Image processing	Number of output pages (Thick paper 4)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the thick paper 4 mode.	1
1385	Image processing	Number of output pages (Thick paper 1)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the thick paper 1 mode.	1
1386	Image processing	Number of output pages (Thick paper 2)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the thick paper 2 mode.	1
1387	Image processing	Number of output pages (Thick paper 3)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the thick paper 3 mode.	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1388	Image processing	Number of output pages (OHP film)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the OHP film mode.	1
1389-0	Main charger	Main charger needle electrode cleaning counter display/0 clearing	ALL (black)	0 <8 digits>	M	Does not count up when cleaning is not effective.	4
1389-1			ALL (color)	0 <8 digits>	M		4
1390	Feeding system / Paper transport	Feeding retry counter (1st drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the 1st drawer.	1
1391	Feeding system / Paper transport	Feeding retry counter (2nd drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the 2nd drawer.	1
1392	Feeding system / Paper transport	Feeding retry counter (3rd drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the 3rd drawer.	1
1393	Feeding system / Paper transport	Feeding retry counter (4th drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the 4th drawer.	1
1394	Feeding system / Paper transport	Feeding retry counter (bypass feed)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the bypass tray.	1
1395	Feeding system / Paper transport	Feeding retry counter (T-LCF)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the T-LCF.	1
1396	Feeding system / Paper transport	Feeding retry counter upper limit value (1st drawer)	ALL	10 <8 digits>	M	When the number of feeding retry (08-1390 to 08-1395) exceeds the setting value, the feeding retry will not be performed subsequently. In case “0” is set as a setting value, however, the feeding retry continues regardless of the counter setting value. Refer to (Note 1).	1
1397	Feeding system / Paper transport	Feeding retry counter upper limit value (2nd drawer)	ALL	10 <8 digits>	M		1
1398	Feeding system / Paper transport	Feeding retry counter upper limit value (3rd drawer)	ALL	10 <8 digits>	M		1
1399	Feeding system / Paper transport	Feeding retry counter upper limit value (4th drawer)	ALL	10 <8 digits>	M		1
1400	Feeding system / Paper transport	Feeding retry counter upper limit value (bypass feed)	ALL	20 <8 digits>	M		1
1401	Feeding system / Paper transport	Feeding retry counter upper limit value (T-LCF)	ALL	10 <8 digits>	M		1
1402	Feeding system / Paper transport	Feeding retry counter (O-LCF)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the O-LCF.	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1410-0	Counter	Toner (cartridge) motor driving time counter	Y	ALL	0 <8 digits>	M	Counts the driving time of toner cartridges.	4
1410-1			M	ALL	0 <8 digits>	M		4
1410-2			C	ALL	0 <8 digits>	M		4
1410-3			K	ALL	0 <8 digits>	M		4
1412	Counter	Counter for tab paper		ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the tab paper mode.	1
1416-0	Image processing	Threshold for detecting that black toner cartridge is nearly empty	Threshold to display the near-empty message	ALL	1665 <8 digits>	M		4
1416-1			Remaining level threshold: 75	ALL	525 <8 digits>	M		4
1416-2			Remaining level threshold: 50	ALL	925 <8 digits>	M		4
1416-3			Remaining level threshold: 25	ALL	1320 <8 digits>	M		4
1519-0	Counter	Sub-hopper toner motor driving time counter	Y	ALL	0 <8 digits>	M	Counts the drive count of each sub-hopper toner motor.	4
1519-1			M	ALL	0 <8 digits>	M		4
1519-2			C	ALL	0 <8 digits>	M		4
1519-3			K	ALL	0 <8 digits>	M		4
1520	General	Number of output pages available at toner cartridge replacement (during cover open)		ALL	2 <0-7>	SYS	0: 0 1: 100 2: 200 3: 500 4: 1000 5: 1500 6: 2000 7: No limitation (99999999) [Unit. page]	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1530-0	Counter	Number of output pages in black mode / Small	1-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4
1530-1			2-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
1530-2			2-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
1530-3			4-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [4IN1].	4
1530-4			4-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [4IN1].	4
1530-7			1-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4
1531-0	Counter	Number of output pages in full color mode / Small	1-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
1531-1			2-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
1531-2			2-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
1531-3			4-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [4IN1].	4
1531-4			4-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [4IN1].	4
1531-7			1-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1532-0	Counter	Number of output pages at Twin Color / Monocolor Mode in Copier Function / Small	1-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
1532-1			2-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
1532-2			2-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
1532-3			4-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [4IN1].	4
1532-4			4-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [4IN1].	4
1532-7			1-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1533-0	Counter	Number of output pages of the printer or BOX / Small	1-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode.	4
1533-1			2-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [2IN1] or [MAGAZINE SORT]. * When printing is performed using a Windows driver, the 1-UP image will be output.	4
1533-2			2-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
1533-3			4-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [4IN1].	4
1533-4			4-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [4IN1].	4
1533-5			N-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [N IN1].	4
1533-6			N-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [N IN1].	4
1533-7			1-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1534-0	Counter	Number of output pages of the printer or BOX (Full color) / Small	1-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
1534-1			2-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [2IN1] or [MAGAZINE SORT]. * When printing is performed using a Windows driver, the 1-UP image will be output.	4
1534-2			2-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
1534-3			4-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [4IN1].	4
1534-4			4-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [4IN1].	4
1534-5			N-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [N IN1].	4
1534-6			N-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [N IN1].	4
1534-7			1-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
1535-0	Counter	Number of output pages of the FAX printing / Small	1-UP / Duplex printing	FAX (black)	0 <8 digits>	SYS	Counts the number of output pages in the default settings.	4
1535-7			1-UP / Simplex printing	FAX (black)	0 <8 digits>	SYS		4
1652	Counter	Counter for number of output pages (Automatic)	Plain paper 1	ALL	0 <8 digits>	M		1
1653	Counter		Plain paper 2	ALL	0 <8 digits>	M		1
1654	Counter	Counter for number of output pages (Manual)	Plain paper 1	ALL	0 <8 digits>	M		1
1655	Counter		Plain paper 2	ALL	0 <8 digits>	M		1
1870	Counter	Total counter (decelerating 2)		ALL	0 <8 digits>	M		1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1871-0	Counter	Decelerating mode 2 counter: Photoconductive drum (K)	Present number of output pages	ALL	0 <8 digits>	M		4
1871-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1871-2			Present drive counts	ALL	0 <8 digits>	M		4
1871-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1872-0	Counter	Decelerating mode 2 counter: Photoconductive drum (Y)	Present number of output pages	ALL	0 <8 digits>	M		4
1872-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1872-2			Present drive counts	ALL	0 <8 digits>	M		4
1872-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1873-0	Counter	Decelerating mode 2 counter: Photoconductive drum (M)	Present number of output pages	ALL	0 <8 digits>	M		4
1873-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1873-2			Present drive counts	ALL	0 <8 digits>	M		4
1873-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1874-0	Counter	Decelerating mode 2 counter: Photoconductive drum (C)	Present number of output pages	ALL	0 <8 digits>	M		4
1874-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1874-2			Present drive counts	ALL	0 <8 digits>	M		4
1874-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1875-0	Counter	Decelerating mode 2 counter: Developer material (K)	Present number of output pages	ALL	0 <8 digits>	M		4
1875-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1875-2			Present drive counts	ALL	0 <8 digits>	M		4
1875-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1876-0	Counter	Decelerating mode 2 counter: Developer material (Y)	Present number of output pages	ALL	0 <8 digits>	M		4
1876-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1876-2			Present drive counts	ALL	0 <8 digits>	M		4
1876-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1877-0	Counter	Decelerating mode 2 counter: Developer material (M)	Present number of output pages	ALL	0 <8 digits>	M		4
1877-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1877-2			Present drive counts	ALL	0 <8 digits>	M		4
1877-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1878-0	Counter	Decelerating mode 2 counter: Developer material (C)	Present number of output pages	ALL	0 <8 digits>	M		4
1878-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1878-2			Present drive counts	ALL	0 <8 digits>	M		4
1878-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1879-0	Counter	Decelerating mode 2 counter: Transfer unit (K) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
1879-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1879-2			Present drive counts	ALL	0 <8 digits>	M		4
1879-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1880-0	Counter	Decelerating mode 2 counter: Transfer unit (Y) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
1880-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1880-2			Present drive counts	ALL	0 <8 digits>	M		4
1880-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
1881-0	Counter	Decelerating mode 2 counter: Transfer belt	Present number of output pages	ALL	0 <8 digits>	M		4
1881-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
1881-2			Present drive counts	ALL	0 <8 digits>	M		4
1881-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
5550	Maintenance	Setting value of PM counter / M		ALL (color)	Refer to content <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed <Default> e-STUDIO5520C : 225,000 e-STUDIO6520C : 250,000 e-STUDIO6530C : 275,000	1
5551	Maintenance	Setting value of PM time counter display/0 clearing / M		ALL (color)	285,000 <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
5552	Maintenance	Setting value of PM counter / C	ALL (color)	Refer to content <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed <Default> e-STUDIO5520C : 225,000 e-STUDIO6520C : 250,000 e-STUDIO6530C : 275,000	1
5553	Maintenance	Setting value of PM time counter display/0 clearing / C	ALL (color)	285,000 <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed	1
5562	Maintenance	Setting value of PM counter / 2nd transfer roller	ALL	Refer to content <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed <Default> e-STUDIO5520C : 225,000 e-STUDIO6520C : 250,000 e-STUDIO6530C : 275,000	1
5563	Maintenance	Setting value of PM time counter display/0 clearing / 2nd transfer roller	ALL	242,000 <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed	1
5564	Maintenance	Current value of PM counter Display/0 clearing / M	ALL (color)	0 <8 digits>	M	Counts up when the registration sensor is ON. 08-1154-0	1
5565	Maintenance	Current value of PM time counter / M	ALL (color)	0 <8 digits>	M	Counts the drum driving time. 08-1154-3	1
5566	Maintenance	Current value of PM counter Display/0 clearing / C	ALL (color)	0 <8 digits>	M	Counts up when the registration sensor is ON. 08-1156-0	1
5567	Maintenance	Current value of PM time counter / C	ALL (color)	0 <8 digits>	M	Counts the drum driving time. 08-1156-3	1
5576	Maintenance	Current value of PM counter Display/0 clearing / 2nd transfer roller	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. 08-1240-0	1
5577	Maintenance	Current value of PM time counter / 2nd transfer roller	ALL	0 <8 digits>	M	Counts the drum driving time. 08-1240-3	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
5578	Maintenance	Switching of output pages/ driving counts at PM / Y	ALL (color)	2 <0-2>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-6192.) 1: PM time counter (The timing is set at 08-6193.) 2: Whichever comes faster	1
5579	Maintenance	Switching of output pages/ driving counts at PM / M	ALL (color)	2 <0-2>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-5550.) 1: PM time counter (The timing is set at 08-5551.) 2: Whichever comes faster	1
5580	Maintenance	Switching of output pages/ driving counts at PM / C	ALL (color)	2 <0-2>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-5552.) 1: PM time counter (The timing is set at 08-5553.) 2: Whichever comes faster	1
5585	Maintenance	Switching of output pages/ driving counts at PM / 2nd transfer roller	ALL	0 <0-2>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-5552.) 1: PM time counter (The timing is set at 08-5553.) 2: Whichever comes faster	1
6018	Counter	Count setting of special paper (PM)	ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6027-0	Counter	Number of output pages at Twin Color / Monocolor Mode in Printer Function	A3	PRT (color)	0 <8 digits>	SYS	Counts the output pages at the Twin Color Mode in the Printer Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353). 6027-18: SRA3 (320 x 450 mm), 320 x 460 mm 6027-21: Feeding direction: 483<n≤800 mm 6027-22: Feeding direction: 800<n≤1200 mm 6027-23: Feeding direction: 148<n≤483 mm	4
6027-1			A4					
6027-2			A5					
6027-3			A6					
6027-4			B4					
6027-5			B5					
6027-6			FOLIO					
6027-7			LD					
6027-8			LG					
6027-9			LT					
6027-10			ST					
6027-11			COMP					
6027-12			13"LG					
6027-13			8.5"SQ					
6027-14			16k					
6027-15			8k					
6027-16			A3Wide					
6027-17			LDWide					
6027-18			SRA3					
6027-19			13 x 19”					
6027-21			Extra long size paper a					
6027-22			Extra long size paper b					
6027-23			Others					
6078-0	Counter	Display of number of output pages at Twin Color / Monocolor Mode in Printer Function	Large	PRT (color)	0 <8 digits>	SYS		14
6078-1			Small					14
6078-2			Total					14
6118	Counter	Counter for O-LCF feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from O-LCF	2
6161	Counter	Counter for image quality TRC control failure (e-BRIDGE)/ 0 clearing		ALL	0 <8 digits>	SYS	Counts when image quality TRC control failed due to failure in acquiring PM resource upon the reception of an image quality TRC control execution command.	1
6162 (EFI)	Counter	Counter for image quality TRC control failure (EFI)/ 0 clearing		ALL	0 <8 digits>	SYS		1
6192	Maintenance	Setting value of PM counter / Y		ALL (color)	Refer to content <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed <Default> e-STUDIO5520C : 225,000 e-STUDIO6520C : 250,000 e-STUDIO6530C : 275,000	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6193	Maintenance	Setting value of PM time counter display/0 clearing / Y		ALL (color)	285,000 <8 digits>	M	Sets the threshold for displaying a message for PM timing. 0: Not displayed	1
6196	Maintenance	Current value of PM counter Display/0 clearing / Y		ALL (color)	0 <8 digits>	M	Counts up when the registration sensor is ON. 08-1152-0	1
6197	Maintenance	Current value of PM time counter / Y		ALL (color)	0 <8 digits>	M	Counts the drum driving time. 08-1152-3	1
6243	Counter	Counter for special paper		ALL	0 <8 digits>	M	Counts up when the registration sensor is ON in the special paper mode.	1
6245	Feeding system / Paper transport	Feeding retry counter upper limit value (O-LCF)		ALL	10 <8 digits>	M	When the number of feeding retry (08-1402) exceeds the setting value, the feeding retry will not be performed subsequently. In case “0” is set as a setting value, however, the feeding retry continues regardless of the counter setting value. Refer to (Note 1).	1
6452-0	Image processing	Threshold for detecting that Y toner cartridge is nearly empty	Threshold to display the near-empty message	ALL	840 <8 digits>	M		4
6452-1			Remaining level threshold: 75	ALL	330 <8 digits>	M		4
6452-2			Remaining level threshold: 50	ALL	525 <8 digits>	M		4
6452-3			Remaining level threshold: 25	ALL	720 <8 digits>	M		4
6453-0	Image processing	Threshold for detecting that M toner cartridge is nearly empty	Threshold to display the near-empty message	ALL	900 <8 digits>	M		4
6453-1			Remaining level threshold: 75	ALL	375 <8 digits>	M		4
6453-2			Remaining level threshold: 50	ALL	570 <8 digits>	M		4
6453-3			Remaining level threshold: 25	ALL	770 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6454-0	Image processing	Threshold for detecting that C toner cartridge is nearly empty	Threshold to display the near-empty message	ALL	840 <8 digits>	M		4
6454-1			Remaining level threshold: 75	ALL	330 <8 digits>	M		4
6454-2			Remaining level threshold: 50	ALL	525 <8 digits>	M		4
6454-3			Remaining level threshold: 25	ALL	720 <8 digits>	M		4
6469-0	Development	Toner / carrier supply motor driving time counter display	Y	ALL	0 <8 digits>	M	Counts the driving time of each sub-hopper toner motor. This value is the accumulation since the start of use or the last replacement of developer material.	4
6469-1			M	ALL	0 <8 digits>	M		4
6469-2			C	ALL	0 <8 digits>	M		4
6469-3			K	ALL	0 <8 digits>	M		4
6806-0	Counter	Number of output pages in printing / BOX printing (Twin color / Monocolor) / Small	1-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
6806-1			2-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6806-2			2-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6806-3			4-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [4IN1].	4
6806-4			4-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [4IN1].	4
6806-5			N-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [N IN1].	4
6806-6			N-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [N IN1].	4
6806-7			1-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6810-0	Counter	Number of output pages in black mode / Large size	1-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4
6810-1			2-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
6810-2			2-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
6810-3			4-UP / Duplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [4IN1].	4
6810-4			4-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [4IN1].	4
6810-7			1-UP / Simplex printing	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4
6811-0	Counter	Number of output pages in full color mode / Large	1-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
6811-1			2-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
6811-2			2-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
6811-3			4-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [4IN1].	4
6811-4			4-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [4IN1].	4
6811-7			1-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6812-0	Counter	Number of output pages at Twin Color / Monocolor Mode (Large)	1-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
6812-1			2-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6812-2			2-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6812-3			4-UP / Duplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [4IN1].	4
6812-4			4-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [4IN1].	4
6812-7			1-UP / Simplex printing	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
6813-0	Counter	Number of output pages of the printer or BOX / Large	1-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode.	4
6813-1			2-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
6813-2			2-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [2IN1] or [MAGAZINE SORT].	4
6813-3			4-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [4IN1].	4
6813-4			4-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [4IN1].	4
6813-5			N-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed in the black mode using [N IN1].	4
6813-6			N-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of sheets printed in the black mode using [N IN1].	4
6813-7			1-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages printed only in the black mode.	4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6814-0	Counter	Number of output pages of the printer or BOX / Large (Full color)	1-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
6814-1			2-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
6814-2			2-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [2IN1] or [MAGAZINE SORT].	4
6814-3			4-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [4IN1].	4
6814-4			4-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [4IN1].	4
6814-5			N-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the full color mode using [N IN1].	4
6814-6			N-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the full color mode using [N IN1].	4
6814-7			1-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the full color mode.	4
6815-0	Counter	Number of output pages of the FAX printing / Large	1-UP / Simplex printing	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages in the default settings.	4
6815-7			1-UP / Duplex printing	PRT (black)	0 <8 digits>	SYS		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6816-0	Counter	Number of output pages in printing / BOX printing (Large) (Twin color / Monocolor)	1-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
6816-1			2-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6816-2			2-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [2IN1] or [MAGAZINE SORT].	4
6816-3			4-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [4IN1].	4
6816-4			4-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [4IN1].	4
6816-5			N-UP / Duplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed in the twin color mode using [N IN1].	4
6816-6			N-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of sheets printed in the twin color mode using [N IN1].	4
6816-7			1-UP / Simplex printing	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages printed only in the twin color mode.	4
6817	Counter	Calibration counter		ALL	0 <8 digits>	SYS	Displays the number of times a calibration chart is printed. When “0” is set for this code, and also when in the line adjustment mode or when the fee charging counter is reset, this counter is reset. The counter value goes up every time a calibration chart is printed, regardless of the setting value of the code 08-9894 (Calibration chart charging method).	1
6850-0	Counter	ACS job counter	ACS copier job counter	PPC (color)	0 <8 digits>	SYS	Counts up when an ACS job is printed.	4
6850-1			ACS printer job counter	PRT (color)	0 <8 digits>	SYS		4
6850-2			Total ACS job counter	PPC/ PRT (color)	0 <8 digits>	SYS		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6851-0	Counter	Color job counter	Color copier job counter	PPC (color)	0 <8 digits>	SYS	Counts up when a color job is printed.	4
6851-1			Color printer job counter	PRT (color)	0 <8 digits>	SYS		4
6851-2			Total color job counter	PPC/ PRT (color)	0 <8 digits>	SYS		4
6852-0	Counter	Black job counter	Black copier job counter	PPC (black)	0 <8 digits>	SYS	Counts up when a black job is printed.	4
6852-1			Black printer job counter	PRT (black)	0 <8 digits>	SYS		4
6852-2			Total black job counter	PPC/ PRT (black)	0 <8 digits>	SYS		4
6853-0	Counter	ACS copier color counter	Large	PPC (color)	0 <8 digits>	SYS	Displays each value of ACS copier color counters (large, small and total).	4
6853-1			Small	PPC (color)	0 <8 digits>	SYS		4
6853-2			Total	PPC (color)	0 <8 digits>	SYS		4
6854-0	Counter	ACS copier black counter	Large	PPC (black)	0 <8 digits>	SYS	Displays each value of ACS copier black counters (large, small and total).	4
6854-1			Small	PPC (black)	0 <8 digits>	SYS		4
6854-2			Total	PPC (black)	0 <8 digits>	SYS		4
6855-0	Counter	ACS printer color counter	Large	PRT (color)	0 <8 digits>	SYS	Displays each value of ACS printer color counters (large, small and total).	4
6855-1			Small	PRT (color)	0 <8 digits>	SYS		4
6855-2			Total	PRT (color)	0 <8 digits>	SYS		4
6856-0	Counter	ACS printer black counter	Large	PRT (black)	0 <8 digits>	SYS	Displays each value of ACS printer black counters (large, small and total).	4
6856-1			Small	PRT (black)	0 <8 digits>	SYS		4
6856-2			Total	PRT (black)	0 <8 digits>	SYS		4
6857-0	Counter	ACS counter	ACS total color counter	ALL (color)	0 <8 digits>	SYS	Displays each value of ACS total counters.	4
6857-1			ACS total black counter	ALL (black)	0 <8 digits>	SYS		4
6857-2			ACS total counter	ALL	0 <8 digits>	SYS		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6858-0	Counter	ACS K(4) counter	ACS copier K(4) counter	PPC (color)	0 <8 digits>	SYS	Displays each value of ACS counter in the CK mode.	4
6858-1			ACS printer K(4) counter	PRT (color)	0 <8 digits>	SYS		4
6858-2			ACS K(4) total counter	PPC/ PRT (color)	0 <8 digits>	SYS		4
6859-0	Counter	ACS Counter for mode change when copy data are entered	ACS copy mode change (Color -> Black) Counter IN	PPC	0 <8 digits>	SYS	Displays the number of ACS copy mode changes (color-and black mixed) when copy data are entered.	4
6859-1			ACS copy mode change (Black -> Color) Counter IN	PPC	0 <8 digits>	SYS		4
6859-2			ACS copy mode change Total counter IN	PPC	0 <8 digits>	SYS		4
6860-0	Counter	ACS Counter for mode change when print data are entered	ACS print mode change (Color -> Black) Counter IN	PRT	0 <8 digits>	SYS	Displays the number of ACS print mode changes (color-and black mixed) when print data are entered.	4
6860-1			ACS print mode change (Black -> Color) Counter IN	PRT	0 <8 digits>	SYS		4
6860-2			ACS print mode change Total counter IN	PRT	0 <8 digits>	SYS		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6861-0	Counter	ACS Counter for mode change	ACS mode change (Color -> Black) Total counter IN	ALL	0 <8 digits>	SYS	Displays the number of ACS mode changes (color-and black mixed) when data are printed.	4
6861-1			ACS mode change (Black -> Color) Total counter IN	ALL	0 <8 digits>	SYS		4
6861-2			ACS mode change Total counter IN	ALL	0 <8 digits>	SYS		4
6862-0	Counter	ACS Counter for mode change when copy data are printed	ACS copy mode change (Color -> Black) Counter OUT	PPC	0 <8 digits>	SYS	Displays the number of ACS copy mode changes (color-and black mixed) when copy data are printed.	4
6862-1			ACS copy mode change (Black -> Color) Counter OUT	PPC	0 <8 digits>	SYS		4
6862-2			ACS copy mode change Total counter OUT	PPC	0 <8 digits>	SYS		4
6863-0	Counter	ACS Counter for mode change when print data are printed	ACS print mode change (Color -> Black) Counter OUT	PRT	0 <8 digits>	SYS	Displays the number of ACS print mode changes (color-and black mixed) when print data are printed.	4
6863-1			ACS print mode change (Black -> Color) Counter OUT	PRT	0 <8 digits>	SYS		4
6863-2			ACS print mode change Total counter OUT	PRT	0 <8 digits>	SYS		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6864-0	Counter	Counter for mode change when data are printed	ACS mode change (Color -> Black) Counter OUT	ALL	0 <8 digits>	SYS	Displays the number of ACS mode changes (color-and black mixed) when data are printed.	4
6864-1			ACS mode change (Black -> Color) Counter OUT	ALL	0 <8 digits>	SYS		4
6864-2			ACS mode change Total counter OUT	ALL	0 <8 digits>	SYS		4
6900	Counter	Total counter (decelerating 1)		ALL	0 <8 digits>	M	Displays the current value of the total counter. Counts up when the registration sensor is ON.	1
6901	Counter	Total counter (High speed)		ALL	0 <8 digits>	M		1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6905-0	Counter	Decelerating mode 1 counter: Photoconductive drum (K)	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6905-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6905-2			Present drive counts	ALL	0 <8 digits>	M		4
6905-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6906-0	Counter	Decelerating mode 1 counter: Photoconductive drum (Y)	Present number of output pages	ALL	0 <8 digits>	M		4
6906-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6906-2			Present drive counts	ALL	0 <8 digits>	M		4
6906-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6907-0	Counter	Decelerating mode 1 counter: Photoconductive drum (M)	Present number of output pages	ALL	0 <8 digits>	M		4
6907-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6907-2			Present drive counts	ALL	0 <8 digits>	M		4
6907-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6908-0	Counter	Decelerating mode 1 counter: Photoconductive drum (C)	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6908-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6908-2			Present drive counts	ALL	0 <8 digits>	M		4
6908-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6925-0	Counter	Decelerating mode 1 counter: Developer material (K)	Present number of output pages	ALL	0 <8 digits>	M		4
6925-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6925-2			Present drive counts	ALL	0 <8 digits>	M		4
6925-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6926-0	Counter	Decelerating mode 1 counter: Developer material (Y)	Present number of output pages	ALL	0 <8 digits>	M		4
6926-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6926-2			Present drive counts	ALL	0 <8 digits>	M		4
6926-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6927-0	Counter	Decelerating mode 1 counter: Developer material (M)	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6927-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6927-2			Present drive counts	ALL	0 <8 digits>	M		4
6927-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6928-0	Counter	Decelerating mode 1 counter: Developer material (C)	Present number of output pages	ALL	0 <8 digits>	M		4
6928-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6928-2			Present drive counts	ALL	0 <8 digits>	M		4
6928-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6929-0	Counter	Decelerating mode 1 counter: Transfer unit (K) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
6929-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6929-2			Present drive counts	ALL	0 <8 digits>	M		4
6929-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6930-0	Counter	Decelerating mode 1 counter: Transfer unit (Y) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6930-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6930-2			Present drive counts	ALL	0 <8 digits>	M		4
6930-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6931-0	Counter	Decelerating mode 1 counter: Transfer unit (M) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
6931-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6931-2			Present drive counts	ALL	0 <8 digits>	M		4
6931-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6932-0	Counter	Decelerating mode 1 counter: Transfer unit (C) (Needle electrode / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
6932-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6932-2			Present drive counts	ALL	0 <8 digits>	M		4
6932-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6933-0	Counter	Decelerating mode 1 counter: Transfer belt	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6933-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6933-2			Present drive counts	ALL	0 <8 digits>	M		4
6933-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6935-0	Counter	Decelerating mode 1 counter: 2nd transfer roller	Present number of output pages	ALL	0 <8 digits>	M		4
6935-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6935-2			Present drive counts	ALL	0 <8 digits>	M		4
6935-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6950-0	Counter	Accelerating mode counter: Photoconductive drum (K)	Present number of output pages	ALL	0 <8 digits>	M		4
6950-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6950-2			Present drive counts	ALL	0 <8 digits>	M		4
6950-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
6955-0	Counter	Accelerating mode counter: Developer material (K)	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6955-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6955-2			Present drive counts	ALL	0 <8 digits>	M		4
6955-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6956-0	Counter	Accelerating mode counter: Transfer unit (K) (Wire / roller / 1st transfer power supply roller)	Present number of output pages	ALL	0 <8 digits>	M		4
6956-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6956-2			Present drive counts	ALL	0 <8 digits>	M		4
6956-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4
6960-0	Counter	Accelerating mode counter: Transfer belt	Present number of output pages	ALL	0 <8 digits>	M		4
6960-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6960-2			Present drive counts	ALL	0 <8 digits>	M		4
6960-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
6962-0	Counter	Accelerating mode counter: 2nd transfer roller	Present number of output pages	ALL	0 <8 digits>	M	Present number of output pages: Displays the accumulated number of sheets that have been printed at present. Only “0” is acceptable. When “0” is entered, the counter is reset. Number of output pages at the last replacement: Displays the total number of output pages at the last replacement. “0” is displayed if no replacement was performed. Present drive counts: Displays the accumulated driving time at present. Only “0” is acceptable. When “0” is entered, the counter is reset. (1 count = 4 seconds) Drive counts at the last replacement: Displays the total driving time at the last replacement. “0” is displayed if no replacement was performed. (1 count = 4 seconds)	4
6962-1			Number of output pages at the last replacement	ALL	0 <8 digits>	M		4
6962-2			Present drive counts	ALL	0 <8 digits>	M		4
6962-3			Drive counts at the last replacement	ALL	0 <8 digits>	M		4

Note:

In this equipment, a toner image is formed on the transfer belt prior to a paper feeding.
When the feeding retry occurs and the transport timing is delayed, the toner image on the transfer belt is cleaned off without the 2nd transfer since the paper cannot be reached for the 2nd transfer process.
After that, the toner image formation is retried while the paper is waited.
In this case, the toner for this image formation is consumed wastefully since the toner image on the transfer belt is already cleaned off, even though the printing is normally completed.
Therefore, note that the excessive toner will be consumed consequently when the upper limit value of feeding retry counter is set larger or set as “0” (no limit).
The toner is also consumed wastefully when the paper misfeeding occurs. Replace the roller at earlier timing if the paper misfeedings have occurred frequently.

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24.7 Image Processing

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
506	User interface	User mode setting	PPC (color)	0 <0-1>	SYS	0: Unused 1: TEXT/PHOTO base	1
508	User interface	User mode setting	PPC (black)	0 <0-1>	SYS	0: Unused 1: TEXT/PHOTO base	1
560	Image	Process switching for image smoothing (Text/ Photo)	PPC (black)	1 <0-1>	M	Sets whether or not performing a smoothing process (primary scanning direction, 2,400 dpi or equivalent). 0: Invalid 1: Valid	1
562	Image	Process switching for image smoothing (Text)	PPC (black)	1 <0-1>	M	Sets whether or not performing a smoothing process (primary scanning direction, 2,400 dpi or equivalent). 0: Invalid 1: Valid	1
580	User interface	User custom mode setting	SCN (black)	0 <0-3>	SYS	0: Unused 1: B/W TEXT/PHOTO base 2: B/W TEXT base 3: B/W PHOTO base	1
590	User interface	User custom mode setting	SCN (color)	0 <0-4>	SYS	0: Unused 1: TEXT base 2: Printed image base 3: Photo base 4: e-document base	1
595	Image	Scanning operation switching at automatic calibration	PPC (color)	0 <0-1>	SYS	0: Scanning color/ black integrated pattern 1: Scanning color pattern only	1
7000	Image	Clearing of adjustment values of all image process (PPC) related 05 codes	PPC	-	SYS	Clears the gamma correction table values and the adjustment values of the following 05 codes: 503, 504, 505, 507, 508, 510, 514, 515, 580, 590-0 to 2, 591-0 to 2, 592-0 to 2, 604, 605, 606, 648, 649, 667-0 to 4, 922, 925, 931, 934, 937, 940, 949-0 to 2, 7025, 7033, 7034, 7041, 7042, 7043, 7044, 7048, 7049, 7102, 7103, 7236, 7237, 7279, 7280, 7283, 7284, 7286, 7287, 7295, 7296	3
7001	Image	Clearing of all gamma correction table values (PPC related areas only)	PPC	-	SYS	Clears all the gamma correction table values in the PPC related areas of the HDD.	3

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
7300	Image	Clearing of adjustment values of all image process (network print) related 05 codes	PRT	-	SYS	Clears the gamma correction table values and the adjustment values of the following 05 codes: 654, 664-0 to 2, 672-0 to 4, 1004-0 to 8, 1005-0 to 8, 1008, 1009, 1050, 1055-0 to 2, 7302-0 to 2, 7309-0 to 2, 7310-0 to 2, 7315-0 to 2, 7316-0 to 2, 7317-0 to 2, 7318-0 to 2, 7319-0 to 2, 7320-0 to 2, 7322-0 to 2, 7323-0 to 2, 7340, 7341, 7342, 8010-0 to 2, 8011-0 to 2, 8012-0 to 2, 8013-0 to 2, 8014-0 to 2, 8015-0 to 2, 8016-0 to 2, 8018-0 to 2, 8019-0 to 2, 8021-0 to 2, 8042-0 to 2, 8041-0 to 2, 8043-0 to 2, 8044-0 to 2, 8045-0 to 2, 8047-0 to 2, 8048-0 to 2, 8049-0 to 2, 8050-0 to 2, 8051-0 to 2, 8052-0 to 2, 8053-0 to 2, 8054-0 to 2, 8055-0 to 2, 8056-0 to 2, 8057-0 to 2, 8058-0 to 2, 8059-0 to 2, 8060-0 to 2, 8061-0 to 2, 8062-0 to 2, 8063-0 to 2, 8064-0 to 2, 8065-0 to 2, 8070-0 to 9, 8071-0 to 9, 8089-0 to 9, 8090-0 to 9, 8102-0 to 2, 8103-0 to 2, 8110-0 to 2, 8111-0 to 2, 8112-0 to 2, 8113-0 to 2, 8118-0 to 2, 8119-0 to 2, 8130, 8131, 8132, 8149, 8161-0~2, 8176-0 to 2, 8179, 8187, 8188, 8190, 8191, 8210-0 to 3, 8211-0 to 3, 8212-0 to 3, 8213, 8214, 8215, 8218, 8241, 8249-0 to 4, 8250-0 to 4, 8251-0 to 4, 8252-0 to 4, 8253-0 to 4, 8254-0 to 4, 8268-0 to 2, 8269-0 to 2, 8270-0 to 2, 8271-0 to 2, 8272-0 to 2, 8273-0 to 2, 8274-0 to 2, 8275-0 to 2	3
7301	Image	Clearing of all gamma correction table values (network print related areas only)	PRT	-	SYS	Clears all the gamma correction table values in the network print related areas of the HDD.	3

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
7400	Image	Clearing of adjustment values of all image process (network scan) related 05 codes		SCN	-	SYS	Clears the adjustment values of the following 05 codes: 840, 841, 842, 843, 845, 846, 847, 848, 860, 861, 862, 863, 880-0 to 2, 881-0 to 2, 882-0 to 2, 883-0 to 2, 1070, 1071, 1072, 1075, 1076, 1077, 1080, 1081, 1082, 1086, 1087, 1088, 7416, 7417, 7418, 7419, 7421, 7422, 7423, 7424, 7425, 7426, 7468, 7470, 7475, 7478, 7480-0~2, 8325, 8326, 8327, 8330, 8331, 8332, 8334, 8340, 8341, 8342, 8344, 8345, 8346, 8348, 8349, 8350, 8361, 8362, 8363, 8365, 8370, 8371, 8372, 8373, 8375, 8380, 8381, 8382, 8385, 8386, 8387, 8389, 8390, 8391, 8392, 8394, 8395	3
7500	Image	Clearing of adjustment values of all image process (Fax) related 05 codes		FAX	-	SYS	Clears the adjustment values of the following codes: 678-0 to 4, 700, 710, 714, 725, 729	3
7612	Image	Image repeat gap		ALL	5 <0-10>	SYS	Unit: mm	1
8011	Image	Outlining of white text on colored background ON/OFF setting	Print	PRT (color)	0 <0-1>	SYS	0: Outlining OFF 1: Outlining ON	1
8304-0	Image	Quantized coefficient correction value / Standard JPEG images	High quality	SCN (color)	128 <0-255>	SYS	Changes the JPEG compression ratio. The smaller the value is, the higher the compression ratio becomes and the larger the value is, the lower the compression ratio becomes.	4
8304-1			Standard	SCN (color)	128 <0-255>	SYS		4
8304-2			Low quality	SCN (color)	128 <0-255>	SYS		4

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24.8 System

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
200	General	Date and time setting	ALL	- <13 digits>	-	Year/month/date/day/ hour/minute/second Example: 03 07 0 13 13 27 48 “Day” - “0” is for “Sunday”. Proceeds Monday through Saturday from “1” to “6”.	5
201	General	Destination selection	ALL	EUR: 0 UC: 1 JPN: 2 <0-3>	M	0: EUR 1: UC 2: JPN 3: Other	1
202	User interface	Counter installed externally	ALL	0 <0-3>	M	0: No external counter 1: Coin controller (If the value of 08-588 is "0" (ACS), it is changed to "2" (Full color).) 2: Copy key card (This value is valid only when “2” is set to 08-201.) 3: Key copy counter	1
203	General	Line adjustment mode	ALL	0 <0-1>	M	0: For factory shipment 1: For line * Field: “0” must be selected	1
204	User interface	Auto-clear timer setting	ALL	3 <0-10>	SYS	Timer to return the equipment to the default settings when the [START] button is not pressed after the function and the mode are set 0: Not cleared 1 to 10: Set number x 15 sec.	1
205	User interface	Auto power save mode timer setting	ALL	Refer to content <0, 6-15>	SYS	Timer to automatically switch to the energy saving mode when the equipment has not been used 0: Invalid 6: 3min. 7: 4min. 8: 5min. 9: 7min. 10: 10min. 11: 15min. 12: 20min. 13: 30min. 14: 45min. 15: 60min. <Default value> e-STUDIO5520C:6 e-STUDIO6520C:8 e-STUDIO6530C:10	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
206	User interface	Auto Shut Off Mode timer setting (Sleep Mode)	ALL	Refer to content <0-20>	SYS	Timer to enter the Sleep Mode automatically when the equipment has not been used 0: 3min. 1: 5min. 2:10min. 3: 15min. 4: 20min. 5: 25min. 6: 30min. 7: 40min. 8: 50min. 9: 60min. 10: 70min. 11: 80min. 12: 90min. 13: 100min. 14: 110min. 15: 120min. 16: 150min. 17:180min. 18: 210min. 19:240min. 20: Not used <Default value> e-STUDIO5520C:4 e-STUDIO6520C/6530C:6	1
207	User interface	Highlighting display on LCD	ALL	0 <0-1>	SYS	0: Black letter on white background 1: White letter on black background	1
209	User interface	Default setting of filing format when E-mailing (black mode)	ALL (color)	1 <0-6>	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: Not used 3: TIFF (Single) 4: PDF (Single) 5: XPS (Multi) 6: XPS (Single)	1
211	Paper feeding	Inserter Unit Reversing operation at back cover insertion	PPC	0 <0-1>	SYS	SYS This setting is whether only the back cover is reversed or no sheets are reversed at the back cover insertion using the Inserter Unit. 0: No sheets reversed 1: Only back cover reversed	1
218	User interface	Default setting of filing format when storing files (at color/ACS modes)	SCN (color)	1 <0-8>	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single) 5: SLIM PDF (Multi) 6: SLIM PDF (Single) 7: XPS (Multi) 8: XPS (Single)	1
219	User interface	Default setting of filing format when storing files (at black mode)	ALL (black)	MJC/MJD: 1 Other: 0 <0-6>	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single) 5: XPS (Multi) 6: XPS (Single)	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
220	User interface	Language displayed at power-ON	ALL	EUR: 0 UC: 0 JPN: 5 <0-6>	SYS	0: Language 1 1: Language 2 2: Language 3 3: Language 4 4: Language 5 5: Language 6 6: Language 7	1
221	User interface	Language selection in UI data at Web power ON	ALL	EUR: 0 UC: 0 JPN: 5 <0-6>	SYS	0: Language 1 1: Language 2 2: Language 3 3: Language 4 4: Language 5 5: Language 6 6: Language 7	1
243	Feeding system / Paper transport	Memory 1 Paper size (bypass feeding/non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 1].	10
247	Feeding system / Paper transport	Memory 2 Paper size (bypass feeding/non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 2].	10
248	Feeding system / Paper transport	Memory 3 Paper size (bypass feeding/non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 3].	10
249	Feeding system / Paper transport	Memory 4 Paper size (bypass feeding/non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 4].	10
250	Maintenance	Service technician telephone number	ALL	0 <32 digits>	SYS	A telephone number can be entered up to 32 digits. Use the [MONITOR/PAUSE] button to enter a hyphen (-).	11
253	Maintenance	Error history display	ALL	-	SYS	Displays the latest 20 errors data	2
254	Paper feeding	LT↔A4/LD↔A3	PRT	0 <0-1>	SYS	Sets whether the data is printed on the different but similar size paper or not when the paper of corresponding size is not available. 0: Valid (The data is printed on A4/A3 when LT/LD is selected or vice versa.) 1: Invalid (The message to use the selected paper size is displayed.)	1
259	Network	Storage period at trail and private	PRT	14 <0-35>	SYS	0: No limits 1 to 30: 1 to 30 days 31: 1 hour 32: 2 hours 33: 4 hours 34: 8 hours 35: 12 hours	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
260	Network	Web data retention period	ALL	10 <3 digits>	SYS	When a certain period of time has passed without operation after accessing TopAccess, the data being registered is automatically reset. This period is set at this code. (Unit: Minute)	1
263	User interface	Administrator's password (Maximum 10 digits)	ALL	123456 <10 digits>	-	The password can be entered in alphabets and figures (A-Z, a-z and 0-9) within 10 digits.	11
264	Network	File retention period	ALL	30 <0-999>	SYS	0: No limits 1 to 999: 1 to 999 days	1
265	Network	Maximum data capacity at E-mailing	ALL	30 <2-100>	SYS	2 to 100 M bytes	1
266	Network	Maximum data capacity at Internet FAX	ALL	30 <2-100>	SYS	2 to 100 M bytes	1
267	Electronic filing	e-Filing document guarantee mode	ALL	1 <0-1>	SYS	Sets the file retention level during edition in e-Filing (when the document cut/save command is used) 0: Not retained (Documents could be lost due to We session timeout / electricity cutoff during document cut/save.) 1: Full retained - Documents are retained until cut/save command completion. * When “1” is set, documents are not lost even if disk full occurs during command execution.	1
268	User interface	Binarizing level selection (When judging as black in the ACS Mode)	ALL	3 <1-5>	SYS	0: Step -2 1: Step -1 2: Step 0 (center) 3: Step 1 4: Step 2 * The binarizing level of each step is set at 08-609.	1
270	Electronic filing	Default setting of user box retention period	ALL	0 <0-999>	SYS	Sets the data retention period when creating a user box. 0: Not deleted 1 to 999: Retention period (Unit: Day)	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
271	General	Warning notification of the File Share and e-Filling partitions are filled	ALL	90 <0-100>	SYS	Sets the percentage of HDD partition filled when warning notification is sent. 0 to 100: 0 to 100% * Related code 08-288	1
272	Scanning	Notification setting of E-mail saving time limit	ALL	3 <0-99>	SYS	Sets the days left the notification of E-mail saving time limit appears 0 to 99: 0 to 99 days	1
273	Scanning	Default setting of partial size when transmitting E-mail	ALL	0 <0-6>	SYS	Sets the default value for the partial size of E-mail to be transmitted when creating a template. 0: Not divided 1: 64 2: 128 3: 256 4: 512 5: 1024 6: 2048 (Unit: KB)	1
274	FAX	Default setting of page by page when transmitting Internet FAX	ALL	0 <0-4>	SYS	Sets the default value for the page by page of Internet FAX to be transmitted when creating a template. 0: Not divided 1: 256 2: 512 3: 1024 4: 2048 (Unit: KB)	1
276	User interface	Default setting of density adjustment (Black)	SCN (black)	0 <0-11>	SYS	0: Automatic density 1: Step -5 2: Step -4 3: Step -3 4: Step -2 5: Step -1 6: Step 0 (center) 7: Step +1 8: Step +2 9: Step +3 10: Step +4 11: Step +5 (1 to 11: Manual density)	1
277	User interface	Default setting of background adjustment (Full Color)	SCN (color)	5 <1-9>	SYS	1: Step -4 2: Step -3 3: Step -2 4: Step -1 5: Step 0 (center) 6: Step +1 7: Step +2 8: Step +3 9: Step +4	1
278	User interface	Default setting of color mode	SCN	0 <0-4>	SYS	0: Black 1: Gray Scale 2: Unused 3: Full Color 4: Auto Color	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
279	User interface	Default setting of resolution (Full Color)	SCN (color)	2 <0-3>	SYS	0: 100 dpi 1: 150 dpi 2: 200 dpi 3: 300dpi 4: 400 dpi 5: 600dpi	1
280	User interface	Default setting of resolution (Gray Scale)	SCN (black)	2 <0-4>	SYS	0: 100 dpi 1: 150 dpi 2: 200 dpi 3: 300dpi 4: 400 dpi 5: 600 dpi	1
281	User interface	Default setting of resolution (Black)	SCN (black)	1 <0-5>	SYS	0: 150 dpi 1: 200 dpi 2: 300 dpi 3: 400dpi 4: 600 dpi 5: 100 dpi	1
282	User interface	Default setting of original mode (Full Color)	SCN (color)	0 <0-3>	SYS	0: Text 1: Photo 2: Print 3: Custom (Valid only when other than “0” is set in 08-590)	1
283	User interface	Default setting of original mode (Black)	SCN (black)	0 <0-3>	SYS	0: Text 1: Text/Photo 2: Photo 3: Custom (Valid only when other than “0” is set in 08-580)	1
284	User interface	Default setting of scanning mode	SCN	0 <0-2>	SYS	0: Single 1: Book 2: Tablet	1
285	User interface	Default setting of rotation mode	SCN	0 <0-3>	SYS	0: 0 degree 1: 90 degrees 2: 180 degrees 3: 270 degrees	1
286	User interface	Default setting of original paper size	SCN	0 <0-22>	SYS	0: Automatic 1: A3 2: A4 3: LD 4: LT 5: A4-R 6: A5-R 7: LT-R 8: LG 9: B4 10: B5 11: ST-R 12: COMP 13: B5-R 14: FOLIO 15: 13"LG 16: 8.5"x 8.5" 18: A6-R 19: Size mixed 20: 8K 21: 16K 22: 16K-R	1
288	General	Searching interval of deleting expired files and checking capacity of HDD partitions	SCN	12 <1-24>	SYS	Sets the search interval of deleting expired files and checking capacity of HDD partitions. (Unit: Hour) * Related code 08-271	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
289	User interface	Default setting of background adjustment (Gray Scale)	SCN	5 <1-9>	SYS	1: Step -4 2: Step -3 3: Step -2 4: Step -1 5: Step 0 (center) 6: Step +1 7: Step +2 8: Step +3 9: Step +4	1
290	Network	Raw printing job (Duplex)	PRT	1 <0-1>	SYS	0: Valid 1: Invalid	1
291	Network	Raw printing job (Paper size)	PRT	EUR: 6 UC: 2 JPN: 6 <0 -13>	SYS	0: LD 1: LG 2: LT 3: COMP 4: ST 5: A3 6: A4 7: A5 8: A6 9: B4 10: B5 11: FOLIO 12: 13"LG 13: 8.5" x 8.5"	1
292	Network	Raw printing job (Paper type)	PRT	0 <0-7>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 4: OHP film 5: Thick paper 4 6: - 7: Recycled paper	1
293	Network	Raw printing job (Paper direction)	PRT	0 <0-1>	SYS	0: Portrait 1: Landscape	1
294	Network	Raw printing job (Staple)	PRT	1 <0-1>	SYS	0: Valid 1: Invalid	1
295	Network	Raw printing job (Exit tray)	PRT	0 <0-6>	SYS	0: Inner Tray 1: Finisher Tray1 2: Finisher Tray2 3: Unused 4: Job Separator Upper 5: Job Separator Lower 6: Exit Tray	1
296	Network	Raw printing job (Number of form lines)	PRT	1200 <500-12800>	SYS	Sets the number of form lines from 5 to 128. (A hundredfold of the number of form lines is defined as the setting value.)	1
297	Network	Raw printing job (PCL font pitch)	PRT	1000 <44-9999>	SYS	Sets the font pitch from 0.44 to 99.99. (A hundredfold of the font pitch is defined as the setting value.)	1
298	Network	Raw printing job (PCL font size)	PRT	1200 <400-99975>	SYS	Sets the font size from 4 to 999.75. (A hundredfold of the font size is defined as the setting value.)	1
299	Network	Raw printing job (PCL font number)	PRT	0 <0-79>	SYS	Sets the PCL font number.	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
300	User interface	Maximum number of copy volume (MAX9)	PPC	0 <0-3>	SYS	0: 9999 1: 999 2: 99 3: 9	1
302	User interface	Original counter display	PPC	EUR: 2 UC: 0 JPN: 0 <0, 2, 4>	SYS	Sets whether the original counter is displayed or not. 0: Not displayed 2: Displayed 4: Displayed (Double sized original is counted as 2.)	1
331	User interface	Default setting of screen	ALL	0 <0-8>	SYS	Sets the screen to be displayed after the auto-clear time has passed or it has recovered from the energy saving mode or sleep mode. 0: Copier 1: Fax 2: Scan 3: Box 4: Print 5: Template 6: Menu 7: Job Status 8: EWB "8: EWB" can be set only when EWB is enabled ("0" to "7" when EWB is disabled). If EWB is disabled while "8: EWB" is set, this setting is reset to "0: Copier" (no change for "0" to "7").	1
342	User interface	Displaying number of original pages placed on original glass	PPC	0 <0-1>	SYS	This setting is whether the number of pages of originals placed on the original glass is displayed or not. 0: Not displayed 1: Displayed	1
343	User interface	Black-free function	ALL	0 <0-1>	SYS	0: Disabled 1: Enabled If this code is set to "1" (enabled), 08-588 is automatically set to "1" (black) and "0" (ACS) and "2" (Full color) cannot be selected. If 08-629 is set to "0" (OFF) and 08-1482 is set to "1" (ON), this code is set to "0" (Disabled) and "1" (ON) cannot be set.	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
381	Counter	Setting for counter installed externally	ALL	1 <0-7>	M	Selects the job to count up for the external counter. 0: Not selected 1: Copier 2: FAX 3: Copier/FAX 4: Printer 5: Copier/Printer 6: Printer/FAX 7: Copier/Printer/FAX	1
503	General	Image quality density adjustment at power-ON Default setting	PPC (black)	0 <0-1>	SYS	0: Auto 1: Manual	1
550	General	Default setting of Original mode	PPC (black)	0 <0-4>	SYS	0: Text/Photo 1: Text 2: Photo 3: Gray Scale 4: User custom mode	1
585	General	Default setting of Original mode	PPC (color)	0 <0-5>	SYS	0: Text/Photo 1: Text 2: Printed image 3: Photo 4: Map 5: Custom	1
587	General	Default setting of Density mode at power-ON(ACS / full color / PPC)	PPC (color)	1 <0-1>	SYS	0: Automatic 1: Manual (Center)	1
588	General	Priority to color mode(ACS / black / full color)	PPC	2 <0-2>	SYS	0: Auto color 1: Black 2: Full color When the value of the code 08-343 is "1: Enabled", "1: Black" is automatically set for this code and "0: ACS" and "2: Full color" become unselectable.	1
602	User interface	Screen setting for automatic energy saver/ automatic power OFF	ALL	EUR:0 UC:1 JPN:1 <0-1>	SYS	0: OFF 1: ON	1
603	User interface	Setting for automatic duplexing mode	ALL	0 <0-3>	SYS	0: Invalid 1: Single-sided to duplex copying 2: Two-sided to duplex copying 3: User selection	1
604	User interface	Default setting for APS/ AMS	ALL	0 <0-2>	SYS	0: APS (Automatic Paper Selection) 1: AMS (Automatic Magnification Selection) 2: Not selected	1
605	User interface	Centering printing of primary/secondary direction at AMS	PPC	1 <0-1>	SYS	0: Invalid 1: Valid	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
607	User interface	Default setting of RADF mode		PPC	0 <0-1>	SYS	0: Continuous feeding (by pressing the [START] button) 1: Single feeding (by setting original on the tray)	1
609-0	Image	Binarizing level setting (When judging as black in the ACS Mode)	Step -2	ALL	88 <0-255>	SYS	Sets the binarizing level of each step. When the value increases, the image becomes darker. When the value decreases, the image becomes lighter. * Refer to 08-268.	4
609-1			Step -1	ALL	108 <0-255>	SYS		4
609-2			Step 0 (center)	ALL	148 <0-255>	SYS		4
609-3			Step +1	ALL	178 <0-255>	SYS		4
609-4			Step +2	ALL	208 <0-255>	SYS		4
610	User interface	Key touch sound of control panel		ALL	1 <0-1>	SYS	0: OFF 1: ON	1
611	User interface	Book type original priority		PPC	0 <0-1>	SYS	0: Left page to right page 1: Right page to left page	1
613	User interface	Paper size selection for [OTHER] button		PPC	EUR: FOLIO UC: COMP JPN: A5-R	SYS	Press the icon on the LCD to select the size.	9
614	Network	Local I/F time-out period		ALL	6 <1-50>	SYS	Sets the period of time when the job is judged as completed in local I/F printing (USB or parallel). 1: 1.0 sec. 2: 1.5 sec. 50: 25.5 sec. (in increments of 0.5 sec.)	1
615	General	Size information of main memory and page memory		ALL	-	SYS	Displays the sizes of the main memory and page memory. Enables to check if each memory is properly recognized.	2
616	Counter	Counting method in Twin Color Mode (Limitation Function)		ALL	JPN: 1 UC: 0 EUR: 0 <0-1>	SYS	Sets the counting method in Twin Color Mode with the Limitation Function. 0: Count as color 1: Count as black	1
617	User interface	Print setting without department code		ALL	1 <0-2>	SYS	0: Printed forcibly 1: Not printed 2: Deleted forcibly	1
618	User interface	Default setting of RADF original size		PPC	0 <0-1>	SYS	0: Same size originals 1: Mixed size originals	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
619	Feeding system / Paper transport	Time lag before auto-start of bypass feeding	ALL	4 <0-10>	SYS	Sets the time taken to add paper feeding when paper in the bypass tray has run out during the bypass feed copying. 0: Paper is not drawn in unless the [START] button is pressed. 1-10: Setting value x 0.5sec.	1
620	User interface	Department management setting (Copier)	PPC	1 <0-1>	SYS	0: Invalid 1: Valid	1
621	User interface	Department management setting (FAX)	FAX	1 <0-1>	SYS	0: Invalid 1: Valid	1
622	User interface	Department management setting (Printer)	PRT	1 <0-1>	SYS	0: Invalid 1: Valid	1
623	User interface	Department management setting (Scanner)	SCN	1 <0-1>	SYS	0: Invalid 1: Valid	1
624	User interface	Department management setting (List print)	PRT	1 <0-1>	SYS	0: Invalid 1: Valid	1
625	User interface	Blank copying prevention mode during RADF jamming	PPC	0 <0-1>	SYS	0: OFF 1: ON (Start printing when the scanning of each page is finished)	1
627	User interface	Rotation printing at the nonsorting	ALL	0 <0-1>	SYS	0: Not rotating 1: Rotating	1
628	User interface	Direction priority of original image	PPC	0 <0-1>	SYS	0: Automatic 1: Portrait	1
629	User interface	Department management setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
632	User interface	Automatic calibration disclosure level	PPC	1 <0-2>	SYS	Sets the disclosing level of automatic calibration. 0: Service technician 1: Administrator 2: User	1
634	User interface	Inner receiving tray priority at Non-sort Mode	ALL	0 <0-1>	SYS	0: Normal 1: Inner receiving tray	1
636	User interface	Width setting for image shift copying (linkage of front side and back side)	PPC	0 <0-1>	SYS	0: ON 1: OFF	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
638	General	Time differences	ALL	EUR: 24 UC: 40 JPN: 6 <0-47>	SYS	0: +12.0h 1: +11.5h 2: +11.0h 3: +10.5h 4: +10.0h 5: 9.5h 6: +9.0h 7: +8.5h 8: +8.0h 9: +7.5h 10: +7.0h 11: +6.5h 12: +6.0h 13: +5.5h 14: +5.0h 15: +4.5h 16: +4.0h 17: +3.5h 18: +3.0h 19: +2.5h 20: +2.0h 21: +1.5h 22: +1.0h 23: +0.5h 24: 0.0h 25:-0.5h 26: -1.0h 27: -1.5h 28: -2.0h 29: -2.5h 30: -3.0h 31: -3.5h 32: -4.0h 33: -4.5h 34: -5.0h 35: -5.5h 36: -6.0h 37: -6.5h 38: -7.0h 39: -7.5h 40: -8.0h 41: -8.5h 42: -9.0h 43: -9.5h 44: -10.0h 45: -10.5h 46: -11.0h 47: -11.5h	1
640	User interface	Date display format	ALL	EUR:1 UC:2 JPN:0 <0-2>	SYS	0: YYYY.MM.DD. 1: DD.MM.YYYY 2: MM.DD.YYYY	1
641	User interface	Automatic Sorting Mode setting (RADF)	PPC	2 <0-4>	SYS	0: Invalid 1: STAPLE 2: SORT 3: GROUP 4: ROTATE SORT	1
642	User interface	Default setting of Sorter Mode	PPC	0 <0-4>	SYS	0: NON-SORT 1: STAPLE 2: SORT 3: GROUP 4: ROTATE SORT	1
643	User interface	Color 1 at twin color selection (Select what color black in original is copied)	PPC (color)	0 <0-6>	SYS	0: K 1: Y 2: M 3: C 4: R 5: G 6: B	1
644	User interface	Color 2 at twin color selection (Select what color other than black in original is copied)	PPC (color)	4 <0-6>	SYS	0: K 1: Y 2: M 3: C 4: R 5: G 6: B	1
645	User interface	Correction of reproduction ratio in editing copy	PPC	10 <0-10>	SYS	Sets the reproduction ratio for the “X in 1” printing (including magazine sort) to the “Reproduction ratio x Correction ratio”. 0: 90% 1: 91% 2: 92% 3: 93% 4: 94% 5: 95% 6: 96% 7: 97% 8: 98% 9: 99% 10: 100%	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
646	User interface	Image position in editing	ALL	2 <0-3>	SYS	Sets the page pasted position for “X in 1” to the upper left corner/ center. 0: Cornering (PPC)/ Cornering (PRT) 1: Centering (PPC)/ Cornering (PRT) 2: Cornering (PPC)/ Centering (PRT) 3: Centering (PPC)/ Centering (PRT)	1
648	User interface	Returning finisher tray when printing is finished	ALL	0 <0-1>	SYS	Sets whether or not returning the finisher tray to the bin 1 when printing is finished. 0: Not returned 1: Returned	1
649	User interface	Magazine sort setting	PPC	0 <0-1>	SYS	0: Left page to right page 1: Right page to left page	1
650	User interface	2 in 1/4 in 1 page allocating order setting	PPC	0 <0-1>	SYS	0: Horizontal 1: Vertical	1
651	User interface	Printing format setting for Time Stamp and Page Number	PPC	0 <0-1>	SYS	Hyphen 0: OFF 1: ON **Note:** Hyphen printing format ON: -1- OFF: 1	1
652	User interface	Cascade operation setting	PPC	0 <0-2>	SYS	0: OFF 1: ON (Stop) 2: ON (Circulation)	1
653	User interface	Cascade operation setting	PRT	0 <0-2>	SYS	0: OFF 1: ON (Stop) 2: ON (Circulation)	1
657	User interface	Default setting of printing direction for Time Stamp and Page Number	PPC	0 <0-1>	SYS	0: Short edge 1: Long edge	1
658	User interface	Auto-start setting for bypass feed printing (Remote)	PRT	0 <0-1>	SYS	Sets whether or not feeding a paper automatically into the copier when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatic feeding)	1
659	User interface	Auto-start setting for bypass feed printing (Local)	PPC	1 <0-1>	SYS	Sets whether or not feeding a paper automatically into the copier when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatic feeding)	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
660	Network	Auto-forwarding setting of received FAX	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
661	Network	Auto-forwarding setting of received E-mail	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
662	General	Clearing of SMS partition	ALL	-	SYS	Clears SMS partition. (Performs when the service call [F106] has occurred.)	3
663	Counter	Counting method in Twin Color Mode	PPC	0 <0-2>	SYS	Sets the counting method of fee charging or duplexing count in the Twin Color Mode. 0: Count as Twin Color Mode 1: Count as Black Mode 2: Count as Full Color Mode	1
666	General	BOX partition clearing	ALL	-	SYS	Initializes the Electronic Filing.	3
667	General	/SHA partition clearing	ALL	-	SYS	Initializes the shared folder.	3
670	General	HDD diagnostic menu display	ALL	-	SYS	Display the HDD information (Ch.20.2.2)	2
671	User interface	Size indicator	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
672	General	Initialization of department management information	-	-	SYS	Initializing of the department management information * Enter the code with the digital keys and press the [INITIALIZE] button to perform the initialization. If the area storing the department management information is destroyed for some reason, “Enter Department Code” is displayed on the control panel even if the department management function is not set on. In this case, initialize the area with this code. This area is normally initialized at the factory.	3

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
675-0	Feeding system / Paper transport	Coated Paper Mode setting for paper source	1st drawer	ALL	0 <0-1>	SYS	Sets whether or not applying the Coated Paper Mode to each paper source. 0: Normal mode 1: Coated Paper Mode * Coated Paper Mode - This mode is selected when the paper which often causes the misfeeding (ex. coated paper) is used. The occurrence of misfeeding is reduced by lengthening the jam detection time. However, the printing speed is lowered since the printing cycle is also lengthened with the lengthened jam detection time.	4
675-1			2nd drawer	ALL	0 <0-1>	SYS		4
675-2			3rd drawer	ALL	0 <0-1>	SYS		4
675-3			4th drawer	ALL	0 <0-1>	SYS		4
675-4			LCF	ALL	0 <0-1>	SYS		4
678	General	Setting of banner advertising display		ALL	0 <0-1>	SYS	Sets whether or not displaying the banner advertising. The setting contents of 08-679 and 08-680 are displayed at the time display section on the right top of the screen. When both are set, each content is displayed alternately. 0: Not displayed 1: Displayed	1
679	General	Banner advertising display 1		ALL	-	SYS	Maximum 27 letters (one-byte character)	11
680	General	Banner advertising display 2		ALL	-	SYS	Maximum 27 letters (one-byte character)	11
681	General	Display of [BANNER MESSAGE] button		ALL	0 <0-1>	SYS	0: Not displayed 1: Displayed * This button enables the entry of “Banner advertising display 1 (08-679)” and “Banner advertising display 2 (08-680)” on the control panel.	1
682	Use interface	Offsetting between jobs		ALL	1 <0-1>	SYS	0: Invalid 1: Valid	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
683	General	Duplex printing setting when coin controller is used	ALL	1 <0-1>	SYS	When the duplex printing is short paid with a coin controller, reverse side of the original is not printed and is considered as a defect (printing job may be cleared). To solve this problem, the selection of printing method is enabled with this setting. 0: Invalid (Only one side printed) 1: Valid (Both sides printed/One side printed)	1
684	General	Rebuilding all databases	ALL	-	SYS	Rebuilds all databases.	3
685	General	Rebuilding all databases related to Address Book	ALL	-	SYS	Rebuilds all databases related to the Address Book.	3
686	General	Rebuilding all databases related to log	ALL	-	SYS	Rebuilds all databases related to the logs.	3
689	FAX	Adaptation of paper source priority selection	FAX	0 <0-1>	SYS	0: Not subjected for APS judgment 1: Subjected for APS judgment	1
690	General	HDD formatting	ALL	2 <2>	SYS	2: Normal formatting	7
691	General	HDD type display	ALL	- <0-2>	SYS	0: Not formatted 1: Not used 2: Normal format	7
692	Maintenance	Performing panel calibration	ALL	-	SYS	Performs the calibration of the pressing position on the touch panel (LCD screen). The calibration is performed by pressing 2 reference positions after this code is started up.	1
693	General	Initialization of NIC information	ALL	-	SYS	Returns the value to the factory shipping default value.	3
694	General	Performing HDD testing	ALL	-	SYS	Checks the bad sector.	3
700	General	Default setting of the EFI Printer Board	ALL	-	-	Performs when the EFI Printer Board is used	3

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
701	FAX	Destination setting for FAX		FAX	EUR: 5 UC: 4 JPN: 0 Other: 1 <0-25>	SYS	0: Japan 1: Asia 2: Australia 3: Hong Kong 4: U.S.A./Canada 5: Germany 6: U.K. 7: Italy 8: Belgium 9: Netherlands 10: Finland 11: Spain 12: Austria 13: Switzerland 14: Sweden 15: Denmark 16: Norway 17: Portugal 18: France 19: Greece 20: Poland 21: Hungary 22: Czech 23: Turkey 24: South Africa 25: Taiwan	1
702	Maintenance	Remote-controlled service function		ALL	2 <0-2>	SYS	0: Valid (Remote-controlled server) 1: Valid (L2) 2: Invalid	1
703	Maintenance	Remote-controlled service HTTP server URL setting		ALL	-	SYS	Maximum 256 letters	11
704-0		Interruption of stapling operation (no staple)	Copying	ALL	1 <0-1>	SYS	0: Continues printing by switching sort setting 1: Interrupts printing	4
704-1			Printing / BOX printing	ALL	0 <0-1>	SYS	0: Continues printing by switching sort setting 1: Interrupts printing	4
707	Maintenance	Remote-controlled service HTTP initially-registered server URL setting		ALL	https://device.mfp-support.com:443/device/firstregist.ashx	SYS	Maximum 256 letters	11
710	Maintenance (Remote)	Short time interval setting of recovery from Emergency Mode		ALL	24 <1-48>	SYS	Sets the time interval to recover from the Emergency Mode to the Normal Mode. (Unit: Hour)	1
711	Maintenance	Short time interval setting of Emergency Mode		ALL	60 <30-360>	SYS	Unit: Minute	1
715	Maintenance	Remote-controlled service periodical polling timing (Hour/Hour/Minute/Minute)		ALL	1230	SYS	0 (0:00) to 2359 (23:59)	1
716	Maintenance	Remote-controlled service Writing data of self-diagnostic code		ALL	0 <0-1>	SYS	0: Prohibited 1: Accepted	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
717	Maintenance	Remote-controlled service response waiting time (Timeout)	ALL	3 <1-30>	SYS	Unit: Minute	1
718	Maintenance	Remote-controlled service initial registration	ALL	0 <0-3>	SYS	0: OFF 1: Start 2: Only certification is scanned 3: Satellite communication starts	1
719	Maintenance	Remote-controlled service tentative password	ALL	-	SYS	Maximum 10 letters	11
720	Maintenance	Status of remote-controlled service initial registration (Display only)	ALL	0 <0-1>	SYS	0: Not registered 1: Registered	2
721	Maintenance	Service center call function	ALL	JPC: 1 Other: 2 <0-2>	SYS	0: OFF 1: Notifies all service calls 2: Notifies all but paper jams	1
723	Maintenance	Service center call HTTP server URL setting	ALL	-	SYS	Maximum 256 letters	11
726	Maintenance	HTTP proxy setting	ALL	1 <0-1>	SYS	0: Valid 1: Invalid	1
727	Maintenance	HTTP proxy IP address setting	ALL	-	SYS	Enter the IP address or FQDN. 000.000.000.000 - 255.255.255.255 (Default value 000.000.000.000)	11
728	Maintenance	HTTP proxy port number setting	ALL	0 <0-65535>	SYS		1
729	Maintenance	HTTP proxy ID setting	ALL	-	SYS	Maximum 30 letters	11
730	Maintenance	HTTP proxy password setting	ALL	-	SYS	Maximum 30 letters	11
731	Maintenance	HTTP proxy panel display	ALL	1 <0-1>	SYS	0: Valid 1: Invalid	1
732	Maintenance (Remote)	Automatic ordering function of supplies	ALL	3 <0-3>	SYS	0: Ordered by FAX 1: Ordered by E-mail 2: Ordered by HTTP 3: OFF	1
733	Maintenance (Remote)	Automatic ordering function of supplies FAX number	ALL	-	SYS	Maximum 32 digits Enter hyphen with the [Monitor/Pause] button	11
734	Maintenance (Remote)	Automatic ordering function of supplies E-mail address	ALL	-	SYS	Maximum 192 letters List: 256 digits	11
738	Maintenance (Remote)	Automatic ordering function of supplies User's name	ALL		SYS	Maximum 50 letters	11
739	Maintenance (Remote)	Automatic ordering function of supplies User's telephone number	ALL		SYS	Maximum 32 digits Enter hyphen with the [Monitor/Pause] button	11
740	Maintenance (Remote)	Automatic ordering function of supplies User's E-mail address	ALL		SYS	Maximum 192 letters List: 256 digits	11

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
741	Maintenance (Remote)	Automatic ordering function of supplies User's address	ALL		SYS	Maximum 100 letters	11
742	Maintenance (Remote)	Automatic ordering function of supplies Service number	ALL		SYS	Maximum 5 digits	11
743	Maintenance (Remote)	Automatic ordering function of supplies Service technician's name	ALL		SYS	Maximum 50 letters	11
744	Maintenance (Remote)	Automatic ordering function of supplies Service technician's telephone number	ALL		SYS	Maximum 32 digits Enter hyphen with the [Monitor/Pause] button	11
745	Maintenance (Remote)	Automatic ordering function of supplies Service technician's E-mail address	ALL		SYS	Maximum 192 letters List: 256 digits	11
746	Maintenance (Remote)	Automatic ordering function of supplies Supplier's name	ALL		SYS	Maximum 50 letters	11
747	Maintenance (Remote)	Automatic ordering function of supplies Supplier's address	ALL		SYS	Maximum 100 letters	11
748	Maintenance (Remote)	Automatic ordering function of supplies Notes	ALL		SYS	Maximum 128 letters	11
749	Maintenance (Remote)	Information about supplies Part number of toner cartridge C	ALL		SYS	Maximum 20 digits	11
750	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge C	ALL	1 <1-99>	SYS		1
751	Maintenance (Remote)	Information about supplies Condition number of toner cartridge C	ALL	1 <1-99>	SYS		1
752	Maintenance (Remote)	Information about supplies Part number of toner cartridge M	ALL		SYS	Maximum 20 digits	11
753	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge M	ALL	1 <1-99>	SYS		1
754	Maintenance (Remote)	Information about supplies Condition number of toner cartridge M	ALL	1 <1-99>	SYS		1
755	Maintenance (Remote)	Information about supplies Part number of toner cartridge Y	ALL	-	SYS	Maximum 20 digits	11
756	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge Y	ALL	1 <1-99>	SYS		1
757	Maintenance (Remote)	Information about supplies Condition number of toner cartridge Y	ALL	1 <1-99>	SYS		1
758	Maintenance (Remote)	Information about supplies Part number of toner cartridge K	ALL	-	SYS	Maximum 20 digits	11
759	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge K	ALL	1 <1-99>	SYS		1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
760	Maintenance (Remote)	Information about supplies Condition number of toner cartridge K	ALL	1 <1-99>	SYS		1
761	Maintenance (Remote)	Information about supplies Part number of toner bag	ALL	-	SYS	Maximum 20 digits	11
762	Maintenance (Remote)	Information about supplies Order quantity of toner bag	ALL	1 <1-99>	SYS		1
763	Maintenance (Remote)	Information about supplies Condition number of toner bag	ALL	1 <1-99>	SYS		1
764	Maintenance (Remote)	Automatic ordering supplies Result table printout	ALL	1 <0-2>	SYS	0: OFF 1: Always 2: ON Error	1
765	Maintenance (Remote)	Automatic ordering supplies Display	ALL	EUR: 2 UC: 0 JPN: 2 <0-2>	SYS	0: Valid (FAX/Internet FAX) 1: Valid (FAX/Internet FAX/ HTTP) 2: Invalid	1
767	Maintenance (Remote)	Service Notification setting	ALL	0 <0-2>	SYS	Enables to set up to 3 E-mail addresses to be sent. (08-768, 777, 778) 0: Invalid 1: Valid (E-mail) 2: Valid (FAX)	1
768	Maintenance (Remote)	Destination E-mail address 1	ALL	-	SYS	Maximum 192 letters	11
769	Maintenance (Remote)	Total counter information transmission setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
770	Maintenance (Remote)	Total counter transmission date setting	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
771	Maintenance (Remote)	PM counter notification setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
772	Maintenance	Dealer's name	ALL	-	SYS	Maximum 100 letters Needed at initial registration	11
773	Maintenance	Login name	ALL	-	SYS	Maximum 20 letters Needed at initial registration	11
774	Maintenance (Remote)	Display setting of [Service Notification] button	ALL	MJC/ MJD/ NAC/ NAD: 1 Other: 0 <0-1>	SYS	0: Not displayed 1: Displayed	1
775	Maintenance (Remote)	Sending error contents of equipment	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
776	Maintenance (Remote)	Setting total counter transmission interval (Hour/Hour/Minute/Minute)	ALL	-	SYS		1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
777	Maintenance (Remote)	Destination E-mail address 2	ALL	-	SYS	Maximum 192 letters	11
778	Maintenance (Remote)	Destination E-mail address 3	ALL	-	SYS	Maximum 192 letters	11
780	Maintenance	Remote-controlled service polling day selection Day-1	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
781	Maintenance	Remote-controlled service polling day selection Day-2	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
782	Maintenance	Remote-controlled service polling day selection Day-3	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
783	Maintenance	Remote-controlled service polling day selection Day-4	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
784	Maintenance	Remote-controlled service polling day selection Sunday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
785	Maintenance	Remote-controlled service polling day selection Monday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
786	Maintenance	Remote-controlled service polling day selection Tuesday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
787	Maintenance	Remote-controlled service polling day selection Wednesday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
788	Maintenance	Remote-controlled service polling day selection Thursday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
789	Maintenance	Remote-controlled service polling day selection Friday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
790	Maintenance	Remote-controlled service polling day selection Saturday	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
791	Maintenance	Information of supplies setting of toner cartridge C	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
792	Maintenance	Information of supplies setting of toner cartridge M	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
793	Maintenance	Information of supplies setting of toner cartridge Y	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
794	Maintenance	Information of supplies setting of toner cartridge K	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
795	Maintenance	Information of supplies setting of toner bag	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
796	Maintenance	Remote-controlled service lengthened interval polling (End of month)	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
900	Version	System firmware ROM version	ALL	-	-	JPN: T430SY0JXXX UC: T430SY0UXXX EUR: T430SY0EXXX Others: T430SY0XXXX	2
903	Version	Engine ROM version	ALL	-	-	430M-XXX	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
905	Version	Scanner ROM version	ALL	-	-	430S-XXX	2
906	Version	PFC ROM version	ALL	-	-	430F-XXX If "NGD" is displayed for the PFC ROM version (08-906), the downloading of PFC ROM fails. Update the firmware again. 📖 P.19-51 "19.5 When Firmware Updating Fails"	2
907	Version	RADF ROM version	ALL	-	-	DF-XXXX	2
908	Version	Finisher ROM version	ALL	-	-	SDL-XXX FIN-XXX	2
909	Version	Inserter ROM version	ALL	-	-	INS-XX	2
911	Version	Finisher punch ROM version	ALL	-	-	PUN-XXX	2
915	Version	FAX board ROM version	FAX	-	-	F562-XXX	2
920	Version	FROM basic section software version	ALL	-	-	VX.XX/X.XX	2
921	Version	FROM basic section software internal program version	ALL	-	-	VXXX.XXX X	2
922	Version	UI data fixed section version	ALL	-	-	VXXX.XXX X	2
923	Version	UI data common section version	ALL	-	-	VXXX.XXX X	2
924	Version	Version of UI data language 1 in HDD	ALL	-	-	VXXX.XXX X	2
925	Version	Version of UI data language 2 in HDD	ALL	-	-	VXXX.XXX X	2
926	Version	Version of UI data language 3 in HDD	ALL	-	-	VXXX.XXX X	2
927	Version	Version of UI data language 4 in HDD	ALL	-	-	VXXX.XXX X	2
928	Version	Version of UI data language 5 in HDD	ALL	-	-	VXXX.XXX X	2
929	Version	Version of UI data language 6 in HDD	ALL	-	-	VXXX.XXX X	2
930	Version	Version of UI data in FROM displayed at power-ON	ALL	-	-	VXXX.XXX X	2
931	Version	Version of UI data language 7 in HDD	ALL	-	-	VXXX.XXX X	2
933	Version	Web data whole version	ALL	-	-	VXXX.XXX X	2
934	Version	Web UI data in HDD Version: Language 1	ALL	-	-	VXXX.XXX X	2
935	Version	Web UI data in HDD Version: Language 2	ALL	-	-	VXXX.XXX X	2
936	Version	Web UI data in HDD Version: Language 3	ALL	-	-	VXXX.XXX X	2
937	Version	Web UI data in HDD Version: Language 4	ALL	-	-	VXXX.XXX X	2
938	Version	Web UI data in HDD Version: Language 5	ALL	-	-	VXXX.XXX X	2
939	Version	Web UI data in HDD Version: Language 6	ALL	-	-	VXXX.XXX X	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
944	Version	HDD version	ALL	-	-	JPN: T430HD0JXXX UC: T430HD0UXXX EUR: T430HD0EXXX Others: T430HD0XXXX	2
945	Network	Two-way setting of RawPort 9100	ALL	2 <1-2>	UTY	1: Valid 2: Invalid	12
947	General	Initialization after software version upgrade	ALL	-	SYS	Perform this code when the software in this equipment has been upgraded.	3
949	Cleaner	Automatic interruption page number setting for printing	ALL	5 <0-100>	SYS	Printing is interrupted at the set number of pages (setting value x 100) when "1" or a larger number is set for this code. Then the transfer belt and the photoconductive drum are rotated in reverse and then printing is resumed.Perform this code when using paper that causes more paper dust or when printing originals with a high printing ratio in a large amount. Do not set "1" or any larger number for this code when "0" is set for the code 08-2367. Setting value x 100 (page)	1
950	Electronic filing	Start-up method of Electronic Filing	ALL	0 <0-2>	SYS	Sets the start-up method of the Electronic Filing. 0: Standard 1: Forced start-up (Not recovered) 2: Forced start-up (Recovered)	1
951	User interface	Image setting for Electronic Filing printing (Only for color image)	ALL	0 <0-3>	SYS	0: General 1: Photograph 2: Presentation 3: Line art	1
953	User interface	Access code entry for Electronic Filing printing	ALL	0 <0-1>	SYS	0: Renewed automatically 1: Enter every time	1
954	User interface	Clearing timing for files and Electronic Filing Agent	ALL	1 <0-1>	SYS	0: Immediately after the completion of scanning 1: Cleared by Auto Clear	1
969	User interface	Error sound	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
970	User interface	Sound setting when switching to Energy Saving Mode	ALL	EUR: 1 UC: 1 JPN: 0 <0-1>	SYS	0: OFF 1: ON	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
973	Network	PCL line feed code setting	PRT	0 <0-3>	SYS	Sets the PCL line feed code. 0: Automatic setting 1: CR=CR, LF=LF 2: CR=CR+LF, LF=LF 3: CR=CR, LF=CR+LF	1
975	General	Job handling when printing is short paid with coin controller	ALL	1 <0-1>	SYS	Sets whether pause or stop the printing job when it is short paid using a coin controller. 0: Pause the job 1: Stop the job	1
976	Scanning	Equipment name and user name setting to a folder when saving files	ALL	0 <0-2>	SYS	Sets whether or not adding the equipment name and user name to the folder when saving files. 0: Not add 1: Add the equipment name 2: Add the user name	1
978	Network	Raw printing job (Paper feeding drawer)	PRT	0 <0-6>	SYS	0: AUTO 1: 1st drawer 2: 2nd drawer 3: 3rd drawer 4: 4th drawer 5: T-LCF 6: O-LCF	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
979	Network	Raw printing job (PCL symbol set)	PRT	0 <0-39>	SYS	0: Roman-8 1: ISO 8859/1 Latin 1 2: ISO 8859/2 Latin 2 3: ISO 8859/9 Latin 5 4: PC-8, Code Page 437 5: PC-8 D/N, Danish/ Norwegian 6: PC-850, Multilingual 7: PC-852, Latin2 8: PC-8 Turkish 9: Windows 3.1 Latin 1 10: Windows 3.1 Latin 2 11: Windows 3.1 Latin 5 12: DeskTop 13: PS Text 14: Ventura International 15: Ventura US 16: Microsoft Publishing 17: Math-8 18: PS Math 19: Ventura Math 20: Pi Font 21: Legal 22: ISO 4: United Kingdom 23: ISO 6: ASCII 24: ISO 11 25: ISO 15: Italian 26: ISO 17 27: ISO 21: German 28: ISO 60: Danish/ Norwegian 29: ISO 69: French 30: Windows 3.0 Latin 1 31: MC Text 32: PC Cyrillic 33: ITC Zapf Dingbats 34: ISO 8859/10 Latin 6 35: PC-775 36: PC-1004 37: Symbol 38: Windows Baltic 39: Wingdings	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
983	User interface	Print screen initial display settings	ALL	0 <0-3>	SYS	0: Private print screen (Job list of log-in user is displayed if user authentication is enabled.) 1: Hold print screen (Job list of log-in user is displayed if user authentication is enabled.) 2: Private print screen (If the private print screen is displayed when user authentication is enabled, user list is displayed if user logs in as GUEST, and job list of log-in user is displayed if user logs in as general user.) 3: Hold print screen (If the private print screen is displayed when user authentication is enabled, user list is displayed if user logs in as GUEST, and job list of log-in user is displayed if user logs in as general user.) * If user data department management (08-1482) is changed from OFF to ON, the value in this code changes from "0" to "1", and "2" to "3". The value does not change if it is "1" or "3". Reset this value as necessary when changing user data department management (08-1482) from OFF to ON.	1
986	General	Copy function setting	PPC	0 <0-1>	SYS	Sets the copy function to be invalid. 0: Valid 1: Invalid	1
988	Feeding system / Paper transport	Setting of paper size switching to 13" LG	ALL	0 <0-2>	SYS	0: Not switched 1: LG→13"LG 2: FOLIO→13"LG	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
995	Maintenance	Equipment number (serial number) display	ALL	- <10 digits>	SYS	This code can be also keyed in from the adjustment mode (05-976). 10 digits	11
999	Maintenance	FSMS total counter	ALL	0 <8 digits>	SYS	Refer to values of total counter.	1
1002	Network	Selection of NIC board status information	ALL	1 <1-2>	NIC	1: Not printed out when the copier is restarted 2: Printed out when the copier is restarted	12
1003	Network	Communication speed and settings of Ethernet	ALL	1 <1-5>	NIC	1: Auto 2: 10MBPS Half Duplex 3: 10MBPS Full Duplex 4: 100MBPS Half Duplex 5: 100MBPS Full Duplex	12
1006	Network	Address Mode	ALL	2 <1-3>	NIC	1: Fixed IP address 2: Dynamic IP address 3: Dynamic IP address without AutoIP	12
1006 (EFI)	Network	Address Mode	ALL	1 <1-3>	NIC	1: Fixed IP address 2: Dynamic IP address 3: Dynamic IP address without AutoIP * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1007	Network	Domain name	ALL	-	NIC	Maximum 96 letters	12
1008	Network	IP address	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1008 (EFI)	Network	IP address	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 10.250.250.249) * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1009	Network	Subnet mask	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1009 (EFI)	Network	Subnet mask	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 255.255.255.252) * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1010	Network	Gateway	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1010 (EFI)	Network	Gateway	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 10.250.250.250) * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1011	Network	Availability of IPX	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1011 (EFI)	Network	Availability of IPX	ALL	2 <1-2>	NIC	1: Available 2: Not available * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1012	Network	Network frame type	ALL	1 <1-5>	NIC	1: Automatic 2: IEEE802.3 3: Ethernet II 4: IEEE802.3 SNAP 5: IEEE802.2	12
1014	Network	Availability of AppleTalk	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1014 (EFI)	Network	Availability of AppleTalk	ALL	2 <1-2>	NIC	1: Available 2: Not available * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1015	Network	Zone setting of AppleTalk	ALL	*	NIC	Maximum 32 letters *: Wildcard character	12
1016	Network	Availability of LDAP	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1017	Network	Availability of DNS	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1018	Network	IP address to DNS server (Primary)	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1019	Network	IP address to DNS server (Secondary)	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1020	Network	DDNS Desired level	ALL	1 <1-5>	NIC	1: Invalid 2: Valid 3: Valid 4: Valid 5: Valid	12
1021	Network	Availability of SLP	ALL	1 <1-2>	NIC	Sets the availability of SLP on NetWare. 1: Enabled 2: Disabled	12
1021 (EFI)	Network	Availability of SLP	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1022	Network	From Name Creation setting in SMTP authentication	ALL	0 <0-2>	SYS	0: Not edited 1: Account name of From Address +Device name 2: LDAP searching	1
1023	Network	NetBios name	ALL	MFP_ serial	UTY	Maximum 15 letters The network-related serial number of the equipment appears at "serial"	12
1024	Network	Name of WINS server or IP address (Primary)	ALL	-	UTY	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1025	Network	Name of WINS server or IP address (Secondary)	ALL	-	UTY	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1026	Network	Availability of Bindery	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1027	Network	Availability of NDS	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1028	Network	Directory service context	ALL	-	NIC	Maximum 127 letters	12
1029	Network	Directory service tree	ALL	-	NIC	Maximum 47 letters	12
1030	Network	Availability of HTTP server	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1031	Network	Port number to NIC HTTP server	ALL	80 <1-65535>	NIC		12
1032	Network	Port number to system HTTP server	ALL	8080 <1-65535>	NIC		12
1037	Network	Availability of SMTP client	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1038	Network	FQDN or IP address to SMTP server	ALL	-	NIC	Maximum 128 Bytes	12
1039	Network	TCP port number of SMTP client	ALL	25 <1-65535>	NIC		12
1040	Network	Availability of SMTP server	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1041	Network	TCP port number of SMTP server	ALL	25 <1-65535>	UTY		12
1042	Network	E-mail box name to SMTP server	ALL	-	UTY	Maximum 192 letters	12
1043	Network	Availability of Offramp	ALL	2 <1-2>	UTY	1: Available 2: Not available	12
1044	Network	Offramp security	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1045	Network	Printing at Offramp	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1046	Network	Availability of POP3 clients	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1047	Network	FQDN or IP address to POP3 server	ALL	-	NIC	Maximum 128 letters	12
1048	Network	Types of POP3 server	ALL	1 <1-3>	NIC	1: Automatic 2: POP3 3: APOP	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1049	Network	Login name to POP3 server	ALL	-	NIC	Maximum 96 letters	12
1050	Network	Login password to POP3	ALL	-	NIC	Maximum 96 letters	12
1051	Network	E-mail reception interval	ALL	5 <0-4096>	NIC	Unit: Minute	12
1052	Network	TCP port number of POP3 client	ALL	110 <1-65535>	NIC		12
1055	Network	TCP port number of FTP client	ALL	21 <1-65535>	UTY		12
1059	Network	Availability of FTP server	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1060	Network	TCP port number of FTP server	ALL	21 <1-65535>	NIC		12
1060 (EFI)	Network	TCP port number of FTP server	ALL	50021 <1-65535>	NIC	* The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1063	Network	MIB function	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1065	Network	Setting of read Community	ALL	public	NIC	Maximum 31 letters	12
1066	Network	Setting of read/Write Community	ALL	private	NIC	Maximum 31 letters	12
1069	Network	TRAP destination IP address	ALL	-	UTY	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1070	Network	Community setting of TRAP (via IP)	ALL	public	NIC	Maximum 31 letters	12
1073	Network	Availability of Raw/TCP	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1073 (EFI)	Network	Availability of Raw/TCP	ALL	2 <1-2>	NIC	1: Valid 2: Invalid * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1074	Network	TCP port number of Raw	ALL	9100 <1-65535>	NIC		12
1075	Network	Availability of LPD client	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1075 (EFI)	Network	Availability of LPD client	ALL	2 <1-2>	NIC	1: Valid 2: Invalid * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1076	Network	TCP port number of LPD	ALL	515 <1-65535>	NIC		12
1077	Network	LPD queue name	ALL	-	NIC	Maximum 31 letters	12
1078	Network	Availability of IPP	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1078 (EFI)	Network	Availability of IPP	ALL	2 <1-2>	NIC	1: Valid 2: Invalid * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1079	Network	Availability of IPP port number “80”	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1080	Network	TCP port number of IPP	ALL	631 <1-65535>	NIC		12
1081	Network	IPP printer name	ALL	MFP_ serial	NIC	Maximum 127 letters The network-related serial number of the equipment appears at "serial"	12
1082	Network	IPP printer location	ALL	-	NIC	Maximum 127 letters	12
1083	Network	IPP printer information	ALL	-	NIC	Maximum 127 letters	12
1084	Network	IPP printer information (more)	ALL	http:// www.e-studioseries.com	NIC	Maximum 127 letters	12
1085	Network	Installer of IPP printer driver	ALL	http:// www.e-studioseries.com	NIC	Maximum 127 letters	12
1086	Network	IPP printer “Make and Model”	ALL	-	NIC	Maximum 127 letters	12
1087	Network	IPP printer information (more) MFGR	ALL	-	NIC	Maximum 127 letters	12
1088	Network	IPP message from operator	ALL	-	NIC	Maximum 127 letters	12
1089	Network	Availability of FTP print	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1089 (EFI)	Network	Availability of FTP print	ALL	2 <1-2>	NIC	1: Available 2: Not available * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1090	Network	Printer user name of FTP	ALL	print	NIC	Maximum 31 letters	12
1091	Network	Printer user password of FTP	ALL	-	NIC	Maximum 31 letters	12
1092	Network	TCP port number to FTP print server	ALL	21 <1-65535>	NIC		12
1093	Network	Login name to Novell print server	ALL	MFP_ serial	NIC	Maximum 47 letters The network-related serial number of the equipment appears at "serial"	12
1094	Network	Login password to Novell print server	ALL	-	NIC	Maximum 31 letters	12
1095	Network	Name of SearchRoot server	ALL	-	NIC	Maximum 31 letters	12
1096	Network	Scan rate setting of print queue	ALL	5 <1-255>	NIC	Unit: Second	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1097	Network	Page number limitation for printing text of received Email	ALL	5 <1-99>	UTY		12
1098	Network	MDN return mail setting when receiving E-mail	ALL	2 <1-2>	UTY	1: Valid 2: Invalid	12
1099	Network	Trap destination of IPX	ALL	-	UTY	24 letters (Valid from 0 to 9 and from A to F)	12
1100	Network	Method of SMTP server authentication	ALL	1 <1-7,10>	NIC	1: Disable 2: Plain 3: Login 4; Cram-MD5 5: Digest MD5 6: Kerberos 7: NTLM 10: Auto	12
1101	Network	Login name for SMTP server authentication	ALL	-	NIC	Maximum 64 letters	12
1102	Network	Login password for SMTP server authentication	ALL	-	NIC	Maximum 64 letters	12
1103	Network	Rendezvous setting	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1103 (EFI)	Network	Rendezvous setting	ALL	2 <1-2>	NIC	1: Valid 2: Invalid * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1104	Network	Link local host name	ALL	MFP_ serial	NIC	Maximum 127 letters The network-related serial number of the equipment appears at "serial"	12
1105	Network	Service name setting	ALL	Refer to contents	NIC	Maximum 63 letters The network-related serial number of the equipment appears at "serial" <Default value> e-STUDIO5520C: TOSHIBA e-STUDIO5520C_serial e-STUDIO6520C: TOSHIBA e-STUDIO6520C_serial e-STUDIO6530C: TOSHIBA e-STUDIO6530C_serial	12
1111	Network	POP Before SMTP setting	ALL	2 <1-2>	NIC	1: Valid 2: Invalid	12
1112	Network	Host name	ALL	MFP_ serial	NIC	Maximum 63 letters The network-related serial number of the equipment appears at "serial"	12
1113	Network	Windows domain No.1 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1114	Network	Sending mail text of InternetFAX	ALL	1 <0-1>	SYS	0: Invalid 1: Valid	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1117	Network	SMB time-out period	ALL	60 <1-9999>	SYS	Unit: Second	1
1118	General	Clearing of TAT partition	ALL	-	SYS		3
1119	Network	Initialization of NIC information	ALL	-	-	Initializes only the information of the Network setting items.	3
1121	Network	PDC (Primary Domain Controller) name No.1 of authentication	ALL	-	UTY	Maximum 128 letters	12
1122	Network	BDC (Backup Domain Controller) name No.1 of authentication	ALL	-	UTY	Maximum 128 letters	12
1123	Network	Windows domain of device authentication	ALL	4 <3-4>	UTY	3: ON (Domain selected) 4: OFF (Work group selected)	12
1124	Network	Workgroup name	ALL	workgroup	UTY	Maximum 15 letters	12
1125	General	Data writing of address book data import (overwriting method)	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
1126	Counter	Validity of interrupt copying when external counters are installed	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
1130	User interface	Job Build Function	ALL	1 <0-1>	SYS	Sets the Job Build Function. 0: Invalid 1: Valid	1
1131	User interface	Maximum number of time job build performed	ALL	1000 <5-1000>	SYS	Sets the maximum number of time a job build has been performed. 5-1000: 5 to 1000 times	1
1135	Feeding system / Paper transport	Default setting of drawers (Printer/BOX)	ALL	6 <1-6>	SYS	1: T-LCF 2: 1st drawer 3: 2nd drawer 4: 3rd drawer 5: 4th drawer 6: O-LCF	1
1138	Network	LDAP search method setting	ALL	0 <0-3>	SYS	Sets the search method when performing a LDAP search. 0: Partial match 1: Prefix match 2: Suffix match 3: Full match	1
1140	User interface	Restriction of the template function with the administrator privilege	ALL	0 <0-1>	SYS	Selects the restriction of the template function usage setting. 0: No restriction 1: Only available with the administrator privilege.	1
1141	Network	Display of MAC address	ALL	-	SYS	(**:**:**:**:**:**) The address is displayed as above (6-byte data is divided by a colon at every 1 bytes).	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1145	Maintenance (Remote)	Counter notification Remote FAX setting	ALL	-	SYS	Maximum 32 digits Enter a hyphen with the [MONITOR/PAUSE] button.	11
1149	General	Enhanced bold for PCL6	PRT	0 <0-1>	SYS	0: OFF 1: ON(Enhanced bold for PCL6.)	1
1422	Data overwrite kit	HDD data overwriting type setting	ALL	0 <0-2>	SYS	Select the type of the overwriting level; LOW, MEDIUM, or HIGH for deleting HDD data. (This setting is enabled only when the GP-1070 is installed.) 0: LOW Standard overwriting method. 1: MEDIUM More secure overwriting method than LOW. The overwriting time is between LOW and HIGH. 2: HIGH The most secure overwriting method. The overwriting time is the longest.	1
1424	Data overwrite kit	HDD data clearing type setting (forcible clearing)	ALL	0 <0-2>	SYS	Select the type of the overwriting level; LOW, MEDIUM, or HIGH for deleting HDD data. (This setting is enabled only when the GP-1070 is installed.) 0: LOW Standard overwriting method. 1: MEDIUM More secure overwriting method than LOW. The overwriting time is between LOW and HIGH. 2: HIGH The most secure overwriting method. The overwriting time is the longest.	1
1426	General	Forcible HDD data clearing	ALL	-	-	HDD data is cleared in the procedure set in 08-1424.	3
1428	Data overwrite kit	Forcible SRAM backup data all clearing	ALL	-	-	When this code is performed, the equipment cannot be started up. * This setting is enabled only when the GP-1070 is installed.	3

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1429	User interface	Margin width (Top/Bottom, Left/Right)	ALL	Front: 7/ Back: 7 <2-100/ -100-100>	SYS	This setting is not reflected in "Right", even if the value less than 2 is set for "Back".	10
1430	User interface	Margin width (Bookbinding margin)	ALL	14 <2-30>	SYS		1
1431	Network	ACC (AT_CASETTE_CHANGE) for Printer/Box printing	ALL	1 <0-2>	SYS	0: ACC prohibited 1: Only in the same paper direction 2: In both same direction and different directions This code is set to "1" when a value is set at 08-8591. Only "1" or "2" can be entered in this code when "1" is set at 08-8591.	1
1432	Network	Private-print-only mode	ALL	0 <0-3>	SYS	0: Normal 1: Private-print-only mode 2: Hold-print-only mode 3: Private/Hold-printonly mode When "1" is set at 08-1482 (User data department management), any value other than "0" in this code is changed to "2", and only "0" and "2" become selectable.	1
1435	Network	"Disable private and proof print save" function	ALL	0 <0-1>	SYS	0: Function OFF (no restriction on data saving or other operations) 1: Function ON (Data saving or other operations are restricted)	1
1436	Network	"Disable fax save" function	ALL	0 <0-1>	SYS	0: Function OFF (no restriction on data saving or other operations) 1: Function ON (Data saving or other operations are restricted	1
1437	Feeding system / Paper transport	Hole punch on tab paper	ALL	0 <0-1>	SYS	0: No hole punch 0: Hole punch	1
1438	Feeding system / Paper transport	Tab paper / Inserter paper automatic feeding setting(Remote)	ALL	1 <0-1>	SYS	0: Invalid 0: Valid	1
1440	Network	IP Conflict Detect	ALL	1 <1-2>	-	OFF/ON 1: Valid 2: Invalid	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1441	Network	SNTP Enable	ALL	2 <1-2>	-	OFF/ON 1: Valid 2: Invalid	12
1442	Network	SNTP Polling rate	ALL	24 <1-168>	-	Data obtaining interval (Unit: Hour)	12
1444	Network	Primary SNTP Address	ALL	-	-	SNTP server IP Address (Primary)	12
1445	Network	Secondary SNTP Address	ALL	-	-	SNTP server IP Address (Secondary)	12
1446	Network	Port number to SNTP	ALL	123 <1-65535>	-		12
1447	Network	IPP administrator name	ALL	-	-	This should be an account which can control all IPP jobs.	12
1448	Network	IPP administrator password	ALL	-	-	This should be the password of an account which can control all IPP jobs.	12
1449	Network	IPP authentication method	ALL	1 <1-2>	-	1: Disabled 2: Basic	12
1450	Network	User name for IPP authentication	ALL	-	-	This should be the account at the time IPP authentication was performed.	12
1451	Network	Password for IPP authentication	ALL	-	-	This should be the password of the account at the time IPP authentication was performed.	12
1464	Network	Samba server ON/OFF setting	ALL	1 <1-4>	NIC	1: Samba enabled 2: Samba disabled 3: Print Share disabled 4: File Share disabled	12
1464 (EFI)	Network	Samba server ON/OFF setting	ALL	2 <1-4>	NIC	1: Samba enabled 2: Samba disabled 3: Print Share disabled 4: File Share disabled * The default value is reflected by performing 08-700 when the EFI Printer Board is connected.	12
1468	General	User data management limitation setting	ALL (color)	0 <0-1>	SYS	0: Disabled 1: Enabled	1
1469	General	User data management limitation Setting by number of printouts	ALL (color)	0 <7 digits>	SYS	0-9,999,999: 0-9,999,999 sheets	1
1470	General	Device authentication function setting	ALL	0 <0-1>	SYS	0: OFF 1: ON	1
1471	General	User authentication method	ALL	0 <0-2>	SYS	0: Local authentication 1: Windows domain authentication 2: LDAP authentication	1
1472	General	User data management automatic registration function setting	ALL	0 <0-1>	SYS	0: Disabled 1: Enabled	1
1473	General	User data management limitation setting	ALL (black)	0 <0-1>	SYS	0: Disabled 1: Enabled	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1474	General	User data management limitation Setting by number of printouts	ALL (black)	0 <7 digits>	SYS	0-9,999,999: 0-9,999,999 sheets	1
1476	Network	Restriction on Address book operation by administrator	ALL	0 <0-1>	SYS	Some restrictions can be given on the administrator for operating the Address book. 0: No restriction 1: Can be operated only under the administrator's authorization	1
1477	Network	Restriction on "To"/"cc" ("bcc") address	ALL	0 <0-4>	SYS	0: No restriction 1: Can be set from both of the Address book and LDAP server 2: Can be set only from the Address book 3: Can be set only from the LDAP server 4: Can be set only from the authenticated LDAP server * This setting is available when the user authentication or E-mail authentication is enabled.	1
1478	User interface	Display of paper size setting by installation operation of drawers	ALL	NAC/ NAD: 1 Other: 0 <0-1>	SYS	0: Not displayed 1: Displayed	1
1481	General	User data management clearing	ALL	-	-	All the user data in the database and backup files can be deleted.	3
1482	General	User data department management	ALL	0 <0-1>	SYS	0: Disabled 1: Enabled * If this code is set to "1" (enabled), the Department Setting (08-629) is "1" (enabled).	1
1483	General	User data recovery	ALL	-	-	The data in the database is overwritten with the data in the backup file.	3
1484	Network	Authentication method of "Scan to Email"	ALL	0 <0-2>	SYS	0: Disabled 1: SMTP authentication 2: LDAP authentication	1
1485	Network	Setting whether use of the Internet FAX is permitted at the time of authentication	ALL	0 <0-1>	SYS	0: Not permitted 1: Permitted	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1487	Network	"From" address assignment method at the time of authentication	ALL	0 <0-2>	SYS	0: User name + @ + Domain name 1: LDAP searching 2: Use the address registered at "From" field of E-mail setting	1
1489	Network	Setting for "From" address edit at "Scan to Email"	ALL	0 <0-1>	SYS	0: Not permitted 1: Permitted	1
1491	Network	E-mail domain name	ALL	-	SYS	96 + 2 (delimiter) character * ASCII sequence only	11
1492	Feeding system / Paper transport	Detection method of 13" LG for single-size document	ALL	0 <0-1>	SYS	0: Disabled 1: Enabled	1
1493	Network	Role Base Access Function	ALL	0 <0-1>	SYS	0: Function off (No restriction on data saving and other operations) 1: Function on (Data saving and other operations have some restrictions)	1
1495	Maintenance	Service call checking period setting	ALL	6 <0-12>	SYS	0: No checking period specified (= Calls service technician immediately) 0: 10 minutes 1: 30 minutes 3: 1 hour 4: 6 hours 5: 12 hours 6: 24 hours 7: 48 hours 8: 7 days 9: 1 month 10: 1 year 11: 5 years 12: Not limited (= Calls service technician if such error has occurred in the past even once or more)	1
1496	General	Operation setting for User authentication/registration	ALL	1 <0-1>	SYS	0: Disables operation setting for User authentication/ registration 1: Enables operation setting for User authentication/ registration	1
1497	Electronic Filing	e-Filing Access Mode (for Client)	ALL	0 <0-2>	SYS	0: Mode 1 1: Mode 2 2: Mode 3	1
1498	FAX	Inbound FAX function (Forwarding by TSI)	FAX	1 <0-1>	SYS	0: OFF (Function disabled) 1: ON (Function enabled)	1
1661	Wireless LAN	Wireless LAN driver SSID	ALL	-	-	Maximum 32 letters	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1662	Wireless LAN	Wireless LAN driver Network type	ALL	1 <1-2>	-	1: Infrastructure 2: Ad-Hoc	12
1663	Wireless LAN	Wireless LAN driver Security	ALL	4 <1-7>	-	1: 802.1x 2: WPA-PSK 3: WEP 4: NONE 5: WPA 6: WPA2 7: WPA2PSK	12
1664	Wireless LAN	Wireless LAN driver Encryption system	ALL	1 <1-3>	-	1: TKIP 2: AES 3: Dynamic WEP	12
1665	Wireless LAN	Wireless LAN driver Transmission output power	ALL	1 <1-5>	-	1: 100% 2: 50% 3: 25% 4: 12.5% 5: min	12
1666	Wireless LAN	Wireless LAN driver Transmission rate	ALL	1 <1-2>	-	1: Auto 2: Manual	12
1667	Wireless LAN	Wireless LAN driver Transmission rate value	ALL	1 <1-12>	-	1: 1 2: 2 3: 5.5 4: 11 5: 6 6: 9 7: 12 8: 18 9: 24 10: 36 11: 48 12: 54	12
1668	Wireless LAN	Wireless LAN driver Operation channel	ALL	1 <1-2>	-	1: Auto 2: Manual	12
1669	Wireless LAN	Wireless LAN driver Operation channel value	ALL	1 <1-11>	-		12
1670	Wireless LAN	Wireless LAN driver WEP bit number	ALL	1 <1-3>	-	1:64 2: 128 3: 152	12
1671	Wireless LAN	Wireless LAN driver WEP key entry system	ALL	2 <1-2>	-	1: Hex 2: ASCII	12
1672	Wireless LAN	Wireless LAN driver WEP key value	ALL	-	-	Maximum 32 letters	12
1673	Wireless LAN	Wireless LAN driver WPA-PSK passphrase	ALL	-	-	Maximum 64 letters	12
1674	Wireless LAN	Wireless LAN driver Sleep mode setting	ALL	1 <1-3>	-	1: Off 2: Max 3: Normal	12
1675	Wireless LAN	Wireless LAN driver Slot-time limitation	ALL	1 <1-2>	-	1: Long 2: Short	12
1676	Wireless LAN	Wireless LAN driver Number of times of software retry	ALL	5 <0-1000>	-		12
1677	Wireless LAN	Wireless LAN driver Preamble	ALL	1 <1-2>	-	1: Long 2: Longshort	12
1678	Wireless LAN	Wireless LAN driver Operation mode	ALL	1 <1-3>	-	1: All 2: 11b 3: 11g	12
1679	Wireless LAN	Wireless LAN supplicant Wireless LAN setting	ALL	1 <1-3>	-	This setting is whether the wireless LAN connection is enabled or disabled. 1: Unset 2: Enabled 3: Disabled	12
1681	Wireless LAN	Wireless LAN supplicant Path name for client certificate	ALL	-	-	This should be the path name in full where the client certificate is located. (Maximum 255 letters)	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1682	Wireless LAN	Wireless LAN supplicant Path name for secret key of client certificate	ALL	-	-	This should be the path name in full where the client certificate is located. (Maximum 255 letters)	12
1684	Wireless LAN	Wireless LAN supplicant Path name for CA self-certificate	ALL	-	-	This should be the path name in full where the CA self-certificate is located. (Maximum 255 letters)	12
1685	Wireless LAN	Wireless LAN supplicant EAP user name	ALL	-	-	This should be the user name when the EAP-TLS is used.	12
1686	Wireless LAN	Wireless LAN supplicant EAP user name	ALL	-	-	This should be the user name when the PEAP is used.	12
1689	Wireless LAN	Wireless LAN supplicant Authentication interval	ALL	30 <30-65535>	-	This should be the time-out interval between EAP responses. 30: 30 seconds	12
1690	Wireless LAN	Wireless LAN supplicant Holding interval	ALL	60 <60-65535>	-	The EAP authentication will start after having been waited in this period when an EAP failure was received. 60: 60 seconds	12
1691	Wireless LAN	Wireless LAN supplicant EAPOL-Start Number of times of packet retry	ALL	3 <1-65535>	-	When an EAPOL-Start packet has been sent and the request ID cannot be received, this EAPOL-Start packet will be re-sent for the number of times set in this code. 3: 3 times	12
1692	Wireless LAN	Wireless LAN supplicant Session resume	ALL	2 <1-2>	-	This setting is whether the pre-master key should be updated or not upon a TLS re-negotiation. 1: Session is resumed 2: Session is not resumed	12
1693	Wireless LAN	Wireless LAN supplicant MAC Frame size	ALL	1398 <1-1398>	-	This is a MAC frame size used in the wireless LAN connection. The data is fragmented into this size. 1398: 1398 bytes	12
1696	Wireless LAN	Wireless LAN supplicant Device file setting for obtaining random number	ALL	/AGB/dev/random	-	This should be the device file name which can obtain a seed to initialize the WEP PRNG for xsupplicant. (Maximum 255 letters)	12
1697	Wireless LAN	Wireless LAN supplicant CRL directory designation	ALL	-	-	This should be the path name of the directory in full where the CRL file is located. (Maximum 255 letters)	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1699	Wireless LAN	Wireless LAN supplicant EAP authentication type	ALL	1 <1-3>	-	This setting is for the EAP authentication type which xsupplicant can authenticate. 1: EAP-TLS 2: PEAP 3: EAP-TLS and PEAP	12
1700	Wireless LAN	Wireless LAN supplicant CN name	ALL	-	-	This should be an authentication server name (basically a domain name in full). (Maximum 255 letters)	12
1701	Wireless LAN	Wireless LAN supplicant CN name check	ALL	1 <1-2>	-	1: NO 2: YES	12
1704	Wireless LAN	Wireless LAN supplicant Update interval of PTK (Pairwise Transient Key)	ALL	0 <0-720>	-	The update interval of a secret key across AP (Access Point) and STA (Station) can be set. This interval is for updating the secret key from STA. 0: Not updated 1-720: 1-720 minutes of interval	12
1705	Wireless LAN	Wireless LAN supplicant Strict packet check	ALL	1 <1-2>	-	The Ack bit and request bit of EAPOL-Key is checked. 1: Not checked 2: Checked	12
1706	Wireless LAN	Wireless LAN supplicant Priority change at 4-way handshake	ALL	1 <1-2>	-	A higher priority is given to the xsupplicant task when a 4-way handshake is started. 1: Priority not changed 2: Priority changed	12
1707	Wireless LAN	Wireless LAN supplicant Security level	ALL	1 <1-3>	-	The encryption capability output in TLS client Hello message can be selected. 1: LOW 2: MIDDLE 3: HIGH	12
1708		Selectable security level (EAP-TLS)	ALL	1 <1-3>	-	These are the security level which can be selected from the user interface. This setting is not applied in case of PEAP. ("LOW" and "MIDDLE" is mandatory for PEAP) 1: LOW + MIDDLE + HIGH 2: MIDDLE + HIGH 3: HIGH	12
1710	Bluetooth	Bluetooth ON/OFF setting	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
1711	Bluetooth	Bluetooth Device name	ALL	MFP	SYS	Maximum 32 letters	11
1712	Bluetooth	Bluetooth Discovery	ALL	1 <0-1>	SYS	0: Not allowed 1: Allowed	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1713	Bluetooth	Bluetooth Security	ALL	1 <0-1>	SYS	0: Security function OFF 1: Security function ON	1
1714	Bluetooth	Bluetooth PIN	ALL	0000	SYS	Maximum 8 digits (8-digit sequence) This setting is valid only when the bluetooth security function is ON.	11
1715	Bluetooth	Bluetooth Data encryption	ALL	1 <0-1>	SYS	0: Not encrypted 1: Encrypted This setting is valid only when the bluetooth security function is ON.	1
1719	Bluetooth	Bluetooth BIP Print type	ALL	0 <0-3>	SYS	0: Fit page 1: 1/2 size 2: 1/4 size 3: 1/8 size	1
1720	Network	IP address range for IP filter (Minimum area 1)	ALL	-	-	IP filter minimum area 1 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1721	Network	IP address range for IP filter (Maximum area 1)	ALL	-	-	IP filter maximum area 1 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1722	Network	IP address range for IP filter I (Minimum area 2)	ALL	-	-	IP filter minimum area 2 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1723	Network	IP address range for IP filter (Maximum area 2)	ALL	-	-	IP filter maximum area 2 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1724	Network	IP address range for IP filter (Minimum area 3)	ALL	-	-	IP filter minimum area 3 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1725	Network	IP address range for IP filter (Maximum area 3)	ALL	-	-	IP filter maximum area 3 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1726	Network	IP address range for IP filter (Minimum area 4)	ALL	-	-	IP filter minimum area 4 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1727	Network	IP address range for IP filter (Maximum area 4)	ALL	-	-	IP filter maximum area 4 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1728	Network	IP address range for IP filter (Minimum area 5)	ALL	-	-	IP filter minimum area 5 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1729	Network	IP address range for IP filter (Maximum area 5)	ALL	-	-	IP filter maximum area 5 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1730	Network	IP address range for IP filter (Minimum area 6)	ALL	-	-	IP filter minimum area 6 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1731	Network	IP address range for IP filter (Maximum area 6)	ALL	-	-	IP filter maximum area 6 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1732	Network	IP address range for IP filter (Minimum area 7)	ALL	-	-	IP filter minimum area 7 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1733	Network	IP address range for IP filter (Maximum area 7)	ALL	-	-	IP filter maximum area 7 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1734	Network	IP address range for IP filter (Minimum area 8)	ALL	-	-	IP filter minimum area 8 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1735	Network	IP address range for IP filter (Maximum area 8)	ALL	-	-	IP filter maximum area 8 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1736	Network	IP address range for IP filter (Minimum area 9)	ALL	-	-	IP filter minimum area 9 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1737	Network	IP address range for IP filter (Maximum area 9)	ALL	-	-	IP filter maximum area 9 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1738	Network	IP address range for IP filter (Minimum area 10)	ALL	-	-	IP filter minimum area 10 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1739	Network	IP address range for IP filter (Maximum area 10)	ALL	-	-	IP filter maximum area 10 000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12
1740	Network	SSL setting SSL ftp server OFF/ON	ALL	2 <1-2>	-	1: Enabled 2: Disabled	12
1741	Network	SSL setting HTTP server port number	ALL	10443 <1-65535>	-	SSL HTTP server port number	12
1742	Network	SSL setting IPP server OFF/ON setting	ALL	2 <1-2>	-	1: Enabled 2: Disabled	12
1743	Network	SSL setting IPP server port number	ALL	443 <1-65535>	-	SSL IPP server port number	12
1744	Network	SSL setting SSL ftp server OFF/ON	ALL	2 <1-2>	-	OFF/ON 1: Valid 2: Invalid	12
1745	Network	SSL setting SSL ftp server Port	ALL	990 <1-65535>	-	Port number to FTP Server	12
1746	Network	SSL setting SSL LDAP Client OFF/ON	ALL	2 <1-3>	-	OFF/ON 1: Valid (Accepts all the certification of the server) 2: Invalid 3: Use the imported certification.	12
1747	Network	SSL setting SSL LDAP Client Port	ALL	636 <1-65535>	-	Port number to LDAP Server	12
1748	Network	SSL setting SSL POP3 Client OFF/ON	ALL	2 <1-3>	-	OFF/ON 1: Valid (Accepts all the certification of the server) 2: Invalid 3: Use the imported certification.	12
1749	Network	SSL setting SSL POP3 Client Port	ALL	995 <1-65535>	-	Port number to POP3 Server	12

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1750	Network	SSL setting SSL SMTP Client OFF/ON		ALL	2 <2-6>	-	OFF/ON 2: Invalid 3: SMTP with TLS (STARTTLS) Accept all the certification of the server. 4: SMTPS (SMTP over SSL) Accept all the certification of the server. 5: SMTP with TLS (STARTTLS) Use the imported certification. 6: SMTPS (SMTP over SSL) Use the imported certification.	12
1755	Network	Enabling server's IP address acquired by DHCP		ALL	1 <1-2>	-	Domain Name Server option (6) 1: Enabled 2: Disabled * This value is used only when DHCP is enabled.	12
1756	Network	Enabling server's IP address acquired by DHCP		ALL	1 <1-2>	-	NetBIOS over TCP/IP Name Server option (44) = Primary and Secondary Wins NAME 1: Enabled 2: Disabled * This value is used only when DHCP is enabled.	12
1757	Network	Enabling server's IP address acquired by DHCP		ALL	2 <1-2>	-	The Host Name Vendor Extension option (12) 1: Enabled 2: Disabled This value is used only when DHCP is enabled.	12
1759	Network	Enabling server's IP address acquired by DHCP	SMTP Server Option (69) Simple Mail Server Address	ALL	2 <1-2>	-	OFF/ON 1: Valid 2: Invalid	12
1760			POP3 Server Option (70) Post Office Server Address	ALL	2 <1-2>	-	OFF/ON 1: Valid 2: Invalid	12

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1762	Network	Enabling server's IP address acquired by DHCP	ALL	2 <1-2>	-	SNTP Server Option (42) NTP Server Address 1: Enabled 2: Disabled * This value is used only when DHCP is enabled.	12
1764	Wireless LAN	Wireless LAN supplicant Control sequence setting of "Cipher Suite"	ALL	-	-	Maximum 255 letters	12
1765	Wireless LAN	Wireless LAN supplicant Path name for user certificate	ALL	-	-	Maximum 63 letters	12
1766	Wireless LAN	Wireless LAN supplicant Path name entered for CA self-certificate	ALL	-	-	Maximum 63 letters	12
1767	Network	Enabling server's IP address acquired by DHCP	ALL	1 <1-2>	-	DNS domain name Option (15) DNS domain name of the client 1: Enabled 2: Disabled * This value is used only when DHCP is enabled.	12
1768	Network	Previous IP address	ALL	-	-	000.000.000.000-255.255.255.255 (Default value: 000.000.000.000)	12

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1772	General	Card reading device setting	ALL	0 <10 digits>	SYS	To enable the e-BRIDGE ID Gate, a card reading device should be set in the order of "ABYYZZZZ". (Enter the corresponding values to "A", "B", "YY" and "ZZZZ".) - AB:Special setting - A :Debugging NIC 0: Not used 1: Used - B :Interface 0: USB connection 1: N/A - YY: Authentication 00: No authentication using a noncontact IC card 02: Authentication using a noncontact IC card (KP-2003) 03: Authentication using a noncontact IC card (KP-2005) 04: Authentication using a noncontact IC card (KP-2004) - ZZZZ: Sub-code 0000: No authentication using a noncontact IC card 0001: Use CSN (Card Serial Number) of a noncontact IC card 0002: Use the Data Area Address Information of a noncontact IC card	5

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1773	General	Card reader format information -1	ALL	0 <10 digits>	SYS	To access the data in the noncontact IC card, the Key Information "LLLL" and the Sector Number "MMMM" should be set. The "LLLL" should be set first, and then "MMMM". KP-2003: LLLL: System code (hexadecimal number) MMMM: Service code (hexadecimal number) KP-2005: LLLL : Key information MMMM: Sector number (hexadecimal number) * This setting is not printed in the list print mode because it contains customer information.	5

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1774	General	Card reader format information -2	ALL	0 <10 digits>	SYS	The data of the block number in the noncontact IC is set. KP-2003: <PPQRSSTU (hexadecimal number)> PP:1st block Q: 1st block beginning byte R: 1st block endingbyte SS:2nd block T: 2nd block beginning byte U: 2nd block ending byte KP-2005: <RRBSEbse (hexadecimal number)> RR:00 (Fixed) B: 1st area block number S: 1st area beginning byte offset E: 1st area ending byte offset b: 2nd area block number s: 2nd area beginning byte offset e: 2nd area ending byte offset * If the 2nd block/area is not used, set the SSTU to "FFFF" (hexadecimal number), the bse to"FFF" (hexadecimal number). * This setting is not printed in the list print mode because it contains customer information.	5
1775	General	Card reader format information -3	ALL	0 <20 digits>	SYS	Security key “KKKKKKKKKKKK” (12 digits) <hexadecimal number> in the [Key Information] of the [Sector Number] set in the code 08-1773 should be entered. *This setting is not printed in the list print mode because it contains customer information. * This setting is not printed in the list print mode because it contains customer information.	5

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1776-0	General	Card authentication LDAP server	Card authentication LDAP server 1	ALL	0 <0-100>	SYS	LDAP server number for the card authentication when a noncontact IC card is used should be set.	4
1776-1			Card authentication LDAP server 2	ALL	0 <0-100>	SYS		

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1776-2	General	Card authentication LDAP server	Card authentication LDAP server 3	ALL	0 <0-100>	SYS	LDAP server number for the card authentication when a noncontact IC card is used should be set.	4
1776-3			Card authentication LDAP server 4	ALL	0 <0-100>	SYS		
1776-4			Card authentication LDAP server 5	ALL	0 <0-100>	SYS		
1776-5			Card authentication LDAP server 6	ALL	0 <0-100>	SYS		
1776-6			Card authentication LDAP server 7	ALL	0 <0-100>	SYS		
1776-7			Card authentication LDAP server 8	ALL	0 <0-100>	SYS		
1776-8			Card authentication LDAP server 9	ALL	0 <0-100>	SYS		
1776-9			Card authentication LDAP server 10	ALL	0 <0-100>	SYS		
1776-10			Card authentication LDAP server 11	ALL	0 <0-100>	SYS		
1776-11			Card authentication LDAP server 12	ALL	0 <0-100>	SYS		
1776-12			Card authentication LDAP server 13	ALL	0 <0-100>	SYS		
1776-13			Card authentication LDAP server 14	ALL	0 <0-100>	SYS		
1776-14			Card authentication LDAP server 15	ALL	0 <0-100>	SYS		
1776-15			Card authentication LDAP server 16	ALL	0 <0-100>	SYS		

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1778	General	Period for locking the control panel when an incorrect administrator password has been entered 3 consecutive times		ALL	1 <0-7>	SYS	0: 0 min. 1: 0.5 min. (30 sec.) 2: 1 min. 3: 3 min. 4: 5 min. 5: 10 min. 6: 15 min. 7: 30 min.	1
1779	Network	Default data saving directory of "Scan to File"		ALL	0 <0-2>	SYS	0: Local directory 1: REMOTE 1 2: REMOTE 2	1
1779 (EFI)	Network	Default data saving directory of "Scan to File"		ALL	0 <0-2>	SYS	0: Local directory 1: REMOTE 1 2: REMOTE 2	1
1780	User interface	Converting 1-byte katakana into 2 byte-katakana at e-mail transmission		ALL	0 <0-1>	SYS	0: Non-conversion 1: With conversion	1
1781-0	Network	Notification of scan job	When job completed	ALL	0 <0-1>	SYS	Sets the notification method of scan job completion. 0: Invalid 1: Valid	4
1781-1			On error	ALL	0 <0-1>	SYS		4
1782	Network	File name format of "Save as file" and Email transmission		ALL	0 <0-6>	SYS	Sets the file naming method for "Save as file" and Email transmission. 0: [FileName]-[Data]-[Page] 1: [FileName]-[Page]-[Data] 2: [Data]-[FileName]-[Page] 3: [Data]-[Page]-[File-Name] 4: [Page]-[FileName]-[Data] 5: [Page]-[Data]-[File-Name] 6: [HostName]_[Data]-[Page]	1
1783	Network	Date display format of the file name of "Save as file" and Email transmission		ALL	0 <0-5>	SYS	Sets the data display format of the file for "Save as file" and Email transmission. 0: [YYYY][MM][DD][HH][mm][SS] 1: [YY][MM][DD][HH][mm][SS] 2: [YYYY][MM][DD] 3: [YY][MM][DD] 4: [HH][mm][SS] 5: [YYYY][MM][DD][HH][mm][SS][mm0] The order of [YY], [MM] and [DD] varies depending on the setting of the code 08-640 (Data display format).	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1784	Network	Single page data saving directory at "Save as file"	ALL	0 <0-1>	SYS	Sets the directory where the file of "Save as file" is saved. 0: Save it under a subfolder 1: Save it without creating a subfolder	1
1785	Network	Page number display format of the file of "Save as file" and Email transmission	ALL	4 <3-6>	SYS	Sets the digit of a page number attached on the file. 3-6: 3-6 digits	1
1786	Network	Extension (suffix) format of the file of "Save as file"	ALL	3 <3-6>	SYS	Sets the extension digits of the file to be saved. 3: Auto 4: 4 digits 5: 5 digits 6: 6 digits	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1790-0	General	Available profile display	BP_OP_00.icc	PRT	-	SYS	Displaying the current Output Profile and PG CIEBasedPureGrayTRC attribute (PG CIEBasedPureGrayTRC attribute in the same sub-code is displayed at the same time.)	14
1790-1			BP_OP_01.icc	PRT	-	SYS		14
1790-2			BP_OP_02.icc	PRT	-	SYS		14
1790-3			BP_OP_03.icc	PRT	-	SYS		14
1790-4			BP_OP_04.icc	PRT	-	SYS		14
1790-5			BP_OP_05.icc	PRT	-	SYS		14
1790-6			BP_OP_06.icc	PRT	-	SYS		14
1790-7			BP_OP_07.icc	PRT	-	SYS		14
1790-8			BP_OP_08.icc	PRT	-	SYS		14
1790-9			BP_OP_09.icc	PRT	-	SYS		14
1790-10			BP_OP_10.icc	PRT	-	SYS		14
1790-11			BP_OP_11.icc	PRT	-	SYS		14
1790-12			BP_OP_12.icc	PRT	-	SYS		14
1790-13			BP_OP_13.icc	PRT	-	SYS		14
1790-14			BP_OP_14.icc	PRT	-	SYS		14
1790-15			BP_OP_15.icc	PRT	-	SYS		14
1790-16			BP_OP_16.icc	PRT	-	SYS		14
1790-17			BP_OP_17.icc	PRT	-	SYS		14
1790-18			BP_OP_18.icc	PRT	-	SYS		14
1790-19			BP_OP_19.icc	PRT	-	SYS		14
1790-20			BP_OP_20.icc	PRT	-	SYS		14
1790-21			BP_OP_21.icc	PRT	-	SYS		14
1790-22			BP_OP_22.icc	PRT	-	SYS		14
1790-23			BP_OP_23.icc	PRT	-	SYS		14
1790-24			BP_OP_24.icc	PRT	-	SYS		14
1790-25			BP_OP_25.icc	PRT	-	SYS		14
1790-26			BP_OP_26.icc	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1790-27	General	Available profile display	BP_OP_27.icc	PRT	-	SYS	Displaying the current Output Profile and PG CIEBasedPureGrayTRC attribute (PG CIEBasedPureGrayTRC attribute in the same sub-code is displayed at the same time.)	14
1790-28			BP_OP_28.icc	PRT	-	SYS		14
1790-29			BP_OP_29.icc	PRT	-	SYS		14
1790-30			BP_OP_30.icc	PRT	-	SYS		14
1790-31			BP_OP_31.icc	PRT	-	SYS		14
1790-32			BP_OP_32.icc	PRT	-	SYS		14
1790-33			BP_OP_33.icc	PRT	-	SYS		14
1790-34			BP_OP_34.icc	PRT	-	SYS		14
1790-35			BP_OP_35.icc	PRT	-	SYS		14
1790-36			BP_OP_36.icc	PRT	-	SYS		14
1790-37			BP_OP_37.icc	PRT	-	SYS		14
1790-38			BP_OP_38.icc	PRT	-	SYS		14
1790-39			BP_OP_39.icc	PRT	-	SYS		14
1790-40			BP_OP_40.icc	PRT	-	SYS		14
1790-41			BP_OP_41.icc	PRT	-	SYS		14
1790-42			BP_OP_42.icc	PRT	-	SYS		14
1790-43			BP_OP_43.icc	PRT	-	SYS		14
1790-44			BP_OP_44.icc	PRT	-	SYS		14
1790-45			BP_OP_45.icc	PRT	-	SYS		14
1790-46			BP_OP_46.icc	PRT	-	SYS		14
1790-47			BP_OP_47.icc	PRT	-	SYS		14
1790-48			BP_OP_48.icc	PRT	-	SYS		14
1790-49			BP_OP_49.icc	PRT	-	SYS		14
1790-50			BP_OP_50.icc	PRT	-	SYS		14
1790-51			BP_OP_51.icc	PRT	-	SYS		14
1790-52			BP_OP_52.icc	PRT	-	SYS		14
1790-53			BP_OP_53.icc	PRT	-	SYS		14

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1791	General	Recovery of the profile at the shipment	PRT	0 <0-53>	SYS	Recovers the default Output Profile and PG CIEBasedPureGrayTRC (PG CIEBasedPureGrayTRC in the same sub-code is recovered to the default.) 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1792	General	Copying the profile at the shipment to USB memory	PRT	0 <0-53>	SYS	Copies the default Output Profile and PG CIEBasedPureGrayTRC to the USB memory. 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1793	General	Uploading the profile at the shipment from UBS memory	PRT	0 <0-53>	SYS	Uploads the default Output Profile and PG CIEBasedPureGrayTRC from the USB memory. 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1794-0	General	Displaying the attribute of the profile at the shipment	BP_OP_00.000	PRT	-	SYS	Displays the default Output Profile and PG CIEBasedPureGrayTRC attribute. (PG CIEBasedPureGrayTRC attribute in the same sub-code is displayed at the same time.)	14
1794-1			BP_OP_01.000	PRT	-	SYS		14
1794-2			BP_OP_02.000	PRT	-	SYS		14
1794-3			BP_OP_03.000	PRT	-	SYS		14
1794-4			BP_OP_04.000	PRT	-	SYS		14
1794-5			BP_OP_05.000	PRT	-	SYS		14
1794-6			BP_OP_06.000	PRT	-	SYS		14
1794-7			BP_OP_07.000	PRT	-	SYS		14
1794-8			BP_OP_08.000	PRT	-	SYS		14
1794-9			BP_OP_09.000	PRT	-	SYS		14
1794-10			BP_OP_10.000	PRT	-	SYS		14
1794-11			BP_OP_11.000	PRT	-	SYS		14
1794-12			BP_OP_12.000	PRT	-	SYS		14
1794-13			BP_OP_13.000	PRT	-	SYS		14
1794-14			BP_OP_14.000	PRT	-	SYS		14
1794-15			BP_OP_15.000	PRT	-	SYS		14
1794-16			BP_OP_16.000	PRT	-	SYS		14
1794-17			BP_OP_17.000	PRT	-	SYS		14
1794-18			BP_OP_18.000	PRT	-	SYS		14
1794-19			BP_OP_19.000	PRT	-	SYS		14
1794-20			BP_OP_20.000	PRT	-	SYS		14
1794-21			BP_OP_21.000	PRT	-	SYS		14
1794-22			BP_OP_22.000	PRT	-	SYS		14
1794-23			BP_OP_23.000	PRT	-	SYS		14
1794-24			BP_OP_24.000	PRT	-	SYS		14
1794-25			BP_OP_25.000	PRT	-	SYS		14
1794-26			BP_OP_26.000	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1794-27	General	Displaying the attribute of the profile at the shipment	BP_OP_27.000	PRT	-	SYS	Displays the default Output Profile and PG CIEBasedPureGrayTRC attribute. (PG CIEBasedPureGrayTRC attribute in the same sub-code is displayed at the same time.)	14
1794-28			BP_OP_28.000	PRT	-	SYS		14
1794-29			BP_OP_29.000	PRT	-	SYS		14
1794-30			BP_OP_30.000	PRT	-	SYS		14
1794-31			BP_OP_31.000	PRT	-	SYS		14
1794-32			BP_OP_32.000	PRT	-	SYS		14
1794-33			BP_OP_33.000	PRT	-	SYS		14
1794-34			BP_OP_34.000	PRT	-	SYS		14
1794-35			BP_OP_35.000	PRT	-	SYS		14
1794-36			BP_OP_36.000	PRT	-	SYS		14
1794-37			BP_OP_37.000	PRT	-	SYS		14
1794-38			BP_OP_38.000	PRT	-	SYS		14
1794-39			BP_OP_39.000	PRT	-	SYS		14
1794-40			BP_OP_40.000	PRT	-	SYS		14
1794-41			BP_OP_41.000	PRT	-	SYS		14
1794-42			BP_OP_42.000	PRT	-	SYS		14
1794-43			BP_OP_43.000	PRT	-	SYS		14
1794-44			BP_OP_44.000	PRT	-	SYS		14
1794-45			BP_OP_45.000	PRT	-	SYS		14
1794-46			BP_OP_46.000	PRT	-	SYS		14
1794-47			BP_OP_47.000	PRT	-	SYS		14
1794-48			BP_OP_48.000	PRT	-	SYS		14
1794-49			BP_OP_49.000	PRT	-	SYS		14
1794-50			BP_OP_50.000	PRT	-	SYS		14
1794-51			BP_OP_51.000	PRT	-	SYS		14
1794-52			BP_OP_52.000	PRT	-	SYS		14
1794-53			BP_OP_53.000	PRT	-	SYS		14

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1795	General	Making the profile available	PRT	0 <0-53>	SYS	Selecting a profile Overwrites the adjusted Output Profile on the current area (PG CIEBasedPureGrayTRC in the same sub-code is replaced with the adjusted profile at the same time.) 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1796	General	Copying the adjusted profile to USB memory	PRT	0 <0-23>	SYS	Copies the adjusted Output Profile and PG CIEBasedPureGrayTRC to the USB memory. (PG CIEBasedPureGrayTRC in the same sub-code is copied to the USB memory at the same time.) 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1797	General	Uploading the adjusted profile from USB memory	PRT	0 <0-53>	SYS	Uploads the Output Profile and PG CIEBasedPureGrayTRC from the USB memory. 0: BP_OP_00 1: BP_OP_01 2: BP_OP_02 3: BP_OP_03 4: BP_OP_04 5: BP_OP_05 6: BP_OP_06 7: BP_OP_07 8: BP_OP_08 9: BP_OP_09 10: BP_OP_10 11: BP_OP_11 12: BP_OP_12 13: BP_OP_13 14: BP_OP_14 15: BP_OP_15 16: BP_OP_16 17: BP_OP_17 18: BP_OP_18 19: BP_OP_19 20: BP_OP_20 21: BP_OP_21 22: BP_OP_22 23: BP_OP_23 24: BP_OP_24 25: BP_OP_25 26: BP_OP_26 27: BP_OP_27 28: BP_OP_28 29: BP_OP_29 30: BP_OP_30 31: BP_OP_31 32: BP_OP_32 33: BP_OP_33 34: BP_OP_34 35: BP_OP_35 36: BP_OP_36 37: BP_OP_37 38: BP_OP_38 39: BP_OP_39 40: BP_OP_40 41: BP_OP_41 42: BP_OP_42 43: BP_OP_43 44: BP_OP_44 45: BP_OP_45 46: BP_OP_46 47: BP_OP_47 48: BP_OP_48 49: BP_OP_49 50: BP_OP_50 51: BP_OP_51 52: BP_OP_52 53: BP_OP_53	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1798-0	General	Displaying the attribute of the profile at the shipment	BP_OP_00.001	PRT	-	SYS	Displays the adjusted Output Profile and PG CIEBasedPureGrayTRC attribute in the same sub-code.	14
1798-1			BP_OP_01.001	PRT	-	SYS		14
1798-2			BP_OP_02.001	PRT	-	SYS		14
1798-3			BP_OP_03.001	PRT	-	SYS		14
1798-4			BP_OP_04.001	PRT	-	SYS		14
1798-5			BP_OP_05.001	PRT	-	SYS		14
1798-6			BP_OP_06.001	PRT	-	SYS		14
1798-7			BP_OP_07.001	PRT	-	SYS		14
1798-8			BP_OP_08.001	PRT	-	SYS		14
1798-9			BP_OP_09.001	PRT	-	SYS		14
1798-10			BP_OP_10.001	PRT	-	SYS		14
1798-11			BP_OP_11.001	PRT	-	SYS		14
1798-12			BP_OP_12.001	PRT	-	SYS		14
1798-13			BP_OP_13.001	PRT	-	SYS		14
1798-14			BP_OP_14.001	PRT	-	SYS		14
1798-15			BP_OP_15.001	PRT	-	SYS		14
1798-16			BP_OP_16.001	PRT	-	SYS		14
1798-17			BP_OP_17.001	PRT	-	SYS		14
1798-18			BP_OP_18.001	PRT	-	SYS		14
1798-19			BP_OP_19.001	PRT	-	SYS		14
1798-20			BP_OP_20.001	PRT	-	SYS		14
1798-21			BP_OP_21.001	PRT	-	SYS		14
1798-22			BP_OP_22.001	PRT	-	SYS		14
1798-23			BP_OP_23.001	PRT	-	SYS		14
1798-24			BP_OP_24.001	PRT	-	SYS		14
1798-25			BP_OP_25.001	PRT	-	SYS		14
1798-26			BP_OP_26.001	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1798-27	General	Displaying the attribute of the profile at the shipment	BP_OP_27.001	PRT	-	SYS	Displays the adjusted Output Profile and PG CIEBasedPureGrayTRC attribute in the same sub-code.	14
1798-28			BP_OP_28.001	PRT	-	SYS		14
1798-29			BP_OP_29.001	PRT	-	SYS		14
1798-30			BP_OP_30.001	PRT	-	SYS		14
1798-31			BP_OP_31.001	PRT	-	SYS		14
1798-32			BP_OP_32.001	PRT	-	SYS		14
1798-33			BP_OP_33.001	PRT	-	SYS		14
1798-34			BP_OP_34.001	PRT	-	SYS		14
1798-35			BP_OP_35.001	PRT	-	SYS		14
1798-36			BP_OP_36.001	PRT	-	SYS		14
1798-37			BP_OP_37.001	PRT	-	SYS		14
1798-38			BP_OP_38.001	PRT	-	SYS		14
1798-39			BP_OP_39.001	PRT	-	SYS		14
1798-40			BP_OP_40.001	PRT	-	SYS		14
1798-41			BP_OP_41.001	PRT	-	SYS		14
1798-42			BP_OP_42.001	PRT	-	SYS		14
1798-43			BP_OP_43.001	PRT	-	SYS		14
1798-44			BP_OP_44.001	PRT	-	SYS		14
1798-45			BP_OP_45.001	PRT	-	SYS		14
1798-46			BP_OP_46.001	PRT	-	SYS		14
1798-47			BP_OP_47.001	PRT	-	SYS		14
1798-48			BP_OP_48.001	PRT	-	SYS		14
1798-49			BP_OP_49.001	PRT	-	SYS		14
1798-50			BP_OP_50.001	PRT	-	SYS		14
1798-51			BP_OP_51.001	PRT	-	SYS		14
1798-52			BP_OP_52.001	PRT	-	SYS		14
1798-53			BP_OP_53.001	PRT	-	SYS		14
1913	General	Addition of the page number to the multi-page file name of a File/Email		ALL	0 <0-1>	SYS	0: Valid (Page number not added) 1: Invalid (Page number added)	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1914	General	Maximum number of decimals in the extension fields	ALL	2 <0-6>	SYS	0 to 6 digits	1
1916	General	The default value of the stored/attached file name of a File/Email	ALL	0 <0-1>	SYS	0: DOCYYMMDD 1: NetBios name	1
1920	Network	Domain name of Windows Domain Authentication	ALL	-	UTY	Maximum 128 letters	12
1921	Network	Windows domain No. 2 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1922	Network	Windows domain No. 3 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1923	Network	LDAP authentication Server type	ALL	1 <1-2>	NIC	1: Windows Server 2: Not Windows Server	12
1924	Network	LDAP authentication User attribute	ALL	-	NIC	Sets a user attribute name.	12
1925	Network	Execution of user authentication when the user ID is not entered	ALL	2 <0-2>	SYS	0: Forcible execution 1: Execution impossible (pooled in the invalid queue) 2: Forcible deletion	1
1926	FAX	Tab/cover sheet printing at FAX reception Printing stop function	ALL	0 <0-1>	SYS	Sets on or off of the printing function of special sheets such as tab or cover sheet of FAX, Email or list print. 0: Function off 1: Function on	1
1927	Network	LDAP server attribute name settings for the card authentication	ALL	eBMUserCard	SYS	Up to 32 letters	11
1928	Network	Role Based Access LDAP search index	ALL	0 <0-4294967295>	SYS	This code is used to specify the ID for the LDAP server to implement Role-Based Access Control.	5
1929	User interface	Key arrangement for language 1	ALL	0 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1
1930	User interface	Key arrangement for language 2	ALL	1 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1
1931	User interface	Key arrangement for language 3	ALL	EUR: 2 UC: 0 JPN: 0 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1
1932	User interface	Key arrangement for language 4	ALL	0 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1
1933	User interface	Key arrangement for language 5	ALL	0 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1935	User interface	Key arrangement for language 7	ALL	0 <0-2>	SYS	0: QWERTY layout (for EUR) 1: QWERTZ layout 2: AZERTY layout	1
1936	Network	AppleTalk device name	ALL	MFP-serial	UTY	Maximum 32 letters The Network-related serial number of the equipment appears at "serial".	12
1937	Network	User name and password at user authentication or "Save as file"	ALL	0 <0-2>	SYS	0: User name and password of the device 1: User name and password at the user authentication (Template registration information comes first when a template is retrieved.) 2: User name and password at the user authentication (User information of the authentication comes first when a template is retrieved.)	1
1940	General	STAGE port number	SCN	20080 <0-65535>	SYS	Port number used for the remote scanning is set.	1
1941	Bluetooth	Bluetooth BIP Paper size	ALL	EUR: 6 UC: 2 JPN: 6 <0-13>	SYS	0: LD 1: LG 2: LT 3: COMP 4: ST 5: A3 6: A4 7: A5 8: A6 9: B4 10: B5 11: FOLIO 12: 13"LG 13: 8.5" x 8.5"	1
1950	Network	SMB signature for SMB server	ALL	1 <1-3>	UTY	1: Auto 2: Valid 3: Invalid	12
1951	Network	SMB signature for SMB client	ALL	1 <1-3>	UTY	1: Auto 2: Valid 3: Invalid	12
1952	Network	Logon User Name of Windows Domain Authentication	ALL	-	UTY	Maximum 128 letters	12
1953	Network	Logon User Name Password of Windows Domain Authentication	ALL	-	UTY	Maximum 128 letters	12
1954	Network	PDC2 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1955	Network	BDC2 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1956	Network	PDC3 of user authentication	ALL	-	UTY	Maximum 128 letters	12
1957	Network	BDC3 of user authentication	ALL	-	UTY	Maximum 128 letters	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1958	Network	PDC of Windows Domain Authentication	ALL	-	UTY	Maximum 128 letters	12
1959	Network	BDC of device authentication	ALL	-	UTY	Maximum 128 letters	12
1960	General	KS Filter operation mode	ALL	0 <0-1>	SYS	0: Disabled 1: Enabled	1
1961	General	KS/KSSM setting all clearing	ALL	-	-	Does not reset the value of the code 08-1960 but resets those of the codes 08-1963 to 1994.	3
1963	General	KS Filter Emulation Mode	ALL	0 <0-2>	SYS	0: Auto 1: KS 2: KSSM	1
1964	General	KS Filter Paper Size	ALL	1 <0-5>	SYS	0: A3 1: A4 2: B4 3: B5 4: Letter 5: Legal	1
1965	General	KS Filter Orientation	ALL	0 <0-1>	SYS	0: Portrait 1: Landscape	1
1966	General	KS Filter Copies	ALL	0 <1-999>	SYS		1
1967	General	KS Paper Source	ALL	0 <0-1>	SYS		1
1968	General	KS Duplex Mode	ALL	0 <0-2>	SYS		1
1970	General	KS CPI (English CPI/ Hangle CPI)	ALL	1 <0-10>	SYS	0: (5/10) 1: (6/12) 2: (6.7/13.3) 3: (6.9/13.8) 4: (7.5/15) 5: (8.3/16.7) 6: (9/18) 7: (10/10) 8: (10/20) 9: (12/24) 10: (15/30)	1
1971	General	KS LPI	ALL	60 <30-160>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "45" for a font size 4.5.)	1
1972	General	KS Type Face	ALL	0 <0-5>	SYS	0: MYUNGJO 1: GOTHIC 2: GUNGSEO 3: GULLIM 4: GRAPH 5: SAMMUL	1
1973	General	KS Font Size	ALL	96 <96-160>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "100" for a font size 10.0.)	1
1974	General	KS Zoom	ALL	100 <20-400>	SYS		1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1975	General	KS CR/LF Mode	ALL	2 <0-3>	SYS	0: CR->CR, LF->LF 1: CR->CR+LF, LF->LF 2: CR->CR, LF->CR+LF 3: CR->CR+LF, LF->CR+LF	1
1976	General	KS Top Margin	ALL	0 <0-50>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "40" for a font size 4.0.)	1
1977	General	KS Left Margin	ALL	0 <0-50>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "40" for a font size 4.0.)	1
1978	General	KS Auto Wrap	ALL	0 <0-1>	SYS	0: OFF 1: ON	1
1979	General	KS Han Mode	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
1980	General	KS Han Code	ALL	0 <0-1>	SYS	0: Wansung 1: Johap	1
1984	General	KSSM CPI (English CPI/ Hangle CPI)	ALL	1 <0-10>	SYS	0: (5/10) 1: (6/12) 2: (6.7/13.3) 3: (6.9/13.8) 4: (7.5/15) 5: (8.3/16.7) 6: (9/18) 7: (10/10) 8: (10/20) 9: (12/24) 10: (15/30)	1
1985	General	KSSM LPI	ALL	60 <30-160>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "45" for a font size 4.5.)	1
1986	General	KSSM Type Face	ALL	0 <0-5>	SYS	0: MYUNGJO 1: GOTHIC 2: GUNGSEO 3: GULLIM 4: GRAPH 5: SAMMUL	1
1987	General	KSSM Font Size	ALL	96 <96-160>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "100" for a font size 10.0.)	1
1988	General	KSSM Zoom	ALL	100 <20-400>	SYS		1
1989	General	KSSM CR/LF Mode	ALL	2 <0-3>	SYS	0: CR->CR, LF->LF 1: CR->CR+LF, LF->LF 2: CR->CR, LF->CR+LF 3: CR->CR+LF, LF->CR+LF	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1990	General	KSSM Top Margin	ALL	0 <0-50>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "40" for a font size 4.0.)	1
1991	General	KSSM Left Margin	ALL	0 <0-50>	SYS	Key in the value 10 times as the desired font size. (e.g.: Key in "40" for a font size 4.0.)	1
1992	General	KSSM Auto Wrap	ALL	0 <0-1>	SYS	0: OFF 1: ON	1
1993	General	KSSM Han Mode	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
1994	General	KSSM Han Code	ALL	0 <0-1>	SYS	0: Wansung 1: Johap	1
3508	General	Maximum number of records in address book	ALL	0 <0-1>	SYS	0: 1000 records 1: 3000 records	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3600-0	General	Available profile display	BP_IS34_00.icc	PRT	-	SYS	Displays PG DevicePureGrayTRC attribute for the current RGBInkSim profile and the same sub-code.	14
3600-1			BP_IS34_01.icc	PRT	-	SYS		14
3600-2			BP_IS34_02.icc	PRT	-	SYS		14
3600-3			BP_IS34_03.icc	PRT	-	SYS		14
3600-4			BP_IS34_04.icc	PRT	-	SYS		14
3600-5			BP_IS34_05.icc	PRT	-	SYS		14
3600-6			BP_IS34_06.icc	PRT	-	SYS		14
3600-7			BP_IS34_07.icc	PRT	-	SYS		14
3600-8			BP_IS34_08.icc	PRT	-	SYS		14
3600-9			BP_IS34_09.icc	PRT	-	SYS		14
3600-10			BP_IS34_10.icc	PRT	-	SYS		14
3600-11			BP_IS34_11.icc	PRT	-	SYS		14
3600-12			BP_IS34_12.icc	PRT	-	SYS		14
3600-13			BP_IS34_13.icc	PRT	-	SYS		14
3600-14			BP_IS34_14.icc	PRT	-	SYS		14
3600-15			BP_IS34_15.icc	PRT	-	SYS		14
3600-16			BP_IS34_16.icc	PRT	-	SYS		14
3600-17			BP_IS34_17.icc	PRT	-	SYS		14
3600-18			BP_IS34_18.icc	PRT	-	SYS		14
3600-19			BP_IS34_19.icc	PRT	-	SYS		14
3600-20			BP_IS34_20.icc	PRT	-	SYS		14
3600-21			BP_IS34_21.icc	PRT	-	SYS		14
3600-22			BP_IS34_22.icc	PRT	-	SYS		14
3600-23			BP_IS34_23.icc	PRT	-	SYS		14
3600-24			BP_IS34_24.icc	PRT	-	SYS		14
3600-25			BP_IS34_25.icc	PRT	-	SYS		14
3600-26			BP_IS34_26.icc	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3600-27	General	Available profile display	BP_IS34_27.icc	PRT	-	SYS	Displays PG DevicePureGrayTRC attribute for the current RGBInkSim profile and the same sub-code.	14
3600-28			BP_IS34_28.icc	PRT	-	SYS		14
3600-29			BP_IS34_29.icc	PRT	-	SYS		14
3600-30			BP_IS34_30.icc	PRT	-	SYS		14
3600-31			BP_IS34_31.icc	PRT	-	SYS		14
3600-32			BP_IS34_32.icc	PRT	-	SYS		14
3600-33			BP_IS34_33.icc	PRT	-	SYS		14
3600-34			BP_IS34_34.icc	PRT	-	SYS		14
3600-35			BP_IS34_35.icc	PRT	-	SYS		14
3600-36			BP_IS34_36.icc	PRT	-	SYS		14
3600-37			BP_IS34_37.icc	PRT	-	SYS		14
3600-38			BP_IS34_38.icc	PRT	-	SYS		14
3600-39			BP_IS34_39.icc	PRT	-	SYS		14
3600-40			BP_IS34_40.icc	PRT	-	SYS		14
3600-41			BP_IS34_41.icc	PRT	-	SYS		14
3600-42			BP_IS34_42.icc	PRT	-	SYS		14
3600-43			BP_IS34_43.icc	PRT	-	SYS		14
3600-44			BP_IS34_44.icc	PRT	-	SYS		14
3600-45			BP_IS34_45.icc	PRT	-	SYS		14
3600-46			BP_IS34_46.icc	PRT	-	SYS		14
3600-47			BP_IS34_47.icc	PRT	-	SYS		14
3600-48			BP_IS34_48.icc	PRT	-	SYS		14
3600-49			BP_IS34_49.icc	PRT	-	SYS		14
3600-50			BP_IS34_50.icc	PRT	-	SYS		14
3600-51			BP_IS34_51.icc	PRT	-	SYS		14
3600-52			BP_IS34_52.icc	PRT	-	SYS		14
3600-53			BP_IS34_53.icc	PRT	-	SYS		14

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3601	General	Recovery of the profile at the shipment	PRT	0 <0-53>	SYS	Recovers the default RGBInkSim profile and PG DevicePureGrayTRC in the same sub-code. 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3602	General	Copying the profile at the shipment to USB memory	PRT	0 <0-53>	SYS	Copies the default RGBInkSim profile and PG DevicePureGrayTRC in the same sub-code to the USB memory. 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3603	General	Updating the profile at the shipment from UBS memory	PRT	0 <0-53>	SYS	Uploads the default RGBInkSim profile and PG DevicePureGrayTRC in the same sub-code from the USB memory. 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3604-0	General	Displaying the attribute of the profile at the shipment	BP_IS34_00.000	PRT	-	SYS	Displays the default RGBInkSim profile and PG DevicePureGrayTRC attribute in the same sub-code.	14
3604-1			BP_IS34_01.000	PRT	-	SYS		14
3604-2			BP_IS34_02.000	PRT	-	SYS		14
3604-3			BP_IS34_03.000	PRT	-	SYS		14
3604-4			BP_IS34_04.000	PRT	-	SYS		14
3604-5			BP_IS34_05.000	PRT	-	SYS		14
3604-6			BP_IS34_06.000	PRT	-	SYS		14
3604-7			BP_IS34_07.000	PRT	-	SYS		14
3604-8			BP_IS34_08.000	PRT	-	SYS		14
3604-9			BP_IS34_09.000	PRT	-	SYS		14
3604-10			BP_IS34_10.000	PRT	-	SYS		14
3604-11			BP_IS34_11.000	PRT	-	SYS		14
3604-12			BP_IS34_12.000	PRT	-	SYS		14
3604-13			BP_IS34_13.000	PRT	-	SYS		14
3604-14			BP_IS34_14.000	PRT	-	SYS		14
3604-15			BP_IS34_15.000	PRT	-	SYS		14
3604-16			BP_IS34_16.000	PRT	-	SYS		14
3604-17			BP_IS34_17.000	PRT	-	SYS		14
3604-18			BP_IS34_18.000	PRT	-	SYS		14
3604-19			BP_IS34_19.000	PRT	-	SYS		14
3604-20			BP_IS34_20.000	PRT	-	SYS		14
3604-21			BP_IS34_21.000	PRT	-	SYS		14
3604-22			BP_IS34_22.000	PRT	-	SYS		14
3604-23			BP_IS34_23.000	PRT	-	SYS		14
3604-24			BP_IS34_24.000	PRT	-	SYS		14
3604-25			BP_IS34_25.000	PRT	-	SYS		14
3604-26			BP_IS34_26.000	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3604-27	General	Displaying the attribute of the profile at the shipment	BP_IS34_27.000	PRT	-	SYS	Displays the default RGBInkSim profile and PG DevicePureGrayTRC attribute in the same sub-code.	14
3604-28			BP_IS34_28.000	PRT	-	SYS		14
3604-29			BP_IS34_29.000	PRT	-	SYS		14
3604-30			BP_IS34_30.000	PRT	-	SYS		14
3604-31			BP_IS34_31.000	PRT	-	SYS		14
3604-32			BP_IS34_32.000	PRT	-	SYS		14
3604-33			BP_IS34_33.000	PRT	-	SYS		14
3604-34			BP_IS34_34.000	PRT	-	SYS		14
3604-35			BP_IS34_35.000	PRT	-	SYS		14
3604-36			BP_IS34_36.000	PRT	-	SYS		14
3604-37			BP_IS34_37.000	PRT	-	SYS		14
3604-38			BP_IS34_38.000	PRT	-	SYS		14
3604-39			BP_IS34_39.000	PRT	-	SYS		14
3604-40			BP_IS34_40.000	PRT	-	SYS		14
3604-41			BP_IS34_41.000	PRT	-	SYS		14
3604-42			BP_IS34_42.000	PRT	-	SYS		14
3604-43			BP_IS34_43.000	PRT	-	SYS		14
3604-44			BP_IS34_44.000	PRT	-	SYS		14
3604-45			BP_IS34_45.000	PRT	-	SYS		14
3604-46			BP_IS34_46.000	PRT	-	SYS		14
3604-47			BP_IS34_47.000	PRT	-	SYS		14
3604-48			BP_IS34_48.000	PRT	-	SYS		14
3604-49			BP_IS34_49.000	PRT	-	SYS		14
3604-50			BP_IS34_50.000	PRT	-	SYS		14
3604-51			BP_IS34_51.000	PRT	-	SYS		14
3604-52			BP_IS34_52.000	PRT	-	SYS		14
3604-53			BP_IS34_53.000	PRT	-	SYS		14

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3605	General	Making the profile available	PRT	0 <0-53>	SYS	Selecting a profile Overwrites the adjusted RGBInkSym profile on the current area (PG CIEBasedPureGrayTRC in the same sub-code is overwritten to the current area.) 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3606	General	Copying the adjusted profile to USB memory	PRT	0 <0-53>	SYS	Copies the adjusted RGBInkSim profile and PG CIEBasedPureGrayTRC in the same sub-code to USB memory. 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3607	General	Uploading the adjusted profile from USB memory	PRT	0 <0-53>	SYS	Uploads the adjusted RGBInkSim profile and PG CIEBasedPureGrayTRC in the same sub-code from the USB memory. 0: BP_IS34_00 1: BP_IS34_01 2: BP_IS34_02 3: BP_IS34_03 4: BP_IS34_04 5: BP_IS34_05 6: BP_IS34_06 7: BP_IS34_07 8: BP_IS34_08 9: BP_IS34_09 10: BP_IS34_10 11: BP_IS34_11 12: BP_IS34_12 13: BP_IS34_13 14: BP_IS34_14 15: BP_IS34_15 16: BP_IS34_16 17: BP_IS34_17 18: BP_IS34_18 19: BP_IS34_19 20: BP_IS34_20 21: BP_IS34_21 22: BP_IS34_22 23: BP_IS34_23 24: BP_IS34_24 25: BP_IS34_25 26: BP_IS34_26 27: BP_IS34_27 28: BP_IS34_28 29: BP_IS34_29 30: BP_IS34_30 31: BP_IS34_31 32: BP_IS34_32 33: BP_IS34_33 34: BP_IS34_34 35: BP_IS34_35 36: BP_IS34_36 37: BP_IS34_37 38: BP_IS34_38 39: BP_IS34_39 40: BP_IS34_40 41: BP_IS34_41 42: BP_IS34_42 43: BP_IS34_43 44: BP_IS34_44 45: BP_IS34_45 46: BP_IS34_46 47: BP_IS34_47 48: BP_IS34_48 49: BP_IS34_49 50: BP_IS34_50 51: BP_IS34_51 52: BP_IS34_52 53: BP_IS34_53	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3608-0	General	Displaying the attribute of the profile at the shipment	BP_IS34_00.001	PRT	-	SYS	Displays the adjusted Output Profile and PG CIEBasedPureGrayTRC attribute in the same sub-code.	14
3608-1			BP_IS34_01.001	PRT	-	SYS		14
3608-2			BP_IS34_02.001	PRT	-	SYS		14
3608-3			BP_IS34_03.001	PRT	-	SYS		14
3608-4			BP_IS34_04.001	PRT	-	SYS		14
3608-5			BP_IS34_05.001	PRT	-	SYS		14
3608-6			BP_IS34_06.001	PRT	-	SYS		14
3608-7			BP_IS34_07.001	PRT	-	SYS		14
3608-8			BP_IS34_08.001	PRT	-	SYS		14
3608-9			BP_IS34_09.001	PRT	-	SYS		14
3608-10			BP_IS34_10.001	PRT	-	SYS		14
3608-11			BP_IS34_11.001	PRT	-	SYS		14
3608-12			BP_IS34_12.001	PRT	-	SYS		14
3608-13			BP_IS34_13.001	PRT	-	SYS		14
3608-14			BP_IS34_14.001	PRT	-	SYS		14
3608-15			BP_IS34_15.001	PRT	-	SYS		14
3608-16			BP_IS34_16.001	PRT	-	SYS		14
3608-17			BP_IS34_17.001	PRT	-	SYS		14
3608-18			BP_IS34_18.001	PRT	-	SYS		14
3608-19			BP_IS34_19.001	PRT	-	SYS		14
3608-20			BP_IS34_20.001	PRT	-	SYS		14
3608-21			BP_IS34_21.001	PRT	-	SYS		14
3608-22			BP_IS34_22.001	PRT	-	SYS		14
3608-23			BP_IS34_23.001	PRT	-	SYS		14
3608-24			BP_IS34_24.001	PRT	-	SYS		14
3608-25			BP_IS34_25.001	PRT	-	SYS		14
3608-26			BP_IS34_26.001	PRT	-	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3608-27	General	Displaying the attribute of the profile at the shipment	BP_IS34_27.001	PRT	-	SYS	Displays the adjusted Output Profile and PG CIEBasedPureGrayTRC attribute in the same sub-code.	14
3608-28			BP_IS34_28.001	PRT	-	SYS		14
3608-29			BP_IS34_29.001	PRT	-	SYS		14
3608-30			BP_IS34_30.001	PRT	-	SYS		14
3608-31			BP_IS34_31.001	PRT	-	SYS		14
3608-32			BP_IS34_32.001	PRT	-	SYS		14
3608-33			BP_IS34_33.001	PRT	-	SYS		14
3608-34			BP_IS34_34.001	PRT	-	SYS		14
3608-35			BP_IS34_35.001	PRT	-	SYS		14
3608-36			BP_IS34_36.001	PRT	-	SYS		14
3608-37			BP_IS34_37.001	PRT	-	SYS		14
3608-38			BP_IS34_38.001	PRT	-	SYS		14
3608-39			BP_IS34_39.001	PRT	-	SYS		14
3608-40			BP_IS34_40.001	PRT	-	SYS		14
3608-41			BP_IS34_41.001	PRT	-	SYS		14
3608-42			BP_IS34_42.001	PRT	-	SYS		14
3608-43			BP_IS34_43.001	PRT	-	SYS		14
3608-44			BP_IS34_44.001	PRT	-	SYS		14
3608-45			BP_IS34_45.001	PRT	-	SYS		14
3608-46			BP_IS34_46.001	PRT	-	SYS		14
3608-47			BP_IS34_47.001	PRT	-	SYS		14
3608-48			BP_IS34_48.001	PRT	-	SYS		14
3608-49			BP_IS34_49.001	PRT	-	SYS		14
3608-50			BP_IS34_50.001	PRT	-	SYS		14
3608-51			BP_IS34_51.001	PRT	-	SYS		14
3608-52			BP_IS34_52.001	PRT	-	SYS		14
3608-53			BP_IS34_53.001	PRT	-	SYS		14

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3612	General	Date of unpacking	ALL	- <13 digits>	SYS	Year/month/date/day/ hour/minute/second Example: 03 07 0 13 13 27 48 “Day” - “0” is for “Sunday”. Proceeds Monday through Saturday from “1” to “6”.	11
3615	General	List print USB storage setting	ALL	0 <0-1>	SYS	0: Enable (USB storage available) 1: Disable (USB storage not available)	1
3619	General	Clearing of service history list file	ALL	-	SYS	Initializes the service history list file.	3
3623	General	Job filtering setting for real time log notification function	ALL	0 <0-255>	SYS	Changes target type of job for notification in real time log notification function.	1
3624	General	Log item filtering setting for real time log notification function	ALL	2147483921 <1-4294967295>	SYS	Changes target log items for notification in real time log notification function.	5
3625	General	Storage device information	ALL	0 <0-3>	SYS	0: Not connected (default) 1: HDD 2: SSD 3: Device Memory	1
3626	General	Department information transmission setting for real time log notification function	ALL	0 <0-2>	SYS	Sets whether or not to send department information (number, code, name) with real-time log notification. 08-3624 is referenced at the same time. 0: Department number/Department name/Department code 1: Department number/Department name 2: Department information not transmitted	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3630	Maintenance	Default setting automation after remote update	ALL	0 <0-6>	SYS	0: Normal startup 1: Remote update in process 2: Remote update failed 3: Remote update completed 4: Self-diagnostic mode initialization completed (initialization performed) 5: Self-diagnostic mode initialization completed (initialization not performed) 6: Self-diagnostic mode initialization completed (initialization failed)	2
3631	Network	RemoteAccess (SNMP)	ALL	0 <0-1>	SYS	Sets the restriction of operation to the specified OID when sending a SetRequest in the SNMP communication. 0: Disabled (ReadOnly operation) 1: Enabled (Read/Write operation)	1
3635	User interface	Trial copy function	ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
3722	Network	PDC/BDC timeout value of Windows Domain Authentication (Unit: Seconds)	ALL	60 <1-180>	NIC	Applied to the device authentication	12
3723	Network	User authentication PDC/BDC time-out period (Unit: Seconds)	ALL	30 <1-180>	NIC	Applied to the user authentication	12
3724	Network	Windows Domain Authentication method of Windows Domain/User Authentication	ALL	1 <1-3>	NIC	1: Auto 2: Kerberos 3: NTLMv2	12
3725	Network	IPP max connection	ALL	16 <1-16>	NIC		12
3726	Network	IPP active connection	ALL	10 <1-16>	NIC		12
3727	Network	LPD max connection	ALL	10 <1-16>	NIC		12
3728	Network	LPD active connection	ALL	10 <1-16>	NIC		12
3729	Network	ATalk PS max Connection	ALL	10 <1-16>	NIC		12
3730	Network	ATalk PS active Connection	ALL	10 <1-16>	NIC		12
3731	Network	Raw TCP max Connection	ALL	10 <1-16>	NIC		12
3732	Network	Raw TCP active connection	ALL	10 <1-16>	NIC		12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3736	Network	DNS client TimeOut	ALL	60 <1-180>	NIC	Use when a timeout occurred at DNS client connection	12
3737	Network	DDNS client TimeOut	ALL	60 <1-180>	NIC	Use when a timeout occurred at DDNS client connection	12
3738	Network	HTTP Client TimeOut (EWB and Satellite)	ALL	60 <1-180>	NIC	Use when a timeout occurred at HTTP client connection	12
3739	Network	FTP Client TimeOut (SCAN)	ALL	30 <1-180>	NIC	Use when a timeout occurred at DNS client connection	12
3740	Network	SNTP Client TimeOut	ALL	30 <1-180>	NIC	Use when a timeout occurred at SNTP client connection	12
3741	Network	SMTP Client TimeOut	ALL	30 <1-180>	NIC	Use when a timeout occurred at SMTP client connection	12
3742	Network	POP3 Client TimeOut	ALL	30 <1-180>	NIC	Use when a timeout occurred at POP3 client connection	12
3743	Network	LDAP client TimeOut	ALL	20 <1-180>	NIC	Use when a timeout occurred at LDAP client connection	12
3744	Network	POP3 Authentication method	ALL	1 <1-3>	NIC	POP3 authentication method setting 1: Disable (Default) 2: NTLM 3: Kerberos	12
3745	Network	Secure DDNS Primary Login Name	ALL	- <1-128>	NIC	User Name for Secure DDNS for Primary	12
3746	Network	Secure DDNS Primary Password	ALL	- <1-128>	NIC	Password for Secure DDNS for Primary	12
3747	Network	Secure DDNS Secondary Login Name	ALL	- <1-128>	NIC	User Name for Secure DDNS for Secondary	12
3748	Network	Secure DDNS Secondary Password	ALL	- <1-128>	NIC	Password for Secure DDNS for Secondary	12
3749	General	DPWS Friendly Name	ALL	-	NIC	MFP name indicated in DPWS search result <Default value> TOSHIBA e-STUDIOxxx [NIC serial number]	12
3750	General	DPWS Printer Name	ALL	-	NIC	Printer name used for installing the printer with DPWS <Default value> TOSHIBA e-STUDIOxxx Printer- [NIC serial number]	12
3751	General	DPWS Scanner Name	ALL	-	NIC	Scanner name used for installing the printer with DPWS <Default value> TOSHIBA e-STUDIOxxx Scanner- [NIC serial number]	12
3752	General	DPWS Printer Information	ALL	-	NIC	Information regarding DPWS printer <Default value> NULL	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3753	General	DPWS Scanner Information	ALL	-	NIC	Information regarding DPWS scanner <Default value> NULL	12
3754	Network	Switching DPWS Printer setting	ALL	1 <1-3>	NIC	DPWS printer function is switched. 1: Enabled 2: Disabled 3: Security system enabled	12
3754 (EFI)	Network	Switching DPWS Printer setting	ALL	2 <1-3>	NIC	DPWS printer function is switched. 1: Enabled 2: Disabled 3: Security system enabled	12
3755	Network	Switching DPWS Scanner setting	ALL	1 <1-2>	NIC	DPWS scanner function is switched. 1: Enabled 2: Disabled	12
3757	Network	DPWS Discovery Port Number	ALL	3702 <1-65535>	NIC	Port number used for DPWS Discovery	12
3758	Network	DPWS Metadata Exchange Port Number	ALL	50081 <1-65535>	NIC	Port number used for DPWS Metadata Exchange	12
3759	Network	DPWS Print Port Number	ALL	50082 <1-65535>	NIC	Port number used for DPWS Print	12
3760	Network	DPWS Scan Port Number	ALL	50083 <1-65535>	NIC	Port number used for DPWS Scan	12
3765	Network	DPWS Print Max numbers of connection	ALL	10 <1-20>	NIC	Maximum numbers received from more than one connection request in the DPWS print	12
3766	Network	DPWS Print Max numbers of reception	ALL	10 <1-20>	NIC	Maximum numbers of data received from more than one clients in the DPWS print	12
3767	Network	Switching IPv6 setting	ALL	2 <1-2>	NIC	IPv6 function is switched. 1: Enabled 2: Disabled	12
3767 (EFI)	Network	Switching IPv6 setting	ALL	2 <1-2>	NIC	IPv6 function is switched. 1: Enabled 2: Disabled	12
3768	Network	Switching IP(IPv6) Address Acquisition	ALL	2 <1-2>	NIC	IP(IPv6) Address Acquisition setting is switched. 1: Manual 2: Auto configuration	12
3770	Network	IPv6 Address	ALL	0 <0-16>	NIC	DHCPv6 Address in Manual/Auto configuration is displayed.	12
3771	Network	Prefix display setting	ALL	0 <0-128>	NIC	The range of Prefix display is set.	12

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3772	Network	Default Gateway setting	ALL	0 <0-16>	NIC	Default Gateway of DHCPv6 Address in Manual/Auto configuration is set.	12
3773	Network	Displaying previous DHCPv6 Address	ALL	0 <0-16>	NIC	The previous DHCPv6 Address is displayed.	12
3774	Network	DHCPv6 Option setting	ALL	2 <1-2>	NIC	DHCPv6 Option is switched when the Manual is set. 1: Enabled 2: Disabled	12
3775	Network	Stateless Address Auto Configuration	ALL	1 <1-2>	NIC	Stateless Address Auto Configuration is switched. 1: Enabled 2: Disabled	12
3776	Network	Stateless Address setting continuation	ALL	2 <1-2>	NIC	When Prefix sent from router is changed, Stateless Address is continued to be set. 1: Enabled 2: Disabled	12
3777	Network	Stateless Address setting	ALL	2 <1-2>	NIC	IP Address is acquired by both Stateless and State full Address. 1: Enabled 2: Disabled	12
3778	Network	Acquiring DHCPv6 Option	ALL	2 <1-2>	NIC	When Stateless Address is selected, an option is acquired from DHCPv6 server. 1: Enabled 2: Disabled	12
3779	Network	State full Address setting	ALL	2 <1-2>	NIC	IP Address is acquired from DHCPv6 server. 1: Enabled 2: Disabled	12
3780	Network	State full Option setting	ALL	2 <1-2>	NIC	An option is acquired from DHCPv6 server. 1: Enabled 2: Disabled	12
3781	Network	Primary DNS Server Address Registration(IPv6)	ALL	0 <0-16>	NIC	Registration of Primary DNS Server Address	12
3782	Network	Secondary DNS Server Address Registration(IPv6)	ALL	0 <0-16>	NIC	Registration of Secondary DNS Server Address	12
3783	Network	Selecting SAMBA Protocol	ALL	2 <2-3>	NIC	Either IPv6 or IPv4 is selected to use SAMBA. 2: IPv4 3: IPv6	12

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
3784	Network	DSN Server resolve type		ALL	4 <1-4>	NIC	Either “ip6.arpa” or “ip6.int” is selected for the name resolution in DNS. 1: “ip6.arpa” only 2: “ip6.int” only 3: In case of error with “ip6.int”, “ip6.arpa” is requested. 4: In case of error with “ip6.arpa”, “ip6.int” is requested.	12
3785	Network	DPWS IPv4 or IPv4 with IPv6		ALL	2 <1-2>	NIC	Either IPv4 only or IPv6 together with it is selected to operate Print, Scan and Security related with DPWS. 1: Multi (IPv4 and IPv6) 2: IPv4	12
3789	Network	Enable or disable cloning by SOAP		ALL	1 <1-2>	NIC	Enables or disables network cloning by SOAP (HTTP). Set to Disable (2) after cloning has been done. 1: Enabled 2: Disabled	12
3793	Network	LLTD function setting		ALL	1 <1-2>	NIC	Sets the LLTD function. 1: Enabled 2: Disabled	12
3796	Network	DPWS event rate		ALL	5 <1-600>	NIC	Sets the value of DPWS event rate from 1 to 600.	12
3797	General	Response to PJL job commands		ALL	1 <0-1>	SYS	During bidirectional communication, the next job will not be accepted until the printing of the sent data (all pages) is finished. If the next job must be accepted during bidirectional communication, set the value at “0: (Solicited)”. 0: (Solicited) - Immediately responds to the host side after the completion of RIP. 1: (Unsolicited) - Responds to the host side after the printing is finished.	1
3800-0	Counter	Extra long size paper count switching setting	Feeding direction 483-800 mm	ALL	2 <1-30>	SYS	Sets the number of multiples. A sheet is counted as N sheets when extra long size paper is used for printing.	4
3800-1			Feeding direction 801-1200 mm	ALL	3 <1-30>	SYS		4

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3802	General	USB media direct printing Paper size	ALL	EUR: 6 UC: 2 JPN: 6 <0-13>	SYS	0: Ledger 1: Legal 2: Letter 3: Computer 4: Statement 5: A3 6: A4 7: A5 8: A6 9: B4 10: B5 11: Folio 12: Legal13" 13: Letter Square	1
3803	General	USB media direct printing function setting	ALL	1 <0-1>	SYS	Sets the USB media direct printing function. 0: Disabled 1: Enabled	1
3804	Network	List analyzing logic of San to File (FTP)	ALL	0 <0-1>	SYS	0: NLST 1: LIST	1
3805	Scanner	Department Management setting by Remote Scan	ALL	3 <0-3>	SYS	Sets the department management with remote scanning as follows: 0: w/o GUI OFF, w/ GUI OFF 1: w/o GUI ON, w/ GUI OFF 2: w/o GUI OFF, w/ GUI ON 3: w/o GUI ON, w/ GUI ON w/o GUI: Remote scanning is operated on SSOP application of eCOPY Inc. w/ GUI: Remote scanning is operated on TTEC-specific GUI. This setting is only for department management with remote scanning. When GUI is set ON, a department code dialog is displayed at the start-up of remote scanning. This code is valid only when the code 08-629 is set “1 (Valid)”.	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3810	Network	Direct SMTP communication setting	ALL	0 <0-1>	SYS	When an Internet Fax is sent, Direct SMTP communication is set. 0: Disabled 1: Enabled When “0: Disabled” is set, an Internet Fax is sent using an SMTP server. When “1: Enabled” is set, direct SMTP communication is enabled and an Internet Fax is sent to MFPs on the intranet without using an SMTP server. Since no SMTP server is used, the SSL encryption and SMTP-AUTH function cannot be used for internet Fax transmission. If “1: Enabled” is set in 08-3810, set “1: Enabled” in 08-3812 as well.	1
3811	Network	Image encrypting at the Direct SMTP communication	ALL	0 <0-1>	SYS	When Direct SMTP communication is performed, an attached image is encrypted. 0: Disabled 1: Enabled	1
3812	Scanner	Dummy full mode at the Internet Fax transmission	ALL	0 <0-1>	SYS	When an Internet Fax is sent, the resolution ratio and the paper size of an attached image are set to the full mode. 0: Disabled 1: Enabled If “1: Enabled” is set in 08-3810, set “1: Enabled” in 08-3812 as well.	1
3815	Scanner	XPS file thumbnail addition	ALL	1 <0-1>	SYS	Thumbnail is added to the XPS file produced by the Scan function. 0: Not added 1: Only the top page added	1
3816	Scanner	XPS file paper size setting	ALL	1 <0-1>	SYS	The paper size of the XPS file produced by the Scan function is set. 0: Scanned image size 1: Standard size	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3817	Scanner	PDF file version setting	ALL	4 <0-4>	SYS	The version of PDF file produced by the Scan function is set. 0: PDF V1.3 1: PDF V1.4 2: - 3: - 4: PDF V1.7	1
3818	Scanner	DPWS Scan operation mode	ALL	1 <0-1>	SYS	The operation mode in the DPWS Scan function is switched. 0: Batch type 1: Serial type	1
3833	General	Home directory function	ALL	0 <0-1>	SYS	Function to store a file in the user's home directory 0: Disabled 1: Enabled	1
3834	General	Backup file encryption	ALL	0 <0-1>	SYS	When the backup file is created from TopAccess, it is encrypted. 0: Enabled (Encryption) 1: Disabled (No encryption)	1
3837	General	Display switching for the machine name shown in the notification	ALL	0 <0-1>	SYS	The display method of the machine name shown in the eventrelated notification is switched. 0: IP address 1: NetBIOS name / / FQDN	1
3840	General	Electronic key registration	ALL	-	-	Registers electronic keys for setting related optional items (e.g. when the equipment is delivered). Electronic keys already registered are not displayed in a list.	3
3841	General	License return of one-time dongle	ALL	-	-	Returns the license file in the equipment to the one-time dongle. The license file that has the same ID as the ID in the one-time dongle is returned.	3
3842	General	Display of electronic keys in USB media	ALL	-	-	Displays all the electronic keys stored in a USB media connected to the equipment in a list.	3
3845	Network	SNMP Trap Enterprise OID mode setting	ALL	0 <0-1>	SYS	Sets the compatibility of Enterprise OID of Trap with the old models. 0: Standard 1: Compatibility with the old models.	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3846	FAX	Setting for receiving confidential data on each line	FAX	0 <0-1>	SYS	Remotely registers the received confidential fax data into a confidential box provided for each line. 0: OFF 1: ON	1
3847	FAX	FAX mistransmission prevention	FAX	0 <0-1>	SYS	FAX mistransmission prevention function is switched. 0: OFF (Disabled) 1: ON (Enabled)	1
3848	FAX	Restriction on Address Book destination setting	FAX	0 <0-1>	SYS	Availability of destination selection from the Address Book is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF (Disabled) 1: ON (Enabled)	1
3849	FAX	Restriction on destination direct entry	FAX	0 <0-1>	SYS	Availability of direct entry is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF (Disabled) 1: ON (Enabled)	1
3850	Scanner	user authentication by Remote Scan	ALL	3 <0-3>	SYS	Sets the user authentication with remote scanning as follows: 0: w/o GUI OFF, w/ GUI OFF 1: w/o GUI ON, w/ GUI OFF 2: w/o GUI OFF, w/ GUI ON 3: w/o GUI ON, w/ GUI ON w/o GUI: Remote scanning is operated on SSOP application of eCOPY Inc. w/ GUI: Remote scanning is operated on TTEC-specific GUI. This setting is only for user authentication with remote scanning. When GUI is set ON, a dialog for user ID and password is displayed at the start-up of remote scanning. This code is valid only when the code 08-1482 is set “1 (Enabled)”.	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3851	General	Template display	ALL	0 <0-1>	SYS	0: ID number order 1: Alphabetical order	1
3852	General	Summer time Automatic change function	ALL	MJC/ MJD/ NAC/ NAD: 1 Other: 0 <0-1>	SYS	0: Disabled 1: Enabled	1
3853	General	Summer time Offset value	ALL	0 <0-7>	SYS	0: +2:00 1: +1:30 2: +1:00 3: +0:30 4: -0:30 5: -1:00 6: -1:30 7: -2:00	1
3854	General	Summer time Setting value (Starting month)	ALL	MJC/ MJD/ NAC/ NAD: 3 Other: 1 <1-12>	SYS	1: Jan 2: Feb 3: Mar 4: Apr 5: May 6: Jun 7: Jul 8: Aug 9: Sep 10: Oct 11: Nov 12: Dec	1
3855	General	Summer time Setting value (Starting week)	ALL	MJC/ MJD: 5 NAC/ NAD: 2 Other: 1 <1-5>	SYS	1: 1st 2: 2nd 3: 3rd 4: 4th 5: Last	1
3856	General	Summer time Setting value (Starting day)	ALL	0 <0-6>	SYS	0: Sun 1: Mon 2: Tue 3: Wed 4: Thu 5: Fri 6: Sat	1
3857	General	Summer time Setting value (Starting hour)	ALL	MJC/ MJD/ NAC/ NAD: 2 Other: 0 <0-23>	SYS	0 to 23	1
3858	General	Summer time Setting value (Starting minute)	ALL	0 <0-59>	SYS	0 to 59	1
3859	General	Summer time Setting value (Ending month)	ALL	MJC/ MJD: 10 NAC/ NAD: 11 Other: 1 <1-12>	SYS	1: Jan 2: Feb 3: Mar 4: Apr 5: May 6: Jun 7: Jul 8: Aug 9: Sep 10: Oct 11: Nov 12: Dec	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
3860	General	Summer time Setting value (Ending week)	ALL	MJC/ MJD: 5 Other: 1 <1-5>	SYS	1: 1st 2: 2nd 3: 3rd 4: 4th 5: Last	1
3861	General	Summer time Setting value (Ending day)	ALL	0 <0-6>	SYS	0: Sun 1: Mon 2: Tue 3: Wed 4: Thu 5: Fri 6: Sat	1
3862	General	Summer time Setting value (Starting hour)	ALL	MJC/ MJD: 3 NAC/ NAD: 2 Other: 1 <0-23>	SYS	0 to 23	1
3863	General	Summer time Setting value (Starting minute)	ALL	0 <0-59>	SYS	0 to 59	1
3864	Network	Disclosure of telnet function	ALL	0 <0-1>	SYS	0: Not disclosed 1: Disclosed When this value is set at “1”, the value of code 08-9834 must be “0”. When this value is set at “0”, the value of code 08-3865 must be “0”.	1
3865	Network	Availability of telnet server	ALL	2 <1-2>	NIC	1: Enable 2: Disable	12
3866	Network	Telnet server TCP port number	ALL	23 <1-65535>	NIC		12
3867	Network	Telnet server administrator User name	ALL	Admin -	NIC	Maximum 15 letters	12
3868	Network	Telnet server administrator Administrator password	ALL	System -	NIC	Maximum 15 letters	12
3869	General	Number of times of EWB display for its restart	ALL	20 <0-256>	SYS	EWB is restarted when the EWB is displayed for the preset number of times. Perform this code when you change the number of times of display for resetting the EWB. EWB (Embedded Web Browser) Displays a web page on the control panel. For displaying EWB, the External Interface Enabler (GS-1020, optional) is required.	1
3870	General	Display of electronic keys registered in the equipment	ALL	-	-	Displays electronic keys registered in the equipment.	3

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
3871	Network	Setting for RBAC guest user privilege	ALL	0 <0-1>	SYS	0: Does not provide any user with guest user privilege 1: Provides all users with guest user privilege	1
8503	General	Media sensor detection history display	ALL	-	-	Displays the latest 20 events detected by the media sensor on the LCD screen.	2
8504	General	Feeding method of odd page number in duplex printing (Raw print)	ALL	0 <0-1>	SYS	0: One side 1: Both sides	1
8506	General	Forcible mode change in cartridge empty status	ALL	0 <0-2>	SYS	0: SLEEP MODE 1: AUTO POWER SAVE 2: READY	1
8508	General	Controlling method for print image position adjustment in secondary scanning direction	PRT	2 <0-2>	SYS	0: No control 1: Cuts the image 2: Shifts the image	1
8509	General	Controlling amount for print image position adjustment in secondary scanning direction	PRT	12 <0-36>	SYS	0-36	1
8510	General	Menu display for controlling print image position adjustment in secondary scanning direction	PRT	0 <0-1>	SYS	0: Menu not displayed 1: Menu displayed	1
8511	General	Wide A4 Mode (for PCL)	PRT	0 <0-1>	SYS	0: Disable 1: Enable	1
8512	General	Number of jobs in batch processing	ALL	10 <2-10>	SYS	2-10:From 2 to jobs can be specified	1
8513-0	General	Overprint function setting	ALL	2 <0-2>	SYS	Enables or disables the overprinting function setting when printing PDF files. 0: OFF 1: ON 2: ON (only for PDF/X files)	4

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
8514	General	Threshold value setting for RIP standard paper judgment	ALL	20 <5-30>	SYS	This code is used for changing the range in which the non-standard paper size is judged as standard paper size. If the page size information is within standard paper size ± setting value, the page size is judged as standard paper size when PS/PDF printing. If the page size information is out of the range, the page size is judged as non-standard paper size. The unit of setting value is PS point. 1 PS point is approx. 0.35 mm.	1
8515	General	Outside erase Judgment threshold (Default) PPC	PPC	0 <-3-3>	SYS	The larger the value is, area to be erased increases. The smaller the value is, area to be erased decreases.	1
8516		SCN	SCN	0 <-3-3>	SYS		1
8517	General	Remote Scan User authentication automatic login	ALL	1 <0-1>	SYS	0: OFF (A user always enters manually (current method)) 1: ON (Previous authentication information will be used)	1
8518	General	Overwriting mode for scanned files	ALL	0 <0-3>	SYS	0: Always OFF 1: Meta Scan function ON / Normal scan function OFF 2: Meta Scan function OFF / Normal scan function ON 3: Always ON	1
8519	General	Scan PDF file Paper size	ALL	1 <0-1>	SYS	0: Equivalent to scan image size 1: Fitted into any standard size	1
8523	Image processing	Toner near-empty status Message display	ALL	0 <0-1>	SYS	0: ON 1: OFF	1
8524	General	No paper Message display	ALL	0 <0-1>	SYS	0: ON 1: OFF	1
8525	General	No paper message display (T-LCF left tray)	ALL	0 <0-1>	SYS	0: ON 1: OFF	1
8526	General	Scan Preview Default setting	ALL	0 <0-1>	SYS	0: OFF 1: ON	1
8527	General	Scan Preview Default display type	ALL	0 <0-1>	SYS	0: Page Fit 1: Width Fit	1
8528	General	CPU clock control in sleep mode	ALL	0 <0-1>	SYS	0: Control performed 1: Control not performed	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8529-0	General	ACS release threshold (Short size)	Number of pages released (Copier)	PPC	Refer to content <0-9>	SYS	<Default value> e-STUDIO5520C:4 e-STUDIO6520C:5 e-STUDIO6530C:5	4
8529-1			Number of pages released (Printer)	PRT	Refer to content <0-9>	SYS		4
8529-2			Number of pages released (Box print)	PRT	Refer to content <0-9>	SYS		4
8530-0	General	ACS release factor Paper size percentage	Short size	ALL	10 <1-99>	SYS	Paper size x 10	4
8530-1			Medium size	ALL	Refer to content <1-99>	SYS	8530-1 <Default value> e-STUDIO5520C:14 e-STUDIO6520C:13 e-STUDIO6530C:13	4
8530-2			Large size	ALL	Refer to content <1-99>	SYS	8530-2 <Default value> e-STUDIO5520C:14 e-STUDIO6520C:17 e-STUDIO6530C:17	4
8531-0	General	ACS release factor Media paper size percentage	Media short size	ALL	Refer to content <1-99>	SYS	Paper size x 10	4
8531-1			Media medium size	ALL	Refer to content <1-99>	SYS	8531-0 <Default value> e-STUDIO5520C:8 e-STUDIO6520C:10 e-STUDIO6530C:10	4
8531-2			Media large size	ALL	Refer to content <1-99>	SYS	8531-1 <Default value> e-STUDIO5520C:10 e-STUDIO6520C:13 e-STUDIO6530C:13 8531-2 <Default value> e-STUDIO5520C:14 e-STUDIO6520C:17 e-STUDIO6530C:17	4
8532	General	Control panel Brightness level adjustment		ALL	4 <1-7>	SYS	1-7:Brightness level	1
8533	General	2nd transfer roller contact/ release setting when printing thick paper (countermeasure against image jittering in the black mode)		PRT	1 <0-2>	SYS	When jittering occurs during the printing of thick paper in the black mode with the 1st transfer roller released from the transfer belt, this setting makes the rolles contact. 0: Disabled 1: Enabled only for thick paper and special paper 2: Enabled for all media types	1
8534	General			PPC	0 <0-2>	SYS		1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
8535	Network	Storing network logs in the HDD	ALL	2 <1-2>	SYS	Stores the network logs of SRAM in the HDD when network-related trouble occurred. 1: Enabled 2: Disabled	1
8536	Network	Data size when storing network logs in the HDD	ALL	30 <1-30>	SYS	Specifies the size of network logs to be stored in the HDD. 1-30:1-30 MB	1
8537	General	Sorting method for displaying private print jobs	PRT	0 <0-1>	SYS	Changes the sorting order for print jobs on the private print list. 0: Descending order 1: Ascending order	1
8540	Scanner	Date/time format in the Meta Scan XML file	SCN	1 <0-1>	SYS	0: YYYY/MM/DDhh:mm:ss.mmm 1: YYYYMMDDThh:mm:ss.mmmTZD	1
8546	User interface	Input setting of minus value for image shift when copying	PPC	0 <0-1>	SYS	0: Inputting minus value is disabled. 1: Inputting minus value is enabled.	1
8548	Paper feeding	Operation of drawer size change when printing is interrupted by size mismatch	PRT	0 <0-1>	SYS	0: Operation of drawer size change is disabled. 1: Operation of drawer size change is enabled.	1
8549	Counter	Hardware key control when external counter is installed	ALL	0 <0-1>	SYS	0: No control 1: Mode switch key is disabled.	1
8584	Network	Email subject transmission	ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
8585	Network	Whether Email subject can be edited	ALL	1 <0-1>	SYS	0: Not permitted 1: Permitted	1
8586	Network	Whether date and time are added to Email subject	ALL	1 <0-1>	SYS	0: Not added 1: Added	1
8587	Network	Email subject character string type	ALL	0 <0-1>	SYS	0: Factory default character string 1: User specified character string	1
8588	Network	Transmission setting for Email without subject	ALL	0 <0-1>	SYS	0: Sent with the blank subject 1: Set with an asterisk in the subject before sending	1
8589	Network	Authentication server auto-search	ALL	0 <0-2>	SYS	0: Disabled (no auto-search) 1: Enabled (display the server list at successful multiple authentication) 2: Enabled (no display of the server list at successful multiple authentication)	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8590-0	Network	File or document name output setting at log export	Document name	ALL	0 <0-2>	SYS	0: Normal output 1: Blank output 2: Asterisk output	4
8590-1			User name		0 <0-2>	SYS		
8590-2			Recipient/ file name		0 <0-2>	SYS		
8590-3			Sender name		0 <0-2>	SYS		
8590-4			Print/ agent type		0 <0-2>	SYS		
8591	User interface	ACC operation switchover		ALL	1 <0-1>	SYS	0: ACC accept/prohibit setting enabled when Drawer is set to Auto from UI (ACC is prohibited when Drawer is specified) 1: ACC accept/prohibit setting enabled when Drawer is specified from UI (ACC is accepted when Drawer is Auto)	1
8594	Counter	Display switchover when external counter option is installed		ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
8595	General	Display switchover when ID Gate (card reader) is installed		ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
8596	General	Job status display while waiting for image data creation		ALL	0 <0-1>	SYS	0: “Suspend” is displayed 1: “Process” is displayed	1
8597	General	Automatic update of private print job list display		ALL	0 <0-1>	SYS	0: Disabled 1: Enabled	1
8598	General	Panel template icon display order type		ALL	0 <0-1>	SYS	0: Pattern 1 (1)(2)(3)(4) (5)(6)... : 1: Pattern 2 (1)(2)(9)(10) (3)(4)... :	1
8599	General	Folder name null character conversion		ALL	1 <0-1>	SYS	0: Non-conversion 1: Converted to underscores	1
8600	General	Outside erase default setting		ALL	0 <0-1>	SYS	0: Disabled 1: Enabled	1
8601	General	Private/hold print user handling		ALL	NAD / NAC: 1 Other: 0 <0-1>	SYS	0: User name case sensitive 1: User name not case sensitive	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
8602	General	ScanToFile (Samba) file creation method switchover	ALL	0 <0-3>	SYS	0: Backslash not added 1: Backslash added when specifying the file name 2: Backslash added when specifying the folder and file name 3: Backslash added when specifying the file name or the folder and file name	1
8603	General	Special purpose of external option interface	ALL	0 <0-2>	SYS	0: None 1: Purpose 1 2: Purpose 2	1
8604	General	Job status screen display setting	ALL	1 <0-2>	SYS	0: Disabled (requires administrator password) 1: Enabled 2: Operation disabled	1
8605	Network	Log screen display setting	ALL	1 <0-2>	SYS	0: Disabled (requires administrator password) 1: Enabled 2: Operation disabled	1
8606	Network	Log export operation setting	ALL	1 <0-2>	SYS	0: Disabled 1: Enabled 2: Operation disabled	1
8608	Network	Prioritized Windows authentication server - Windows	ALL	0 <0-100>	SYS	Index of prioritized authentication server to be searched	1
8609	Network	Prioritized Windows authentication server - LDAP	ALL	0 <0-100>	SYS	Index of prioritized authentication server to be searched	1
8610	Network	Prioritized Windows authentication server - Card	ALL	0 <0-100>	SYS	Index of prioritized authentication server to be searched	1
8611	General	RFC1759 (hr.Printer status support printing) support	ALL	MUD/ MUC: 2 Other: 1 <1-2>	SYS	Switches hrPrinterTable mode when using an specialized application. 1: Normal mode 2: Special mode 1	1
8612	FAX	Enabling / Disabling of time stamp on Received Fax Forward file name	FAX	0 <0-1>	SYS	A time stamp (HMS) is applied to the file name when a fax is sent or received. 0: Disabled 1: Enabled	1
8613	e-Filing	e-Filing storing data mode setting	ALL	1 <1-2>	SYS	Sets the mode for saving to e-Filing. Erase all contents of e-Filing when switching the mode. 1: Normal mode 2: PDF mode	1
8615	General	Enabling / Disabling of log Store	ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
8616	General	Department counter / limitation counter clear base month	ALL	1 <1-12>	SYS	Month to clear counters (optional): Integer between 1 and 12 (month).	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8617	General	Department counter / limitation counter clear day	ALL	1 <1-31>	SYS	Day in the month to automatically clear counters (optional): Integer between 1 and 31 (day).	1
8618	General	Department counter / limitation counter clear hour	ALL	0 <0-23>	SYS	Hour to automatically clear counters (optional): Integer between 0 and 23 (hour).	1
8619	General	Department counter / limitation counter clear minutes	ALL	0 <0-59>	SYS	Minutes to automatically clear counters (optional): Integer between 0 and 59 (minutes).	1
8620	General	Printing after department counter / limitation counter limit	ALL	0 <0-1>	SYS	0: Printing impossible 1: Printing possible	1
8622	General	Date and time addition setting to file name of Scan to File/Email	ALL	1 <0-1>	SYS	0: Disabled 1: Enabled	1
8624	User Interface	Switching display method of file name	PRT	0 <0-2>	SYS	Switches the display method for file names in the print job log display. 0: Displays from the top 1: Displays the bottom 2: Displays the top and the bottom	1
8625	User Interface	Switching file name form for exporting	PRT	0 <0-2>	SYS	Switches the file name display form for the exported print log or SNMP. 0: Exports from the top 1: Exports the bottom 2: Exports the top and the bottom	1
8626	User Interface	Private print/Hold print job continue operation	PRT	0 <0-1>	SYS	Switches whether or not a transition to the Private print/Hold print selection screen will occur after printing necessary files at the operation of Private print/Hold print. 0: Disabled 1: Enabled (a screen transition occurs)	1
8628	General	Operation of machine when coin controller is used	ALL	0 <0-1>	SYS	This setting is available when "1" is set at 08-202. When "1: Enabled" is set, a transition from the copy screen to Job status display and an operation of machine are possible. 0: Disabled 1: Enabled	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
8629	General	Default setting of color mode	ALL	0 <0-1>	SYS	0: "Auto Color" is selected as a color mode when no setting is made to color mode. 1: "Black" is selected as a color mode when no setting is made to color mode.	1
8633	User Interface	Switching the initial display of the print job list	ALL	0 <0-1>	SYS	When the [JOB] tab in the job status menu is displayed, the initial screen can be switched. 0: Display with the first job selected 1: Display with the first job not selected	1
8634	User Interface	Selecting the auto color print control when the number of sheets reaches the limit	ALL	0 <0-1>	SYS	When department management or user management is enabled, the color limitation setting is ON and the available number of sheets reaches “0”, you can select whether to use the duplex mode to print a document with the 1st page in color and the 2nd page in black. 0: Printed 1: Stored in invalid jobs	1
8635	User Interface	Switching the import control for Meta Scan Template	ALL	0 <0-1>	SYS	The import control for the Meta Scan Template can be switched. 0: A template to be imported has priority. 1: A template registered in the MFP has priority.	1
8800	Network	Enabling / Disabling of 802.1X	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8800 (EFI)	Network	Enabling / Disabling of 802.1X	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8801	Network	802.1X fallbackNumber of retry	ALL	3 <3-10>	NIC	3-10:3-10 times	12
8802	Network	Enabling / Disabling of IPsec	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8802 (EFI)	Network	Enabling / Disabling of IPsec	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8803	Network	Enabling / Disabling of SNMPv3	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8804	Network	Enabling / Disabling of IP filtering	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8804 (EFI)	Network	Enabling / Disabling of IP filtering	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8805	Network	Enabling / Disabling of MAC address filtering	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8805 (EFI)	Network	Enabling / Disabling of MAC address filtering	ALL	2 <1-2>	NIC	1: Enabled 2: Disabled	12
8806	Network	SCEP CA Server Address1	ALL	-	NIC	Maximum 128 letters	12
8807	Network	SCEP CA Server Address2	ALL	-	NIC	Maximum 128 letters	12
8808	Network	SCEP CA Server Address3	ALL	-	NIC	Maximum 128 letters	12
8809	Network	SCEP Timeout1	ALL	30 <1-300>	NIC	Timeout period (second)	12
8810	Network	SCEP Timeout2	ALL	30 <1-300>	NIC	Timeout period (second)	12
8811	Network	SCEP Timeout3	ALL	30 <1-300>	NIC	Timeout period (second)	12
8812	Network	SCEP Common Name Address1	ALL	1 <1-2>	NIC	1: IP Address 2: FQDN	12
8813	Network	SCEP Common Name Address2	ALL	1 <1-2>	NIC	1: IP Address 2: FQDN	12
8814	Network	SCEP Common Name Address3	ALL	1 <1-2>	NIC	1: IP Address 2: FQDN	12
8815	Network	Installation method of IPsec certificate	ALL	2 <2-3>	NIC	2: Import(Default) 3: SCEP	12
8816	Network	Installation method of IEEE 802.1X certificate	ALL	2 <2-3>	NIC	2: Import(Default) 3: SCEP	12
8817	Network	Enabling / Disabling of WS Pull Scan when user authentication is enabled	ALL	2 <1-2>	NIC	1: Enable 2: Disable(Default)	12
8818	Network	Enabling / Disabling of WS Pull Scan when department management is enabled	ALL	2 <1-2>	NIC	1: Enable 2: Disable(Default)	12
8819	Network	Enabling / Disabling of 802.1X fallback	ALL	2 <1-2>	NIC	1: Enable 2: Disabled	12
8820	Network	IPsec NAT-Traversal setting	ALL	1 <1-3>	NIC	1: Default (IKEv1: Disabled, IKEv2: Enabled) 2: Enable IKEv1 & IKEv2 3: Disable IKEv1 & IKEv2	12
8821	Network	IPsec CRL setting	ALL	2 <1-2>	NIC	1: Enable CRL 2: Disable CRL	12

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
8823	General	User authentication port number 139	ALL	1 <1-2>	NIC	Specifies whether to avoid the connection request waiting time when port 139 is unavailable. Available when [Windows Domain Authentication] is selected in [User Management] - [Authentication] - [User Authentication] of TopAccess. Used only when port 139 is not available in the firewall settings of the PC. 1: Enabled 2: Disabled	12

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9022	General	Production process management status for easy setup	ALL	99 <0-99>	SYS	Perform this code when an error occurs during the easy setup (unpacking manual adjustment) and you want to finish the easy setup, or when the error is canceled and you want to restart the unpacking manual adjustment. 0: Unpacking mode finished (before unpacking is started) 1: Auto-toner adjustment finished 2: Sub-hoppers and toner cartridges are installed 3: Confirmation of installation of sub-hoppers and toner cartridges is finished 4: Forcible image quality control finished 5: Forcible image position alignment finished 6: Automatic gamma adjustment (PPC) finished 7: Automatic gamma adjustment (PRT, 600 dpi) finished 99: All the unpacking adjustments finished * Only 0 to 7 and 99 are available for this code.	1
9051	User interface	Panel calibration setting value display	ALL	0 <0-1>	SYS	Switches whether the screen for displaying panel calibration setting values is displayed or not. 0: Disabled (screen not displayed) 1: Enabled (screen displayed)	1
9059	Maintenance	Operation switching at calibration	ALL	MJC/ MJD: 1 Other: 0 <0-1>	SYS	Switches whether a menu for selecting paper in user calibration (automatic gamma adjustment) is displayed or not. 0: Not displayed 1: Displayed (copy/print)	1
9117	General	Raw printing job Do not Print Blank Pages	ALL	0 <0-1>	SYS	0: OFF 1: ON	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9185-0	User interface	Feeding paper media	Copier	ALL	15 <1-15>	SYS	Sets a media type for a drawer selected with APS function or drawer buttons for the copier function. Values are selectable from 1 to 15 (decimal number). When "0" is entered, the media is not available for feeding. When "1" is entered, it is available for feeding for each bit value. Bit0:Plain paper Bit1:Recycled paper Bit2:Plain paper 1 Bit3:Plain paper 2	4
9185-1	User interface		Printer/ Box	ALL	13 <1-15>	SYS	Sets a media type for print data originally set for plain paper in the printer function or e-Filing box printing. This setting is used for drawer searching or media-type inconsistency judgment and will not be affected to print data for plain papers 1 and 2 or other media types. Values are selectable among 1, 4, 5, 8, 9, 12 and 13 (decimal number). When "0" is entered, the media is not available for feeding. When "1" is entered, it is available for feeding for each bit value. Bit0:Plain paper Bit1:N/A (Always set "0".) Bit2:Plain paper 1 Bit3:Plain paper 2	4
9300	Feeding system / Paper transport	1st drawer Paper information		ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9301	Feeding system / Paper transport	2nd drawer Paper information	ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1
9302	Feeding system / Paper transport	3rd drawer Paper information	ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1
9303	Feeding system / Paper transport	4th drawer Paper information	ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1
9304	Feeding system / Paper transport	T-LCF Paper information	ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9305	Feeding system / Paper transport	Bypass tray Paper information	ALL	0 <0-135>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 4: Thick paper 4 6: Special paper 1 7: Special paper 2 8: Recycled paper 16: OHP film 129: Thick paper 1 / reverse 130: Thick paper 2 / reverse 131: Thick paper 3 / reverse 132: Thick paper 4 / reverse 134: Special paper 1 / reverse 135: Special paper 2 / reverse Only "0-4", "6-8", "16", "129-132" and "134-135" are acceptable.	1
9347	Feeding system / Paper transport	O-LCF Paper information	ALL	0 <0-10>	SYS	0: Plain paper 1: Thick paper 1 2: Thick paper 2 3: Thick paper 3 8: Plain paper 1 9: Plain paper 2 10: Recycled paper Only "0", "1", "2", "3", "8", "9" and "10" are acceptable.	1
9359	User interface	Printing resume after jam releasing	ALL	0 <0-1>	SYS	0: Auto resume 1: Resume by users	1
9379	User interface	AES data encryption function setting (Except for CND)	ALL	0 <0-2>	SYS	0: Encryption invalid 1: Encryption valid (Security priority) Encrypts all of the user's data. 2: Encryption valid (Performance priority) Encrypts the user's data except the files temporarily created and deleted in the image processing such as copying or printing.	1
9381	General	Custom size (Photo size) Feeding / Widthwise	ALL	148 <10-434> 100 <10-300>	SYS	Feeding Widthwise	10
9382	Image	Erasing leading edge shade on A3-wide (full-page copying)	ALL	0 <0-1>	SYS	0: Whole page copied (No void) 1: Leading edge masked	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
9384	Network	Default E-mail file format (Color/ACS mode)	ALL	1 <0-8>	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single) 5: SLIM PDF (Multi) 6: SLIM PDF (Single) 7: XPS (Multi) 8: XPS (Single)	1
9394	Network	Single-page option for storing File and sending Email	ALL	0 <0-1>	SYS	0: Sets 1 page as 1 file 1: Makes a file based on the original	1
9629	Network	Attribute name for LDAP Role Based Access	ALL	eBMUserR <->	SYS		11
9698	User interface	Color mode notification setting at ACS	ALL	0 <0-1>	SYS	0: Color 1: Black	1
9739	Maintenance	Remote service Toner-end notification	ALL	0 <0-2>	SYS	0: RDMS toner empty notified immediately 1: RDMS toner empty notified once a day 2: RDMS toner empty not notified	1
9746	Network	802.1X/Dynamic WEP selecting button display	ALL	0 <0-1>	SYS	Switches whether a selecting button for Security mode 802.1X/ Dynamic WEP is displayed or not. 1: Not displayed 2: Displayed	1
9747	Network	PMK Cache setting	ALL	1 <1-2>	NIC	Sets whether PMK Cache is enabled or disabled when WPA2 is selected. Set "1" (Enable) when the PMK Cache function need to be ON. 1: Disable (Default) 2: Enable	12
9749	Network	WIA Scan Driver	SCN	1 <1-2>	NIC	Selects WIA Scan Driver. 1: TTEC 2: Microsoft	12
9789	General	Default repeat count	ALL	2 <2-8>	SYS	Unit: times	1
9791	Network	Enable/disable cloning by FTP	ALL	1 <1-2>	SYS	Enables/disables network cloning by FTP. Set to Disabled (2) after cloning. 1: Enabled 2: Disabled	1

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
9798	Network	Temporary communication password setting		ALL	-	SYS	Sets a temporary communication password. The password can be entered in alphanumeric characters (A to Z, a to z, 0 to 9) up to 10 digits. The entered password is displayed with "*" on the touch panel and the self-diagnostic lists. (Maximum 10 digits, minimum 5 digits)	11
9799	General	Local authentication mode switchover		ALL	0 <0-1>	SYS	Sets the authentication mode when "0: (Internal authentication)" is selected in the code 08-1471. 0: Card ID differs from the User ID 1: Card ID is the same as the User ID	1
9804	Image processing	Forcible mode change in toner empty status		ALL	1 <0-2>	SYS	0: READY 1: AUTO POWER SAVE 2: READY	1
9805	Laser	Polygonal motor standby rotation Shift waiting time at job end		ALL	3 <0-9>	SYS	0: 0 sec. (current setting) (Polygonal motor ready rotation at job end) 1 to 9: Setting value x 5 sec.	1
9811-0	Finisher	Stapling setting Maximum number of sheets acceptable exceeding upper limit / Long size	Plain/ Recycled	ALL	0 <-50-50>	SYS	-50 to 50	4
9811-1			Thick1	ALL	0 <-50-50>	SYS		4
9811-2			Thick2	ALL	0 <-50-50>	SYS		4
9811-3			Thick3	ALL	0 <-50-50>	SYS		4
9814	General	Number of output pages for pausing continuous printing for 2nd transfer resistance detection control	At normal temperature	ALL	4 <0-100>	SYS	When the setting value of this code is "1" or higher, the 2nd transfer resistance detection is performed every time the number of pages of (setting value x 100) have output.	1
9815	General		At low temperature	ALL	10 <0-100>	SYS	When the setting value of this code is "1" or higher, the 2nd transfer resistance detection is performed every time the number of pages of (setting value x 10) have output.	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
9819	General	STAGE SSL	ALL	1 <0-1>	SYS	When remote scanning is performed, the SSL communication is carried out. 0: Disabled 1: Enabled (SSL communication)	1
9822	General	STAGE SSL port number	ALL	20443 <0-65535>	SYS	When remote scanning is performed using SSL communication, the SSL port number is set.	1
9825	Image	Image quality of the black part in the ACS mode	ALL	0 <0-1>	SYS	0: Black 1: Gray scale	1
9826	General	Disabling Media File Save	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
9828	General	Remote scanning mode	ALL	1 <0-1>	SYS	0: Batch 1: Sequential	1
9829	General	Department management limitation setting	ALL	0 <0-3>	SYS	Decide the default limitation setting when the new department code is created. 0: No limit 1: Limited only in the black mode 2: Limited in the color mode 3: Limited in the black/color mode	1
9847	Finisher	Hole punching setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
9848	General	Registration disclosure level setting	ALL	1 <0-2>	SYS	Displays no icons 1: ADMIN 2: USER	1
9880	General	Total counter data transmission date 2	ALL	0 <0-31>	SYS	0 to 31	1
9881	General	Day of the total counter data transmission	ALL	0 <0-127>	SYS	1 byte 00000000(0)-01111111(127) From the 2nd bit - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	1
9882	General	Display mode of the used capacity on the e-Filing administrator page	ALL	1 <0-1>	SYS	0: All files search mode 1: Performance priority mode	1
9883	General	Hardcopy security printing	ALL	0 <0-1>	SYS	0: Disable1 1: Enable	1
9884	General	Hardcopy security printing / Counting method switchover	ALL	0 <0-1>	SYS	0: Counted as 1 1: Counted as 2	1
9886	General	Decimal point indication for Enhanced Scan Template	ALL	EUR: 0 UC: 1 JPN: 1 <0-1>	SYS	0: Comma 1: Full stop	1
9888	General	Permission setting for changing the scan parameter when recalling an extension	ALL	0 <0-1>	SYS	0: Prohibited 1: Accepted	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
9889	General	Status display of the USB data cloning permission	ALL	0 <0-1>	SYS	Accepts/prohibits the use of USB cloning tools. Set to Prohibited (1) after cloning. 0: Accepted 1: Prohibited	1
9891	User interface	Warning message on the touch panel when PM (Periodic Maintenance) time has come	ALL	1 <0-1>	SYS	0: No warning notification 1: Warning notification	1
9892	General	Monocolor counting method	ALL	0 <0-2>	SYS	Sets the counting method of fee charging or duplexing count in the Monocolor mode. Department and user counters are not applicable. 0: Mono/Twin Color 1: Black 2: Full Color	1
9893	General	Limitation Monocolor counting method	ALL	EUR: 0 UC: 0 JPN: 1 <0-1>	SYS	0: Count as color 1: Count as black	1
9894	General	Calibration chart charging method	ALL	0 <0-1>	SYS	Decide whether the calibration chart printing is charged or not 0: No charge 1: Charge	1
9897	Image	Default value setting of background peak adjustment (Black)	ALL	5 <1-9>	SYS	1: -4 2: -3 3: -2 4: -1 5: 0 6: +1 7: +2 8: +3 9: +4	1
9898	Image	Default value setting of density in the scan mode (Color)	ALL	6 <1-11>	SYS	1: -5 2: -4 3: -3 4: -2 5: -1 6: 0 7: +1 8: +2 9: +3 10: +4 11: +5	1
9899	Image	Default value setting of density in the scan mode (Gray)	ALL	6 <1-11>	SYS	1: -5 2: -4 3: -3 4: -2 5: -1 6: 0 7: +1 8: +2 9: +3 10: +4 11: +5	1
9933	Network	Domain participation confirmation of printing when LDAP authentication is used	ALL	1 <0-1>	SYS	When LDAP is selected as authentication method for user authentication, checking of domain participation of client computer for print job authentication is set. This function is enabled only when department management is enabled. 0: Disabled 1: Enabled	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9934-0	General	S-ACS operation setting	Copy	ALL	1 <1-9>	SYS	1: The number of contact control: 1 Continuous color control: 1 sheet 2: The number of contact control: 2 Continuous color control: 2 sheets 3: The number of contact control: 3 Continuous color control: 3 sheets 4: The number of contact control: 4 Continuous color control: 4 sheets 5: The number of contact control: 5 Continuous color control: 5 sheets 6: The number of contact control: 6 Continuous color control: 6 sheets 7: The number of contact control: 7 Continuous color control: 7 sheets 8: The number of contact control: 8 Continuous color control: 8 sheets 9: The number of contact control: 9 Continuous color control: 9 sheets	4
9934-1	General		Print	ALL	1 <1-9>	SYS		4
9934-2	General		Box, Others	ALL	1 <1-9>	SYS		4
9937-0	Finisher	Stapling setting Acceptable number of sheets exceeding upper limit / Short size	Plain/ Recycled	ALL	0 <-100-100>	SYS	-100 to 100	4
9937-1			Thick1	ALL	0 <-100-100>	SYS		4
9937-2			Thick2	ALL	0 <-100-100>	SYS		4
9937-3			Thick3	ALL	0 <-100-100>	SYS		4
9938-0	Finisher	Stapling Acceptable number of sheets exceeding upper limit / Saddle stitch	Plain/ Recycled	ALL	0 <-15-15>	SYS	-15 to 15	4
9938-1			Thick1	ALL	0 <-15-15>	SYS		4
9938-2			Thick2	ALL	0 <-15-15>	SYS		4
9938-3			Thick3	ALL	0 <-15-15>	SYS		4
9945	Version	Finisher Converter ROM version		ALL	-	-	CNV-XXX	2
9946	General	Number of Email transmission retries		ALL	3 <0-14>	SYS	0 to 14 times	1

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
9947	General	Email transmission retry interval	ALL	1 <0-15>	SYS	0 to 15 min.	1
9950	General	EFI Printer Board setting confirmation	ALL	0 <0-1>	SYS	0: Not initialized 1: Initializing completed	2
9952	General	Restore setting of the EFI Printer Board	ALL	-	-	-	3
9954	General	Control box counter / job list printing operation (Individual customer)	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
9955	User interface	Name of [EXTENSION] button	ALL	EXTENSION	SYS	Sets the name of [EXTENSION] on the touch panel. "EXTENSION" is displayed if no setting is performed. Maximum 16 letters (16 bytes)	11
9956	General	Changing wording for the Fiery controller setting icon when the EFI controller is connected	ALL	Fiery	SYS	Changes the wording for the Fiery controller setting icon displayed on the menu screen. Maximum 10 letters (10 bytes)	11
9957	Network	E-mail address specifying method	ALL	0 <0-1>	SYS	Selects the E-mail address specifying method on the Email submenu of the Setup menu in TopAccess. 0: To/Cc 1: To/Bcc	1
9958	Network	Bcc address display ON/ OFF setting (Job Log / Job Status)	ALL	0 <0-1>	SYS	Sets whether the Bcc address is displayed or not on the Job Log or Job Status when "1: To/ Bcc" is selected in the code 08-9957. 0: OFF (Bcc address not displayed) 1: ON (Bcc address displayed)	1
9959	Network	Bcc address display ON/ OFF setting (Job Notification)	ALL	1 <0-1>	SYS	Sets whether the Bcc address is displayed or not on all the Job Notifications except for the administrator when "1: To/Bcc" is selected in the code 08-9957. 0: OFF (Bcc address not displayed) 1: ON (Bcc address displayed)	1
9965	Version	Imaging Acceleration Board SROM version	ALL	-	-	I-XX.X.X	2

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9966	General	Imaging Acceleration Board operation check	ALL	-	-	0: No abnormality detected -1: Hardware abnormality -1000: Operation check disabled during the operation of the board -2000: Internal error	2
9972	User interface	Blank page judgment Default setting	PPC (color/ black)	0 <-3-3>	SYS	The larger the value is, the more the paper is judged as a blank page.The smaller the value is, the less the paper is judged as a blank page.	1
9973			SCN (color/ black)	0 <-3-3>	SYS		1
9974	User interface	ACS judgment adjustmentDefault setting	PPC (color/ black)	2 <-3-3>	SYS	The larger the value is, the more the original is judged as color data.The smaller the value is, the less the original is judged as black data.	1
9975			SCN (color/ black)	2 <-3-3>	SYS		1
9977	General	ACS original mode Default setting	PPC (color)	0 <0-2>	SYS	0: Text/Photo 1: Text 2: Printed image	1
9980	Network	Receiver's address fixing function at authentication	ALL	0 <0-4>	SYS	Fixes the receiver's address ("To: Destination" field) when the user authentication and E-mail authentication are enabled. 0: Disabled 1: "TO" is fixed, "CC" ("BCC") is unavailable 2: "TO" is available, "CC" ("BCC") is fixed 3: You can add addresses to "TO" 4: You can add addresses to "CC" ("BCC")	1
9981	Network	Sending body text of email	ALL	1 <0-1>	SYS	Sets whether the job information is output in the body of e-mail when executing e-mail send job. 0: Disabled 1: Enabled	1
9982	User interface	Switch of display attribute of [EXTENSION] icon	ALL	0 <0-1>	SYS	0: Touch is invalid when authentication is not completed. 1: Touch is valid when authentication is not completed.	1

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
9984-0	General	File and document name display mode for Job status/log screen	Document name	ALL	0 <0-2>	SYS	0: Normal display 1: Blank display 2: Asterisk display	4
9984-1			User name		0 <0-2>	SYS		
9984-2			Recipient/ file name		0 <0-2>	SYS		
9984-3			Sender name		0 <0-2>	SYS		
9984-4			Print/ agent type		0 <0-2>	SYS		
9985	User interface	Display screen assignment for MENU button		ALL	0 <0-2>	SYS	0: MENU screen 1: EWB screen 2: Meta Scan screen	1
9986	User interface	TEMPLATE initial display screen		ALL	1 <0-2>	SYS	0: Registration screen 1: Call screen 2: Meta Scan screen	1
9987	User interface	Setting retention after starting fax job		ALL	0 <0-3>	SYS	0: Clear all (display the authentication screen when authenticating the user or department) 1: Clear all 2: Clear destination only 3: Retain all	1

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24.9 Pixel counter

24.9.1 Outline

1. Outline
   Pixel counter is a function that counts the number of dots emitted by the laser and converts it into the print ratio (%) per standard paper size. This “Print ratio (%) per standard paper size” is called Pixel count (%).

   This function enables you to know how each user uses the equipment and to grasp the tendency of toner consumption (number of output pages per cartridge).
2. Factors affecting toner consumption
   Standard number of output pages per cartridge shows the average number of output pages under the condition that the data of print ratio 6% is printed on the standard paper size (A4/LT) at a normal temperature and humidity.
   However, users do not always print under the above condition. As for the type of original, copy/print mode and environment, each user has different tendency, and as a result, the number of output pages per cartridge becomes different depending on the user.

   The major factors affecting toner consumption are as follows:
   - Original/Data coverage
   - Original/Data density
   - Original/Print mode
   - Density setting

   Also there are other factors in addition to the above, such as environment, individual difference of equipment, difference in lot quality of materials, toner density and drum surface potential.

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The general relations between the above 4 factors and toner consumption per output page in the copy function are as follows:

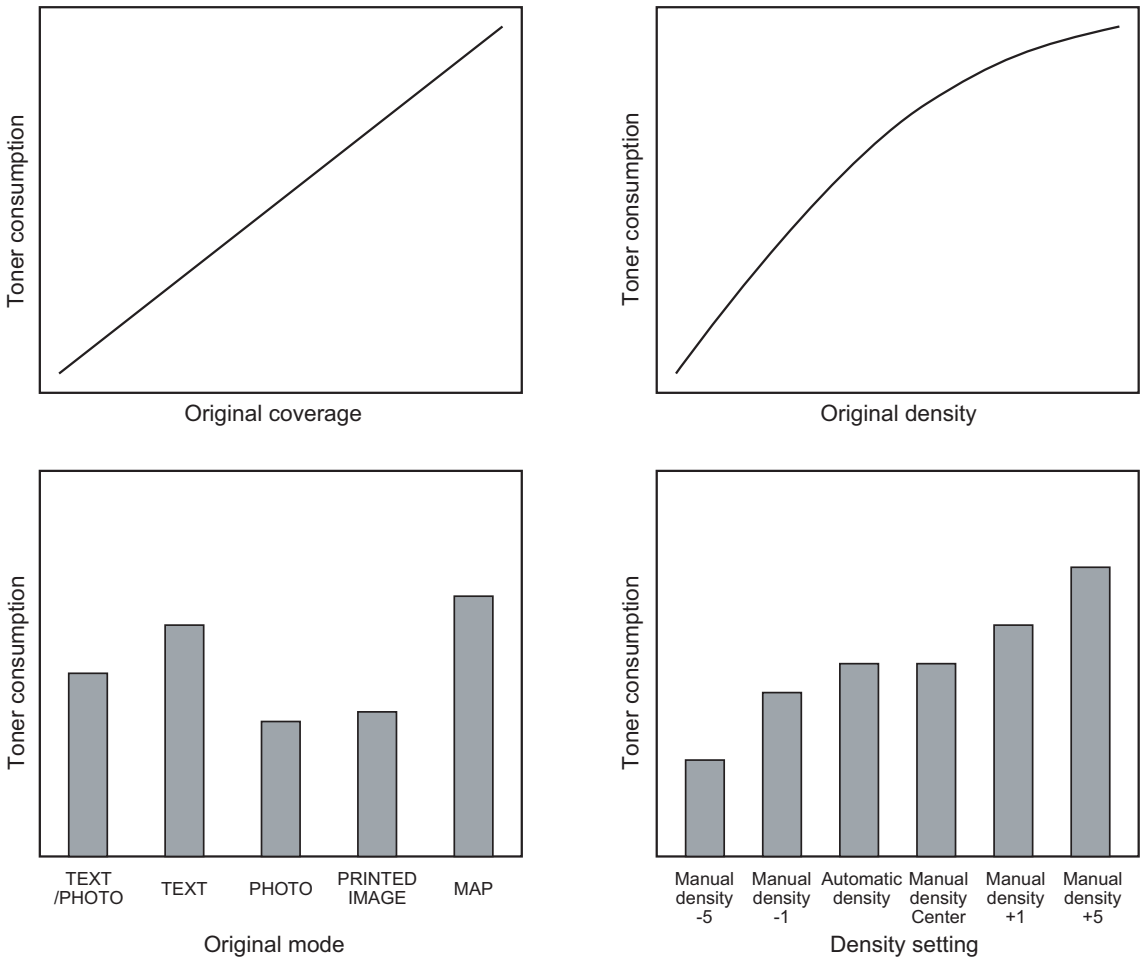

Fig. 24-1

3. Details of pixel counter
   - Toner cartridge reference and service technician reference
     The pixel counter function in this equipment has 2 references, toner cartridge reference and service technician reference.

     Toner cartridge reference
     This is a system that accumulates data between the installation of a new toner cartridge and next installation.
     The installation of new toner cartridge is judged when the total number of pixel count or output pages after the detection of toner cartridge empty has exceeded the threshold.
     The threshold to be used is selectable in the setting mode (08-1506) between the pixel count and output pages (0: Output pages 1: Pixel counter). The threshold of pixel count is set in the setting mode (08-1508) and that of output pages is set in the setting mode (08-1507). When the new toner cartridge is judged as installed, the data related with the previous cartridge is cleared and replaced with the data after the installation of new cartridge. Clearing of the counter of the toner cartridge reference is performed in the setting mode (08-1503).

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Service technician reference
This is a system that accumulates data between clearing the counter of the service technician reference by service technician and subsequently clearing the same counter.
Clearing of the counter of the service technician reference is performed in the setting mode (08-1502).

- Print count (number of output pages)
The number of output pages shown at the pixel counter is counted after converting all paper sizes to the standard paper size (A4/LT). Printing on other than the standard size is converted by paper area ratio. The standard paper size is set in the setting mode (08-1500).
The examples of conversion are as follows:

Ex.)
"1" is added to the print count when printing on A4/LT size.

"2" is added to the print count when printing on A3/LD size. (area ratio to A4/LT: 200%)

"1.49" is added to the print count when printing on B4 size. (area ratio to A4: 149%)

"1.27" is added to the print count when printing on LG size. (area ratio to LT: 127%)

- Pixel count (%)
Pixel count (%) shows the ratio of laser emitting pixels to all pixels on standard paper.
The examples of pixel count are as follows:

Note:
In the following examples, 'solid copy' is considered to be 100%. But since the image has 4 margins, it never becomes 100% actually.

Ex.)
Printing 5 pages on A4/LT size with solid copy (Laser emits to all pixels.)
→ Pixel count: 100%, Print count: 5

Printing 5 pages on A4/LT size with blank copy (Laser never emits.)
→ Pixel count: 0%, Print count: 5

Printing 2 pages on A4/LT size with solid copy (Laser emits to all pixels.)
Printing 2 pages on A4/LT size with blank copy (Laser never emits.)
→ Pixel count: 50%, Print count: 4

Printing 3 pages on A4/LT size with 6% of laser emission
Printing 1 page on A4/LT size with 2% of laser emission
→ Pixel count: 5%, Print count: 4

Printing 2 pages on A3/LD size with solid copy (Laser emits to all pixels.)
→ Pixel count: 100%, Print count: 4

Printing 2 pages on A3/LD size with 6% of laser emission
→ Pixel count: 6%, Print count: 4

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- Average pixel count (%) and latest pixel count (%)
  There are 2 types of the value calculated as the pixel count, average pixel count (%) and latest pixel count (%).

  Average pixel count (%)
  The average value of all pixel count data after each reference data is cleared is calculated and displayed.

  Latest pixel count (%)
  The value is displayed for printing just before the pixel counter is confirmed.

- Type of calculated data
  Since this is multifunctional and color equipment, the data of pixel count is calculated for each function and color.
  The following list is the information that can be confirmed by LCD screen. But actually, more information can be confirmed by the setting mode (08).
  See after-mentioned “5)-Display in the setting mode (08)” for details.

○: With data
—: Without data

	Toner cartridge reference				Service technician reference					
					Full color/Twin color					Black
	Yellow	Magenta	Cyan	Black	Total	Yellow	Magenta	Cyan	Black	
Copier function	○	○	○	○	○	○	○	○	○	○
Printer function	○	○	○	○	○	○	○	○	○	○
FAX function	-	-	-	○	-	-	-	-	-	○
Total	○	○	○	○	○	○	○	○	○	○

Table 2-201 Type of calculated data

- Setting related with the pixel counter function
  Standard paper size setting
  The standard paper size (A4 or LT) to convert it into the pixel count is selected (08-1500).

  Pixel counter display setting
  Whether or not to display the pixel counter on the LCD screen is selected (08-1504).

  Display reference setting
  The reference when displaying the pixel counter on the LCD screen (toner cartridge reference or service technician reference) is selected (08-1505).

  Determination counter of toner empty
  This is the counter to determine the replacement of new toner cartridge after the toner empty is detected.
  After the toner empty is detected by the auto-toner sensor, this counter checks if toner empty is not detected one more time while the specified number of pixel count or output pages is counted.

  Pixel counter clearing
  There are 3 types for the pixel count clear as follows:
  08-1501: All information related to the pixel count is cleared.
  08-1502: All information related to the service technician reference pixel count is cleared.
  08-1503: All information related to the toner cartridge reference pixel count is cleared.

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4. Relation between pixel count and toner consumption
   The user's printing out the image with large coverage or high density may cause the large value of pixel count. And the setting that toner consumption becomes high in the original mode or density setting may cause it as well.
   In this case, the replacement cycle of toner cartridge is faster than the standard number of output pages. Therefore, this trend needs to be grasped for the service.
   The relation between pixel count and number of output pages per cartridge is as follows:

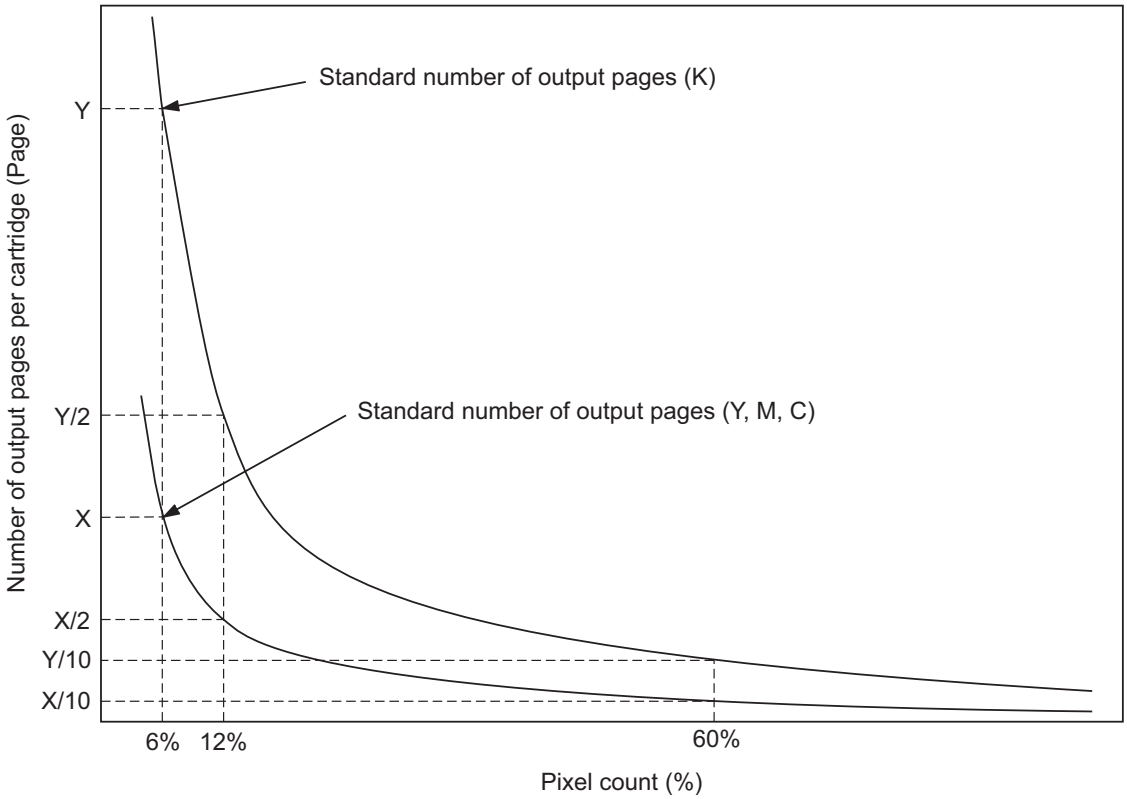

Fig. 24-2 Pixel count and number of output pages per cartridge

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5. Pixel counter confirmation
   - Display on LCD screen
     Whether or not to display the pixel counter on the LCD screen is selected (0: Displayed, 1: Not displayed) in the setting mode (08-1504), and whether or not to display it at the service technician reference or toner cartridge reference is selected (0: Service technician reference, 1: Toner cartridge reference) in the setting mode (08-1505).

     The following screen is displayed when the buttons, [COUNTER] and [PIXEL COUNTER] are pressed in this order after “Displayed” is selected with the code above and the power is, as usual, turned ON. (The displayed buttons are depending on the setting of 08-1505.)

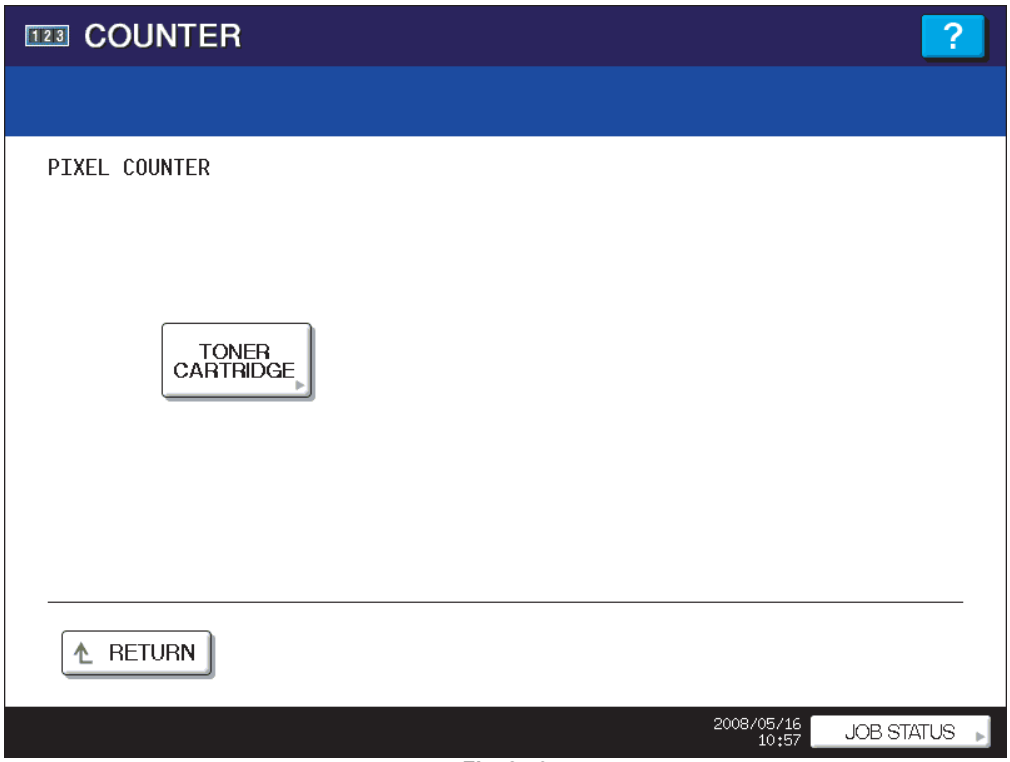

Fig. 24-3

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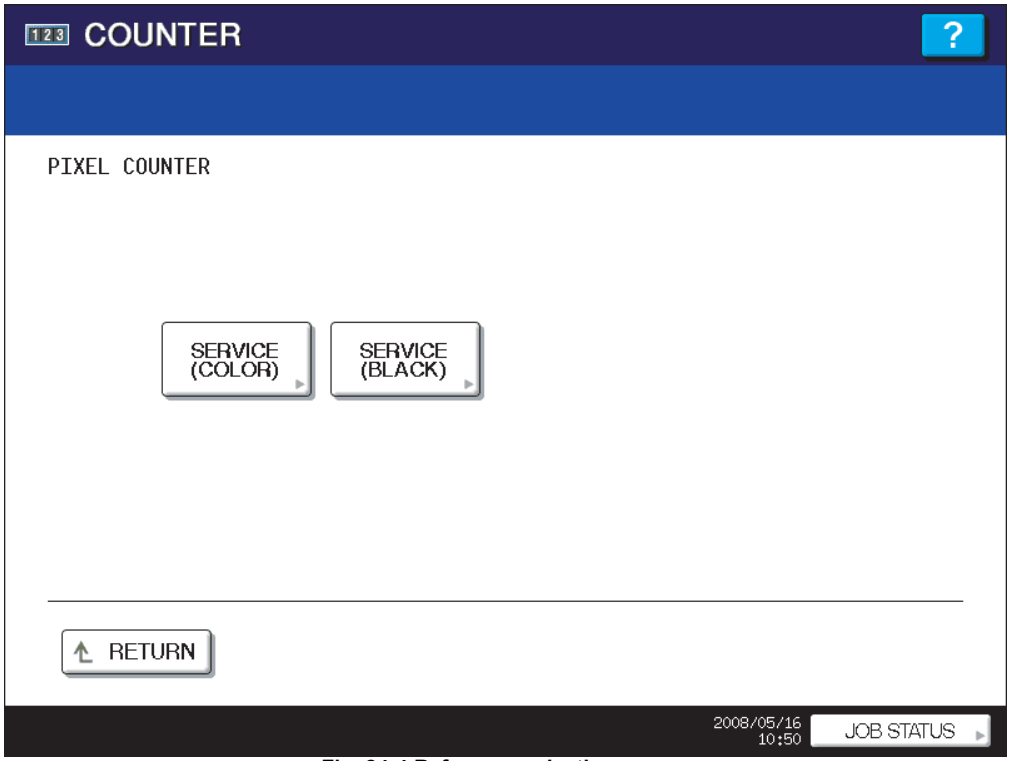

Fig. 24-4 Reference selection screen

When selecting and pressing the button in the above screen, each pixel counter screen is displayed.
[TONER CARTRIDGE] button: Information screen of toner cartridge reference is displayed.
[SERVICE (COLOR)] button: Information screen of service technician reference (full color) is displayed.
[SERVICE (BLACK)] button: Information screen of service technician reference (black) is displayed.

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The following screen is displayed when pressing the [TONER CARTRIDGE] button.

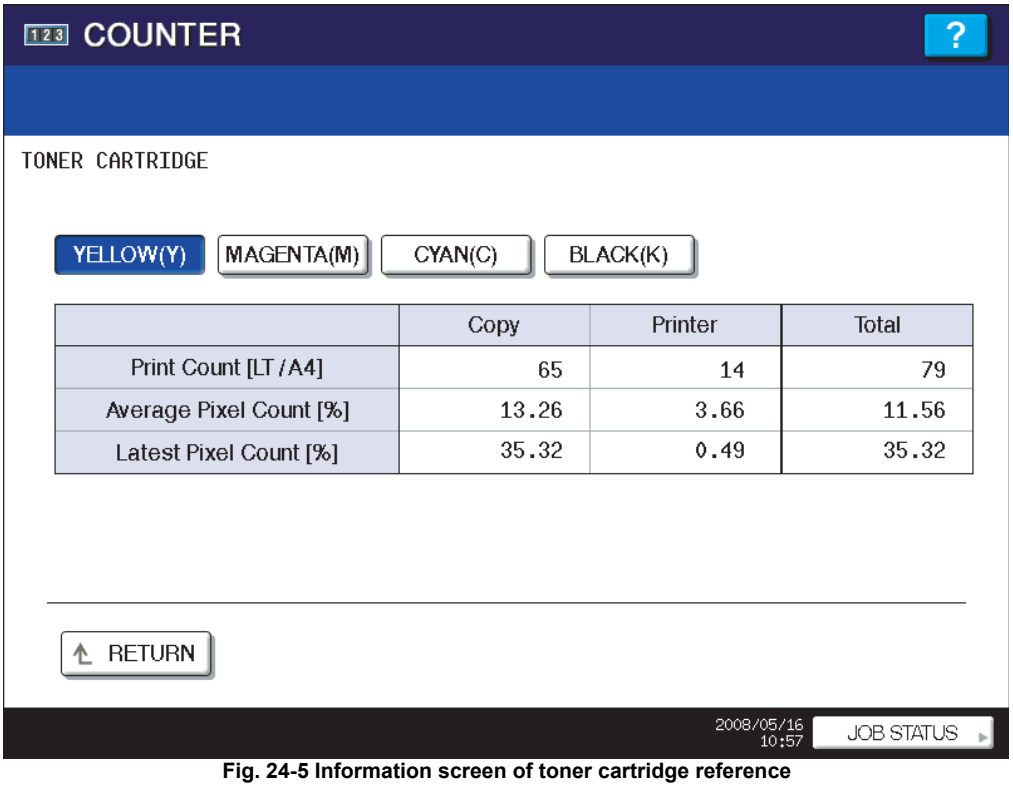

Fig. 24-5 Information screen of toner cartridge reference

The following screen is displayed when pressing the [SERVICE (COLOR)] button.

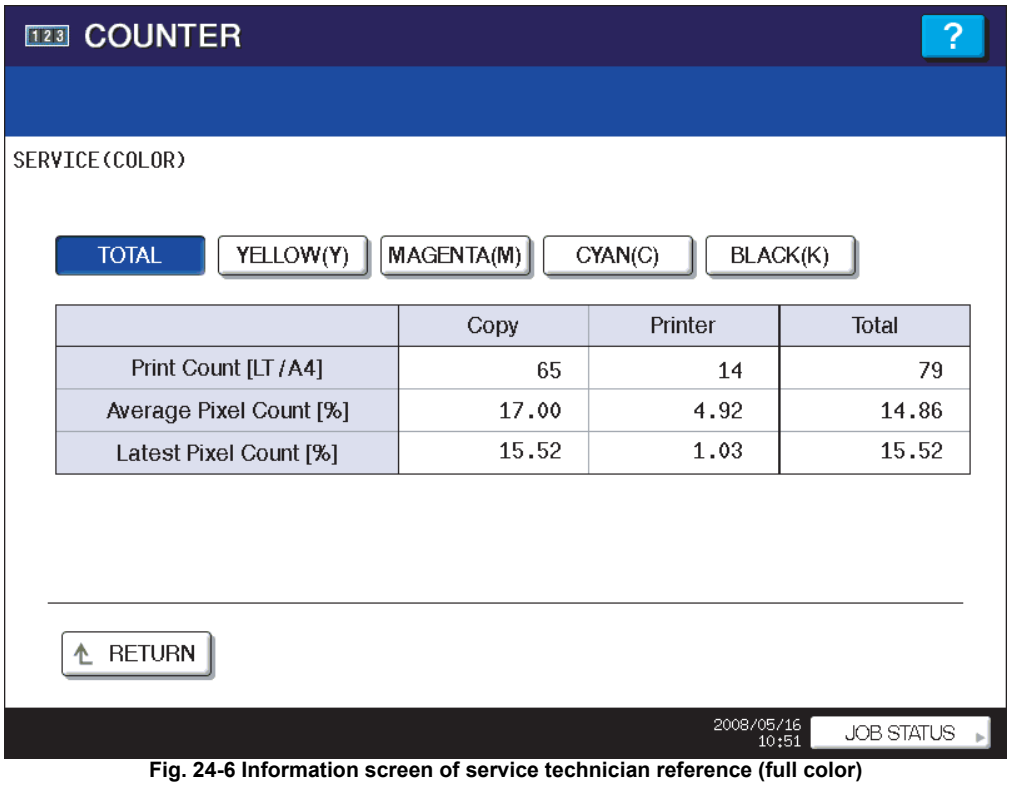

Fig. 24-6 Information screen of service technician reference (full color)

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The following screen is displayed when pressing the [SERVICE (BLACK)] button.

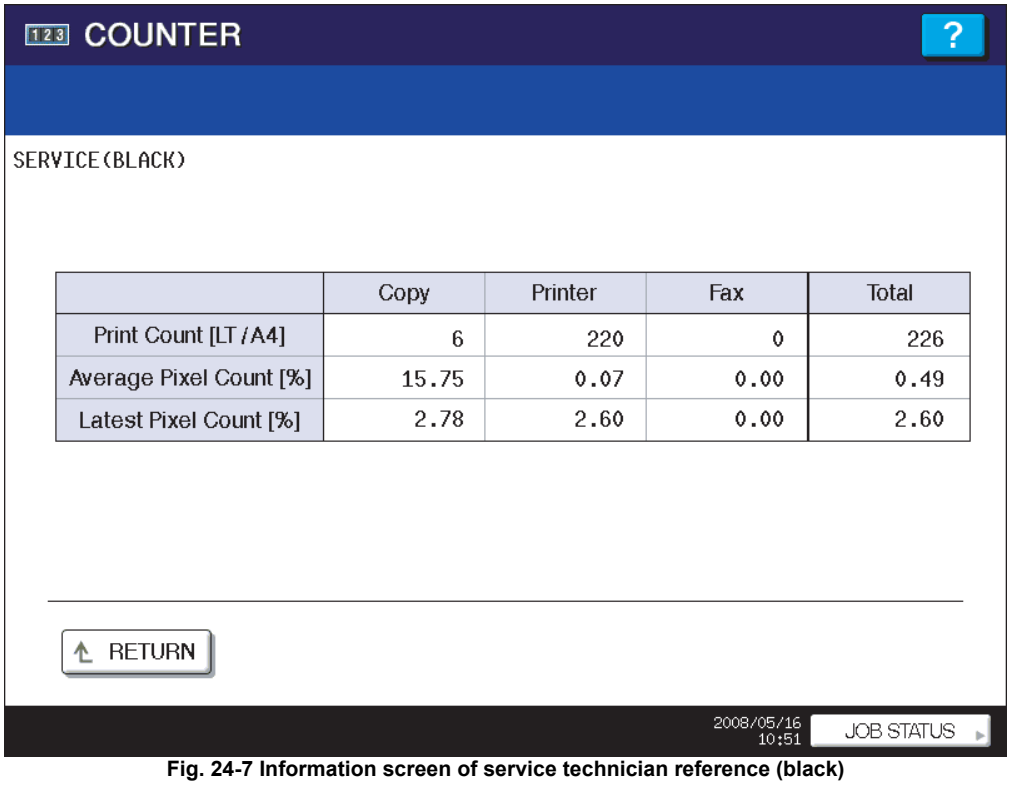

Fig. 24-7 Information screen of service technician reference (black)

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- Data list printing
  The data for pixel counter can be printed in the list print mode (9S).
  9S-104: The data of the toner cartridge reference is printed.
  9S-105: The data of service technician reference is printed.

PIXEL COUNTER CODE LIST

'08-02-08 20:13

TOSHIBA e-STUDIO6530C

TONERCARTRIDGE

No	DATE	COL.		PPC	PRN	FAX	TOTAL
0	20080208	Y	Print Count[LT/A4]	181	45	---	226
1	20080208	Y	Average Pixel Count[%]	2.70	1.74	---	2.51
2	20080208	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
3	20080208	M	Print Count[LT/A4]	181	45	---	226
4	20080208	M	Average Pixel Count[%]	6.11	2	---	5.29
5	20080208	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
6	20080208	C	Print Count[LT/A4]	181	45	---	226
7	20080208	C	Average Pixel Count[%]	5.46	2	---	4.81
8	20080208	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
9	20080208	K	Print Count[LT/A4]	278	145	9	432
10	20080208	K	Average Pixel Count[%]	6.15	3.86	23.25	5.74
11	20080208	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig. 24-8 Data list of toner cartridge reference

PIXEL COUNTER CODE LIST

'08-02-08 20:13

TOSHIBA e-STUDIO6530C

SERVICEMAN

No	DATE	COL.		PPC	PRN	FAX	TOTAL
0	20080208	F	Print Count[LT/A4]	181	45	---	226
1	20080208	F	Average Pixel Count[%]	4.95	2.34	---	4.43
2	20080208	F	Latest Pixel Count[%]	8.36	2.34	---	2.34
3	20080208	Y	Print Count[LT/A4]	181	45	---	226
4	20080208	Y	Average Pixel Count[%]	2.7	1.74	---	2.51
5	20080208	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
6	20080208	M	Print Count[LT/A4]	181	45	---	226
7	20080208	M	Average Pixel Count[%	6.11	2	---	5.29
8	20080208	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
9	20080208	C	Print Count[LT/A4]	181	45	---	226
10	20080208	C	Average Pixel Count[%]	5.46	2.18	---	4.81
11	20080208	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
12	20080208	K	Print Count[LT/A4]	181	45	---	226
13	20080208	K	Average Pixel Count[%]	5.51	3.43	---	5.10
14	20080208	K	Latest Pixel Count[%]	14.05	4.10	---	4.10
15	20080208	K	Print Count[LT/A4]	97	100	9	206
16	20080208	K	Average Pixel Count[%]	7.36	4.06	23.25	6.45
17	20080208	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig. 24-9 Data list of service technician reference

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- Display in the setting mode (08)
  Information of pixel count can be also checked in the setting mode (08).
  For details, see 📖 P.24-74 "24.6 Counter".

Print count, pixel count

		Full color/Twin color				Black	Black (at color) + Black
		Yellow	Magenta	Cyan	Black		
Copier function	Print count (page)	1557	1559	1561	1552	1553	-
	Average pixel count (%)	1609	1610	1611	1612	1613	1614
	Latest pixel count (%)	1626	1627	1628	1629	1639	-
Printer function	Print count (page)	1558	1560	1562	1554	1555	-
	Average pixel count (%)	1615	1616	1617	1618	1619	1620
	Latest pixel count (%)	1630	1631	1632	1633	1640	-
FAX function	Print count (page)	-	-	-	-	1556	-
	Average pixel count (%)	-	-	-	-	1625	-
	Latest pixel count (%)	-	-	-	-	1634	-
Total	Average pixel count (%)	1621	1622	1623	-	-	1624

Table 2-202 Pixel count code table (toner cartridge reference)

		Full color/Twin color					Black
		Total	Yellow	Magenta	Cyan	Black	
Copier function	Print count (page)	1547	-	-	-	-	1548
	Average pixel count (%)	1577	1578	1579	1580	1581	1592
	Latest pixel count (%)	1596	1597	1598	1599	1600	1606
Printer function	Print count (page)	1549	-	-	-	-	1550
	Average pixel count (%)	1582	1583	1584	1585	1586	1593
	Latest pixel count (%)	1601	1602	1603	1604	1605	1607
FAX function	Print count (page)	-	-	-	-	-	1551
	Average pixel count (%)	-	-	-	-	-	1594
	Latest pixel count (%)	-	-	-	-	-	1608
Total	Average pixel count (%)	1587	1588	1589	1590	1591	1595

Table 2-203 Pixel count code table (service technician reference)

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Pixel count distribution

		Full color/Twin color				Black
		Yellow	Magenta	Cyan	Black	
Copier function	Print count distribution (page)	1641	1642	1643	1644	1649
Printer function	Print count distribution (page)	1645	1646	1647	1648	1650
FAX function	Print count distribution (page)	-	-	-	-	1651

Table 2-204 Pixel count code table

Note:

By entering the sub code at the above code, the pixel count distribution can be displayed dividing into 10 ranges. The sub codes are as follows.

0: 0 - 5% 1: 5.1 - 10% 2: 10.1 - 15% 3: 15.1 - 20% 4: 20.1 - 25%
5: 25.1 - 30% 6: 30.1 - 40% 7: 40.1 - 60% 8: 60.1- 80% 9: 80.1 - 100%

Other information

Toner cartridge replacement counter.
The toner cartridge replacement count is displayed.

08-1563: Toner cartridge Y
08-1564: Toner cartridge M
08-1565: Toner cartridge C
08-1566: Toner cartridge K

Toner cartridge reference count started date
The toner cartridge reference count started date is displayed.

08-1515: Toner cartridge Y
08-1516: Toner cartridge M
08-1517: Toner cartridge C
08-1518: Toner cartridge K

Service technician reference cleared date
The service technician reference cleared date (08-1510) is displayed.
The date (08-1502 was performed) is stored.

Toner cartridge reference cleared date
The toner cartridge reference cleared date is displayed.
The date (08-1503 was performed) is stored.

08-1511: Toner cartridge Y
08-1512: Toner cartridge M
08-1513: Toner cartridge C
08-1514: Toner cartridge K

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24.9.2 Pixel counter related code

Note:
In the pixel counter function, the twin color copy mode is regarded as the full color mode.

Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1500	Pixel counter	Standard paper size setting	ALL	EUR: 0 UC: 1 JPN: 0 <0-1>	SYS	Selects the standard paper size to convert it into the pixel count (%). 0: A4 1: LT	1
1501	Pixel counter	Pixel counter all clearing	ALL	-	SYS	Clears all information related to the pixel counter.	3
1502	Pixel counter	Service technician reference counter clearing	ALL	-	SYS	Clears all information related to the service technician reference pixel counter.	3
1503	Pixel counter	Toner cartridge reference counter clearing	ALL	-	SYS	Clears all information related to the toner cartridge reference pixel counter.	3
1504	Pixel counter	Pixel counter display setting	ALL	1 <0-1>	SYS	Selects whether or not to display the pixel counter on the LCD screen. 0: Displayed 1: Not displayed	1
1505	Pixel counter	Displayed reference setting	ALL	0 <0-1>	SYS	Selects the reference when displaying the pixel counter on the LCD screen. 0: Service technician reference 1: Toner cartridge reference	1
1506	Pixel counter	Toner empty determination counter setting	ALL	0 <0-1>	SYS	Selects the counter to determine toner empty. 0: Output pages 1: Pixel counter	1
1507	Pixel counter	Threshold setting for toner empty determination (Output pages)	ALL	500 <0-999>	SYS	Sets the number of output pages to determine toner empty. This setting is valid when “0” is set at 08-1506.	1
1508	Pixel counter	Threshold setting for toner empty determination (Pixel counter)	ALL	21500 <0-60000>	SYS	Sets the number of output pages to determine toner empty. This setting is valid when “1” is set at 08-1506.	1
1509	Pixel counter	Pixel counter clear flag/ Service technician reference	ALL	0 <0-1>	SYS	Becomes “1” when 08-1502 is performed.	2
1510	Pixel counter	Service technician reference cleared date	ALL	-	SYS	Displays the date on which 08-1502 was performed.	2
1511	Pixel counter	Toner cartridge reference cleared date (Y)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1512	Pixel counter	Toner cartridge reference cleared date (M)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1513	Pixel counter	Toner cartridge reference cleared date (C)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1514	Pixel counter	Toner cartridge reference cleared date (K)	ALL	-	SYS	Displays the date on which 08-1503 was performed.	2
1515	Pixel counter	Toner cartridge reference count started date (Y)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1516	Pixel counter	Toner cartridge reference count started date (M)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1517	Pixel counter	Toner cartridge reference count started date (C)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1518	Pixel counter	Toner cartridge reference count started date (K)	ALL	-	SYS	Displays the date on which 08-1503 was performed.	2
1547	Pixel counter	Number of output pages/ fullcolor (Service technician reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode and service technician reference. [Unit. page]	2
1548	Pixel counter	Number of output pages/ black (Service technician reference)	PPC (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, black mode and service technician reference. [Unit. page]	2
1549	Pixel counter	Number of output pages/ fullcolor (Service technician reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode and service technician reference. [Unit. page]	2
1550	Pixel counter	Number of output pages/ black (Service technician reference)	PRT (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, black mode and service technician reference. [Unit. page]	2
1551	Pixel counter	Number of output pages/ black (Service technician reference)	FAX (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the FAX function, black mode and service technician reference. [Unit. page]	2

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1552	Pixel counter	Number of output pages/ full color (K) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner K and toner cartridge reference. [Unit. page]	2
1553	Pixel counter	Number of output pages/ black (Toner cartridge reference)	PPC (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, black mode and toner cartridge reference. [Unit. page]	2
1554	Pixel counter	Number of output pages/ full color (K) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner K and toner cartridge reference. [Unit. page]	2
1555	Pixel counter	Number of output pages/ black (Toner cartridge reference)	PRT (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, black mode and toner cartridge reference. [Unit. page]	2
1556	Pixel counter	Number of output pages/ black (Toner cartridge reference)	FAX (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the FAX function, black mode and toner cartridge reference. [Unit. page]	2
1557	Pixel counter	Number of output pages/ full color (Y) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner Y and toner cartridge reference. [Unit. page]	2
1558	Pixel counter	Number of output pages/ full color (Y) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner Y and toner cartridge reference. [Unit. page]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1559	Pixel counter	Number of output pages/ full color (M) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner M and toner cartridge reference. [Unit. page]	2
1560	Pixel counter	Number of output pages/ full color (M) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner M and toner cartridge reference. [Unit. page]	2
1561	Pixel counter	Number of output pages/ full color (C) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner C and toner cartridge reference. [Unit. page]	2
1562	Pixel counter	Number of output pages/ full color (C) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner C and toner cartridge reference. [Unit. page]	2
1563	Pixel counter	Toner cartridge Y replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge Y replacement.	2
1564	Pixel counter	Toner cartridge M replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge M replacement.	2
1565	Pixel counter	Toner cartridge C replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge C replacement.	2
1566	Pixel counter	Toner cartridge K replacement counter	ALL	<3 digits>	SYS	Counts the number of time of the toner cartridge K replacement.	2
1577	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	**Classification**	**Items**	**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1578	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1579	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1580	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1581	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1582	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1583	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1584	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1585	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1586	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1587	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1588	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1589	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1590	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1591	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1592	Pixel counter	Average pixel count/black (Service technician reference)	PPC (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, black mode and service technician reference. [Unit: 0.01%]	2
1593	Pixel counter	Average pixel count/black (Service technician reference)	PRT (black)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, black mode and service technician reference. [Unit: 0.01%]	2
1594	Pixel counter	Average pixel count/black (Service technician reference)	FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the FAX function, black mode and service technician reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1595	Pixel counter	Average pixel count/black (Service technician reference)	PPC/ PRT/ FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer/FAX function, black mode and service technician reference. [Unit: 0.01%]	2
1596	Pixel counter	Latest pixel count/full color (Y+M+C+K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1597	Pixel counter	Latest pixel count/full color (Y) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1598	Pixel counter	Latest pixel count/full color (M) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1599	Pixel counter	Latest pixel count/full color (C) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1600	Pixel counter	Latest pixel count/full color (K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1601	Pixel counter	Latest pixel count/full color (Y+M+C+K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1602	Pixel counter	Latest pixel count/full color (Y) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1603	Pixel counter	Latest pixel count/full color (M) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1604	Pixel counter	Latest pixel count/full color (C) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1605	Pixel counter	Latest pixel count/full color (K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1606	Pixel counter	Latest pixel count/black (Service technician reference)	PPC (black)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, black mode and service technician reference. [Unit: 0.01%]	2
1607	Pixel counter	Latest pixel count/black (Service technician reference)	PRT (black)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, black mode and service technician reference. [Unit: 0.01%]	2
1608	Pixel counter	Latest pixel count/black (Service technician reference)	FAX (black)	0 <0-10000>	SYS	Displays the latest pixel count in the FAX function, black mode and service technician reference. [Unit: 0.01%]	2
1609	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1610	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1611	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1612	Pixel counter	Average pixel count/full color (K) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1613	Pixel counter	Average pixel count/black (Toner cartridge reference)	PPC (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1614	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PPC	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color/black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1615	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1616	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1617	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1618	Pixel counter	Average pixel count/full color (K) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1619	Pixel counter	Average pixel count/black (Toner cartridge reference)	PRT (black)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1620	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PRT	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color/black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1621	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2

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Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1622	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1623	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1624	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PPC/ PRT/ FAX	0 <0-10000>	SYS	Displays the average pixel count in the copy/ printer/FAX function, black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1625	Pixel counter	Average pixel count/black (Toner cartridge reference)	FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the FAX function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1626	Pixel counter	Latest pixel count/full color (Y) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner Y and toner cartridge reference. [Unit:0.01%]	2
1627	Pixel counter	Latest pixel count/full color (M) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1628	Pixel counter	Latest pixel count/full color (C) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1629	Pixel counter	Latest pixel count/full color (K) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1630	Pixel counter	Latest pixel count/full color (Y) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1631	Pixel counter	Latest pixel count/full color (M) (Toner cartridge reference)		PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1632	Pixel counter	Latest pixel count/full color (C) (Toner cartridge reference)		PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1633	Pixel counter	Latest pixel count/full color (K) (Toner cartridge reference)		PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1634	Pixel counter	Latest pixel count/black (Toner cartridge reference)		FAX (black)	0 <0-10000>	SYS	Displays the latest pixel count in the FAX function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1639	Pixel counter	Latest pixel count/black (Toner cartridge reference)		PPC (black)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1640	Pixel counter	Latest pixel count/black (Toner cartridge reference)		PRT (black)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1641-0	Pixel counter	Pixel count distribution/ full color (Y)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner Y are displayed. [Unit: page]	14
1641-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1641-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1641-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1641-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1641-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1641-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1641-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1641-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1641-9			80.1-100%	PPC (color)	<8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1642-0	Pixel counter	Pixel count distribution/ full color (M)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner M are displayed. [Unit: page]	14
1642-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1642-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1642-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1642-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1642-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1642-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1642-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1642-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1642-9			80.1-100%	PPC (color)	<8 digits>	SYS		14
1643-0	Pixel counter	Pixel count distribution/ full color (C)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner C are displayed. [Unit: page]	14
1643-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1643-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1643-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1643-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1643-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1643-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1643-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1643-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1643-9			80.1-100%	PPC (color)	<8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1644-0	Pixel counter	Pixel count distribution/ full color (K)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner K are displayed. [Unit: page]	14
1644-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1644-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1644-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1644-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1644-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1644-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1644-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1644-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1644-9			80.1-100%	PPC (color)	<8 digits>	SYS		14
1645-0	Pixel counter	Pixel count distribution/ full color (Y)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner Y are displayed. [Unit: page]	14
1645-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1645-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1645-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1645-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1645-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1645-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1645-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1645-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1645-9			80.1-100%	PRT (color)	<8 digits>	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1646-0	Pixel counter	Pixel count distribution/ full color (M)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner M are displayed. [Unit: page]	14
1646-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1646-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1646-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1646-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1646-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1646-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1646-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1646-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1646-9			80.1-100%	PRT (color)	<8 digits>	SYS		14
1647-0	Pixel counter	Pixel count distribution/ full color (C)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner C are displayed. [Unit: page]	14
1647-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1647-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1647-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1647-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1647-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1647-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1647-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1647-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1647-9			80.1-100%	PRT (color)	<8 digits>	SYS		14

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Setting mode (08)								
Code	**Classification**	**Items**		**Function**	**Default <Acceptable value>**	**RAM**	**Contents**	**Procedure**
1648-0	Pixel counter	Pixel count distribution/ full color (K)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner K are displayed. [Unit: page]	14
1648-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1648-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1648-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1648-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1648-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1648-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1648-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1648-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1648-9			80.1-100%	PRT (color)	<8 digits>	SYS		14
1649-0	Pixel counter	Pixel count distribution/ black	0-5%	PPC (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function and black mode are displayed. [Unit: page]	14
1649-1			5.1-10%	PPC (black)	<8 digits>	SYS		14
1649-2			10.1-15%	PPC (black)	<8 digits>	SYS		14
1649-3			15.1-20%	PPC (black)	<8 digits>	SYS		14
1649-4			20.1-25%	PPC (black)	<8 digits>	SYS		14
1649-5			25.1-30%	PPC (black)	<8 digits>	SYS		14
1649-6			30.1-40%	PPC (black)	<8 digits>	SYS		14
1649-7			40.1-60%	PPC (black)	<8 digits>	SYS		14
1649-8			60.1-80%	PPC (black)	<8 digits>	SYS		14
1649-9			80.1-100%	PPC (black)	<8 digits>	SYS		14

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Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1650-0	Pixel counter	Pixel count distribution/ black	0-5%	PRT (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function and black mode are displayed. [Unit: page]	14
1650-1			5.1-10%	PRT (black)	<8 digits>	SYS		14
1650-2			10.1-15%	PRT (black)	<8 digits>	SYS		14
1650-3			15.1-20%	PRT (black)	<8 digits>	SYS		14
1650-4			20.1-25%	PRT (black)	<8 digits>	SYS		14
1650-5			25.1-30%	PRT (black)	<8 digits>	SYS		14
1650-6			30.1-40%	PRT (black)	<8 digits>	SYS		14
1650-7			40.1-60%	PRT (black)	<8 digits>	SYS		14
1650-8			60.1-80%	PRT (black)	<8 digits>	SYS		14
1650-9			80.1-100%	PRT (black)	<8 digits>	SYS		14
1651-0	Pixel counter	Pixel count distribution/ black	0-5%	FAX (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the FAX function and black mode are displayed. [Unit: page]	14
1651-1			5.1-10%	FAX (black)	<8 digits>	SYS		14
1651-2			10.1-15%	FAX (black)	<8 digits>	SYS		14
1651-3			15.1-20%	FAX (black)	<8 digits>	SYS		14
1651-4			20.1-25%	FAX (black)	<8 digits>	SYS		14
1651-5			25.1-30%	FAX (black)	<8 digits>	SYS		14
1651-6			30.1-40%	FAX (black)	<8 digits>	SYS		14
1651-7			40.1-60%	FAX (black)	<8 digits>	SYS		14
1651-8			60.1-80%	FAX (black)	<8 digits>	SYS		14
1651-9			80.1-100%	FAX (black)	<8 digits>	SYS		14

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24.10 PM support mode related code

The management items at PM support mode can also be operated at setting mode (08).
The following items are displayed or set by using sub-codes at PM management setting in the table below.

<Sub-codes>
0: Present number of output pages
- Means the present number of output pages.

1: Recommended number of output pages for replacement
- Means the recommended number of output pages for replacement.

2: Number of output pages at the last replacement
- Means the number of output pages at the last replacement.

3: Present driving counts
- Means the present drive counts (1 count = 2 seconds).

4: Recommended driving counts to be replaced
- Means the recommended drive counts for replacement (1 count = 2 seconds).

5: Driving counts at the last replacement
- Means the drive counts at the last replacement.

6: Present output pages for control
- Means the present number of output pages for controlling.

7: Present driving counts for control
- Means the present drive counts for controlling (1 count = 2 seconds).

8: Number of times replaced
- Counts up when clearing the counter of each unit in the PM Support Mode Screen.

Notes:
- Sub-code 0 is equivalent to sub-code 6.
- Sub-code 3 is equivalent to sub-code 7.
- When the value of sub-code 3 is changed, the value of sub-code 7 is also updated and vice versa.
- When "0" is set at one of sub-codes 0, 3, 6 and 7, the rest of them are automatically updated to "0".

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Photoconductive drum (K)	1150-0 to 8	1151	<Default values of code 1150 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Photoconductive drum (Y)	1152-0 to 8	1153	<Default values of code 1152 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Photoconductive drum (M)	1154-0 to 8	1155	<Default values of code 1154 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Photoconductive drum (C)	1156-0 to 8	1157	<Default values of code 1156 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Drum cleaning blade (K)	1158-0 to 8	1159	<Default values of code 1158 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Drum blade cleaner (Y)	1160-0 to 8	1161	<Default values of code 1160 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 270,000/270,000/ 270,000 Sub-code 4: 285,000/285,000/ 285,000
Drum blade cleaner (M)	1162-0 to 8	1163	<Default values of code 1162 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Drum blade cleaner (C)	1164-0 to 8	1165	<Default values of code 1164 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger grid (K)	1174-0 to 8	1175	<Default values of code 1174 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger grid (Y)	1176-0 to 8	1177	<Default values of code 1176 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger grid (M)	1178-0 to 8	1179	<Default values of code 1178 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Charger grid (C)	1180-0 to 8	1181	<Default values of code 1180 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger (Wire/needle)(K)	1182-0 to 8	1183	<Default values of code 1182 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger (Wire/needle)(Y)	1184-0 to 8	1185	<Default values of code 1184 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger (Wire/needle)(M)	1186-0 to 8	1187	<Default values of code 1186 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger (Wire/needle)(C)	1188-0 to 8	1189	<Default values of code 1188 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger cleaning pad (K)	1190-0 to 8	1191	<Default values of code 1190 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger cleaning pad (Y)	1192-0 to 8	1193	<Default values of code 1192 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Charger cleaning pad (M)	1194-0 to 8	1195	<Default values of code 1194 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Charger cleaning pad (C)	1196-0 to 8	1197	<Default values of code 1196 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Ozone filter-1	1198-0 to 8	1199	<Default values of code 1198 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
Developer material	1200-0, 2, 3, 5, 6, 7, 8	1201	<Default values of code 1200 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Developer material Y	1202-0, 2, 3, 5, 6, 7, 8	1203	<Default values of code 1202 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Developer material M	1204-0, 2, 3, 5, 6, 7, 8	1205	<Default values of code 1204 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Developer material C	1206-0, 2, 3, 5, 6, 7, 8	1207	<Default values of code 1206 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Toner filter	1208-0 to 8	1209	<Default values of code 1208 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 222,000/222,000/ 222,000
1st transfer roller (K)	1214-0, 2, 3, 5, 6, 7, 8	1215	<Default values of code 1214 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
1st transfer roller (Y)	1216-0, 2, 3, 5, 6, 7, 8	1217	<Default values of code 1216 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
1st transfer roller (M)	1218-0, 2, 3, 5, 6, 7, 8	1219	<Default values of code 1218 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
1st transfer roller (C)	1220-0, 2, 3, 5, 6, 7, 8	1221	<Default values of code 1220 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Transfer belt	1228-0, 2, 3, 5, 6, 7, 8	1229	<Default values of code 1228 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0
Transfer belt cleaning blade	1232-0 to 8	1233	<Default values of code 1232 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
2nd transfer roller	1240-0 to 8	1241	<Default values of code 1240 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 242,000/242,000/ 242,000
2nd transfer roller blade cleaner	1242-0 to 8	1243	<Default values of code 1242 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 242,000/242,000/ 242,000
Pressure roller	1250-0 to 8	1251	<Default values of code 1250 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 450,000/500,000/ 550,000 Sub-code 4: 1,804,000/1,804,000/ 1,804,000
Pressure roller separation finger	1270-0 to 8	1271	<Default values of code 1270 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 450,000/500,000/ 550,000 Sub-code 4: 1,804,000/1,804,000/ 1,804,000
Fuser belt	1272-0 to 8	1273	<Default values of code 1272 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 902,000/902,000/ 902,000
Fuser roller	1274-0 to 8	1275	<Default values of code 1274 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 902,000/902,000/ 902,000
Fuser belt guide	1276-0 to 8	1277	<Default values of code 1276 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 902,000/902,000/ 902,000
Pickup roller (RADF)	1282-0, 1, 2, 8	1283	<Default values of code 1282 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 120,000/120,000/ 120,000
Feed roller (RADF)	1284-0,1,2,8	1285	<Default values of code 1284 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 120,000/120,000/ 120,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Separation roller (RADF)	1286-0, 1, 2, 8	1287	<Default values of code 1286 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 120,000/120,000/ 120,000
Pickup roller (T-LCF)	1288-0, 1, 2, 8	1289	<Default values of code 1288 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 400,000/400,000/ 400,000
Pickup roller (1st drawer)	1290-0, 1, 2, 8	1291	<Default values of code 1290 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Pickup roller (2nd drawer)	1292-0,1,2,8	1293	<Default values of code 1292 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Pickup roller (O-LCF)	1294-0,1,2,8	1295	<Default values of code 1294 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 500,000/500,000/ 500,000
Feed roller (T-LCF)	1296-0,1,2,8	1297	<Default values of code 1296 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 400,000/400,000/ 400,000
Feed roller (1st drawer)	1298-0,1,2,8	1299	<Default values of code 1298 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Feed roller (2nd drawer)	1300-0,1,2,8	1301	<Default values of code 1300 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Feed roller (O-LCF)	1302-0, 1, 2, 8	1303	<Default values of code 1302 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 500,000/500,000/ 500,000
Separation roller (T-LCF)	1304-0,1,2,8	1305	<Default values of code 1304 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 400,000/400,000/ 400,000
Separation roller (1st drawer)	1306-0,1,2,8	1307	<Default values of code 1306 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Separation roller (2nd drawer)	1308-0,1,2,8	1309	<Default values of code 1308 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Separation roller (O-LCF)	1310-0,1,2,8	1311	<Default values of code 1310 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 500,000/500,000/ 500,000
Separation roller (3rd drawer)	1312-0,1,2,8	1313	<Default values of code 1312 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Separation roller (4th drawer)	1314-0,1,2,8	1315	<Default values of code 1314 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Separation roller (Bypass unit)	1316-0,1,2,8	1317	<Default values of code 1316 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 100,000/100,000/ 100,000
Feed roller (3rd drawer)	1320-0,1,2,8	1321	<Default values of code 1320 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Feed roller (4th drawer)	1322-0,1,2,8	1323	<Default values of code 1322 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Feed roller (Bypass unit)	1324-0,1,2,8	1325	<Default values of code 1324 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 100,000/100,000/ 100,000
Pickup roller (3rd drawer)	1328-0,1,2,8	1329	<Default values of code 1328 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Pickup roller (4th drawer)	1330-0,1,2,8	1331	<Default values of code 1330 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 200,000/200,000/ 200,000
Pickup roller (Bypass unit)	1332-0,1,2,8	1333	<Default values of code 1332 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 8: 0/0/0 Sub-code 1: 100,000/100,000/ 100,000
Ozone filter-2	1340-0 to 8	1341	<Default values of code 1340 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 222,000/222,000/ 222,000

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Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
2nd transfer facing roller cleaning pad	1342-0 to 8	1343	<Default values of code 1342 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 285,000/285,000/ 285,000
2nd transfer roller lubricant unit	1866-0 to 8	1867	<Default values of code 1866 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 242,000/242,000/ 242,000
TRU waste toner box	1868-0 to 8	1869	<Default values of code 1868 (e-STUDIO5520C/6520C/6530C)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0/0 Sub-code 1: 225,000/250,000/ 275,000 Sub-code 4: 242,000/242,000/ 242,000

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24.11 Default setting / restore setting of the EFI Printer Board

The codes whose value can be changed by performing "Default setting of the EFI Printer Board (08-700)" or "Restore setting of the EFI Printer Board (08-9952)" are listed below.

Adjustment mode (05)

Code	Item		Default value when 08-700 is performed	Default value when 08-9952 is performed
7323-0	Tagbit extension processing for printing (Black mode)	PS	1	1
7323-1		PCL	1	1
7323-2		XPS	1	1
8103-0	Tagbit extension processing for printing (Color mode)	PS	1	1
8103-1		PCL	1	1
8103-2		XPS	1	1

Setting mode (08)

Code	Item	Default value when 08-700 is performed	Default value when 08-9952 is performed
1006	Address Mode	1	2
1008	IP address	10 250 250 249	000 000 000 000
1009	Subnet mask	255 255 255 252	000 000 000 000
1010	Gateway	10 250 250 250	000 000 000 000
1011	Availability of IPX	2	1
1014	Availability of AppleTalk	2	1
1060	TCP port number of FTP server	50021	21
1073	Availability of Raw/TCP	2	1
1075	Availability of LPD client	2	1
1078	Availability of IPP	2	1
1089	Availability of FTP print	2	1
1103	Rendezvou setting	2	1
1464	Samba server ON/OFF setting	2	1
1482	User data department management	0	0
1496	Operation setting for User authentication/registration	0	1

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25. ERROR CODE and TROUBLESHOOTING

25.1 General Descriptions

This chapter explains the procedures for solving troubles occurring in the equipment.

When a trouble occurs, check if an error code is displayed on the LCD screen of the control panel first. If displayed, refer to “25.2Error Code List” to figure out the classification and contents of the error, and then refer to “25.3Diagnosis and Prescription for Each Error Code” to remove its cause.
If not displayed and the equipment does not operate properly or images are not printed properly, refer to “25.4Other errors” or “25.5Troubleshooting for the Image” to remove its cause.

Note:
If unusual odor is detected or if smoke or fire comes out of the equipment, immediately turn the power OFF.
Even in the cases other than the above, fully observe safety precautions.
If any PC board or HDD shall be replaced, refer to 📖 P.20-19 "20.2 Precautions, Procedures and Settings for Replacing PC Boards and HDD".

25.1.1 If a problem continues even after performing all troubleshooting

If a problem continues even after performing all troubleshooting and technical tips, report the problem to the appropriate Toshiba service center along with the following information. This information will help the service center understand your problem and take quick action to find the solution.

1. Serial Number

2. List Print
   Refer to the appropriate Service Manual / Service Handbook for the detailed procedure to obtain a List Print.
   A. Enter the value given below to obtain a List Print by CSV file.
      9S-300: All CSV files
   B. Enter the value given below to obtain a List Print by printing it out.
      9S-101: 05 code
      9S-102: 08 code
      9S-104: Pixel counter data (Toner cartridge standard)
      9S-106: Error history (1000 cases max)
      9S-108: Firmware update log (200 cases max)
      9S-110: Power on/off log (100 cases max)

3. For image-related problems, collect image samples with the problem areas and the feeding direction marked first. Then provide information about the media type and weight, and the print data / spool files for duplicating the problem.

4. For abnormal acoustic noise, describe the situation in as much detail as possible.

5. For hardware-related problems, provide photos of any broken parts, paper jams, etc. In case of paper jams, include the type of paper and its manufacturer.

6. For software-related problems, provide list prints, TopAccess Logs and the detailed procedure needed to duplicate the problem.

* This is the minimum information required to report a complaint. It would be appreciated if you could obtain additional information.
* Follow the directions of the service center if they request additional information as each issue is unique to some degree.

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25.2 Error Code List

The following error codes is displayed at the upper right of the screen when the “CLEAR PAPER” or “CALL SERVICE” symbol is blinking.

25.2.1 Jam

Error code	Classification	Contents	Troubleshooting
E010	Paper transport jam	Jam not reaching the fuser transport sensor The paper which has passed through the fuser unit does not reach the fuser transport sensor.	P. 25-35
E011	Other paper jam	Transfer belt paper-clinging jam: The paper after the 2nd transfer is clinging to the transfer belt, or a paper jam occurred between the registration roller and the paper clinging detection sensor.	P. 25-45
E020	Paper transport jam	Stop jam at the fuser transport sensor: The trailing edge of the paper does not pass the fuser transport sensor after its leading edge has reached this sensor.	P. 25-35
E030	Other paper jam	Power-ON jam: The paper is remaining on the paper transport path when power is turned ON.	P. 25-46
E061		Incorrect paper size setting for 1st drawer: The size of paper in the 1st drawer differs from size setting of the equipment.	P. 25-46
E062		Incorrect paper size setting for 2nd drawer: The size of paper in the 2nd drawer differs from size setting of the equipment.	P. 25-46
E063		Incorrect paper size setting for 3rd drawer: The size of paper in the 3rd drawer differs from size setting of the equipment.	P. 25-46
E064		Incorrect paper size setting for 4th drawer: The size of paper in the 4th drawer differs from size setting of the equipment.	P. 25-46
E065		Incorrect paper size setting for bypass tray: The size of paper in the bypass tray differs from size setting of the equipment.	P. 25-46
E071		1st drawer media type mis-setting jam: The media type setting of the 1st drawer is incorrect.	P. 25-47
E072		2nd drawer media type mis-setting jam: The media type setting of the 2nd drawer is incorrect.	P. 25-47
E073		3rd drawer media type mis-setting jam: The media type setting of the 3rd drawer is incorrect.	P. 25-47
E074		4th drawer media type mis-setting jam: The media type setting of the 4th drawer is incorrect.	P. 25-47
E075		Option LCF media type mis-setting jam: The media type setting of the option LCF is incorrect.	P. 25-47
E076		Tandem LCF media type mis-setting jam: The media type setting of the tandem LCF is incorrect.	P. 25-47
E090		Image data delay jam: Image data to be printed cannot be prepared.	P. 25-47
E091		Motor-ON time-out jam: The equipment does not operate normally because abnormality occurred on an interface between the SYS board and engine firmware.	P. 25-47
E0A0		Image transport ready time-out jam: Image data to be printed cannot be sent.	P. 25-47

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Error code	Classification	Contents	Troubleshooting
E110	Paper misfeeding	ADU misfeeding (Paper not reaching the registration sensor): The paper which has passed through ADU does not reach the registration sensor during duplex printing.	P. 25-32
E120		Bypass misfeeding (Paper not reaching the bypass feed sensor): Paper fed from the bypass tray does not reach the bypass feed sensor.	P. 25-32
E130		1st drawer misfeeding (Paper not reaching the 1st drawer feed sensor): The paper fed from the 1st drawer does not reach the 1st drawer feed sensor.	P. 25-32
E140		2nd drawer misfeeding (Paper not reaching the 2nd drawer feed sensor): The paper fed from the 2nd drawer does not reach the 2nd drawer feed sensor.	P. 25-33
E150		3rd drawer misfeeding (Paper not reaching the 3rd drawer feed sensor): The paper fed from the 3rd drawer does not reach the 3rd drawer feed sensor.	P. 25-33
E160		4th drawer misfeeding (Paper not reaching the 4th drawer feed sensor): The paper fed from the 4th drawer does not reach the 4th drawer feed sensor.	P. 25-34
E180		Option LCF misfeeding (Paper not reaching the LCF feed sensor): Paper fed from the LCF does not reach the LCF feed sensor.	P. 25-34
E190		LCF misfeeding (Paper not reaching the LCF feed sensor): The paper fed from the LCF does not reach the LCF feed sensor.	P. 25-34

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Error code	Classification	Contents	Troubleshooting
E200	Paper transport jam	1st drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.	P. 25-36
E210		2nd drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.	P. 25-36
E220		2nd drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer feed sensor after it has passed the 2nd drawer feed sensor.	P. 25-36
E230		1st drawer misfeeding (Paper not reaching the 1st drawer transport sensor): Paper fed from the 1st drawer does not reach the 1st drawer transport sensor.	P. 25-37
E240		.2nd drawer misfeeding (Paper not reaching the 2nd drawer transport sensor): Paper fed from the 2nd drawer does not reach the 2nd drawer transport sensor.	P. 25-37
E260		Option LCF transport jam (Paper not reaching the registration sensor):	P. 25-37
E270		Bypass transport jam (Paper not reaching the registration sensor): Paper fed from the bypass tray and passed through the bypass feed sensor does not reach the registration sensor.	P. 25-36
E290		Option LCF transport jam: Paper fed from the Option LCF does not reach the 1st drawer transport sensor.	P. 25-38
E2B0		Stop jam at the registration sensor (1st drawer)	P. 25-43
E2B1		Stop jam at the registration sensor (2nd drawer)	P. 25-43
E2B2		Stop jam at the registration sensor (3rd drawer)	P. 25-43
E2B3		Stop jam at the registration sensor (4th drawer)	P. 25-43
E2B4		Stop jam at the registration sensor (Bypass tray)	P. 25-43
E2B5		Stop jam at the registration sensor (LCF)	P. 25-43
E2B6		Stop jam at the registration sensor (ADU)	P. 25-43
E2B7		Stop jam at the registration sensor (option LCF)	P. 25-43
E300		3rd drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.	P. 25-36

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Error code	Classification	Contents	Troubleshooting
E310	Paper transport jam	3rd drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer feed sensor after it has passed the 2nd drawer feed sensor.	P. 25-36
E320		3rd drawer transport jam (Paper not reaching the 2nd drawer feed sensor): The paper does not reach the 2nd drawer feed sensor after it has passed the 3rd drawer feed sensor.	P. 25-38
E330		4th drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.	P. 25-36
E340		4th drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer feed sensor after it has passed the 2nd drawer feed sensor.	P. 25-36
E350		4th drawer transport jam (Paper not reaching the 2nd drawer feed sensor): The paper does not reach the 2nd drawer feed sensor after it has passed the 3rd drawer feed sensor.	P. 25-38
E360		4th drawer transport jam (Paper not reaching the 3rd drawer feed sensor): The paper does not reach the 3rd drawer feed sensor after it has passed the 4th drawer feed sensor.	P. 25-39
E370		3rd drawer misfeeding (Paper not reaching the 3rd drawer transport sensor): Paper fed from the 3rd drawer does not reach the 3rd drawer transport sensor.	P. 25-39
E380		4th drawer misfeeding (Paper not reaching the 4th drawer transport sensor): Paper fed from the 4th drawer does not reach the 4th drawer transport sensor.	P. 25-40
E3C0		LCF transport jam (Paper not reaching the registration sensor): Paper fed from the LCF and passed through the 1st drawer feed sensor does not reach the registration sensor.	P. 25-36
E3D0		LCF transport jam (Paper not reaching the 1st drawer feed sensor): Paper fed from the LCF and passed through the 2nd drawer feed sensor does not reach the 1st drawer feed sensor.	P. 25-36
E3E0		LCF transport jam (Paper not reaching the 2nd drawer feed sensor): Paper fed from the LCF and passed through the LCF feed sensor does not reach the 2nd drawer feed sensor.	P. 25-38
E3F0		Tandem LCF misfeeding (Paper not reaching the tandem LCF feed sensor): Paper fed from the Tandem LCF does not reach the tandem LCF transport sensor.	P. 25-40
E400	Cover open jam	Duplexing unit open jam	P. 25-49
E430		ADU open jam: The ADU has opened during printing.	P. 25-49
E440		Paper feed cover open jam: The paper feed cover has opened during printing.	P. 25-49
E450		LCF side cover open jam: The LCF side cover has opened during printing.	P. 25-49
E480		Bridge unit open jam: The bridge unit has opened during printing.	P. 25-49
E4A0		Waste toner cover open jam (printing)	P. 25-50
E4B0		Bridge unit open jam (printing): The bridge unit has opened during printing.	P. 25-50

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Error code	Classification	Contents	Troubleshooting
E510	Paper transport jam (ADU section)	Jam not reaching the ADU entrance sensor: The paper does not reach the ADU entrance sensor after it is switchbacked in the exit section.	P. 25-41
E511		ADU misfeeding (Paper not reaching the ADU transport sensor-1)	P. 25-41
E540		ADU misfeeding (Paper not reaching the ADU feed sensor): Paper does not reach the duplexing unit path exit sensor after it has passed the duplexing unit path entrance sensor.	P. 25-42
E550	Other paper jam	Paper remaining jam on the transport path: The paper is remaining on the transport path when printing is finished (caused by a multiple paper feeding).	P. 25-48
E570	Paper transport jam	Jam not reaching the bridge unit.	P. 25-42
E580		Stop jam at the bridge unit	P. 25-43
E590		Jam not reaching the upper paper exit sensor	P. 25-30
E5A0		Stop jam at the upper paper exit sensor	P. 25-30

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Error code	Classification	Contents	Troubleshooting
E712	RADF jam	Jam not reaching the original registration sensor: The original fed from the original feeding tray does not reach the original registration sensor.	P. 25-51
E714		Feed signal reception jam: The feed signal is received even no original exists on the original feeding tray.	P. 25-51
E721		Jam not reaching the original reading start sensor: The original does not reach the reading start sensor after it has passed the registration sensor (when scanning obverse side) or the reverse sensor (when scanning reverse side).	P. 25-51
E722		Jam not reaching the original exit sensor (during scanning): The original which passed the read sensor does not reach the original exit/reverse sensor when it is transported from the scanning section to exit section.	P. 25-52
E724		Stop jam at the original registration sensor: The trailing edge of the original does not pass the original registration sensor after its leading edge has reached this sensor.	P. 25-52
E725		Stop jam at the reading start sensor: The trailing edge of the original does not pass the read sensor after its leading edge has reached this sensor.	P. 25-51
E726		Transport/exit signal reception jam during ADF standby status	P. 25-52
E727		Jam not reaching the original reading end sensor	P. 25-52
E729		Stop jam at the original reading end sensor	P. 25-52
E731		Stop jam at the original exit/reverse sensor: The trailing edge of the original does not pass the original exit/reverse sensor after its leading edge has reached this sensor.	P. 25-53
E744		Stop jam at the exit/reverse sensor	P. 25-53
E745		Jam not reaching the exit reverse sensor	P. 25-53
E746		Exit/reverse sensor paper remaining jam	P. 25-53
E762		Registration sensor paper remaining jam	P. 25-53
E770		Original width detection sensor-1 paper remaining jam	P. 25-53
E771		Original width detection sensor-2 paper remaining jam	P. 25-53
E772		Original width detection sensor-3 paper remaining jam	P. 25-53
E773		Intermediate transport sensor paper remaining jam	P. 25-53
E774		Reading start sensor paper remaining jam	P. 25-51
E775		Reading end sensor paper remaining jam	P. 25-53
E777		Exit sensor paper remaining jam	P. 25-53
E860		Original jam access cover open: The Original jam access cover has opened during RADF operation.	P. 25-54
E870		RADF open jam: RADF has opened during RADF operation.	P. 25-54
E871		Cover open jam in the read ready status: Jam caused by opening of the Original jam access cover or front cover while the RADF is waiting for the scanning start signal from the equipment.	P. 25-54
E890		ADF time out jam	P. 25-54

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Error code	Classification	Contents	Troubleshooting
E910	Paper transport jam (Relay transport section)	Jam at the bridge unit transport sensor 1: The paper does not reach the bridge unit transport sensor 1 after it has passed the exit sensor.	P. 25-55
E920		Stop jam at the bridge unit transport sensor 1: The trailing edge of the paper does not pass the bridge unit transport sensor 1 after its leading edge has reached the sensor.	P. 25-55
E930		Jam at the bridge unit transport sensor 2: The trailing edge of the paper does not reach the bridge unit transport sensor 2 after its leading edge has reached the bridge unit transport sensor 1.	P. 25-55
E940		Stop jam at the bridge unit transport sensor 2: The trailing edge of the paper does not pass the bridge unit transport sensor 2 after its leading edge has reached the bridge unit transport sensor 2.	P. 25-55
E970		Jam not reaching the lower paper exit sensor: Paper transported from the bridge unit does not reach the lower paper exit sensor.	P. 25-30
E980		Stop jam at the lower paper exit sensor: Paper transported from the bridge unit does not pass the lower paper exit sensor.	P. 25-31
E9F0	Finisher jam (Punch unit)	Punching jam: Punching is not performed properly. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-64

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Error code	Classification	Contents	Troubleshooting
EA10	Finisher jam (Finisher section)	Paper transport delay jam: The paper which has passed the relay transport path does not reach the inlet sensor. [MJ-1103/1104]	P. 25-56
EA20		Paper transport delay jam: The paper which has passed through the inlet sensor does not reach the transport sensor. [MJ-1103/1104]	P. 25-56
EA21		Paper size error jam: Paper does not reach the sensor because the paper is shorter than spec. [MJ-1103/1104]	P. 25-57
EA22		Paper transport jam (Finisher paper punching edge detection sensor): [MJ-1103/1104]	P. 25-57
EA23		Paper transport jam (exit sensor): [MJ-1103/1104]	P. 25-57
EA24		Paper transport jam (between entrance and exit sensors): [MJ-1103/1104]	P. 25-58
EA25		Paper transport jam (after paper stack exit): [MJ-1103/1104]	P. 25-58
EA26		Paper transport jam (stop command request): [MJ-1103/1104]	P. 25-59
EA27		Paper transport jam (paper not inserted): [MJ-1103/1104]	P. 25-58
EA28		Paper transport jam (assisting arm operation delay): [MJ-1103/1104]	P. 25-59
EA29		Paper transport jam (stack transport delay): [MJ-1103/1104]	P. 25-59
EA31		Transport path paper remaining jam: The paper which has passed through the inlet sensor does not reach the transport sensor. [MJ-1103/1104]	P. 25-60
EA32		Exit paper remaining jam: The paper is remaining on the finishing tray when the power is turned ON. [MJ-1103/1104]	P. 25-60
EA40		Door open jam: The upper/front cover of the finisher section or the upper/ front door of the puncher section has opened during printing. [MJ-1103/1104] Cover open error: The front cover or stationary tray cover is opened during paper transport. [MJ-1103/1104]	P. 25-60
EA50		Stapling jam: Stapling is not performed properly. [MJ-1103/1104]	P. 25-60
EA60	Finisher jam (Finisher section)	Early arrival jam: The inlet sensor detects the paper earlier than a specified timing. [MJ-1103/1104]	P. 25-60
EA70		Stack exit belt home position error: The stack exit belt is not at the home position. [MJ-1103/1104]	P. 25-61
EA90	Finisher jam (Saddle stitcher section)	Door open jam: The delivery cover or inlet cover has opened during printing [MJ-1103/1104].	P. 25-62
EAA0		Power-ON jam: Paper exists at No.1 paper sensor, No. 2 paper sensor, No.3 paper sensor, vertical path paper sensor or delivery sensor when power is turned ON. [MJ-1103/1104]	P. 25-62
EAB0		Transport stop jam: The paper which passed through the inlet sensor does not reach or pass No.1 paper sensor, No. 2 paper sensor, No.3 paper sensor or delivery sensor. [MJ-1103/1104]	P. 25-62
EAB1		Short paper jam (Saddle Stitch Finisher)	P. 25-63
EAD0	Other paper jam	Print end command time-out jam: The printing has not finished normally because of the communication error between the SYS board and LGC board at the end of printing.	P. 25-65

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Error code	Classification	Contents	Troubleshooting
EAE0	Finisher jam	Receiving time time-out jam: The printing has been interrupted because of the communication error between the equipment and finisher when the paper is transported from the equipment to the finisher.	P. 25-65
EB30		Ready time time-out jam: The equipment judges that the paper transport to the finisher is disabled because of the communication error between the equipment and finisher at the start of printing.	P. 25-65
EB50	Paper transport jam	Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper.	P. 25-44
EB60		Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper (redetection after no jam is detected at [EB50]).	P. 25-44
ED10	Finisher jam	Skew adjustment motor (M1) home position detection abnormality: The Skew adjustment motor is not at the home position. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-65
ED11		Sideways adjustment motor (M2) home position detection error: The Sideways adjustment motor is not at the home position. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-65
ED12		Shutter home position error: The shutter is not at the home position. [MJ-1103/1104]	P. 25-66
ED13		Front alignment plate home position error: The front alignment plate is not at the home position. [MJ-1103/1104]	P. 25-66
ED14	Finisher jam (Finisher section)	Rear alignment plate home position error: The rear alignment plate is not at the home position. [MJ-1103/1104]	P. 25-66
ED15		Paddle home position error: The paddle is not at the home position. [MJ-1103/1104]	P. 25-66
ED16		Buffer tray home position error: The buffer tray is not at the home position. [MJ-1103/1104]	P. 25-66

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Error code	Classification	Contents	Troubleshooting
EF10	Finisher jam (Saddle section)	Paper not supported for Saddle Stitch Finisher	P. 25-67
EF11		Saddle Stitch Finisher stapling error (front)	P. 25-67
EF12		Saddle Stitch Finisher stapling error (rear)	P. 25-67
EF13		Saddle paper holder home position detection abnormality	P. 25-66
EF14		Saddle paper exit jam	P. 25-68
EF15		Saddle Stitch Finisher side alignment motor home position detection abnormality	P. 25-66
EF16		Saddle Stitch Finisher stacker motor home position detection abnormality	P. 25-66
EF17		Saddle Stitch Finisher folding blade home position detection abnormality	P. 25-70
EF18		Saddle Stitch Finisher additional folding roller home position detection abnormality	P. 25-70
EF19		Saddle paper folding jam	P. 25-71
EF20		Saddle stacker jam	P. 25-71
EF21		Hole Punch Unit paper leading edge skew detection abnormality	P. 25-72
EF22		Hole Punch Unit paper leading edge detection abnormality	P. 25-72
EF23		Hole Punch Unit paper alignment abnormality	P. 25-73
EF24		Hole Punch Unit paper trailing edge skew detection abnormality	P. 25-73
EF25		Hole Punch Unit paper trailing edge detection abnormality	P. 25-74
EF27		Hole Punch Unit paper edge detection order abnormality-1	P. 25-74
EF28		Hole Punch Unit paper edge detection order abnormality-2	P. 25-74

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25.2.2 Service call

Error code	Classification	Contents	Troubleshooting
C021	Copy process related service call	Developer unit motor-YMC locking error: The developer unit motor-YMC is not rotating normally.	P. 25-120
C022		Developer unit mixer motor-YMC locking error: The developer unit mixer motor-YMC is not rotating normally.	P. 25-120
C023		Developer unit motor-K locking error: The developer unit motor-K is not rotating normally.	P. 25-120
C024		Developer unit mixer motor-K locking error: The developer unit mixer motor-K is not rotating normally.	P. 25-121
C130	Paper feeding system related service call	1st drawer tray abnormality: The tray-up motor is not rotating or the 1st drawer tray is not moving normally. (the case that paper can be fed from any drawer except the 1st drawer)	P. 25-75
C140		2nd drawer tray abnormality: The tray-up motor is not rotating or the 2nd drawer tray is not moving normally. (the case that paper can be fed from any drawer except the 2nd drawer)	P. 25-75
C150		3rd drawer tray abnormality: The 3rd drawer tray-up motor is not rotating or the 3rd drawer tray is not moving normally. (the case that paper can be fed from any drawer except the 3rd drawer)	P. 25-76
C160		4th drawer tray abnormality: The 4th drawer tray-up motor is not rotating or the 4th drawer tray is not moving normally. (the case that paper can be fed from any drawer except the 4th drawer)	P. 25-76
C180		LCF tray-up motor abnormality: The LCF tray-up motor is not rotating or the LCF tray is not moving normally. (the case that paper can be fed from any drawer except the LCF)	P. 25-76
C1A0		LCF end fence motor abnormality: The LCF end fence motor is not rotating or the LCF end fence is not moving normally. (the case that paper can be fed from any drawer except the LCF)	P. 25-77
C1C0		Option LCF tray-up motor abnormality: The option LCF tray-up motor is not moving normally	P. 25-77
C260	Scanning system related service call	Peak detection error: Lighting of the exposure lamp (white reference) is not detected when power is turned ON.	P. 25-78
C270		(1) Carriage home position sensor not turning OFF within a specified period of time: The carriage does not shift from its home position in a specified time. (2) Downloading firmware with an incorrect model.	P. 25-78
C280		Carriage home position sensor not turning ON within a specified period of time: The carriage does not reach to its home position in a specified period of time.	P. 25-78

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Error code	Classification	Contents	Troubleshooting
C360	Copy process related service call	Needle electrode cleaner operation abnormality	P. 25-121
C370		Transfer belt operation abnormality	P. 25-122
C380		Auto-toner sensor-K abnormality (upper limit)	P. 25-122
C381		Auto-toner sensor-K abnormality (lower limit)	P. 25-122
C382		Auto-toner sensor-K connection error	P. 25-122
C390		Auto-toner sensor-C abnormality (upper limit)	P. 25-122
C391		Auto-toner sensor-C abnormality (lower limit)	P. 25-122
C392		Auto-toner sensor-C connection error	P. 25-122
C3A0		Auto-toner sensor-M abnormality (upper limit)	P. 25-122
C3A1		Auto-toner sensor-M abnormality (lower limit)	P. 25-122
C3A2		Auto-toner sensor-M connection error	P. 25-122
C3B0		Auto-toner sensor-Y abnormality (upper limit)	P. 25-122
C3B1		Auto-toner sensor-Y abnormality (lower limit)	P. 25-122
C3B2		Auto-toner sensor-Y connection error	P. 25-122
C3C0		Process unit connection error	P. 25-122
C411	Fuser unit related service call	Thermistor or heater lamp abnormality at power-ON: Abnormality of the thermistor is detected when power is turned ON or the temperature of the fuser belt does not rise in a specified period of time after power is turned ON.	P. 25-79
C412		Thermistor/heater lamp abnormality at power-ON: Thermistor abnormality is detected at power-ON or the fuser belt temperature does not rise within a specified period of time after power-ON.	P. 25-79
C443		Heater lamp abnormality after abnormality judgment (not reaching to intermediate temperature)	P. 25-80
C445		Heater lamp abnormality after abnormality judgment (pre-running end temperature abnormality)	P. 25-80
C446		Heater lamp abnormality after abnormality judgment (pre-running end temperature abnormality)	P. 25-80
C447		Heater lamp abnormality after abnormality judgment (temperature abnormality at ready status)	P. 25-80
C448		Heater lamp continuous lighting abnormality: Heater lamp lights continuously for a certain period of time when the pressure roller temperature during ready status is higher than the specified	P. 25-80
C451		Thermopile and edge thermistor temperature difference	P. 25-81
C452		Thermopile temperature difference	P. 25-79
C461		Pressure roller heater 40°C detection (Not determined)	P. 25-81
C462		Pressure roller heater 40°C detection (Determined)	P. 25-81
C463		Pressure roller thermistor and edge thermistor temperature difference	P. 25-81
C464		Pressure roller thermistor temperature difference	P. 25-81
C465		Pressure roller thermistor abnormality after entering ready status (pre-running end temperature abnormality)	P. 25-82
C466		Pressure roller thermistor abnormality after entering ready status (pre-running end temperature abnormality)	P. 25-82

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Error code	Classification	Contents	Troubleshooting
C467	Fuser unit related service call	Pressure roller thermistor abnormality after entering ready status (temperature abnormality at ready status)	P. 25-82
C468		Pressure roller thermistor abnormality after entering ready status (overheating)	P. 25-82
C471		IH board initialization abnormality	P. 25-83
C472		Power supply abnormality	P. 25-83
C473		Surge pressure detection / power and voltage upper limit abnormality	P. 25-84
C474		Power and voltage lower limit abnormality	P. 25-84
C476		IH low power supply	-
C480		IGBT high temperature abnormality	P. 25-84
C481		IH drive circuit abnormality	P. 25-84
C490		IH circuit abnormality / IH coil abnormality	P. 25-84
C4B0		Fuser unit counter abnormality	P. 25-85
C4B1		Fuser unit voltage judgment abnormality	P. 25-85
C4D0		Fuser belt thermopile abnormality	P. 25-85
C4E0		Fuser pressure release abnormality - Though the pressure roller is released, its position cannot be detected.	P. 25-86
C4E1		Fuser pressure contact abnormality - Though the pressure roller is contacted, its position cannot be detected.	P. 25-86
C4E2		Fuser belt rotation detection sensor abnormality - The fuser belt does not rotate or incorrectly rotates.	P. 25-86
C4E3		Fuser motor rotation abnormality	-
C550	Optional communication related service call	RADF I/F error: Communication error has occurred between the RADF and the scanner.	P. 25-87
C560		Communication error between Engine-CPU and PFC board	P. 25-87
C570		Communication error between Engine-CPU and CNV ROM	P. 25-87
C580		Communication error between CNV ROM and finisher	P. 25-87
C5A0		SRAM board not connected (LGC board)	P. 25-90
C5A1		SRAM board data abnormality (LGC board)	P. 25-90
C730		RADF EEPROM error: Data abnormality occurs during the EEPROM writing of the RADF is performed.	P. 25-89
C880		RADF original feed motor abnormality: An error signal has been detected when the motor is rotating.	P. 25-89
C890		RADF read motor abnormality: An error signal has been detected when the motor is rotating.	P. 25-89
C8A0		RADF original reverse motor abnormality: An error signal has been detected when the motor is rotating.	P. 25-89
C8B0		RADF original exit motor abnormality: An error signal has been detected when the motor is rotating.	P. 25-89
C8C0		RADF original reading start sensor abnormality: The automatic adjustment for the original reading start sensor has been performed, but is ended unsuccessfully.	P. 25-89
C8E0		RADF communication protocol abnormality: The system has to be stopped because the control abnormality occurred.	P. 25-89

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Error code	Classification	Contents	Troubleshooting
C900	Circuit related service call	Connection error between SYS board and LGC board	P. 25-90
C940		Engine-CPU abnormality	P. 25-90
C962		LGC board ID abnormality	P. 25-90
C970	Process related service call	High-voltage transformer abnormality: Leakage of the main charger is detected.	P. 25-123
C9E0	Circuit related service call	Connection error between SLG board and SYS board	P. 25-91
CA00	Image control related service call	Image position alignment abnormality	P. 25-107
CA10	Laser optical unit related service call	Polygonal motor abnormality: The polygonal motor is not rotating normally.	P. 25-92
CA20		H-Sync detection error: H-Sync signal detection PC board cannot detect laser beams.	P. 25-93
CA47		SNS board abnormality: The SNS board does not operate due to disconnection or the harness breaking.	P. 25-94
CB00	Finisher related service call	Finisher not connected: Communication error has occurred between the equipment and finisher. [MJ-1103/1104]	P. 25-95
CB01		Finisher communication error: Communication error has occurred between the equipment and finisher. [MJ-1103/1104]	P. 25-95
CB10		Entrance motor abnormality: The entrance motor is not rotating normally. [MJ-1103/1104]	P. 25-95
CB11		Buffer tray guide motor abnormality: The buffer tray guide motor is not rotating or the buffer tray guide is not moving normally. [MJ-1103/1104]	P. 25-95
CB12		Buffer roller drive motor abnormality: The buffer roller drive motor is not rotating or the buffer roller is not moving normally. [MJ-1103/1104]	P. 25-96
CB13		Finisher exit motor abnormality	P. 25-96
CB14		Paper holding arm motor abnormality	P. 25-96
CB30		Movable tray shift motor abnormality: The movable tray shift motor is not rotating or the movable tray is not moving normally. [MJ-1103/1104]	P. 25-97
CB31		Movable tray paper-full detection error: The actuator of the movable tray paper-full detection sensor does not move smoothly. [MJ-1103/1104]	P. 25-97
CB40		Rear aligning plate motor abnormality: Rear aligning plate motor is not rotating or aligning plate is not moving normally. [MJ-1103/1104] Front alignment motor abnormality: The front alignment motor is not rotating or the front alignment plate is not moving normally. [MJ-1103/1104]	P. 25-97
CB50		Stapler home position error: The stapler home position sensor does not work. [MJ-1103/1104]	P. 25-98
CB51		Stapler shift home position error: The stapler is not at the home position. [MJ-1103/1104]	P. 25-98
CB60		Stapler shift motor abnormality: Stapler shift motor is not rotating or staple unit is not moving normally. [MJ-1103/1104]	P. 25-98
CB80		Backup RAM data abnormality: Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON	P. 25-99
CB81		Flash ROM abnormality: Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON. [MJ-1103/1104]	P. 25-99

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Error code	Classification	Contents	Troubleshooting
CB82	Finisher related service call	Finisher - Main CPU program error	P. 25-99
CB83		Saddle Stitch Finisher - Main CPU program error	P. 25-99
CB84		Hole Punch Unit - Main CPU program error	P. 25-99
CB91		Saddle Stitch Finisher flash ROM abnormality	P. 25-99
CB92		Saddle Stitch Finisher RAM abnormality	P. 25-99
CB93		Additional folding motor abnormality	P. 25-100
CB94		Saddle transport motor abnormality	P. 25-100
CB95		Stacker motor abnormality	P. 25-100
CBA0		Stitch motor (front) abnormality: Stitch motor (front) is not rotating or rotary cam is not moving normally. [MJ-1103/1104]	P. 25-101
CBB0		Stitch motor (rear) abnormality: Stitch motor (rear) is not rotating or rotary cam is not moving normally. [MJ-1103/1104]	P. 25-101
CBC0		Alignment motor abnormality: Alignment motor is not rotating or aligning plate is not moving normally. [MJ-1103/1104]	P. 25-101
CBE0		Paper folding motor abnormality: Paper folding motor or paper folding roller is not rotating normally. [MJ-1103/1104]	P. 25-101
CC20		Communication error between finisher and saddle stitcher: Communication error between finisher controller PC board and saddle stitcher controller board [MJ-1103/1104]	P. 25-101
CC30		Stack transport motor abnormality: The stack transport motor is not rotating or the stack transport belt is not moving normally. [MJ-1103/1104]	P. 25-102
CC31		Transport motor abnormality: The transport motor is not rotating or the stack transport roller -1 and -2 is not rotating normally. [MJ-1103/1104]	P. 25-102
CC41		Paper holder cam home position abnormality: The paper holder cam is not at the home position. [MJ-1103/1104]	P. 25-102
CC51		Sideways adjustment motor (M2) abnormality: Sideways adjustment motor is not rotating or puncher is not shifting normally. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-103
CC52		Skew adjustment motor (M1) abnormality: Skew adjustment motor is not rotating or puncher is not shifting normally. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-103
CC60		Punch motor abnormality: Punch motor is not rotating or puncher is not shifting normally. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-104
CC61		Punch motor (M3) home position detection error: Punch motor is not rotating or puncher is not shifting normally. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-104
CC71		Punch ROM checksum error: Abnormality of checksum value on Hole punch controller PC board is detected when the power is turned on. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-104
CC72		Punch RAM read/write error: Abnormality of checksum value on Hole punch controller PC board is detected when the power is turned on. [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-104
CC73		Punching device power supply abnormality	P. 25-104
CC74		Punch unit transport pulse abnormality	P. 25-104

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Error code	Classification	Contents	Troubleshooting
CC80	Finisher related service call	Rear alignment motor abnormality: The rear alignment motor is not rotating or the rear alignment plate is not moving normally. [MJ-1103/1104]	P. 25-105
CD60	Process related service call	Sub-hopper toner sensors abnormality.	P. 25-123
CD61		Sub-hopper toner motor-Y abnormality.	P. 25-123
CD62		Sub-hopper toner motor-M abnormality.	P. 25-123
CD63		Sub-hopper toner motor-C abnormality.	P. 25-123
CD64		Sub-hopper toner motor-K abnormality.	P. 25-123
CD71		Waste toner transport motor locking error: The auger in the waste toner transport path does not rotate.	P. 25-124
CD80		TRU waste toner motor locking error: The auger (TRU side) in the TRU waste toner transport path does not rotate.	P. 25-124
CD81		TRU waste toner transport motor locking error: The auger (waste toner box side) in the TRU waste toner transport path does not rotate.	P. 25-125
CD82		TRU waste toner full-status error -	P. 25-125
CDE0	Finisher related service call	Paddle motor abnormality: The paddle motor is not rotating or the paddle is not rotating normally. [MJ-1103/1104]	P. 25-105
CE00		Communication error between finisher and punch unit: Communication error between finisher controller PC board and punch controller PC board [MJ-1103/1104 (when MJ-6102 is installed)]	P. 25-105
CE10	Image control related service call	Image quality sensor abnormality (OFF level): The output value of this sensor is out of a specified range when sensor light source is OFF.	P. 25-113
CE20		Image quality sensor abnormality (no pattern level): The output value of this sensor is out of a specified range when the image quality control test pattern is not formed.	P. 25-114
CE40		Image quality control test pattern abnormality: The test pattern is not formed normally.	P. 25-116
CE41		Image quality TRC control test pattern abnormality: The image quality TRC control test pattern is not printed normally.	P. 25-117
CE42		Image quality TRC control test pattern abnormality (EFI printer board): Image quality TRC control test pattern is not printed normally.	P. 25-118
CE50		Temperature/humidity sensor abnormality: The output value of this sensor is out of a specified range.	P. 25-118
CE60	Copy process related service call	Drum thermistor-Y abnormality: The output value of the drum thermistor-Y is out of a specified range.	P. 25-118
CE71		Drum phase adjustment abnormality: Drum phase sensors (Color drum phase sensor and K drum phase sensor) are not turned ON after the drum motor was rotated for a specified period of time.	P. 25-119
CE90		Drum thermistor-K abnormality: The output value of the drum thermistor-K is out of a specified range.	P. 25-118
CEC0		2nd transfer roller position detection abnormality: The 2nd transfer roller does not contact/release normally.	P. 25-126
CF10	Finisher related service call	Communication module SRAM reading failure.	P. 25-106
CF90	Laser optical unit related service call	Laser optical unit shutter abnormality.	P. 25-93

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Error code	Classification	Contents	Troubleshooting
CFA0	Paper transport service call	Media sensor output abnormality before paper reaching: The sensor output value before paper is reached to the media sensor is not normal.	P. 25-94
CFA1		Media sensor output abnormality during paper passing: The sensor output value while paper is being passed is not normal.	P. 25-94
F070	Communication related service call	Communication error between System-CPU and Engine-CPU	P. 25-88
F090	Circuit related service call	SRAM abnormality on the SYS board	P. 25-91
F100	Other service call	HDD format error: HDD cannot be initialized normally.	P. 25-127
F101		HDD unmounted: Connection of HDD cannot be detected.	P. 25-127
F102		HDD start error: HDD cannot become ‘Ready’ state.	P. 25-127
F103		HDD transfer time-out: Reading/writing cannot be performed in the specified period of time.	P. 25-127
F104		HDD data error: Abnormality is detected in the data of HDD.	P. 25-127
F105		HDD other error	P. 25-127
F106		Point and Print partition damage	P. 25-127
F107		/BOX partition damage	P. 25-127
F108		/SHA partition damage	P. 25-127
F110	Communication related service call	Communication error between System-CPU and Scanner-CPU	P. 25-88
F111		Scanner response abnormality	P. 25-88
F120	Other service call	Database abnormality: Database is not operating normally.	P. 25-127
F130		Invalid MAC address	P. 25-127
F140		Accelerator ASIC format error	P. 25-127
F200		Data Overwrite option (GP-1070) disabled	P. 25-128
F350	Circuit related service call	SLG board abnormality	P. 25-91
F400		SYS board cooling fan abnormality	P. 25-91

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25.2.3 Error in Internet FAX / Scanning Function

1. Internet FAX related error

Error code	Classification	Troubleshooting
1C10	System access abnormality	P. 25-128
1C11	Insufficient memory	P. 25-128
1C12	Message reception error	P. 25-128
1C13	Message transmission error	P. 25-128
1C14	Invalid parameter	P. 25-128
1C15	Exceeding file capacity	P. 25-128
1C20	System management module access abnormality	P. 25-128
1C21	Job control module access abnormality	P. 25-128
1C22	Job control module access abnormality	P. 25-128
1C30	Directory creation failure	P. 25-129
1C31	File creation failure	P. 25-129
1C32	File deletion failure	P. 25-128
1C33	File access failure	P. 25-129
1C40	Image conversion abnormality	P. 25-129
1C60	HDD full failure during processing	P. 25-129
1C61	Address Book reading failure	P. 25-129
1C62	Memory acquiring failure	P. 25-129
1C63	Terminal IP address unset	P. 25-129
1C64	Terminal mail address unset	P. 25-129
1C65	SMTP address unset	P. 25-129
1C66	Server time time-out error	P. 25-129
1C67	NIC time time-out error	P. 25-129
1C68	NIC access error	P. 25-129
1C69	SMTP server connection error	P. 25-129
1C6A	HOST NAME error	P. 25-129
1C6B	Terminal mail address error	P. 25-130
1C6C	Destination mail address error	P. 25-130
1C6D	System error	P. 25-129
1C70	SMTP client OFF	P. 25-130
1C71	SMTP authentication error	P. 25-130
1C72	POP before SMTP error	P. 25-130
1C80	Internet FAX transmission failure when processing E-mail job received	P. 25-130
1C81	Onramp Gateway transmission failure	P. 25-130
1C82	Internet FAX transmission failure when processing FAX job received	P. 25-130
1CC0	Job canceling	-
1CC1	Power failure	P. 25-130

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2. RFC related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
2500	Syntax error, command unrecognized	HOST NAME error (RFC: 500) Destination mail address error (RFC: 500) Terminal mail address error (RFC: 500)	P. 25-131
2501	Syntax error in parameters or arguments	HOST NAME error (RFC: 501) Destination mail address error (RFC: 501) Terminal mail address error (RFC: 501)	P. 25-131
2503	Bad sequence of commands	Destination mail address error (RFC: 503)	P. 25-131
2504	Command parameter not implemented	HOST NAME error (RFC: 504)	P. 25-131
2550	Mailbox unavailable	Destination mail address error (RFC: 550)	P. 25-131
2551	User not local	Destination mail address error (RFC: 551)	P. 25-131
2552	Insufficient system storage	Terminal/Destination mail address error (RFC: 552)	P. 25-131
2553	Mailbox name not allowed	Destination mail address error (RFC: 553)	P. 25-131

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3. Electronic Filing related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
2B10	There was no applicable job.	No applicable job error in job control module	P. 25-132
2B11	Job status failed.	JOB status abnormality	P. 25-132
2B20	Failed to access file.	File library function error	P. 25-132
2B30	Insufficient disk space.	Insufficient disk space in /BOX partition	P. 25-132
2B31	Failed to access Electronic Filing.	Status of specified Electronic Filing or folder is undefined or being created/deleted	P. 25-132
2B32	Failed to print Electronic Filing document.	Electronic Filing printing failure: Specified document can not be printed because of client's access (being edited, etc.).	P. 25-132
2B50	Failed to process image.	Image library error	P. 25-132
2B51	Failed to process print image.	List library error	P. 25-132
2B71	Document(s) expire(s) in a few days	Documents expiring in a few days exist	-
2B80	Hard Disk space for Electronic Filing nearly full.	Hard disk space in /BOX partition is nearly full (90%).	-
2B90	Insufficient Memory.	Insufficient memory capacity	P. 25-132
2BA0	Invalid Box password specified.	Invalid Box password	P. 25-132
2BA1	Incorrect paper size/ color mode	A Paper size or a color mode not supported in the Electronic Filing function is being selected.	P. 25-132
2BB0	Job canceled	Job canceling	-
2BB1	Power failure occurred	Power failure	P. 25-133
2BC0	System fatal error.	Fatal failure occurred	P. 25-132
2BC1	Failed to acquire resource.	System management module resource acquiring failure	P. 25-132
2BD0	Power failure occurred during e-Filing restoring.	Power failure occurred during restoring of Electronic Filing	P. 25-133
2BE0	Failed to get machine parameter.	Machine parameter reading failure	P. 25-133
2BF0	Maximum number of page range is reached.	Exceeding maximum number of pages	P. 25-133
2BF1	Maximum number of document range is reached.	Exceeding maximum number of documents	P. 25-133
2BF2	Maximum number of folder range is reached.	Exceeding maximum number of folders	P. 25-133

4. Remote scanning related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
2A20	Failed to acquire resource	System management module resource acquiring failure	P. 25-134
2A40	System fatal error	System error	P. 25-134
2A50	Job canceling	Job canceling	-
2A51	Power failure	Power failure	P. 25-134

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5. E-mail related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
2C10	Illegal Job status	System access abnormality	P. 25-135
2C11	Not enough memory	Insufficient memory	P. 25-135
2C12	Illegal Job status	Message reception error	P. 25-135
2C13	Illegal Job status	Message transmission error	P. 25-135
2C14	Invalid parameter specified	Invalid parameter	P. 25-135
2C15	Message size exceeded limit or maximum size	Exceeding file capacity	P. 25-135
2C20	Illegal Job status	System management module access abnormality	P. 25-135
2C21	Illegal Job status	Job control module access abnormality	P. 25-135
2C22	Illegal Job status	Job control module access abnormality	P. 25-135
2C30	Failed to create directory	Directory creation failure	P. 25-135
2C31	Failed to create file	File creation failure	P. 25-135
2C32	Failed to delete file	File deletion failure	P. 25-135
2C33	Failed to create file	File access failure	P. 25-135
2C40	Failed to convert image file format	Image conversion abnormality	P. 25-135
2C43	Encryption error. Failed to create file	Encryption error	P. 25-135
2C44	Creating the image file was not permitted.	Encryption PDF enforced mode error	P. 25-135
2C60	Failed to process your Job. Insufficient disk space.	HDD full failure during processing	P. 25-135
2C61	Failed to read AddressBook	Address Book reading failure	P. 25-136
2C62	Not enough memory	Memory acquiring failure	P. 25-135
2C63	Invalid Domain Address	Terminal IP address unset	P. 25-136
2C64	Invalid Domain Address	Terminal mail address unset	P. 25-136
2C65	Failed to connect to SMTP server	SMTP address unset	P. 25-136
2C66	Failed to connect to SMTP server	Server time time-out error	P. 25-136
2C67	Failed to send E-Mail message	NIC time time-out error	P. 25-136
2C68	Failed to send E-Mail message	NIC access error	P. 25-136
2C69	Failed to connect to SMTP server	SMTP server connection error	P. 25-136
2C6A	Failed to send E-Mail message	HOST NAME error (No RFC error)	P. 25-136
2C6B	Invalid address specified in From: field	Terminal mail address error	P. 25-136
2C6C	Invalid address specified in To: field	Destination mail address error (No RFC error)	P. 25-136
2C6D	NIC system error	System error	P. 25-136
2C70	SMTP service is not available	SMTP client OFF	P. 25-136
2C71	Failed SMTP Authentication	SMTP authentication error	P. 25-136
2C72	POP Before SMTP Authentication Failed	POP before SMTP error	P. 25-136
2C80	Failed to process received E-mail job	E-mail transmission failure when processing E-mail job received	P. 25-137
2C81	Failed to process received Fax job	Process failure of FAX job received	P. 25-137
2CC0	Job canceled	Job canceling	-
2CC1	Power failure occurred	Power failure	P. 25-137

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6. File sharing related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
2D10	Illegal Job status	System access abnormality	P. 25-138
2D11	Not enough memory	Insufficient memory	P. 25-138
2D12	Illegal Job status	Message reception error	P. 25-138
2D13	Illegal Job status	Message transmission error	P. 25-138
2D14	Invalid parameter specified	Invalid parameter	P. 25-138
2D15	Document size exceeded limit or maximum size.	Exceeding the maximum size for file sharing	P. 25-138
2D20	Illegal Job status	System management module access abnormality	P. 25-138
2D21	Illegal Job status	Job control module access abnormality	P. 25-138
2D22	Illegal Job status	Job control module access abnormality	P. 25-138
2D30	Failed to create directory	Directory creation failure	P. 25-138
2D31	Failed to create file	File creation failure	P. 25-138
2D32	Failed to delete file	File deletion failure	P. 25-138
2D33	Failed to create file	File access failure	P. 25-138
2D40	Failed to convert image file format	Image conversion abnormality	P. 25-138
2D43	Encryption error. Failed to create file	Encryption error	P. 25-139
2D44	Creating the image file was not permitted.	Encryption PDF enforced mode error	P. 25-139
2D60	Failed to copy file	File library access abnormality	P. 25-138
2D61	Invalid parameter specified	Invalid parameter	P. 25-138
2D62	Failed to connect to network destination. Check destination path	File server connection error	P. 25-139
2D63	Specified network path is invalid. Check destination path	Invalid network path	P. 25-139
2D64	Logon to file server failed. Check username and password	Login failure	P. 25-139
2D65	There are too many documents in the folder. Failed in creating new document.	Exceeding documents in folder: Creating new document is failed.	P. 25-139
2D66	Failed To Process your Job. Insufficient Storage space.	Storage capacity full failure during processing	P. 25-139
2D67	FTP service is not available	FTP service not available	P. 25-139
2D68	File Sharing service is not available	File sharing service not available	P. 25-139
2DA0	Expired scan documents deleted from share folder.	Periodical deletion of scanned documents completed properly.	-
2DA1	Expired Sent Fax documents deleted from shared folder.	Periodical deletion of transmitted FAX documents completed properly.	-
2DA2	Expired Received Fax documents deleted from shared folder.	Periodical deletion of received FAX documents completed properly.	-
2DA3	Scanned documents in shared folder deleted upon user's request.	Manual deletion of scanned documents completed properly.	-
2DA4	Sent Fax Documents in shared folder deleted upon user's request.	Manual deletion of transmitted FAX documents completed properly.	-
2DA5	Received Fax Documents in shared folder deleted upon user's request.	Manual deletion of received FAX documents completed properly.	-
2DA6	Failed to delete file.	File deletion failure	P. 25-138
2DA7	Failed to acquire resource.	Resource acquiring failure	P. 25-138
2DC0	Job canceled	Job canceling	-
2DC1	Power failure occurred	Power failure	P. 25-139

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7. E-mail reception related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
3A10	MIME Error has been detected in the received mail.	E-mail MIME error	P. 25-140
3A11	MIME Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3A12	MIME Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3A20	Analyze Error has been detected in the received mail.	E-mail analysis error	P. 25-140
3A21	Analyze Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3A22	Analyze Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3A30	Whole partial mails were not reached by timeout.	Partial mail time-out error	P. 25-140
3A40	Partial Mail Error has been detected in the received mail.	Partial mail related error	P. 25-140
3A50	HDD Full Error has been occurred in this mail.	Insufficient HDD capacity error	P. 25-140
3A51	HDD Full Error has been occurred in this mail. This mail has been transferred to the administrator.		P. 25-140
3A52	HDD Full Error has been occurred in this mail. This mail could not be transferred to the administrator.		P. 25-140
3A60	HDD Full Warning has been occurred in this mail.	Warning of insufficient HDD capacity	P. 25-140
3A61	HDD Full Warning has been occurred in this mail. This mail could not be transferred to the administrator.		P. 25-140
3A62	HDD Full Warning has been occurred in this mail. This mail could not be transferred to the administrator.		P. 25-140
3A70	Receiving partial mail was aborted since the partial mail setting has been changed to Disable.	Warning of partial mail interruption	P. 25-140
3A80	Partial mail was received during the partial mail setting is disabled.	Partial mail reception setting OFF	P. 25-140
3A81	Partial mail was received during the partial mail setting is disabled. This mail has been transferred to the administrator.		P. 25-140
3A82	Partial mail was received during the partial mail setting is disabled. This mail could not be transferred to the administrator.		P. 25-140
3B10	Format Error has been detected in the received mail.	E-mail format error	P. 25-140
3B11	Format Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3B12	Format Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140

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Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
3B20	Content-Type Error has been detected in the received mail.	Content-Type error	P. 25-140
3B21	Content-Type Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3B22	Content-Type Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3B30	Charset Error has been detected in the received mail.	Charset error	P. 25-140
3B31	Charset Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3B32	Charset Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3B40	Decode Error has been detected in the received mail.	E-mail decode error	P. 25-140
3B41	Decode Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3B42	Decode Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3C10	Tiff Analyze Error has been detected in the received mail.	TIFF analysis error	P. 25-140
3C11	Tiff Analyze Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3C12	Tiff Analyze Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3C13	Tiff Analyze Error has been detected in the received mail.		P. 25-140
3C20	Tiff Compression Error has been detected in the received mail.	TIFF compression error	P. 25-140
3C21	Tiff Compression Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-140
3C22	Tiff Compression Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-140
3C30	Tiff Resolution Error has been detected in the received mail.	TIFF resolution error	P. 25-141
3C31	Tiff Resolution Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-141
3C32	Tiff Resolution Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-141

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Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
3C40	Tiff Paper Size Error has been detected in the received mail.	TIFF paper size error	P. 25-141
3C41	Tiff Paper Size Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-141
3C42	Tiff Paper Size Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-141
3C50	Offramp Destination Error has been detected in the received mail.	Offramp destination error	P. 25-141
3C51	Offramp Destination Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-141
3C52	Offramp Destination Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-141
3C60	Offramp Security Error has been detected in the received mail.	Offramp security error	P. 25-141
3C61	Offramp Security Error has been detected in the received mail. This mail has been transferred to the administrator.		P. 25-141
3C62	Offramp Security Error has been detected in the received mail. This mail could not be transferred to the administrator.		P. 25-141
3C70	Power Failure has been occurred in Email receiving.	Power failure error	P. 25-141
3D10	SMTP Destination Error has been detected in the received mail. This mail was deleted.	Destination address error	P. 25-141
3D20	Offramp Destination limitation Error has been detected in the received mail.	Offramp destination limitation error	P. 25-141
3D30	Fax Board Error has been occurred in the received mail.	FAX board error	P. 25-141
3E10	POP3 Connection Error has been occurred in the received mail.	POP3 server connection error	P. 25-141
3E20	POP3 Connection Timeout Error has been occurred in the received mail.	POP3 server connection time-out error	P. 25-141
3E30	POP3 Login Error has been occurred in the received mail.	POP3 login error	P. 25-141
3E40	POP3 Login Error occurred in the received mail.	POP3 login method error	P. 25-141
3F00	File I/O Error has been occurred in this mail. The mail could not be received until File I/O is recovered.	File I/O error	P. 25-141
3F10			P. 25-141
3F20			P. 25-141
3F30			P. 25-141
3F40			P. 25-141

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25.2.4 Printer function error

Following codes are displayed at the end of the user name on the print job log screen.

Error code	Contents	Troubleshooting
4031	HDD full during print - Large quantity image data by private print or invalid network print are saved in HDD.	P. 25-142
4032	Private-print-only error: Jobs other than Private print jobs cannot be performed.	P. 25-142
4033	Printing data storing limitation error: Printing with its data being stored to the HDD temporarily (Proof print, Private print, Scheduled print, etc.) cannot be performed.	P. 25-142
4034	e-Filing storing limitation error: Printing with its data being stored to the HDD (print and e-Filing, print to e-Filing, etc.) cannot be performed.	P. 25-142
4035	Local file storing limitation error: Network FAX or Internet FAX cannot be sent when “Local” is selected for the destination of the file to save.	P. 25-142
4036	User authentication error: The user who intended to print a document is not registered as a user.	P. 25-142
4037	Hardcopy security printing error: hardcopy security printing job is performed when the function is restricted.	P. 25-142
4040	Not being authorized to perform JOB	P. 25-142
4050	Problem in LDAP server connection or LDAP server authorization settings	P. 25-142
4300	USB direct printing: Job execution error due to functional restrictions - Printing with he USB direct printing function restricted	P. 25-142
4301	USB direct printing: File conversion error - Printing a file whose format is not supported, or an invalid file	P. 25-142
4310	Double-sign encoding error: A double-sign encoding error occurred because the PDF file is encrypted in a forbidden language or in a language not supported.	P. 25-142
4311	Printing not permitted: Printing is not permitted or only printing in a low resolution level is permitted due to the encryption language of the encrypted PDF file. * Permitted only when a user password is entered.	P. 25-142
4312	Password mismatching: The entered password is neither matched with a user password nor an owner password.	P. 25-142
A221	Print job cancellation - Print job (copy, list print, network print) is deleted from the print job screen.	P. 25-142
A222	Print job power failure - The power of the equipment is turned OFF during print job (copy, list print, network print).	P. 25-143
A290	Limit over error (Black): The numbers of output pages have exceeded those specified with both of the department code and the user code at the same time.	P. 25-143
A291	Limit over error (Black): The number of output pages has exceeded the one specified with the user code.	P. 25-143
A292	Limit over error (Black): The number of output pages has exceeded the one specified with the department code.	P. 25-143
A2A0	Limit over error (Color): The number of prints has exceeded the one specified for the department code and user code, or users (guests) are not authorized to perform color printing.	P. 25-143
A2A1	Limit over error (Color): The number of prints has exceeded the one specified for the user code, or users (guests) are not authorized to perform color printing.	P. 25-143
A2A2	Limit over error (Color): The number of output pages has exceeded the one specified with the department code.	P. 25-143

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<<Error history>>
In the setting mode (08-253), the latest twenty groups of error data will be displayed.
Display example

EA10	99999999	06 04 14 17 57 32	064	064	2362 1000 0000 0
Error code	Total counter	YY MM DD HH MM SS	MMM	NNN	ABCD_EFHI_JLOP_Q
4 digits	8 digits	12 digits (Year is indicated with its last two digits.)	3 digits	3 digits	13 digits

A	Paper source
	0: Not selected 1: Bypass feed 2: LCF 3: 1st drawer 4: 2nd drawer 5: 3rd drawer 6: 4th drawer 7: Option LCF 8: Unused
B	Paper size code
	0: A5/ST 1: A5-R 2: ST-R 3: LT 4: A4 5: B5-R 6: LT-R 7: A4-R 8: OTHER/UNIV 9: B5 A: FOLIO/COMP B: LG C: B4 D: LD E: A3 F: 13"LG G: Unused H: A6-R I: Post card J: 8.5"SQ K: A3-wide L: LD-wide M: 8K N: 16K-R O: 16K P, Q, R, S, T: Unused U: SRA3 (320x450) V: SRA3 (320 x 460) Z: Not selected
C	Sort mode/staple mode
	0: Non-sort/Non-staple 1: Group 2: Sort 7: Front staple 8: Double staple 9: Rear staple A: Saddle stitch
D	ADF mode
	0: Unused 1: AUTO FEED (SADF) 2: STACK FEED
E	APS/AMS mode
	0: Not selected 1: APS 2: AMS
F	Duplex mode
	0: Not selected 1: Book 2: Double-sided/Single-sided 4: Double-sided/Duplex copying 8: Single-sided/Duplex copying
G	Unused
H	Image shift
	0: Unused 1: Book 2: Left 3: Right 4: Top 5: Bottom 6: Book+Top 7: Book+Bottom 8: Left+Top 9: Left+Bottom A: Right+Top B: Right+Bottom
I	Editing
	0: Unused 1: Masking 2: Trimming 3: Mirror image 4: Unused 5: NEG/POS
J	Edge erase/Dual-page
	0: Unused 1: Edge erase 2: Dual-page 3: Edge erase and Dual-page
K	Unused
L	Function
	0: Unused 1: Copying 2: FAX/Internet FAX transmission 3: FAX/Internet FAX/E-mail reception printing 4: Unused 5: Printing/List print 6: Scan/E-mail transmission
MMM	Primary scanning reproduction ratio (Display in hexadecimal)
	(Mx256)+(Mx16)+M
NNN	Secondary scanning reproduction ratio (Display in hexadecimal)
	(Nx256)+(Nx16)+N
O	Color mode
	0: Auto color 1: Full color 2: Black 3: Unused 4: Twin color copy 5: Gray scale 6: Unused 7: Image smoothing
P	Media type
	0: Plain paper 1: Thick 1 2: Thick 2 3: Thick 3 4: Thick 4 5: Special paper 1 6: Special paper 2 7: Recycled paper 8: Plain paper 1 9: Plain paper 2 A: Thin paper B: OHP film C: Thick 1/ reverse D: Thick 2/ reverse E: Thick 3/ reverse F: Thick 4/ reverse G: Special paper 1/ reverse H: Special paper 2/ reverse I: Envelope J: Tab paper Z: Unused
Q	RADF size mixed
	0: Unused 1: Single-size document 2: Size mixed

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25.2.5 TopAccess related error

Error code	Message displayed in the TopAccess screen	Contents	Troubleshooting
5110	Toner Not Recognized - Please Check Toner.	Toner cartridge detection error	P. 25-144
5BD0	Power failure occurred during restore	Power supply is cut off during the restoration of database sent from TopAccess	P. 25-144
5C10	FAX Unit is not attached.	Network FAX is disabled because the FAX Unit is not attached	P. 25-144
5C11	Security error on Address Book.	The network FAX job failed because the specified address is not registered in the Address Book	P. 25-144
5C20	The file has been imported	Displayed when data have been imported from TopAccess (Not an error message)	P. 25-144
5C21	Failed to import the file - Invalid file format	Data import from TopAccess failed due to invalid file format	P. 25-144
5C22	Failed to import the file - Internal error	Data import from TopAccess failed due to an internal error, the cause of which is unknown	P. 25-144

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25.3 Diagnosis and Prescription for Each Error Code

25.3.1 Paper transport jam (paper exit section)

[E590] Stop jam at the upper paper exit sensor

1. Is the upper paper exit sensor working? (Perform the input check: 03-[COPY]ON/[7]/[A]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the exit sensor or the harnesses are open circuited. Correct if so.
3. Check if the upper paper exit sensor is correctly installed or the actuator is properly moved.
4. Replace the upper paper exit sensor.
5. Replace the PFC board.
6. Is the exit motor working? (Perform the output check: 03-142))
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN515 on the PFC board is disconnected from the exit motor or the harnesses are open circuited. Correct if so (including CN537, CN539, CN540 on the DRV board).
8. Replace the exit motor.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of the exit motor or the roller. Correct if any.

[E5A0] Jam not reaching the upper paper exit sensor

1. Is the upper paper exit sensor working? (Perform the input check: 03-[COPY]ON/[7]/[A]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the exit sensor or the harnesses are open circuited. Correct if so.
3. Check if the upper paper exit sensor is correctly installed or the actuator is properly moved.
4. Replace the upper paper exit sensor.
5. Replace the PFC board.
6. Is the bridge unit transport exit motor working? (Perform the output check: 03-136)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN515 on the PFC board is disconnected from the bridge unit transport exit motor or the harnesses are open circuited. Correct if so (including CN537, 539, 540 on the DRV board).
8. Replace the bridge unit transport exit motor.
9. Replace the PFC board.
10. ICheck if there is any abnormality on the driving section of the bridge unit transport exit motor or the roller. Correct if any.

[E970] Jam not reaching the lower paper exit sensor

1. Is the lower paper exit sensor working? (Perform the input check: 03-[COPY]ON/[5]/[G]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the exit sensor or the harnesses are open circuited. Correct if so.
3. Check if the lower paper exit sensor is correctly installed or the actuator is properly moved.
4. Replace the upper paper exit sensor.
5. Replace the PFC board.
6. Is the bridge unit transport exit motor working? (Perform the output check: 03-136)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN515 on the PFC board is disconnected from the bridge unit transport exit motor or the harnesses are open circuited. Correct if so (including CN537, 539, 540 on the DRV board).
8. Replace the bridge unit transport exit motor.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of the bridge unit transport exit motor or the roller. Correct if any.

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[E980] Stop jam at the lower paper exit sensor

1. Is the lower paper exit sensor working? (Perform the input check: 03-[COPY]ON/[5]/[G]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the exit sensor or the harnesses are open circuited. Correct if so.
3. Check if the lower paper exit sensor is correctly installed or the actuator is properly moved.
4. Replace the upper paper exit sensor.
5. Replace the PFC board.
6. Is the exit motor working? (Perform the output check: 03-140)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN515 on the PFC board is disconnected from the bridge unit transport exit motor or the harnesses are open circuited. Correct if so (including CN537, 539, 540 on the DRV board).
8. Replace the exit motor.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of the exit motor or the roller. Correct if any.

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25.3.2 Paper misfeeding

[E110] ADU misfeeding (paper not reaching the registration sensor)

1. Open the jam access cover and check if there is any paper in front of the registration sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the registration sensor working? (Perform the input check:03-[ALL]OFF/[4]/[B], 03-[COPY]ON/[5]/[H])
   * If it is working properly, proceed to 8. If not, check 3 to 7 below.
3. Check if the connector CN309 on the LGC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
4. Replace the registration sensor.
5. Replace the LGC board.
6. Check if the connector CN500 and CN511 on the PFC board is disconnected or the harnesses are open circuited. Correct if any.
7. Replace the PFC board.
8. Is the ADU motor2 working? (Perform the output check: 03-144)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
9. Check if the connector CN491 and CN495 on the ADU board is disconnected or the harnesses are open circuited. Correct if any.
10. Replace the ADU motor2 or ADU board.
11. Replace the LGC board.
12. Check the rollers in the ADU. Replace them if they are worn out.

[E120] Bypass misfeeding (paper not reaching the bypass feed sensor)

1. Are the bypass motor, bypass pick-up solenoid and bypass feed sensor working? (Perform the output check: 03-126, 03-254 and the input check: 03-[FAX]ON/[4]/[D])
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN469, CN497, CN498 on the ADU board is disconnected from the bypass motor or the bypass feed sensor, or the harnesses are open circuited. Correct if any.
3. Replace the bypass motor.
4. Replace the bypass pick-up solenoid.
5. Replace the bypass feed sensor.
6. Replace the LGC board.
7. Check the rollers in the ADU. Replace them if they are worn out.

[E130] 1st drawer misfeeding (paper not reaching the 1st drawer feed sensor)

1. Open the jam access cover and check if there is any paper in front of the 1st drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 1st drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[G])
   * If it is working properly, proceed to 9. If not, check 3 to 8 below.
3. Check if the connector CN513 on the PFC board is disconnected from the 1st drawer feed sensor or the harnesses are open circuited. Correct if any.
4. Replace the 1st drawer feed sensor.
5. Replace the PFC board.
6. Is the feed motor working? (Perform the output check: 03-120)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the feed motor or the harnesses are open circuited. Correct if any.
8. Replace the feed motor.
9. Replace the PFC board.
10. Check the 1st drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

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[E140] 2nd drawer misfeeding (paper not reaching the 2nd drawer feed sensor)

1. Open the paper feed cover and check if there is any paper in front of the 2nd drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 2nd drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[F])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN512 on the PFC board is disconnected from the 2nd drawer feed sensor or the harnesses are open circuited. Correct if any.
4. Replace the 2nd drawer feed sensor.
5. Replace the PFC board.
6. Is the feed motor working? (Perform the output check: 03-121)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the feed motor or the harnesses are open circuited. Correct if any.
8. Replace the feed motor.
9. Replace the PFC board.
10. Check the 2nd drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

[E150] 3rd drawer misfeeding (paper not reaching the 3rd drawer feed sensor)

1. Open the paper feed cover and check if there is any paper in front of the 3rd drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 3rd drawer feed sensor working? (Perform the input check: 03-[FAX]OFF/[2]/[D])
   * If it is working properly, proceed to 7. If not, check 3 to 6 below.
3. Check if the connector CN505 on the PFC board is disconnected from the 3rd drawer feed sensor or the harnesses is open circuited. Check if the connector CN505 on the PFC board is disconnected. Correct if any.
4. Replace the 3rd drawer feed sensor.
5. Replace the PFC board.
6. Is the feed/transfer motor working? (Perform the output check: 03-226)
   * If it is working properly, proceed to 12. If not, check 8 to 11 below.
7. Check if the connectors CN502 on the LGC board is disconnected from the feed/transfer motor or the harnesses are open circuited. Check if the connector CN502 on the PFC board is disconnected. Correct if any.
8. Replace the feed/transfer motor.
9. Replace the PFC board.
10. Check the 3rd drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

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[E160] 4th drawer misfeeding (paper not reaching the 4th drawer feed sensor)

1. Open paper feed cover and check if there is any paper in front of the 4th drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 4th drawer feed sensor working? (Perform the input check: 03-[FAX]OFF/[8]/[D])
   * If it is working properly, proceed to 7. If not, check 3 to 6 below.
3. Check if the connectors CN502 on the PFC board is disconnected from the 4th drawer feed sensor or the harnesses are open circuited. Check if the connector CN502 on the PFC board is disconnected. Correct if any.
4. Replace the 4th drawer feed sensor.
5. Replace the PFC board.
6. Is the 4th drawer feed clutch working? (Perform the output check: 03-122)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connectors CN507 on the PFC board is disconnected from the 4th drawer feed clutch or the harnesses are open circuited. Check if the connectors CN502 on the PFP board is disconnected. Correct if any.
8. Replace the 4th drawer feed clutch.
9. Replace the PFC board.
10. Check the 4th drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

[E180] Option LCF misfeeding (Paper not reaching the LCF feed sensor)

1. Is the LCF feed sensor working? (Perform the input check: 03-[SCAN]ON/[5]/[E]).
   * If it is working properly, proceed to 7. If not, check 2 to 6 below.
2. Check if the connector CN503 on the PFC board is disconnected from the LCF feed sensor or the harnesses are open circuited. Correct if so.
3. Check if the LCF feed sensor is correctly installed or the actuator is properly moved.
4. Replace the LCF feed sensor.
5. Replace the LCF board.
6. Replace the PFC board.
7. Is the LCF transport motor working? (Perform the output check: 03-127.)
   * If it is working properly, proceed to 11. If not, check 8 to 10 below.
8. Check if the connector CN503 on the PFC board is disconnected from the LCF transport motor or the harnesses are open circuited. Correct if so (including J854 and J850 on the LCF board).
9. Replace the LCF transport motor.
10. Replace the PFC board.
11. Check if there is any abnormality on the driving section of the LCF transport motor the roller. Correct if any.

[E190] LCF misfeeding (paper not reaching the LCF feed sensor)

1. Open the LCF side cover and check if there is any paper in front of the LCF feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the LCF feed sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[F])
   * If it is working properly, proceed to 7. If not, check 3 to 6 below.
3. Check if the connectors CN349 on the LGC board is disconnected from the LCF feed sensor or the harnesses are open circuited. Check if the connectors CN1 and CN6 on the LCF board are disconnected. Correct if any.
4. Replace the LCF feed sensor.
5. Replace the LGC board.
6. Is the LCF feed clutch working? (Perform the output check: 03-250)
   * If it is working properly, proceed to 12. If not, check 8 to 11 below.
7. Check if the connectors CN349 on the LGC board is disconnected from the LCF feed clutch or the harnesses are open circuited. Check if the connectors CN1 and CN5 on the LCF board are disconnected. Correct if any.
8. Replace the LCF feed clutch.
9. Replace the LGC board.
10. Check the LCF feed roller, separation roller and pickup roller. Replace them if they are worn out.

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25.3.3 Paper transport jam

[E010] Jam not reaching the fuser transport sensor

1. Check if there is any paper on the transport path or in the fuser unit. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the fuser transport sensor working? (Perform the input check: 03-[FAX]OFF/[2]/[C]).
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN333 on the LGC board is disconnected from the fuser transport sensor or the harnesses are open circuited. Correct if any.
4. Replace the fuser transport sensor.
5. Replace the LGC board.
6. Check if there is any abnormality on the paper transport path in the fuser unit. Correct it if there is.
7. Check if there is any abnormality on the gap between the separation plate and the fuser belt. Correct it if there is.
8. If jams occur on the back side in duplex printing, change the media type mode to the recycled paper mode, and then check if there are still jams. (When this type of jam occurs on heavily curled paper during duplex printing, the jam may be resolved by selecting the recycled paper mode.)
9. Change the 2nd transfer bias offset value as shown below and then check if there are still jams. Change the default value 5 of each code below to 6 or 7.
   Color: 05-2935 Subcode: 7
   Black: 05-2937 Subcode: 7

[E020] Stop jam at the fuser transport sensor

1. Open the jam access cover and check if there is any paper on the transport path. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the fuser transport sensor working? (Perform the input check: 03-[FAX]OFF/[2]/[C]).
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN333 on the LGC board is disconnected from the exit sensor or the harnesses are open circuited. Correct if any.
4. Replace the fuser transport sensor.
5. Replace the LGC board.
6. Check if there is any abnormality on each transport path section of the exit of the fuser unit and the entrance of the bridge unit. Correct if any.

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[E200] 1st drawer transport jam (not reaching the registration sensor)
[E210] 2nd drawer transport jam (not reaching the registration sensor)
[E270] Bypass transport jam (not reaching the registration sensor)
[E300] 3rd drawer transport jam (not reaching the registration sensor)
[E330] 4th drawer transport jam (not reaching the registration sensor)
[E3C0] LCF transport jam (not reaching the registration sensor)

1. Open the jam access cover and check if there is any paper in front of the 1st drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 1st drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[G])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN516 on the PFC board is disconnected from the 1st drawer feed sensor or the harnesses are open circuited. Correct if any.
4. Replace the 1st drawer feed sensor.
5. Replace the PFC board.
6. Is the transport motor-1 working? (Perform the output check: 03-124 or 524)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-1 or the harnesses are open circuited. Correct if any.
8. Replace the transport motor-1.
9. Replace the PFC board.
10. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
11. Check the transport roller. Replace it if it is worn out.

[E220] 2nd drawer transport jam (not reaching the 1st drawer feed sensor)
[E310] 3rd drawer transport jam (not reaching the 1st drawer feed sensor)
[E340] 4th drawer transport jam (not reaching the 1st drawer feed sensor)
[E3D0] LCF transport jam (not reaching the 1st drawer feed sensor)

1. Open the jam access cover and check if there is any paper in front of the 1st drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 1st drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[G])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN512 on the PFC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
4. Replace the 1st drawer feed sensor.
5. Replace the PFC board.
6. Is the transport motor-2 working? (Perform the output check: 03-229, 231)
   * If it is working properly, proceed to 11. If not, check 7 to 10 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-2 or the harnesses are open circuited. Correct if any.
8. Replace the transport motor-2.
9. Replace the PFC board.
10. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
11. Check the transport roller. Replace it if it is worn out.

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[E230] 1st drawer misfeeding (Paper not reaching the 1st drawer transport sensor)

1. Is the 1st drawer transport sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[D]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN513 on the PFC board is disconnected from the 1st drawer transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the 1st drawer transport sensor is correctly installed or the actuator is properly moved.
4. Replace the 1st drawer transport sensor.
5. Replace the PFC board.
6. Are the transport motor-1 and the feed motor working properly? (Perform the output check: 03-124, 03-120.)
   * If they are working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-1 or the feed motor, or the harnesses are open circuited. Correct if so.
8. Replace the transport motor-1 or the feed motor.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

[E240] 2nd drawer transport jam (Paper not reaching the 2nd drawer transport sensor)

1. Is the 2nd drawer transport sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[C]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN513 on the PFC board is disconnected from the 2nd drawer transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the 2nd drawer transport sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the 2nd drawer transport sensor.
5. Replace the PFC board.
6. Are the transport motor-2 and the feed motor working? (Perform the output check: 03-125, 03-121.)
   * If they are working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-2 or the feed motor, or the harnesses are open circuited. Correct if so.
8. Replace the transport motor-2 or the feed motor.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

[E260] Option LCF transport jam (Paper not reaching the registration sensor)

1. Is the registration sensor working? (Perform the input check: 03-[COPY]ON/[5]/[H]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if so.
3. Check if the registration sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the registration sensor.
5. Replace the PFC board.
6. Is the transport motor-1 working? (Perform the output check: 03-124.)
   * If they are working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-1 or the harnesses are open circuited. Correct if so.
8. Replace the transport motor-1.
9. Replace the PFC board.
10. Check if there is any abnormality on the driving section of the transport motor-1 or the roller. Correct if any.

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[E290] Option LCF transport jam

1. Is the 1st drawer transport sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[D]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN513 on the PFC board is disconnected from the 1st drawer transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the 1st drawer transport sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the 1st drawer transport sensor.
5. Replace the PFC board.
6. Are the transport motor-1 and the LCF transport motor working? (Perform the output check: 03-124, 03-127.)
   * If they are working properly, proceed to 9. If not, check 7 to 8 below.
7. Check if the connector CN512 on the PFC board is disconnected from the transport motor-1 or the LCF transport motor, or the harnesses are open circuited. Correct if so.
8. Replace the transport motor-1 or the LCF transport motor.
9. Is the LCF transport clutch working? (Perform the output check: 03-269.)
   * If they are working properly, proceed to 12. If not, check 10 to 11 below.
10. Replace the LCF transport clutch.
11. Replace the PFC board.
12. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

[E320] 3rd drawer transport jam (not reaching the 2nd drawer feed sensor)
[E350] 4th drawer transport jam (not reaching the 2nd drawer feed sensor)
[E3E0] LCF transport jam (not reaching the 2nd drawer feed sensor)

1. Open the side cover and check if there is any paper in front of the 2nd drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 2nd drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[F])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN348 on the LGC board is disconnected from the 2nd drawer feed sensor or the harnesses are open circuited. Correct if any.
4. Replace the 2nd drawer feed sensor.
5. Replace the LGC board.
6. Are the lower transport clutches working? (Perform the output check: 03-230, 233)
   * If they are working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN348 on the LGC board is disconnected from the lower transport clutches (high/low) or the harnesses are open circuited. Correct if any.
8. Replace the lower transport clutches (high/low speed).
9. Replace the LGC board.
10. Is the PFP transport clutch working? (Perform the output check: 03-225)
    * If they are working properly, proceed to 16. If not, check 11 to15 below.
11. Check if the connectors CN349 on the LGC board is disconnected from the PFP transport clutch or the harnesses are open circuited. Check if the connectors CN241 and CN244 on the PFP board are disconnected. Correct if any.
12. Replace the PFP transport clutch.
13. Replace the LGC board.
14. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
15. Check the transport roller. Replace it if it is worn out.

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[E360] 4th drawer transport jam (not reaching the 3rd drawer feed sensor)

1. Open the PFP paper feed cover and check if there is any paper in front of the 3rd drawer feed sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the 3rd feed sensor working? (Perform the input check: 03-[FAX]OFF/[2]/[D])
   * If it is working properly, proceed to 7. If not, check 3 to 6 below.
3. Check if the connectors CN349 on the LGC board is disconnected from the 3rd drawer feed sensor or the harnesses are open circuited. Check if the connectors CN 241 and CN243 on the PFP board are disconnected. Correct if any.
4. Replace the 3rd drawer feed sensor.
5. Replace the LGC board.
6. Is the PFP transport clutch working? (Perform the output check: 03-225)
   * If it is working properly, proceed to 12. If not, check 8 to 11 below.
7. Check if the connectors CN349 on the LGC board is disconnected from the PFP transport clutch or the harnesses are open circuited. Check if the connectors CN 241 and CN244 on the PFP board are disconnected. Correct if any.
8. Replace the PFP transport clutch.
9. Replace the LGC board.
10. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
11. Check the PFP transport roller. Replace it if it is worn out.

[E370] 3rd drawer transport jam (Paper not reaching the 3rd drawer transport sensor)

1. Is the 3rd drawer transport sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[B]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN505 on the PFC board is disconnected from the 3rd drawer transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the 3rd drawer transport sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the 3rd drawer transport sensor.
5. Replace the PFC board.
6. Are the 3rd drawer transport clutch and the 3rd drawer feed clutch working? (Perform the output check: 03-252, 03-250.)
   * If they are working properly, proceed to 9. If not, check 7 to 8 below.
7. Check if the connector CN502 on the PFC board is disconnected from the 3rd drawer transport clutch or the 3rd drawer feed clutch, or the harnesses are open circuited. Correct if so.
8. Replace the 3rd drawer transport clutch or the 3rd drawer feed clutch.
9. Is the feed/transport motor working? (Perform the output check: 03-122.))
   * If they are working properly, proceed to 12. If not, check 10 to 11 below.
10. Replace the feed/transport motor.
11. Replace the PFC board.
12. Check if there is any abnormality on the driving section of the feed/transport motor or the roller. Correct if any.

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[E380]4th drawer transport jam (Paper not reaching the 4th drawer transport sensor)

1. Is the 4th drawer transport sensor working? (Perform the input check: 03-[COPY]ON/[5]/[E]).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN516 on the PFC board is disconnected from the 4th drawer transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the 4th drawer transport sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the 4th drawer transport sensor.
5. Replace the PFC board.
6. Are the 4th drawer transport clutch and the 4th drawer feed clutch working? (Perform the output check: 03-253, 03-251.)
   * If they are working properly, proceed to 9. If not, check 7 to 8 below.
7. Check if the connector CN502 on the PFC board is disconnected from the 4th drawer transport clutch or the 4th drawer feed clutch, or the harnesses are open circuited. Correct if so.
8. Replace the 4th drawer transport clutch or the 4th drawer feed clutch.
9. Is the feed/transport motor working? (Perform the output check: 03-122.)
   * If they are working properly, proceed to 12. If not, check 10 to 11 below.
10. Replace the feed/transport motor.
11. Replace the PFC board.
12. Check if there is any abnormality on the driving section of the feed/transport motor or the roller. Correct if any.

[E3F0]Tandem LCF transport jam (Paper not reaching the tandem LCF transport sensor)

1. Is the tandem LCF transport sensor working? (Perform the input check: 03-[SCAN]ON/[1]/[B].).
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN505 on the PFC board is disconnected from the tandem LCF transport sensor or the harnesses are open circuited. Correct if so.
3. Check if the tandem LCF transport sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the tandem LCF transport sensor.
5. Replace the PFC board.
6. Are the tandem LCF transport clutch and the tandem LCF feed clutch working? (Perform the output check: 03-252, 03-250.)
   * If they are working properly, proceed to 9. If not, check 7 to 8 below.
7. Check if the connector CN502 on the PFC board is disconnected from the tandem LCF transport clutch or the tandem LCF feed clutch, or the harnesses are open circuited. Correct if so.
8. Replace the tandem LCF transport clutch or the tandem LCF feed clutch.
9. Is the feed/transport motor working? (Perform the output check: 03-122.)
   * If they are working properly, proceed to 12. If not, check 10 to 11 below.
10. Replace the feed/transport motor.
11. Replace the PFC board.
12. Check if there is any abnormality on the driving section of the feed/transport motor or the roller. Correct if any.

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[E510] ADU transport stop jam

1. Open the ADU and check if there is any paper in front of the ADU entrance sensor.
   * If the error still occurs, check the following.
2. Is the ADU entrance sensor working? (Perform the input check: 03-[FAX]ON/[4]/[B])
   * If it is working properly, proceed to 7. If not, check 3 to 6 below.
3. Check if the connectors CN511 on the PFC board is disconnected from the ADU entrance sensor or the harnesses are open circuited. Check if the connectors CN491 and CN492 on the ADU board are disconnected. Correct if any.
4. Replace the ADU entrance sensor.
5. Replace the ADU board.
6. Replace the PFC board.
7. Is the reverse motor working? (Perform the output check: 03-132/134)
   * If it is working properly, proceed to 11. If not, check 8 to 10 below.
8. Check if the connector CN515 on the PFC board is disconnected from the reverse motor or the harnesses are open circuited. Correct if any.
9. Replace the reverse motor.
10. Replace the PFC board.
11. Is the ADU motor working? (Perform the output check: 03-144)
    * If it is working properly, proceed to 16. If not, check 12 to 15 below.
12. Check if the connectors CN511 on the PFC board is disconnected from the ADU motor or the harnesses are open circuited. Check if the connectors CN495 and CN491 on the ADU board are disconnected. Correct if any.
13. Replace the ADU motor.
14. Replace the ADU board.
15. Replace the PFC board.
16. Check the rollers in the ADU, the exit roller and the pressure spring of the equipment. Replace them if they are worn out.

[E511]Jam not reaching the ADU (Paper not reaching the duplexing unit path entrance sensor)

1. Is the duplexing unit path entrance sensor working? (Perform the input check: 03-[SCAN]ON/[3]/[H].)
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN511 on the PFC board is disconnected from the duplexing unit path entrance sensor or the harnesses are open circuited. Correct if so (including CN491 and CN492 on the ADU board).
3. Check if the duplexing unit path entrance sensor is correctly installed or the actuator is properly moved.
4. Replace the duplexing unit path entrance sensor.
5. Replace the PFC board.
6. Are the reverse motor and the ADU motor-1 working? (Perform the output check: 03-134, 03-146.)
   * If they are working properly, proceed to 11. If not, check 7 to 10 below.
7. Check if the connector CN515 on the PFC board is disconnected from the reverse motor or the ADU motor-1, or the harnesses are open circuited. Correct if so (including CN537 and CN539 on the DRV board).
8. Replace the reverse motor or the ADU motor-1.
9. Replace the DRV board.
10. Replace the PFC board.
11. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

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[E540]ADU transport jam (Paper not reaching the duplexing unit path exit sensor)

1. Is the duplexing unit path exit sensor working? (Perform the input check: 03-[SCAN]ON/[3]/[G].)
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN511 on the PFC board is disconnected from the duplexing unit path exit sensor or the harnesses are open circuited. Correct if so (including CN491 and CN492 on the ADU board).
3. Check if the duplexing unit path exit sensor is correctly installed or the actuator is properly moved.
4. Replace the duplexing unit path exit sensor.
5. Replace the PFC board.
6. Are the ADU motor-1 and the ADU motor-2 working? (Perform the output check: 03-146, 03-144.)
   * If they are working properly, proceed to 11. If not, check 7 to 10 below.
7. Check if the connector CN511 on the PFC board is disconnected from the ADU motor-1 or the ADU motor-2, or the harnesses are open circuited. Correct if so (including CN491 and CN495 on the ADU board).
8. Replace the ADU motor-1 or the ADU motor-2.
9. Replace the ADU board.
10. Replace the PFC board.
11. Check if there is any abnormality on the driving section of the two motors or the roller. Correct if any.

[E570]Jam not reaching the bridge unit

1. Is the reverse sensor working? (Perform the input check: 03-[SCAN]ON/[3]/[E].))
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN514 on the PFC board is disconnected from the reverse sensor or the harnesses are open circuited. Correct if so (including CN538 and CN539 on the DRV board).
3. Check if the reverse sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the reverse sensor.
5. Replace the PFC board.
6. Are the bridge unit transport entrance motor and the fuser motor working? (Perform the output check: 03-130, 03-129.)
   * If they are working properly, proceed to 11. If not, check 7 to 10 below.
7. Check if the connector CN515 on the PFC board is disconnected from the bridge unit transport entrance motor or the fuser motor, or the harnesses are open circuited. Correct if so (including CN537 and CN539 on the DRV board).
8. Replace the bridge unit transport entrance motor or the fuser motor.
9. Replace the DRV board.
10. Replace the PFC board.
11. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

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[E580]Stop jam at the bridge unit

1. Is the reverse sensor working? (Perform the input check: 03-[SCAN]ON/[3]/[E].))
   * If it is working properly, proceed to 6. If not, check 2 to 5 below.
2. Check if the connector CN514 on the PFC board is disconnected from the reverse sensor or the harnesses are open circuited. Correct if so (including CN538 and CN539 on the DRV board).
3. Check if the reverse sensor is correctly installed or its detecting element is not damaged or stained.
4. Replace the reverse sensor.
5. Replace the PFC board.
6. Are the bridge unit transport exit motor and the reverse motor working? (Perform the output check: 03-132-134, 03-136.)
   * If they are working properly, proceed to 11. If not, check 7 to 10 below.
7. Check if the connector CN515 on the PFC board is disconnected from the bridge unit transport exit motor or the reverse motor, or the harnesses are open circuited. Correct if so (including CN537 and CN539 on the DRV board).
8. Replace the bridge unit transport exit motor or the reverse motor.
9. Replace the DRV board.
10. Replace the PFC board.
11. Check if there is any abnormality on the driving section of each motor or the roller. Correct if any.

[E2B0] Stop jam at the registration sensor (1st drawer)
[E2B1] Stop jam at the registration sensor (2nd drawer)
[E2B2] Stop jam at the registration sensor (3rd drawer)
[E2B3] Stop jam at the registration sensor (4th drawer)
[E2B4] Stop jam at the registration sensor (Bypass tray drawer)
[E2B5] Stop jam at the registration sensor (LCF)
[E2B6] Stop jam at the registration sensor (ADU)
[E2B7] Stop jam at the registration sensor (Option LCF)

1. Open the paper feed cover and check if there is any paper in front of the registration sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the registration sensor working? (Perform the input check: 03-[All OFF]/[4]/[B])
   * If it is working properly, proceed to 5. If not, check 3 to 4 below.
3. Check if the connector CN516 on the PFC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
4. Replace the registration sensor.
5. Is the registration motor rotating? (Perform the input check. 03-128/528)
6. Check if the connector CN512 on the PFC board is disconnected from the registration motor or the harnesses are open circuited. Correct if any.
7. Replace the registration motor.
8. Replace the PFC board.
9. Check the rollers. Replace them if they are worn out.

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[EB50] Paper remaining on the transport path due to multiple feeding

When the paper is fed from any of the 1st drawer, bypass feed unit or ADU:

(When the paper is fed from the 1st drawer:)

1. Open the paper feed cover and check if there is any paper in front of the registration sensor (when the paper is fed from the 1st drawer).
2. Is the 1st drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[1]/[G])
   * If it is working properly, proceed to 11. If not, check 3 to 10 below.
3. Check if the connector CN348 on the LGC board is disconnected from the 1st drawer feed sensor or the harnesses are open circuited. Correct if any.
4. Replace the 1st drawer feed sensor.
5. Replace the LGC board.

(When the paper is fed from the bypass feed unit:)

1. Is the bypass feed sensor working? (Perform the input check: 03-[FAX]ON/[4]/[D])
2. Check if the connector CN347 on the LGC board is disconnected from the bypass feed sensor or the harnesses are open circuited. Correct if any.
3. Replace the bypass feed sensor.
4. Replace the LGC board.

(When the paper is fed from the ADU:)

1. Is the ADU exit sensor working? (Perform the input check: 03-[FAX]ON/[4]/[A])
2. Check if the connector CN338 on the LGC board is disconnected from the ADU exit sensor or the harnesses are open circuited. Check if the connectors CN211 and CN213 on the ADU board are disconnected. Correct if any.
3. Replace the ADU exit sensor.
4. Replace the ADU board.
5. Replace the LGC board.
6. Is the registration sensor working? (Perform the input check: 03-[FAX]OFF/[7]/[F])
7. Check if the connector CN309 on the LGC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
8. Replace the registration sensor
9. Replace the LGC board.
10. Check the rollers. Replace them if they are worn out.

When the paper is fed from any of the 2nd drawer, PFP or LCF:

1. Open the paper feed cover and check if there is any paper in front of the 1st drawer feed sensor. Remove it if there is.
2. Are the 1st/2nd drawer feed sensors working? (Perform the input check: 03-[FAX]ON/[1]/[G], /[1]/[F])
   * If it is working properly, proceed to 11. If not, check 3 to 10 below.
3. Check if the connector CN348 on the LGC board is disconnected from the 1st and 2nd drawer feed sensors or the harnesses are open circuited. Correct if any.
4. Replace the 1st/2nd drawer feed sensors.
5. Replace the LGC board.
6. Check the rollers. Replace them if they are worn out.

[EB60] Paper remaining on the transport path due to multiple feeding

1. Open the paper feed cover and check if there is any paper in front of the registration sensor. Remove it if there is.
   * If the error still occurs, check the following.
2. Is the registration sensor working? (Perform the input check: 03-[All OFF]/[4]/[B])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN516 on the PFC board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
4. Replace the registration sensor.
5. Replace the PFC board.
6. Check the rollers. Replace them if they are worn out.

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25.3.4 Other paper jam

[E011] Paper jam caused by clinging to the transfer belt (Paper not reached the paper clinging detection sensor)

1. Check if there is any paper clinging to the transfer belt or entering under the receiving tray. Remove it if there is.
2. Use the paper within the specification if the thin paper being used is out of specification.
3. Is the registration motor rotating? (Perform the input check. 03-128/528)
4. Check if the connector CN512 on the PFC board is disconnected from the registration motor or the harnesses are open circuited. Correct if any.
5. Replace the registration motor.
6. Replace the PFC board.
7. Check the state of the registration roller and replace it if it is deteriorated.
8. Is the paper clinging detection sensor working? (Perform the input check: 03-[FAX]OFF/[7]/[E])
9. Check if the connector CN307 on the LGC board is disconnected from the paper clinging detection sensor or the harnesses are open circuited. Correct if any.
10. Replace the paper clinging detection sensor.
11. Is the transfer belt rotating normally? (Perform the output check: 03-116)
12. Is the transfer belt cleaning blade peeled?
13. Is the auger of the transfer belt cleaner unit locked?
14. Is the connector of the transfer belt motor disconnected?
15. Is the transfer belt motor broken?
16. Check if the tooth surface of the transfer belt drive gear is damaged.
17. Replace the PFC board.
18. Use the paper within the specification if the special paper whose reflection rate is lower than the specification is used.
19. If jams occur on the back side in duplex printing, change the media type mode to the recycled paper mode, and then check if there are still jams. (When this type of jam occurs on heavily curled paper during duplex printing, the jam may be resolved by selecting the recycled paper mode.)
20. Change the 2nd transfer bias offset value as shown below and then check if there are still jams. Change the default value 5 of each code below to 6 or 7.
    Color: 05-2935 Subcode: 7
    Black: 05-2937 Subcode: 7

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[E030] Power-ON jam

1. Open the cover of the unit/area whose picture is flashing on the control panel and remove if there is any paper on the transport path. (Refer to the table below.)
2. Is the sensor in the jamming area working? (Perform the input check: Refer to the following table.)
3. Check if the connector on the PFC board is disconnected from the corresponding sensor in the jamming area or the harnesses are open circuited. Correct if any.
4. Replace the sensor.
5. Replace the PFC board.

Relation between the jamming area and the corresponding sensors/covers.
(If a jam is occurring in the ADU or LCF check the board in each unit.)

Jamming area	Cover	Sensor	Test Mode/Input check
Paper path section	Duplexing unit	Registration sensor	03-[ALL]OFF/[4]/[B] 03-[COPY]ON/[5]/[H]
		Transfer belt paper clinging detection sensor	03-[ALL]OFF/[9]/[C]
		2nd transfer side paper clinging detection sensor	03-[ALL]OFF/[9]/[D]
		1st drawer transport sensor	03-[SCAN]ON/[1]/[D]
Fuser	Duplexing unit	Fuser transport sensor	03-[ALL]OFF/[2]/[C] 03-[COPY]ON/[5]/[F]
		Reverse path sensor	03-[ALL]OFF/[1]/[C] 03-[SCAN]ON/[3]/[E]
ADU	Duplexing unit Cover	Duplexing unit path exit sensor	03-[SCAN]ON/[3]/[G]
		Duplexing unit path entrance sensor	03-[SCAN]ON/[3]/[H]
Bypass unit	Duplexing unit	Bypass feed sensor	03-[SCAN]ON/[3]/[A]
Feeding area (equipment)	Paper feed cover	4th drawer transport sensor	03-[SCAN]ON/[1]/[A]
		3rd drawer/tandem LCF transport sensor	03-[SCAN]ON/[1]/[B]
		2nd drawer transport sensor	03-[SCAN]ON/[1]/[C]
LCF	LCF side cover	Option LCF feed sensor	03-[SCAN]ON/[5]/[E]
Bridge unit	Front cover	Bridge unit path exit sensor	03-[ALL]OFF/[1]/[A] 03-[SCAN]ON/[3]/[C]
		Bridge unit path entrance sensor	03-[ALL]OFF/[1]/[B] 03-[SCAN]ON/[3]/[D]
		Reverse sensor	03-[SCAN]ON/[3]/[F]
		Reverse section stationary jam detection sensor	03-[SCAN]ON/[4]/[A]
Upper exit section	-	Upper paper exit sensor	03-[ALL]OFF/[1]/[E] 03-[COPY]ON/[7]/[A]
Lower exit section	-	Lower paper exit sensor	03-[ALL]OFF/[4]/[C] 03-[COPY]ON/[5]/[G]
Reverse section	Reverse path cover	Reverse section paper transport detection sensor	03-[COPY]ON/[8]/[F]
Finisher	Finisher door	Sensors in the finisher	-

[E061]Incorrect paper size setting for 1st drawer
[E062]Incorrect paper size setting for 2nd drawer
[E063]Incorrect paper size setting for 3rd drawer
[E064]Incorrect paper size setting for 4th drawer
[E065]Incorrect paper size setting for bypass tray

If any paper remains in the equipment or drawer, remove it. Match the paper size of the drawer setting and the one in the drawer.

* Paper size detection is performed at the first sheet of paper when the drawer is opened or closed, or when the power of the equipment is turned ON.

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[E071]Incorrect paper size setting for 1st drawer
[E072]Incorrect paper size setting for 2nd drawer
[E073]Incorrect paper size setting for 3rd drawer
[E074]Incorrect paper size setting for 4th drawer
[E075]Incorrect paper size setting for bypass tray
[E076]Incorrect paper size setting for bypass tray

Remove any paper which has jammed due to media type mis-setting and then confirm and set the following:

* When this jam occurred during fax data printing, the user must place paper of the same media type as that of the set paper. If the user does not have this media type, the media type setting must be changed by means of the following codes.

08-9300: 1st drawer media type setting (*1)
08-9301: 2nd drawer media type setting (*1)
08-9302: 3rd drawer media type setting (*1)
08-9303: 4th drawer media type setting (*1)
08-9304: Tandem LCF media type setting (*1)
08-9347: Option LCF media type setting (*1)

(*1) 0: Plain paper, 1: Thick paper 1, 2: Thick paper 2, 3: Thick paper 3, 8: Recycled paper, 9: Plain paper 1, 10: Plain paper 2

Cases media type setting change (08 code) is required

- When a drawer is set for fax data printing but the user does not have the media type set for the fax drawer
- When no drawer is set for fax data printing but the user does not have any media type set for each drawer

If the media type is correctly set but this error occurs frequently, this media type may be the one which cannot be distinguished easily. In this case change the code below to disable the media type setting checking function.

08-4598 0: Enabled 1: Disabled

[E090]Image data delay jam

1. Remove the paper remained in front of the registration sensor.
2. Check if the error is cleared by turning the power OFF and then back ON.
3. Check if the connectors connecting the SYS board, IMG board and LGC board are disconnected.
4. Check if the connectors connecting the IMG board and SLG board are disconnected.
5. Check if the connectors of the HDD are disconnected.
6. Check if the page memory is correctly connected to the connector on the SYS board.
7. Replace the page memory.
8. Replace the HDD, SYS board, IMG board and LGC board.

[E091]Motor on time-out jam

1. Check if there is any paper in the equipment. Remove it if there is.
2. If the error still occurs, check the following.
3. Check if the error is cleared by turning the power OFF and then back ON.
4. Check if the connectors connecting the SYS board, IMG board and LGC board are disconnected.
5. Check if the connectors connecting the IMG board and SLG board are disconnected.
6. Check if the connectors of the HDD are disconnected.
7. Replace the HDD, SYS board, IMG board and LGC board.

[E0A0]Image transport ready time-out jam

1. Remove the paper remained in front of the registration sensor.
2. Check if the error is cleared by turning the power OFF and then back ON.
3. Check if the connectors on the LGC board are disconnected.
4. Replace the LGC board.

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[E550] Paper remaining on the transport path

1. Open the cover of the unit/area whose picture is flashing on the control panel and remove if there is any paper on the transport path.
2. Is the sensor in the jamming area working? (Perform the input check: Refer to the following table)
3. Check if the connector on the LGC board is disconnected from the corresponding sensor in the jamming area or the harnesses are open circuited. Correct if any.
4. Replace the sensor.
5. Replace the LGC board.

Relation between the jamming area and the corresponding sensors/covers.
(If a jam is occurring in the ADU or LCF check the board in each unit.)

Jamming area	Cover	Sensor	Test Mode/Input check
Paper path section	Duplexing unit	Registration sensor	03-[ALL]OFF/[4]/[B] 03-[COPY]ON/[5]/[H]
		Transfer belt paper clinging detection sensor	03-[ALL]OFF/[9]/[C]
		2nd transfer side paper clinging detection sensor	03-[ALL]OFF/[9]/[D]
		1st drawer transport sensor	03-[SCAN]ON/[1]/[D]
Fuser	Duplexing unit	Fuser transport sensor	03-[ALL]OFF/[2]/[C] 03-[COPY]ON/[5]/[F]
		Reverse path sensor	03-[ALL]OFF/[1]/[C] 03-[SCAN]ON/[3]/[E]
ADU	Duplexing unit Cover	Duplexing unit path exit sensor	03-[SCAN]ON/[3]/[G]
		Duplexing unit path entrance sensor	03-[SCAN]ON/[3]/[H]
Bypass unit	Duplexing unit	Bypass feed sensor	03-[SCAN]ON/[3]/[A]
Feeding area (equipment)	Paper feed cover	4th drawer transport sensor	03-[SCAN]ON/[1]/[A]
		3rd drawer/tandem LCF transport sensor	03-[SCAN]ON/[1]/[B]
		2nd drawer transport sensor	03-[SCAN]ON/[1]/[C]
LCF	LCF side cover	Option LCF feed sensor	03-[SCAN]ON/[5]/[E]
Bridge unit	Front cover	Bridge unit path exit sensor	03-[ALL]OFF/[1]/[A] 03-[SCAN]ON/[3]/[C]
		Bridge unit path entrance sensor	03-[ALL]OFF/[1]/[B] 03-[SCAN]ON/[3]/[D]
		Reverse sensor	03-[SCAN]ON/[3]/[F]
		Reverse section stationary jam detection sensor	03-[SCAN]ON/[4]/[A]
Upper exit section	-	Upper paper exit sensor	03-[ALL]OFF/[1]/[E] 03-[COPY]ON/[7]/[A]
Lower exit section	-	Lower paper exit sensor	03-[ALL]OFF/[4]/[C] 03-[COPY]ON/[5]/[G]
Reverse section	Reverse path cover	Reverse section paper transport detection sensor	03-[COPY]ON/[8]/[F]
Finisher	Finisher door	Sensors in the finisher	-

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25.3.5 Cover open jam

[E400] Duplexing unit open jam

1. Close the duplexing unit if it is opened. Remove if there is any paper before closing it.
2. Is the voltage of 24V being supplied from the power supply unit? (Perform the input check: 03-[COPY] ON/[6]/[A])
3. Check if the connector CN309 on the LGC board is disconnected from the connector CN403 on the switching regulator or the harnesses are open circuited. Correct if any.
4. Check if the fuse (F201, F202, F203, and F204) on the switching regulator has blown.
5. Replace the PFC board.
6. Replace the switching regulator.
7. Is the interlock switch working properly? (Perform the input check: 03-[SCAN] ON/[4]/[G])
8. Check if the connector CN312 on the LGC board is disconnected from the interlock switch or the harnesses are open circuited. Correct if any.

[E430] ADU open jam

1. Close the ADU if it is opened. Remove if there is any paper before closing it.
2. Is the ADU opening/closing switch working? (Perform the input check: 03-[FAX]ON/[2]/[C])
3. Check if the connector CN338 on the LGC board is disconnected from the ADU opening/closing switch or the harnesses are open circuited. Check if the connectors CN211 and CN217 on the ADU board are disconnected. Correct if any.
4. Replace the ADU opening/closing switch.
5. Replace the ADU board.
6. Replace the PFC board.
7. Replace the LGC board.

[E440] Paper feed cover open jam

1. Close the paper feed cover if it is opened. Remove if there is any paper before closing it.
2. Is the side door switch working? (Perform the input check: 03-[FAX]ON/[0]/[B])
3. Check if the connector CN348 on the LGC board is disconnected from the paper feed cover switch or the harnesses are open circuited. Correct if any.
4. Replace the side door switch.
5. Replace the LGC board.

[E450] LCF side cover open jam

1. Close the LCF side cover if it is opened. Remove if there is any paper before closing it.
2. Is the LCF side cover opening/closing switch working? (Perform the input check: 03-[FAX]OFF/[0]/[D])
3. Check if the connector CN349 on the LGC board is disconnected from the LCF side cover opening/closing switch or the harnesses are open circuited. Check if the connectors CN1 and CN6 on the LCF board are disconnected. Correct if any.
4. Replace the LCF side cover opening/closing switch.
5. Replace the LCF board.
6. Replace the LGC board.

[E480] Bridge unit open jam

1. Close the bridge unit if it is opened. Remove if there is any paper before closing it.
2. Is the bridge unit cover opening/closing detection switch working? (Perform the input check: 03-[FAX]OFF/[5]/[E])
3. Check if the connector CN334 on the LGC board is disconnected from the bridge unit cover opening/closing detection switch or the harnesses are open circuited. Correct if any.
4. Replace the bridge unit cover opening/closing detection switch.
5. Replace the LGC board.

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[E4A0] Waste toner cover open jam (printing)

1. Close the waste toner cover if it is opened. Remove if there is any paper before closing it.
2. Is the waste toner detection sensor working? (Perform the input check: 03-[FAXON]/[1]/[C])
3. Check if the connector CN331 on the LGC board is disconnected from the waste toner detection sensor or the harnesses are open circuited. Correct if any.
4. Replace the waste toner detection sensor.
5. Replace the LGC board.

[E4B0] Bridge unit open jam (printing)

1. Close the bridge unit if it is opened. Remove if there is any paper before closing it.
2. Is the bridge unit connecting detection switch working? (Perform the input check: 03-[COPYON]/[7]/[B])
3. Check if the connector CN308 on the LGC board is disconnected from the bridge unit connecting detection switch or the harnesses are open circuited. Correct if any.
4. Replace the bridge unit connecting detection switch.
5. Replace the LGC board.

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25.3.6 RADF jam

[E712] Jam not reaching the original registration sensor

1. Clean the pickup roller, feed roller and separation roller if they are stained.
2. Flatten the original if it is folded or excessively curled and place it again.
3. Is the original registration sensor working? (Perform the input check: 03-[FAX]ON/[7]/[H])
   * If it is working properly, proceed to 7. If not, check 4 to 6.
4. Check if the connector CN74 on the RADF board is disconnected from the original registration sensor or the harnesses are open circuited. Correct if any.
5. Replace the original registration sensor.
6. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
7. Is the original pickup solenoid working?
   * If it is working properly, proceed to 12. If not, check 8 to 11.
8. Check if the solenoid is installed at the center of the scale. (The scale is longer in the center.)
9. If it is not, correct the position, aligning with the center of the scale.
10. Check if the connector CN79 on the RADF board is disconnected from the original pickup solenoid or the harnesses are open circuited. Correct if any.
11. Replace the original pickup solenoid.
12. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
13. Replace the pickup roller, feed roller and separation roller if they are worn out.

[E714] Feed signal reception jam

1. Is the empty sensor working? (Perform the input check: 03-[FAX]ON/[7]/[B])
2. Check if the lever of empty sensor is working normally.
3. Check if the connector CN75 on the RADF board is disconnected from the empty sensor or the harnesses are open circuited. Correct if any.
4. Replace the empty sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

[E721] Jam not reaching the original reading start sensor
[E725] Stop jam at the reading start sensor
[E774] Reading start sensor paper remaining jam

1. Clean the registration roller and the read roller if they are stained.
2. Is the reading start sensor working? (Perform the input check: 03-[FAX]ON/[7]/[G])
   * If it is working properly, proceed to 8. If not, check 3 to 7 below.
3. Check if the connector CN75 on the RADF board is disconnected from the reading start sensor or the harnesses are open circuited. Correct if any.
4. Perform the automatic adjustment of the original reading start sensor (05-356).
5. Perform the manual adjustment of the original reading start sensor.
6. Replace the original reading sensor, and then perform the automatic adjustment of the original reading start sensor (05-356).
7. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
8. Replace the registration roller and the read roller if they are worn out.

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[E722] Jam not reaching the original exit sensor

1. Clean the read roller if it is stained.
2. Is the original exit sensor working? (Perform the input check: 03-[FAX]ON/[7]/[E])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN75 on the RADF board is disconnected from the original exit/reverse sensor or the harnesses are open circuited. Correct if any.
4. Replace the original exit sensor
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the read roller if it is worn out.

[E724] Stop jam at the registration sensor

1. Clean the registration roller if it is stained.
2. Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[7]/[H])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN74 on the RADF board is disconnected from the registration sensor or the harnesses are open circuited. Correct if any.
4. Replace the registration sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the registration roller if it is worn out.

[E726] Transport/exit signal reception jam during ADF standby status

1. Check if there is any paper in the RADF. Remove it if there is.
2. Check if there is any paper in the equipment. Remove it if there is.
3. If a jam still occurs, turn the power OFF and then back ON to check if the equipment operates normally.

[E727] Jam not reaching the original reading end sensor

1. Check the RADF position adjustment.
   📖 P.16-60 "16.6.1 RADF position adjustment"
2. Check the Adjustment of the Reversing Automatic Document Feeder (RADF).
   📖 P.16-60 "16.6 Adjustment of the Reversing Automatic Document Feeder (RADF)"
3. Clean the read end roller if it is stained.
4. Is the reading end sensor working? (Perform the input check: 03-[FAX]ON/[5]/[D])
   * If it is working properly, proceed to 8. If not, check 5 to 7 below.
5. Check if the connector CN75 on the RADF board is disconnected from the read end sensor or the harnesses are open-circuited. Correct if this is the case.
6. Replace the original reading end sensor.
7. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
8. Replace the reading end roller, if it is worn out.

[E729] Stop jam at the original reading end sensor

1. Clean the reading end roller if it is stained.
2. Is the original reading end sensor working? (Perform input check: 03: [FAX]/ON/[5]/[D])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN75 on the RADF board is disconnected from the read end sensor or the harnesses are open-circuited. Correct if this is the case.
4. Replace the original reading end sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the reading end roller, if it is worn out.

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[E731] Stop jam at the original exit sensor

1. Clean the exit roller if it is stained.
2. Is the original exit sensor working? (Perform the input check: 03-[FAX]ON/[7]/[E])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN4 on the RADF board is disconnected from the original exit sensor or the harnesses are open circuited. Correct if any.
4. Replace the original exit sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the exit roller if it is worn out.

[E744] Stop jam at the exit/reverse sensor

1. Clean the exit/reverse roller if it is stained.
2. Is the original exit/reverse sensor working? (Perform input check: 03: [FAX]/ON/[5]/[B])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN75 on the RADF board is disconnected from the original exit/reverse sensor or the harnesses are open-circuited. Correct if this is the case.
4. Replace the original exit/reverse sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the exit/reverse intermediate roller, if it is worn out.

[E745] Jam not reaching the exit reverse sensor

1. Clean the exit intermediate roller if it is stained.
2. Is the original exit/reverse sensor working? (Perform input check: 03: [FAX]/ON/[5]/[B])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN75 on the RADF board is disconnected from the original exit/reverse sensor or the harnesses are open-circuited. Correct if this is the case.
4. Replace the original reverse sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Replace the exit intermediate transport roller, if it is worn out.

[E746] Exit/reverse sensor paper remaining jam
[E762] Registration sensor paper remaining jam
[E770] Original width detection sensor-1 paper remaining jam
[E771] Original width detection sensor-2 paper remaining jam
[E772] Original width detection sensor-3 paper remaining jam
[E773] Intermediate transport sensor paper remaining jam
[E775] Reading end sensor paper remaining jam
[E777] Exit sensor paper remaining jam

1. Check if there is any paper on each sensor. Remove it if there is.
2. Is each sensor working?
   (Perform input check: 03)
   [E746]: [FAX]/ON/[5]/[B], [E762]: [FAX]/ON/[7]/[H],
   [E770]: [FAX]/ON/[8]/[F], [E771]: [FAX]/ON/[8]/[G],
   [E772]: [FAX]/ON/[8]/[H], [E773]: [FAX]/ON/[7]/[F],
   [E775]: [FAX]/ON/[5]/[D], [E777]: [FAX]/ON/[7]/[E]
3. Check if the connector CN74 or CN75 on the RADF board is disconnected from the original registration sensor or the harnesses are open-circuited. Correct if this is the case.
4. Replace each sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

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[E860] Original jam access cover open

1. Close the Original jam access cover if it is opened. Remove if there is any original before closing it.
2. Is the Original jam access cover opening/closing sensor working? (Perform the input check: 03-[FAX]ON/[7]/[C])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN8 on the RADF board is disconnected from the Original jam access cover opening/closing sensor or the harnesses are open circuited. Correct if any.
4. Replace the Original jam access cover opening/closing sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

[E870] RADF open jam

1. Close the RADF if it is opened. Remove if there is any original before closing it.
2. Is the RADF opening/closing sensor working? (Perform the input check: 03-[FAX]ON/[7]/[D])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN75 on the RADF board is disconnected from the RADF opening/closing sensor or the harnesses are open circuited. Correct if any.
4. Replace the RADF opening/closing sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
6. Is the RADF opening/closing sensor adjusted within the specified range?

[E871] Cover open jam in the read ready status

1. Close the Original jam access cover or the front cover if they are opened in the read ready status.
2. Is the Original jam access cover sensor working? (Perform the input check: 03-[FAX]ON/[7]/[C])
3. Check if the connector CN75 on the RADF board is disconnected from the Original jam access cover sensor or the harnesses are open circuited. Correct if any.
4. Replace the Original jam access cover sensor.
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

[E890] ADF time out jam

1. Check if there is any paper in the RADF. Remove it if there is.
2. Check if there is any paper in the equipment. Remove it if there is.
3. If a jam still occurs, turn the power OFF and then back ON to check if the equipment operates normally.

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25.3.7 Jam in bridge unit

[E910] Paper not reaching the bridge unit transport sensor-1
[E920] Paper stopping at the bridge unit transport sensor-1

1. Check if there is any paper in the bridge unit and remove it if there is.
2. Is the bridge unit transport sensor-1 working? (Perform the input check:03-[FAX]OFF/[5]/[F])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN334 on the LGC board is disconnected from the bridge unit transport sensor-1 (entrance sensor) or the harnesses are open circuited. Check if the connector J510 of the bridge unit is disconnected. Correct if any.
4. Replace the bridge unit transport sensor-1.
5. Replace the LGC board.
6. Is the bridge unit gate solenoid working? (Perform the output check: 03-232)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check if the connector CN334 on the LGC board is disconnected from the bridge unit gate solenoid or the harnesses are open circuited. Check if the connector J510 of the bridge unit is disconnected. Correct if any.
8. Replace the bridge unit gate solenoid.
9. Replace the LGC board.
10. Does the transport roller of the bridge unit work when the fuser motor is rotated? (Perform the output check: 03-113/163)
    * If it is working properly, proceed to 12. If not, check 11 below.
11. Check the drive system of the equipment and bridge unit.
12. Check if the rollers in the exit roller, the pressure spring and the bridge unit are worn out.

[E930] Paper not reaching the bridge unit transport sensor-2
[E940] Paper stopping at the bridge unit transport sensor-2

1. Check if there is any paper in the bridge unit and remove it if there is.
2. Is the bridge unit transport sensor-2 working? (Perform the input check:03-[FAX]OFF/[5]/[D])
   * If it is working properly, proceed to 6. If not, check 3 to 5 below.
3. Check if the connector CN334 on the LGC board is disconnected from the bridge unit transport sensor-2 (exit sensor) or the harnesses are open circuited. Check if the connector J510 of the bridge unit is disconnected. Correct if any.
4. Replace the bridge unit transport sensor-2.
5. Replace the LGC board.
6. Does the transport roller of the bridge unit work when the fuser motor is rotated? (Perform the output check: 03-113/163)
   * If it is working properly, proceed to 10. If not, check 7 to 9 below.
7. Check the drive system of the equipment and bridge unit.
8. Check if the rollers in the exit roller, the pressure spring and the bridge unit are worn out.
9. Replace the LGC board.
10. Does the transport roller of the bridge unit work when the fuser motor is rotated? (Perform the output check: 03-113/163)
    * If it is working properly, proceed to 12. If not, check 11 below.
11. Check the drive system of the equipment and bridge unit.
12. Check if the rollers in the exit roller, the pressure spring and the bridge unit are worn out.

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25.3.8 Paper jam in finisher section

[EA10] Transport delay jam (paper not inserted)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?

I	→YES	• Reconnect the connector securely if there is any disconnection.
I		• Reinstall the sensor correctly if there is any incorrect installation.
↓		• Replace the sensor if there is any breakage.

NO

Is the gap between the upper surface of the flapper edge and the transport guide surface in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5-2.1 mm, solenoid ON: 2.3-2.9 mm)?

↓ →YES Adjust the gap.

NO

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?
Is the harness between the transport path switching solenoid (SOL5) and the CN6 of the interface PC board (I/F) disconnected or open circuited?
Is any of the harnesses between the CN25 and CN27 of the finisher control PC board (FIN) and the CN5 and CN7 of the interface PC board (I/F) disconnected or open circuited?

I	→YES	• Reconnect the connector securely if there is any disconnection.
↓		• Replace the harness if open circuited.

NO

1. Replace the interface control PC board (I/F).
2. Replace the finisher control PC board (FIN).

[EA20] Paper transport jam in Finisher (entrance sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

I	→YES	• Reconnect the connector securely if there is any disconnection.
I		• Reinstall the sensor correctly if there is any incorrect installation.
↓		• Replace the sensor if there is any breakage.

NO

Is the harness between the entrance sensor (S1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

I	→YES	• Reconnect the connector securely if there is any disconnection.
↓		• Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

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[EA21] Paper size error jam

MJ-1103/1104

1. Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.
2. Is the paper size used shorter than the size specified in the specifications?
3. Check if the connectors CN7 and CN22 on the finisher controller PC board are disconnected from the inlet sensor (S1) and the transport sensor (S2), or the harnesses are open circuited. Correct if any.
4. Reinstall the sensor correctly if there is any incorrect installation.
5. Replace the sensor.
6. Replace the finisher controller PC board.

[EA22] Short length paper jam in Finisher (paper position sensors S6-1/2)

Is there any paper remaining on the transport path?

↓ →YES Remove the paper, not leaving any chips.

NO

Is the paper too short for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Are the paper position sensor (S6-1 and S6-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

[EA23] Paper transport jam in Finisher (transport sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Replace the finisher control PC board (FIN).

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[EA24] Paper transport jam in Finisher (entrance sensor? transport sensor)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is the paper size used shorter than the size specified in the specifications?

↓ →YES Use the paper size specified in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

Is there a disconnection of the connector, incorrect installation or breakage of the transport sensor (S2)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the entrance motor (M1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

Is the harness between the transport sensor (S2) and the CN6 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA25] **Paper transport jam in Finisher (after paper stack was exited)**

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the actuator of the finishing tray paper detection sensor (S12) is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the finishing tray paper detection sensor (S12)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the finishing tray paper detection sensor (S12) and the CN18 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

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[EA26] Paper transport jam in Finisher (Stop signal received from equipment)

[EA27] Paper transport jam in Finisher (Paper not inserted but paper detected)

Is there any paper remaining on the transport path in the Finisher or the equipment?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the entrance sensor (S1)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the entrance sensor (S1) and the CN26 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA28] Paper transport jam in Finisher (paper holding delay)

Is there any paper remaining on the transport path in the finisher or equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the paper holding cam is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the assist arm motor (M10) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

[EA29] Paper transport jam in Finisher (paper stack transport delay)

Is there any paper remaining on the transport path in the Finisher or the equipment?

↓ →YES Remove the paper.

NO

Is there any mechanical problem when the buffer tray guide is opened and closed while the buffer roller is kept raised?

↓ →YES Fix the mechanism.

NO

Is the harness between the buffer tray guide motor (M2) and the CN11 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the finisher control PC board (FIN).

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[EA31] Transport path paper remaining jam

1. Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.
2. Check if the connector CN22 on the finisher controller PC board is disconnected from the transport sensor (S2) or the harnesses are open circuited. Correct if any.
3. Reinstall the sensor correctly if there is any incorrect installation.
4. Replace the sensor.
5. Replace the finisher controller PC board.

[EA32] Exit paper remaining jam

1. Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.
2. Check and correct the mechanism.
3. Check if the connector CN11 on the finisher controller PC board is disconnected from the finishing tray paper detection sensor (S12) or the harnesses are open circuited. Correct if any.
4. Reinstall the sensor correctly if there is any incorrect installation.
5. Replace the sensor.
6. Replace the finisher controller PC board.

[EA40] Door open jam

1. Close the front cover or the stationary tray cover if they are opened.
2. Replace the handle cover installed inside of the front cover if it is broken.
3. Reinstall the stationary tray opening/closing switch if it is incorrectly installed.
4. Check if the connector CN16 on the finisher controller PC board is disconnected from the front cover switch (SW1) and the stationary tray opening/closing switch (SW2) or the harnesses are open circuited. Correct if any.
5. Replace the sensors.
6. Replace the finisher controller PC board.

[EA50] Stapling jam

1. Check if there is any paper in the finisher or on the transport path of the equipment or on the finishing tray. Remove it if there is.
2. Is the jam cleared by taking off the staple cartridge from the finisher and removing the staple sheet slid from the staple case?
3. heck if the actuator of the stapler interference sensor (S11) moves smoothly.
4. Check if the connector CN2 on the finisher controller PC board is disconnected from the stapler or the harnesses are open circuited. Correct if any.
5. Check the harnesses in the stapler are disconnected or open circuited. Correct if any.
6. Replace the finisher controller PC board.

[EA60] Early arrival jam

1. Check if there is any paper in the finisher or on the transport path of the equipment or on the finishing tray. Remove it if there is.
2. Check if there is any disconnection, incorrect installation or breakage on the entrance sensor (S1). Correct if any.
3. Check if the connector CN7 on the finisher controller PC board is disconnected from the entrance sensor (S1) and the harnesses are disconnected or open circuited. Correct if any.
4. Replace the entrance sensor.
5. Replace the finisher controller PC board.

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[EA70] Stack exit belt home position error

1. Check if the connector CN11 on the finisher controller PC board is disconnected from the stack belt exit home position sensor (S9) and the harnesses are open circuited. Correct if any.
2. Is the harness between the stack transport motor (M5) and the finisher control PC board (CN10) disconnected or open circuited?
3. Replace the sensor.
4. Replace the finisher controller PC board.
5. Is the upper surface detection sensor normal? (See CB31.)

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25.3.9 Paper jam in saddle stitcher section

[EA90] Door open jam

MJ-1103/1104

1. Check if there is any paper in the finisher, saddle stitcher or on the transport path of the equipment. Remove it if there is.
2. Check if the saddle stitcher door is closed.
3. Check if the connectors J10 and J11 on the saddle stitcher controller PC board are disconnected from any of the cover opening switches (the delivery cover sensor [P13] and the inlet cover sensor [P19]) or the harnesses are open circuited. Correct if any.
4. Check if the cover opening switches noted above are working properly.
5. Replace the sensor.
6. Replace the finisher controller PC board.

[EAA0] Power-ON jam

MJ-1103/1104

1. Check if there is any paper on the transport path of the saddle stitcher or the finisher. Remove it if there is.
2. Is any of the connectors J9, J10 and J13 on the saddle stitcher controller PC board disconnected?
3. Check if the connectors on the saddle stitcher controller PC board are disconnected from the No. 1 paper sensor (PI18), No. 2 paper sensor (PI19), No. 3 paper sensor (PI20), vertical path paper sensor (PI17) and delivery sensor (PI11), or the harnesses are open circuited. Correct if any.
4. Is each of the sensors (No.1 paper sensor, No.2 paper sensor, No.3 paper sensor, the vertical path paper sensor, and the delivery sensor) working properly? (Check the movement of the actuator.)
5. Replace the sensor.
6. Replace the saddle stitcher controller PC board.

[EAB0] Paper transport stop jam

MJ-1103/1104

1. Check if there is any paper in the finisher, saddle stitcher or the on the transport path of the equipment. Remove it if there is.
2. Is the connector J708 on finisher controller PC board disconnected?
3. Is the harness between the finisher controller PC board and inlet sensor [PI33] open circuited?
4. Is either of the connectors J9 or J10 on the saddle stitcher controller PC board disconnected?
5. Is the harness between the saddle stitcher controller PC board and each sensor (No.1 paper sensor [PI18], No.2 paper sensor [PI19], No.3 paper sensor [PI20] and the delivery sensor [PI11]) open circuited?
6. Is each of the sensors (the inlet sensor, No.1 paper sensor, No.2 paper sensor, No.3 paper sensor and the delivery sensor) working properly? (Check the movement of the actuator.)
7. Replace the sensor.
8. Replace the saddle stitcher controller PC board.

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[EAB1] Short paper jam in Saddle Stitch Finisher

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is the paper too short for specifications?

↓ →YES Use paper accepted in the specifications.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22)?
Is there a disconnection of the connector, incorrect installation or breakage of the junction box paper detection sensor (S24)?
Is there a disconnection of the connector, incorrect installation or breakage of the transport path-2 (S27)?
Is there a disconnection of the connector, incorrect installation or breakage of the transport path-3 (S28)?
Is there a disconnection of the connector, incorrect installation or breakage of the ejecting roller (S29)?

↓	→YES	• Reconnect the connector securely if there is any disconnection. • Reinstall the sensor correctly if there is any incorrect installation. • Replace the sensor if there is any breakage.

NO

Is the harness between the feeding sensor (S22) or the junction box paper detection sensor (S24) and the CN8 of the interface PC board (I/F) disconnected or open circuited?
Is the harness between the transport path-2 sensor (S27), transport path-3 sensor (S28) or ejecting roller sensor (S29) and the CN20 of the saddle control PC board (SDL) disconnected or open circuited?

↓	→YES	• Reconnect the connector securely if there is any disconnection. • Replace the harness if open circuited.

NO

1. Replace the saddle control PC board (SDL).
2. Replace the finisher control PC board (FIN).

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25.3.10 Paper jam in puncher unit

[E9F0] Punching jam

MJ-1103/1104(when MJ-6102 installed)

1. Check if there is any paper in the finisher, saddle stitcher or the on the transport path of the equipment. Remove it if there is.
2. Rotate the punch motor (M3) and fix its mechanism if it does not rotate smoothly.
3. Check if the harnesses and the punch HP sensor (S4) are connected properly. Correct if any.
4. Check if the wiring of the hole punch controller PC board (HP board) and the punch motor (M3) is proper. Correct if any.
5. Replace the punch motor (M3).
6. Replace the hole punch control PC board.

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25.3.11 Other paper jam

[EAD0] Print end command time-out jam

1. Is the drum motor rotating normally?
2. Replace the SYS board.
3. Replace the LGC board.

[EAE0] Receiving time-out jam

1. Is the finisher working?
2. Check if the voltage (24V) is being supplied to the finisher.
3. Check if the conductor pattern on the LGC board is open circuited or short circuited.
4. Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
5. Check if the harness connecting the I/F connector of the finisher side and finisher controller PC board is open circuited.
6. Replace the finisher controller PC board.

[EB30] Ready time-out jam

1. Check if there is any paper in the equipment. Remove it if there is.
2. Check if the connector on the equipment is disconnected from the finisher or the harnesses are open circuited. Correct if any.
3. Replace the LGC board.
4. Replace the finisher controller PC board.

[ED10] Skew adjustment motor (M1) home position detection abnormality

MJ-1103/1104

1. Check if there is any paper in the finisher or the on the transport path of the equipment. Remove it if there is.
2. Rotate skew adjustment motor and fix its mechanism if it does not rotate smoothly.
3. Check if the connectors on the hole punch controller PC board (HP board) are disconnected from the skew HP sensor (S2) and the skew adjustment motor, or the harnesses are open circuited. Correct if any.
4. Replace the skew adjustment motor.
5. Replace the hole punch control PC board.

[ED11] Sideways adjustment motor (M2) home position detection error

MJ-1103/1104

1. Check if there is any paper on the transport path and remove it if there is.
2. Rotate sideways adjustment motor and fix its mechanism if it does not rotate smoothly.
3. Check if the connectors on the hole punch controller PC board (HP board) are disconnected from the sideways deviation HP sensor (S3)and the sideways adjustment motor, or the harnesses are open circuited. Correct if any.
4. Replace the sideways adjustment motor.
5. Replace the hole punch control PC board.

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[ED12] Shutter home position error

MJ-1103/1104

1. Open and close the shutter. If there is any mechanical problem, fix its mechanism.
2. Check if the connectors on the finisher controller PC board are disconnected from the shutter opening/closing sensor (S4) and the shutter clutch (CLT1), or the harnesses are open circuited. Correct if any.
3. Replace the shutter clutch (CLT1).
4. Replace the shutter opening/closing sensor (S4).
5. Replace the finisher controller PC board.

[ED13] Front alignment plate home position error

MJ-1103/1104

1. Move the front alignment plate. If there is any mechanical problem, fix its mechanism.
2. Check if the connectors on the finisher controller PC board are disconnected from the front alignment plate home position sensor (S7) and the front alignment motor (M9), or the harnesses are open circuited. Correct if any.
3. Replace the front alignment motor (M9).
4. Replace the front alignment plate home position sensor (S7).
5. Replace the finisher controller PC board.

[ED14] Rear alignment plate home position error

MJ-1103/1104

1. Move the rear alignment plate. If there is any mechanical problem, fix its mechanism.
2. Check if the connectors on the finisher controller PC board are disconnected from the rear alignment plate home position sensor (S8) and the rear alignment motor (M10), or the harnesses are open circuited. Correct if any.
3. Replace the rear alignment motor (M10).
4. Replace the rear alignment plate home position sensor (S8).
5. Replace the finisher controller PC board.

[ED15] Paddle home position error

MJ-1103/1104

1. Rotate the paddle. If there is any mechanical problem, fix its mechanism.
2. Check if the connectors on the finisher controller PC board are disconnected from the paddle home position sensor (S3) and the paddle motor (M8), or the harnesses are open circuited. Correct if any.
3. Replace the paddle motor (M8).
4. Replace the paddle home position sensor (S3).
5. Replace the finisher controller PC board.

[ED16] Buffer tray home position error

MJ-1103/1104

1. Open and close the buffer tray guide. If there is any mechanical problem, fix its mechanism.
2. Check if the connectors on the finisher controller PC board are disconnected from the buffer tray home position sensor (S5) and the buffer tray guide motor (M3), or the harnesses are open circuited. Correct if any.
3. Replace the buffer tray guide motor (M3).
4. Replace the buffer tray home position sensor (S5).
5. Replace the finisher controller PC board.

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[EF10] Selecting paper not supported by Saddle Stitch Finisher

[EF11] Front saddle staple error

Is there any paper remaining on the paper transport path in the Finisher or the equipment, or on the finishing tray?

↓ →YES Remove the paper.

NO

Is the jam released by taking off the front staple cartridge from the Finisher and removing the staple sheet slid from the staple case?

↓ →YES End.

NO

Is the harness between the front saddle stapler drive unit and the CN3 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness if open circuited.

NO

1. Reconnect the connector securely if there is any disconnection.
2. Replace the saddle control PC board (SDL).

[EF12] Rear saddle staple error

Is there any paper remaining on the paper transport path in the Finisher or the equipment, or on the finishing tray?

↓ →YES Remove the paper.

NO

Is the jam released by taking off the rear staple cartridge from the Finisher and removing the staple sheet slid from the staple case?

↓ →YES End.

NO

Is the harness between the rear saddle stapler drive unit and the CN3 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

1. Replace the rear saddle stapler drive unit.
2. Replace the saddle control PC board (SDL).

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[EF13] Saddle unit paper holding home position detection error

Is there any mechanical problem when the paper holding cam is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the paper holding home position sensor (S38)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the paper holding home position sensor (S38), paper holding clutch (CLT4) or saddle transport motor (M16) and the CN8 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF14] Saddle exit jam

Is there any paper remaining in the paper transport path of the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the exit sensor (S31)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the exit sensor (S31) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

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[EF15] Saddle Stitch Finisher side alignment home position detection error

Is there any mechanical problem when the jog is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the side alignment home position sensor (S36)?

I	→YES	• Reconnect the connector securely if there is any disconnection.
I		• Reinstall the sensor correctly if there is any incorrect installation.
↓		• Replace the sensor if there is any breakage.

NO

Is the harness between the side alignment home position sensor (S36) and the CN5 of the saddle control PC board (SDL) disconnected or open circuited?
Is the harness between the side alignment motor (M15) and the CN5 of the saddle control PC board (SDL) disconnected or open circuited?

I	→YES	• Reconnect the connector securely if there is any disconnection.
↓		• Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF16] Saddle Stitch Finisher stacker motor (M14) home position detection error

Is there any mechanical problem when the stacker carrier is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stacker home position sensor (S33)?

I	→YES	• Reconnect the connector securely if there is any disconnection.
I		• Reinstall the sensor correctly if there is any incorrect installation.
↓		• Replace the sensor if there is any breakage.

NO

Is the harness between the stacker home position sensor (S33) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?
Is the harness between the stacker motor (M14) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?

I	→YES	• Reconnect the connector securely if there is any disconnection.
↓		• Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

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[EF17] Saddle Stitch Finisher folding blade home position detection error

Is there any mechanical problem when the folding blade cam is rotated?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the folding blade home position sensor (S35)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the folding blade home position sensor (S35) and the CN15 of the saddle control PC board (SDL) disconnected or open circuited?
Is there a disconnection of the connector, incorrect installation or breakage of the folding blade clutch (CLT3)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF18] Saddle Stitch Finisher additional folding roller home position detection error

Is there any mechanical problem when the additional folding carrier is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the additional folding home position sensor (S39)?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the additional folding home position sensor (S39) or the additional folding motor encoder sensor (S42) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?
Is the harness between the additional folding motor (M20) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

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[EF19] Saddle Stitch Finisher paper folding jam

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the exit transport sensor (S41)?

| →YES
| →YES
↓ →YES

- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the exit transport sensor (S41) and the CN19 of the saddle control PC board (SDL) disconnected or open circuited?

| →YES
↓ →YES

- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

[EF20] Saddle stacker jam

Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?

↓ →YES Remove the paper.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stacker paper detection sensor (S30)?

| →YES
| →YES
↓ →YES

- Reconnect the connector securely if there is any disconnection.
- Reinstall the sensor correctly if there is any incorrect installation.
- Replace the sensor if there is any breakage.

NO

Is the harness between the stacker paper detection sensor (S30) and the CN14 of the saddle control PC board (SDL) disconnected or open circuited?

| →YES
↓ →YES

- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

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[EF21] Paper leading edge skew detection abnormality

Is there any paper remaining on the paper transport path? Is it staying at the position shown below?

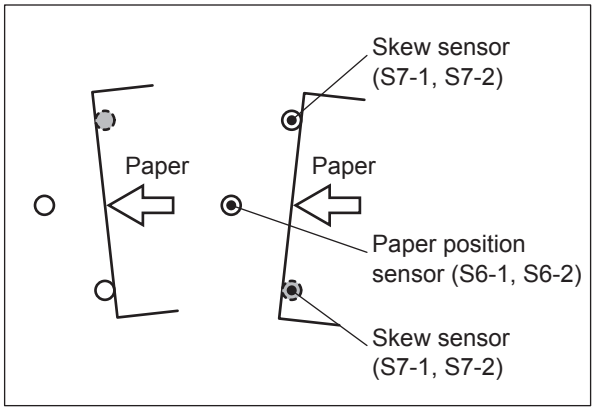

Fig. 25-1

↓ →YES Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.

NO

Are the skew sensor (S7-1 and S7-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

[EF22] Paper leading edge detection abnormality

Is there any paper remaining on the paper transport path? Is it staying at the position shown below?

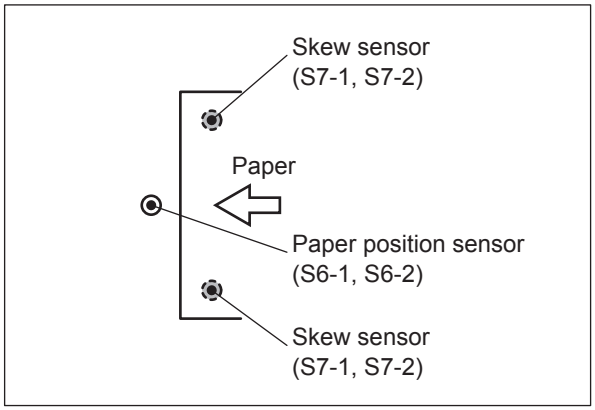

Fig. 25-2

↓ →YES Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.

NO

Are the paper position sensor (S6-1 and S6-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

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[EF23] Paper alignment abnormality

Is there any paper remaining on the transport path?

↓ →YES 1. Open the front cover.
2. Remove the paper, not leaving any chips.

NO

Rotate the sideways adjustment motor (M2). Does it rotate smoothly?

↓ →NO Fix the mechanism.

YES

Are the sideways deviation home position sensor (S3) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Is the wiring between the hole punch control PC board (HP) and punch sideways adjustment motor (M2) correct?

↓ →NO Correct the wiring.

YES

Are the paper position sensor (S6-1 and S6-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

[EF24] Paper trailing edge skew detection abnormality

Is there any paper remaining on the paper transport path? Is it staying at the position shown below?

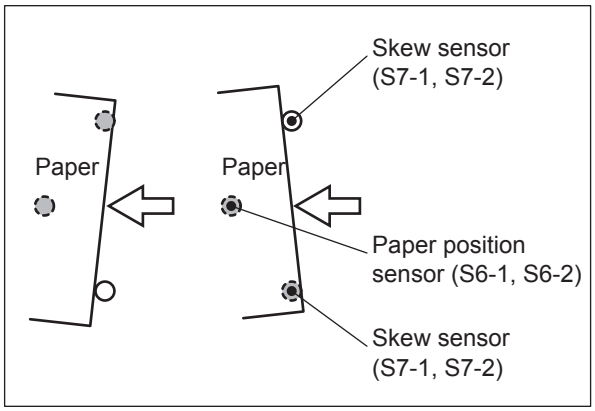

Fig. 25-3

↓ →YES Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.

NO

Are the skew sensor (S7-1 and S7-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

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[EF25] Paper trailing edge detection abnormality

Is there any paper remaining on the paper transport path? Is it staying at the position shown below?

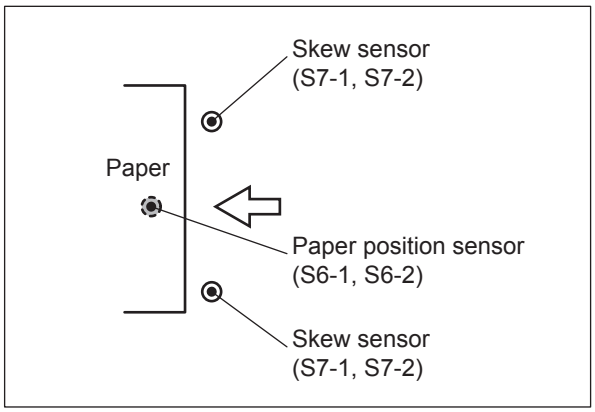

Fig. 25-4

↓ →YES Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.

NO

Are the paper position sensors (S6-1 and S6-2) obstructed by paper dust or punching scraps?

↓ →YES Remove the obstruction from the sensors.

NO

Are the paper position sensor (S6-1 and S6-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

[EF27] Paper position detection error 1

[EF28] Paper position detection error 2

Is there any paper remaining on the transport path?

↓ →YES Remove the paper, not leaving any chips.

NO

Are the skew sensor (S7-1 and S7-2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Replace the hole punch control PC board (HP).

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25.3.12 Paper feeding system related service call

[C130] 1st drawer tray abnormality
[C140] 2nd drawer tray abnormality

Does the tray go up? (Perform the output check: 03-246, 247)

NO →
1. Check if the connector of the tray-up motor is disconnected.
2. Check if the connector CN508 on the PFC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the PFC board is short circuited or open circuited.
5. Replace the tray-up motor.
6. Replace the PFC board.

↓

YES

Is the tray-up sensor working? (Perform the input check: 03-[Copy ON]/[9]/[H], /[9]/[G])

NO →
1. Check if the connector of the sensor is disconnected.
2. Check if the connector CN513 on the PFC board is disconnected.
3. Check if the slit reaches the sensor.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor pattern on the PFC board is short circuited or open circuited.
6. Replace the tray-up sensor.
7. Replace the PFC board.

↓

YES

1. Check if the conductor pattern on the PFC board is short circuited or open circuited.
2. Replace the PFC board.

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[C150] 3rd drawer tray abnormality
[C160] 4th drawer tray abnormality

Does the tray go up? (Perform the output check: 03-248, 249)

NO →
1. Check if the connector of the tray-up motor is disconnected.
2. Check if the connector CN504 on the PFC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor patterns on the PFC board is short circuited or open circuited.
5. Replace the tray-up motor.
6. Replace the PFC board.

↓

YES

Is the tray-up sensor working? (Perform the input check: 03-[CopyON]/[9]/[F], /[9]/[E])

NO →
1. Check if the connector of the sensor is disconnected.
2. Check if any of the connectors CN505 and CN506 on the PFC board is disconnected.
3. Check if the slit reaches the sensor.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the PFC board is short circuited or open circuited.
6. Replace the tray-up sensor.
7. Replace the PFC board.

↓

YES

1. Check if the conductor pattern on the PFC board is short circuited or open circuited.
2. Replace the PFC board.

[C180] LCF tray-up motor abnormality

Does the tray move? (Perform the output check: 03-257)

NO →
1. Check if the connector of the LCF tray-up motor is disconnected.
2. Check if the connector CN507 on the PFC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor patterns on the PFC board is short circuited or open circuited.
5. Replace the LCF tray-up motor.
6. Replace the PFC board.

↓

YES

Are the LCF tray-up sensor and LCF tray bottom sensor working?
(Perform the input check: 03-[CopyON]/[9]/[F], [ScanON]/[2]/[E])

NO →
1. Check if the connectors of the sensors are disconnected.
2. Check if the connector CN505 and CN507 on the PFC board is disconnected.
3. Check if the slit reaches the sensors.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the PFC board is short circuited or open circuited.
6. Replace the sensor.
7. Replace the PFC board.

↓

YES

1. Check if the conductor pattern on the PFC board is short circuited or open circuited.
2. Replace the PFC board.

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[C1A0] LCF end fence motor abnormality

Is the LCF end fence motor working? (Perform the output check: 03-256)

NO →
1. Check if the connector of the LCF end fence motor is disconnected.
2. Check if the connector CN507 on the PFC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor patterns on the PFC board is short circuited or open circuited.
5. Replace the LCF end fence motor.
6. Replace the PFC board.

↓

YES

Are the LCF end fence home/stop position sensors working?
(Perform the input check: 03-[Copy ON]/[9]/[E], [Scan ON /[1]/[E])

NO →
1. Check if the connectors of the sensors are disconnected.
2. Check if the connector CN507 on the LGC board is disconnected.
3. Check if the slit reaches the sensors.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the PFC board is short circuited or open circuited.
6. Replace the sensors.
7. Replace the PFC board.

↓

YES

1. Check if the conductor pattern on the PFC board is short circuited or open circuited.
2. Replace the PFC board.

[C1C0] Option LCF tray-up motor abnormality

(1) Is the option LCF tray motor working?
(2) Is the option LCF tray up sensor working?
(3) Replace the tray motor.
(4) Replace the tray up sensor.
(5) Replace the option LCF board.

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25.3.13 Scanning system related service call

[C260] Peak detection error

Does the exposure lamp light? (Perform the output check: 03-267)

YES →
1. Check if the connectors on the CCD and SLG boards are disconnected.
2. Check if the shading correction plate is dirty.
3. Check if the conductor pattern on the CCD board is short circuited or open circuited.
4. Check if the conductor pattern on the SLG board is short circuited or open circuited.
5. Replace the lens unit.
6. Replace the SLG board.

↓

NO

1. Check if the connectors of the exposure lamp and inverter are disconnected.
2. Check the SLG board if the connector pin CN21 is disconnected or the harness is short circuited or open circuited.
3. Check if the conductor pattern on the SLG board is short circuited or open circuited.
4. Replace the SLG board.
5. Replace the inverter.
6. Replace the exposure lamp.

[C270] Carriage home position sensor not going OFF within a specified time/ Downloading firmware with an incorrect model

Remove the original glass and move the carriages to the paper feeding side. Turn ON the power and check the following items.

Are the carriages slightly moved to the feeding direction?/Are the carriages staying at a position other than home position?

↓ YES → Check if the circuits of the SLG board are abnormal.

NO

1. Check if the connector pin is disconnected or the harness is short circuited or open circuited.
2. Check if the conductor pattern on the SLG board is short circuited or open circuited.
3. Replace the SLG board.
4. If the model of the firmware downloaded is incorrect, a C270 error (exposure lamp blinks twice) occurs.
   If the exposure lamp blinks twice, download the correct ROM.

[C280] Carriage home position sensor not going ON within a specified time

Remove the original glass and move the carriages to the paper feeding side. Turn ON the power and check the following items.

Do the carriages make a big noise after they arrive at the home position?

YES → The carriage home position sensor is not turned ON.
1. Check if the connector of the sensor is disconnected.
2. Check if the circuits of the SLG board are abnormal.

↓

NO

The carriages are stopped at the home position and do not move.

1. Check if the connector pins are disconnected or the harnesses are short circuited or open circuited.
2. Check if the conductor pattern on the SLG board is short circuited or open circuited.
3. Replace the SLG board.

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25.3.14 Fuser unit related service call

Note:
Be sure to turn OFF the power and unplug the power cable beforehand when checking the power supply unit and fuser unit.
The fuser unit itself or the part of the unit remains heated and the capacitors are still charged after a while the power cable is unplugged. So make sure the unit is cooled down enough before checking.

[C411/C412/C452] Thermistor/heater lamp abnormality at power-ON

1.Check the power voltage

(1) Check if the power voltage is normal.(Is the voltage during the operation ±10% of the rated voltage?)

2.Check the error detection history

(1) Check the error detection history of each temperature detecting element when the error occurred. If any of the elements detects an abnormal temperature, check step 3.
08-1902: Fuser belt center thermopile temperature
08-1903: Fuser belt side thermopile temperature
08-1904: Fuser belt edge thermistor temperature
08-1905: Pressure roller center thermistor temperature
08-4545: Pressure roller rear thermistor temperature

3.Check the thermopiles

(1) Check if the fuser belt center and side thermopiles (front, rear) are installed properly.
(2) Check if the harnesses of the fuser belt center and side thermopiles (front, rear) are open circuited.

4. Check the IH board, IH coil and the fuser unit

(1) Is the fuser unit installed correctly?
(2) heck if foreign matter or paper in the fuser unit is plugging up the monitoring opening of the fuser belt thermopile.
(3) Check if the opening of the fuser belt thermopile of the equipment is plugged up.
(4) Is the IH coil open circuited? (Check if power is supplied to the IH coil.)
(5) Check if the connector of the IH coil is disconnected.
(6) Check if the thermostat is broken.
(7) Check if any of the connectors (AC input connector and LGC I/F connector CN462) on the IH board is disconnected.
(8) Is the IH board broken?.
- Replace the IH board.

5. Check the LGC board

(1) Check if the connectors CN333 and CN345 are disconnected.
(2) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(3) Replace the LGC board.

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6. Clear the status counter
After repairing the matter which caused the error [C411/C412], perform the following:

(1) Turn ON the power while [0] and [8] are pressed simultaneously.
(2) Key in “400”, then press [START].
(3) Change the current status counter value “1” or “2” to “0”, then press [ENTER] or [INTERRUPT] (to cancel [C411/C412]).
(4) Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

[C443/C445/C446/C447/C449] Heater lamp abnormality after abnormality judgment
1,2,3,4. Check the thermopiles, Heater and LGC board
Check the above components following the procedures 1, 2,3 and 4 for [C411/C412].

5. Clear the status counter
Change the current status counter value (08-400) “3”, “5”, “6”, “9”, “19”, “21”, “22”, “23”, “24”, “25”, “27” or “29” to “0” for [C44X], taking the same procedure as that for [C41X].

- The status counter value is as follows in the following cases.
  - The error occurred during warming-up: “3”, “5” or “6”
  - The error occurred after the equipment has become ready: “7”
  - The temperature detected by the fuser belt center thermopile is 230°C or higher, the temperature detected by the side thermopile is 230°C or higher or the temperature detected by the edge thermopile is 230°C or higher: “9”, “19”, “21”, “22”, “23”, “25”, “27” or “29”.
  - The error occurred during printing: “24” or “25
  - The error occurred during energy saving: “27”
  - A paper jam occurred: “29”

[C448] Heater lamp lights continuously for a certain period of time when the pressure roller temperature during ready status is higher than the specified
1. Check the power supply and fuser unit

(1) Check if the fuser unit is installed properly.
(2) Check if foreign matter or paper in the fuser unit is plugging up the monitoring opening of the fuser belt thermopile.
(3) Check if the opening of the fuser belt thermopile of the equipment is plugged up.
(4) Check if the connectors of the power supply are disconnected (power supply unit AC output connector CN409 and LGC Interface connector CN403).
(5) Check if the power supply unit is abnormal.
    * Replace the power supply unit.

2. Check the LGC board

(1) Check if the connector CN333 is disconnected.
(2) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(3) Replace the LGC board.

3. Clear the status counter
After repairing the matter which caused the error [C448], perform the following:

(1) Turn the power ON while [0] and [8] are pressed simultaneously.
(2) Key in “400”, then press the [START] button.
(3) Change the displayed current status counter value “32” to “0”, then press [ENTER] or [INTERRUPT] (to cancel C448).
(4) Turn the power OFF and then back ON. Make sure that the equipment enters the normal status.

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[C451] Thermopile and edge thermistor temperature difference

1. Check if any paper is clinging to the fuser belt.
2. Check if there is any foreign matter between the fuser belt thermopile (center/side) and the fuser belt. Remove it if any.
3. Replace the fuser belt thermopile (center/side)

[C463] Pressure roller thermistor and edge thermistor temperature difference

1. Check if any paper is clinging to the pressure roller.
2. Check if there is any foreign matter between the pressure roller thermistor (center/side) and the pressure roller. Remove it if any.
3. Replace the pressure roller center thermistor (center/side)

[C461] Pressure roller temperature detection (40 degrees C) abnormality (not determined)
[C462] Pressure roller temperature detection (40 degrees C) abnormality (determined)
[C464] Pressure roller thermistor temperature difference abnormality

1.Check the power voltage

(1) Check if the power voltage is normal.(Is the voltage during the operation ±10% of the rated voltage?)

2.Check the error detection history

(1) Check the error detection history of each temperature detecting element when the error occurred. If any of the elements detects an abnormal temperature, check step 3.
08-1902: Fuser belt center thermopile temperature
08-1903: Fuser belt side thermopile temperature
08-1904: Fuser belt edge thermistor temperature
08-1905: Pressure roller center thermistor temperature
08-4545: Pressure roller rear thermistor temperature

3.Check the pressure roller thermistor.

(1) Check if the connector is disconnected.
(2) Is the pressure roller center thermistor installed properly?
(3) Is the pressure roller rear thermistor contacted with the pressure roller surface securely?
(4) Is any of the harnesses for the pressure roller center thermistor and the pressure roller rear thermistor open circuited?

4. Check the switching regulator and fuser unit

(1) Is the fuser unit installed correctly?
(2) Is a harness for the heater lamp open circuited? (Is power supplied to the heater lamp?)
(3) Is the connector of the heater lamp disconnected?
(4) Check if the thermostat is blown.
(5) Is the connector of the switching regulator disconnected? (Check the AC output connector CN409 of the switching regulator and the I/F connector CN403 of the LGC board.)
(6) Is the switching regulator damaged?
(7) Replace the switching regulator.

5. Check the LGC board

(1) Are the connectors CN301 and CN306 disconnected?.
(2) Is the conductor pattern on the board short circuited or open circuited?
(3) Replace the LGC board.

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6. Reset the status counter

Follow the procedure below after each cause of C461, C462 and C464 is corrected.

(1) Turn the power of the equipment ON while pressing [0] and [8] simultaneously.
(2) Key in "400" and then press the [START] button.
(3) Reset the status counter values "61", "70", "71" or "62" to "0". Then press [ENTER] on the touch panel or the [INTERRUPT] button on the control panel. (The error C461, C462 or C464 is released.)
(4) Turn the power of the equipment OFF and then back ON. Then check that the equipment normally enters into the standby mode.

[C465/C466/C467/C468] Pressure roller thermistor abnormality after entering ready status

1. Check the pressure roller thermistor

(1) Check if the connector is disconnected.
(2) Check if the pressure roller center thermistor is installed properly.
(3) Check if the pressure roller rear thermistor is in contact with the surface of the pressure roller properly.
(4) Check if the harnesses of the pressure roller center and rear thermistors are open circuited.

2. Check the power supply unit and fuser unit

(1) Check if the fuser unit is installed properly.
(2) Check if the heater lamp is open circuited. (Check if the heater lamp has electric continuity.)
(3) Check if the connector of the heater lamp is disconnected.
(4) Check if the thermistor is open circuited.
(5) Check if the connectors of the power supply (power supply AC output connector CN409, LGCI/F connector CN403) are disconnected.
(6) Check if the power supply unit is broken.
    * Replace the power supply unit if it is broken.

3. Check the LGC board

(1) Check if the connector CN333/CN345 is disconnected.
(2) Check if the conductor pattern on the board is short circuited or open circuited.
(3) Replace the LGC board.

4. Clear the status counter

Change the current status counter value (08-400) “5”, “6”, “8”, “18”, “20”, “26”, “28”, “33” or “34” to “0”

* The status counter value is set as follows in the following cases.
- The error occurred during warming-up: “5” or “6”
- The error occurred after the equipment has become ready: “33”
- Regardless of the equipment’s status (i.e. during warming-up or in ready status), when the temperature detected by the pressure roller thermistor is 210°C or higher: “8”, “18”, “20”, “26” or “28”.
- The error occurred during printing: “34”

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[C471] IH board initialization abnormality
[C472] Power supply abnormality

1. Check the power cable

(1) Check if the power cable is properly plugged in.
(2) Check if the power cable is properly connected to the equipment.
(3) It is recommended to plug in the power cable again since it could be connected halfway.

2. Check the AC input voltage

(1) Check if the AC input voltage is within the specification.

3. Check the duplexing unit interlock switch

(1) Is the interlock switch lever inserted when the duplexing unit is closed?
(2) Check if there is any damage or bending in the installation of the duplexing unit interlock switch lever, and replace it if there is.
(3) Replace the duplexing unit interlock switch.

4. Check the thermostat

(1) Check if the terminal of the thermostat is correctly connected.
(2) Check if the thermostat is blown.
(3) Check if the harness is open circuited in the fuser unit.
(4) Replace the fuser unit.

5. Check the IH board

(1) Check if the AC input connector of the IH board and the LGC I/F connector CN404 are disconnected.
(2) Check if the fuse on the IH board has blown.
(3) Replace the IH board.
(4) If the breaker is turned off, return it to the original position.

6. Check the LGC board

(1) Check if the connectors CN301, CN305 and CN306 are disconnected.
(2) Check if the conductor pattern on the board is short circuited or open circuited.
(3) Replace the LGC board.

7. Check the FIL board

(1) Check if the connectors CN431, CN433, CN434 and CN435 are disconnected.
(2) Replace the FIL board.

8. Check the relay connector

(1) Check if the relay connector J655 near the IH board has come off.

9. Clear the status counter

Change the current status counter value (08-400) “10”, “11”, “12”, “13” or “16” to “0”

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[C473] Surge pressure detection / power and voltage upper limit abnormality
[C474] Power and voltage lower limit abnormality

1. Check the AC input voltage

(1) Check if the AC input voltage is within the specification.

2. Check the IH board

(1) Replace the IH board.

[C480] IGBT high temperature abnormality

1. Check the IH cooling fan

(1) Is the IH cooling fan rotating normally? (Check if the connector is disconnected.)

2. Check the IH board

(1) Replace the IH board.

3. Check the LGC board

(1) Check if the connectors CN305/CN306 are disconnected.
(2) Check if the conductor pattern on the board is short circuited or open circuited.
(3) Replace the LGC board.

4. Clear the status counter

Change the current status counter value (08-400) "14" to "0".

[C481] IH drive circuit abnormality

1. Check the IH board

(1) Replace the IH board.

2. Check the LGC board

(1) Check if the connectors CN305/CN306 are disconnected.
(2) Check if the conductor pattern on the board is short circuited or open circuited.
(3) Replace the LGC board.

3. Clear the status counter

Change the current status counter value (08-400) "15" to "0".

[C490] IH circuit abnormality / IH coil abnormality

1. Check the power voltage

(1) Check if the power voltage is normal.(Is the voltage during the operation?10% of the rated voltage?)

2. Check the IH board

(1) Check if the heaness of IH coil.
(2) Check if the conductor pattern on the board is short circuited or open circuited.
(3) Replace the IH board.

3. Check the IH coil

(1) Check if the IH coil is open circuited or short circuited.
(2) Replace the IH coil.
(3) Check if the fuser belt is damaged.
(4) Replace the fuser belt.
(5) Replace the fuser unit.

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[C4B0] IGBT overheating abnormality

1. Check the LGC board

(1) Check if the conductor pattern on the board is short circuited or open circuited.
(2) Check if SRAM is mounted.
(3) Replace the LGC board.

2. Clear the status counter

Change the values “30” or above, or “4” of the status counter (08-400) to “0”.

[C4B1] Fuser unit voltage judgment abnormality

(1) Check if any of the harnesses in the fuser unit is open circuited.
(2) Check if any of the connectors CN305, CN306 and CN330 on the LGC board is open circuited.
(3) Check if there is any abnormality on the harnesses between the connectors CN305, CN306 and CN330 on the LGC board and the fuser unit.
(4) Replace the LGC board.
(5) Replace the fuser unit.
(6) Check if the AC input connector on the IH board is disconnected.
(7) Check if the connector CN404 of the switching regulator is disconnected.
(8) Check if the fuse of the IH board has blown.
(9) Replace the IH board.
(10) Replace the FIL board.

[C4D0] Fuser belt thermopile abnormality

1. Check the thermopile

(1) Check if the connector of the thermopile is disconnected.
(2) Check if the harnesses of the fuser belt center thermopile and the fuser belt side thermopile are open circuited.
(3) Replace the thermopile.

2. Check the LGC board

(1) Check if the connector CN333 is disconnected.
(2) Check if the conductor pattern on the LGC board is open circuited or short circuited.
(3) Replace the LGC board.

3. Cancel the service call

After repairing the matter which caused the error [C4D0], turn the power OFF and then back ON to cancel the service call. However, the counter value will be stored until it is written over by the value of the other service call.

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[C4E0] Fuser pressure release abnormality
[C4E1] Fuser pressure contact abnormality

1. Is the pressure roller contact/release detection sensor working? (Perform the input check: 03-[FAX]OFF/[3]/[F])
   * If it is working properly, proceed to 7. If not, check 2 to 6 below.
2. Is there any foreign matter or damage on the pressure roller contact/release detection sensor?
3. Check if the drawer connector for the fuser unit or any of connectors on the equipment side is disconnected or open-circuited.
4. Check if the harness between the pressure roller contact/release detection sensor and the connector (CN306) on the LGC board is disconnected or open-circuited.
5. Replace the sensor.
6. Replace the LGC board.
7. Is the pressure roller contact/release clutch working? (Perform the output check: 03-273)
   * If it is working properly, proceed to 12. If not, check 8 to 11 below.
8. Is the drawer connector for the fuser unit or any of connectors on the equipment side is disconnected or open-circuited?
9. Is the harness between the pressure roller contact/release clutch and the connector (CN311) on the LGC board disconnected or open-circuited?
10. Replace the clutch.
11. Replace the LGC board.
12. If there is any mechanical problem on the fuser unit, fix the mechanism.
13. Check that 2 dowels are securely fitted into the holes of the fuser drive unit.

[C4E2] Fuser belt rotation detection sensor abnormality

1. Is the fuser belt rotation detection sensor working? (Perform the input check: 03-[FAX]ON/[4]/[F])
   * If it is working properly, proceed to 7. If not, check 2 to 6 below.
2. Check if there is any foreign matter or damage on the fuser belt rotation detection sensor.
3. Check if the connector for the fuser unit or any of connectors on the equipment side is disconnected or open-circuited.
4. Check if the harness between the fuser belt rotation detection sensor and the connector (CN306) on the LGC board is disconnected or open-circuited.
5. Replace the sensor.
6. Replace the LGC board.
7. Is the sensing plate of the fuser belt rotation detection sensor damaged or smudged?
8. Check if the fuser belt and its drive section have any abnormality.
9. Check if the gear of the fuser drive unit is not engaged, any parts are extremely abraded, the one-way clutch is not smoothly operated or the surface of the bushing is scraped.
10. Check if grease is applied to the gears and shafts of the fuser unit and fuser drive unit.

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25.3.15 Communication related service call

[C550] RADF I/F error

(1) Check if the harness connecting the RADF board and SLG board is disconnected or open circuited.
(2) Check if the conductor pattern on the RADF board is short circuited or open circuited.
(3) Check if the conductor pattern on the SLG board is short circuited or open circuited.
(4) Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).
(5) Replace the SLG board.

[C560] Communication error between Engine-CPU and PFC board

(1) Check if the LGC board and PFC board are connected properly.
(2) Check if the conductor pattern on the PFC board is short circuited or open circuited.
(3) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(4) Replace the PFC board.
(5) Replace the LGC board.

[C570] Communication error between Engine-CPU and CNV ROM

(1) Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
(2) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(3) Replace the LGC board.

[C580] Communication error between CNV ROM and finisher

(1) Check if the specified finisher is attached.
(2) Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
(3) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(4) Check if the conductor pattern on the finisher controller PC board is short circuited or open circuited.
(5) Replace the LGC board.
(6) Replace the finisher controller PC board.

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[F070] Communication error between System-CPU and Engine-CPU

(1) Check the version of the system ROM on the SYS board.
(2) Check the version of the engine ROM on the LGC board.
(3) Check if the connector CN423 and CN424 on the IMG board and the connector CN319 and CN320 on the LGC board are completely inserted.
(4) Check if the connector CN422 on the IMG board and the connector CN135 on the SYS board are completely inserted.
(5) Check if the connector pin between the IMG board (connector CN422) and the SYS board (connector CN135) is disconnected.
(6) Check if the conductor patterns on the IMG board, LGC board and SYS board are short circuited or open circuited.
(7) Replace the LGC board if no problem is found in steps from (1) to (7) above.
(8) If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the SYS board.
(9) If the problem is still not corrected with the replacement of the SYS board, reinstall the removed SYS board and replace the IMG board.

[F110] Communication error between System-CPU and Scanner-CPU
[F111] Scanner response abnormality

(1) Check if the harness connecting the IMG board and SLG board is disconnected or open circuited.
(2) Check the version of the system ROM on the SYS board.
(3) Check the version of the scanner ROM version on the SLG board.
(4) Replace the SYS board.
(5) Replace the SLG board.

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25.3.16 RADF related service call

[C730] EEPROM abnormality

1. Check the IC-1, -2 and around on the RADF board to see if there is any burnout or short-circuiting.
2. Replace the Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

[C880] ADF feed motor abnormality

1. Check if the connector CN76 on the RADF board is disconnected from the ADF feed motor or the harnesses are open-circuited. Correct if this is the case.
2. Replace the ADF feed motor.

[C890] ADF read motor abnormality

1. Check if the connector CN76 on the RADF board is disconnected from the ADF read motor or the harnesses are open-circuited. Correct if this is the case.
2. Replace the ADF read motor.

[C8A0] ADF reverse motor abnormality

1. Check if the connector CN77 on the RADF board is disconnected from the ADF reverse motor or the harnesses are open-circuited. Correct if this is the case.
2. Replace the ADF reverse motor.

[C8B0] ADF exit motor abnormality

1. Check if the connector CN78 on the RADF board is disconnected from the ADF exit motor or the harnesses are open-circuited. Correct if this is the case.
2. Replace the ADF exit motor.

[C8C0] RADF original reading start sensor abnormality

1. Check if the RADF original reading start sensor is not damaged or stained.
2. Check that the prism is installed in the correct position and that it is not damaged.
3. Check if the connector CN75 on the RADF board is disconnected from the RADF original reading start sensor or the harnesses are open circuited. Correct if so.
4. Replace the RADF original reading start sensor, and then perform the automatic adjustment for the original reading start sensor (05-356).
5. Replace the RADF board, and then perform the automatic adjustment for the original reading start sensor (05-356).

[C8E0] ADF communication protocol abnormality

1. Turn the power OFF and then back ON to check if the equipment operates normally.

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25.3.17 Circuit related service call

[C5A0] SRAM board not connected (LGC board)
[C5A1] SRAM board data abnormality (LGC board)

(1) Check if the SRAM board has been installed properly.
(2) Check if the conductor patterns on the SRAM board is short circuited or open circuited.
(3) Check if the battery on the SRAM board has not run out.
(4) Replace the SRAM board.
(5) Replace the LGC board.

[C900] Connection error between the SYS board and the LGC board

(1) Check if the connector CN423, CN424 on the IMG board and the connector CN319, CN320 on the LGC board are completely inserted.
(2) Check if the connector pin between the IMG board (connector CN423, CN424) and the LGC board (connector CN319, CN320) is disconnected.
(3) Check if the connector CN422 on the IMG board and the connector CN135 on the SYS board are completely inserted.
(4) Check if the connector pin between the IMG board (connector CN422) and the SYS board (connector CN135) is disconnected.
(5) Check if the conductor patterns on the IMG board, LGC board and SYS board are short circuited or open circuited.
(6) Replace the LGC board if no problem is found in steps from (1) to (5) above.
(7) If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the IMG board.
(8) If the problem is still not corrected with the replacement of the IMG board, reinstall the removed IMG board and replace the SYS board.

[C940] Engine-CPU abnormality

Does service call still occur even after turning OFF the main switch then back ON?
↓ NO → Leave it for a while and see how.
YES
1. Check if the conductor pattern between the Engine-CPU and FROM, SRAM is short circuited or open circuited.
2. Replace the LGC board if it frequently occurs.

[C962] LGC board ID abnormality

(1) Check if the connector CN304 on the LGC board is completely inserted or not disconnected.
(2) Check if the connectors CN423 and CN424 on the IMG board and the connectors CN319 and CN320 on the LGC board are completely inserted.
(3) Check if the connector pin between the IMG board (connector CN423, CN424) and the LGC board (connector CN319, CN320) is disconnected.
(4) Check if the connector CN426 on the IMG board is completely inserted or not disconnected.
(5) Check if the conductor patterns on the IMG board and the LGC board are short circuited or open circuited.
(6) Replace the LGC board if no problem is found in steps from (1) to (5) above.
(7) If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the IMG board.
(8) If the problem is still not corrected with the replacement of the IMG board, reinstall it and ask a specialist to repair it. (Abnormal ID)

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[C9E0] Connection error between the SLG board and the SYS board

(1) Check if the connector CN12 on the SLG board is completely inserted or not disconnected.
(2) Check if the connector CN421 on the IMG board is completely inserted or not disconnected.
(3) Check if the connector pin between the SLG board (connector CN12) and the IMG board (connector CN421) is disconnected, or the harness connecting these boards is short circuited or open circuited.
(4) Check if the connector CN422 on the IMG board and the connector CN135 on the SYS board are completely inserted.
(5) Check if the connector pin between the IMG board (connector CN422) and the SYS board (connector CN135) is disconnected.
(6) Check if the conductor patterns on the SLG board, IMG board and SYS board are short circuited or open circuited.
(7) Replace the SLG board if no problem is found in steps from (1) to (6) above.
(8) If the problem is not corrected with the replacement of the SLG board, reinstall the removed SLG board and replace the IMG board.
(9) If the problem is still not corrected with the replacement of the IMG board, reinstall the removed IMG board and replace the SYS board.

[F090] SRAM abnormality on the SYS board

(1) Turn the power OFF and start up the Setting Mode (08).
(2) When “SRAM ERROR DOES IT INITIALIZE” is displayed on the LCD, check the destination and then press the [START] button. If the destination is not correct, key in the correct one and then press the [START] button.
(3) After the confirmation message is displayed on the LCD, press the [INTERRUPT] button (to initialize the SRAM).
(4) Perform the panel calibration (08-692).
(5) Enter the serial number (08-995). Be sure that the serial number is the same as that on the identification label attached on the rear cover of the equipment.
(6) Initialize the NIC information (08-693).
(7) Turn the power OFF and then start up with the Adjustment mode (05).
(8) Perform “Data transfer of characteristic value of scanner” (05-364).
(9) Perform “Automatic gamma adjustment” <PRC> (05-1642) (using [4] [FAX] test pattern).
(10) Perform “Automatic gamma adjustment” <PRT (600dpi)> (05-1008) (using [70] [FAX] test pattern).
(11) Perform “Automatic gamma adjustment” <PRT (1200dpi)> (05-1009) (using [230] [FAX] test pattern).
(12) Turn the power OFF and then back ON. If the error is not recovered, replace the SRAM on the SYS board.

[F350] SLG board abnormality

(1) Check if the conductor pattern on the SLG board is short circuited or open circuited.
(2) If there is no problem found in the check (1) above, check the combination of the firmware version of the system ROM, engine ROM and scanner ROM. Reinstall the scanner ROM firmware.
(3) If an error occurs after step (2) above has been performed, replace the SLG board.

[F400] SYS board cooling fan abnormality

(1) Check if the fan is rotating properly.
(2) If not, check if any foreign object is adhered.
(3) Is the connector CN126 of the SYS board connected securely?
(4) Replace the SYS board cooling fan.
(5) Replace the SYS board.

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25.3.18 Laser optical unit related service call

[CA10] Polygonal motor abnormality

Is the polygonal motor rotating? (Perform the output check: 03-103)

NO →
1. Check if the relay connector CN207 (28-pin connector) is almost disconnected.
2. Check if the connector (CN329) on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open-circuited.
4. Check if the conductor pattern on the LGC board is short-circuited or open-circuited.
5. Replace the LGC board.
6. Replace the laser optical unit.

↓

YES

Is the printed image distorted or does an abnormal noise occur?

YES →
1. Check if the laser unit cooling fan (front) and the laser unit cooling fan (rear) have stopped.
   (Perform the output check: 03-437 for front side, 03-439 for rear side)
2. Check if the suction areas of the laser unit cooling fan (front) and the laser unit cooling fan (rear) are plugged up.
3. Check if the relay connector CN207 (28-pin connector) is almost disconnected.
4. Check if the connector (CN329) on the LGC board is almost disconnected.
5. Check if the harnesses are almost open circuited or the connector pins are almost disconnected.
6. Check if the conductor pattern on the LGC board is short circuited or open circuited.
7. Replace the laser optical unit.
8. Replace the LGC board.

↓

NO

Does an image control related/process related service call or an image failure occur?

NO →
1. Check if the laser unit cooling fan (front) and the laser unit cooling fan (rear) have stopped.
   (Perform the output check: 03-437 for the front side, 03-439 for the rear side)
2. Check if the suction areas of the laser unit cooling fan (front) and the laser unit cooling fan (rear) are clogged up.
3. Check if the relay connector CN207 (28-pin connector) is almost disconnected.
4. Check if the connector (CN329) on the LGC board is almost disconnected.
5. Check if the harnesses are open-circuited or the connector pins are almost disconnected.
6. Check if the conductor pattern on the LGC board is short-circuited or open-circuited.
7. Replace the laser optical unit.
8. Replace the LGC board.

↓

YES

Perform the troubleshooting procedures for when an image control related/process related service call or an image failure occurs.
Replace the laser optical unit.
Replace the LGC board.

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[CA20] H-Sync detection error

Is the relay connector (CN212) disconnected or almost disconnected? (Are they locked with the latches?)

Is the harness between the LGC board (CN321) and the SNS board open circuited, broken or disconnected?

Is the cable between the LGC board (CN326) and the LDR board open circuited or broken?

Are the connectors (CN321 and CN326) on the LGC board disconnected?

| YES → 1. Reconnect the harness and the cable.

↓

NO

Has the contact terminal of the cable between the LGC board (CN326) and the LDR board come off?

| NO → 1. Replace the laser optical unit. between the power supply unit and the LGC board.

↓

YES

1. Check if the conductor pattern on the LGC board is open-circuited or short-circuited.
2. Check if the equipment is grounded.
3. Replace the laser optical unit.
4. Replace the LGC board.

[CF90] Laser optical unit shutter abnormality

1. Take off the left center cover so that the connector relay plate and the shutter motor can be seen.
2. Is the shutter motor working? (Perform the output check: 03-201).
   * If it is working properly, proceed to 10. If not, check 3 to 9 below.
3. Check if the shutter motor connector CN214 (2-pin connector) is disconnected.
4. Check if the connector CN218 (8-pin connector) on the connector relay plate is disconnected.
5. Check if the connector CN327 on the LGC board is disconnected.
6. Check if the connector pins are disconnected or the harnesses are open circuited.
7. Check if the conductor pattern on the LGC board is short circuited or open circuited.
8. Replace the shutter motor.
9. Replace the LGC board.
10. Is the shutter motor working and the shutter plate moving? (Perform the output check: 03-201)
    * If it is working properly, proceed to 14. If not, check 11 to 13 below.
11. Check if the shutter motor and the shutter crank are assembled correctly, or not damaged.
12. Check if the shutter plate is assembled correctly.
13. Check if the shutter plate contacts with any parts inside the machine.
14. Is the shutter motor working, and the shutter plate reciprocates one cycle to stop at its original position.
    * If it is working properly, proceed to 25. If not, check 15 to 24 below.
15. Perform the input check for the shutter detection sensor (Perform the input check: 03-[All OFF]/ [7]/[D] and /[E]).
16. Manually move the shutter to see that it is “opened” when the crank is in the front, and it is “closed” when the crank is in the back. Therefore, check if the sensor detects as described in the table below.

States	End detection	HP detection
Abnormal	H	H
Open	H	L
Close	L	H
Midstream	L	L

17. Check if the detection sensor is coming off of or lift off from the plate base.
18. Check if the connector of the shutter status detection sensor (CN216, CN217) are disconnected.
19. Check if the detection sensor cut-out part of the shutter plate is deformed.
20. Check if the connector (CN327) on the LGC board disconnected.
21. Check if the connector pins are disconnected or the harnesses are open-circuited.
22. Check if the conductor pattern on the LGC board is open-circuited or short-circuited.

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23. Replace the shutter status detection sensor.
24. Replace the LGC board.
25. Take off the LSU and check if there is no foreign matter between the shutter plate and the LSU cover.
26. Check if the conductor pattern on the LGC board is open-circuited or short-circuited.
27. Check the LGC board.

[CA47] SNS board abnormality

(1) Is the relay connector CN212 (4-pin connector) disconnected or almost disconnected? (Are they locked with the latches?)
(2) Is the harness between the LGC board (CN327) and the SNS board open circuited, broken or disconnected?
(3) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(4) Replace the LGC board.
(5) Replace the laser optical unit.

[CFA0] Media sensor output abnormality before paper reaching
[CFA1] Media sensor output abnormality during paper passing

(1) If these codes are recorded in the error history, the media sensor may have a malfunction. In this case check the following:
(2) Is the connector of the media sensor disconnected or is any harness open circuited?
(3) Are the arm of the media sensor and the bearing rollers operating properly?
(4) Is the media sensor adjusted correctly?
10.7.1Adjustment of the media sensor position
(5) If any abnormality was found in step 3 above or no abnormality was found in steps 2 and 4, replace the media sensor.

* Note that printing is available even if the media sensor is in a faulty condition. The functions that the media sensor usually performs are then carried out as follows:
If the media type of paper is set as plain paper, a media type (plain paper 1 or 2) set in advance in the code below will be used.
08-4599
0: Plain paper 1 1: Plain paper 2 (Factory default - JPD: 0, overseas: 1)
Media type setting checking function will be disabled.
Even if the media sensor is in a faulty condition, any message notifying this will not be appear.
Check the condition with the error history.

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25.3.19 Finisher related service call

[CB00] Finisher not connected

[CB01] Finisher communication error

MJ-1103/1104

1. Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
2. Check if the conductor pattern on the finisher controller PC board is open circuited or short circuited.
3. Update the firmware version of the finisher ROM.
4. Update the firmware version of the converter ROM.
5. Replace the finisher control PC board.
6. Check if the conductor pattern on the LGC board is open circuited or short circuited.
7. Replace the LGC board.

[CB10] Entrance motor abnormality

MJ-1103/1104

Is there any mechanical problem when the entrance roller is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the entrance motor (M1) and the finisher control PC board (CN7) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the entrance motor (M1).
2. Replace the finisher control PC board.

[CB11] Buffer tray guide motor abnormality

*** You receive a [CB11] error when the [ED16] error occurs three times in succession.**

MJ-1103/1104

Is there any mechanical problem when the buffer tray guide is opened/closed while the buffer roller is lifted up?

↓ →YES Fix the mechanism.

NO

Is the harness between the buffer tray guide motor (M3) and the finisher control PC board (CN18) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the buffer tray guide motor (M3).
2. Replace the finisher control PC board.

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[CB12] Buffer roller drive motor abnormality

MJ-1103/1104

Is there any mechanical problem when the buffer roller is rotated?

↓ →YES Fix the drive mechanism.

NO

Is the harness between the buffer roller drive motor (M6) and the finisher control PC board (CN18) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the buffer roller drive motor (M6).
2. Replace the finisher control PC board.

[CB13] Exit motor (M11) abnormality

Is there any mechanical problem when the exit roller is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the exit motor (M11) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

1. Replace the exit motor (M11).
2. Replace the finisher control PC board (FIN).

[CB14] Paper pusher arm motor (M10) abnormality

Is there any mechanical problem when the paper pusher cam is rotated?

↓ →YES Fix the drive mechanism.

NO

Is the harness between the assist arm motor (M10) and the CN13 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

1. Replace the buffer roller drive motor (M10).
2. Replace the finisher control PC board (FIN).

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[CB30] Movable tray shift motor abnormality

MJ-1103/1104

Is there any mechanical problem when the movable tray is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the movable tray shift motor (M7) and the finisher control PC board (CN8) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the movable tray position A, B, and C sensors (S13, S14, and S15)?

↓ →YES
- Replace the harness.
- Reinstall the sensor correctly.
- Replace the sensor.

NO

1. Replace the movable tray shift motor (M7).
2. Replace the finisher control PC board.

[CB31] Movable tray paper-full detection error

MJ-1103/1104

Is there any mechanical problem when the actuator of the movable tray paper-full detection sensor (S16) is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the movable tray paper-full detection sensor (S16)?

↓ →YES
- Connect the connector securely.
- Reinstall the sensor correctly.
- Replace the sensor.

NO

Is the harness between the movable tray paper-full detection sensor (S16) and the finisher control PC board (CN12) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

Replace the finisher control PC board.

[CB40] Front alignment motor abnormality

*** You receive a [CB40] error when the [ED13] error occurs three times in succession.**

MJ-1103/1104

Is there any mechanical problem when the front alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the front alignment motor (M9) and the finisher control PC board (CN10) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

Replace the front alignment motor (M9).

Replace the finisher control PC board.

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[CB50] Stapler home position error

*** You receive a [CB50] error when the [EA50] error occurs three times in succession.**

MJ-1103/1104

Is the harness between the stapler and the finisher control PC board (CN2) disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
• Replace the harness.

NO

Are the harnesses in the stapler disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
• Replace the harness.

NO

Replace the finisher control PC board.

[CB51] Stapler shift home position error

MJ-1103/1104

Is there any mechanical problem when the stapler is moved?

↓ →YES Fix the mechanism.

NO

Is there a disconnection of the connector, incorrect installation or breakage of the stapler unit home position sensor (S10)?

↓ →YES • Connect the connector securely.
↓ • Reinstall the sensor correctly.
↓ • Replace the sensor.

NO

Is the harness between the stapler unit home position sensor (S10) and the finisher control PC board (CN1) disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
↓ • Replace the harness.

NO

Is the harness between the stapler unit shift motor (M4) and the finisher control PC board (CN5) disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
↓ • Replace the harness.

NO

Replace the finisher control PC board.

[CB60] Stapler unit shift motor (M9) abnormality

Is there any mechanical problem when the stapler is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the stapler unit shift motor (M9) and the CN10 of the finisher control PC board (FIN) disconnected or open circuited?

↓ →YES • Reconnect the connector securely if there is any disconnection.
↓ • Replace the harness if open circuited.

NO

1. Replace the stapler unit shift motor (M9).
2. Replace the finisher control PC board (FIN).

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[CB80] RAM abnormality

MJ-1103/1104

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

Replace the finisher control PC board.

[CB81] Flash ROM abnormality

MJ-1103/1104

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

1. Check if the conductor pattern on the finisher controller PC board is open circuited or short circuited.
2. Replace the finisher control PC board.

[CB82] Finisher main program error

1. Update the firmware version of the finisher control PC board (FIN).
2. Replace the finisher control PC board (FIN).

[CB83] Saddle main program error

1. Update the firmware version of the saddle control PC board (ADL).
2. Replace the saddle control PC board (SDL).

[CB84] Punch unit main program error

Is the firmware version of the PNC board (HP) latest?

↓ →YES Update the firmware of the PNC board (HP).

NO

Replace the hole punch control PC board (HP).

[CB91] Saddle flash ROM abnormality

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

1. Check if the conductor pattern on the saddle controller PC board (SDL) is open circuited or short circuited.
2. Replace the saddle control PC board (SDL).

[CB92] Saddle RAM abnormality

Is the error recovered when the power of the equipment is turned OFF and then back ON?

↓ →YES End.

NO

Replace the Saddle control PC board (SDL).

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[CB93] Saddle Stitch Finisher additional folding motor (M20) abnormality

***The [CB93] error also occurs when the error [EF18] has occurred consecutively for 3 times.**

Is there any mechanical problem when the additional folding carrier is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the additional folding motor (M20) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

1. Replace the additional folding motor (M20).
2. Replace the saddle control PC board (SDL).

[CB94] Saddle transport motor (M16) abnormality

*** The [CB94] error also occurs when the error [EAB0] or [EF13] has occurred consecutively for 3 times.**

Is there any mechanical problem when the transport rollers are rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the saddle transport motor (M16) and the CN18 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

1. Replace the saddle transport motor (M16).
2. Replace the saddle control PC board (SDL).

[CB95] Saddle Stitch Finisher stacker motor (M14) abnormality

***The [CB95] error also occurs when the error [EF16] has occurred consecutively for 3 times.**

Is there any mechanical problem when the stacker carrier is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the stacker motor (M14) and the CN4 of the saddle control PC board (SDL) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely if there is any disconnection.
- Replace the harness if open circuited.

NO

Replace the saddle control PC board (SDL).

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[CBA0] Stitch motor (front) abnormality

[CBB0] Stitch motor (rear) abnormality

MJ-1103/1104

Are the front and rear stitchers and their stands installed properly?

↓ NO → Install them properly.

YES

Are the stitcher home position switches (SW7/SW5) and stitcher motors (M7/M6) on the front and rear stitchers working normally?

↓ NO → Replace the front or rear stitcher.

YES

Replace the saddle stitcher controller PC board.

[CBC0] Alignment motor abnormality

MJ-1103/1104

Is the alignment plate home position sensor (PI5) working normally?

↓ NO → Replace the sensor.

YES

Is the alignment plate drive mechanism normal?

↓ NO → Fix the mechanism.

YES

1. Replace the alignment motor (M5).
2. Replace the saddle stitcher controller PC board.

[CBE0] Paper folding motor abnormality

MJ-1103/1104

Are the paper folding motor clock sensor (PI4) and paper folding home position sensor (PI21) working normally?

↓ NO → Replace the sensors.

YES

Is the paper folding roller drive mechanism normal?

↓ NO → Fix the mechanism.

YES

1. Replacing the paper folding motor (M2).
2. Replace the saddle stitcher controller PC board.

[CC20] Communication error between finisher and saddle stitcher

MJ-1103/1104

Is the problem solved by turning OFF and ON the power switch of the equipment?

↓ YES→ End.

NO

Is the wiring between the finisher controller PC board and the saddle stitcher controller PC board connected?

↓ NO → Connect the wiring.

YES

1. Replace the finisher controller PC board.
2. Replace the saddle stitcher controller PC board.

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[CC30] Stack transport motor abnormality

*** You receive a [CC30] error when the [EA70] error occurs three times in succession.**

MJ-1103/1104

Is there any mechanical problem when the stack transport belt is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the stack transport motor (M5) and the finisher control PC board (CN10) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the stack transport motor (M5).
2. Replace the finisher control PC board.

[CC31] Transport motor abnormality

*** You receive a [CC31] error when the [ED12] error occurs three times in succession.**

MJ-1103/1104

Is there any mechanical problem when the stack transport roller -1 and -2 are rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the transport motor (M2) and the finisher control PC board (CN5) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the transport motor (M2).
2. Replace the finisher control PC board.

[CC41] Paper holder cam home position abnormality

MJ-1103/1104

Is there any mechanical problem when the paper holder cam is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the paper holder home position sensor (S6) and the finisher control PC board (CN17) disconnected or open circuited?

↓ →YES
- Reconnect the connector securely.
- Replace the harness.

NO

1. Replace the paper holder home position sensor (S6).
2. Replace the finisher control PC board.

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[CC51] Sideways adjustment motor (M2) abnormality

*** The [CC51] error will be displays when the [ED11] error occurs three times in succession or during the initial operation.**

MJ-1103/1104 (When MJ-6102 is installed)

Is there any paper remaining on the transport path?

↓ →YES Remove the paper.

NO

Rotate the sideways adjustment motor (M2). Does it rotate smoothly?

↓ →NO Fix the mechanism.

YES

Are the sideways deviation home position sensor (S3) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Is the wiring between the hole punch control PC board (HP) and sideways adjustment motor (M2) correct?

↓ →NO Correct the wiring.

YES

1. Replace the punch sideways adjustment motor (M2).
2. Replace the hole punch control PC board (HP).

[CC52] Skew adjustment motor (M1) abnormality

*** The [CC52] error will be displays when the [ED10] error occurs three times in succession or during the initial operation.**

MJ-1103/1104 (When MJ-6102 is installed)

Is there any paper remaining on the transport path?

↓ →YES Remove the paper.

NO

Rotate the skew adjustment motor (M1). Does it rotate smoothly?

↓ →NO Fix the mechanism.

YES

Are the skew home position sensor (S2) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Is the wiring between the hole punch control PC board (HP) and skew adjustment motor (M1) correct?

↓ →NO Correct the wiring.

YES

1. Replace the skew adjustment motor (M1).
2. Replace the hole punch control PC board (HP).

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[CC60] Punch motor abnormality

MJ-1103/1104 (when MJ-6102 is installed)

Are the punch home position sensor (PI63) and punch motor clock sensor (PI62) working normally?

↓ NO → Replace the sensors.

YES

Is the wiring between the sensors and finisher controller PC board correct?

↓ NO → Correct the wiring.

YES

Is the punching mechanism normal?

↓ NO → Fix the mechanism.

YES

1. Replace the punch motor (M61).
2. Replace the punch controller PC board.
3. Replace the finisher controller PC board.

[CC61] Punch motor (M3) home position detection error

*** The [CC61] error will be displays when the [E9F0] error occurs three times in succession or during the initial operation.**

MJ-1103/1104 (When MJ-6102 is installed)

Is there any paper remaining on the transport path?

↓ →YES Remove the paper.

NO

Rotate the punch motor (M3). Does it rotate smoothly?

↓ →NO Fix the mechanism.

YES

Are the punch home position sensor (S4) and its wiring correct?

↓ →NO Replace the sensor. Correct the wiring.

YES

Is the wiring between the hole punch control PC board (HP) and punch motor (M3) correct?

↓ →NO Correct the wiring.

YES

1. Replace the punch motor (M3).
2. Replace the hole punch control PC board (HP).

[CC71] Punch ROM checksum error

[CC72] Punch RAM read/write error

[CC73] Punching device power supply abnormality

[CC74] Transport pulse abnormality

[CE00] Punch communication error

Download the latest version of the PNC board (HP) firmware again and then check its operation.

↓

NO

Replace the hole punch control PC board (HP).

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[CC80] Rear alignment motor abnormality

*** You receive a [CC80] error when the [ED14] error occurs three times in succession.**

MJ-1103/1104

Is there any mechanical problem when the rear alignment plate is moved?

↓ →YES Fix the mechanism.

NO

Is the harness between the rear alignment motor (M10) and the finisher control PC board (CN10) disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
• Replace the harness.

NO

1. Replace the rear alignment motor (M10).
2. Replace the finisher control PC board.

[CDE0] Paddle motor abnormality

*** You receive a [CDE0] error when the [ED15] error occurs three times in succession or during the initial operation.**

MJ-1103/1104

Is there any mechanical problem with the paddle is rotated?

↓ →YES Fix the mechanism.

NO

Is the harness between the paddle motor (M8) and the finisher control PC board (CN6) disconnected or open circuited?

↓ →YES • Reconnect the connector securely.
• Replace the harness.

NO

1. Replace the paddle motor (M8).
2. Replace the finisher control PC board.

[CE00] Punch communication error

MJ-1103/1104 (When MJ-6102 is installed)

Is the harness between the hole punch control PC board (HP) and the finisher control PC board disconnected or open circuited?

↓ →YES Replace the harness. Correct the wiring.

NO

Is the conductor pattern on the hole punch control PC board (HP) open circuited or short circuited?

↓ →YES Replace the hole punch control PC board (HP).

NO

Replace the finisher control PC board.

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[CF10] Communication module SRAM reading failure

MJ-1103/1104

1. Is the error recovered when the power of the equipment is turned OFF and then back ON?
2. Check if the MJ-1103/1104 is set as the specified finisher on the equipment.
3. Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
4. Check if the conductor pattern on the LGC board is open circuited or short circuited.
5. Check if the conductor pattern on the finisher controller PC board is open circuited or short circuited.
6. Replace the LGC board.
7. Replace the finisher control PC board.

MJ-1103/1104 (When MJ-6102 is installed)

1. Is the error recovered when the power of the equipment is turned OFF and then back ON?
2. Check if the MJ-1103/1104 is set as the specified finisher on the equipment.
3. Check if the harness connecting the LGC board and the finisher controller PC board is disconnected or open circuited.
4. Check if the harness connecting the hole punch control PC board and the finisher control PC board is disconnected or open circuited.
5. Check if the conductor pattern on the LGC board is open circuited or short circuited.
6. Check if the conductor pattern on the finisher controller PC board is open circuited or short circuited.
7. Check if the conductor pattern on the hole punch control PC board is open circuited or short circuited.
8. Replace the LGC board.
9. Replace the finisher control PC board.
10. Replace the hole punch control PC board.

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25.3.20 Image control related service call

(1) Based on the procedure of [CE10], [CE20] and [CE40] described below, check the status and take appropriate actions. And then perform the forced performing of image quality control initialization to the following procedure.

1. While pressing [0] and [5] simultaneously, turn ON the power.
2. Key in [396], and then press the [START] button. Confirm that the image quality control has finished normally.

(2) After confirming the items in (1), clear the abnormal detection counter of image quality control.

1. While pressing [0] and [8] simultaneously, turn ON the power.
2. Key in [573], and then press the [START] button.
3. Rewrite the displayed status counter from “1” - “16” to “0”, and then press the [ENTER] or [INTERRUPT] button.
4. Key in [574], and then press the [START] button.
5. Rewrite the displayed status counter from “1” - “16” to “0”, and then press the [ENTER] or [INTERRUPT] button.
6. Key in [575], and then press the [START] button.
7. Rewrite the displayed status counter from “1” - “16” to “0”, and then press the [ENTER] or [INTERRUPT] button.
8. Key in [576], and then press the [START] button.
9. Rewrite the displayed status counter from “1” - “16” to “0”, and then press the [ENTER] or [INTERRUPT] button.
10. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

[CA00] Image position alignment abnormality

< Invalidating image position alignment control >

(1) Turn the power ON while [0] and [8] are pressed simultaneously.
(2) Key in “4546”, then press the [START] button. (08-4546: Position adjustment control / Mode setting)
(3) Set the value to “0” (not performed automatically).
(4) Turn the power OFF.

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< Checking the abnormal status on image position alignment >

(5) Turn the power ON while [0] and [5] are pressed simultaneously.
(6) Key in “4720”, then press the [START] button.
(7) Press the [START] button again, then check the displayed value. (05-4720-0: Displaying the cause of image position alignment detection error front and rear sides.)

When the error [CA00] occurs, the value between 1 and 255 is displayed. (0: Detection normality on the front and rear sides)
(The statues of total 8 sections (4 colors on the front and rear sides) are displayed.)
1 : Y on the rear side detection abnormality (*1)
2 : Y on the front side detection abnormality (*1)
3 : Y on the front and rear sides detection abnormality
4 : M on the rear side detection abnormality (*1)
8 : M on the front side detection abnormality (*1)
12 : M on the front and rear sides detection abnormality
16 : C on the rear side detection abnormality (*1)
32 : C on the front side detection abnormality (*1)
48 : C on the front and rear sides detection abnormality)
64 : K on the rear side detection abnormality (*1)
85 : All colors on the rear side detection abnormality -> (I)
128: K on the front side detection abnormality (*1)
170: All colors on the front side detection abnormality -> (I)
192: K on the front and rear sides detection abnormality
255: All colors on the front and rear sides detection abnormality -> (I)
Other than the above: Multiple colors detection abnormality

(*2) The adjustment value is the sum of (*1), which, as in the example below, specifies the cause of the detection abnormality.
(E.g. 1) 05-4720-0 --- in case of 72
72 = 64 + 8
-> K on the rear side / M on the front side detection abnormality
(E.g. 2) 05-4720-0 --- in case of 146
146 = 128 + 18 = 128 + 16 + 2
-> K on the front side / C on the rear side / Y on the front side detection abnormality

(8) Press the [START] button.
(9) After [1] is pressed, then press the [START] button.

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(10) Check the displayed value. (05-4720-1: Displaying the cause of image position alignment detection error center side.)

When the error [CA00] occurs, the value between 1 and 85 is displayed. (0: Detection normality on the center side)
(The statues of total 4 sections (4 colors on the front and rear sides) are displayed.)
1 : Y on the center side detection abnormality (*3)
4 : M on the center side detection abnormality (*3)
16 : C on the center side detection abnormality (*3)
64 : K on the center side detection abnormality (*3)
85 : All colors on the center side detection abnormality -> (I)
Other than the above: Multiple colors detection abnormality

(*4) The adjustment value is the sum of (*3), which, as in the example below, specifies the cause of the detection abnormality.
(E.g. 1) 05-4720-0 --- in case of 65
65 = 64 + 1
-> K on the rear side / Y on the front side detection abnormality

(11) If the adjustment value fits (I) in step 7 or 10, proceed to step (12). In other cases, proceed to step (30).

< Checking the status of the image position aligning sensor >
Check if the light emitting area of the image position aligning sensor emits LEDs and if the reflected lights on the transfer belt surface are detected by the light receiving area of the image position aligning sensor.

(12) Turn the power ON while [0] and [3] are pressed simultaneously.
(13) Press the [START] button.
(14) Check how items [G] and [H] are displayed while [8] is pressed.
(15) Check how items [G] is displayed while [9] is pressed.
(16) Press the [CLEAR] button.
(17) Key in “118”, then press the [START] button. (03-118: Sensor shutter is opened)
(18) Key in “117”, then press the [START] button. (03-117: Image position aligning sensor / LED ON)
(19) Press the [START] button.
(20) Check how items [G] and [H] are displayed while [8] is pressed.
(21) Compare them with the statues of [G] and [H] displayed in step 10.

Both [G] and [H] are changed	-	The image position aligning sensors on both sides are operating normally.
[G] remains same	-	The image position aligning sensor on the rear side is not operating normally.
[H] remains same	-	The image position aligning sensor on the front side is not operating normally.
Both [G] and [H] remain same	-	The image position aligning sensors on both sides are not operating normally.

(22) Check how item [G] is displayed while [9] is pressed.
(23) Compare it with the statue of [G] displayed in step 15.

[G] is changed	-	The image position aligning sensor on the center side is not operating normally.
[H] remains same	-	The image position aligning sensor on the center side is not operating normally.

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(24) Press the [CLEAR] button.
(25) Key in “167”, then press the [START] button. (03-167: Image position aligning sensor / LED OFF)
(26) Key in “168”, then press the [START] button. (03-168: Sensor shutter closed)
(27) Turn the power OFF.
(28) If the image position aligning sensors on all sides are operating normally, proceed to step (30). In other cases, proceed to step (29).
(29) Check the following items if the image position aligning sensors are not operating normally:

Is the connector CN309 on the LGC board disconnected?
Is the connector of the image position aligning sensor disconnected?
Is the harness between the LGC board and the image position aligning sensor broken?
Is the light emitting or receiving area of the image position aligning sensor stained with toner?
Are the sensor shutter and the image quality sensor opening or closing normally? Or are they damaged?
Is the light emitting area of the image position aligning sensor emitting LEDs?

< Checking procedure for the sensor shutter opening/closing status >
1. Take off the transfer belt unit so that the sensor unit can be seen.
2. Turn the power ON while [0] and [3] are pressed simultaneously.
3. The shutter should be opened when “118” is keyed in. It should be closed when “168” is keyed in.

< Checking procedure for the LED emission of the image position aligning sensor >
1. Key in “118” to open the sensor shutter.
2. The light emitting area of the sensor should emit LEDs when “117” is keyed in.

Abnormal→
1. Reconnect the connector.
2. Replace the harness.
3. Clean the light emitting and receiving areas of the image position aligning sensor.
4. If the sensor shutter is damaged, replace it.
   If the sensor shutter solenoid is not operating normally, replace the solenoid.

↓

Proceed to step (12).

↓

Normal (Proceed to step (30).)

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< Checking with test pattern >

(30) Turn the power ON while [0] and [4] are pressed simultaneously.
(31) Key in “220”, then press the [START] button.
(32) Select “C”, “M”, “Y” or “K”, then press the [START] button.
(33) Press the [CLEAR] button after one sheet of test pattern has been exited.
(34) Check if the printed image of the test pattern in each color contains difference in density on its front, center and rear sides, or if there is any image trouble in a whole image.

Is the test pattern printed in blank?

| Check if the laser shutter is operating normally.
| < Checking procedure for the laser shutter opening/closing status >
| 1. Take off the developer unit so that the laser shutter can be seen.
| * Clean around the laser shutter if the toner or developer material is spilled over.
| 2. Turn the power ON while [0] and [3] are pressed simultaneously.
| 3. Key in “201”. (03-201: Laser shutter opening/closing status)
| 4. Press the [START] button and check if the shutter is opened and then closed (reciprocating 1cycle).
|
| Abnormal→ If the laser shutter is not opening or closing normally, check the shutter and correct it if necessary.
| ↓
| Proceed to step (30).
↓
Normal

Is the image of the test pattern printed normally without any difference in density on its front, center and rear sides?

| NO→ 1. Check the contacting status of the transfer belt and the photoconductive drum.
| 2. Check the amount of the developer material. (Check if the developer material is supplied on the developer sleeve.)
|
↓ ↓
YES

Is the image printed normally without yellow, magenta, cyan or black streaks in the secondary scanning direction?

| NO→ Check if the main charger wire corresponding to the color of the streaks is stained.
↓ ↓
YES

Is the image printed normally without white streaks in the secondary scanning direction?

| NO→ Check if the slit glass of the laser optical unit is stained.
↓ ↓
YES

Is a certain color in the printed image turned to black solid?

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Abnormal→
- Abnormality in the main high-voltage transformer corresponding to the color or abnormality in the laser optical unit.
- Replace one of 4 main high-voltage transformers which possibly contains abnormality, and also the one possibly normal. Then print the same test pattern.
- If the color which turned into black solid changes along with the replacement of the main high-voltage transformer, this main high-voltage transformer is defined as abnormal.
- If the color which turned into black solid does not change, check if the harness between the LGC board and the main high-voltage transformer is broken or if the power is sufficiently supplied to the main charger (breaking of the high-voltage harness or connection defect). If no problem is found, check the laser optical unit.

↓

Normal

↓

<u>If the density level is low on all of the sides, is the image printed normally in cases other than noted above?</u>

NO→

Check the following items:

1. Check if the photoconductive drum and the transfer belt are rotating. If not, correct their mechanism.
2. Check if there are abnormal stain, large breaking or scratches on the transfer belt surface.
3. Check if the connector of the transfer transformer is disconnected.
4. Check if the high-voltage harnesses of the main high-voltage transformer and the transfer transformer are disconnected.
5. Check if the harness between the LGC board and the transfer transformer is broken.
6. Check if the high-voltage joints of the transfer belt unit are securely contacted or if they are not stained.
7. Check if the high-voltage harness is broken.
8. Check if the connector of the main high-voltage transformer is disconnected.
9. Check if the harness between the LGC board and the main high-voltage transformer is broken.
10. Replace the transfer transformer.
11. Replace the main high-voltage transformer.

↓

YES

↓

Proceed to step (30).

(Proceed to step (35).)

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< Checking with the enforced image position adjustment >

(35) Turn the power ON while [0] and [5] are pressed simultaneously.
(36) Key in “4719”, then press the [START] button. (05-4719: Enforced position adjustment)
Does the error [CA00] occur during the position adjustment control?
↓ YES→ Proceed to step (5).
NO (Proceed to step (30).)

< Validating the image position alignment control >
Check the operation and correct if necessary. Then be sure to perform the following:

(37) Turn the power ON while [0] and [8] are pressed simultaneously.
(38) Key in “4546”, then press the [START] button. (08-4546: Position adjustment control / Mode setting)
(39) Set the value to “5” (performed automatically).
(40) Turn the power OFF.

<Checking the image position aligning sensor>

(41) Clean the image position aligning sensor (S20/S21/S22).

<Checking the power supply>

(42) Check if any of the springs for supplying power to the transfer belt unit is deformed. Replace the spring if it is deformed.

[CE10] Image quality sensor abnormality (OFF level)

Is the connector of the image quality sensor, or the connector CN307 on the LGC board disconnected?
Is the harness between the LGC board and the image quality sensor, or the harness between the LGC board and the switching regulator open circuited?
↓ YES→ Connect the connector securely. Replace the harness.
NO
Is the output voltage from the 12V-power supply normal?
↓ NO → Check the power supply system and replace the switching regulator.
YES
1. Replace the image quality sensor.
2. Replace the LGC board.

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[CE20] Image quality sensor abnormality

Is the transfer belt or the transfer belt unit securely installed?
Are there any abnormal stains (cleaning defects), large scratches or breaking on the transfer belt surface?
Are the drum and the transfer belt rotating?

NO→ <Checking procedure>

1. Check if the transfer belt unit is securely installed. Correct it if not.
2. Check if any toner image remains on the transfer belt surface.
   If any, check the installation status of the TBU cleaner unit. If there is any abnormality, correct it, and clean the transfer belt.
3. Check if the drum and the transfer belt are properly operated.
   (ON: 03-101 / OFF: 03-151)
   If they are not rotating normally, check if their drive gears are damaged or if they contact the equipment. Correct it if needed.

↓

Proceed to step (6). (to step (1) for the second time)

YES

Is the sensor shutter of the image quality sensor opening or closing normally? Or is it damaged?
Is the sensor surface of the image quality sensor stained with toner? If so, has it been cleaned?

NO → <Checking procedure>

1. Take off the transfer belt unit so that you can see the sensor unit.
2. Check if the sensor shutter is opening or closing normally.
   (Opening: 03-118 / Closing: 03-168)
   If the sensor shutter is not opening or closing, check if it is damaged or there is any abnormality in the sensor shutter solenoid.
   Check the connector and the harness between the sensor shutter solenoid and the LGC board. (LGC CN307-A7pin, A8pin)
3. Slide the sensor shutter so that the sensor surface can be seen.
4. Clean the sensor surface with a cotton swab or a soft cloth.
5. Clean the area around the sensor (e.g.: sensor shutter) if it is stained, so that the sensor surface does not become dirty.

↓

Proceed to step (6). (to step (1) for the second time)

YES

Is the connector of the image quality sensor securely connected?
Is the connector CN307 on the LGC board securely connected?
Is the harness between the LGC board and the image quality sensor disconnected?

NO → <Checking procedure>

- Reconnect the connector.
- Replace the harness.

↓

Proceed to step (6). (to step (1) for the second time)

YES

Is +12V power supply voltage normally supplied to the image quality sensor?
Is +12V voltage normally output by the CN301-9pin on the LGC board?

NO → <Checking procedure>

1. Check if +12V voltage is output by the switching regulator (PS-ACC CN404-7pin).
2. Check if +12V voltage is output by the CN301-9pin on the LGC board.
   Check if the supply harness between the switching regulator and the LGC board is open circuited, damaged or disconnected.

↓

Proceed to step (6). (to step (1) for the second time)

YES

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(1) Set the values of “Image quality closed-loop control / Contrast voltage (08-556)” and “Drum surface potential sensor control setting (08-2561)” to “0” (Invalid).

↓

(2) Perform “Enforced performing of image quality open-loop control (05-394)”.

↓

(3) Output the image quality control test pattern (04-270) more than one time and the list print ([9][START]) in the adjustment mode (05), and then check if the image is normal.

Normal	Abnormal
	Abnormal image: Blank print, Solid print, White banding, Color banding, White spots, Poor transfer, Uneven image density, Faded image (low density), Uneven light distribution, Blotched image. * Blank print: including when one of the YMCK colors is not printed. ↓ Correct the abnormal image. ↓
↓	Proceed to step (5).

(4) Replace the image quality sensor or the LGC board.

↓

(5) Set the values of “Image quality closed-loop control / Contrast voltage (08-556)” and “Drum surface potential sensor control setting (08-2561)” to “1” (Valid).

↓

(6) Perform “Automatic initialization of image quality control (05-396)” and make sure it is completed normally. (Error [CE10], [CE20] and [CE40] do not appear.) Then perform “Automatic gamma adjustment”.

| When an error occurs:
↓
Check and correct it accordingly.

(7) Reset all of the values in the codes “Abnormality detection count (Y/M/C/K) Display/0 clearing (08-573 to 08-576)”.

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[CE40] Image quality control test pattern abnormality

(1) Use “Image quality control abnormal detection counter Y to K display/0 clearing (08-573 to 576)” to check the abnormal occurring condition for each color.

(2) Check “Output value display of image quality sensor / High-density pattern (05-390-0 to 3)” to check if the high-density pattern abnormality occurs for each color and identify the color which pattern is abnormal. If the value is 628 or above, it is defined as high-density pattern abnormality.

- Under 628 (Y, M, C and K) → ↓
- 628 or above (Y, M, C and K) → ↓

High-density pattern abnormality

- Check if the laser shutter is working properly.
  <Procedure>
  1. Take off the process unit so that the laser shutter can be easily seen.
  * Clean around the laser shutter if the developer has been spilled over.
  2. While pressing the digital keys [0] and [3] simultaneously, turn the power ON.
  3. Key in “201”.
  4. Press the [START] button and check if the shutter is opened and then closed (reciprocating 1cycle).
- Check if the developer unit has been installed properly.

1. Visually check the installation status of the developer unit, and correct it if there is any abnormality.

↓

To (8)
(If you have already performed this checking cycle once, proceed to step (3).)

(3) Set the values of “Image quality closed-loop control / Contrast voltage (08-556)” and “Drum surface potential sensor control setting (08-2561)” to “0” (Invalid).

(4) Perform “Enforced performing of image quality open-loop control (05-394)”.

(5) Output the image quality control test pattern (04-270) more than one time and the list print ([9][START]) in the adjustment mode (05), and check the patch of the color identified in step (1) to see if the image is abnormal.

- Normal → ↓
- Abnormal

Abnormal image:
Blank print, Solid print, White banding, Color banding, White spots, Poor transfer, Uneven image density, Faded image (low density), Uneven light distribution, Blotched image.

* Blank print: including when one of the YMCK colors is not printed.

↓

Correct the abnormal image.

↓

Proceed to step (7).

(6) Replace the image quality sensor or LGC board.

(7) Set the values of “Image quality closed-loop control / Contrast voltage (08-556)” and “Image quality closed-loop control / Laser power (08-557)” to “1” (Valid).

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(8) Perform “Automatic initialization of image quality control (05-396)” and make sure it is completed normally. (Error [CE40] does not appear.) Then perform “Automatic gamma adjustment”.

| | When an error occurs:
| ↓
↓ Check and correct it accordingly.

(9) Clear all “Image quality control abnormal detection counter Y to K display/0 clearing (08-573 to 576)”.

(10) Check if any of the springs for supplying power to the transfer belt unit is deformed. Replace the spring if it is deformed.

[CE41] Image quality TRC control test pattern abnormality

Notes:

1. Steps 1 and 2 are usable only for models to which T430SY0*115, T430HD0*115 or a later version is applied.
2. Note that steps 1 and 2 have different subcodes to be entered.

(1) Check each value of the subcodes 2 (Y), 5 (M), 8 (C) and 11 (K) of the code 05-2803.

* If all the values of Y, M, C and K are 628 or less, proceed to step 2. If any of them is over 628, follow the procedure below.
(High density pattern abnormality)

(1)-1 Set both values of the codes 08-2600 and 08-8103 to 0.

(1)-2 Print the test chart 04-270 with A3/LD for more than 2 pages. Then perform list printing ([9]+[START]) to check if no abnormality is found in the image density.
If any abnormality is found, correct it referring to "25.5 Troubleshooting for the Image"

(1)-3 .Check if the process unit (EPU tray) and the developer unit are installed properly.

(1)-4 Check if any toner or developer material is spilt around the laser shutter. Clean if so.

(1)-5 Check the center position adjustment for each drawer is within the range preset at the shipment (rear side: 0-3 mm).
📖 P.10-70 "[B] Adjustment of the gear holder"

(1)-6 Adjust the image dimension with A3/LD.
📖 P.8-24 "[A] Reproduction ratio of primary scanning direction (Image clock fine adjustment (Printer))"
📖 P.8-25 "[B] Primary scanning data laser writing start position (Laser writing start position (Printer))"

(1)-7 Return both values of the codes 08-2600 and 08-8103 to 1. Then proceed to step 3. If it is the second time, proceed to step 4.

(2) Check each value of the subcodes 0 (Y), 3 (M), 6 (C) and 9 (K) of the code 05-2800.

* If all the values of Y, M, C and K are 180 or over, proceed to step 3. If any of them is less than 180, follow the procedure below.
(Low density pattern abnormality)

(2)-1 Set both values of the codes 08-2600 and 08-8103 to 0.

(2)-2 Print the test chart 04-270 with A3/LD for more than 2 pages. Then perform list printing ([9]+[START]) to check that no abnormality is found in the image density.
If any abnormality is found, correct it referring to "📖 P.25-157 "25.5 Troubleshooting for the Image"

(2)-3 Return both values of the codes 08-2600 and 08-8103 to 1. Then proceed to step 3. If it is the second time, proceed to step 4.

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(3) Perform the automatic gamma adjustment. If the adjustment is normally finished, this is the end of the procedure. If the error CE41 still occurs, repeat the procedure from step 1.
(4) Check if the harness between the connector CN423 on the IMG board and the connector CN319 on the LGC board is disconnected or open circuited. Correct if so.
(5) Check if the harness between the connector CN424 on the IMG board and the connector CN320 on the LGC board is disconnected or open circuited. Correct if so.
(6) Check if the conductor patterns on the IMG board and the LGC board are short circuited or open circuited.
(7) If no abnormality is found in steps 4 to 6 above, replace the IMG board.
(8) Perform automatic gamma adjustment. If the adjustment is normally finished, this is the end of the procedure. If the error CE41 still occurs, proceed to step 9.
(9) Reinstall the removed IMG board and then replace the LGC board.
* Perform automatic gamma adjustment after the board is replaced.

[CE42] Image quality TRC control test pattern abnormality (EFI printer board)

(1) Check if the connector between CN135 of the SYS board and CN422 of the IMG board is connected securely.
(2) Check if the harness or connector between CN116 and CN132 of the SYS board and the HDD is disconnected or open circuited. Correct if it is.
(3) Format the HDD. (Key in “2” in the code 08-690.)
(4) Replace the HDD.
(5) Replace the SYS board.

[CE50] Temperature/humidity sensor abnormality

Is the connector CN310 on the LGC board or the connector of the temperature/humidity sensor disconnected?
Is the harness between the LGC board and the temperature/humidity sensor disconnected?
↓ YES→ Connect the connector securely. Replace the harness.
NO
1. Replace the temperature/humidity sensor.
2. Replace the LGC board.

[CE60] Drum thermistor Y abnormal
[CE90] Drum thermistor K abnormal

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Is the harness between the LGC board and the drawer connector for developer unit disconnected?
(3) Is the harness inside of the developer unit and the harness of the drum thermistor Y or K disconnected?
(4) Is the connector CN341 on the LGC board, or the connector of the drum thermistor Y or K disconnected?
(5) Replace the drum thermistor Y or K.
(6) Replace the EPU board.
(7) Replace the LGC board.

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[CE71] Drum phase adjustment abnormality

(1) Is the drum shaft rotating normally? (Perform the output check: 03-110 and 03-111)
(2) Check if the harness or connector of the color drum phase sensor or the K drum phase senor is disconnected or open-circuited.
(3) Is the drum loaded abnormally?
(4) Is the drum motor (K)/(YMC) broken?
(5) Check if the harness or connector of the drum motor (K)/(YMC) is disconnected or open-circuited.
(6) Check if the tooth surface of the transfer belt drive gear is damaged.

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25.3.21 Copy process related service call

[C021] Developer unit motor-YMC locking error

(1) Pull out the EPU tray and perform the output check (03-113) to check if the 3 outputs of the YMC-developer sleeve and 3 outputs of the drum cleaner auger are rotating normally.
When it is not rotating
(2) Check if the connector of the YMC-developer unit motor is connected securely.
(3) Check if the harness or connector of the drum motor (K)/(YMC) is disconnected or open-circuited.
(4) Check if the YMC-developer unit motor is abnormal.
(5) Check if the column of the drive gears has any abnormality such as damage.
When it is rotating
(6) Check if waste toner is clogged on the waste toner transport path of the YMC-drum cleaner.
(7) Check if the developer material is excessively supplied to each YMC-developer unit.
(8) Check if the drive gear array of each YMC-developer unit has any abnormality such as breakage.

[C022] Developer unit mixer motor-YMC locking error

(1) Pull out the EPU tray and perform the output check (03-115) to check if the 3 outputs of the YMC-developer unit mixer are rotating normally.
When it is not rotating
(2) Is the connector of the YMC-developer unit mixer motor connected securely?
(3) Check if the harness or connector of the YMC-drum motor is disconnected or open-circuited.
(4) Check if the YMC-developer unit mixer motor is abnormal.
(5) Check if the drive gear array has any abnormality such as breakage.
When it is rotating
(6) Check if developer material is excessively supplied to each YMC-developer unit.
(7) Check if the drive gear array of each YMC-developer unit has any abnormality such as breakage.

[C023] Developer unit motor-K locking error

(1) Pull out the EPU tray and perform the output check (03-113) to check if the 3 outputs of the K-developer sleeve and 3 outputs of the drum cleaner auger are rotating normally.
When it is not rotating
(2) Is the connector of the K-developer unit motor connected securely?
(3) Check if the connector of the K-developer motor is disconnected or the harnesses are open circuited.
(4) Check if the K-developer unit motor is abnormal.
(5) Check if the drive gear array has any abnormality such as breakage.
When it is rotating
(6) Check if waste toner is clogged on the waste toner transport path of the K-drum cleaner.
(7) Check if the developer material is excessively supplied to the K-developer unit.
(8) Check if the drive gear array of the K-developer unit has any abnormality such as breakage.

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[C024] Developer unit mixer motor-K locking error

(1) Pull out the EPU tray and perform the output check (03-114) to check if the 3 outputs of the K-developer unit mixer are rotating normally.
When it is not rotating
(2) Is the connector of the K-developer unit mixer motor connected securely?
(3) Check if the connector of the K-developer mixer motor is disconnected or the harnesses are open circuited.
(4) Check if the K-developer unit mixer motor is abnormal.
(5) Check if the drive gear array has any abnormality such as breakage.
When it is rotating
(6) Check if the developer material is excessively supplied to the K-developer unit.
(7) Check if the drive gear array of the K-developer unit has any abnormality such as breakage.

[C360] Needle electrode cleaner operation abnormality

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Perform the code 08-4606- 0 to -3 (-0: K, -1: Y, -2: M, -3: C) to check which station the error is found.
(3) Check if the needle electrode cleaner detection sensors (S30 - S33) are coming off of the plate of the EPU tray.
(4) Are the needle electrode cleaner detection sensors (S30 - S33) working normally?
(Input check: K: 03-[Fax ON]/[0]/[E], C: 03-[Fax ON]/[0]/[H], M: 03-[Fax ON]/[9]/[C], Y: 03-[Fax ON]/[9]/[F])
* If it is working properly, proceed to 11. If not, check 5 to 10 below.
(5) Check if connectors of needle electrode cleaner detection sensors (S30 - S33) disconnected.
(6) Check if the connectors for the needle electrode cleaner detection sensors (S30 - S33) on the EPU board (CN553 to CN556) are disconnected.
(7) Check if the connector pins are disconnected or the harnesses are open circuited.
(8) Check if the conductor pattern on the EPU board is open circuited or short circuited.
(9) Replace the needle electrode cleaner detection sensors (S30 - S33).
(10) Replace the EPU board
(11) Is the needle electrode cleaner drive motors (M23 - M26) working normally?
(Input check: K: 03-207, C: 03-206, M: 03-205, Y: 03-204)
* If it is working properly, proceed to 22. If not, check 12 to 21 below.
(12) Check if the needle electrode cleaner drive section rotates smoothly, and if it does not, clean or replace it.
(13) Check if the connectors of the needle electrode cleaner drive motors (M23 - M26) and relay harnesses are disconnected.
(14) Check if the relay harness and the harness relay connector on the EPU board side are disconnected
(15) Check if the connectors on the EPU board (CN553 - CN556) are disconnected.
(16) Check if the connector pins are disconnected or the harnesses are open circuited.
(17) Check if the conductor pattern on the EPU board is open circuited or short circuited.
(18) Replace the Replace the needle electrode cleaner drive motors (M23 - M26).
(19) Replace the EPU board
(20) Check if the harness between the EPU board (CN550) and the LGC board (CN310) is open circuited.
(21) Replace the LGC board.
(22) Correct the needle electrode cleaner drive section (timing belt or gears).

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[C370] Transfer belt motor abnormality

(1) Check if the connector of the transfer belt unit is not disconnected.
(2) Is the transport belt unit working normally?
(3) Check if the connector of the transfer belt motor is not disconnected.
(4) Check if the connector CN311 on the LGC board is disconnected.
(5) Check if the fuse on the switching regulator has blown.
(6) Check if the transfer belt release detection sensor is working properly.
(7) Replace the transfer belt motor.
(8) Replace the LGC board.

[C380] Auto-toner sensor (K) abnormality (upper limit)
[C381] Auto-toner sensor (K) abnormality (lower limit)
[C382] Auto-toner sensor (K) connection error
[C390] Auto-toner sensor (C) abnormality (upper limit)
[C391] Auto-toner sensor (C) abnormality (lower limit)
[C392] Auto-toner sensor (C) connection error
[C3A0] Auto-toner sensor (M) abnormality (upper limit)
[C3A1] Auto-toner sensor (M) abnormality (lower limit)
[C3A2] Auto-toner sensor (M) connection error
[C3B0] Auto-toner sensor (Y) abnormality (upper limit)
[C3B1] Auto-toner sensor (Y) abnormality (lower limit)
[C3B2] Auto-toner sensor (Y) connection error

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Check if the process unit (EPU tray) is securely installed.
(3) Check if the harnesses between the connectors (CN550, CN551, CN555) on the EPU board, the drawer connectors for the LGC board of the EPU tray, and the connector of the LGC board are disconnected or open-circuited.
(4) Check if the harnesses between the connectors (CN553, CN554, CN555, and CN556) and the auto toner sensor are disconnected or open-circuited.
(5) Replace the auto-toner sensor.
(6) Replace the EPU board.
(7) Replace the LGC board.

[C3C0] Process unit (EPU tray) connection error

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Check if the process unit (EPU tray) is securely installed.
(3) Check if the connector (CN551) on the EPU board, the drawer connectors for the EPU tray and the LGC board, and the harness between the connectors CN308 and CN310 are disconnected or open-circuited.
(4) Check if the harnesses between the connectors (CN553, CN554, CN555, and CN556) and the auto toner sensor are disconnected or open-circuited.
(5) Replace the EPU board.
(6) Replace the LGC board.

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[C970] High-voltage transformer abnormality

(1) Is the main charger installed securely?
(2) Check if the spring of high-voltage supply contact point is deformed.
(3) Check if the needle electrode is broken or the main charger grid is deformed.
(4) Check if any foreign matter is on the needle electrode or main charger grid.
(5) Check if any foreign matter is adhering on the high-voltage terminal of the EPU tray.
(6) Check if there is a sign of discharge on the joint of the high-voltage terminal of the EPU tray and the main charger. Correct if there is.

[CD60] Sub-hopper toner sensor-Y, -M, -C, -K abnormality

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Check if the sub-hopper tone sensor is working normally.
K: 03-[FAX]ON/[0]/[C], C: 03-[FAX]ON/[0]/[F], M: 03-[FAX]ON/[9]/[A], Y: 03-[FAX]ON/[9]/[D]
(3) If it is not working normally, check if the harness of the sub-hopper toner sensor is disconnected.
(4) Check if the connectors (CN558, CN551) on the EPU board are securely connected.
(5) Check if the conductor pattern on the EPU board or the harness is open circuited or short circuited.
(6) Replace the sub-hopper toner sensor.
(7) Replace the EPU board.
(8) Replace the LGC board.

[CD61] Sub-hopper toner motor-Y abnormality
[CD62] Sub-hopper toner motor-M abnormality
[CD63] Sub-hopper toner motor-C abnormality
[CD64] Sub-hopper toner motor-K abnormality

(1) Check if there is any abnormality on the connector between the equipment and the EPU tray of the process unit. (05-2788)
(2) Check if the sub-hopper toner motor is rotating. (Input check: 03-[FAX]OFF/[4]/[D/E/F/G])
(3) Is the sub-hopper toner supply motor locked? (Is there any foreign matter or toner-clump in the sub-hopper?
(4) Check if the connector of the sub-hopper toner motor is disconnected.
(5) Check if the connectors on the EPU board (CN553, 554, 555, and 556) are disconnected, or the harness is open circuited or short circuited.
(6) Replace the sub-hopper toner motor.
(7) Replace the EPU board.
(8) Replace the LGC board.

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[CD71] Waste toner transport motor locking error

(1) Pull out the process unit, rotate the gear counterclockwise and check if the load is extremely heavy.
(2) Is the load still extremely heavy after the gear is rotated for a while to discharge the toner from the waste toner transport path?
(3) Is the load still extremely heavy after the actuator is removed, the auger is pulled out and clean them?

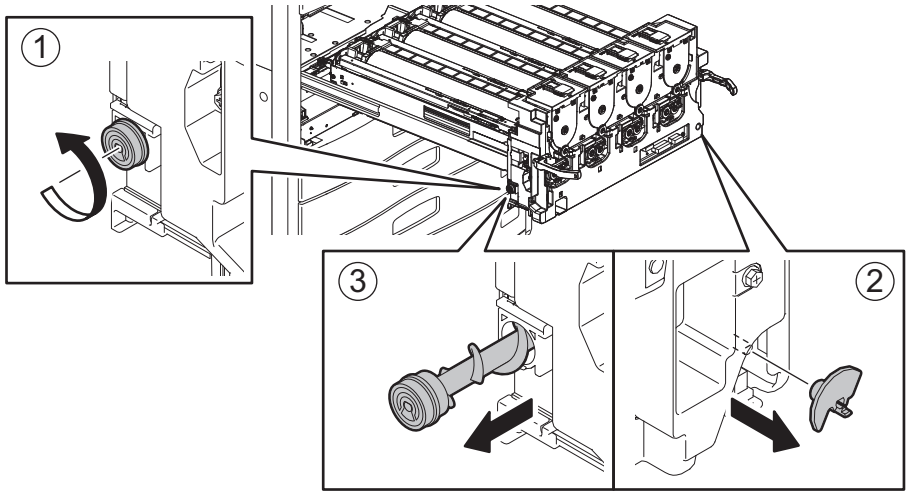

Fig. 25-5

(4) Check if there is any abnormality of the mechanism in the waste toner transport path.
(5) Does the waste toner transport motor (M33) rotate? (Output check: 03-234)
(6) Are the connector of the waste toner transport motor and the relay connector disconnected?
(7) Is the driving gear of the waste toner transport motor damaged or abnormal?
(8) Is the connector (CN331) on the LGC board disconnected?
(9) Check if the connector pins are disconnected or the harnesses are open-circuited.
(10) Check if the conductor pattern on the LGC board is short circuited or open circuited.
(11) Replace the waste toner transport motor.
(12) Replace the LGC board.
(13) Are the auger lock detection sensor (S42) working? (Input check: 03-[FAX]ON/[0]/[B])
(14) Check if each Normal/Highlighted display is reflected correctly to judge the malfunction.
(15) Is the connector of the auger lock sensor disconnected?
(16) Is the connector (CN557) on the EPU board disconnected?
(17) Check if the connector pins are disconnected, the EPU drawer connector pins are disconnected or bent or the harnesses are open-circuited.
(18) Check if the conductor pattern on the EPU board is short circuited or open circuited.
(19) Replace the auger lock detection sensor.
(20) Replace the EPU board.
(21) Check if there is any abnormality of the mechanism such as the sensor's actuator.

[CD80] TRU waste toner motor locking error

(1) Check if the TRU waste toner motor rotates.(Output check: 03-239)
(2) Check if toner is clogged at the entrance of the TRU waste toner transport path.
(3) Check if any of the motor and the driving gears is improperly installed or deformed.
(4) Check if the connector of the motor is disconnected, and CN491 and CN492 on the ADU board are disconnected.
(5) Check if the connector pins are disconnected or the wires of harnesses are open circuited.
(6) Replace the TRU waste toner motor.
(7) Replace the ADU board.

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(8) Replace the PFC board.

[CD81] TRU waste toner transport motor locking error

(1) Take off the TRU waste toner box, and then rotate the gear by hand to discharge the waste toner on the transport path.
(2) If the gear still does not rotate smoothly, apply grease to it.
(3) Check if the TRU waste toner transport motor rotates.(Output check: 03-240)
(4) Check if toner is clogged on the TRU waste toner transport path.
(5) Check if any of the motor and the driving gears is improperly installed or deformed.
(6) Check if the connector of the motor is disconnected, and CN497 and CN490 on the ADU board are disconnected.
(7) Check if the connector pins are disconnected or the wires of harnesses are open circuited.
(8) Replace the TRU waste toner transport motor.
(9) Replace the ADU board.
(10) Replace the PFC board.

[CD82] TRU waste toner full-status error

(1) Check if the TRU waste toner box is full of used toner.
(2) Replace it, if it is full. Check the following steps, if not.
(3) Check if the TRU waste toner amount detection sensor is working normally. (Input check: 03-[FAX]OFF/[5]/[E])
(4) Check if the connector and the relay connector of the TRU waste toner amount detection sensor disconnected.
(5) Are the connectors (CN491 and CN493) on the ADU board disconnected?
(6) Check if the conductor pattern on the ADU board or the harness is open circuited or short circuited.
(7) Replace the TRU waste toner amount detection sensor.
(8) Replace the ADU board.
(9) Replace the PFC board.

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[CEC0] 2nd transfer roller position detection abnormality

Is the 2nd transfer roller contacted and released properly? (Perform the output check: 03-119/519)

NO →
1. Check if the connector of the 2nd transfer motor is disconnected.
2. Check if the connector CN314 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the wires of harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the 2nd transfer motor.
6. Replace the LGC board.

↓

YES

Is the 2nd transfer roller contact/release detection sensor(S50) working properly? (Perform the input check:03-[All OFF]/[9]/[H])

NO →
1. Check if the connector or joint connectors of the 2nd transfer roller position detection sensor are disconnected.
2. Check if the connector CN307 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the wires of harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the 2nd transfer roller position detection sensor.
6. Replace the LGC board.

↓

YES

1. Check if there is any abnormality with the mechanical section (sensor's actuator, etc.).
2. Check if the conductor pattern on the LGC board is short circuited or open circuited.
3. Replace the LGC board.

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25.3.22 Other service call

[F100] HDD format error

(1) Check if the HDD is mounted.
(2) Check if the specified HDD is mounted.
(3) Check if the connector pins of the HDD are bent.
(4) Check if the connectors CN116, CN132 on the SYS board is disconnected.
(5) Replace the harness.
(6) Format the HDD. (Key in “2” at 08-690.)
(7) Replace the HDD.
(8) Replace the SYS board.

[F101] HDD unmounted
[F102] HDD start error
[F103] HDD transfer time-out
[F104] HDD data error
[F105] HDD other error

(1) Check if the connectors of the HDD are disconnected.
(2) Check if the connector pins are disconnected or the wires of harnesses are open circuited.
(3) Perform the bad sector check (08-694). If the check result is OK, recover the data in the HDD. If the check result is failed, replace the HDD.
(4) Replace the SYS board.

[F106] Point and Print partition damage

(1) Turn the power OFF and start up the Setting Mode (08).
(2) Key in “662” and press the [START] button. (Partition clearing is performed.)
(3) Restart the equipment.
(4) Access TopAccess. Click the [Administration] tab, and then click the Maintenance Menu to open. Then install the “Point and Print” driver.

[F107] / BOX partition damage
Initialize the Electronic Filing using the Setting Mode (08-666).

[F108] /SHA partition damage
Initialize the shared folder using the Setting Mode (08-667).

[F120] Database abnormality

(1) Check that no jobs remain and rebuild the databases. (Perform 08-684.)
(2) If the error is not recovered, initialize the HDD. (Key in “2” at 08-690.)

Notes:
- If you rebuild the databases with a job remaining, delete it after finishing.
- When “Rebuilding all databases (08-684)” is performed, all data in the Address Book and Mailbox are deleted. If you back up the data in advance, they will be recovered by restoring them after rebuilding the database.

[F130] Invalid MAC address
Replace the SYS board.

[F140] Accelerator ASIC format error

(1) Check if the connector on the SYS board is connected.
(2) Replace the SYS board.

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[F200] Data overwrite option (GP-1070) disabled

Perform firmware installation (all firmware: OS, HDD, SYS, PFC Firmware, Engine Main Firmware, and Scanner Firmware) with the USB media.

* When the function of the Data Overwrite option (GP-1070) is deleted from the equipment, the service call “F200” occurs.

25.3.23 Error in Internet FAX / Scanning Function

Notes:

1. When initializing the Electronic Filing (Setting Mode (08-666)), all data in the Electronic Filing are erased. Back up the data in the Electronic Filing by using the Electronic Filing Function of TopAccess before the initialization.
2. When initializing the shared folder (Setting Mode (08-667)), all data in the shared folder are erased. Back up the data in the shared folder by using Explorer before the initialization.
3. When formatting the HDD (Setting Mode (08-690)), all data in the shared folder, Electronic Filing, Address Book, template, etc. are erased. Back up these data before the initialization. Note that some of data cannot be backed up.
   📖 P.20-22 "20.2.3 Precautions and procedures when replacing the HDD"

[1] Internet FAX related error

[1C10] System access abnormality
[1C32] File deletion failure

Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

[1C11] Insufficient memory

When there are running jobs, perform the job in error again after the completion of the running jobs.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[1C12] Message reception error
[1C13] Message transmission error

Turn the power OFF and then back ON. Perform the job in error again.

[1C14] Invalid parameter

When a template is used, form the template again.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[1C15] Exceeding file capacity

Reset and extend the “Maximum send to E-mail/iFAX size” or reduce the number of pages and perform the job again.

[1C20] System management module access abnormality
[1C21] Job control module access abnormality
[1C22] Job control module access abnormality

Turn the power OFF and then back ON. Perform the job in error again.
Check if there are no other running jobs and perform the HDD formatting (08-690).
If the recovery is still not completed, replace the SYS board.

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[1C30] Directory creation failure
[1C31] File creation failure
[1C33] File access failure

Check if the access privilege to the storage directory is writable.
Check if the server or local disk has a sufficient space in disk capacity.

[1C40] Image conversion abnormality

Turn the power OFF and then back ON. Perform the job in error again.
Replace the main memory and perform the job again.

[1C60] HDD full failure during processing

Reduce the number of pages of the job in error and perform the job again.
Check if the server or local disk has a sufficient space in disk capacity.

[1C61] Address Book reading failure

Turn the power OFF and then back ON. Perform the job in error again.
Reset the data in the Address Book and perform the job again.

[1C62] Memory acquiring failure

Check if there is any job being performed and perform the job in error again.
Turn the power OFF and then back ON. Perform the job in error again.
Replace the main memory and perform the job again.

[1C63] Terminal IP address unset

Reset the Terminal IP address.
Turn the power OFF and then back ON. Perform the job in error again.

[1C64] Terminal mail address unset

Reset the Terminal mail address.
Turn the power OFF and then back ON. Perform the job in error again.

[1C65] SMTP address unset

Reset the SMTP address and perform the job.
Turn the power OFF and then back ON. Perform the job in error again.

[1C66] Server time-out error

Check if the SMTP server is operating properly.

[1C67] NIC time-out error
[1C68] NIC access error
[1C6D] System error

Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, replace the SYS board.

[1C69] SMTP server connection error

Reset the login name or password of SMTP server and perform the job again.
Check if the SMTP server is operating properly.

[1C6A] HOST NAME error

Check if there is an illegal character in the device name.
Delete the illegal character and reset the appropriate device name.

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[1C6B] Terminal mail address error

Check the SMTP Authentication method.
Check if there is an illegal character in the Terminal mail address.
Set the correct SMTP Authentication method or delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.

[1C6C] Destination mail address error

Check if there is an illegal character in the Destination mail address.
Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.

[1C70] SMTP client OFF

Set the SMTP valid and perform the job again.

[1C71] SMTP authentication ERROR

Check that SMTP authentication method, login name and password are correct, then perform authentication again.

[1C72] POP Before SMTP ERROR

Check that both the POP Before SMTP setting and POP3 setting are correct, then perform authentication again.

[1C80] Internet FAX transmission failure when processing E-mail job received

Reset the “Received InternetFax Forward”.

[1C81] Onramp Gateway transmission failure

Reset the mail box.

[1C82] Internet FAX transmission failure when processing FAX job received

Reset the “Received Fax Forward”.

[1CC1] Power failure

Check if the power cable is connected properly and it is inserted securely.
Check if the power voltage is unstable.

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[2] RFC related error

[2500] HOST NAME error (RFC: 500) / Destination mail address error (RFC: 500) / Terminal mail address error (RFC: 500)

[2501] HOST NAME error (RFC: 501) / Destination mail address error (RFC: 501) / Terminal mail address error (RFC: 501)

Check if the Terminal mail address and Destination mail address are correct.
Check if the mail server is operating properly.
Turn the power OFF and then back ON. Perform the job in error again.

[2503] Destination mail address error (RFC: 503)

[2504] HOST NAME error (RFC: 504)

[2551] Destination mail address error (RFC: 551)

Check if the mail server is operating properly.
Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, replace the SYS board.

[2550] Destination mail address error (RFC: 550)

Check the state of the mail box in the mail server.

[2552] Terminal/Destination mail address error (RFC: 552)

Confirm the size on the mail server.
Transmit again in text mode or with lower resolution or divide the document and transmit again.
If the error still occurs, turn the power OFF and then back ON. Perform the job in error again.

[2553] Destination mail address error (RFC: 553)

Check if there is an illegal character in the mail box in the mail server.

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[3] Electronic Filing related error

[2B10] No applicable job error in Job control module
[2B11] JOB status abnormality
[2B20] File library function error
[2B30] Insufficient disk space in BOX partition
[2BC0] Fatal failure occurred
[2BC1] System management module resource acquiring failure

Erase some data in the Electronic Filing and perform the job in error again (in case of [2B30]).
Ask the administrator if e-Filing has been disabled. (In case of [2CC1])
Turn the power OFF and then back ON. Perform the job in error again.
Check if there are no other running jobs and perform the HDD formatting (08-690).
If the recovery is still not completed, replace the SYS board.

[2B50] Image library error
[2B90] Insufficient memory capacity

Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, replace the main memory.
Perform the job in error again.
Check if there are no other running jobs and initialize the Electronic Filing using the Setting Mode (08-666).

[2B31] Status of specified Electronic Filing or folder is undefined or being created/deleted

Check if the specified Electronic Filing or folder exists. (If no, this error would not occur.)
Delete the specified Electronic Filing or folder.
Perform the job in error again.
If the specified Electronic Filing or folder can not be deleted, initialize the Electronic Filing using the Setting Mode (08-666).

[2B32] Electronic Filing printing failure: Specified document can not be printed because of client's access (being edited, etc.)

Check if the specified document exists. (If no, this error would not occur.)
Delete the specified document.
Perform the job in error again.
If the specified document can not be deleted, initialize the Electronic Filing using the Setting Mode (08-666).

[2B51] List library error

Check if the Function List can be printed out.
If it can be printed out, perform the job in error again.
If it can not be printed out, replace the main memory.
If the recovery is still not completed, perform the HDD formatting (08-690).

[2BA0] Invalid Box password

Check if the password is correct.
Reset the password.
When this error occurs when printing the data in the Electronic Filing, perform the printing with the administrator's password.
If the recovery is still not completed or in case of invalid password for the operation other than printing (opening the file, etc.), initialize the Electronic Filing using the Setting Mode (08-666).

[2BA1] A paper size or a color mode not supported in the Electronic Filing function is being selected.

Check the paper size or color mode.

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[2BB1] Power failure
[2BD0] Power failure occurred during restoring of Electronic Filing

Check if the power cable is connected properly and it is inserted securely.
Check if the power voltage is unstable.

[2BE0] Machine parameter reading error

Turn the power OFF and then back ON. Perform the job in error again.

[2BF0] Exceeding maximum number of pages

Reduce the number of inserting pages and perform the job again.

[2BF1] Exceeding maximum number of documents

Backup the documents in the box or folder to PC or delete them.

[2BF2] Exceeding maximum number of folders

Backup the folders in the box or folder to PC or delete them.

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[4] Remote scanning related error

[2A20] System management module resource acquiring failure

Retry the job in error.

If the error still occurs, turn the power OFF and then back ON, then retry the job in error.

[2A40] System error

Turn the power OFF and then back ON, then retry the job in error.

[2A51] Power failure

Check if the power cable is properly connected.

Check if the power supply voltage is inconstant.

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[5] E-mail related error

[2C10] System access abnormality
[2C32] File deletion failure

Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

[2C11] Insufficient memory

When there are running jobs, perform the job in error again after the completion of the running jobs.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[2C12] Message reception error
[2C13] Message transmission error

Turn the power OFF and then back ON. Perform the job in error again.

[2C14] Invalid parameter

When a template is used, form the template again.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[2C15] Exceeding file capacity

Reset and extend the “Maximum send to E-mail/iFAX size” or reduce the number of pages and perform the job again.

[2C20] System management module access abnormality
[2C21] Job control module access abnormality
[2C22] Job control module access abnormality

Turn the power OFF and then back ON. Perform the job in error again.
Check if there are no other running jobs and perform the HDD formatting (08-690).
If the recovery is still not completed, replace the SYS board.

[2C30] Directory creation failure
[2C31] File creation failure
[2C33] File access failure

Check if the access privilege to the storage directory is writable.
Check if the server or local disk has a sufficient space in disk capacity.

[2C40] Image conversion abnormality
[2C62] Memory acquiring failure

Turn the power OFF and then back ON. Perform the job in error again.
Replace the main memory and perform the job again.

[2C43] Encryption error

Turn the power OFF and then back ON. Perform the job in error again.

[2C44] Encryption PDF enforced mode error

Reset the encryption and perform the job in error again.
If an image file not encrypted is created, consult your administrators.

[2C60] HDD full failure during processing

Reduce the number of pages of the job in error and perform the job again.
Check if the server or local disk has a sufficient space in disk capacity.

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[2C61] Address Book reading failure

Turn the power OFF and then back ON. Perform the job in error again.
Reset the data in the Address Book and perform the job again.

[2C63] Terminal IP address unset

Reset the Terminal IP address.
Turn the power OFF and then back ON. Perform the job in error again.

[2C64] Terminal mail address unset

Reset the Terminal mail address.
Turn the power OFF and then back ON. Perform the job in error again.

[2C65] SMTP address unset

Reset the SMTP address and perform the job.
Turn the power OFF and then back ON. Perform the job in error again.

[2C66] Server time-out error

Check if the SMTP server is operating properly.

[2C67] NIC time-out error
[2C68] NIC access error
[2C6D] NIC system error

Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, replace the SYS board.

[2C69] SMTP server connection error

Reset the login name and password of SMTP server and perform the job again.
Check if the SMTP server is operating properly.

[2C6A] HOST NAME error (No RFC error)

Check if there is an illegal character in the device name.
Delete the illegal character and reset the appropriate device name.

[2C6B] Terminal mail address error

Check the SMTP Authentication method.
Check if there is an illegal character in the Terminal mail address.
Set the correct SMTP Authentication method or delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.

[2C6C] Destination mail address error (No RFC error)

Check if there is an illegal character in the Destination mail address.
Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.

[2C70] SMTP client OFF

Set the SMTP valid and perform the job again.

[2C71] SMTP authentication ERROR

Check that SMTP authentication method, login name and password are correct, then perform authentication again.

[2C72] POP Before SMTP ERROR

Check that both the POP Before SMTP setting and POP3 setting are correct, then perform authentication again.

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[2C80] E-mail transmission failure when processing E-mail job received

Reset the “Received InternetFax Forward”.

[2C81] Process failure of FAX job received

Reset the setting of the mail box or “Received InternetFax Forward”.

[2CC1] Power failure

Check if the power cable is connected properly and it is inserted securely.
Check if the power voltage is unstable.

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[6] File sharing related error

[2D10] System access abnormality
[2D32] File deletion failure
[2DA6] File deletion failure
[2DA7] Resource acquiring failure

Delete some files in the shared folder by using Explorer because of automatic/manual file deletion failure (in case of [2DA6])
Turn the power OFF and then back ON. Perform the job in error again.
If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

[2D11] Insufficient memory

When there are running jobs, perform the job in error again after the completion of the running jobs.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

When the Imaging Acceleration Board (GE-1170, optional) is installed

Since the input data are a high-compression PDF created at high speed, an error code is displayed when the input data cause the overflow of the memory capacity specified for data processing.
Check the content of the data and reattempt the process because the specified memory capacity cannot be changed. You cannot see if this error will occur until you actually perform the process.

[2D12] Message reception error
[2D13] Message transmission error

Turn the power OFF and then back ON. Perform the job in error again.

[2D14] [2D61] Invalid parameter

When a template is used, form the template again.
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[2D15] Exceeding the maximum size for file sharing

Divide the file in error into several files and retry. Or retry the job in a single-page format.

[2D20] System management module access abnormality
[2D21] Job control module access abnormality
[2D22] Job control module access abnormality
[2D60] File library access abnormality

Turn the power OFF and then back ON. Perform the job in error again.
Check if there are no other running jobs and perform the HDD formatting (08-690).
If the recovery is still not completed, replace the SYS board.

[2D30] Directory creation failure
[2D31] File creation failure
[2D33] File access failure

Check if the access privilege to the storage directory is writable.
Check if the server disc, local disk or USB storage device has a sufficient space in capacity.

[2D40] Image conversion abnormality

Turn the power OFF and then back ON. Perform the job in error again.
Replace the main memory and perform the job again.
If the error still occurs, first, check if there are no jobs existing and then initialize the shared folder using the Setting Mode (08-667).

When the Imaging Acceleration Board (GE-1170, optional) is installed

Refer to the following page:
📖 P.25-154 "25.4.10 Abnormality Related to Imaging Acceleration Board (GE-1170, optional)"

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[2D43] Encryption error

Turn the power OFF and then back ON. Perform the job in error again.

[2D44] Encryption PDF enforced mode error

Reset the encryption and perform the job in error again.
If an image file not encrypted is created, consult your administrators.

[2D62] File server connection error

Check the IP address or path of the server.
Check if the server is operating properly.

[2D63] Invalid network path

Check the network path.
If the path is correct, turn the power OFF and then back ON, and perform the job again.

[2D64] Login failure

Reset the login name and password. Perform the job.
Check if the account of the server is properly set up.

[2D65] Exceeding documents in folder: Creating new document is failed

Delete some documents in the folder.

[2D66] Storage capacity full failure during processing

Reduce the number of pages of the job in error or set the resolution mode low, and perform the job again.
Check if the server disc, local disk or USB storage device has a sufficient space in capacity.

[2D67] FTP service not available

Check if the setting of FTP service is valid.

[2D68] File sharing service not available

Check if the setting of SMB is valid.

[2DC1] Power failure

Check if the power cable is connected properly and it is inserted securely.
Check if the power voltage is unstable.

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[7] E-mail reception related error

[3A10] [3A11] [3A12] E-mail MIME error

The format of the mail is not corresponding to MIME 1.0.
Request the sender to retransmit the mail in the format corresponding to MIME 1.0.

[3A20] [3A21] [3A22] E-mail analysis error
[3B10] [3B11] [3B12] E-mail format error
[3B40] [3B41] [3B42] E-mail decode error

These errors occur when the mail data is damaged from the transmission to the reception of the mail.
Request the sender to retransmit the mail.

[3A30] Partial mail time-out error

The partial mail is not received in a specified period of time.
Request the sender to retransmit the partial mail, or set the time-out period of the partial mail longer.

[3A40] Partial mail related error

The format of the partial mail is not corresponding to this equipment.
Request the sender to remake and retransmit the partial mail in RFC2046 format.

[3A50] [3A51] [3A52] Insufficient HDD capacity error
[3A60] [3A61] [3A62] Warning of insufficient HDD capacity

These errors occur when the HDD capacity is not sufficient for a temporary concentration of the jobs, etc.
Request the sender to retransmit after a certain period of time, or divide the mail into more than one.
Insufficient HDD capacity error also occurs when printing is disabled for no printing paper.
In this case, supply the printing paper.

[3A70] Warning of partial mail interruption

This error occurs when the partial mail reception setting becomes OFF during the partial mail reception.
Reset the partial mail reception setting ON and then request the sender to retransmit the mail.

[3A80] [3A81] [3A82] Partial mail reception setting OFF

Reset the partial mail reception setting ON and then request the sender to retransmit the mail.

[3B20] [3B21] [3B22] Content-Type error

The format of the attached file is not supported by this equipment (TIFF-FX).
Request the sender to retransmit the file in TIFF-FX.

[3B30] [3B31] [3B32] Charset error

These errors occur when the standard of the Charset is other than ISO-8559-1 or ISO-8559-2.
Request the sender to reformat the Charset into either of the standards described above and then retransmit the mail.

[3C10] [3C11] [3C12] [3C13] TIFF analysis error

These errors occur when the mail data is damaged from the transmission to the reception of the mail, or when the format of the attached file is not supported by this equipment (TIFF-FX).
Request the sender to retransmit the mail.

[3C20] [3C21] [3C22] TIFF compression error

The compression method of the TIFF file is not acceptable for this equipment. (Acceptable: MH/MR/MMR/JBIG)
Request the sender to retransmit the file in the acceptable compression method.

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[3C30] [3C31] [3C32] TIFF resolution error

The resolution of the TIFF file is not acceptable for this equipment. (Acceptable: 200 x 100, 200 x 200, 200 x 400, 400 x 400, 300 x 300 or equivalent)
Request the sender to retransmit the file in the acceptable resolution.

[3C40] [3C41] [3C42] TIFF paper size error

The paper size of the TIFF file is not acceptable for this equipment. (Acceptable: A4, B4, A3, B5, LT, LG, LD or ST)
Request the sender to retransmit the file in the acceptable paper size.

[3C50] [3C51] [3C52] Offramp destination error

These errors occur when the FAX number of the offramp destination is incorrect.
Request the sender to correct the FAX number of offramp destination and then retransmit the mail.

[3C60] [3C61] [3C62] Offramp security error

These errors occur when the FAX number of the offramp destination is not on the Address Book.
Check if the FAX number of the offramp destination is correctly entered or the number has not been changed.

[3C70] Power failure error

Check if the mail is recovered after turning ON the power again.
Request the sender to retransmit the mail if it is not recovered.

[3D10] Destination address error

Check if the setting of the server or DNS is correct. Correct if any of the setting is incorrect.
When the content of the setting is correct, confirm the sender if the destination is correct.

[3D20] Offramp destination limitation error

Inform the sender that the transfer of the FAX data over 40 is not supported.

[3D30] FAX board error

This error occurs when the FAX board is not installed or the FAX board has an abnormality.
Check if the FAX board is correctly connected.

[3E10] POP3 server connection error

Check if the IP address or domain name of the POP3 server set for this equipment is correct, or check if POP3 server to be connected is operating properly.

[3E20] POP3 server connection time-out error

Check if POP3 server to be connected is operating properly.
Check if the LAN cable is correctly connected.

[3E30] POP3 login error

Check if the POP3 server login name and password set for this equipment are correct.

[3E40] POP3 Login Type ERROR

Check that the login type (Auto, POP3 or APOP) to the POP3 server is correct.

[3F00] [3F10] [3F20] [3F30] [3F40] File I/O error

These errors occur when the mail data is not transferred properly to the HDD.
Request the sender to retransmit the mail.
Replace the HDD if the error still occurs after retransmission.

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25.3.24 Printer function error

[4031] HDD full failure during printing

Reduce the number of pages of the job in error and perform the job again.
Check if the server or local disk has a sufficient space in disk capacity.

[4032] Private-print-only error

Select “Private”, and then perform the printing again.

[4033] Printing data storing limitation error

Select “Normal Print”, and then perform the printing again.

[4034] e-Filing storing limitation error

Select “Normal Print”, and then perform the printing again.

[4035] Local file storing limitation error

Select “Remote” (SMB/FTP) for the destination of the file to save.

[4036] User authentication error

Perform the authentication or register as a user, and then perform the printing again.

[4037] Hardcopy security printing error

Hardcopy security printing cannot be performed because the function is restricted in the self-diagnosis mode.

[4040] Not being authorized to perform JOB

Confirm the administrator for the JOB authorization.

[4050] Problem in LDAP server connection or LDAP server authorization settings

Confirm the administrator for the LDAP server connection or LDAP server authorization settings.

[4300] Job execution error due to functional restrictions

USB direct printing cannot be performed because the function is restricted by the self-diagnosis. Check the self-diagnosis setting.

[4301] File conversion error

The format of this file (other than PDF and JPEG) is not supported in USB direct printing, or the file is invalid. Check the file.

[4310] Double-sign encoding error

Printing using this function cannot be performed due to a decoding process error which occurs because the PDF file is encrypted incorrectly or encrypted in a language not supported.

[4311] Printing not permitted

This file cannot be printed using this function due to the encrypted PDF file not permitting printing or permitting it only with a low resolution.

[4312] Password mismatching

The entered password is neither matched with a user password nor an owner password. Check the password again.

[A221] Print job cancellation

This message appears when deleting the job on the screen.

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[A222] Print job power failure

When there are running jobs, perform the job in error again after the completion of the running jobs. If the error still occurs, turn the power OFF and then back ON, and perform the job again.

[A290] Limit over error (black)
[A291] Limit over error (black)
[A292] Limit over error (black)

Clear the limit counter (black).

[A2A0] Limit over error (color)
[A2A1] Limit over error (color)

Clear the limit counter (color), or authorize users so that they can perform color printing.

[A2A2] Limit over error (color)

Clear the limit counter (color).

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25.3.25 TopAccess related error

[5110] Toner cartridge detection error

(1) Check if the toner cartridge is installed properly.
(2) Check if the toner cartridge detection sensor operates properly.

[5BD0] Power failure during restoration

(1) Check if the power cable is connected properly and is inserted securely.
(2) Check if the power voltage is unstable.
(3) Reattempt the restoration of the database (Address Book, templates, F-code (Mailbox) or user information).

[5C10] FAX Unit attachment error

(1) Check if the FAX Unit is attached.
(2) Check if there is any damage or abnormality on the FAX board.
(3) Check if the connector on the FAX board is connected properly.

[5C11] Network FAX transmission error

The address specified for the network FAX is not registered on the Address Book. Register it.

[5C20] Data import from TopAccess succeeded

Data (Address book, department or user information) have been imported successfully. No troubleshooting is required.

[5C21] Error in data import from TopAccess

Data import failed because the specified file (Address Book, department or user information) is incorrect or damaged. Check if the file is incorrect or damaged, and then reattempt the import.

[5C22] Error on data import from TopAccess

(1) Data import failed because the specified file (Address Book, department or user information) is incorrect or damaged. Check if the file is incorrect or damaged, and then reattempt the import.
(2) Check that no jobs remain and rebuild the databases (Perform 08-684).
(3) If the error is not recovered, initialize the HDD (Key in "2" at 08-690).

Notes:

- If you rebuild the databases with a job remaining, delete it after finishing.
- When "Rebuilding all databases (08-684)" is performed, all the data in the Address Book and Mailbox are deleted. If you back up the data in advance, they will be recovered by restoring them after rebuilding the database.

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25.4 Other errors

25.4.1 Drum surface potential sensor control related troubleshooting

Countermeasure when “Service Recommended for SPC” message is displayed

[1] Check for abnormal contents (V0 sensor controlling / V0 sensor shutter closing) and abnormal stations.

[1-1] Check the drum surface potential sensor controlling status: 05-2780 Sub-code 0: Y, 1: M, 2: C, 3: K

0: Normally completed
1: Control paused
(due to an open cover, etc.)
2: Sensor abnormality detected

[1-2] Check the drum surface potential sensor shutter closing controlling status?05-2789 Sub-code 0: Y, 1: M, 2: C, 3: K

0: Normally completed
1: Control paused
(due to an open cover, etc.)
2: Sensor shutter closing abnormality detected

* When any of the drum surface potential sensor controlling statuses is “2: Sensor abnormality detected” -> Go to 2.
* When any of the drum surface potential sensor shutter closing controlling statuses is “2: Sensor shutter closing abnormality detected” -> Go to 3.

[2] What to do for the drum surface potential sensor controlling status abnormality

Content: Incorrect measurement when the drum surface potential sensor shutter is opened

<Example>

- The harness of the drum surface potential sensor is disconnected.
- The drum surface potential sensor shutter is not opened.
- The drum surface potential sensor is installed incorrectly.
- Charging of the photoconductive drum is abnormal (e.g. abnormalities in the drum, main charger, discharge LED, HVT board).

Are the harnesses of the troubled drum surface potential sensor connected? Are the boards connected with the sensor correctly?

- Connector between the V0S board and the EPU board
- Connector between the drum surface potential sensor and the V0S board
- Connector between the drum shutter solenoid and EPU board (CN553, CN554, CN555, and CN556)
- Connectors CN308 and CN310 of the LGC board

NO → Reconnect the connector when it is disconnected. Then perform image quality control initialization (05-396) and check the controlling status.

↓

YES

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Check the drum surface potential sensor output (05-2782).
Perform 2-1 or 2-2 according to the output value.

Sub-code	Color	Grid bias Voltage measurement [-V]
0	Y	300
1	M	
2	C	
3	K	
5	Y	900
6	M	
7	C	
8	K	
10	Y	500
11	M	
12	C	
13	K	

[2-1] If the drum surface potential sensor output is “0-30” or “1010-1020” in the grid bias voltage of the target sensor, the drum surface potential sensor shutter may become closed.

Is the shutter opened and closed smoothly when the arm of the drum shutter solenoid is moved by hand and is the detecting element of the drum surface potential sensor (2 mm) seen completely when the drum shutter is opened?

NO → If the sensor or the shutter is dirty, wipe off with soft pad or cloth.
If a spring or any part connecting the solenoid and the shutter has been removed, reinstall it securely.
Then perform “4. Image quality control initialization (05-396) / check the controlling status” (described later).
↓ When an adjustment error occurs
Replace the shutter and then perform “4. Image quality control initialization (05-396) / check the controlling status” (described later).
↓ When an adjustment error occurs

↓

YES

Check if sounds are heard corresponding to proper solenoid operation (Y: 03-209, M: 03-210, C: 03-211, K: 03-212).

↓

If such sounds are not heard, replace the solenoid and then perform “4. Image quality control initialization (05-396) / check the controlling status” (described later).

↓ When an adjustment error occurs

Go to 2-2.

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[2-2] If the drum surface potential sensor output is other than "0-30" and "1020-1020" in the grid bias voltage of the target sensor

Is the main charger unit installed correctly?
Is the needle electrode or the main charger grid installed correctly?
Is there any charging leak?
Is the discharge LED harness connected correctly?

YES →	Remove any dust or toner staining. Then reinstall it. If the discharge LED harness is disconnected, reconnect it. Perform "4. Image quality control initialization (05-396) / check the controlling status" (described later). ↓ When an adjustment error occurs
↓ NO	

Replace the photoconductive drum and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).
↓ When an adjustment error occurs
Replace the drum surface potential sensor and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).
↓ When an adjustment error occurs
Replace the drum surface potential sensor board and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).
↓ When an adjustment error occurs
Replace the EPU board and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).
↓ When an adjustment error occurs
Replace the LGC board and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).
↓ When an adjustment error occurs
Replace the high-voltage board and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).

[3] What to do for the drum surface potential sensor shutter closing controlling statuses abnormality

Content: Incorrect measurement when the drum surface potential sensor shutter is closed
<Example> The opened drum surface potential sensor shutter cannot be closed.

Repeat 2-6 and 2-1 above (sensor shutter not opened) and then perform "4. Image quality control initialization (05-396) / check the controlling status" (described later).

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[4] Image quality control initialization (05-396) / check the controlling status

Procedure

1. If the value of the drum surface potential sensor control abnormalities counter for each color is other than “0”, reset the counter.
   08-2560 Sub-code 0: Y 1: M 2: C 3: K
2. If the value of the drum surface potential sensor shutter closing control abnormalities counter for each color is other than “0”, reset the counter.
   08-2577 Sub-code 0: Y 1: M 2: C 3: K
3. Select “1: Enabled” for the code 08-2561 (Drum surface potential sensor control setting).
4. Perform “Image quality control initialization (05-396)”.
5. If any abnormality is detected, the controlling status and the “ERROR” message shown below are displayed after approx. 30 to 60 seconds.
   Then check the content of the abnormality and the target YMCK process unit on the screen and then press [CANCEL] at the bottom left of the screen.

* The mode returns to the test mode if the drum surface potential sensor control is normally completed.

Upper row: Drum surface potential sensor controlling status
<Contents>
0: Normally completed
1: Control paused
(due to the opened cover or other reasons)
2: Sensor abnormality detected

Lower row: Drum surface potential sensor shutter closing
controlling status
<Contents>
0: Normally completed
1: Control paused
(due to the opened cover or other reasons)
2: Sensor shutter closing abnormality detected

* When any of the drum surface potential sensor controlling statuses (display on the upper row) is “2: Sensor abnormality detected”, drum surface potential sensor shutter closing controlling status will not be identified. (The display on the lower row is “0: Normally completed”.)

* If image quality control initialization (05-396) is performed while “0: Disabled” is selected for 08-2561 (Drum surface potential control setting), drum surface potential control measurement will not be performed. However, the controlling status of the last drum surface potential sensor measurement and “ERROR” are displayed.
(All status values on both upper and lower rows may be “0” and also “ERROR” may be displayed.)

When any of the controlling statuses on the upper row is “2” while “ERROR” is being displayed -> Go to 2.
When any of the controlling statuses on the lower row is “2” while “ERROR” is being displayed -> Go to 3.
When “ERROR” is not displayed and the mode returns to the test mode -> Go to 5.
When any of service calls CE10, CE20 and CE40 is displayed -> Go to 6.

[5] When “ERROR” is not displayed and the mode returns to the test mode

Print out a test chart (04-231 Y, M, C and K1: Secondary scanning direction - 33-gradation pattern). Is the printed image normal?

| YES → END

↓

NO

See “Image quality control related troubleshooting” to resolve the problem.

[6] CE10, CE20 or CE40 is image quality control abnormality. See “Image quality control related troubleshooting” to resolve these errors.

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25.4.2 Troubleshooting at unpacking

This section describes the procedure needed to interrupt the unpacking procedures in order to inspect or repair the equipment when trouble occurs during unpacking.

- Turn ON the power of the equipment to start the unpacking operation by the software after No. 51of the unpacking instructions.
- This instruction prohibits any operation not described in the unpacking instruction, because the purpose is to complete the setup of the equipment.
- Therefore, if trouble of the equipment occurs during unpacking, it is necessary to forcibly shut down the unpacking procedure.
- When an error code or a service call is displayed after the unpacking procedure is interrupted, clear the trouble referring to troubleshooting.
- When the equipment has been shut down, starting the equipment with the setting code “08-9022” allows you to know the completed status before the forced termination.
- For example, if 6 is displayed for the code 08-9022, this status means that the gamma adjustment has been completed.
- When the error has been cleared, restart the unpacking procedures from the status in which you shut down the equipment.
- Additionally, setting the code 08-9022 to 5 enables you to perform the gamma adjustment again.
- Also, setting the code 08-9022 to 99 allows you to release the unpacking operation and to start the equipment normally.

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25.4.3 Drum surface potential sensor control related troubleshooting when setting up the equipment at unpacking

Troubleshooting V0 sensor controlling status abnormalities when setting up the equipment at unpacking

[1] If any abnormality in V0 sensor control is detected, the controlling status and the "ERROR" message shown below are displayed approx. 30 to 60 seconds after "Automatic image quality control initialization (05-396)" is performed. Then check the content and the station of the abnormality on the control status and then press [CANCEL] at the bottom left of the screen.

* When any of the drum surface potential sensor controlling statuses (display on the upper row) is "2: Sensor abnormality detected", drum surface potential sensor shutter closing controlling status will not be identified. (The display on the lower row is "0: Normally completed".)

Upper row: Drum surface potential sensor controlling status
<Contents>
The contents same as 05-2780 sub-codes
0:Y, 1:M, 2:C, 3:K
0: Normally completed
1: Control paused
(due to an open cover, etc.)
2: Sensor abnormality detected

Lower row: Drum surface potential sensor shutter closing
controlling status
<Contents>
The contents same as 05-2789 sub-codes
0:Y, 1:M, 2:C, 3:K
0: Normally completed
1: Control paused
(due to an opened cover, etc.)
2: Sensor shutter closing abnormality detected

* When any of the drum surface potential sensor controlling statuses (display on the upper row) is "2: Sensor abnormality detected", drum surface potential sensor shutter closing controlling status will not be identified. (The display on the lower row is "0: Normally completed".)

* If the "Image quality control initialization (05-396)" is performed while "0: Disabled" is selected for 08-2561 (Drum surface potential control setting), drum surface potential control measurement will not be performed. However, the controlling status of the last drum surface potential sensor measurement and "ERROR" are displayed.
(All status values on both upper and lower rows may be "0" and also "ERROR" may be displayed.)

When any of the controlling statuses on the upper row is "2" while "ERROR" is being displayed -> Go to 2.
When any of the controlling statuses on the lower row is "2" while "ERROR" is being displayed -> Go to 3.
When any of service calls CE10, CE20 and CE40 is displayed -> Go to 5.

[2] What to do for the drum surface potential sensor controlling status abnormalities

Content: Incorrect measurement when the drum surface potential sensor shutter is opened
<Example>

- The harness of the drum surface potential sensor is disconnected.
- The drum surface potential sensor shutter is not opened.
- The drum surface potential sensor is installed incorrectly.
- Charging of the photoconductive drum is abnormal (e.g. abnormalities in the drum, main charger, discharge LED, HVT board).

* Apply following measures respectively and perform "4. Image quality control initialization (05-396) and checking controlling status" (described later).

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[2-1] Checking connector related troubles

Are the harnesses of the troubled drum surface potential sensor connected? Are the boards connected with the sensor correctly?

- Connector between the V0S board and the EPU board
- Connector between the drum surface potential sensor and the V0S board
- Connector between the drum shutter solenoid and the EPU board
- Connectors CN308 and CN310 of the LGC board

NO → Reconnect the connector when it is disconnected. Then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).

↓ YES

[2-2] Checking the main charger related devices

Is the main charger unit installed correctly?
Is the needle electrode or the main charger grid installed correctly?
Is there any charging leak?
Is the discharge LED harness connected correctly?

YES → Remove any dust or toner staining. Then reinstall it.
If the discharge LED harness is disconnected, reconnect it.
Perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

↓ NO

[2-3] Checking the drum surface potential sensor and the drum surface potential sensor board

Replace the drum surface potential sensor and perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs
Replace the V0S board and perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

[2-4] Checking the drum surface potential sensor shutter

Is the shutter opened and closed smoothly when the arm of the drum shutter solenoid is moved manually, and is the detecting element of the drum surface potential sensor seen completely when the drum shutter is opened?

NO → If the sensor or the shutter is dirty, wipe off with soft pad or cloth.
If a spring or any part connecting the solenoid and the shutter is removed, install it securely.
Then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs
Replace the shutter and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

↓ YES

Replace the solenoid and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

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[2-5] Checking the EPU board

Replace the EPU board and perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

[2-6] Checking the photoconductive drum

Replace the drum and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs

[2-7] Checking the LGC board and the HVT board

Replace the LGC board and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).
↓ When an adjustment error occurs
Replace the *** board and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).

[3] What to do for the drum surface potential sensor shutter closing controlling status abnormality

Content: Incorrect measurement when the drum surface potential sensor shutter is closed
<Example> The opened shutter cannot be closed.

Repeat steps 2-6 and 2-4 above (sensor shutter not opened) and then perform “4. Image quality control initialization (05-396) and checking controlling status” (described later).

[4] Procedures for image quality control initialization (05-396) and checking controlling status

1. If the value of the drum surface potential sensor control abnormalities counter for each color is other than “0”, reset the counter.
   08-2560 Sub-code 0: Y 1: M 2: C 3: K
2. If the value of the drum surface potential sensor shutter closing control abnormalities counter for each color is other than “0”, reset the counter.
   08-2577 Sub-code 0: Y 1: M 2: C 3: K
3. Select “1: Enabled” for the code 08-2561 (Drum surface potential sensor control setting).
4. Perform “Image quality control initialization (05-396)”, refer to 1. for confirming the result, and then apply necessary measures if there is any abnormality.

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25.4.4 Equipment operation disabled after the installation of option(s)

Check if the optional board is installed properly.

25.4.5 Wireless LAN connection disabled

The connection state and settings of the Wireless LAN can be checked with [USER FUNCTIONS] → [ADMIN] → [WIRELESS LAN] → [SETTING CHECK].
Confirm the settings with the administrator.

- "NIC INITIALIZING" does not disappear at the time of the power being turned ON and it disappears after 6 minutes with the NIC initializing time-out. In this case, the connection to the Wireless LAN did not succeed even though "NIC INITIALIZING" disappears.
- The connection to the Wireless LAN cannot be made if the Access Point to be connected is not found or security settings are not correct.

25.4.6 "Start page" printing disabled after the installation of the EFI Printer Board (GA-1310, optional)

When the firmware of the equipment or the system software of the EFI printer board is updated, perform "Initialization of NIC information (08-693)" and "Default setting of the EFI printer board (08-700)" if "Start page" is not printed out after a specified period of time. (In case of the equipment's firmware, wait approx. 3 minutes and in case of the EFI printer board's system software, wait approx. 10 minutes.)

1. Turn OFF the power of the equipment.
2. Confirm that the power of the EFI printer board is also turned OFF. (The 7-Segment LED of the EFI printer board goes off.)
3. Turn ON the power of the equipment while pressing digital keys [0] and [8] simultaneously to enter the Setting Mode (08).
4. Confirm that the power of the EFI printer board is also turned ON. (The 7-Segment LED of the EFI printer board is lit.)
5. Key in [693] and press the [START] button (Initialization of NIC information).
6. Key in [700] and press the [START] button (Default setting of the EFI printer board).
7. Turn OFF the power of the equipment.
8. Confirm that the power of the EFI printer board is also turned OFF.
9. Turn ON the power of the equipment.

25.4.7 When the duplexing unit cover open display cannot be released

1. Is the duplexing unit cover opening/closing detection sensor working normally?
2. Check if any of the fuses (F201, F202, and F203) on the switching regulator has blown.
3. Replace the switching regulator.
4. If the fuse still blows even after the switching regulator is replaced, check if a harness connected with the connector CN405 on the switching regulator is caught or short circuited. Replace the harness if there is any abnormality.

25.4.8 Operation of the control panel locked at the power-ON and the locking cannot be canceled

1. Check if the fuse (F205) on the switching regulator is blows.
2. Replace the switching regulator.
3. If the fuse still blows even after the switching regulator is replaced, check if a harness connected with the connector CN407 on the switching regulator is caught or short circuited. Replace the harness if there is any abnormality.

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25.4.9 Troubleshooting for one-time dongle

1. When the serial number is changed, options already installed (Meta Scan Enabler GS-1010, External Interface Enabler GS-1020 and IPSec Enabler GP-1080) will be disabled.
2. When the serial number is changed, an F200 error occurs if the Data Overwrite Enabler (GP-1070, optional) is installed.
3. When you reinstall the Data Overwrite Enabler (GP-1070, optional), follow the designated reinstallation procedure (the same procedure as that of board replacement)
4. When an F200 error occurs, release it and then reinstall the Data Overwrite Enabler (GP-1070, optional).

25.4.10 Abnormality Related to Imaging Acceleration Board (GE-1170, optional)

When an abnormality related to the Imaging Acceleration Board (GE-1170, optional) occurs, the specified icon on the touch panel is displayed in gray.
Perform code 08-9966 (Imaging Acceleration Board operation check) to check the status of the board.
If the abnormality is derived from the hardware, replace the board.

25.4.11 Countermeasure for stain on paper back side

Take off the separation plate and then check if toner adheres to both front and back sides of the plate. If it adheres, wipe it off with dry soft cloth. Use a toner remover if required. When using it, soak soft cloth in it and then clean the surface of the plate with it.

Notes:

- After a toner remover has been used, wipe it off with dry cloth.
- Be careful not to damage the surface of the separation plate.
- Be careful not to deform the separation plate.

25.4.12 Measures against exit paper side deviation

If any problem such as paper folding at the leading edge occurs at the receiving section of the finisher due to exit paper side deviation, check the following items to correct it or replace the parts.

* Cause 1 of exit paper side deviation: Bridge unit
* Cause 2 of exit paper side deviation: Duplex unit

Check that the idling rollers are parallel to the installation holes.
If any of them is slanted, correct or replace it.
The rollers of the lower transport guide affect the sheet sideways deviation in the simplex and duplex mode, and the ones of the upper transport guide affect the sheet sideways deviation in the duplex mode.
The rollers in the duplex unit affect the sheet sideways deviation in the duplex mode.

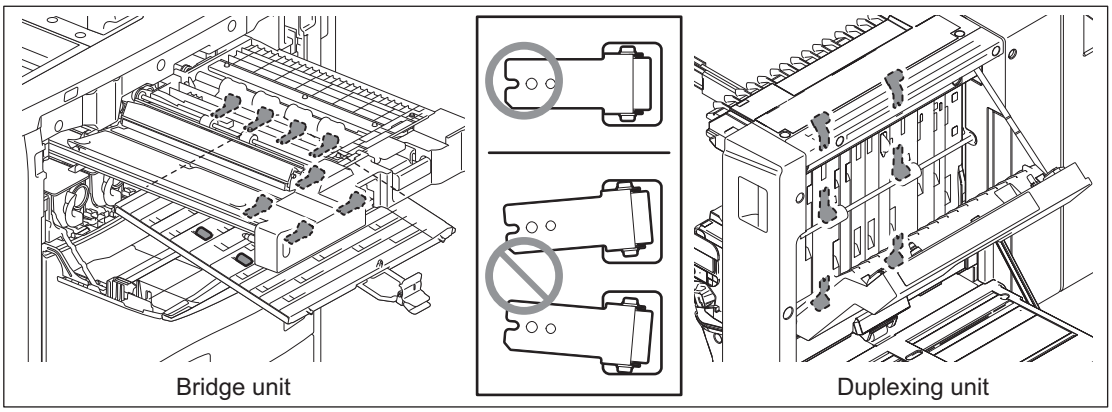

Fig. 25-6

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* Cause 3 of exit paper side deviation: Installation status

Notes:

- Check that the equipment is installed horizontally at the installation position. (Install a level on the original glass to check.)
- Check that four stoppers contact the ground.

Checking method

1. Place A4 or LT size paper in the 1st drawer. Print 5 sheets in the simplex mode and print 5 sheets in the duplex mode using the 1st drawer, having the paper exit to the tray at the side of the equipment.
2. Check that the edges of the simplex/duplex printed sheets are located within the allowable range of the scale (B).
3. If they are not, adjust the position according to the following procedure. ((A): recommended range)

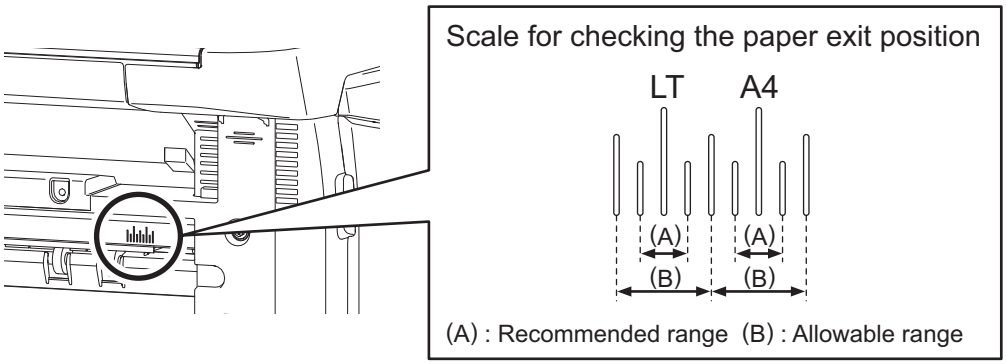

Fig. 25-7

Adjustment

In case the edges are towards the front side from (B):

Turn the stopper on the right front side clockwise to lift the equipment. The exit position will be moved towards the rear side by approx. 0.6 to 1.0 mm for each turn.

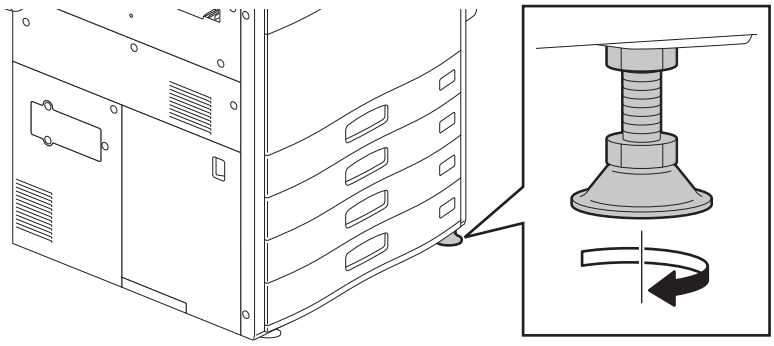

Fig. 25-8

In case the edges are towards the rear side from (B):

Turn the stopper on the left front side clockwise to lift the equipment. The exit position will be moved towards the front side by approx. 0.6 to 1.0 mm for each turn.

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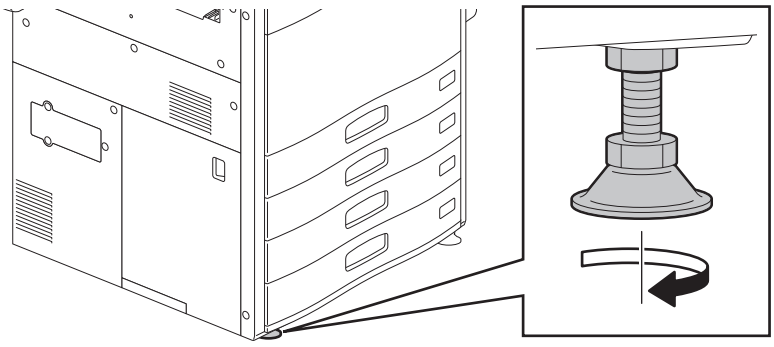

Fig. 25-9

Notes:

Notes for installing the finisher

- After the above adjustment, install the finisher according to the Unpacking Instructions.
- When installing MJ-1103/1104, be sure to make the height adjustment in *29 to *30 in the Unpacking Instructions.

25.4.13 Troubleshooting for abnormal sound from fuser unit

If creaking sound is heard from the fuser unit, check if grease is applied on the tooth face of the gears and to the shafts of the fuser unit and fuser drive unit.

Note:

Since the one-way clutch is pressed into the gear (GEAR-8H40-FMR), do not apply grease on the shaft.

📖 P.18-39 "18.6.12 Fuser unit"

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25.5 Troubleshooting for the Image

25.5.1 Color deviation

1) Color deviation

<Symptoms>

Original mode	Location	Phenomena	
All modes	Color blurred in outline of white text or illustration on a colored background	Color deviation→	 Fig. 25-10
Text Mode Text/Photo Mode	Outline in black text on a colored background	White void→	 Fig. 25-11
Photo Mode Map Mode	Color blurred in outline of line or text	Color deviation→	 Fig. 25-12

Cause/Section	Step	Check Item	Measure	Remark
	1	Perform the Forced performing of color registration control adjustment (05-4719).	Has it ended normally? When CA00 occurs: -> Proceed to [CA00] troubleshooting.	
	2	Output the built-in grid pattern in A3/LD size. (Perform [8][FAX] at 05 startup.)	Perform steps 1 and 2 several times and check the direction and tendency of the grid pattern deviation.	
	3	Check the direction and tendency of the grid pattern deviation.	i) When evenly deviated in the transfer direction, and when deviated in a regular manner such as in the order of Y, M, C, K or K, C, M, Y: -> Perform steps 4, 5, 6 and 7. ii) When evenly deviated in the laser scanning direction: -> Perform steps 8, 9 and 10. iii) When cyclically deviated in the transfer direction: -> Perform steps 11, 12, 13, 14 and 15. iv) When laser scanning lines are curved: -> Perform steps 16. v) When the deviation amount in the transport direction is different between the start point and the end point of the scanning direction: -> Perform steps 17.	
Poor transport of the belt of the transfer belt unit	4	Is the surface of the drive roller of the transfer belt unit dirty or worn out?	Clean or replace the drive roller.	
Large driving load in the 2nd transfer	5	Is the 2nd transfer roller locked?)	Replace the 2nd transfer roller and 2nd transfer cleaning blade.	
Large driving load in the transfer belt unit cleaner	6	Is the transfer belt unit cleaner blade peeled?.	Replace the transfer belt unit cleaner blade.	

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Cause/Section	Step	Check Item	Measure	Remark
Poor transport of the belt of the transfer belt unit	7	Is there any cause that slows the transport speed of the transfer belt?	Remove the cause or replace the transfer belt unit.	
Installation of the transfer belt unit	8	Is the transfer belt unit seated all the way and installed? Is it installed slanted?	Install the transfer belt unit correctly.	
Meandering of the transfer belt	9	Is the belt guide of the transfer belt unit installed correctly?	Install the transfer belt correctly.	
Meandering of the transfer belt	10	Is the pointer of the angle indicator of the transfer belt unit steering mechanism within the +/- 2 scale points?	Correct it. Or, Replace the transfer belt unit.	
Fluctuation in drum speed	11	Is the process unit seated all the way and installed?	Replace the cleaning blade.	
Fluctuation in drum drive unit speed	12	Is the drum drive unit installed normally?	Check the installation. Or, replace the drum drive unit.	
Drum speed abnormality	13	Is an abnormal value set for drum motor rotation speed setting value (05-481)?	Set the value to 128.	
Fluctuation in transfer belt speed	14	Is the transfer belt driving gear installed normally? Is there any breakage or deformation of the transfer belt driving gear?.	Check the installation of the gear, or replace it.	
Fluctuation in transfer belt speed	15	Is the transfer drive roller shaft deformed?	Replace the transfer belt drive roller.	
Laser scanning lines warped	16	Are the laser scanning line warped?	Replace the laser optical unit.	
Poor skew adjustment of laser optical unit	17	Is a laser scanning line of any specific color inclined to those of other colors? Is there any color whose color characteristic is significantly different from others?	Perform steps 1 and 2 several times, and when tendencies do not change: - Check the laser optical unit related harness connections. - Reinstall the laser optical unit. - Or, replace the laser optical unit	

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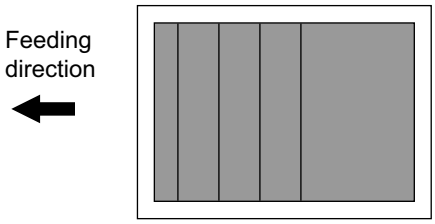
25.5.2 Uneven pitch and jitter image

<Symptoms>

Original mode	Location	Phenomena	
All modes	Occurs cyclically at right angles to paper feeding direction	Uneven pitch	 Fig. 25-13

Cause/Section	Step	Check Item	Measure	Remark
	1	Test printing (A3/LD)	Output the built-in halftone and grid patterns.	For the following checks
	2	Are there uneven pitches of approx. 188.5 mm?	Perform procedures 5, 6 and 7.	
		Are there uneven pitches of approx. 26 mm?	Perform procedure A.	
	3	This jittery image occurs in certain positions from the leading edge of the paper when the continuous printing is performed. This occurs at the position 178.277mm from the edge of the image when printed in black, 283.382mm in cyan, and 388mm in magenta.	Perform procedures 8, 9 and 10	Jittering caused by the impact of the paper going into the 2nd transfer section.
	4	This jittery image occurs in certain positions from the leading edge of the paper on the second and subsequent pages when continuous printing is performed. The position of the jittery image varies depending on the copying speed, paper size, and color.	Perform procedures 8 and 11	Jittering caused by the impact of the paper passing through the registration roller and 2nd transfer roller
Drum	5	Is there any damage or foreign matter on the drum surface?.	Clean or replace the drum.	Replace the drum first, because in some cases, scratches cannot be visually checked.
Drum drive	6	Is there any dent, damage or deformation on the gears of the drum drive unit?	Replace the drum drive unit.	
	A	Is there any dent, damage or deformation in the motor gear section of the drum drive unit?	Replace the drum motor.	
Fuser belt	7	Check if the fuser belt is scratched or deformed.)	Replace the fuser belt.	
Transfer belt unit	8	Check if the tension of the timing belt that drives the flywheel is appropriate.	Assemble the timing belt so that its tension is appropriate.	
2nd transfer unit	9	Check if there is no abnormality on the surface of the 2nd transfer roller.	Replace the 2nd transfer roller.	
	10	Check if any white void in the halftone occurs at the same time.	Apply the measure following “25.5.27”.	

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Cause/Section	Step	Check Item	Measure	Remark
Transportation speed	11	Check if an abnormal value is set for the transportation speed. Drum motor 05-481 (0 to11) Registration motor 05-483 (0 to 11) Fuser roller 05-485 (0 to 11) 2nd transfer roller 05-4748 (0 to 11)	Change the value back to the default.	
Transfer belt	12	The density stripe which occurs once every few copies in certain positions in the primary scanning direction. Check if the belt surface is scratched. The rotation period of the belt is approx. 1118mm.	Replace the transfer belt.	
Transfer belt drive roller	13	Density belt pattern of 105mm pitch	Clean or replace the transfer belt drive roller.	
Developer sleeve	14	Is the pitch of the density fluctuation 43.5mm?	Replace the developer sleeve	
Jitter (1.9mm pitch)	15	Density stripe pattern (jitter) of 1.9mm pitch in Black mode printing	Replace the developer sleeve. Replace the 2nd transfer drive unit. Replace the LSU.	
Jitter (1.35mm pitch)	16	Density stripe pattern (jitter) of 135mm pitch in cyan and magenta	Check if the laser optical unit cooling fan (front) is installed properly. Replace the fan if there is an abnormality.	

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25.5.3 Black spot / color point

<Symptoms>

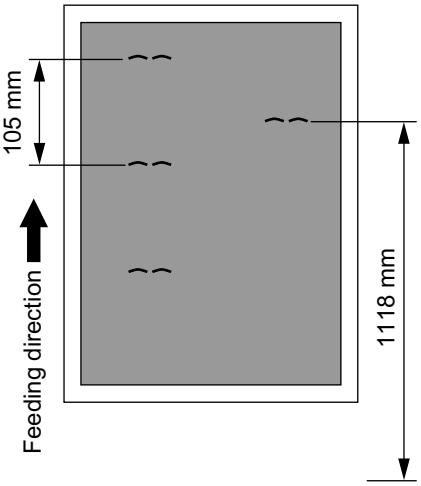
Original mode	Location	Phenomena
All modes	Occurs cyclically in the feeding direction Pitch: 105mm Perform procedures 3 and 4.	
	Occurs cyclically in the feeding direction Pitch: 1118mm (Ratio of once every 3 sheets of A3/LD paper) Perform procedures 1, 2 and 3.	

Fig. 25-14

Cause/Section	Step	Check Item	Measure	Remark
Transfer belt	1	Is there any damage or deformation on the surface of the transfer belt?	Replace the transfer belt.	
	2	Is there adhesion of foreign matter on the transfer belt surface?	Remove the foreign matter.	
	3	Is there any foreign matter inside the transfer belt?	Remove the foreign matter.	
	4	Is there any breakage, or is there adhesion of foreign matter on the drive rollers?	Remove the foreign matter, or replace the drive roller.	

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25.5.4 Poor image density, color reproduction and gray balance

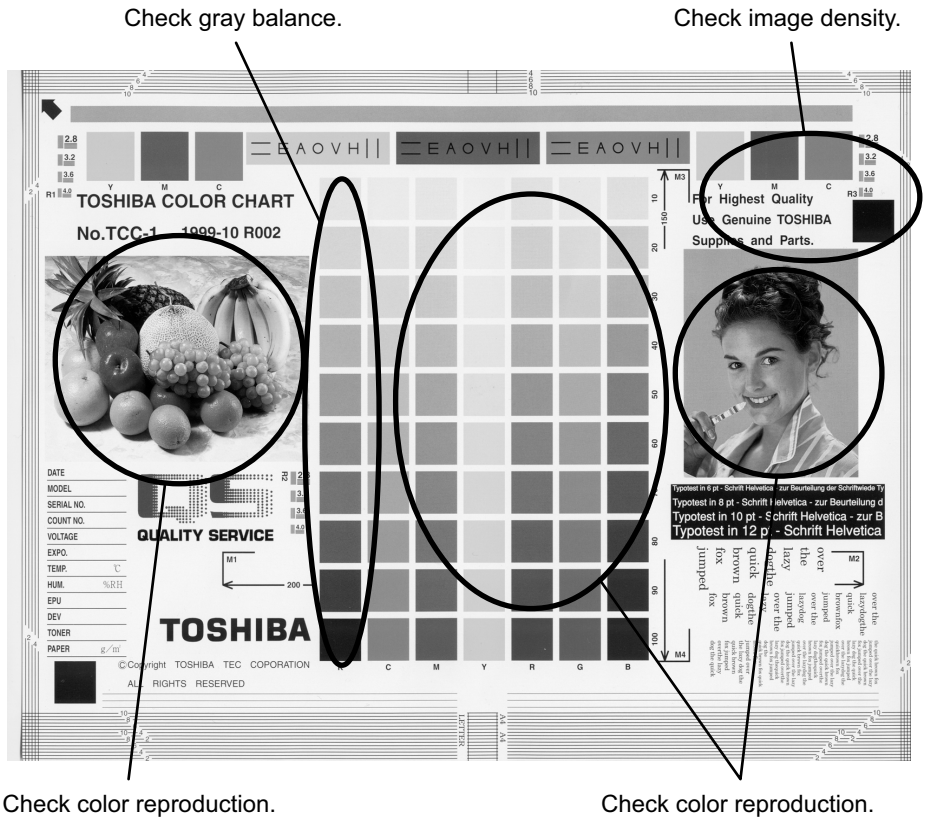

Fig. 25-15

Cause/Section	Step	Check items	Measures	Remarks
Density / Color reproduction / Gray balance	1	Check the image density / color reproduction / gray balance.	Perform the enforced performing of Automatic initialization of image quality control (05-396) and then automatic gamma adjustment.	
Printer density	2	Check the density of printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113 Laser array breakage detection pattern: print it out at the code 04-286.	See step 5 if defect occurs.
Scanner	3	Check if the original glass, mirrors or lens is dirty.	Clean it.	
Parameter adjustment value	4	Check the image processing parameters.	Adjust the color balance (color). Adjust the image density.	

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Cause/Section	Step	Check items	Measures	Remarks
Printer output image abnormal	5	Is there any faded image (low density)?	Perform the troubleshooting procedures against the faded image.	
		Is there any fog in the background?	Perform the troubleshooting procedures against the background fogging.	
		Is there any blotch image?	Perform the troubleshooting procedures against the blotch image.	
		Is there any poor transfer?	Perform the troubleshooting procedures against the poor transfer.	
		Is there any poor cleaning of the transfer belt? (Check inside the equipment.)	Correct the transfer belt area.	
		Is each stripe of 4 colors of the laser array breakage detection pattern printed out normally? Also, are the density level of stripes even?	If any one of stripes has not been output or density level of each stripe is different, replace the laser optical unit.)	

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25.5.5 Background fogging

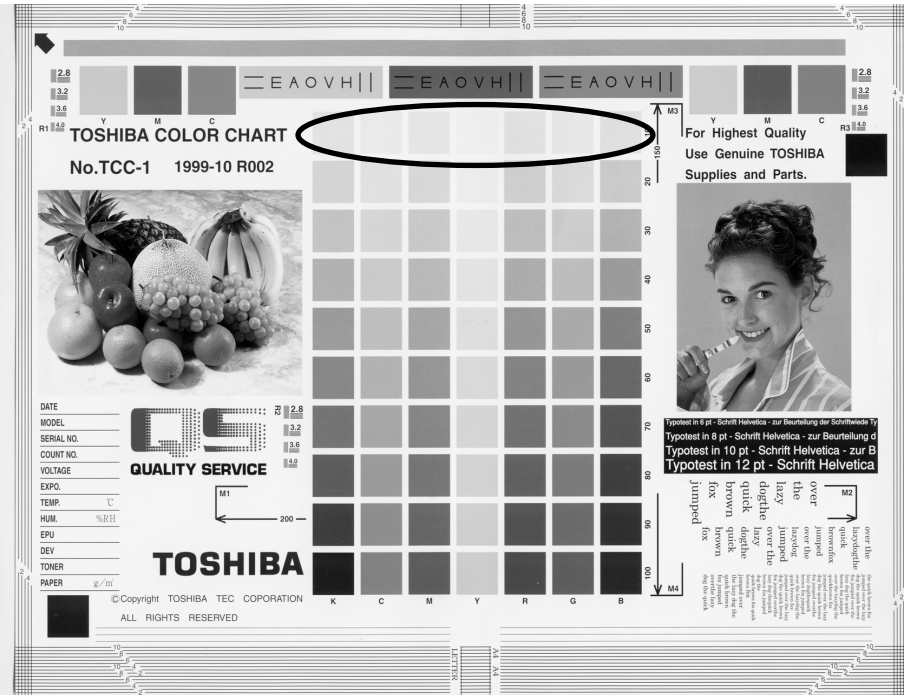

Fig. 25-16

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of Automatic initialization of image quality control (05-396) and then automatic gamma adjustment.	
Printer section	2	Check the printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	See step 6 if defects occur.
Scanner	3	Check if the original glass, mirrors or lens is dirty.	Clean it.	
Parameter adjustment value	4	Check the image processing parameters.	Check the value of offsetting adjustment for background processing (color), background adjustment (black) and background peak adjustment for range correction (black).	
	5	Adjust the image processing parameters.	While checking the above encircled image, adjust the reproduction level by the offsetting adjustment for background processing (color), background adjustment (black) and background peak adjustment for range correction (black).	
Cover	6	Is the cover installed properly? (Is the drum exposed to the external light?)	Correct it.	
Auto-toner	7	Is the auto-toner sensor normal?	Check the operation of auto-toner sensor and readjust.	
	8	Is the toner supply operating constantly?	Check the motor and circuits.	
Main charger output	9	Is the main charger output normal?	Check the circuits.	
Developer bias	10	Is the developer bias proper?	Check the circuits.	

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Cause/Section	Step	Check items	Measures	Remarks
Developer unit	11	Is the contact between the drum and developer material proper?	Check the doctor-to-sleeve gap and pole position.	
Developer material/Toner/ Drum	12	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.	
	13	Have the developer material and drum reached their PM life?	Replace the developer material and drum.	
	14	Is the storage environment of the toner cartridge 35oC or less without dew?	Use the toner cartridge stored in the environment within specification.	
Drum cleaning blade	15	Is the drum cleaned properly?	Check the drum cleaning blade pressure.	
Transfer belt cleaning blade	16	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Take off the transfer belt and check if the transfer belt cleaning blade pressure spring and pressure hook are installed properly.	
Toner dusting	17	Is the toner accumulated on the seals of the developer unit?	Remove the toner and clean the seals.	

* If the trouble is not solved at the step 1 and the step 2 or followings (excluding the parameter adjustment) are performed, make sure to perform “Automatic initialization of image quality control” and then “Automatic gamma adjustment” after taking a measure.

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25.5.6 Moire/lack of sharpness

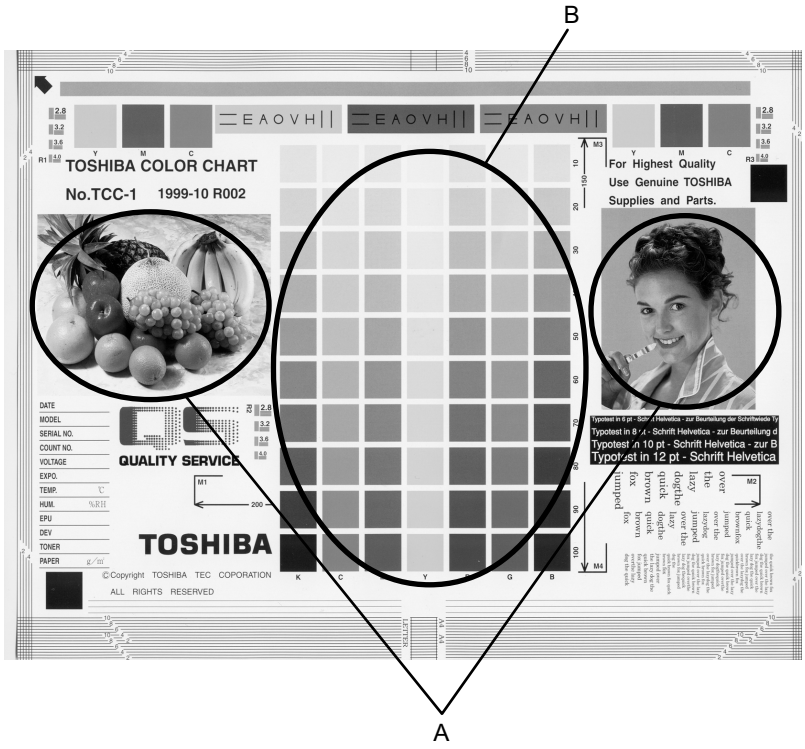

Fig. 25-17

Moire

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of Automatic initialization of image quality control (05-396) and then automatic gamma adjustment.	
Parameter adjustment value	2	Check the image processing parameters.	Check the sharpness adjustment value.	
	3	Adjust the image processing parameters.	While checking the above encircled images A and B, decrease moire by sharpness adjustment.	
Printer section	4	Check the printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	When defects occur, perform the corresponding troubleshooting procedures.

Lack of sharpness

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of Automatic initialization of image quality control (05-396) and then automatic gamma adjustment.	
Parameter adjustment value	2	Check the image processing parameters.	Check the sharpness adjustment value.	
	3	Adjust the image processing parameters.	While checking the above encircled image A, increase sharpness by sharpness adjustment.	

* If the trouble is not solved at the step 1 and the step 2 or followings (excluding the parameter adjustment) are performed, make sure to perform “Automatic initialization of image quality control” and then “Automatic gamma adjustment” after taking a measure.

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25.5.7 Toner offset

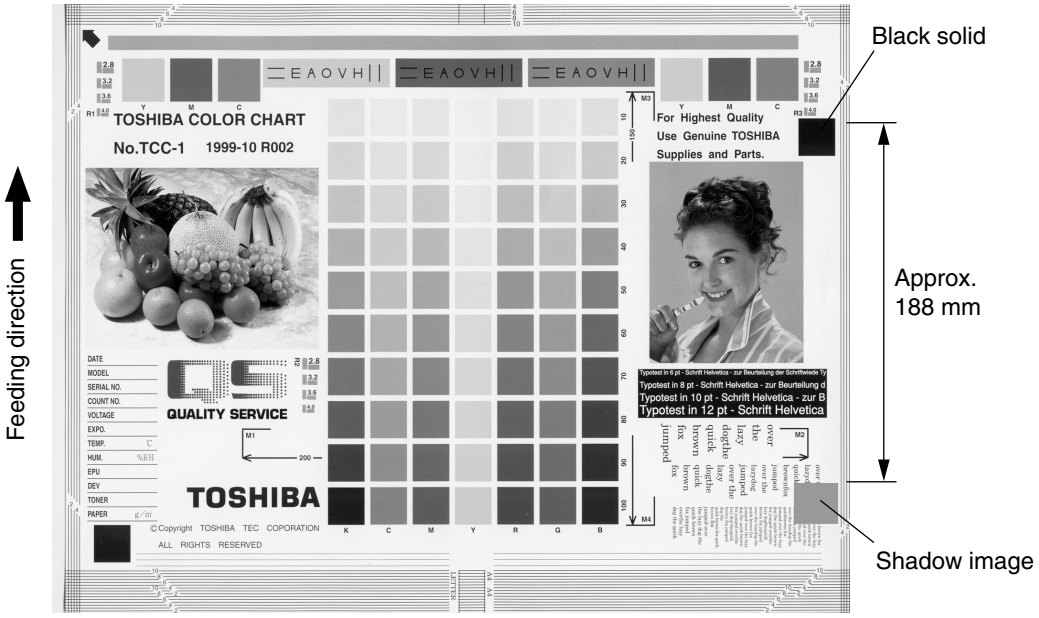

Fig. 25-18

Toner offset (Shadow image appears approx. 188 mm behind the high density image.)

Cause/Section	Step	Check items	Measures	Remarks
Fuser unit	1	Is the pressure between the fuser belt and pressure roller proper?	Check the pressure removal parts and pressure mechanism.	
	2	Is there scratch on the fuser belt or pressure roller surface?	Replace the fuser belt or the pressure roller.	
	3	Has the fuser belt or pressure roller reached its PM life?	Replace the fuser belt or the pressure roller.	
	4	Is the fuser belt temperature proper?	Check and correct the control circuit.	
Paper	5	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.	
	6	Using recommended paper?	Use the recommended paper.	
Developer material	7	Is the specified developer used?	Use the specified developer and toner.	
Scanner	8	Are the mirrors, original glass or lens dirty?	Clean them.	
Image quality control	9	Is the control activated?	Check the image quality control related codes.	
Density	10	Is the density too high?	Perform the forced performing of Automatic initialization of image quality control (05-396) and then automatic gamma adjustment.	
Printer density	11	Check the density of printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	When defects occur, perform the corresponding troubleshooting procedures.

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25.5.8 Blurred image

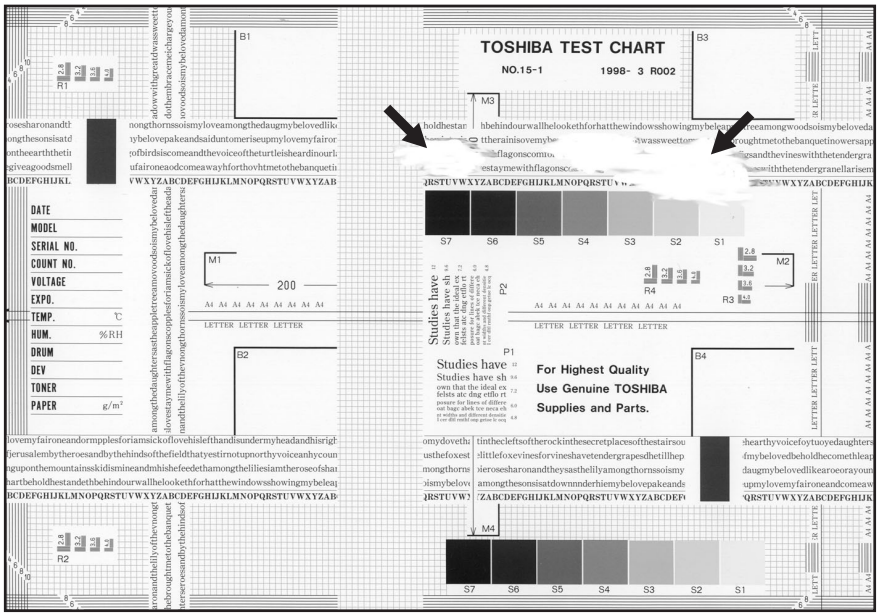

Fig. 25-19

Cause/Section	Step	Check items	Measures
Scanner	1	Is the scanner bedewed?	Clean it.
Drum	2	Is the drum bedewed or dirty?	Wipe the drum with dry cloth. * Be sure never use alcohol or other organic solvents because they have bad effect on the drum.
Ozone exhaust	3	Is the ozone suctioning fan operating properly?	Check the connection of the connector.
	4	Is the ozone filter stained or damaged?	Replace it.

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25.5.9 Poor fusing

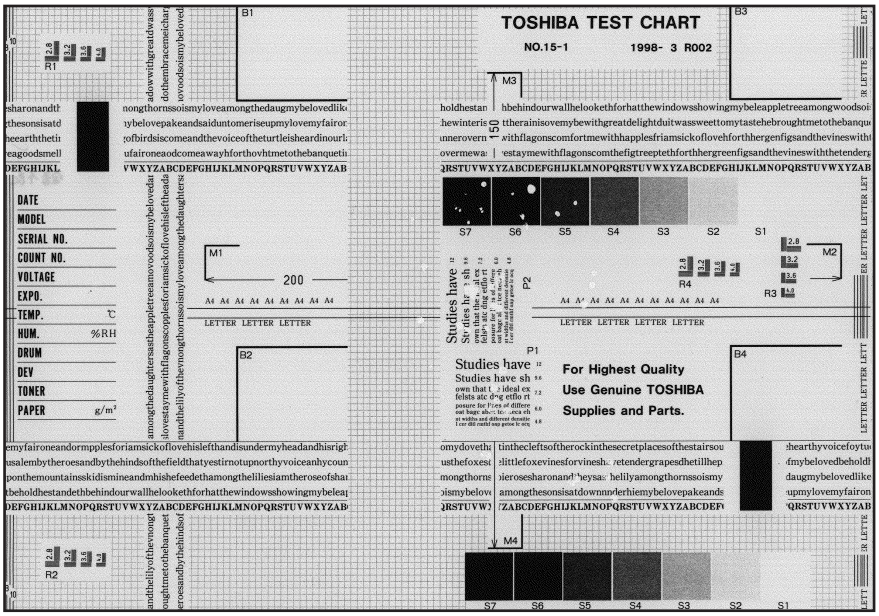

Fig. 25-20

Cause/Section	Step	Check items	Measures
Electric power/ control abnormal	1	Is the connector in proper contact with the equipment?	Correct it.
	2	Is the IH control circuit working properly?	Replace the IH board.
	2	Is the heater lamp control circuit (switching regulator) working properly?	Replace the switching regulator.
	3	Are the connectors on the LGC board and joint connectors connected properly?	Reconnect them.
	4	Is the LGC board normal?	Replace the LGC board.
	5	Is the harness connected with the LGC board short circuited or open circuited?	Replace the harness.
Pressure between fuser belt and pressure roller improper	6	Are the pressure springs working properly?	Check/adjust the pressure springs.
fuser belt temperature	7	Is the temperature of fuser belt too low?	Check/correct the setting value of fuser belt temperature. Clean or replace the thermopiles. Check/correct the related circuit.
Developer material and toner	8	Using the specified developer material and toner?	Use the specified developer material and toner.
Paper	9	Is the paper damp?	Change the paper.
	10	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.
	11	Using the recommended paper?	Use the recommended paper.

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25.5.10 Blank print

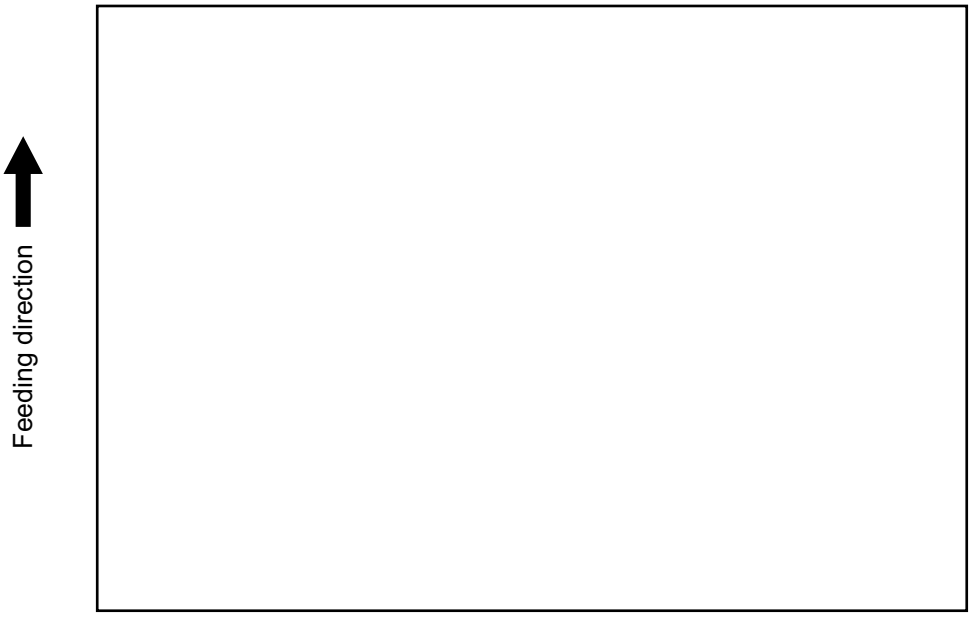

Fig. 25-21

Cause/Section	Step	Check items	Measures
High-voltage transformer (1st/2nd transfer roller and developer bias)	1	Is the high-voltage transformer output defective?	Adjust the output and correct the circuit, or replace the transformer.
	2	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Developer unit	3	Is the developer unit installed securely?	Check/correct the developer sleeve coupling engaging.
	4	Do the developer sleeve and mixer rotate?	Check/correct the developer drive system.
	5	Is the developer unit filled up with the developer material?	Check that the charger grid is not dirty. (The developer material may be reduced due to the carrier offset.)
	6	Is the developer material properly transported?	Remove foreign matter from the developer material, if any.
	7	Is there any magnetic brush phase error?	Check the developer pole position.
	8	Is the doctor sleeve gap incorrect?	Adjust the gap with the doctor-sleeve jig.
Drum	9	Is the drum rotating?	Check that the drum shaft is inserted. Check the drum drive system.
	10	Is the drum grounded?	Check the contact of the grounding plate.
Transfer unit	11	Is the transfer belt in proper contact with the drum?	Check if the contact releasing lever is at releasing position. Check the installation of the transfer belt.
	12	Is the transport of the transfer belt normal?	Check the installation of the transfer belt or transport mechanism.
	13	Is the 2nd transfer roller contacted and released properly?	Check the connection of the connector of 2nd transfer roller contact clutch and open circuit of harness.
switching regulator	14	Is the power supply output (5.1VD) normal?	Replace the switching regulator.
Harnesses for SLG, SYS, LGC and LDR boards	15	Are the connectors securely connected? Is any harness between the boards open circuited?	Reconnect the connectors securely. Replace the harness.

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Cause/Section	Step	Check items	Measures
Laser optical unit	16	Was the protection seal of slit removed when replacing the unit?	Remove the protection seal.

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25.5.11 Solid print

Fig. 25-22

Cause/Section	Step	Check items	Measures
Exposure lamp Inverter	1	Does the exposure lamp light?	Check the contact of the inverter connector. If the inverter does not work, replace it. If the lamp does not work, replace it.
Main charger	2	Is the main charger securely installed?	Reinstall it securely.
	3	Does the needle electrode not come off?	Reinstall it securely.
High-voltage transformer (main charger needle electrode/grid bias)	4	Is the high-voltage transformer output defective?	Adjust the output and correct the circuit, or replace the high-voltage transformer.
	5	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Harnesses for SLG, SYS, IMG and LGC boards	6	Are the connectors securely connected? Is any harness between the boards open circuited? Is the connector between the SYS and IMG boards not disconnected? Is the connector between the LGC and IMG boards not disconnected?	Reconnect the connectors securely. Replace the harness.
Scanner	7	Is there foreign matter in the optical path?	Remove it.
Bedewing of scanner and drum	8	Is the scanner or the drum bedewed?	Clean the mirrors, lens and drum. Keep the power cord plugged so that the damp heater can work.

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25.5.12 White banding or white void (in feeding direction)

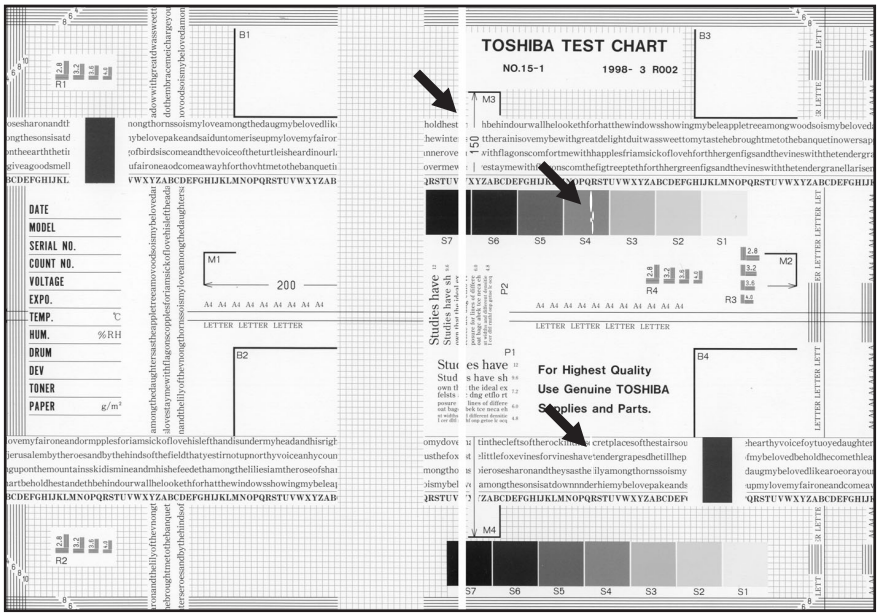

Fig. 25-23

Cause/Section	Step	Check items	Measures
Scanner	1	Is there foreign matter or dust in the optical path?	Clean the lens and mirrors.
Laser optical unit, Main charger grid	2	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Laser optical unit	3	Is there foreign matter or dust on the slit glass?	Remove any dirt or foreign matters. (The slit glass can be cleaned even when the process unit is taken off.)
Developer unit	4	Is there foreign matter inside the developer unit or on the developer sleeve?	Check if there is a white streak in the developer material on the developer sleeve. Scrape off foreign matter around the white streak using a jig.If there is no white streak, put the sheet of paper with a white banding to the developer sleeve, and scrape off the developer material around the white band to see if there is foreign matter in it. Scrape off foreign matter and developer material on the developer sleeve. P.18-28 "18.6.7 Developer unit (K, Y, M, and C)"
Drum	5	Is there foreign matter on the drum seal?	Remove foreign matter.
	6	Do any paper fibers or dirt adhere to the developer unit and contact with the drum?	Remove the paper fibers or dirt.
	7	Is there scratch or foreign matter on the drum surface?	Replace the drum. If there is a convex foreign matter adhering to the drum surface, it indicates that the blade edge at this area is worn out. In this case, replace both the drum and the drum cleaning blade.
Main charger grid	8	Is there foreign matter on the charger grid?	Remove foreign matter.
Discharge LED	9	Has any LED of Discharge LED gone out?	Replace the Discharge LED.

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Cause/Section	Step	Check items	Measures
Transfer unit	10	Is there scratch or foreign matter on the transfer belt surface?	Replace the transfer belt.
	11	Are the harness or foreign matters in contact with the transfer belt surface?	Correct or remove them.
	12	Is there any scratch or hole on the 1st/2nd transfer roller?	Replace the 1st/2nd transfer roller.
	13	Is there any foreign matter on the 2nd transfer facing roller?	Remove foreign matter or clean the roller.
Transport path	14	Does the toner image touch foreign matter after transfer, before entering the fuser unit?	Remove foreign matter.

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25.5.13 White banding (at right angles to feeding direction)

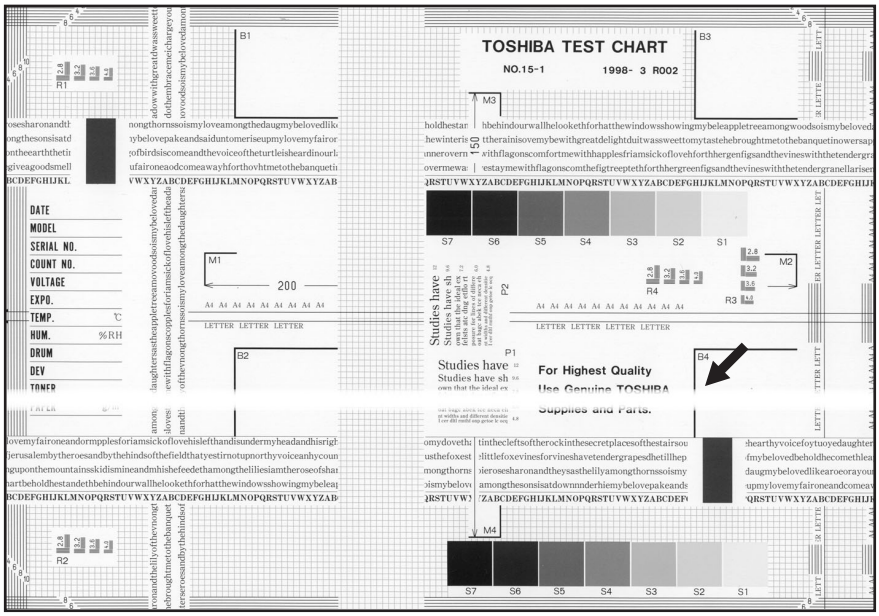

Fig. 25-24

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of Automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Main charger	2	Is there foreign matter on the charger?	Remove foreign matter.
	3	Is the terminal contact poor?	Clean or adjust the terminals.
Drum	4	Is there any abnormalities on the drum surface?	Replace the drum.
	5	Is the drum grounded?	Check the contact of the grounding plate.
Discharge LED	6	Is the Discharge LED lighting properly?	Replace the Discharge LED.
Developer unit	7	Is the developer sleeve rotating correctly? Is there any abnormalities on the sleeve surface?	Check the developer drive system, or clean the sleeve surface.
	8	Is the connection of developer bias supply terminal normal?	Correct it.
Drive systems	9	Is the drum, scanner or transfer belt jittery?	Check each drive system.
High-voltage transformer (main charger needle electrode/grid, 1st/2nd transfer roller and developer bias)	10	Is the high-voltage transformer output defective?	Check/correct any electric leakage and related circuits. If the high-voltage transformer does not work, replace it.

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25.5.14 Skew (slantwise copying)

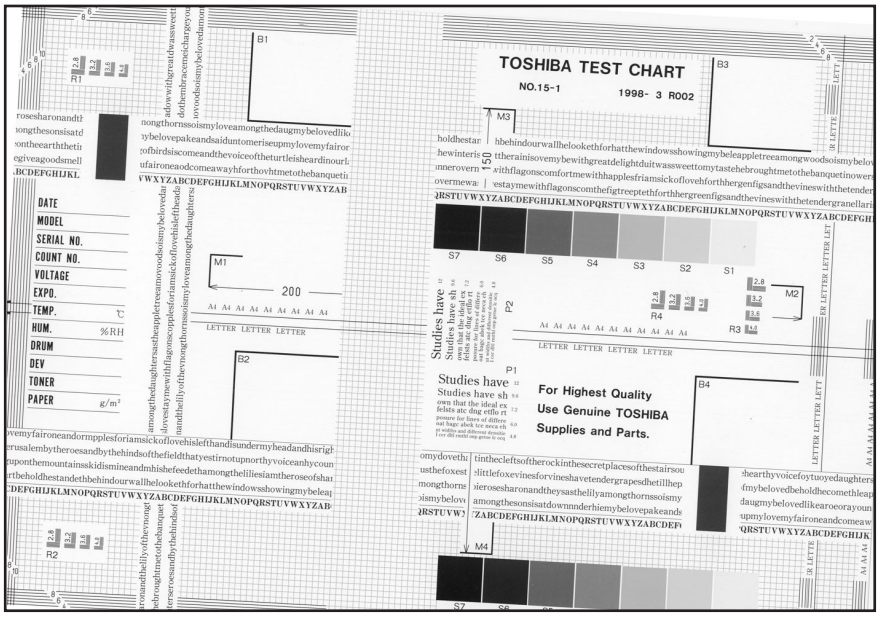

Fig. 25-25

Cause/Section	Step	Check items	Measures
Drawer/LCF	1	Is the drawer or LCF properly installed?	Reinstall the drawer or LCF properly.
	2	Is too much paper loaded in the drawer or LCF?	Reduce paper to 550 sheets or less. (Tandem LCF: feeding side 1200 sheets or less/stack, standby side 1200 sheets or less/stack)
	3	Is the paper corner folded?	Change the paper direction and reinsert it.
	4	Are the drawer or LCF side guides properly set?	Adjust the side guides.
Paper feed roller	5	Is the surface of paper feed roller dirty?	Clean the roller surface with alcohol, or replace the roller.
Rollers	6	Is each roller improperly fixed to the shaft?	Check E-rings, pins and clips.
Aligning amount	7	Is the aligning amount proper?	Increase the aligning amount.
Registration roller	8	Is the registration roller spring removed?	Mount the spring correctly. Clean the roller if it is dirty.
Registration guide	9	Is the registration guide improperly installed?	Correct it.
2nd transfer front guide	10	Is the 2nd transfer front guide installed properly?	Correct it.
RADF	11	Is the RADF installed and adjusted properly?	Reinstall and readjust it.
Transfer unit	12	Is the transfer belt unit installed properly?	Correct it.

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25.5.15 Color banding (in feeding direction)

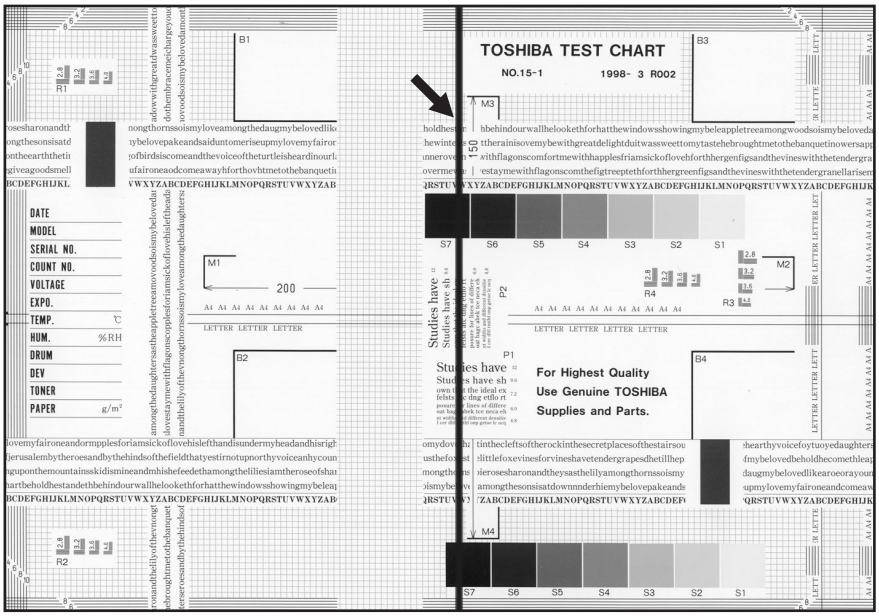

Fig. 25-26

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of Automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Scanner	2	Is there foreign matter in the optical path?	Clean the slit, lens and mirrors.
	3	Is there dust or stain on the shading correction plate or ADF original glass?	Clean it.
Main charger	4	Is there foreign matter on the charger grid?	Remove foreign matter.
	5	Is the charger grid dirty or deformed?	Clean or replace the charger grid.
	6	Is there foreign matter on the main charger?	Remove foreign matter.
	7	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
	8	Is the needle electrode cleaner dirty or deformed?	Clean or replace the needle electrode cleaner.
	9	Is the inner surface of charger case dirty?	Clean inside.
Drum cleaner	10	Is there any foreign matter on the drum cleaning blade edge?	Clean or replace the drum cleaning blade.
	11	Is toner recovery defective?	Clean the toner recovery auger section.
Transfer unit	12	Are the harness or foreign matters in contact with the transfer belt surface?	Correct or remove them.
	13	Is there paper dust on the edge of transfer belt cleaning blade?	Clean or replace the transfer belt cleaning blade.
	14	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Take off the transfer belt and check if the transfer belt cleaning blade pressure spring is installed properly.
	15	Is the paper mode correct for the paper in use?	Set the correct paper mode. If streaks still appear in the correct paper mode, follow step 16.
	16	Is the bias output dependent on the 2nd transfer bias?	Perform the following (*1) adjustment (05 mode).
Fuser unit	17	a. Is there dirt or scratches on the fuser belt and pressure roller surface? b. Is the thermistor dirty?	a. Clean or replace them. b. Clean the thermistor.
Drum	18	Are there scratches on the drum surface?	Replace the drum.

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Cause/Section	Step	Check items	Measures
Laser optical unit	19	Is there foreign matter or dust on the slit glass?	Remove foreign matter or dust.

(*1): Decrease the corresponding 2nd transfer bias output as follows depending on what happened, and check if the residual image has changed and adjust the value accordingly.

- Front side, color mode
  Decrease the value of the code 05-2934-0 to -9 by 1 while you are checking how the streaks have changed.

- Back side, color mode
  Decrease the value of the code 05-2935-0 to -9 by 1 while you are checking how the streaks have changed.

- Front side, black mode
  Decrease the value of the code 05-2936-0 to -9 by 1 while you are checking how the streaks have changed.

- Back side, black mode
  Decrease the value of the code 05-2937-0 to -9 by 1 while you are checking how the streaks have changed.

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25.5.16 Color banding (at right angles to feeding direction)

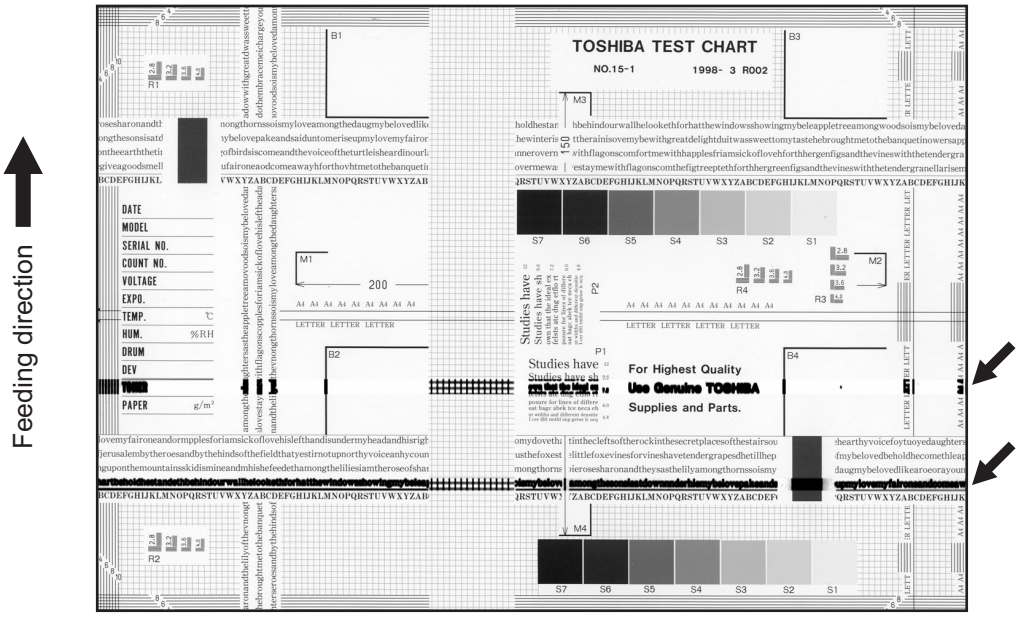

Fig. 25-27

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Main charger	2	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
Fuser unit	3	Is the fuser belt or pressure roller dirty?	Clean them.
High-voltage transformer (main charger needle electrode/grid and transfer roller bias)	4	Is the high-voltage transformer output defective?	Check the circuit and replace the high-voltage transformer if not working.
	5	Is each joint of high-voltage output loosened? (Check if any electric leakage is causing noise.)	Reconnect each joint.
Drum	6	Is there deep scratch on the drum surface?	Replace the drum, especially if the scratch has reached the aluminum base.
	7	Are there fine scratches on the drum surface (drum pitting)?	Check and correct the contact of cleaning blade and recovery blade.
	8	Is the drum grounded?	Check the contact of the grounding plate.
2nd transfer roller	9	Is the 2nd transfer roller rotating normally?	Clean the roller area or replace the roller.
Scanner	10	Is there foreign matter on the carriage rail?	Remove foreign matter.

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25.5.17 White spots

Fig. 25-28

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Developer unit/ Toner cartridge	2	Is the toner density of developer material proper?	Check and correct the auto-toner sensor and toner supply operation. Check if the amount of toner is sufficient in the toner cartridge.
	3	Is the doctor-sleeve gap proper?	Adjust the gap.
Developer material/ Toner/Drum	4	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.
	5	Have the developer material and drum reached their PM life?	Replace the developer material and drum.
	6	Is the storage environment of the toner cartridge 35oC or less without dew?	Use the toner cartridge stored in the environment within specification.
	7	Is there any dent on the surface of the drum?	Replace the drum.
	8	Is there any film forming on the drum?	Clean or replace the drum.
	9	Is the drum bedewed?	Wipe the drum surface with a piece of dry cloth.
Transfer unit	10	Is there any foreign matter or oil on the transfer belt surface?	Remove foreign matter. If there is any oil, clean it off with alcohol.
	11	Is there foreign matter on the transfer belt or 2nd transfer facing roller?	Clean the 2nd transfer facing roller and the transfer belt.
Main charger	12	Is there foreign matter on the charger?	Remove it.
	13	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
High-voltage transformer (main charger needle electrode/grid, developer 1st/2nd transfer roller bias)	14	Is the high-voltage transformer output defective?	Adjust the output.

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Cause/Section	Step	Check items	Measures
Paper	15	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.

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25.5.18 Poor transfer

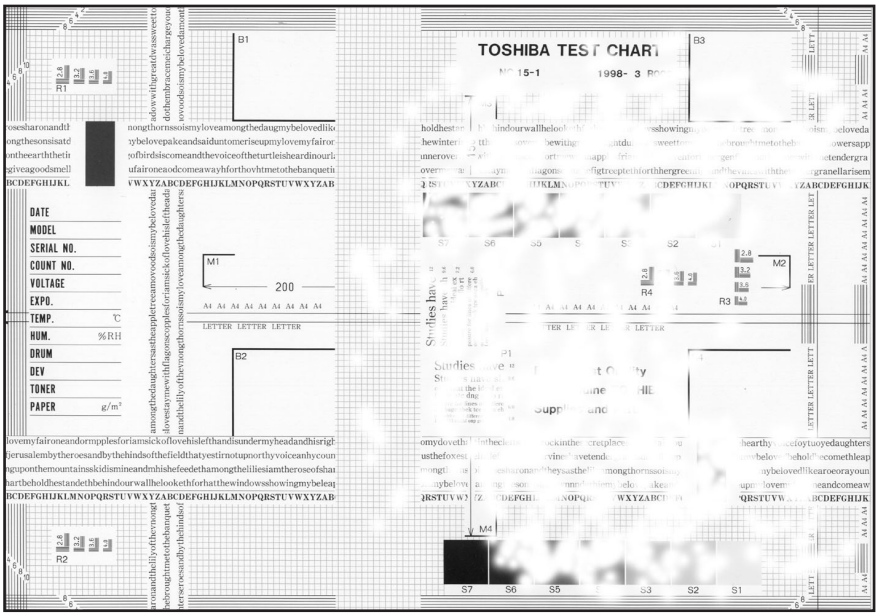

Fig. 25-29

Cause/Section	Step	Check items	Measures
Transfer unit	1	Is the transfer belt or 1st/2nd transfer rollers dirty?	Clean it.
	2	Is the transfer belt in proper contact with the drum?	Correct it.
	3	Is the 2nd transfer roller in proper contact with the transfer belt?	Correct it.
	4	Is there any deformation or abnormalities on the transfer belt?	Replace the belt.
	5	Is the 2nd transfer facing roller dirty?	Clean the 2nd transfer facing roller and the transfer belt. Replace the cleaning pad.
Paper	6	Is the high-voltage fed to the 2nd transfer roller correctly?	If any contact failure occurs in the feeding area (e.g. the conductive bushing and spring come off), correct it.
	7	Is paper in the drawer or LCF curled?	Reinsert paper with reverse side up or change paper.
	8	Is paper in the drawer or LCF damp?	Change paper. * Avoid storing paper in damp place.
Registration roller	9	Is the registration roller malfunctioning?	Clean the roller, remount the spring, or replace defective motor-related parts.
High-voltage transformer (1st/2nd transfer roller bias)	10	Is the high-voltage transformer output defective?	Check the circuit and adjust the transformer output.
	11	Are the high-voltage harness and terminals in proper contact?	Correct them if loosened.

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25.5.19 Uneven image density

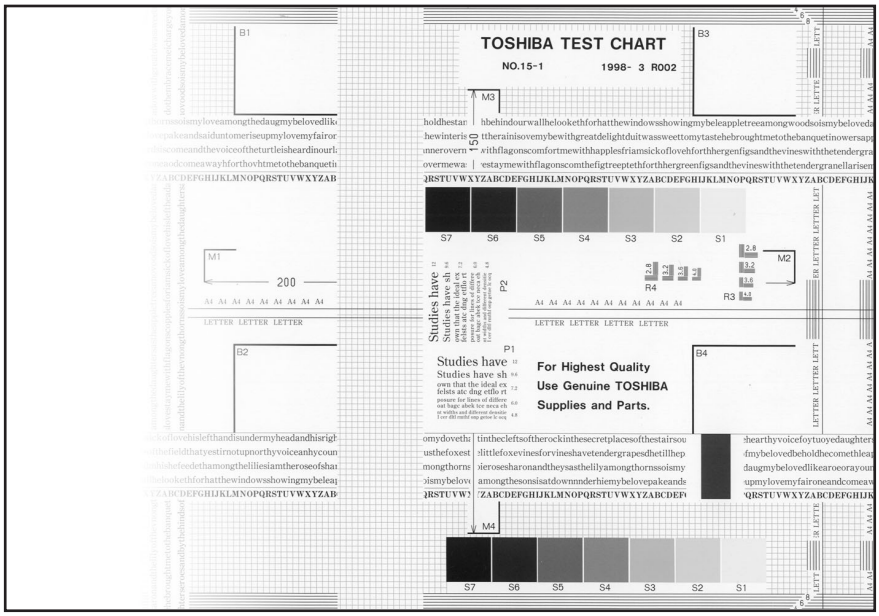

Fig. 25-30

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Main charger	2	Is the main charger dirty?	Clean it or replace the needle electrode.
Transfer unit	3	Is the transfer belt in proper contact with the drum?	Check if the transfer belt is installed properly. Check if the TBU lock lever is in the release position.
	4	Is the transfer belt or 1st/2nd transfer rollers dirty?	Clean the belt.
	5	Is 2nd transfer roller in proper contact with the transfer belt? (Is the roller tilted?)	Correct it.
	6	Is there any abnormalities or deformation on the transfer belt?	Replace the transfer belt.
Laser optical unit	7	Is there foreign matter or dust on the slit glass?	Clean the slit glass.
Discharge LED	8	Is the Discharge LED dirty?	Clean it.
	9	Has any LED of Discharge LED gone out?	Replace it.
Developer unit	10	Is the magnetic brush in proper contact with the drum?	Adjust the doctor-sleeve gap.
	11	Is the developer unit pressure spring applying properly?	Check the pressure spring.
	12	Is the transport of developer material poor?	Remove foreign matter if any.
Scanner section	13	a. Is the RADF open? b. Is the original glass, mirrors, or lens dirty?	a. Close the RADF. b. Clean them.

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25.5.20 Faded image (low density)

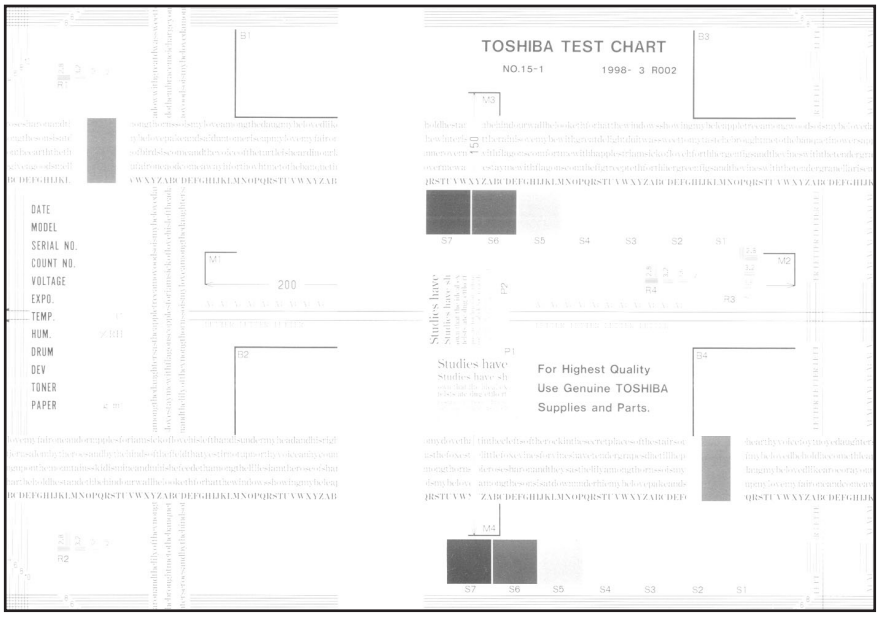

Fig. 25-31

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Toner empty Auto-toner circuit	2	Is the “ADD TONER” symbol blinking?	Replace the toner cartridge.
	3	Is there enough toner in the cartridge?	Check the auto-toner circuit function.
	4	Is the toner density of developer material too low?	
Toner motor	5	Is the toner motor malfunctioning?	Check the motor drive circuit.
Toner cartridge	6	Are there any abnormalities in the toner cartridge?	Replace the toner cartridge.
Developer material	7	Has the developer material reached its PM life?	Replace developer material.
Developer unit	8	Is the magnetic brush in proper contact with the drum?	Check the developer unit installation. Check the doctor-sleeve gap and pole position.
Main charger	9	Is the main charger dirty?	Clean it or replace the needle electrode.
Drum	10	Is there film forming on the drum surface?	Clean or replace the drum.
	11	Has the drum reached its PM life?	Replace the drum.
Transfer unit	12	Is the transfer belt or the 1st transfers roller dirty?	Clean the transfer belt and the 1st transfers roller.
	13	Is the 2nd transfer roller reached its PM life?	Replace the 2nd transfer roller.
High-voltage transformer (developer bias)	14	Is the high-voltage transformer output settings improper?	Adjust the high-voltage transformer output.
	15	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.

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25.5.21 Image dislocation in feeding direction

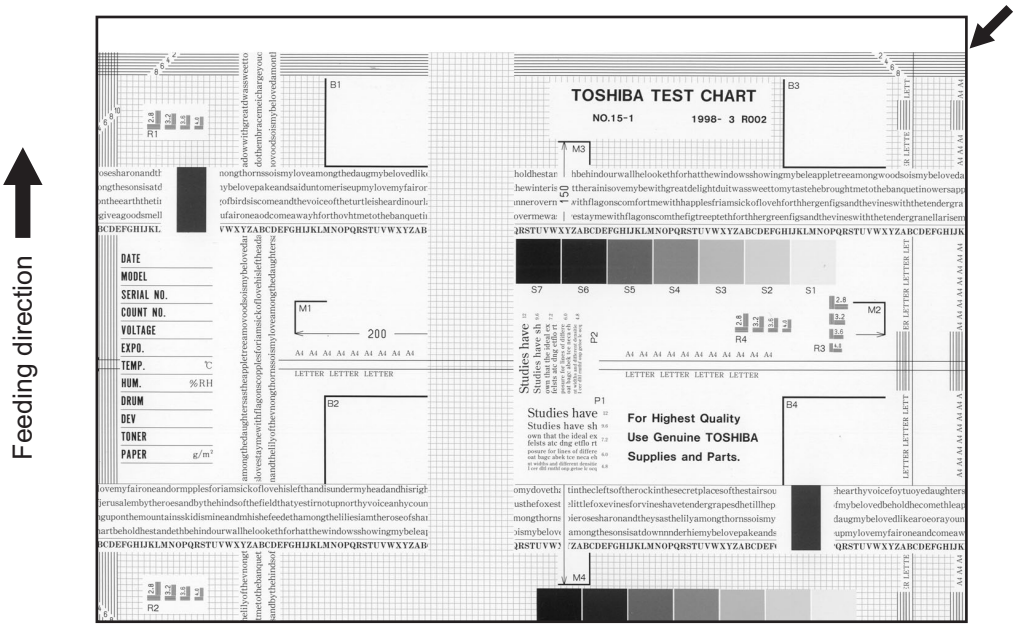

Fig. 25-32

Cause/Section	Step	Check items	Measures
Adjustment error of scanner or printer section	1	Is same dislocation on every copy?	Adjust the scanner/printer using the Adjustment Mode.
Registration roller	2	Is the registration roller dirty, or is the spring removed?	Clean the roller with alcohol. Reinstall the spring.
	3	Is the registration motor malfunctioning?	Adjust or replace the gears, etc. if they are not engaged properly.
	4	Is the registration motor operating normally? (Is the timing of operation delaying?)	Replace the registration motor.
Paper feed clutch, Transport clutch	5	Are the paper feed clutch and transport clutch malfunctioning?	Check the circuit or the clutch and replace them if necessary.
Aligning amount	6	Is the aligning amount proper?	Decrease the aligning amount.
Each roller	7	Are the roller and shaft not fixed securely?	Check the E-ring, pin and clip.
	8	Is the roller surface dirty?	Clean the roller surface with alcohol or replace it.
Registration guide	9	Is the registration guide improperly installed?	Reinstall the guide.

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25.5.22 Image jittering

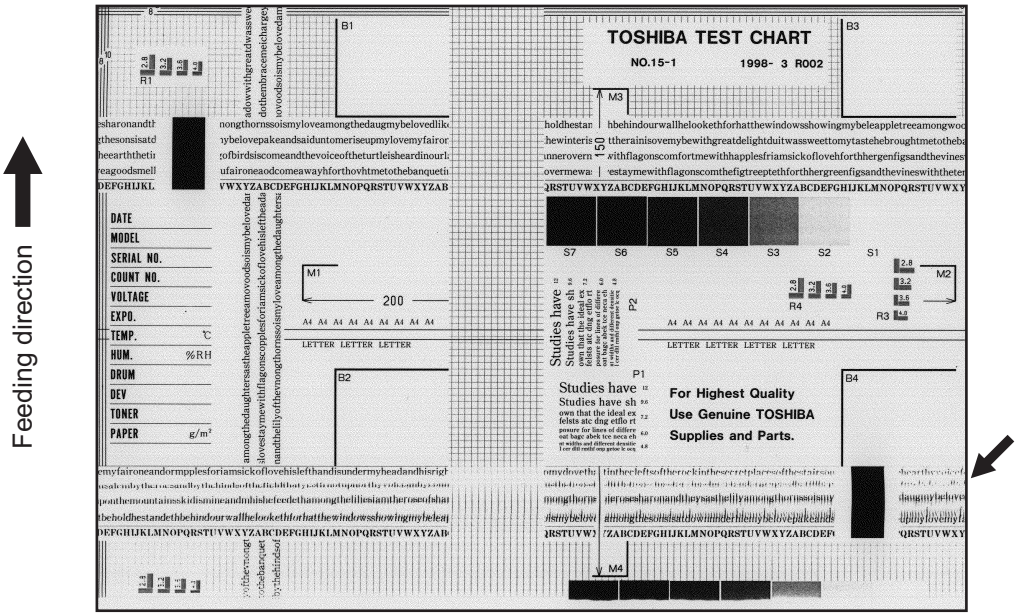

Fig. 25-33

Cause/Section	Step	Check items	Measures
-	1	Is the toner image on the drum proper?	If proper, perform step 1 to 3; otherwise perform step 4 and after.
Registration roller	2	Is the registration roller rotating normally?	Check the registration roller section and its springs.
Transfer unit	3	Is the transfer belt or 2nd transfer roller operating normally?	Check the drive system and replace the transfer belt or 2nd transfer roller if necessary.
Fuser unit	4	Are the fuser belt and pressure roller rotation proper? Is the fuser belt transportation proper?	Check the drive system. Replace the fuser belt, fuser roller and pressure roller if necessary.
Drum	5	Is there large scratch on the drum?	Replace the drum.
Scanner	6	Is the slide sheet defective?	Replace it.
	7	Are there any abnormalities on the carriage feet?	Replace the feet.
	8	Is the tension of timing belt inappropriate?	Correct the tension.
	9	Is the carriage drive system malfunctioning?	Check the carriage drive system.
	10	Are any mirrors loosely installed?	Install them properly.
Drum drive system	11	Is the drum drive system malfunctioning?	Check the drum drive system. Clean or replace the belts, pulleys, bushings if they have dirt or scratches.
Developer unit	12	Is there any abnormality on the driving gear in the developer unit?	Check the driving gear in the developer unit. Replace the driving gear if it is worn out. Remove any developer material from the driving gear, and then reapply grease.

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25.5.23 Poor cleaning

Note:
Poor cleaning may occur in feeding direction.

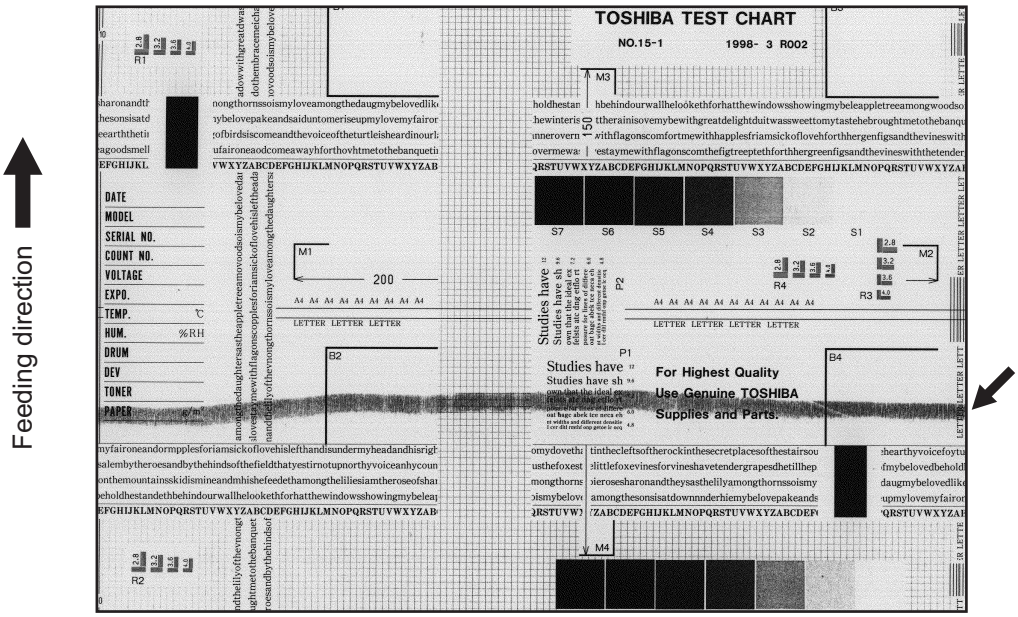

Fig. 25-34

Cause/Section	Step	Check items	Measures
Developer material	1	Is the specified developer material used?	Use the specified developer material and toner.
Drum cleaner	2	Is there dust on the drum cleaning blade edge?	Clean or replace it.
	3	Is the drum cleaning blade peeled?	Replace the blade.
Transfer belt cleaner	4	Is there paper dust on the edge of transfer belt cleaning blade?	Clean or replace it.
	5	Is the transfer belt cleaning blade peeled?	Replace the blade.
	6	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Take off the transfer belt and check if the transfer belt cleaning blade pressure spring is installed properly.
Toner recovery auger	7	Is the toner recovery defective?	Clean the toner recovery auger. Check the cleaning blade pressure.
Fuser unit	8	Is there any bubble-like defect on the fuser belt (approx. 188 mm pitch on the image)?	Replace the fuser belt. Check and modify the heater IH control circuit.
	9	Have the fuser belt and pressure roller reached their PM life?	Replace them.
	10	Is the pressure between the fuser belt and pressure roller proper?	Check and adjust the pressure mechanism.
	11	Is the temperature of fuser belt proper?	Check/correct the setting value of fuser belt temperature. Clean or replace the thermopiles. Check and correct the circuit.

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25.5.24 Uneven light distribution

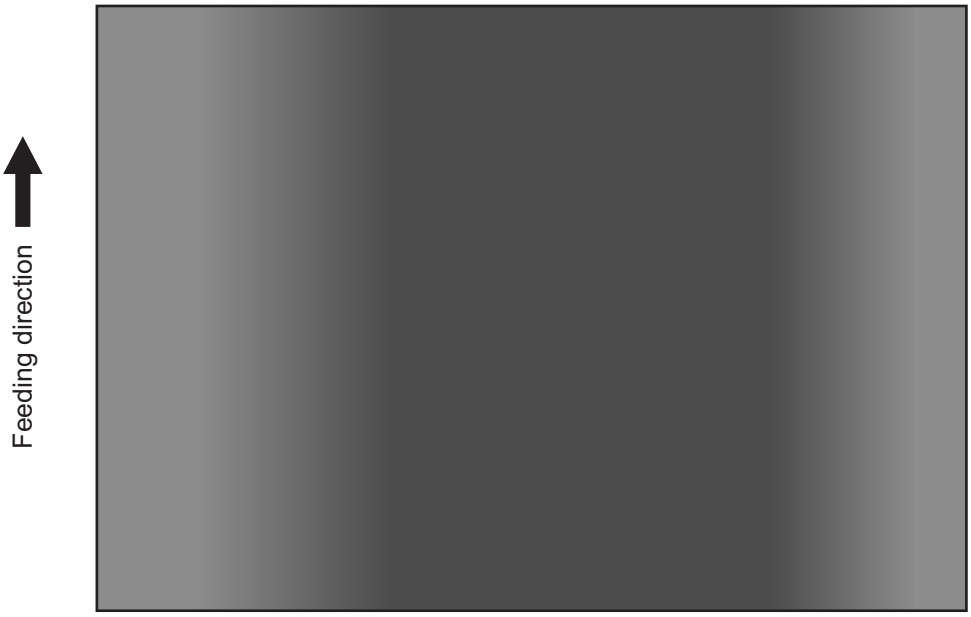

Fig. 25-35

Cause/Section	Step	Check items	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of automatic initialization of image quality control (05-396).	When the enforced performing of image quality closed-loop control is performed, the automatic cleaning of main charger and the LSU slit glass cleaning are performed at the same time.
Original glass	2	Is the original glass dirty?	Clean the glass.
Main charger	3	Are the needle electrode, grid and case dirty?	Clean or replace them.
Discharge LED	4	Is the Discharge LED dirty?	Clean it.
Scanner	5	Are the reflector, exposure lamp, mirrors, lens, etc. dirty?	Clean them.
Exposure lamp	6	Is the exposure lamp tilted?	Adjust the installed position of the lamp.
	7	Is the lamp discolored or degraded?	Replace it.
Process unit	8	Is the laser beam interrupted by a foreign material adhering to the doctor blade area of the developer unit or the charger case of the main charger?	Remove the foreign material.

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25.5.25 Blotched image

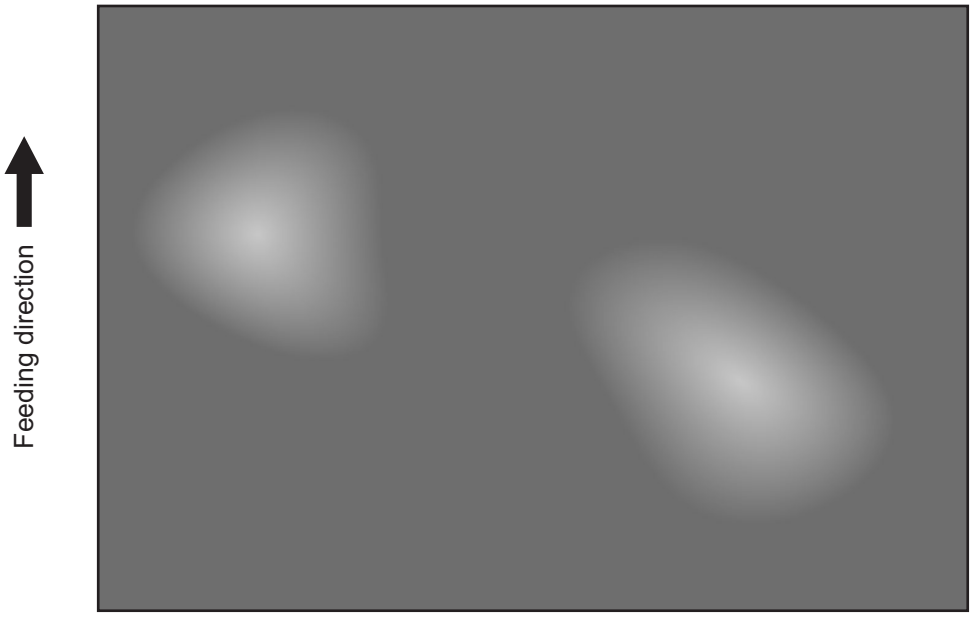

Fig. 25-36

Cause/Section	Step	Check items	Measures
Paper	1	Is the paper type corresponding to its mode?	Check the paper type and mode.
	2	Is paper too dry?	Change paper.
Transfer unit	3	Is the transfer belt in proper contact with the drum?	Correct it.
	4	Is the 2nd transfer roller in proper contact with the transfer belt?	Correct it.
	5	Are there any abnormalities on the transfer belt?	Clean or replace the transfer belt.
High-voltage transformer (1st/2nd transfer roller bias)	6	Is the high-voltage transformer output abnormal?	Adjust the output. Replace the transformer, if necessary.

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25.5.26 Stain on the paper back side

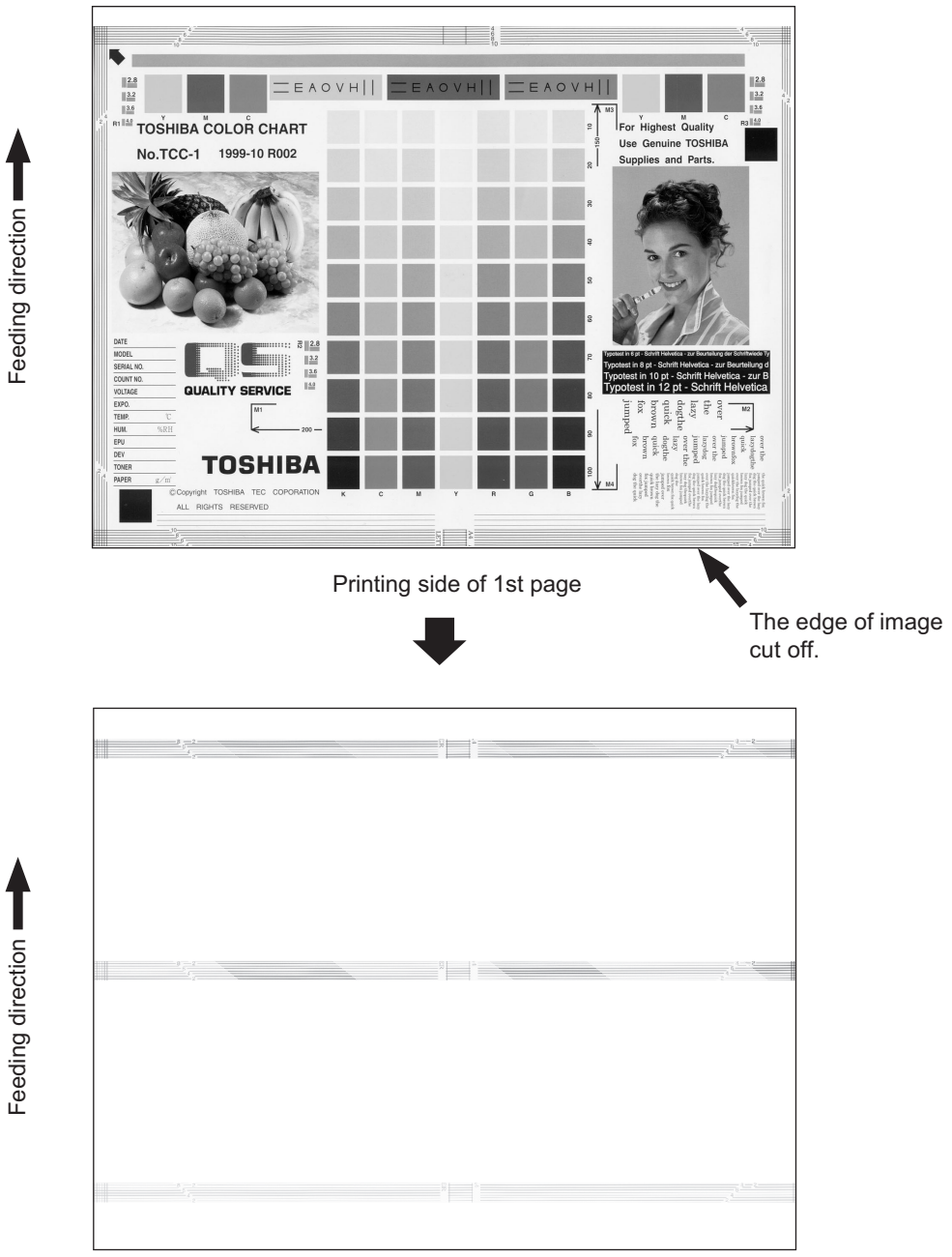

Fig. 25-37

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Cause/Section	Step	Check items	Measures
Image adjustment/ setting	1	Is the margin adjustment of image correct?	Adjust the margin.
	2	Is the margin adjustment of image correct when the paper size is not selected in bypass feeding?	Adjust the margin.
	3	Is the margin adjustment of image at duplexing correct?	Adjust the margin. (05-434)
	4	Is the image location in primary/ secondary scanning direction correct?	Adjust the location.
	5	Is the reproduction ratio of image in primary/secondary scanning direction correct?	Adjust the reproduction ratio.
	6	Is the tab setting correct?	Correct the setting.
Paper feeding / Transport area	7	Does the size of paper in the drawer or LCF correspond to the setting?	Use the appropriate paper size or correct the size setting.
	8	Is the width between the slides in the drawer correct (too wide)?	Correct the position of the slides.
	9	Is the width between the slides of the bypass tray correct (too wide)?	Correct the width.
	10	Is the sideways deviation adjustment for drawers or slides of the bypass tray correct?	Adjust the deviation.
	11	Is the paper aligning amount sufficient?	Adjust the aligning amount.
	12	Are the feed roller and transport roller dirty or worn out?	Clean or replace the rollers.
	13	Does the paper mode correspond to the paper type?	Use the appropriate paper type or paper mode.
	14	Using the recommended paper?	Use the recommended paper.
Transfer unit	15	Is there any stain caused by a poor cleaning, etc. on the transfer belt?	Clean the transfer belt.
	16	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Take off the transfer belt and check if the transfer belt cleaning blade pressure spring is installed properly.
	17	Is the 2nd transfer roller rotating properly?	Clean the area around the roller. Otherwise replace the roller.
	18	Is there any foreign matter or stain on the 2nd transfer roller?	Clean or replace the roller.
	19	Has the 2nd transfer roller reached to its PM life?	Replace the 2nd transfer roller.
2nd transfer unit	20	Is there any staining caused by poor cleaning, etc. on the 2nd transfer roller?	Clean the 2nd transfer roller.
	21	Is the 2nd transfer roller cleaning blade in proper contact with the 2nd transfer roller?	Check if the 2nd transfer roller cleaning blade is properly installed.
	22	Has the 2nd transfer roller or the 2nd transfer roller cleaning blade reached the end of its PM life?	Replace the 2nd transfer roller or the 2nd transfer roller cleaning blade.
Fuser unit	23	Are the fuser belt, pressure roller, separation plate, separation fingers and edge thermistor dirty? To check the separation plate, take it off and check its front and back sides. Check the gap between the separation plate and the fuser belt.	Clean the fuser belt, pressure roller, separation plate, separation fingers and edge thermistor. If the separation plate has been taken off, check the gap between the separation plate and the fuser belt. Then adjust the gap. P.14-75 "14.7.4 Gap adjustment for separation plate"
	24	Is the rib of transport guide dirty?	Clean the rib.

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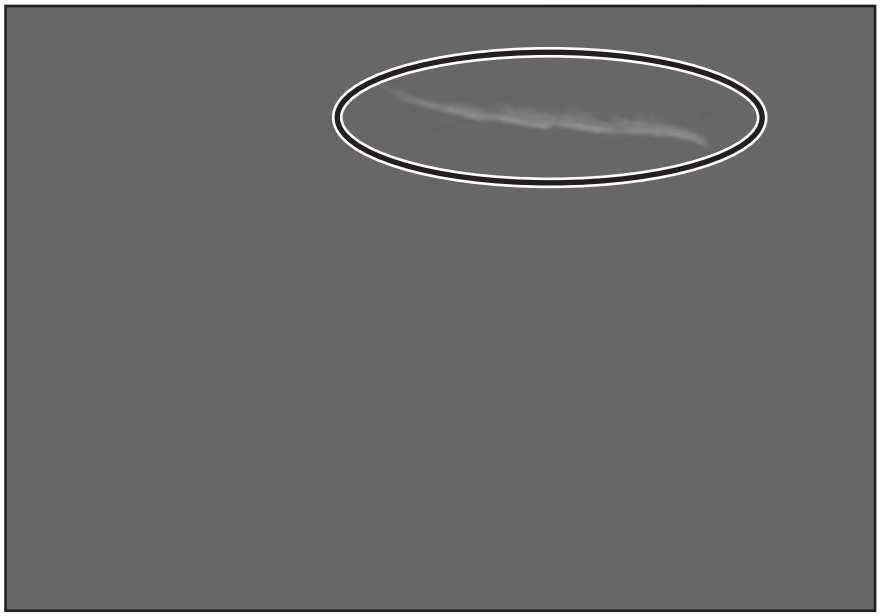
25.5.27 White void in the halftone



Feeding direction

Fig. 25-38

Cause/Section	Step	Check items	Measures
Fuser unit	1	Installed position of the fuser unit	

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25.5.28 Paper wrinkle

There are 2 locations where the paper wrinkle occurs: before the fusing stage and in the fuser unit
See below to determine the case.

Smooth out the wrinkled paper. When there is no image in the wrinkled area
→See (1) “Paper wrinkle before fusing”.

Smooth out the wrinkled paper. When there is a copied image in the wrinkled area
→See (2) “Paper wrinkle in the fuser unit”.

(1) Paper wrinkle before fusing

Is paper properly set?
| NO → Set paper properly.
↓
YES
Is there any abnormality such as scratch or wear on the transport roller?
| YES → Replace the transport roller.
↓
NO
Is flexible paper such as recycled paper used?
| YES → Switch to the recycled paper mode.
| (Select “RECYCLED PAPER” in MEDIA TYPE.)
↓ If the paper wrinkle still appears, proceed to NO.
NO

1. Increase the adjustment value for the paper alignment.
   (See 3.6.2 “Paper alignment at the registration roller”)
2. Increase the transport motor speed. (Adjust it at the code 05-489.)

(2) Paper wrinkle in the fuser unit

Is the paper properly set?
| NO → Set the paper properly.
↓
YES
Has the paper absorbed moisture?
| YES → Use paper that has not absorbed moisture.
↓
NO
Is flexible paper such as recycled paper used?
| YES → Switch to the recycled paper mode.
| (Select “RECYCLED PAPER” in MEDIA TYPE.)
↓ If the paper wrinkle still appears, proceed to NO.
NO

1. Adjust the inlet guide of the fuser unit and check if the paper wrinkle disappears. (Fig. 5-28)

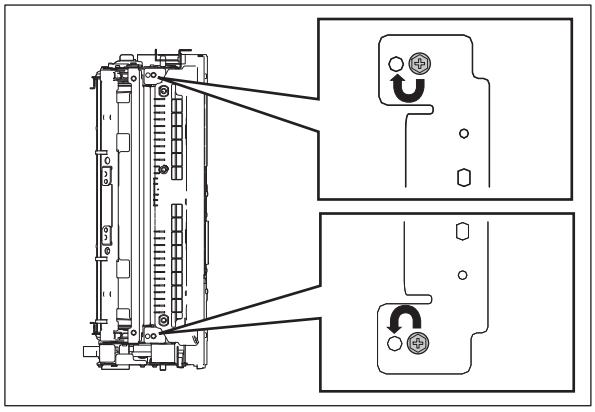

Fig. 25-39

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25.5.29 Residual image

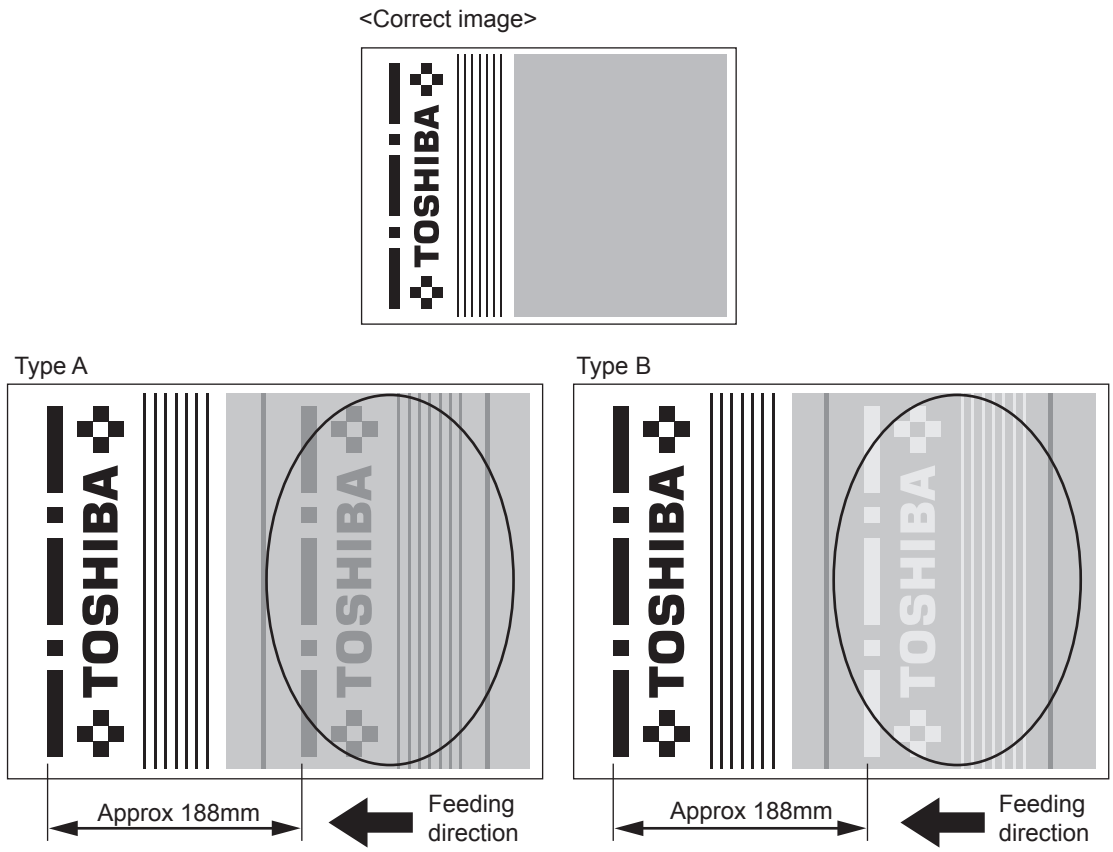

Fig. 25-40

2 types (A and B) of residual images are identified. The common phenomenon is an image fused on the photoconductive drum one round before appears faintly on the halftone part of the next image.

Cause/Section	Step	Check items	Measures
Main charger	1	Is the connector of each discharge LED securely connected?	Reconnect it securely.
	2	Is any of the discharge LED dirty?	Clean it.
Drum	3	Has any of the drums reached its PM life?	Replace it.
Transfer belt unit (mainly the cause of type B)	4	Is the transfer belt unit properly installed?	Check and reinstall it properly.
	5	Is the transfer belt contacting with the drum properly?	Check if the transfer belt is at the releasing position Check if there is any damage to the bracket of the 1st transfer roller.
	6	Is the power supply spring on the rear side of the transfer belt unit deformed?	Correct it.
	7	Is the bias output dependent on the 1st transfer bias?	Refer to the explanation below.*

* Decrease the corresponding 1st transfer bias output as follows according to the phenomena which occurred, and check if the residual image has changed and adjust the value accordingly.

- Plain paper and black

If the model is the e-STUDIO6530C, decrease the value of the code 05-2905-12 by 1 while you are checking how the residual image has changed.
If the model is the e-STUDIO5520C or 6520C, decrease the value of the code 05-2905-5 by 1 while you are checking how the residual image has changed.

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- Plain paper and color

Decrease all the values of the code 05-2905-0 to -4 by 1 while you are checking how the residual image has changed.

- Thick paper 1, 2, 3, 4 and black

Decrease the value of the code 05-2905-11 by 1 while you are checking how the residual image has changed.

- Thick paper 1, 2 and color

Decrease all the values of the code 05-2905-6 to -10 by 1 while you are checking how the residual image has changed.

- Thick paper 3, 4 OR special paper, OHP and color

Decrease all the values of the code 05-2905-13 to -17 by 1 while you are checking how the residual image has changed.

- Special paper, OHP / black

Decrease the value of the code 05-2905-18 by 1 while you are checking how the residual image has changed.

Notes:

1. If the cause is the dependency on the 1st transfer bias, the residual image gradually disappears as you decrease the value of the sub-code of this code.
2. However, the solid part of the image may become light or an uneven grain may appear on the image if the value is too small. Check the image carefully and set the value at the point that all the factors of the image are balanced.

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25.5.30 Feathered image

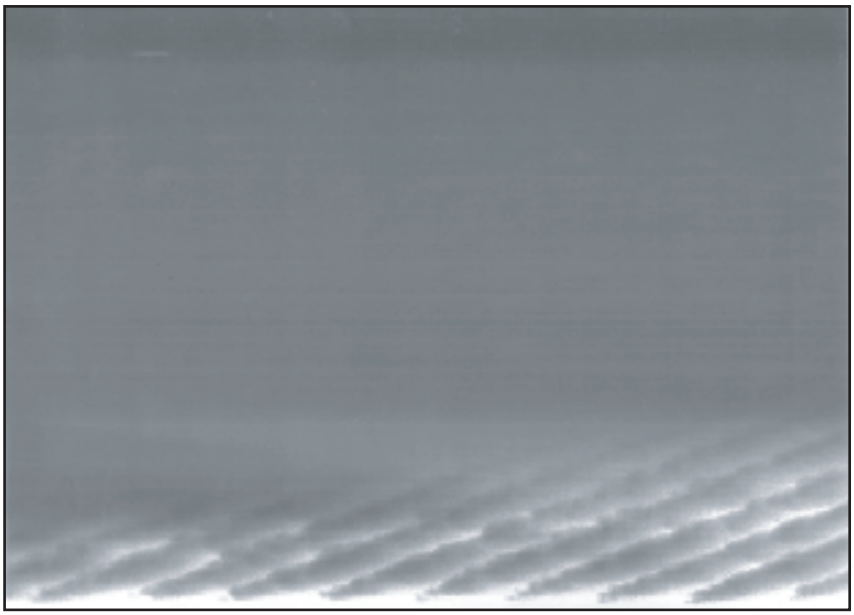

Fig. 25-41

1) Confirmation
This phenomenon may occur when 10 K sheets of paper with a low printing ratio (lower than 3%) are being printed continuously in the 2-sheet intermittent mode.
When the image shown above appeared, the developer material in the developer unit is probably decreasing. In this case, pull out the process unit and then take out the drum cleaner unit of the same color as the image. Then visually check the developer sleeve in the developer unit of the corresponding color if the layer of the developer material is formed evenly over the roller. If the layer of the developer material on the area corresponding to the feathered image is thinner than that on the other areas or totally lacking, replace the developer material.
However, the replacement of the developer material must be performed at the very end. Proceed to "2) Investigating the cause / taking measures".

Lack of developer material layer on developer sleeve (rear side)	**The developer material has greatly decreased. Most of the surface of the mixer shaft is exposed.**
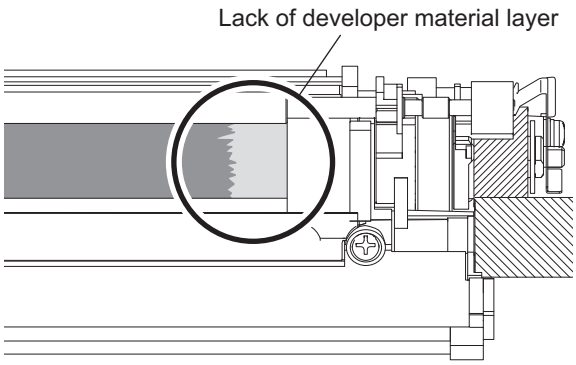	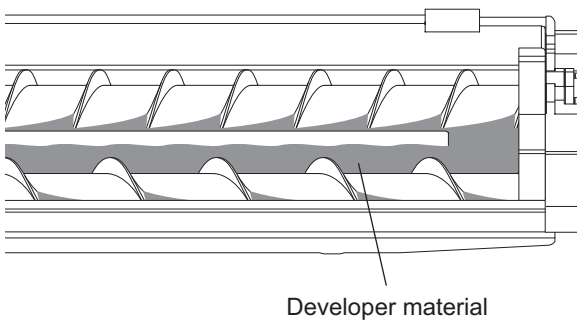
Fig. 25-42	**Fig. 25-43**

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2) Investigating cause / taking measures

Cause/Section	Step	Check items	Measures
Equipment installation	1	Check if the equipment is leaning to the right side using a level. *1	Reinstall the equipment horizontally.
Main charger	2	Are the needle electrode, grid and case dirty?	Clean or replace them.
Discharge LED	3	Is the discharge LED lit properly?	Replace the discharge LED.
Main pole position	4	If no abnormalities are found in the 3 items above, the main pole position may deviate from the specified range or the toner density may be controlled to be lower than the specified range. (Checking impossible) *2	Correct the main (separation) pole position. *3
Developer material	5	Is the layer of the developer material on the developer sleeve thin or lacking?	Replace the developer material.

* 1 How to install the equipment horizontally
Repeat steps 72 and 73 in the unpacking instructions (shown below) to confirm that the equipment is horizontally installed.

* 2 The toner density is reset to the normal controlling level by replacing the developer material as the last step. Therefore the only measure to be taken in this step is the correction of the main (separation) pole position.

* 3 How to correct the main (separation) pole position of the developer sleeve
Turn the pole position adjustment plate of the developer unit counterclockwise by 1 scale.
If the plate is adjusted to the end, turn it counterclockwise by the amount equivalent to 1 scale.
(Do not turn it more than 1 scale.)

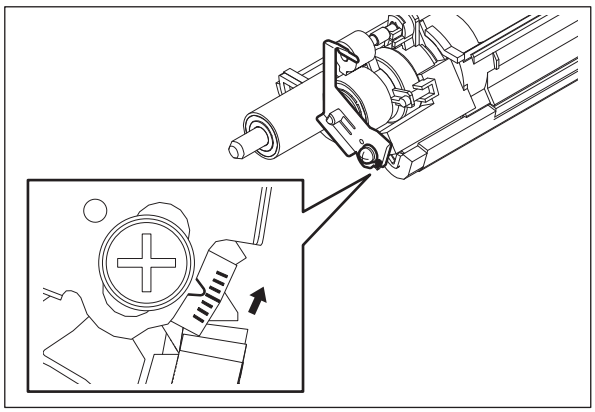

Fig. 25-44

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25.5.31 Low density image (rear side)

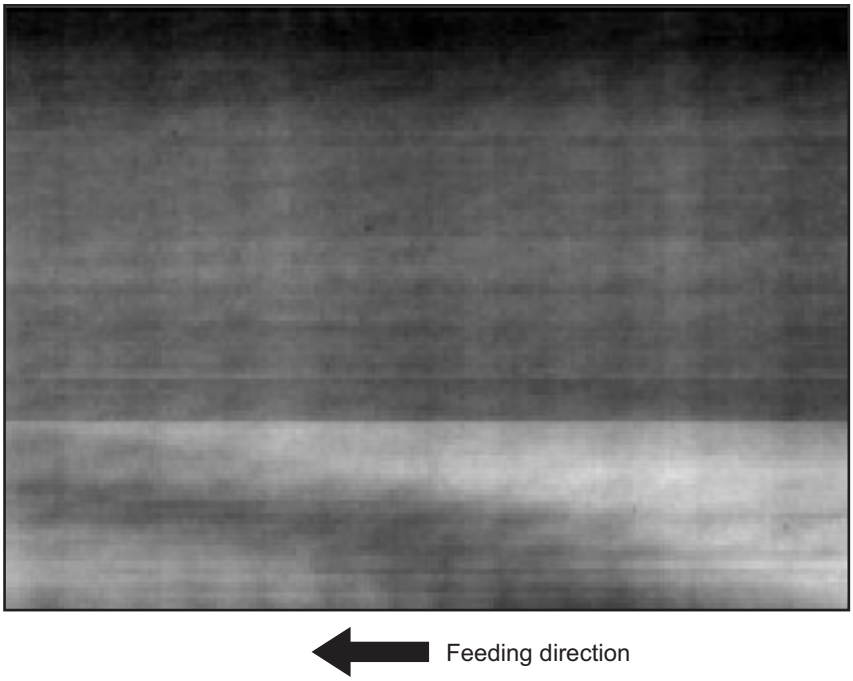

Fig. 25-45

1) Confirmation
This phenomenon may occur when a large amount (10 K sheets or more) paper with a high printing ratio (85% or higher) are being printed continuously.
When the image shown above appeared (the image area approx. 5 cm from the rear end is light or light diagonal lines appear over the entire image), the developer material in the developer unit may greatly increase. In this case, take out the developer unit of the same color as the image and then take off the developer upper unit to check the amount of the developer material on the transport section under the developer sleeve. If the amount of the developer material is extremely large, scoop up the developer material with a sheet of paper or similar until the amount becomes proper.
After checking the amount, investigate the following:

If the developer material has greatly increased (rear side)	The amount of the developer material is proper (rear side)
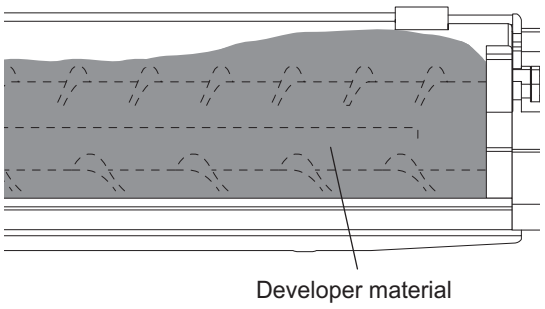	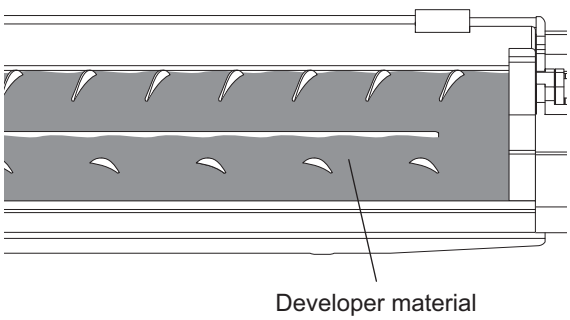
Fig. 25-46	**Fig. 25-47**

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2) Investigating cause / taking measures

Cause/Section	Step	Check items	Measures
Equipment installation	1	Check if the equipment is leaning to the right side using a level. *1	Reinstall the equipment horizontally. *1
Developer unit	2	Check if the developer material has accumulated on the sloping section outside of the discharging outlet. Check if the scraper on it is operating properly. *2	Reinstall the scraper properly. Replace it if it is deformed or damaged.
Toner density	3	If no abnormalities are found in the items above, the toner density may be controlled to be higher than the specified range. (Checking impossible)	Correct the target toner density. *3

* 1 How to install the equipment horizontally

Repeat steps 72 and 73 in the unpacking instructions (shown below) to confirm that the equipment is horizontally installed.

25

* 2 How to confirm the installation position or operation of the scraper

Check if the scraper is installed so that tit passes through the hole as shown in the figure.

Check if the coupling of the mixer is turned in the direction of the arrow in the figure.

Note:

Never turn the coupling in the opposite direction because the scraper will be damaged.

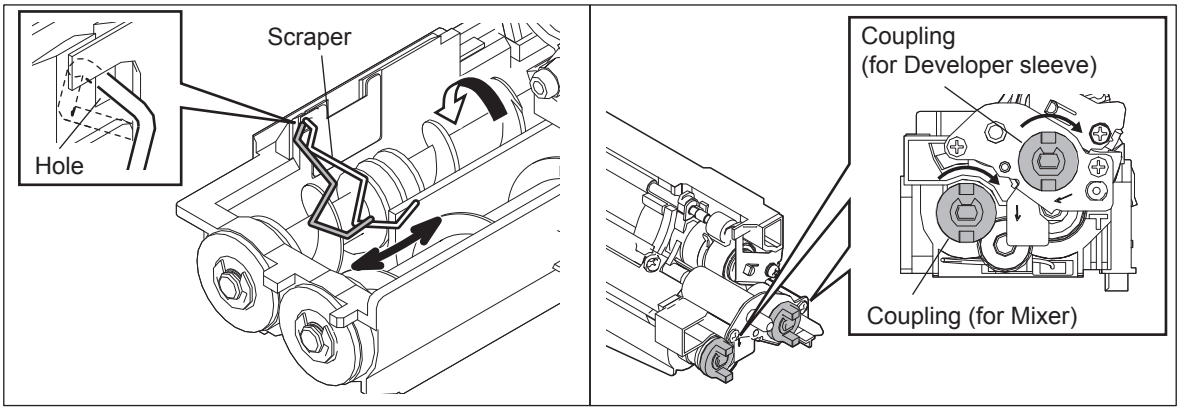

Fig. 25-48

* 3 How to correct the target toner density

1. Turn the power of this equipment ON while pressing [0] and [8] simultaneously. Then perform code 2707.
2. Key in the subcode for the subject color (Y: 0, M: 1, C: 2, K: 3).
3. Change the default setting value from "0" to "6".
4. Turn the power of this equipment ON while pressing [0] and [4] simultaneously. Then perform code 220 and print 10 sheets.
5. Turn the power of this equipment ON while pressing [0] and [5] simultaneously. Then perform code 396.
6. Check the image.

Note:

If auto-toner sensor adjustment must be performed after the replacement of the developer material, reset the subcode of the corresponding color of the code 08-2707 to "0".

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25.5.32 Black banding in feeding direction

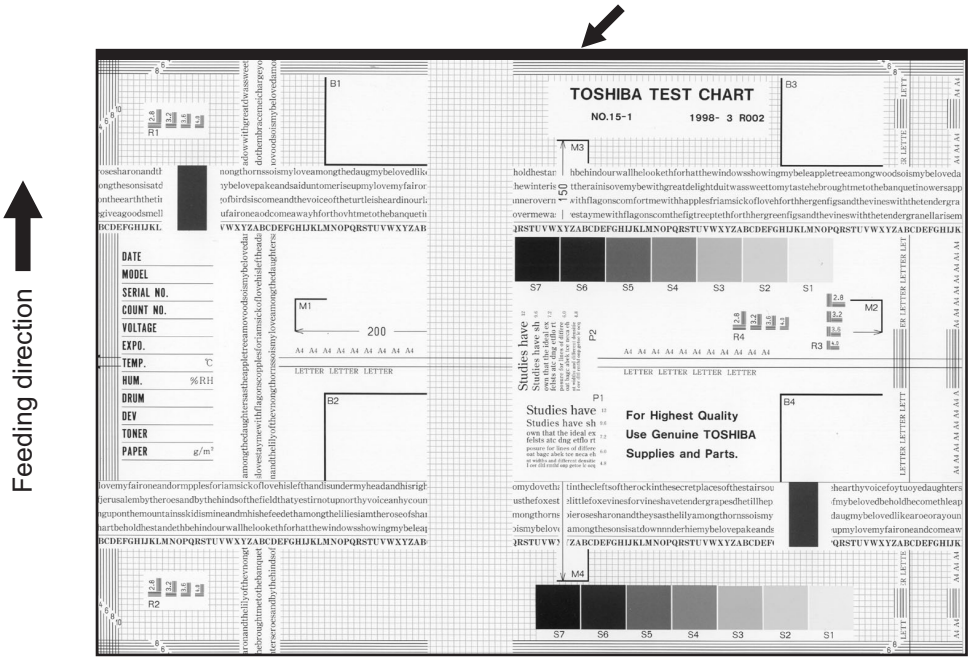

Fig. 25-49

Cause/Section	Step	Check items	Measures
Scanner	1	Amount of surrounding void (network scanning)	Perform 05-7489 and adjust the amount of surrounding void for network scanning.

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26. REMOTE SERVICE

There are following functions as Remote Service.

1. Auto Supply Order
   Automatically orders the toner and waste toner box by FAX or E-mail.
2. Service Notification
   Notifies the status of the equipment to the service technician by E-mail or FAX.

26.1 Auto Supply Order

26.1.1 Outline

Automatically orders the toner and waste toner box.

(1) Placing an Order
There are two ways to place an order.

- FAX
  Installation of the FAX board is required.
  If the FAX board has not been installed, it is regarded as OFF setting.
- E-mail (E-mail body + TIFF image)

(2) Order Intervals
When the toner empty occurs, the number of occurrences is counted. And when it reaches the specified number for CONDITION, the order is placed automatically.
With regard to the waste toner box, it is done according to the number of the waste toner box full detection.
The number of the CONDITION can be set respectively for the toner and waste toner box.

(3) If Order Failure Occurs
If some problems occur and the order cannot be placed after registering an order as a job, refer to the standard countermeasure for the FAX/E-mail transmission failure.

26.1.2 Setting Item

To enable Auto Supply Order, the following settings are required.

Note:
When selecting E-mail to place an order, it is required that sending and receiving E-mails are available. Confirm the details to the administrator.

(1) Self-diagnosis (08) Setting
As the default setting, the Auto Supply Order setting screen is not displayed on the touch panel. To display it, switching the Valid/Invalid setting (08-765) is required.
0: Valid (FAX/Internet FAX)
1: Valid (FAX/Internet FAX/HTTP)*
2: Invalid (Default)
When changing the setting value from “2” (default) to “0”, the Auto Supply Order setting screen is displayed. (* HTTP has not been supported yet.)

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(2) Touch Panel Setting
Each item is set from the Auto Supply Order screen on the touch panel.

Entering the password and customer information is required because the setting is made from the ADMIN screen. Setting it with the administrator is a must.

- Basic setting
[ADMIN] > [SERVICE] > [SUPPLY ORDER SETUP] > [ORDER INFORMATION]

AUTO SUPPLY ORDER	Ordered by: [FAX], [MAIL], [HTTP] (*1)
FAX NUMBER	FAX number of supplier (*2)
E-MAIL	E-mail address of supplier (*3)
CUSTOMER	Customer information
NAME	
TEL NUMBER	
E-MAIL	
ADDRESS	
SUPPLIER	Supplier information
NAME	
ADDRESS	
SERVICE TECNICIAN	Service technician information
NUMBER	
NAME	
TEL NUMBER	
E-MAIL	

*1 HTTP has not been supported yet.
*2 Even when “FAX” is selected, the order is not placed without entering the FAX number.
*3 Even when “MAIL” is selected, the order is not placed without entering the E-mail address.

- Detailed setting for the order
[ADMIN] > [SERVICE] > [SUPPLY ORDER SETUP] > [TONER ORDERING]

***** TONER ORDER	Order information (TONER /USED TONER CONTAINER)
PART NUMBER	Part number to be ordered
CONDITIOIN	The number of conditions (*)
QUANTITY	The quantity to be ordered
AUTO ORDER	ON/OFF setting of order for each part

* The order is placed when the number of replacement reaches the number specified for the CONDITION.

- FAX number of this equipment (common information)
[ADMIN] > [FAX] > [TERMINAL ID]

ID NAME	ID name of this equipment
FAX NUMBER	FAX number of this equipment

- E-mail information of this equipment (common information)
[ADMIN] > [E-MAIL]

FROM ADDRESS	E-mail address of this equipment (*)
FROM NAME	E-mail username of this equipment

* When sending an E-mail, validity of the address is checked. If the address is invalid, it is not sent.

(3) Output of setting list of the Auto Supply Order Keying in the following buttons and keys prints the setting list.
[USER FUNCTIONS] [USER] [LISTS] [*] [#] [*] [*] [3] [8] [START]

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26.1.3 Setting procedure

(1) Start up the self-diagnosis setting mode 08-765, and then change the setting value to “0”.

(2) Turn the power OFF, and then ON.

(3) Press the [USER FUNCTIONS] button to enter the user function screen.

(4) Press the [ADMIN] button.
- When the Administrator Password has been set, ADMINISTRATOR PASSWORD screen is displayed.

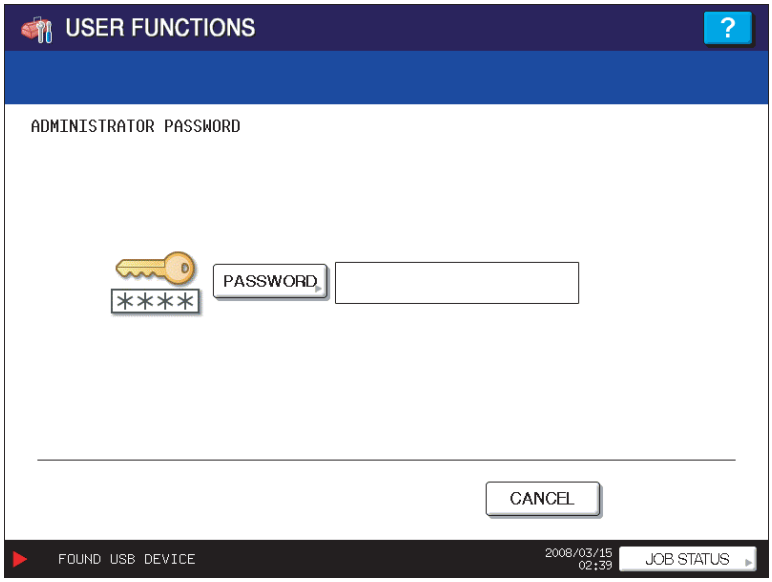

Fig. 26-1

(5) Press the [PASSWORD] button and the screen is switched to a full keyboard. Then key in the Administrator Password and press the [OK] button.
* Confirm the password to the administrator.

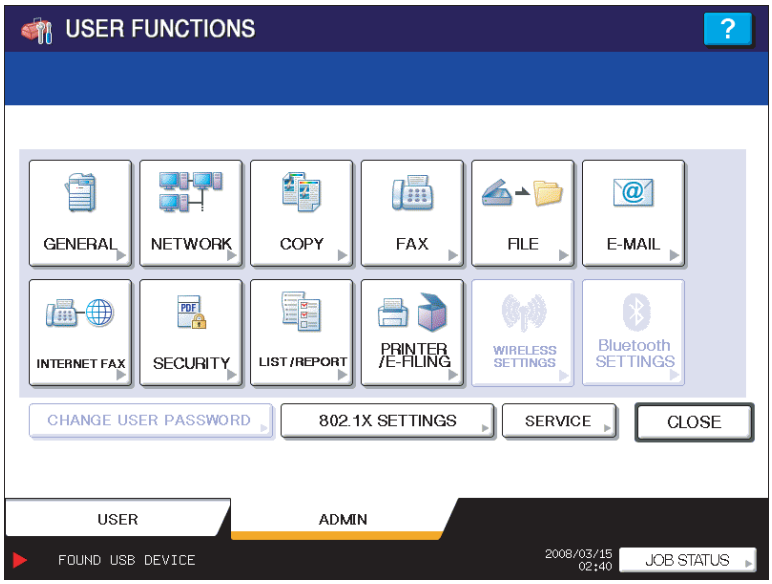

Fig. 26-2

(6) Press the [SERVICE] button in the ADMIN screen.

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(7) The SERVICE screen is displayed.

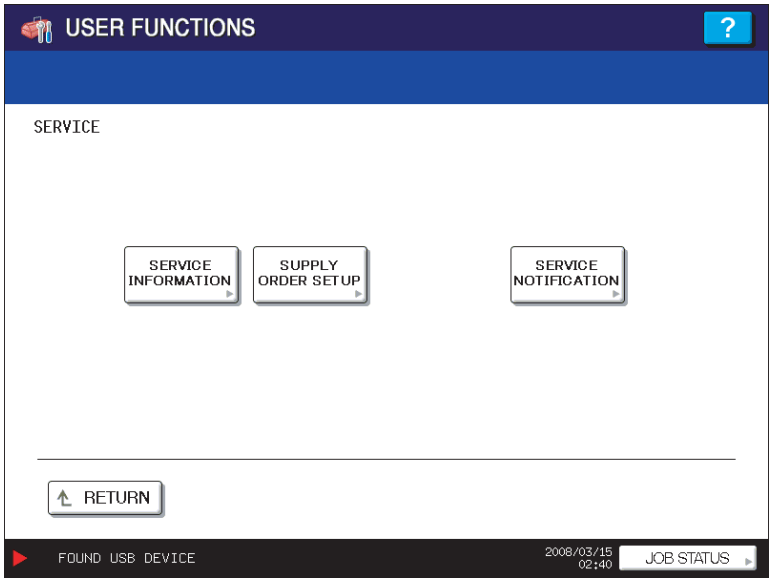

Fig. 26-3

(8) Press the [SUPPLY ORDER SETUP] button.

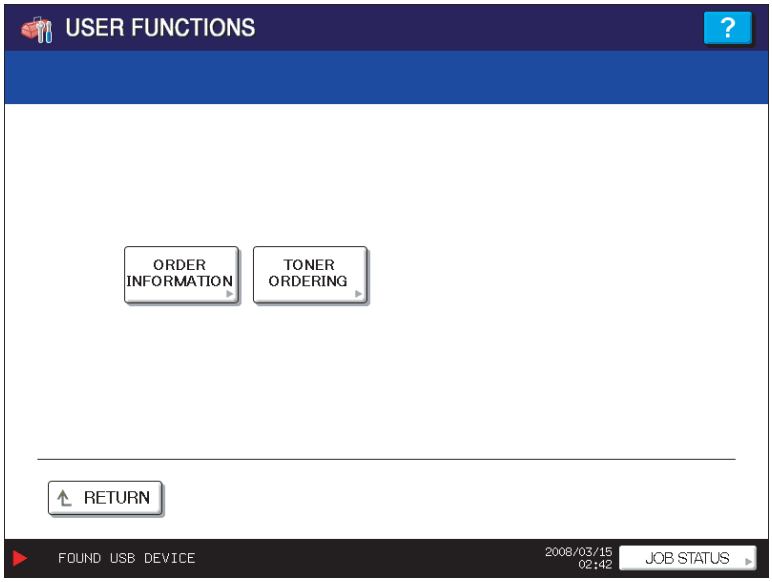

Fig. 26-4

(9) Press the [ORDER INFORMATION] button.

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(10) The ORDER INFORMATION screen is displayed.

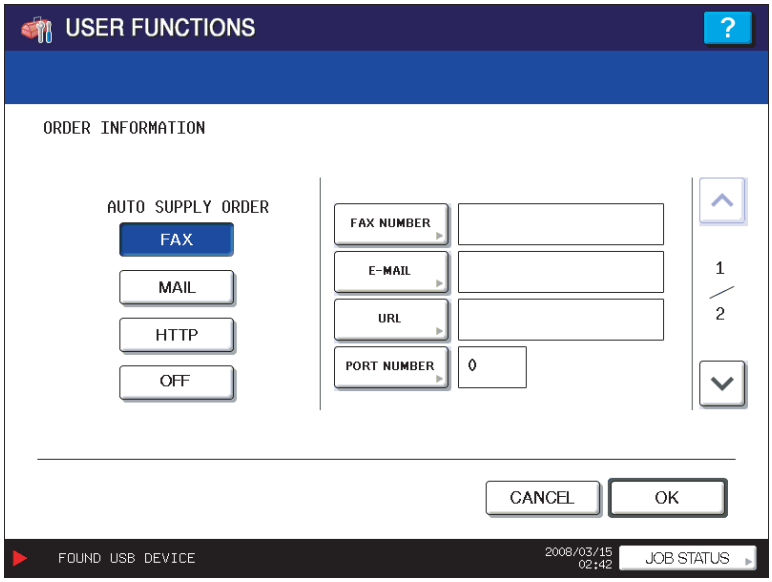

Fig. 26-5

(11) Press the buttons on the screen of ORDER INFORMATION to set the required item.

[FAX]/[MAIL]/[OFF] Select the [FAX] or the [MAIL] button for the transmitting way of order. (HTTP has not been supported yet.)
[OFF]: Turn off the AUTO SUPPLY ORDER function.

[FAX NUMBER] Input the FAX number of supplier. (To transmit by FAX, the order cannot be placed automatically if you do not input the number.)

[E-MAIL] Input the E-mail address of supplier. (To transmit by E-mail, the order cannot be placed automatically if you do not input the address.)

(12) Press the scroll button.
(Press the [OK] button to register, and then the screen returns to the (7) SERVICE screen. Press the [CANCEL] button to cancel this register, and then the screen returns to the (7) SERVICE screen.)

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(13) The CUSTOMER/SUPPLIER screen is displayed.

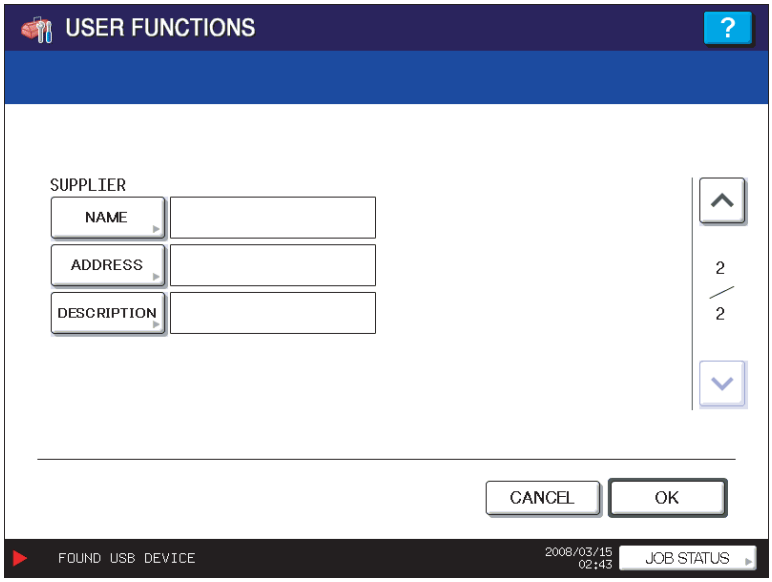

Fig. 26-6

(14) Press the buttons of the screen of SUPPLIER to set the required item.
[NAME] Input the name of supplier.
[ADDRESS] Input the address of supplier.
[DESCRIPTION] Input other remarks to be registered if required.

(15) Press the [OK] button.

(16) The SERVICE screen is displayed.

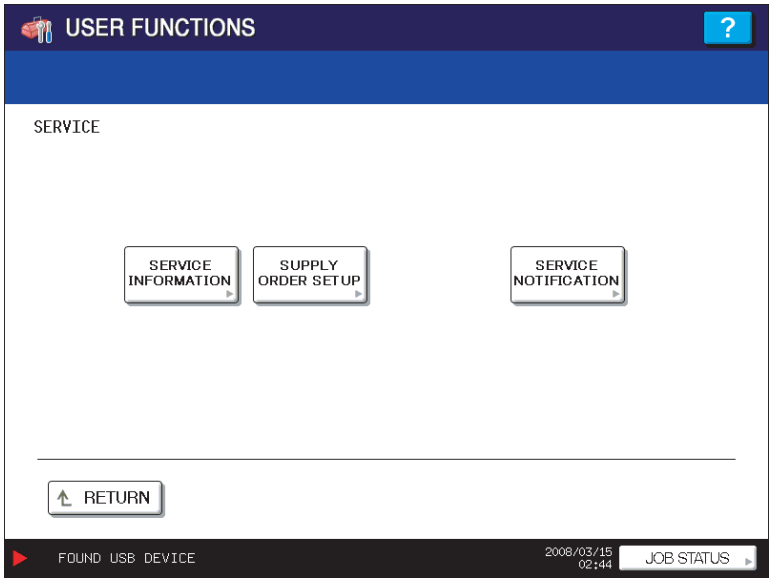

Fig. 26-7

(17) Press the [SERVICE INFORMATION] button.

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(18) The CUSTOMER/SERVICE TECHNICIAN screen is displayed.

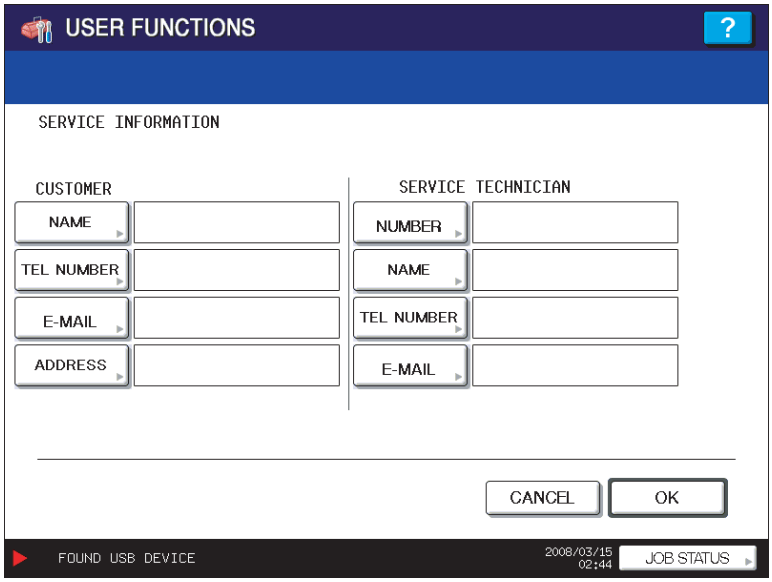

Fig. 26-8

(19) Press the buttons of the screen of CUSTOMER/SERVICE TECHNICIAN to set the required item.

CUSTOMER

[NAME]	Input the name of customer.
[TEL NUMBER]	Input the telephone number of customer.
[E-MAIL]	Input the E-mail address of customer.
[ADDRESS]	Input the address of customer.

SERVICE TECHNICIAN

[NUMBER]	Input the number of SERVICE TECHNICIAN.
[NAME]	Input the name of SERVICE TECHNICIAN.
[TEL NUMBER]	Input the telephone number of SERVICE TECHNICIAN.
[E-MAIL]	Input the E-mail address of SERVICE TECHNICIAN.

(20) Press the [OK] button to register the order information setting.

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(21) The SERVICE screen is displayed.

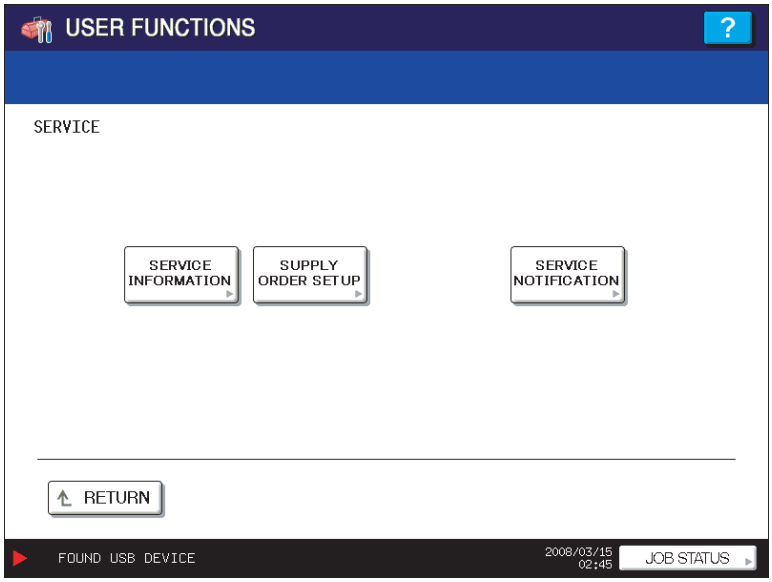

Fig. 26-9

(22) Press the [SUPPLY ORDER SETUP] button.

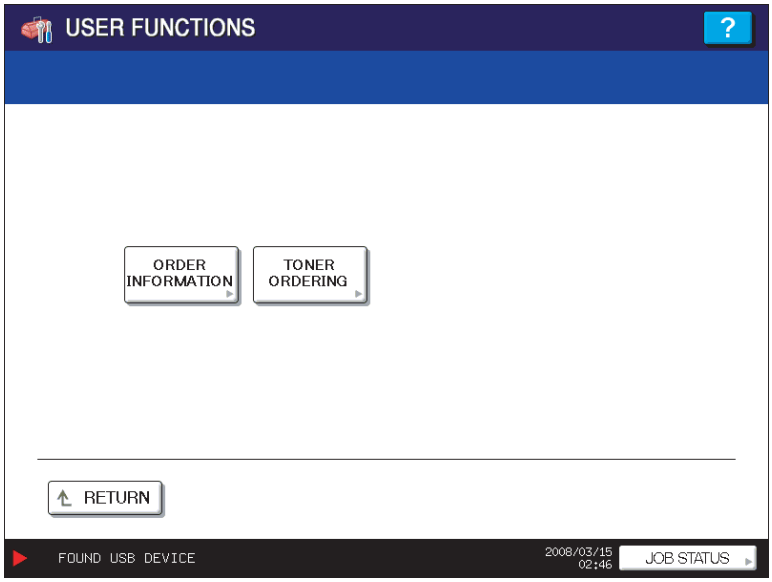

Fig. 26-10

(23) Press the [TONER ORDERING] button.

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(24) The TONER ORDERING screen is displayed.

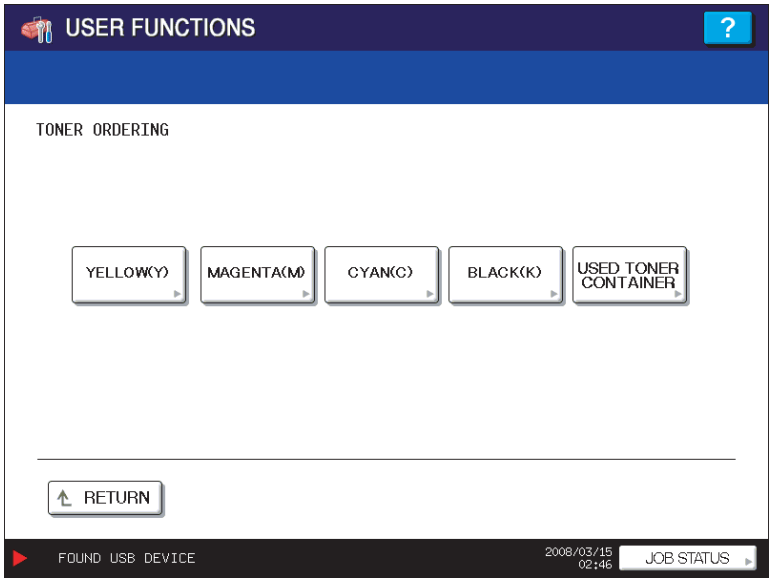

Fig. 26-11

(25) Select the part to be ordered. (Press the [YELLOW(Y)] button.)

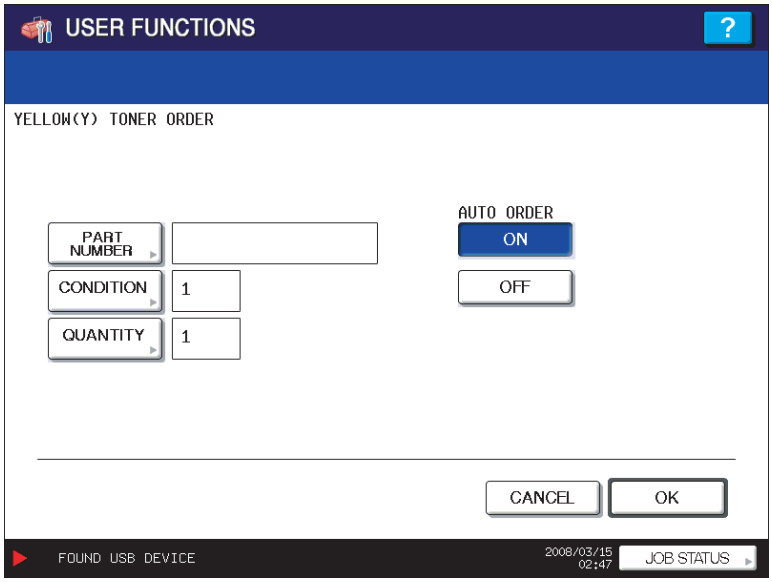

Fig. 26-12

(26) Input the order information of TONER.

[PART NUMBER]	Toner number
[CONDITION]	The order is placed when the number of toner empty reaches the number specified for the CONDITION.
[QUANTITY]	Quantity to be ordered

AUTO ORDER

[ON]/[OFF]	Allows you to select whether each part to be ordered is placed automatically or not.

(27) Press the [OK] button to register the setting of toner order.

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(28) The TONER ORDERING screen is displayed.

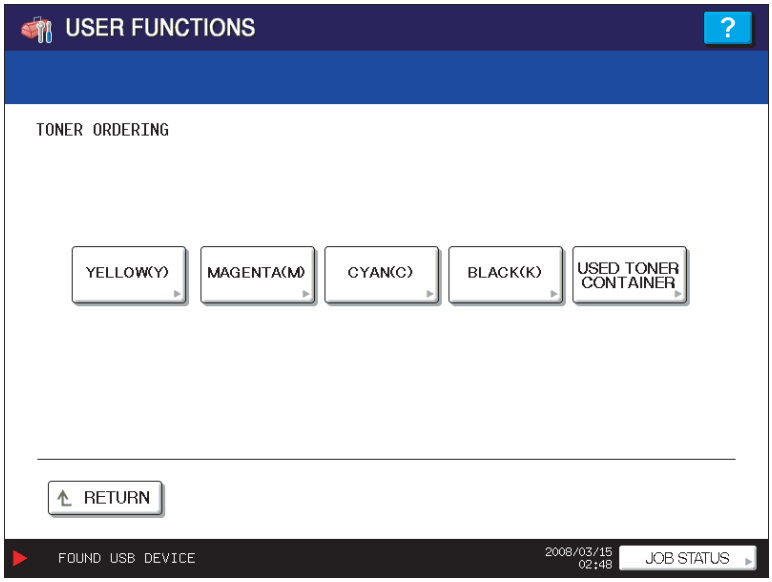

Fig. 26-13

(29) Press the [MAGENTA(M)] / [CYAN(C)] / [BLACK(K)] / [USED TONER CONTAINER] button, and then input the order information in the same way.

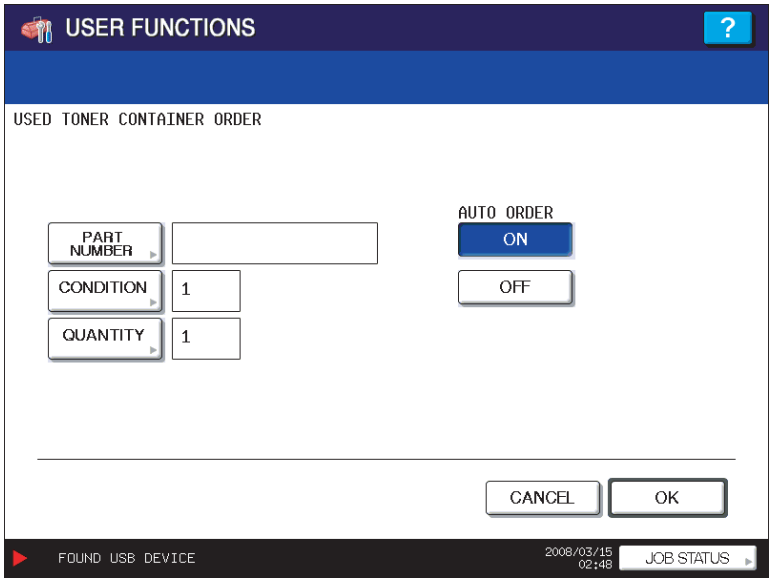

Fig. 26-14

(30) Press the [OK] button to register the order information.

(31) The screen returns to the TONER ORDERING.

(32) Press the [USER FUNCTION] button to be switched from the ADMIN screen on touch panel and returned to the BASIC screen, so that the setting of Auto Supply Order is finished.

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Note:

Auto Supply Order setting is also available from the following setting mode (08).

Items	08 code	Contents
The transmitting way of order [FAX]/[MAIL] /[OFF]	732	0: Ordered by FAX 1: Ordered by E-mail 2: Ordered by HTTP 3: OFF
SUPPLIER [FAX NUMBER]	733	Maximum 32 digits
SUPPLIER [E-MAIL]	734	Maximum 192 letters
CUSTOMER [NAME]	738	Maximum 50 letters
CUSTOMER [TEL NUMBER]	739	Maximum 32 digits
CUSTOMER [E-MAIL]	740	Maximum 192 letters
CUSTOMER [ADDRESS]	741	Maximum 100 letters
SUPPLIER [NAME]	746	Maximum 50 letters
SUPPLIER [ADDRESS]	747	Maximum 100 letters
SERVICE TECHNICIAN [NUMBER]	742	Maximum 5 digits
SERVICE TECHNICIAN [NAME]	743	Maximum 50 letters
SERVICE TECHNICIAN [TEL NUMBER]	744	Maximum 32 digits
SERVICE TECHNICIAN [E-MAIL]	745	Maximum 192 letters
Remarks [DESCRIPTION]	748	Maximum 128 letters
RESULT PRINTING [OFF] / [ALWAYS] / [ON ERROR]	764	0: OFF 1: Always 2: ON Error
YELLOW(Y) TONER [PART NUMBER]	755	Maximum 20 digits
YELLOW(Y) TONER [CONDITION]	757	1-99
YELLOW(Y) TONER [QUANTITY]	756	1-99
MAGENTA(M) TONER [PART NUMBER]	752	Maximum 20 digits
MAGENTA(M) TONER [CONDITION]	754	1-99
MAGENTA(M) TONER [QUANTITY]	753	1-99
CYAN(C) TONER [PART NUMBER]	749	Maximum 20 digits
CYAN(C) TONER [CONDITION]	751	1-99
CYAN(C) TONER [QUANTITY]	750	1-99
BLACK(K) TONER [PART NUMBER]	758	Maximum 20 digits

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Items	08 code	Contents
BLACK(K) TONER [CONDITION]	760	1-99
BLACK(K) TONER [QUANTITY]	759	1-99
USED TONER CONTAINER [PART NUMBER]	761	Maximum 20 digits
USED TONER CONTAINER [CONDITION]	763	1-99
USED TONER CONTAINER [QUANTITY]	762	1-99

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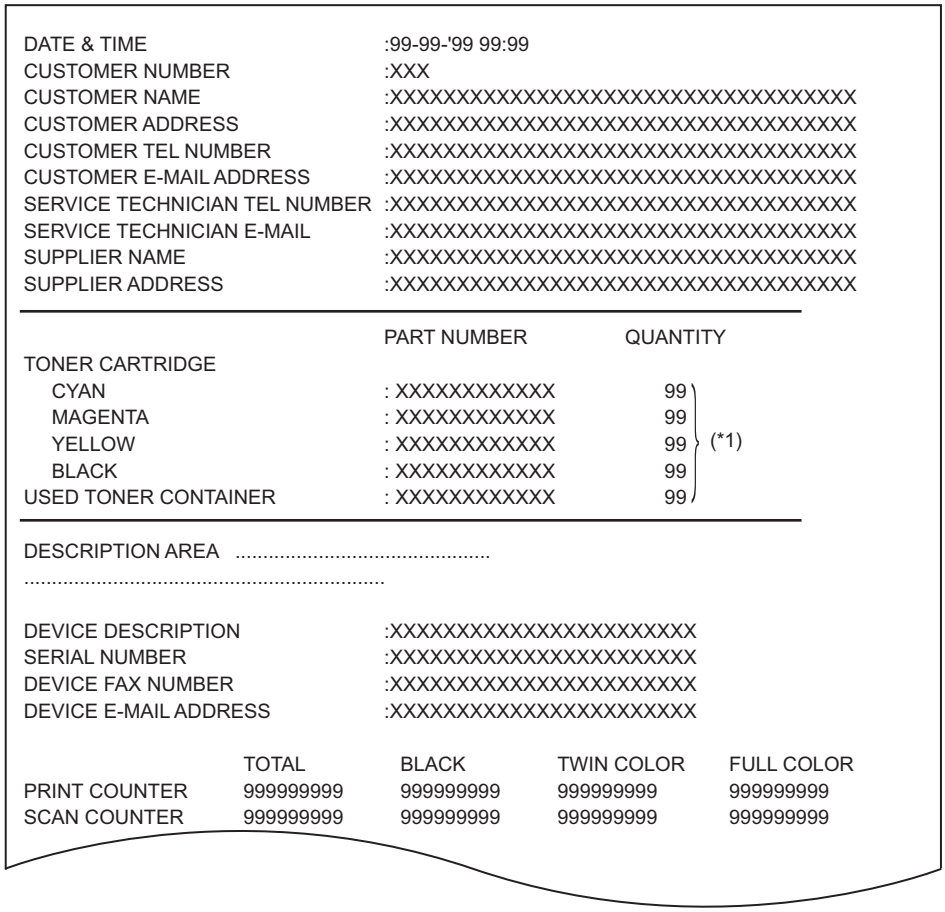
26.1.4 Order Sheet Format

The sample of order sheet is as follows.

(1) FAX (This format is the same as that of TIFF image attached E-mail.)
*1 Part not to be ordered is not output. (Less space between the lines)



DATE & TIME :99-99-'99 99:99
CUSTOMER NUMBER :XXX
CUSTOMER NAME :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER TEL NUMBER :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER E-MAIL ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN TEL NUMBER :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN E-MAIL :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER NAME :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

	PART NUMBER	QUANTITY	
TONER CARTRIDGE			
CYAN	: XXXXXXXXXXXX	99	(*1)
MAGENTA	: XXXXXXXXXXXX	99	
YELLOW	: XXXXXXXXXXXX	99	
BLACK	: XXXXXXXXXXXX	99	
USED TONER CONTAINER	: XXXXXXXXXXXX	99	

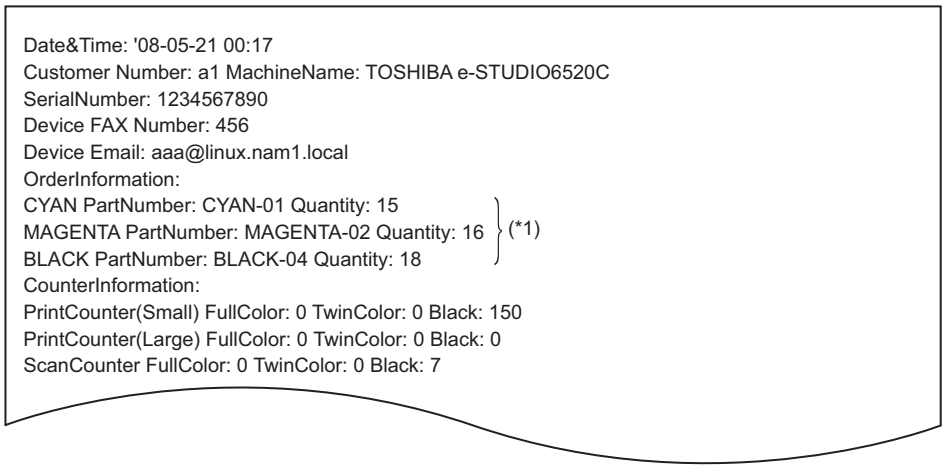
DESCRIPTION AREA .....
.....

DEVICE DESCRIPTION :XXXXXXXXXXXXXXXXXXXXXX
SERIAL NUMBER :XXXXXXXXXXXXXXXXXXXXXX
DEVICE FAX NUMBER :XXXXXXXXXXXXXXXXXXXXXX
DEVICE E-MAIL ADDRESS :XXXXXXXXXXXXXXXXXXXXXX

	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

Fig. 26-15

(2) E-MAIL (TIFF image attached with the E-mail is the same format with that of the FAX order sheet.)
SUBJECT: SUPPLY ORDER REQUEST
*1 Part not to be ordered is not output. (Less space between the lines)



Date&Time: '08-05-21 00:17
Customer Number: a1 MachineName: TOSHIBA e-STUDIO6520C
SerialNumber: 1234567890
Device FAX Number: 456
Device Email: aaa@linux.nam1.local
OrderInformation:
CYAN PartNumber: CYAN-01 Quantity: 15
MAGENTA PartNumber: MAGENTA-02 Quantity: 16 (*1)
BLACK PartNumber: BLACK-04 Quantity: 18
CounterInformation:
PrintCounter(Small) FullColor: 0 TwinColor: 0 Black: 150
PrintCounter(Large) FullColor: 0 TwinColor: 0 Black: 0
ScanCounter FullColor: 0 TwinColor: 0 Black: 7

Fig. 26-16

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(3) Result list

*1 Part not to be ordered is not output. (Less space between the lines)

ORDER XXXXXXXXX

DATE & TIME :99-99-'99 99:99
CUSTOMER NUMBER :XXX
CUSTOMER NAME :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER TEL NUMBER :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER E-MAIL ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN
TEL NUMBER :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN E-MAIL :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER NAME :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER ADDRESS :XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

	PART NUMBER	QUANTITY	
TONER CARTRIDGE			
CYAN	: XXXXXXXXXXXX	99	(*1)
MAGENTA	: XXXXXXXXXXXX	99	
YELLOW	: XXXXXXXXXXXX	99	
BLACK	: XXXXXXXXXXXX	99	
USED TONER CONTAINER	: XXXXXXXXXXXX	99	

DESCRIPTION AREA .....
.....

DEVICE DESCRIPTION :XXXXXXXXXXXXXXXXXXXXXX
SERIAL NUMBER :XXXXXXXXXXXXXXXXXXXXXX
DEVICE FAX NUMBER :XXXXXXXXXXXXXXXXXXXXXX
DEVICE E-MAIL ADDRESS :XXXXXXXXXXXXXXXXXXXXXX

	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

Fig. 26-17

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26.2 Service Notification

26.2.1 Outline

This function automatically notifies the status of the equipment to the service technician by E-mail or FAX. The following three are the items to be notified.

- Total Counter Transmit
  When this function is effective, it notifies each counter information periodically (on the set date and time every month).

- Service Call Transmit (E-mail only)
  When this function is effective, it notifies the corresponding error code and such at a service call error.

- PM Counter Transmit
  When this function is effective, it notifies that the PM timing has come when the present PM count has reached to its setting value, or the present PM driving count has reached to its setting value.

26.2.2 Setting

Note:
When using this function, it is required that sending and receiving E-mails or FAXes are available. Confirm the details to the administrator.

[1] Preparation

The screen to set this function is not displayed at the default setting.
Set this screen to be displayed with the following code (08).

08-774 Setting of notification display
0: Invalid (Default)
1: Valid

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[2] Setting procedure

(1) Press the [USER FUNCTIONS] button to enter the user function screen.

(2) Press the [ADMIN] button.
- When the Administrator Password has been set, ADMINISTRATOR PASSWORD screen is displayed.

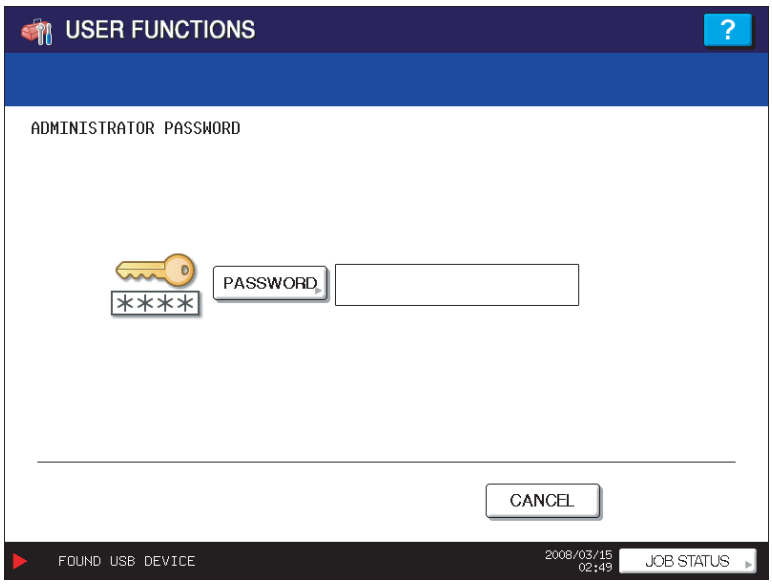

Fig. 26-18

(3) Press the [PASSWORD] button and the screen is switched to a full keyboard. Then key in the Administrator Password and press the [OK] button.
* Confirm the password to the administrator.

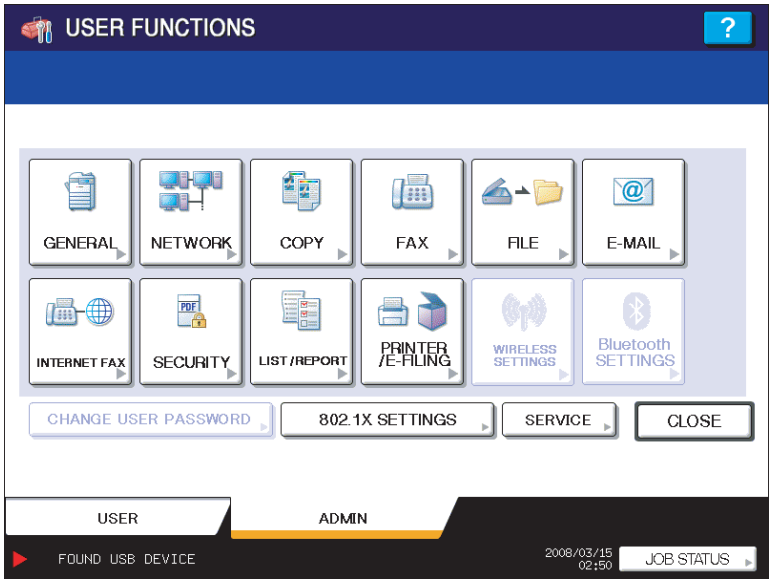

Fig. 26-19

(4) Press the [SERVICE] button in the ADMIN screen.

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(5) The SERVICE screen is displayed.

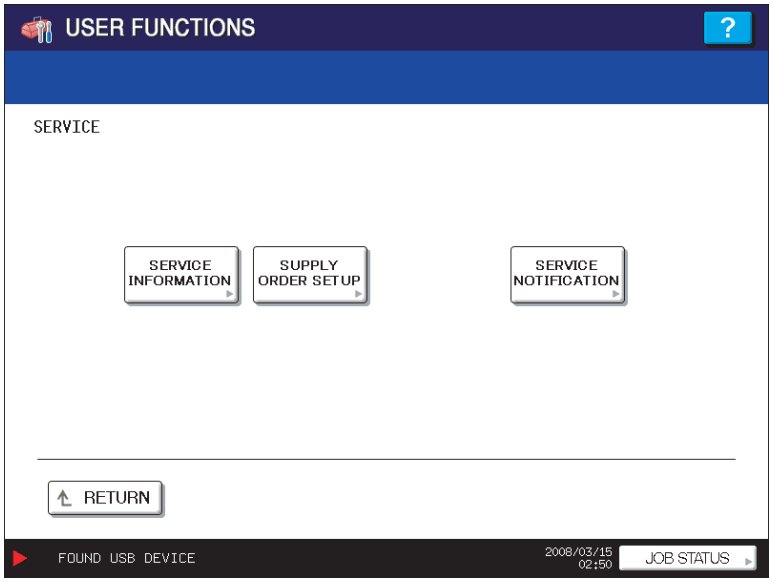

Fig. 26-20

(6) Press the [SERVICE NOTIFICATION] button.

(7) The SERVICE NOTIFICATION screen is displayed.

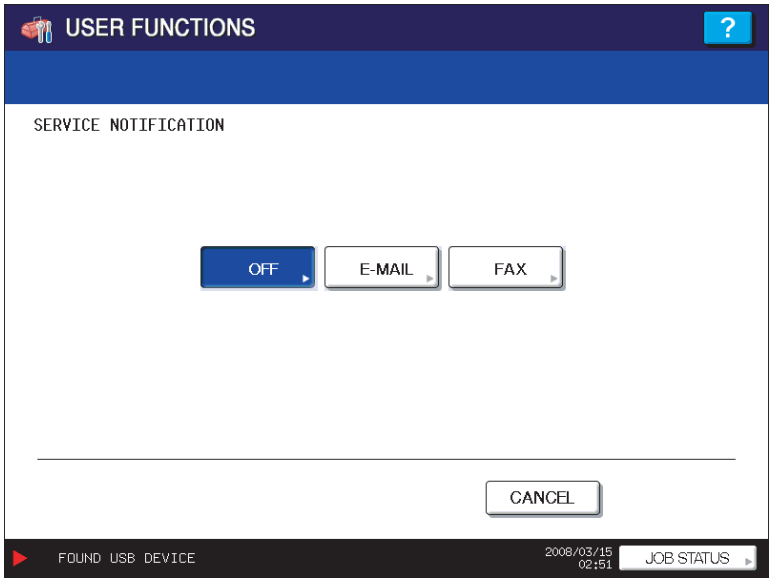

Fig. 26-21

(8) Press the [E-MAIL] or [FAX] button.
- When the [OFF] button is pressed, all functions related Service Notification become ineffective.

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(9) Enter the E-mail address or FAX number of the destination.

- When pressing the [E-MAIL] button, the screen is switched to a full keyboard. Then enter the E-mail addresses and press the [OK] button. (Maximum 3 addresses can be set.)

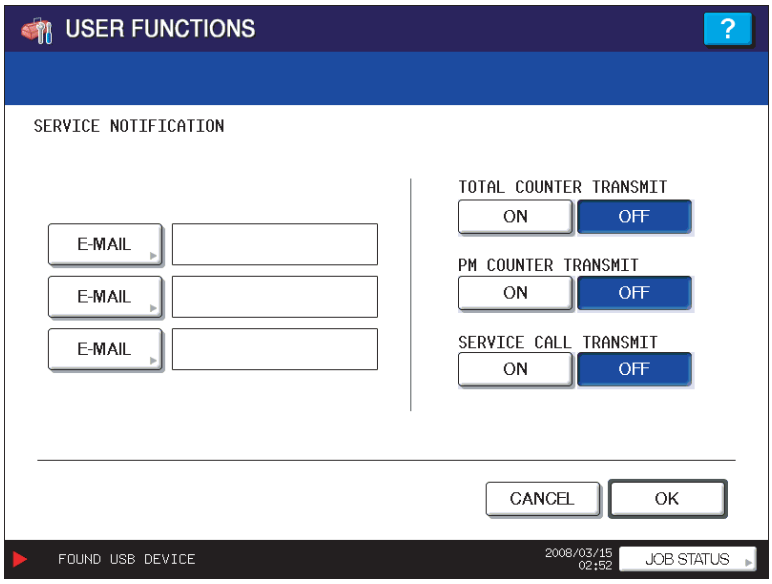

Fig. 26-22

- Press the [FAX NUMBER] button, key in the FAX number and then press the [OK] button.

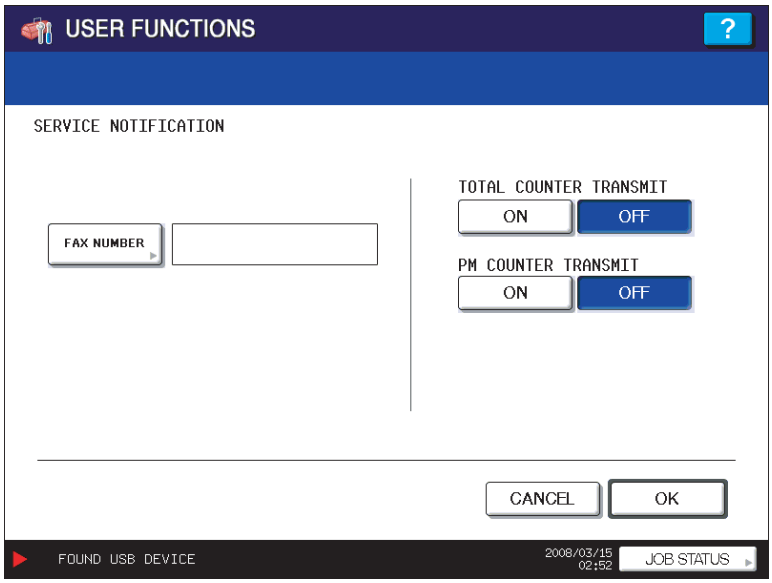

Fig. 26-23

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(10) Press the [ON] button to notify or the [OFF] button not to notify each item for E-mail and FAX. When Total Count Transmit is set to ON, the screen to set the notification date is displayed. Then set the notification date with the following procedure.

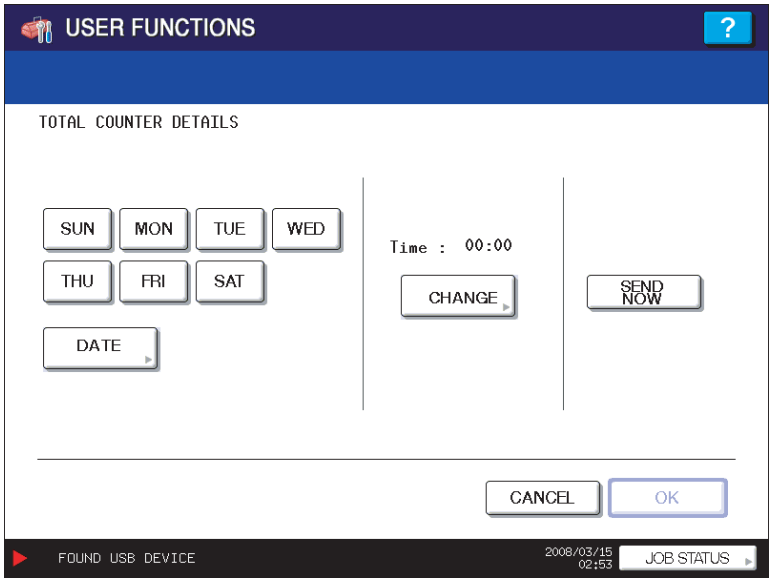

Fig. 26-24

Set the date and time of the Total Counter.
The following 3 items can be specified for the date setting, and more than one day of the week also can be selected.

- Day of the week (More than one day can be selected.)
- Notify Date 1
- Notify Date 2

You can send the Total Counter immediately without the above settings by pressing the [SEND NOW] button.

- **Day of the week ([SUN] to [SAT] buttons)**
  Pressing the buttons ([SUN] to [SAT]) of the desired day makes transmission on every specified day. More than one day can be selected.
  * This does not affect the settings of “Notify Date 1” and “Notify Date 2”.

- **Notify Date 1 and Notify Date 2 ([DATE] button)**
  Pressing the [DATE] button sets up to 2 dates on which you wand to send data.
  * This is not affected by the specified day of the week.

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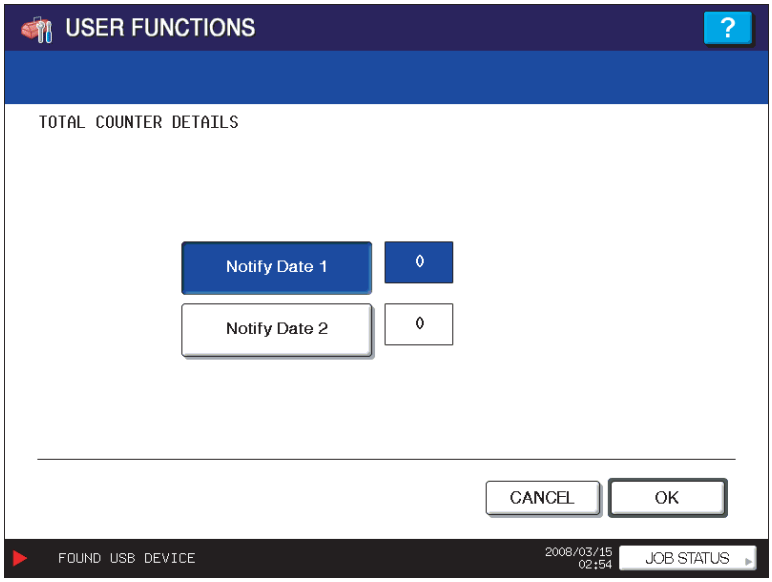

Fig. 26-25

Key in the date (acceptable values: 0-31) in “Notify Date 1” or “Notify Date 2” and press the [OK] button.

- **Time setting ([CHANGE] button)**
  Pressing the [CHANGE] button sets the time at which you wand to send data.
  This is the time when data are sent with “Day of the week”, “Notify Date 1” and “Notify Date 2”.

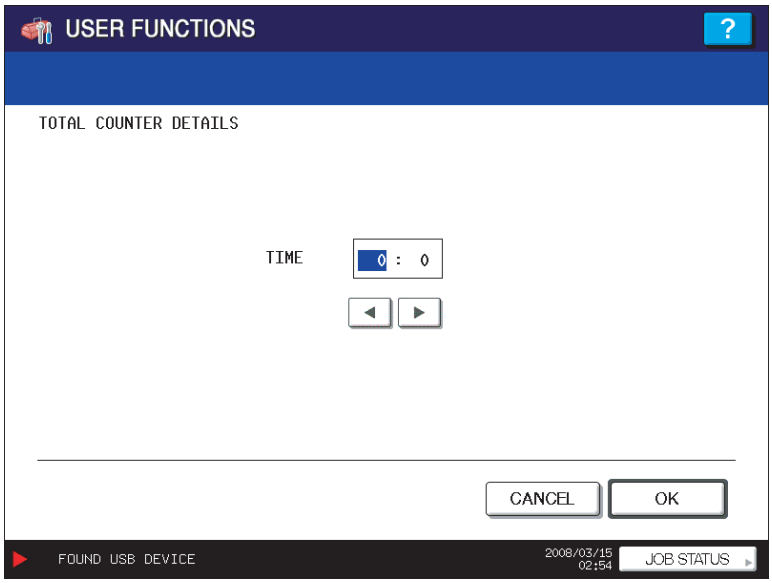

Fig. 26-26

Key in the time (acceptable values: 00:00-23:59) in “Time”.
Key in the time in the hour column of “Time”, press the scroll button, key in the time in the minute column of “Time”.
After all the settings are completed, press the [OK] button. The display returns to the screen in step (5).

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(11) Press the [OK] button. The setting completes.

Note:
Service Notification setting is also available from the following setting mode (08).

Items	08 code	Contents
Service Notification setting	767	0: OFF (Invalid) 1:E-mail 2:FAX
E-mail address 1	768	Maximum 192 letters
E-mail address 2	777	Maximum 192 letters
E-mail address 3	778	Maximum 192 letters
FAX number	1145	Maximum 32 digits
Total Counter Transmit setting	769	0: OFF (Invalid) 1: ON (Valid)
Total counter transmission date setting	770	0 to 31
Total counter transmission date setting(2)	9880	0 to 31
Day of total counter data transmission	9881	1 byte 00000000(0)-01111111(127) From the 2nd bit - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
Total counter transmission interval setting (Hour/Hour/Minute/Minute)	776	00:00-23:59
Service Call Transmit setting	775	0: OFF (Invalid) 1: ON (Valid)
PM Counter Transmit setting	771	0: OFF (Invalid) 1: ON (Valid)

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26.2.3 Items to be notified

The items to be notified are shown below.

1. Total Counter Transmit / PM Counter Transmit by E-mail
   Subject: Counter Notification
   (In case of the PM Counter Transmit, it is shown as “Periodical Maintenance Notification”.)

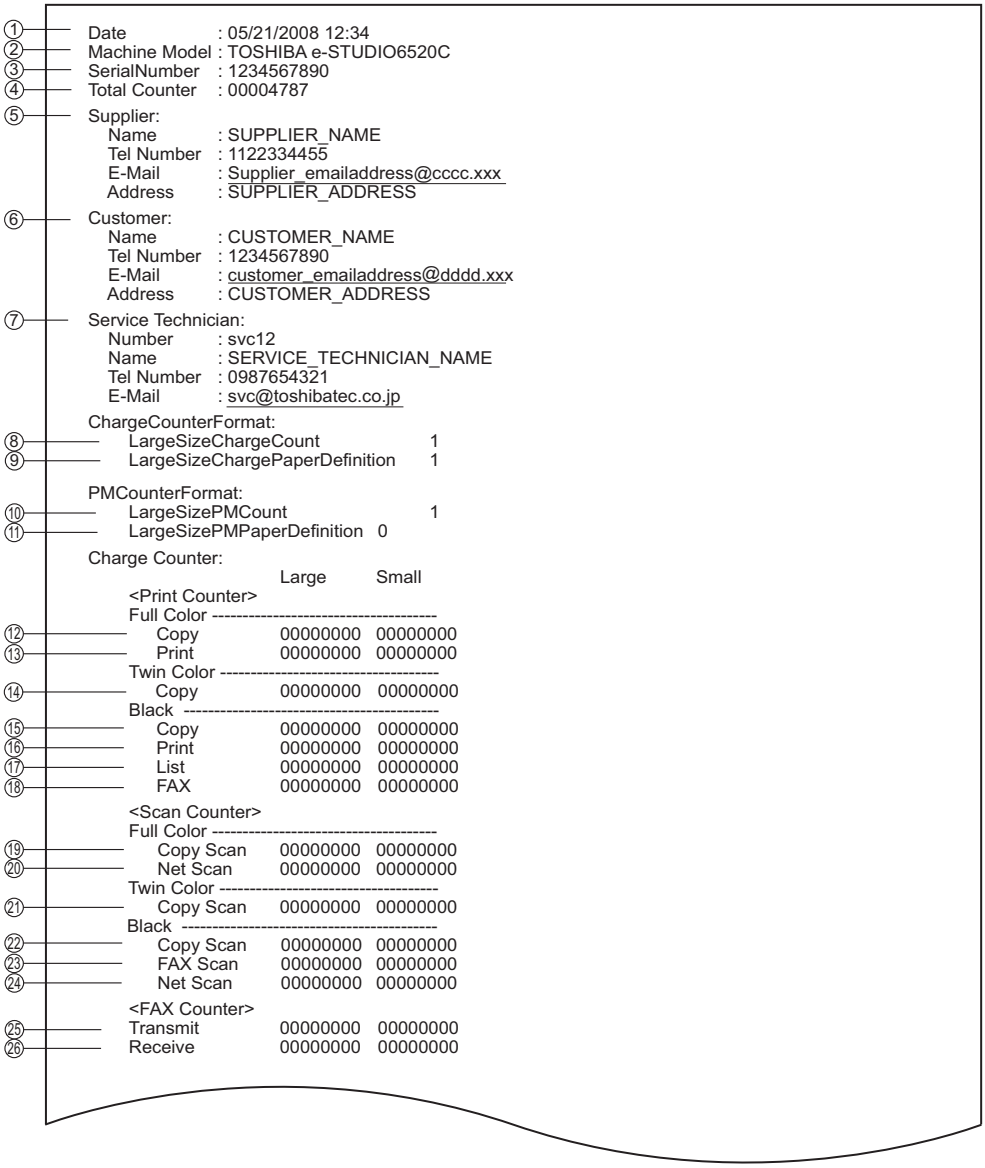

Fig. 26-27

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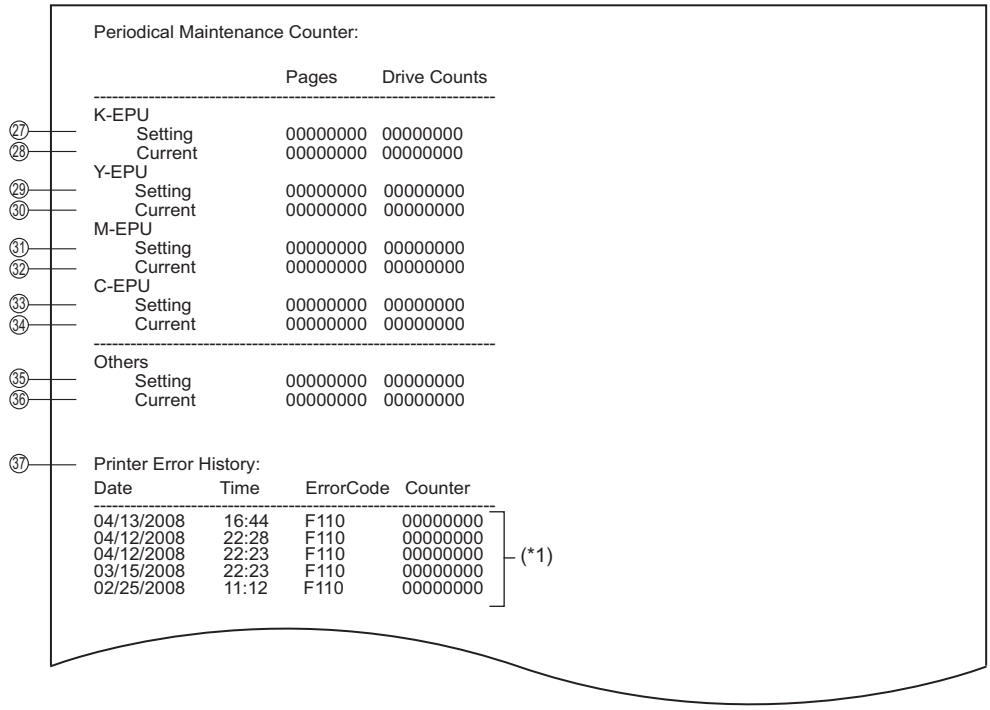

Fig. 26-28

(1) Date

(2) Machine model name

(3) Serial number

(4) Total counter value

(5) Supplier information

(6) Customer information

(7) Service technician information

(8) Count setting of large-sized paper (Fee charging system counter)

(9) Definition setting of large-sized paper (Fee charging system counter)

(10) Count setting of large-sized paper (PM)

(11) Definition setting of large-sized paper (PM)

(12) Number of output pages in the Copier Function (FULL COLOR)

(13) Number of output pages in the Printer Function (FULL COLOR)

(14) Number of output pages in the Copier Function (TWIN COLOR)

(15) Number of output pages in the Copier Function (BLACK)

(16) Number of output pages in the Printer Function (BLACK)

(17) Number of output pages at the List Print Mode (BLACK)

(18) Number of output pages in the FAX Function (BLACK)

(19) Number of scanning pages in the Copier Function (FULL COLOR)

(20) Number of scanning pages in the Network Scanning Function (FULL COLOR)

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㉑ Number of scanning pages in the Copier Function (TWIN COLOR)

㉒ Number of scanning pages in the Copier Function (BLACK)

㉓ Number of scanning pages in the FAX Function (BLACK)

㉔ Number of scanning pages in the Network Scanning Function (BLACK)

㉕ Number of transmitted pages in the FAX Function (BLACK)

㉖ Number of received pages in the FAX Function (BLACK)

㉗ PM count setting value / PM driving count setting value [EPU (K)]

㉘ PM count present value / PM driving count present value [EPU (K)]

㉙ PM count setting value / PM driving count setting value [EPU (Y)]

㉚ PM count present value / PM driving count present value [EPU (Y)]

㉛ PM count setting value / PM driving count setting value [EPU (M)]

㉜ PM count present value / PM driving count present value [EPU (M)]

㉝ PM count setting value / PM driving count setting value [EPU (C)]

㉞ PM count present value / PM driving count present value [EPU (C)]

㉟ PM count setting value / PM driving count setting value (Other parts)

㊱ PM count present value / PM driving count present value (Other parts)

㊲ History error

*1 The latest 20 errors are displayed.

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2. Total Counter Transmit / PM Counter Transmit by FAX
   *1 In case of the PM Counter Transmit, the title is replaced to “PERIODICAL MAINTENANCE NOTIFICATION”.

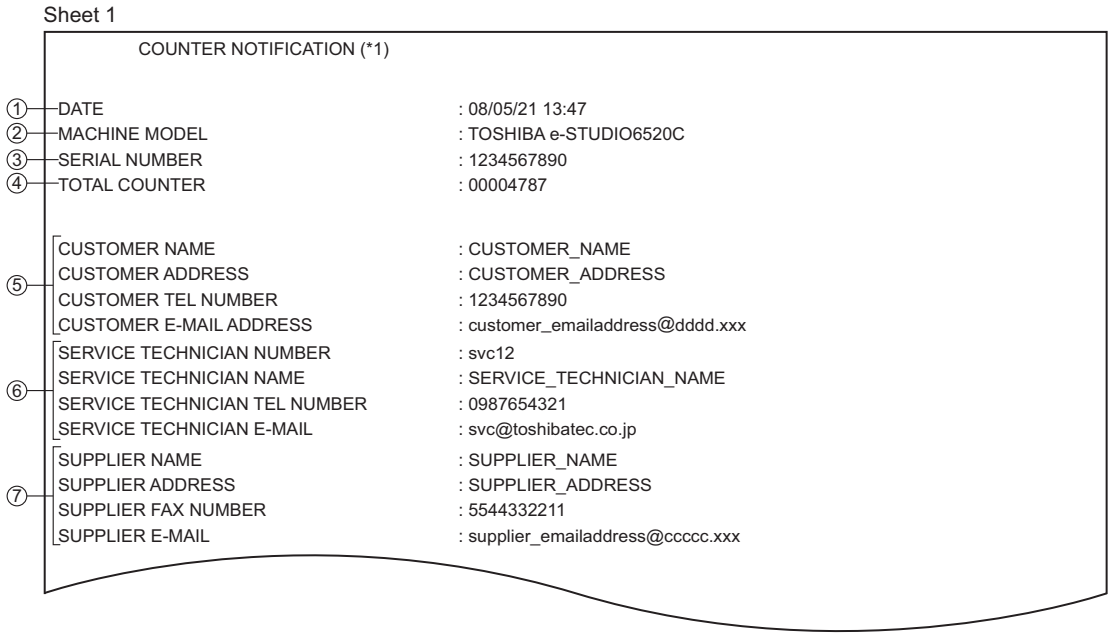

Fig. 26-29

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Sheet 2

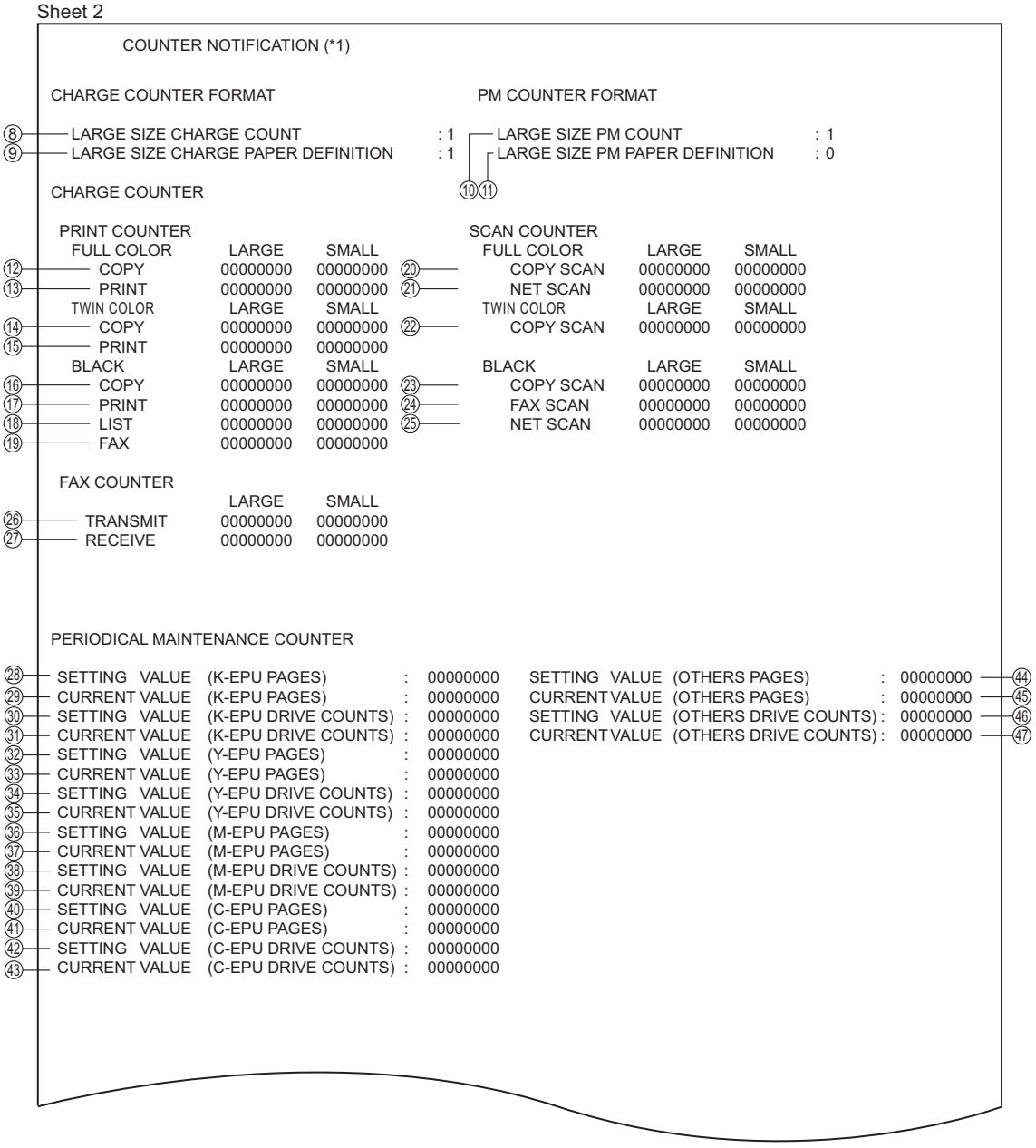

Fig. 26-30

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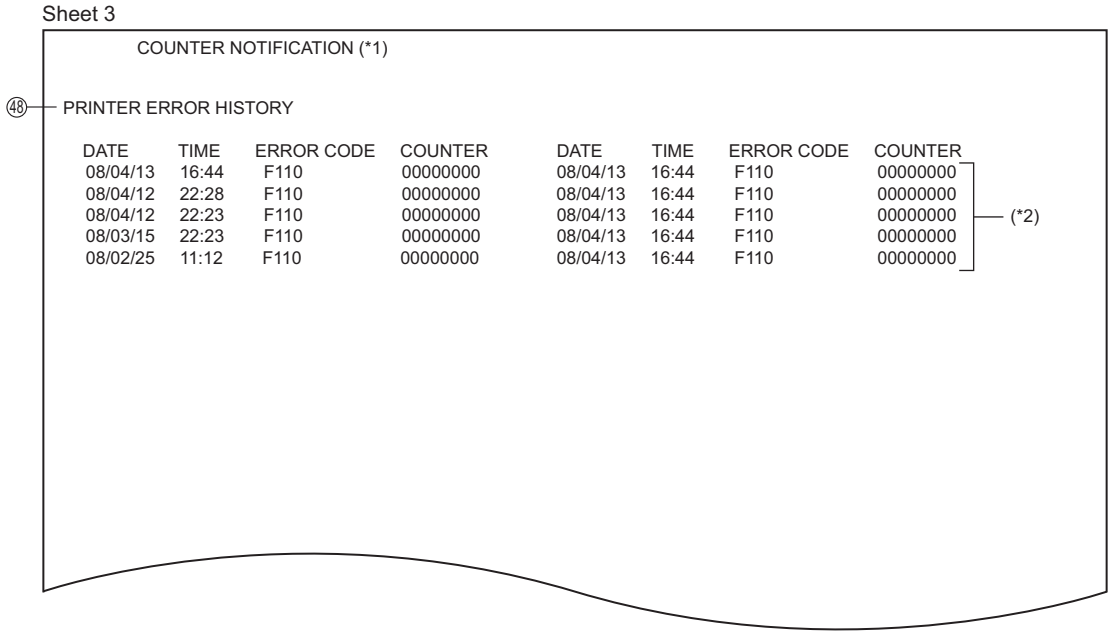

Fig. 26-31

1. Date
2. Machine model name
3. Serial number
4. Total counter value
5. Customer information
6. Service technician information
7. Supplier information
8. Count setting of large-sized paper (Fee charging system counter)
9. Definition setting of large-sized paper (Fee charging system counter)
10. Count setting of large-sized paper (PM)
11. Definition setting of large-sized paper (PM)
12. Number of output pages in the Copier Function (FULL COLOR)
13. Number of output pages in the Printer Function (FULL COLOR)
14. Number of output pages in the Copier Function (TWIN COLOR)
15. Number of output pages in the Printer Function (TWIN COLOR)
16. Number of output pages in the Copier Function (BLACK)
17. Number of output pages in the Printer Function (BLACK)
18. Number of output pages at the List Print Mode (BLACK)
19. Number of output pages in the FAX Function (BLACK)
20. Number of scanning pages in the Copier Function (FULL COLOR)
21. Number of scanning pages in the Network Scanning Function (FULL COLOR)

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㉒ Number of scanning pages in the Copier Function (TWIN COLOR)

㉓ Number of scanning pages in the Copier Function (BLACK)

㉔ Number of scanning pages in the FAX Function (BLACK)

㉕ Number of scanning pages in the Network Scanning Function (BLACK)

㉖ Number of transmitted pages in the FAX Function (BLACK)

㉗ Number of received pages in the FAX Function (BLACK)

㉘ PM count setting value [EPU (K)]

㉙ PM count present value [EPU (K)]

㉚ PM driving count setting value [EPU (K)]

㉛ PM driving count present value [EPU (K)]

㉜ PM count setting value [EPU (Y)]

㉝ PM count present value [EPU (Y)]

㉞ PM driving count setting value [EPU (Y)]

㉟ PM driving count present value [EPU (Y)]

㊱ PM count setting value [EPU (M)]

㊲ PM count present value [EPU (M)]

㊳ PM driving count setting value [EPU (M)]

㊴ PM driving count present value [EPU (M)]

㊵ PM count setting value [EPU (C)]

㊶ PM count present value [EPU (C)]

㊷ PM driving count setting value [EPU (C)]

㊸ PM driving count present value [EPU (C)]

㊹ PM count setting value (Other parts)

㊺ PM driving count present value (Other parts)

㊻ PM driving count setting value (Other parts)

㊼ PM driving count present value (Other parts)

㊽ History of error

*2 The latest 20 errors are displayed.

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3. Service Call Transmit
   Subject: Service Call Notification

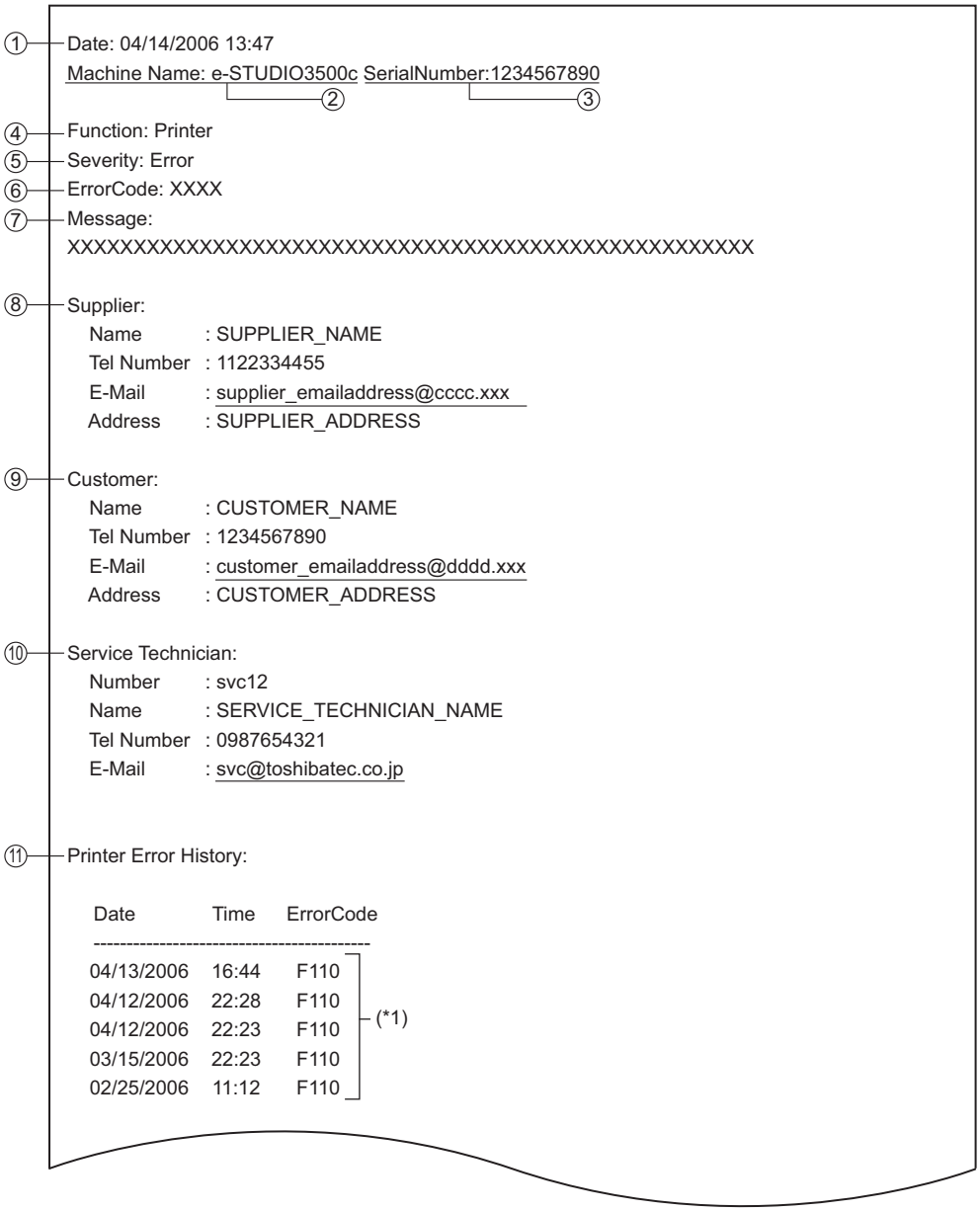

Fig. 26-32

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① Date (When an error occurs)

② Machine model name

③ Serial number

④ Function: Fixed at “Printer”

⑤ Severity: Fixed at “Error”

⑥ Error code

⑦ Error message: The content of error is displayed.

⑧ Supplier information

⑨ Customer information

⑩ Service technician information

⑪ History of error

*1 The latest 20 errors are displayed.

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27. SETTING / ADJUSTMENT OF OPTIONS

27.1 Removal and Installation of Options

27.1.1 MP-2501L/A (Large Capacity Feeder (LCF))

(1) Turn OFF the power and unplug the power cable.
(2) Press the button to separate the Large Capacity Feeder (LCF) from the equipment.

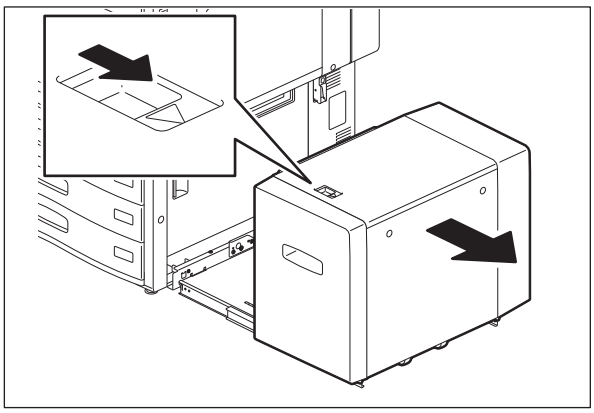

Fig. 27-1

(3) Remove 1 screw and take off the connector cover.

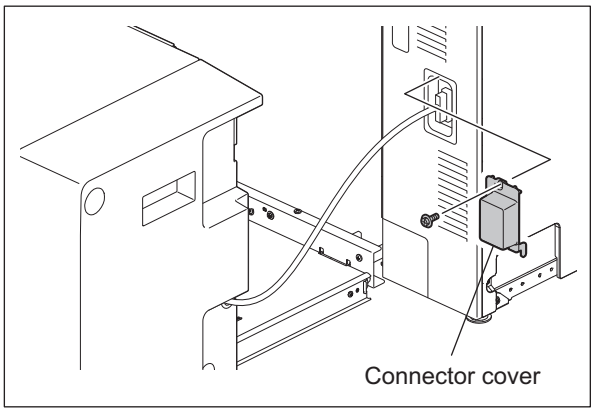

Fig. 27-2

(4) Disconnect the interface cable of the Large Capacity Feeder (LCF).

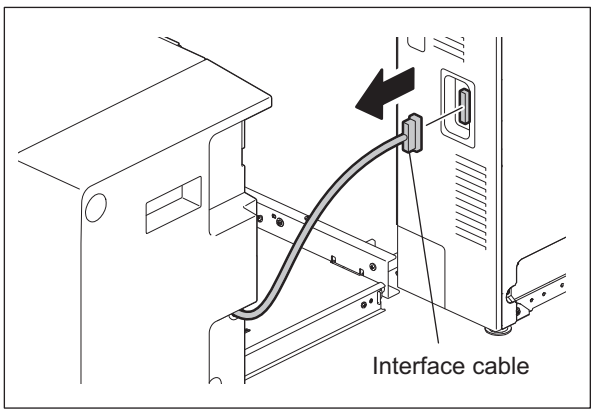

Fig. 27-3

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(5) Remove 2 fixing screws on the rear side.

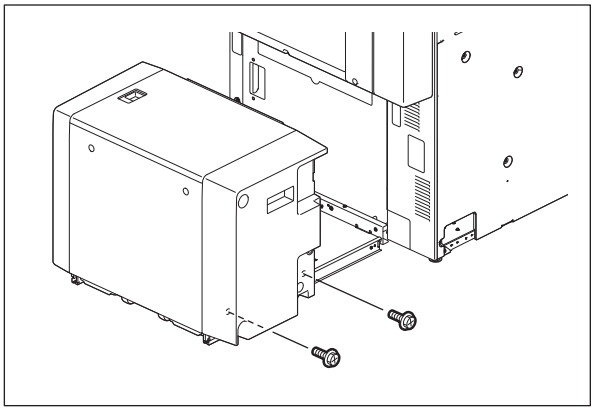

Fig. 27-4

(6) Remove 2 fixing screws on the front side.

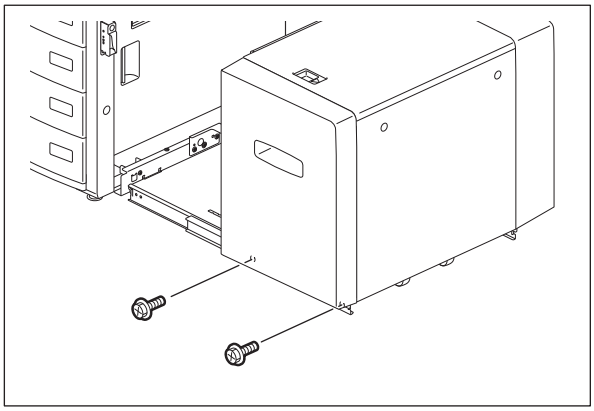

Fig. 27-5

(7) Lift the Large Capacity Feeder (LCF) and take it off from the slide rail.

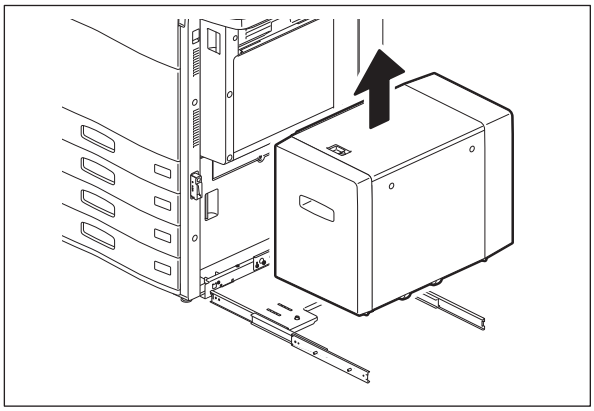

Fig. 27-6

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27.1.2 MJ-1103/1104 (Finisher)

(1) Turn OFF the power and unplug the power cable.
(2) Take off the connector cover and disconnect the interface cable of the finisher.

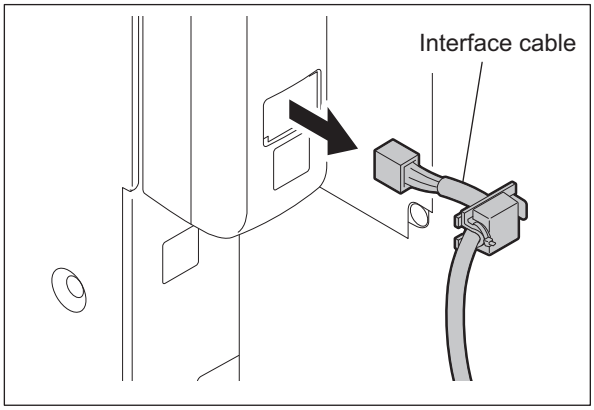

Fig. 27-7

(3) Open the cover.

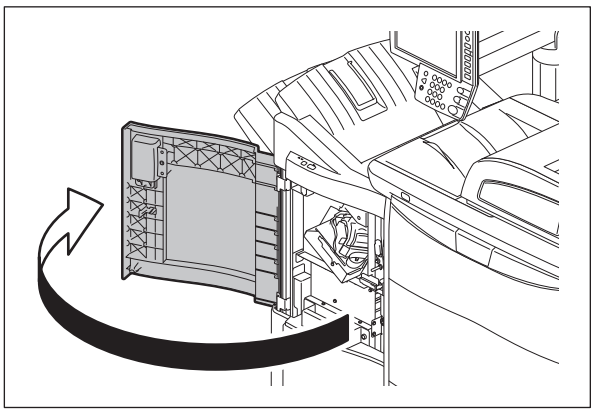

Fig. 27-8

(4) Pull the lever to release the lock.
(5) Separate the finisher from the equipment while pulling the lever.

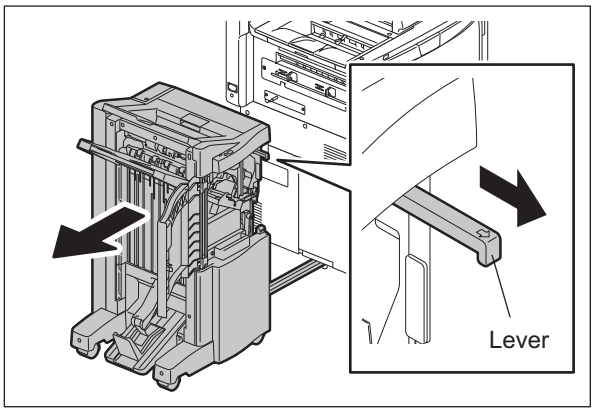

Fig. 27-9

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(6) Remove 3 screws and then take off the guide rail from the finisher.

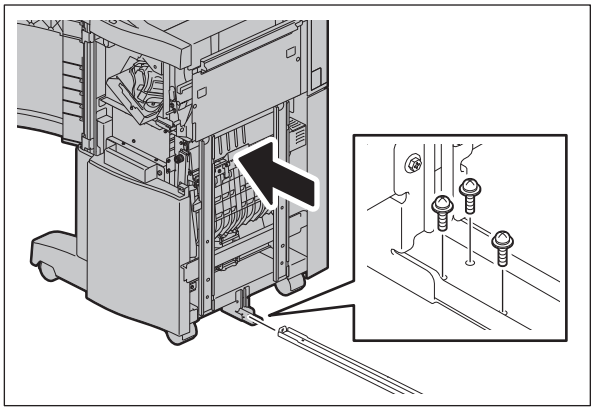

Fig. 27-10

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27.1.3 MJ-6102 (Hole punch unit)

(1) Turn OFF the power and unplug the power cable.
(2) Take off the connector cover and disconnect the interface cable of the finisher.

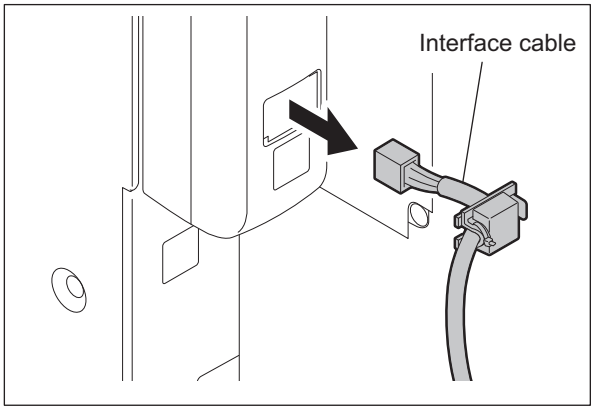

Fig. 27-11

(3) Open the cover of the hole punch unit.
(4) Pull the lever to release the lock.

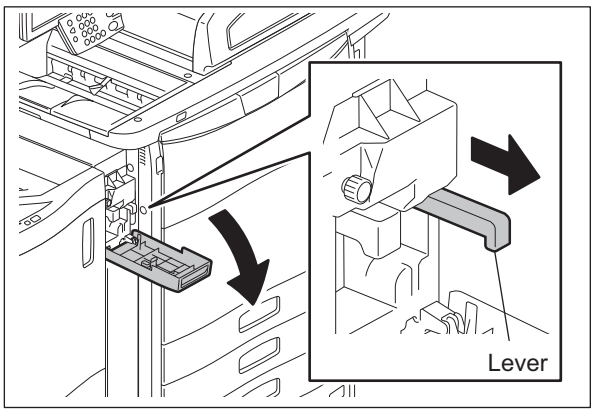

Fig. 27-12

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(5) Separate the finisher from the equipment while pulling the lever.

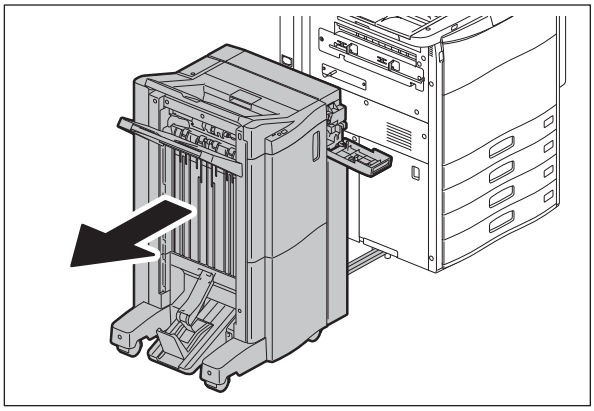

Fig. 27-13

Note:
If MJ-1104 is used, separate the finisher and then pull out the saddle stitch unit.

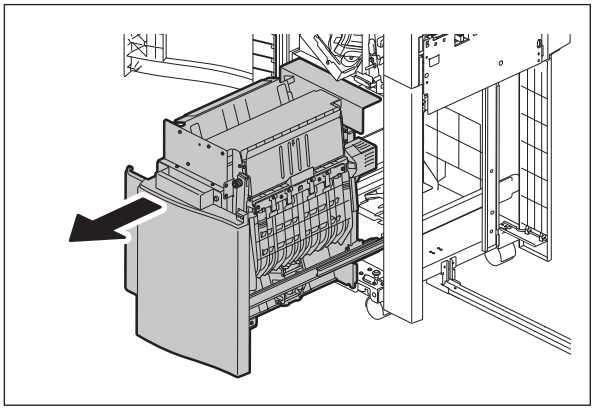

Fig. 27-14

(6) Take off the cover.

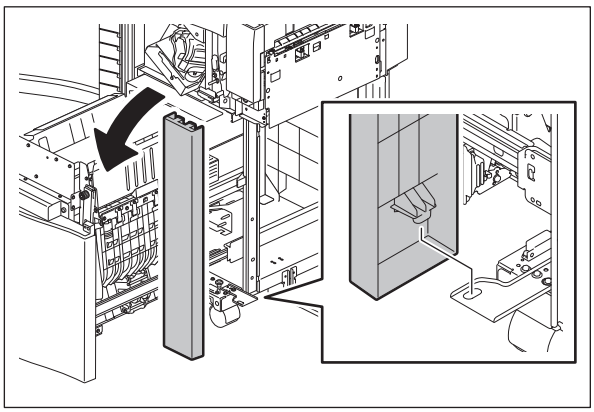

Fig. 27-15

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(7) Remove 2 screws and then take off the cover.

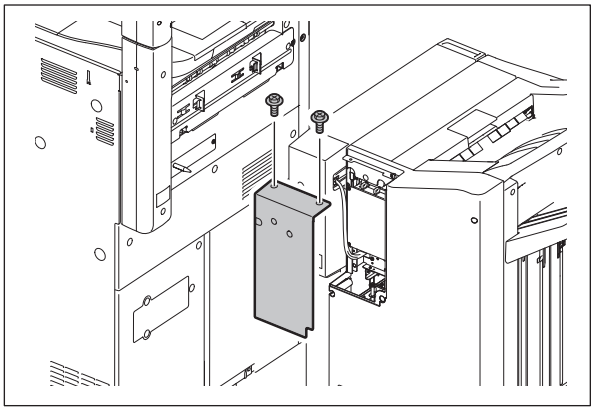

Fig. 27-16

(8) Disconnect the connector.

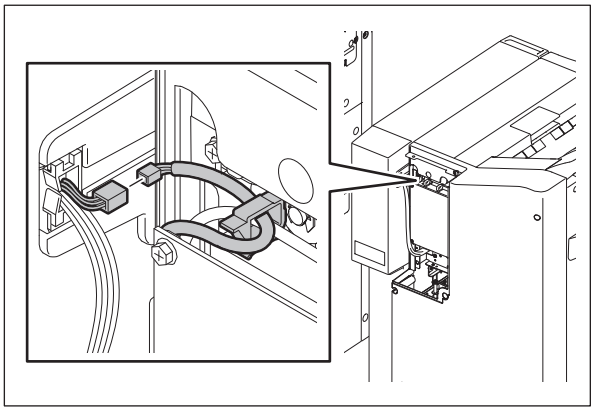

Fig. 27-17

(9) Open the cover of the finisher.
(10) Remove 2 screws and then take off the hole punch unit.

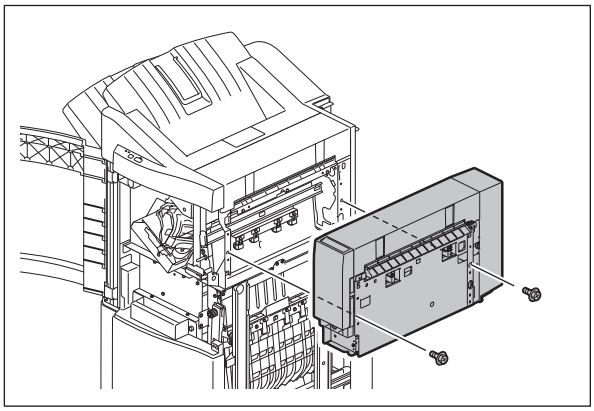

Fig. 27-18

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27.2 Adjustment of the Finisher (MJ-1103/1104)

Note:

Before performing each adjustment, make sure that all covers (incl. those of the finisher and host machine) are closed. Otherwise, the power is not supplied to the finisher and the adjustment may not be performed properly.

27.2.1 Adjusting the Alignment Position

Perform this adjustment after replacing the Finisher control board or when the alignment position must be changed for some reason.
Adjustment must be performed with 2 types of adjustment sheets for the A4 and LT series.
The adjustment value of A4 will be applied to the operation with A3, A4, A4-R, B4, B5, FOLIO, 8K, 16K.
The adjustment value of LT will be applied to the operation with LD, LG, LT, LT-R, COMP, 13 LG, 8.5" SQ.

(1) Turn OFF the power of the equipment.

(2) Remove 2 screw and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

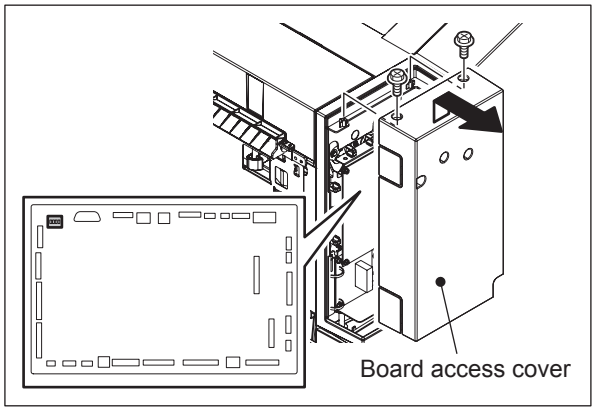

Fig. 27-19

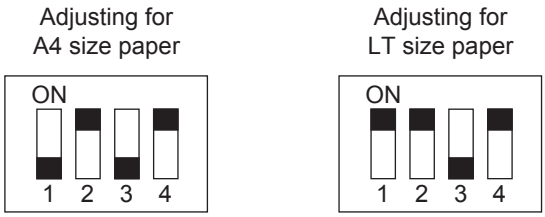

Fig. 27-20

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.
The alignment plate moves to the A4 or LT size position and stops.
(It stops at the position of -5 steps from the center value of the adjustment range.)

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(5) Press the [Button1] to adjust the alignment position.
Every time the [Button1] is pressed, the alignment plate shifts 1 step (0.419 mm/step) toward the "+ "direction. (The gap between the alignment plates becomes narrower.)
Adjustment range is from -5 to +5 steps.
If the [Button1] is pressed when the alignment position is at the "+5 step", the plate will return to the home position and then moves to the position of "-5 step".

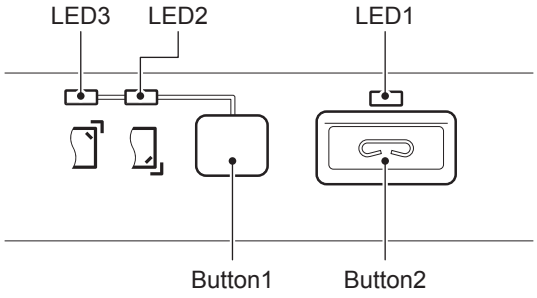

Fig. 27-21

(6) Place the adjustment sheet on the process tray and adjust the position to make the gap between paper and the alignment plate "0".
Then setting is performed at a value that is one smaller than the adjustment value.

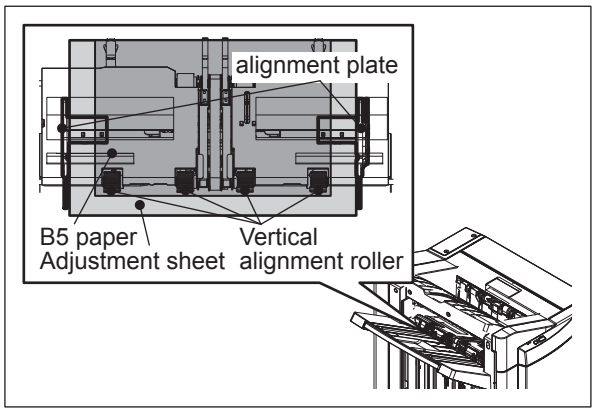

Fig. 27-22

Remarks:

- Use an adjustment sheet made of plastic resin which is light and accurate in measurement (e.g. OHP film).
- To reduce frictional resistance with the vertical alignment roller on the process tray, place a sheet of B5 paper beneath the adjustment sheet on the vertical alignment roller.
- Confirm the gap between paper and the alignment plate by moving the adjustment sheet forward and backward to reduce affect by backrush of the gear of the side alignment plate.

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(7) When the adjustment is completed, press the [Button2] on the finisher control panel to store the adjustment value in memory.
When the value is stored normally, the [LED1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
See the following table for the number of times the [LED1] blinks and its corresponding adjustment value.

Number of Blinking	Adjustment Value
1	-5
2	-4
3	-3
4	-2
5	-1
6	0
7	+1
8	+2
9	+3
10	+4
11	+5

(8) Turn OFF the power of the equipment.

(9) Turn OFF all bits of the SW1 on the Finisher control board.

(10) Install the board access cover.

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27.2.2 Adjusting the Stapling Position

Perform this adjustment after replacing the Finisher control board or when the stapling position must be changed for some reason.

(1) Turn OFF the power of the equipment.

(2) Remove 2 screw and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

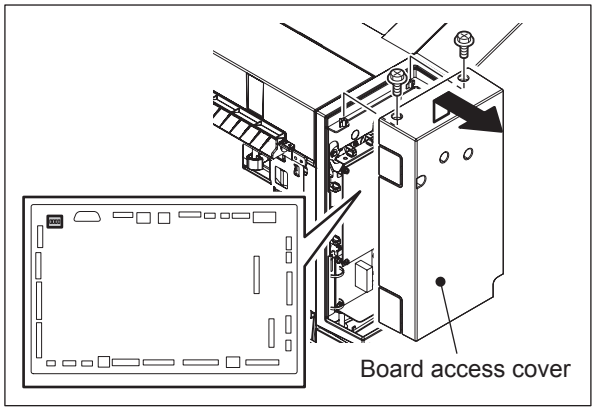

Fig. 27-23

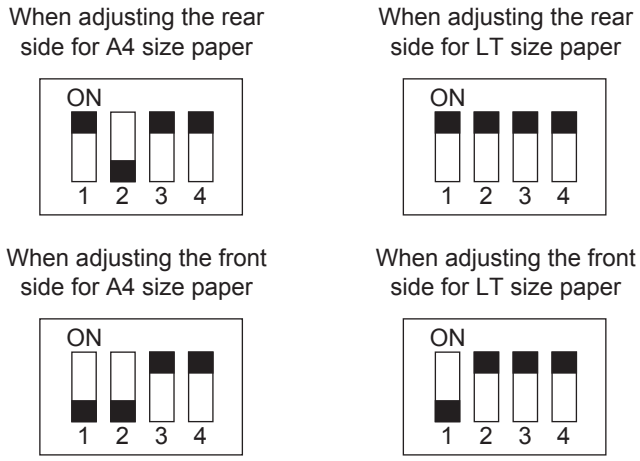

Fig. 27-24

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously. The alignment plate moves to the rear or front side stapling position and stops. (It stops at the position of -20 steps from the center value of the adjustment range.)

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(5) Press [Button 1] to adjust the stapling position.
Every time [Button 1] is pressed, the alignment plate shifts 4 steps (0.45 mm) toward the “+” direction. (It moves toward the rear side.)
Adjustment range is from -20 to +20 steps. If [Button 1] is pressed when the alignment position is at the “+20 steps”, the plate will return to the home position and then moves to the position of “-20 steps”.

Note:
Stapling for checking the position can be done by pressing [Button 2] with sheets placed on the finishing tray. (stapled on the rear side)

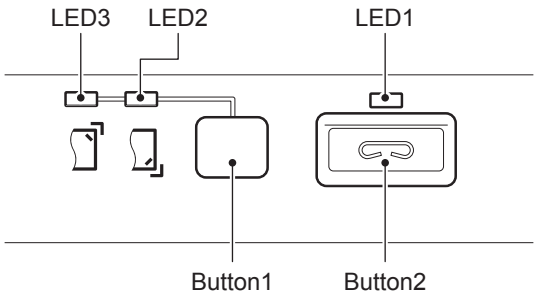

Fig. 27-25

(6) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory without sheets on the finishing tray.
When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-20
2	-16
3	-12
4	-8
5	-4
6	0
7	+4
8	+8
9	+12
10	+16
11	+20

(7) Turn OFF the power of the equipment.

(8) Turn OFF all bits of the SW1 on the Finisher control board.

(9) Install the board access cover.

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27.2.3 Stapling/folding position adjustment in saddle unit

Perform this adjustment when the saddle control PC board was replaced or the stapling/folding position must be changed for some reason.
Prepare 2 types of booklet samples using the main unit and use them for adjustment accordingly.

(1) Create 2 types of booklet samples (1 set each) using the main unit.

	Sample 1	Sample 2
Media type	Recommended paper	Recommended paper
Paper size	A4	A3
Number of sheets	5 sheets	5 sheets

(2) Measure the stapling and folding positions of the samples, and then perform adjustment accordingly.
For stapling and folding, paper on the stacker of the stacker unit is moved to an exclusive mechanism for stapling or folding. Therefore adjustment must be performed individually for the folding stopping position of the stacker and the stapling stopping position.

* Check the folding position at the centerfold page of the sample.

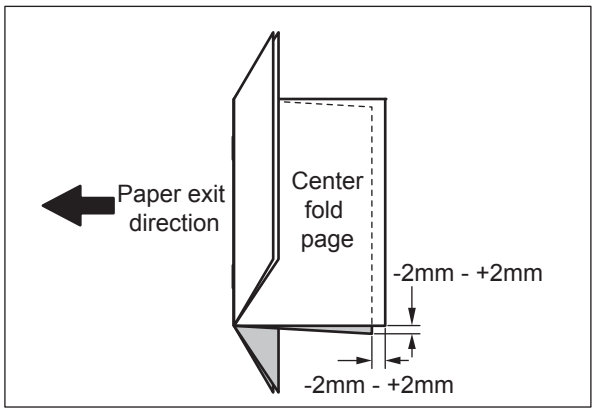

Fig. 27-26

* Check the stapling position at the centerfold page of the sample.

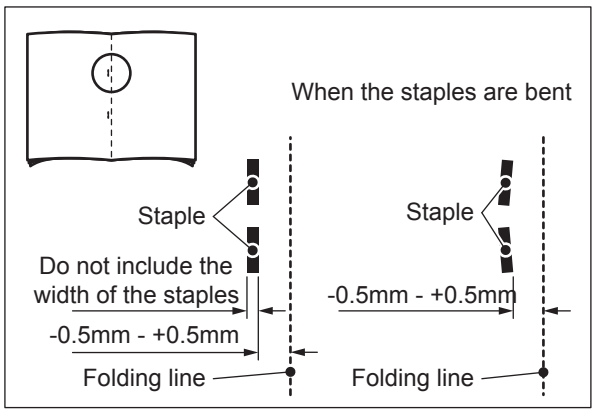

Fig. 27-27

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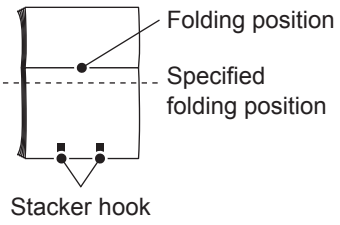
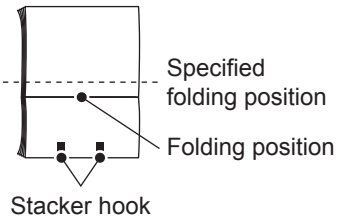
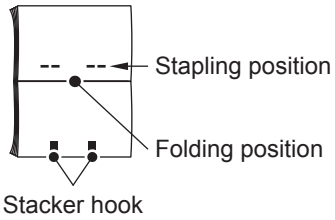
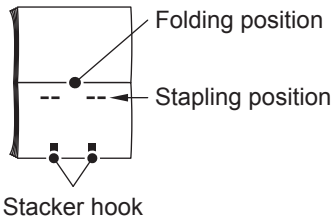
Note:

Perform adjustment for the folding position first because the stapling position must be adjusted referring to the folding line.

Phenomenon	Contents	Adjustment
 **Fig. 27-28**	When the folding position is deviates from the specified one by more than -2.0 mm	Increase the value of the folding position adjustment in order to move the folding stopping position (the position of the stapling hooks) of the stacker upward. (Refer to [1] Folding position adjustment)
 **Fig. 27-29**	When the folding position is deviates from the specified one by more than 2.0 mm	Decrease the value of the folding position adjustment in order to move the folding stopping position (the position of the stapling hooks) of the stacker downward. (Refer to [1] Folding position adjustment)
 **Fig. 27-30**	When the stapling position is deviated from the specified one more than -0.50 mm	Decrease the value of the stapling position adjustment in order to move the stapling stopping position (the position of the stapling hooks) of the stacker downward. (Refer to [2] Stapling position adjustment)
 **Fig. 27-31**	When the stapling position is deviated from the specified one more than 0.50 mm	Increase the value of the stapling position adjustment in order to move the stapling stopping position (the position of the stapling hooks) of the stacker upward. (Refer to [2] Stapling position adjustment)

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[1] Folding position adjustment

(1) Turn OFF the power of the equipment.

(2) Remove 2 screw and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

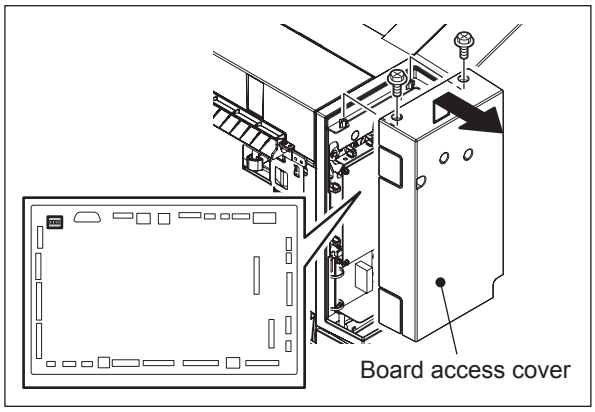

Fig. 27-32

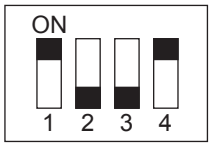

Fig. 27-33

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.

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(5) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 2 times, and [Button 2] once again. (Adjustment of LD and A3 paper starts.)

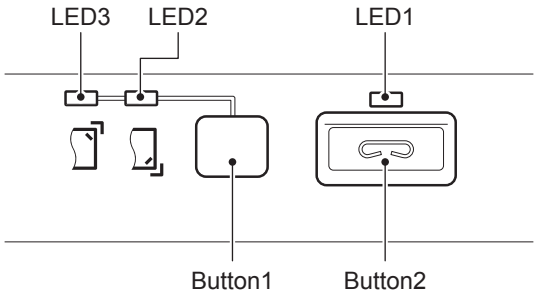

Fig. 27-34

[LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-7
2	-6
3	-5
4	-4
5	-3
6	-2
7	-1
8	0
9	+1
10	+2
11	+3
12	+4
13	+5
14	+6
15	+7

(6) Press [Button 1] to adjust the folding position.
Every time [Button 1] is pressed, the alignment plate shifts 1 steps (0.2 mm) toward the “+” direction. (The stacker moves upward and the folding position moves downward.)
Adjustment range is from -7 to +7 steps. If [Button 1] is pressed when the alignment position is at the “+7 steps”, the plate will return to the home position and then moves to the position of “-7 steps”.

(7) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory without sheets on the finishing tray.
When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.

(8) Press [Button 1] and [Button 2].(Adjustment of LD and A3 paper finishes.)

(9) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 4 times, and [Button 2] once again. (Adjustment of LG, B4, LT-R and A4-R paper starts.)
[LED 1] on the touch panel blinks for the number of times corresponding to the current adjustment value.
Perform adjustment for steps (6) to (8) in the same procedure.

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(10) Turn OFF the power of the equipment.

(11) Turn OFF all bits of the SW1 on the Finisher control board.

(12) Install the board access cover.

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[2] Stapling position adjustment

(1) Turn OFF the power of the equipment.

(2) Remove 2 screw and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

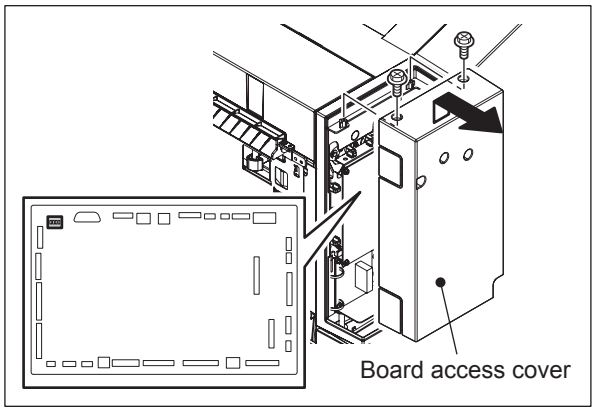

Fig. 27-35

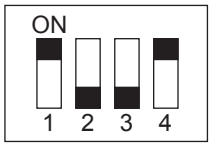

Fig. 27-36

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.

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(5) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] once again, and [Button 2] once again. (Adjustment of LD and A3 paper starts.)

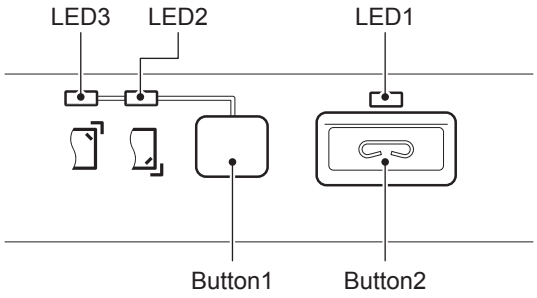

Fig. 27-37

[LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.
See the following table for the number of times [LED 1] blinks and its corresponding adjustment value.

Number of blinking	Adjustment value
1	-7
2	-6
3	-5
4	-4
5	-3
6	-2
7	-1
8	0
9	+1
10	+2
11	+3
12	+4
13	+5
14	+6
15	+7

(6) Press [Button 1] to adjust the stapling position.
Every time [Button 1] is pressed, the alignment plate shifts 1 steps (0.4 mm) toward the “+” direction.(The stacker moves upward and the stapling position moves downward.)
Adjustment range is from -7 to +7 steps. If [Button 1] is pressed when the alignment position is at the “+7 steps”, the plate will return to the home position and then moves to the position of “-7 steps”.

(7) When the adjustment is completed, press [Button 2] on the finisher control panel to store the adjustment value in memory.
When the value is stored normally, [LED 1] on the control panel will blink for a number of times that corresponds to the adjustment value set for the equipment.

(8) Press [Button 1] and [Button 2].(Adjustment of LD and A3 paper finishes.)

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(9) Press [Button 1] on the touch panel 10 times and then press [Button 2] once. Then press [Button 1] again 3 times, and [Button 2] once again. (Adjustment of LG, B4, LT-R and A4-R paper starts.)
[LED 1] on the touch panel blinks for the number of times corresponding to the current adjustment value.
Perform adjustment for steps (6) to (8) in the same procedure.

(10) Turn OFF the power of the equipment.

(11) Turn OFF all bits of the SW1 on the Finisher control board.

(12) Install the board access cover.

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27.2.4 Adjusting paper exit speed

[1] Adjusting procedure

[A] DIP switch settings

(1) Turn OFF the power of the equipment.

(2) Remove 2 screws and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

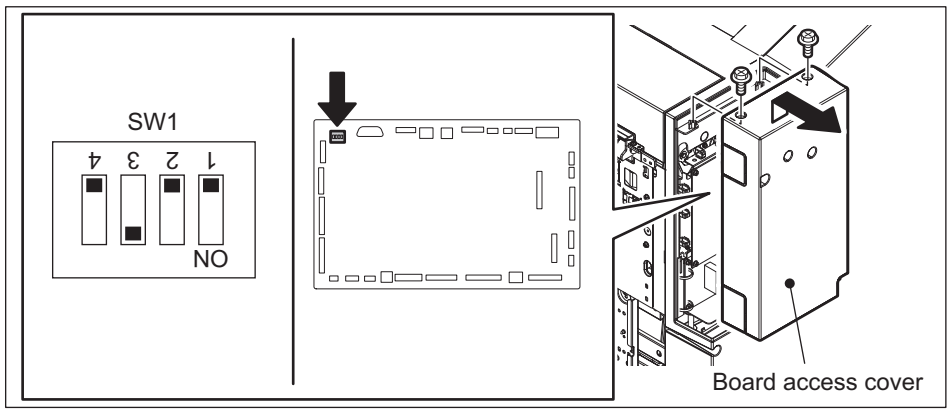

Fig. 27-38

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.

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[B] Paper type settings

(1) Press [Button1] 11 times and then press [Button2] once.
Check the setting list and press [Button1] as many times as noted for Setting code No. 2 whose operation you want to check, and then press [Button2] once.

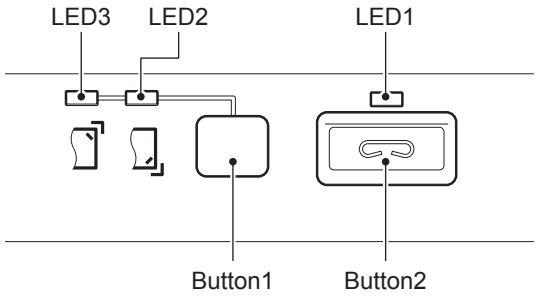

Fig. 27-39

<Setting list>

Paper type	Setting code
Plain paper	4
Thick paper 1	5
Thick paper 2	6
Thick paper 3	7

* Example of operation
If you want to select the plain paper, the number of Setting code is "4".
Therefore press [Button1] 11 times and the press [Button2] once. Then press [Button1] 4 times and the press [Button2] once. This selects the plain paper.

(2) Press [Button1] and [Button2] simultaneously.

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[C] Paper size settings

(1) Check the setting list and press [Button1] as many times as noted for Setting code No.1 whose paper size you want to select, and then press [Button2] once.
Then check the setting list and press [Button1] as many times as noted for Setting code No.2 whose paper size you want to select, and then press [Button2] once.

<Setting list>

Paper size	Setting code No. 1	Setting code No. 2
Others	12	1
A3	12	2
A4	12	3
A4-R	12	4
A5	12	5
A5-R	12	6
A6-R	12	7
B4	12	8
B5	12	9
B5-R	13	1
FOLIO	13	2
LD	13	3
LG	13	4
LT	13	5
LT-R	13	6
ST	13	7
ST-R	13	8
COMP	13	9
13”LG	14	1
8.5”SG	14	2
8K	14	3
16K	14	4
16K-R	14	5
A3 wide	14	7

(2) Press [Button1] and [Button2] simultaneously.

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[D] Paper exit speed settings

(1) Check the number of LED blinking times.

The default settings of the number of LED blinking times in the media type and paper size, which are set in [B] and [C], are shown in the table below.

	Plain paper	Thick paper 1	Thick paper 2	Thick paper 3
Others	12	16	16	16
A3	15	16	16	16
A4	10	16	16	16
A4-R	12	16	16	16
A5	16	16	16	16
A5-R	16	16	16	16
A6-R	16	16	16	16
B4	15	16	16	16
B5	9	16	16	16
B5-R	16	16	16	16
FOLIO	15	16	16	16
LD	15	16	16	16
LG	15	16	16	16
LT	10	16	16	16
LT-R	12	16	16	16
ST	16	16	16	16
ST-R	16	16	16	16
COMP	15	16	16	16
13”LG	15	16	16	16
8.5”SQ	12	16	16	16
8K	15	16	16	16
16K	12	16	16	16
16K-R	12	16	16	16
A3 wide	15	16	16	16

*Example
When A3 and plain paper are set in [B] and [C], the number of LED blinking times is 15.

(2) Press [Button1] for the number of LED blinking times you want to set.

Note:
The larger the number you set is, the faster the paper exiting speed becomes.
The smaller the number you set is, the slower the paper exiting speed becomes.
After changing the setting, check the number of LED blinking times.Normally, the number of LED blinking times is increased by 1 from the default. If paper trailing edge remaining still persists, increase the number by 2 from the default.

*Example of operation
To change the number of LED blinking times from 15 to 16, press [Button1] 16 times.

(3) Press [Button2] once.

(4) Press [Button1] and [Button2] simultaneously.

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[E] Paper exit tray switching settings

Set the switching timing of the paper exit from the movable tray to the finishing tray.
If the problem is not suppressed through Steps [A] to [D], perform the following steps.

(1) Turn OFF the power of the equipment.

(2) Remove 2 screws and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

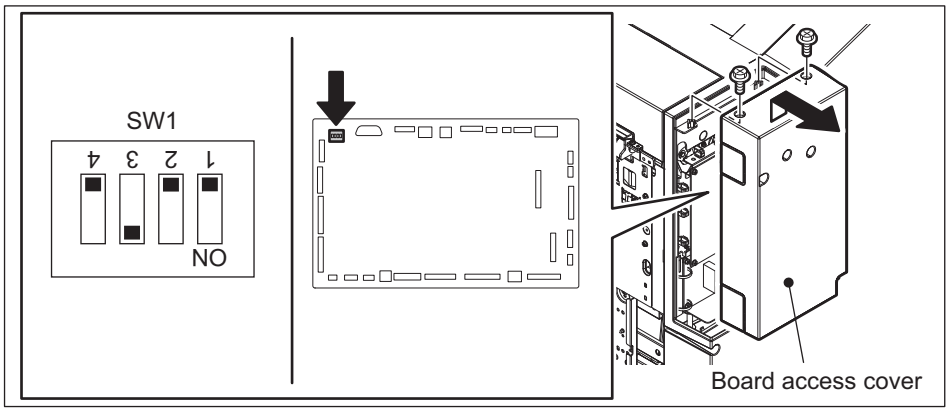

Fig. 27-40

(4) Turn ON the power of the equipment while [0] button and [8] button are pressed simultaneously.

(5) Press [Button1] 11 times and then press [Button2] once.

(6) Press [Button1] 13 times and then press [Button2] once.

(7) Check the following list and press [Button1] as many times as noted for Adjustment value whose switching timing you want to select.
*The number of blinking times is set to "1" as a default.
If you want to change the number of blinking times from "1" to "3", press [Button1] 3 times.

Switching timing	Number of blinking time
Approx. 500 sheets with plain paper	1
100 sheets with plain paper	2
0 sheet with plain paper	3

(8) Press [Button2] once.

(9) Press [Button1] and [Button2] simultaneously.

(10) Turn OFF the power of the equipment.

(11) Turn OFF all bits of SW1 on the Finisher control board as shown below.

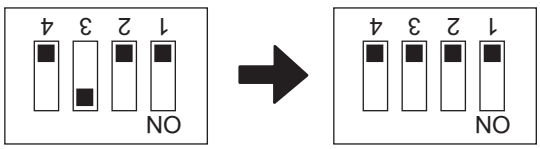

Fig. 27-41

(12) Install the board access cover with 2 screws.

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[2] Resetting procedure

The setting values which are set in 🕮 P.27-21 "27.2.4 Adjusting paper exit speed" can be reset with the following steps.

(1) Turn OFF the power of the equipment.

(2) Remove 2 screws and take off the board access cover.

(3) Set the SW1 on the Finisher control board as shown in the figures below.

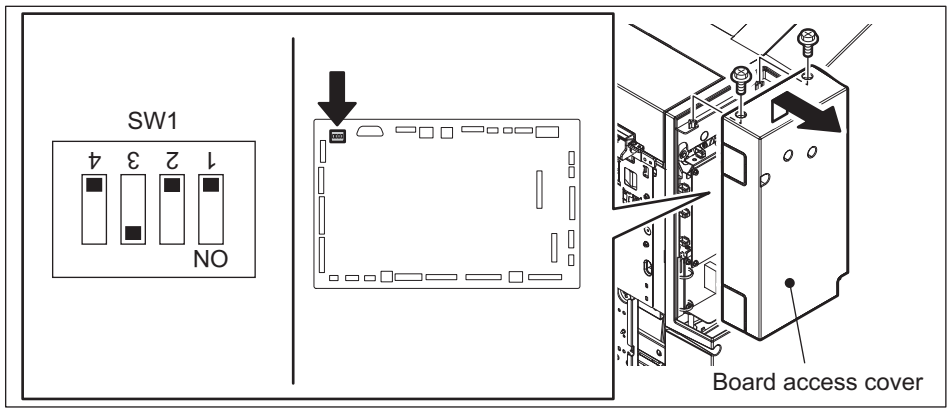

Fig. 27-42

(4) Turn ON the power of the equipment while pressing the [0] button and the [8] button simultaneously.

(5) Press [Button1] 11 times, press [Button2] once, press [Button1] 11 times and then press [Button2] once.

(6) Press [Button1] and [Button2] simultaneously.

(7) Turn OFF the power of the equipment.

(8) Turn OFF all bits of SW1 on the Finisher control board as shown below.

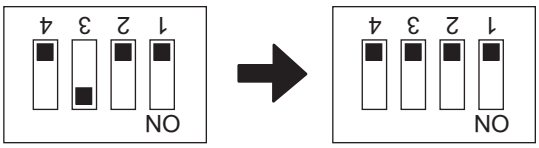

Fig. 27-43

(9) Install the board access cover with 2 screws.

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27.3 Harness Connection for Damp Heaters

The harnesses of the damp heaters are not connected with the Filter PC board (FIL board) at the shipment. Connect the harnesses following the procedure below only when a user wants to use the damp heaters.

Notes:

- This procedure is not necessary for the equipment (regardless of its destination) in which the damp heaters are not installed.
- The reason why the harnesses are not connected at the shipment is to save energy in the sleep mode, complying with the Energy Star standards.

(1) Turn OFF the power and unplug the power cable.
(2) Remove 10 screws and then take off the rear cover.

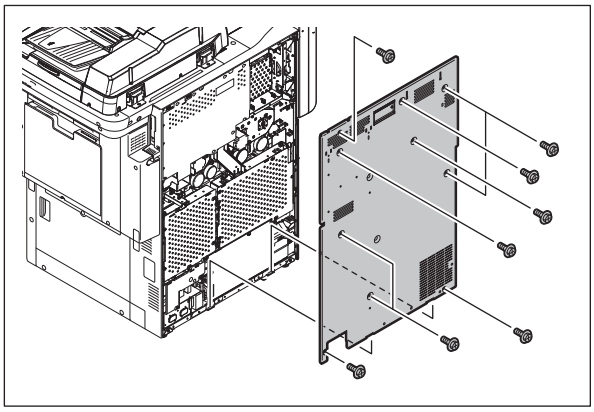

Fig. 27-44

(3) Pull out the harness of the damp heater.

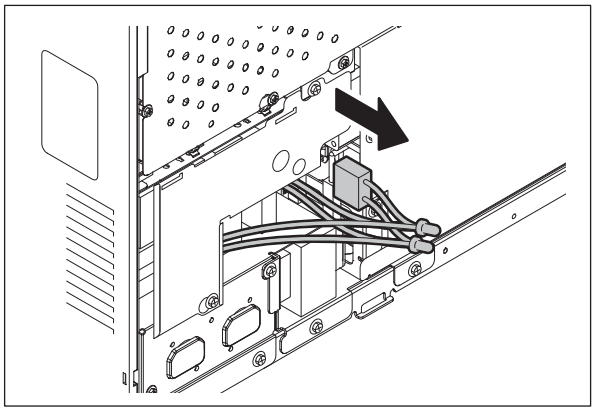

Fig. 27-45

(4) Connect the connector with the CN432 of the FIL board.
(5) Install the rear cover and plug the power cable.

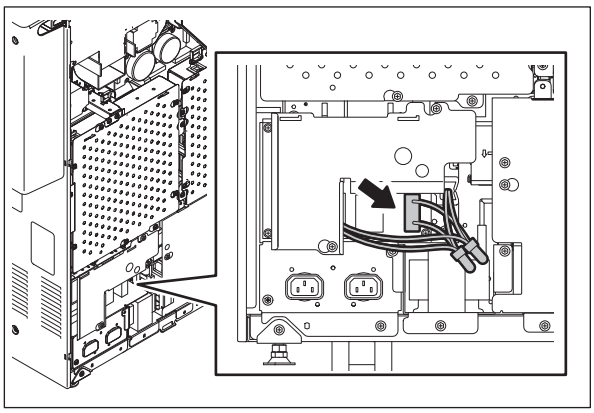

Fig. 27-46

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28. EXTERNAL COUNTERS

28.1 Outline

This specification describes the interface between external counters, such as Coin Controller and Key Counter.

28.2 Signal

Note:
Regarding the output signals of TD62385 (CTRON), use 24V supplied from the equipment side as power.

[A] Pin Layout

1. Connector on the LGC board: CN318 (JST-made B16B-CZWHK-B-1(LF)(SN)) (Coin Controller)

Pin No.	I/O	Signal name	Function	Voltage level	Remarks	Coin Cont-roller	Key Counter
A1	Power	+24V	24V line	DC24V+10%, -5%	When cover opened: OFF	In use	-
A2	Out	CTRON	Total Counter On Signal	Open Collector (TD62385F)	L: ON	In use	-
A3	In	CTRCNT	Copy permission Signal 1	L=0V, H=DC5V	L: Allowed	In use	-
A4	Out	MCRUN	Ready to Copy Signal	Open Collector (SN7407)	L: Operating	In use	-
A5	Out	EXTCTR	Exit Sensor On Signal	Open Collector (SN7407)	L: ON	In use	-
A6	GND	PG	Power ground	0V		In use	-
A7	Out	BKCTR	Black mode Counter Signal	Open Collector (SN7407)	L: ON	-	-
A8	Out	MNCTR	Mono color mode Counter Signal	Open Collector (SN7407)	L: ON	-	-
B1	Out	FLCTR	Full color mode Counter On Signal	Open Collector (SN7407)	L: ON	-	-
B2	GND	SG	Signal Ground	0V		-	-
B3	Out	SIZE3	Paper size Signal	Open Collector (SN7407)	L: ON	-	-
B4	Out	SIZE2	Paper size Signal	Open Collector (SN7407)	L: ON	-	-
B5	Out	SIZE1	Paper size Signal	Open Collector (SN7407)	L: ON	-	-
B6	Out	SIZE0	Paper size Signal	Open Collector (SN7407)	L: ON	-	-
B7	Power	+5V (Sleep)	5V line	DC5V±3%	At the sleep mode:OFF	In use	-
B8	In-	CTRCNT2	-	-		-	-

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2. Connector on the SYS board: CN127 (JST-made B7B-PH-SM4) (Coin Controller)

Pin No.	I/O	Signal name	Function	Voltage level	Remarks	Coin Cont-roller	Key Counter
1	Out	LARGE / SMALL	Paper size Signal	Open Collector (LCX07)	L: Large size	In use	-
2	Out	FULL COLOR	Full color mode Signal	Open Collector (LCX07)	L: Full color	In use	-
3	Out	TWN/ MON COLOR	Twin color / Mono color Mode Signal	Open Collector (LCX07)	L: Twin colors	In use	-
4	Out	B/W	Black mode Signal	Open Collector (LCX07)	L: Black	In use	-
5	-	N.C.	-	-		-	-
6	GND	GND	Signal Ground	-		In use	-
7	-	N.C.	-	-		-	-

3. Counter on the LGC board: CN317 (AMP-made 292132-4) (Key Counter)

Pin No.	I/O	Signal name	Function	Voltage level	Remarks	Coin Cont-roller	Key Counter
1	GND	SG	Signal Ground	0V		-	In use
2	In	KCTRC	Key Counter Connection Signal	L=0V, H=DC5V	L: Connected H: Not connected	-	In use
3	Power	+24V	24V line	DC24V+10%, -5%	When cover opened: OFF	-	In use
4	Out	KCTRON	Key Counter On Signal	Open Collector (TD62308F)	L: ON	-	In use

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[B] Details of the signals

1. CTRON signal and KCTRON signal (output signals)
   These signals are synchronized with electronic counter of the equipment and they become “Low” when one sheet of paper is counted up. They are the signals for the coin controller and key counter, and output from the LGC board. Since TD62385 and TD62308 are used as the driver, the mechanical counter can be driven directly.
   Only with the KCTRON signal, the counter will make “Double count” if 08-352 (count setting of large size paper) is set to “1” or “2”.

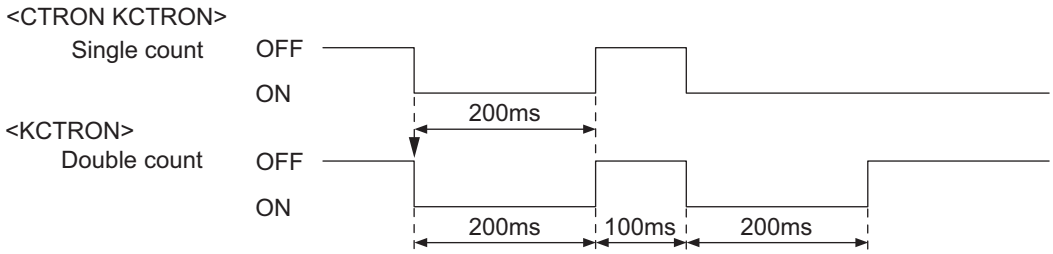

Fig. 28-1

2. CTRCNT signal and KCTRC signal (input signals)
   The CTRCNT signal enables to accept copies when the coin controller is connected, and copies can be accepted with “Low”. In case of “High”, “Set Key Counter” appears and copies cannot be made.
   The KCTRC signal enables to accept copies when the key counter is connected, and copies can be accepted with “Low”. In case of “High”, “Set Key Counter” appears and copies cannot be made.

3. MCRUN signal (output signal)
   The MCRUN signal is changed to “Low” during copying. It becomes “Low” at 30 ms or more before the CTRON signal becomes ON, and becomes “High” at 50 ms or more after the EXTCTR signal becomes OFF.
   However, if copying is interrupted due to forced toner supply or similar, this signal is “High” until the copying is available.
   This is the signal for the coin controller.

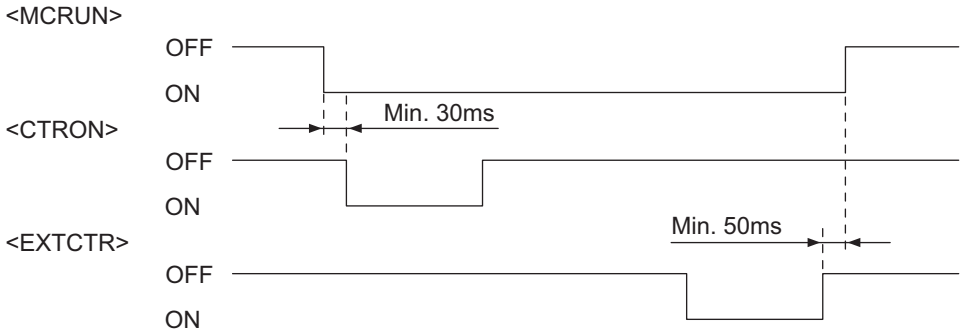

Fig. 28-2

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4. EXTCTR signal (output signal)
   The EXTCTR signal is synchronized with “Exit sensor ON” and becomes “Low” (ON) for 200 ms.
   The coin controller counts the number of times with this signal.
   This is the signal only for the coin controller.

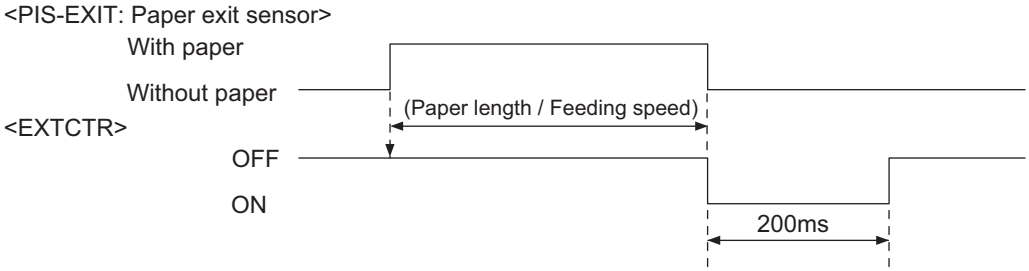

Fig. 28-3

5. LARGE/SMALL signal (output signal)
   When large size paper (A3 / A3 wide / LD) is selected or paper size is not specified with the manual feeding, it outputs “Low” in real time. In other cases, it outputs “High”. The setting change for large size paper is performed with F/W.
   This is the signal only for the coin controller.

6. FULL COLOR signal (output signal)
   If the full color mode is selected, it outputs “Low” in real time. In other cases, it outputs “High”. By default, it outputs “Low” since it is set as full color mode.
   This is the signal only for the coin controller.

7. TWN / MON COLOR signal (output signal)
   If the twin color or mono color mode is selected, it outputs “Low” in real time. In other cases, it outputs “High”. This is the signal only for the coin controller.

8. B/W signal (output signal)
   If the black mode is selected, it outputs “Low” in real time. In other cases, it outputs “High”. This is the signal only for the coin controller.

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28.3 Notices

[A] Setting code

Each signal will be enabled by configuring the setting code “08-202” (Counter installed externally).

08-202
0: No external counter (Default)
1: Coin controller
2: Card controller (For Japan only)
3: Key copy counter

[B] Setting value change and restrictions when using the Card controller

1. Setting value
   - 08-202 (Counter installed externally): Set to “2” (Card controller).
   - 08-381 (Setting for counter installed externally): It should be charged precisely according to the usage.
     Example: To charge only when copies are made, set to “1”.

2. Restrictions
   - 08-352 (Large size double count setting): Set to “0” (Single count).

[C] Setting value change and restrictions when using the coin controller

1. Setting value
   - 08-202 (Counter installed externally): Set to “1” (Coin controller).
   - 08-381 (Setting for counter installed externally): It should be charged precisely according to the usage.
     Example: To charge only when copies are made, set to “1”.

2. Restrictions
   For 08-353 (Large size double count setting), set to “0” when A3 and LD are specified as the large size, and set to “1” when B4, LG, FOLIO and COMP are specified as the large size in addition to A3 and LD.

[D] Setting value change and restrictions when using the key counter

1. Setting value
   - 08-202 (Counter installed externally): Set to “3” (key counter)
   - 08-381(Setting for counter installed externally): It should be charged precisely according to the usage.
     Example: To charge only when copies are made, set to “1”.

2. Restrictions
   For 08-353 (Large size double count setting), set to “0” when A3 and LD are specified as the large size, and set to “1” when B4, LG, FOLIO and COMPUTER are specified as the large size in addition to A3 and LD.

[E] Installation of External Counter

It is not allowed to install more than one external counter (Key Counter, Card controller and Coin controller) at the same time. Physically, the card controller and coin controller cannot be installed together since the output signals are in common.

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29. PC BOARDS

[A] PWA-F-SYS

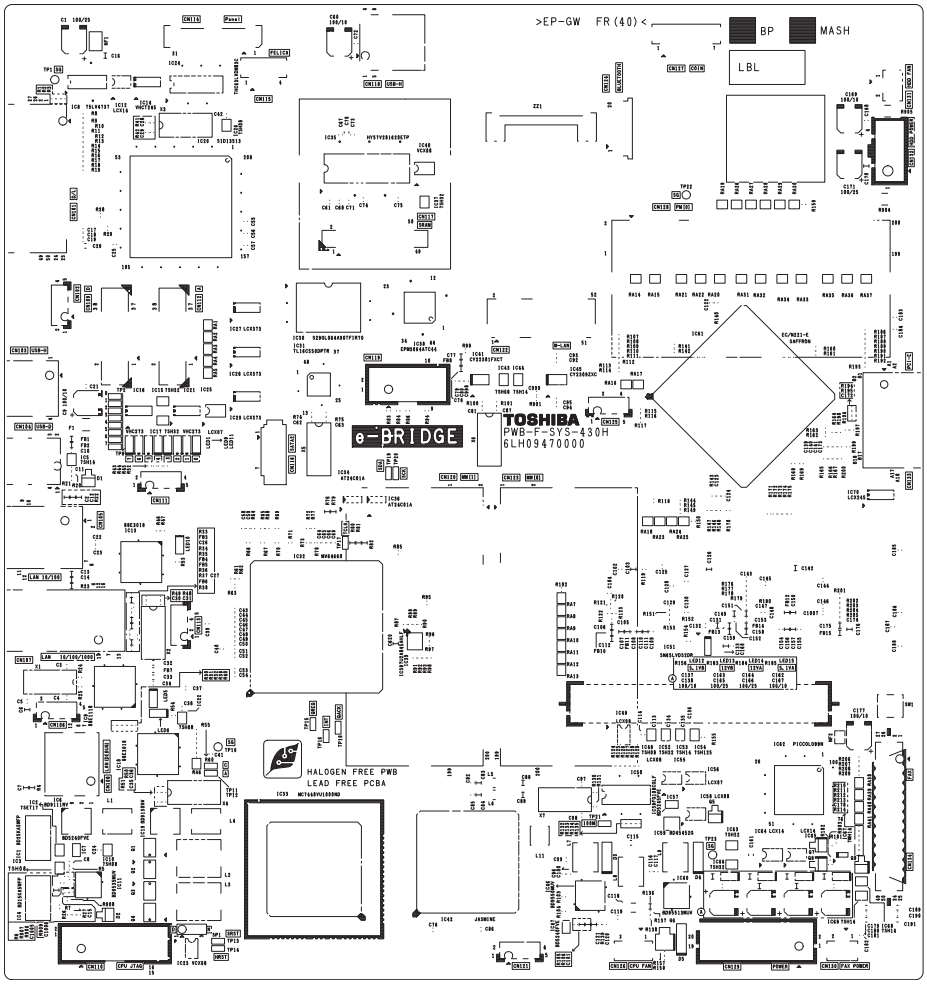

Fig. 29-1

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[B] PWA-F-LGC

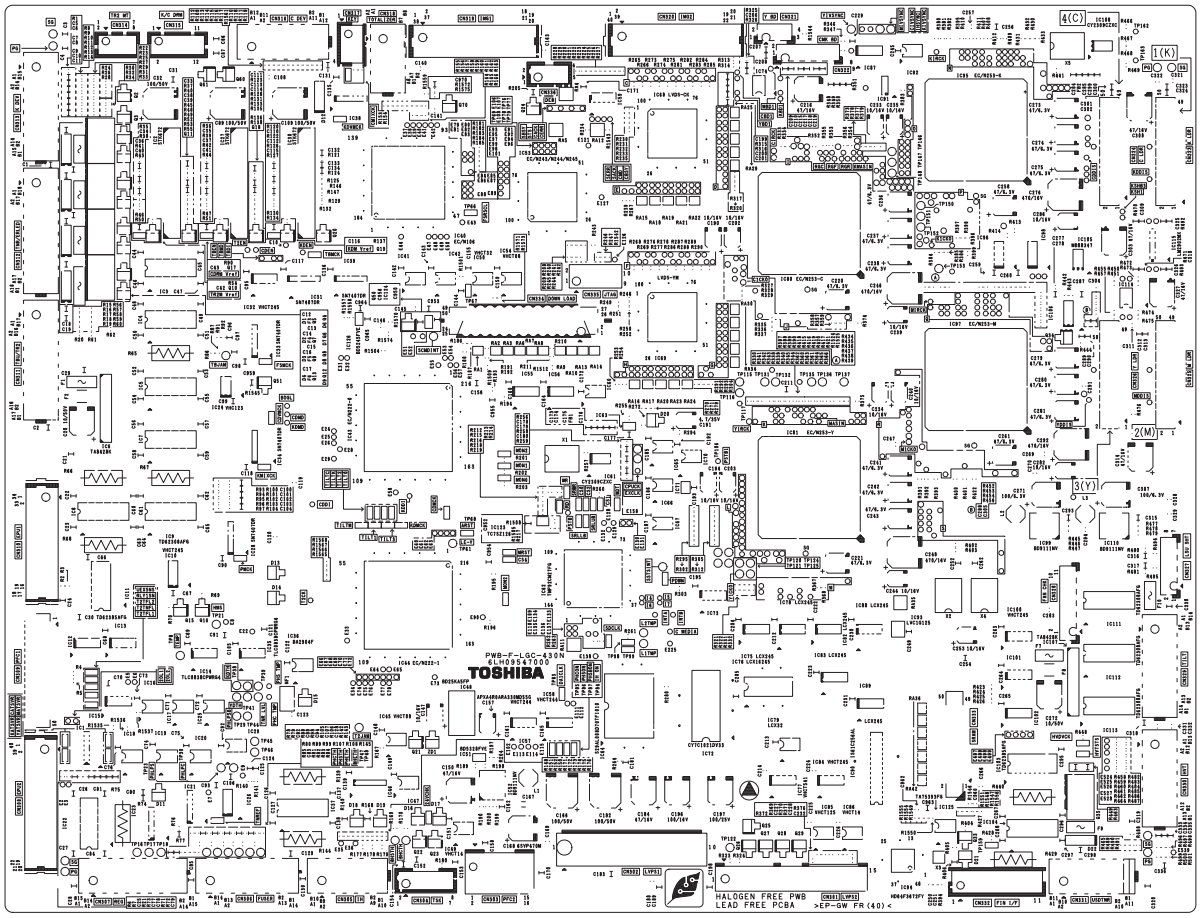

Fig. 29-2

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[C] PWA-F-PFC

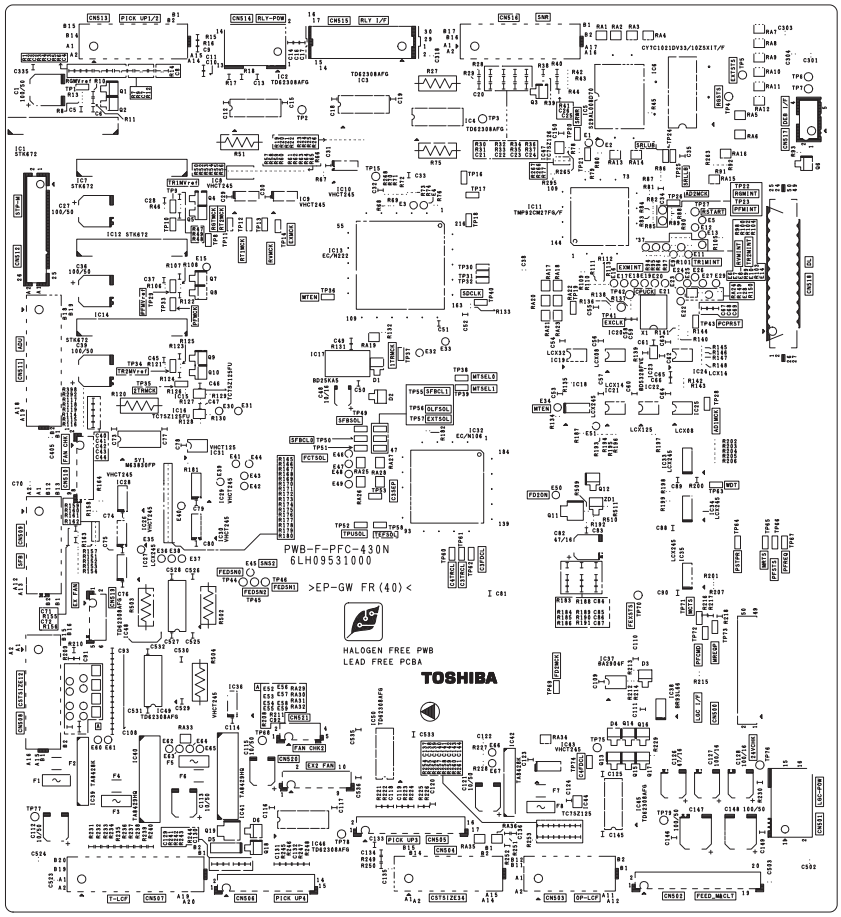

Fig. 29-3

[D] PWA-F-IMG

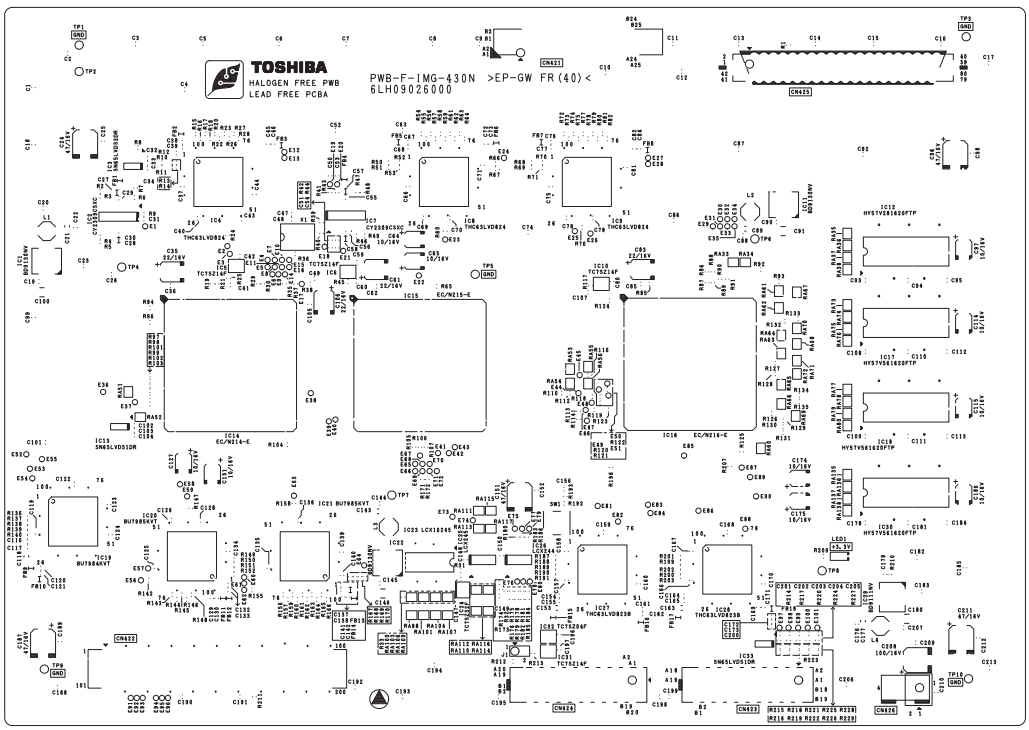

Fig. 29-4

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[E] PWA-F-CCD

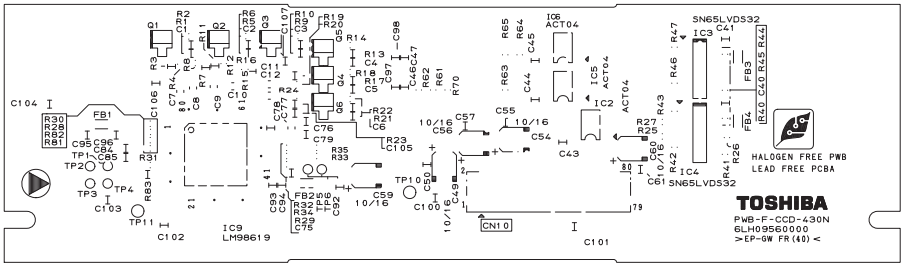

Fig. 29-5

[F] PWA-F-SLG

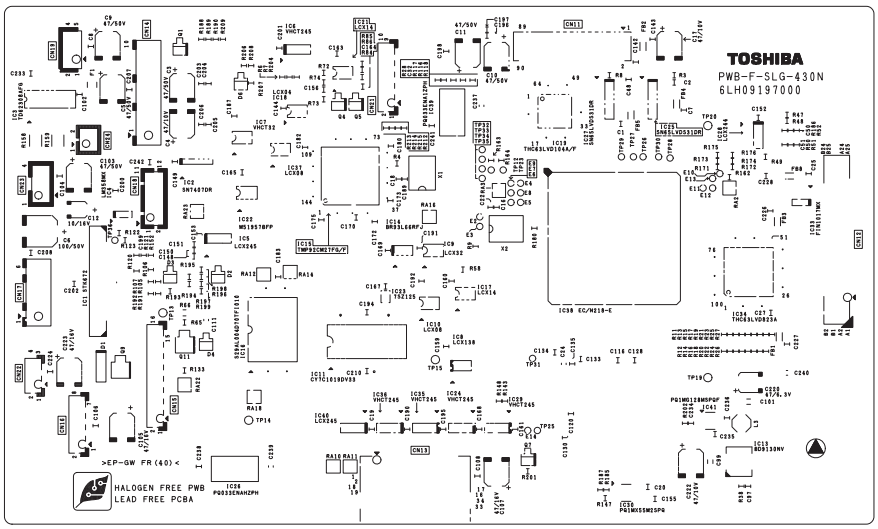

Fig. 29-6

[G] PWA-F-ADU

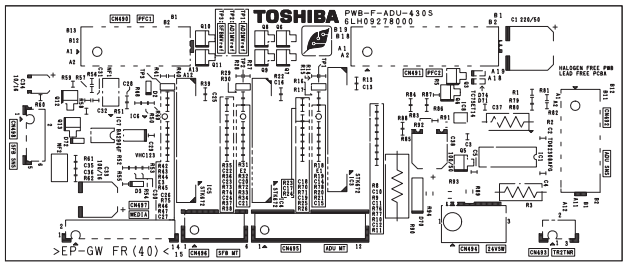

Fig. 29-7

[H] PWA-F-EPU

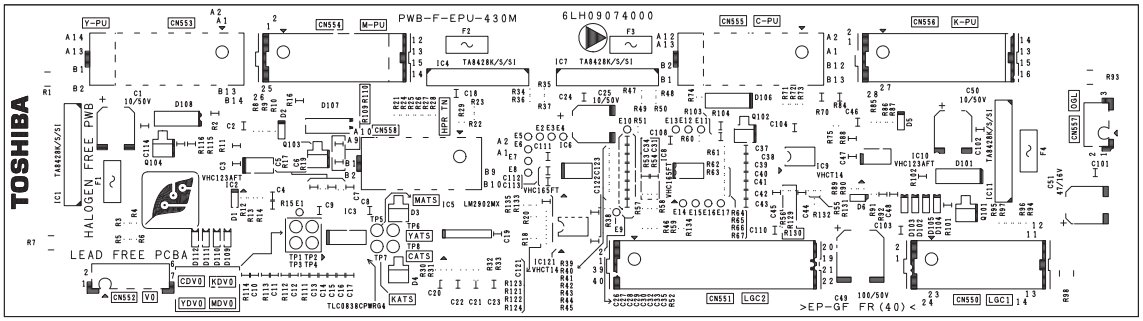

Fig. 29-8

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[I] PWA-F-DRV

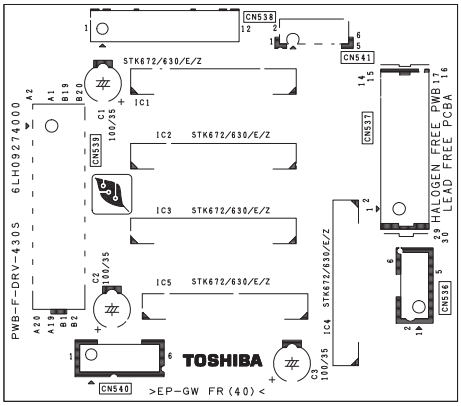

Fig. 29-9

[J] PWA-F-LDR

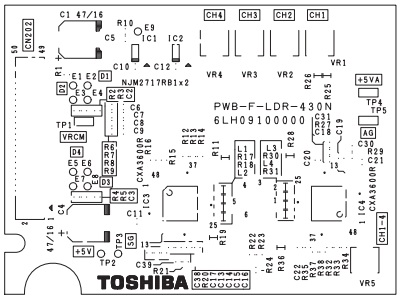

Fig. 29-10

[K] PWA-F-SNS

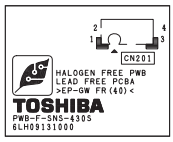

Fig. 29-11

29

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[L] PWA-F-FIL

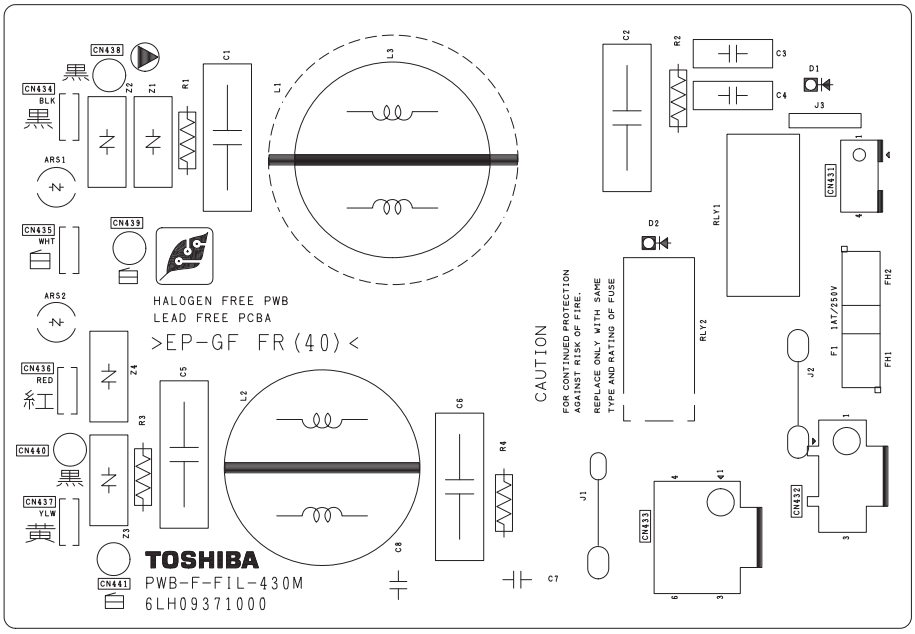

Fig. 29-12

[M] PWA-F-SRAM

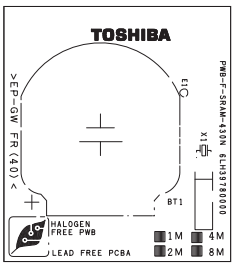

Fig. 29-13

[N] PWA-F-DLG

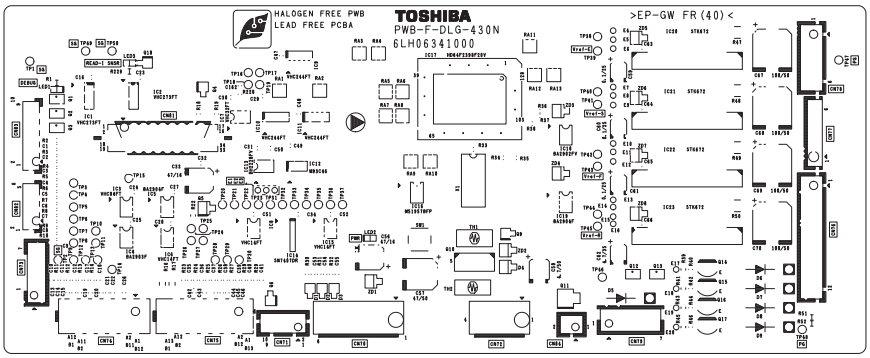

Fig. 29-14

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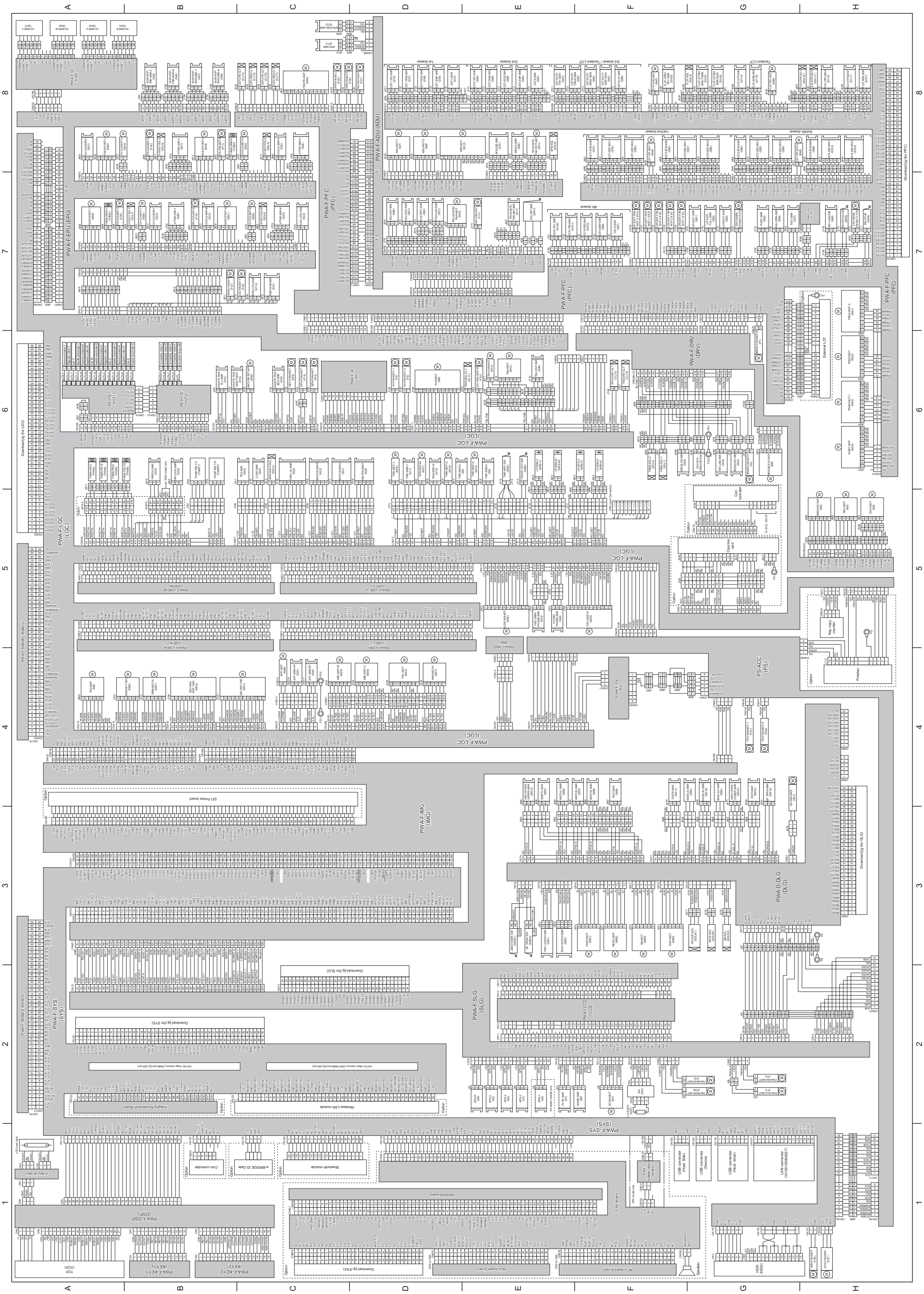
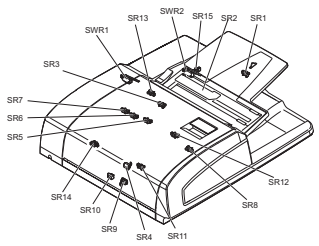
30.1 DC Wire Harness

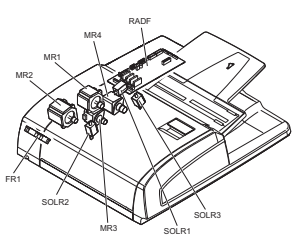


30.2 Electric Parts Layout

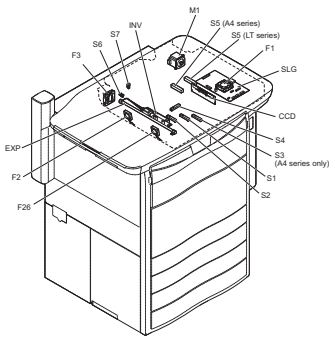
[A]-1 Reversing Automatic Document Feeder (RADF)



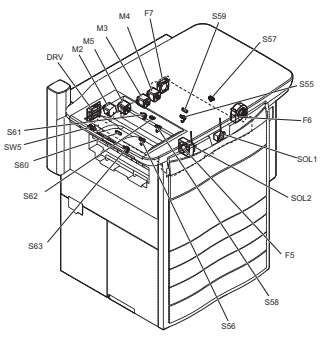
[A]-2 Reversing Automatic Document Feeder (RADF)



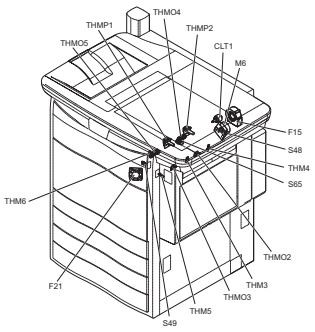
[B] Scanner unit



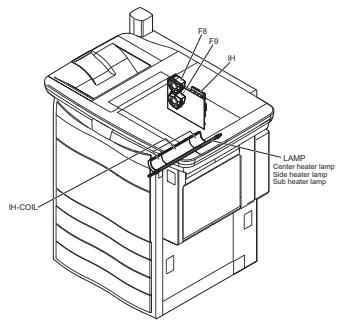
[C] Bridge unit/Paper exit



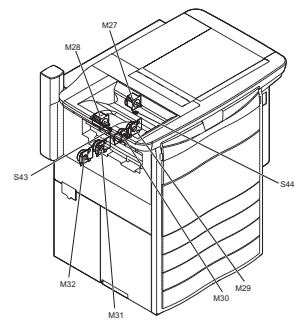
[D]-1 Fuser related section



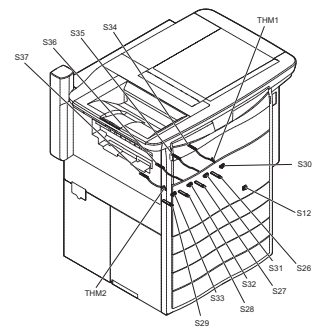
[D]-2 Fuser related section



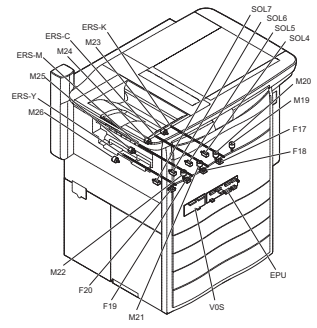
[E]-1 Developer unit



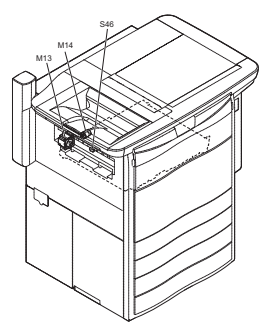
[E]-2 Developer unit



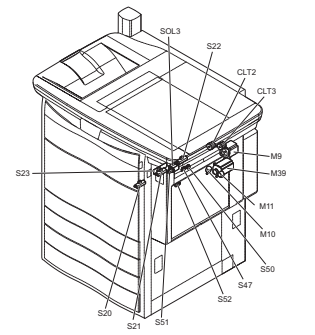
[E]-3 Developer unit



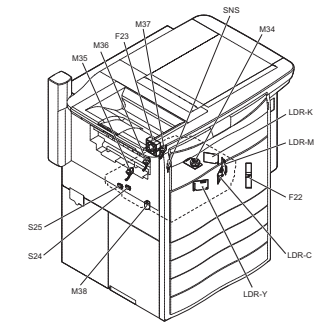
[F] Transfer belt unit



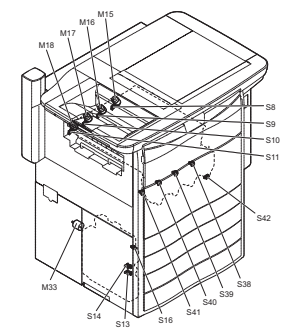
[G] Transfer unit



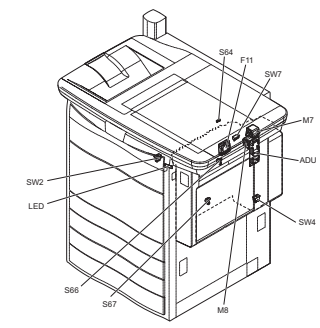
[H] Laser unit



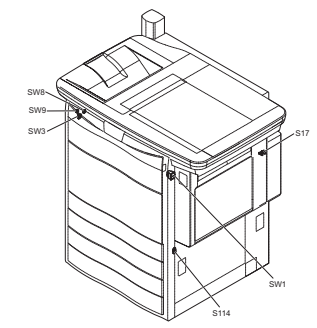
[I] Toner cartridge/Waste toner box



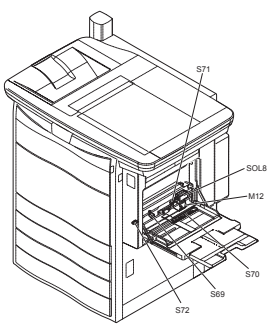
[J] Automatic duplexing unit



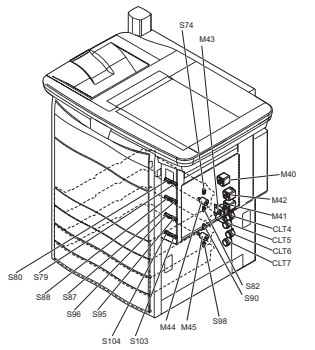
[K] Cover switches/Cover sensor/TRU waste toner box



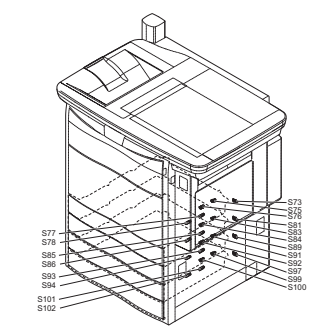
[L] Bypass feed unit



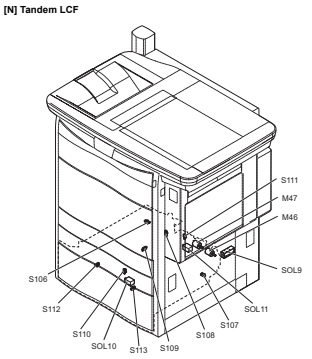
[M]-1 Paper feeding section



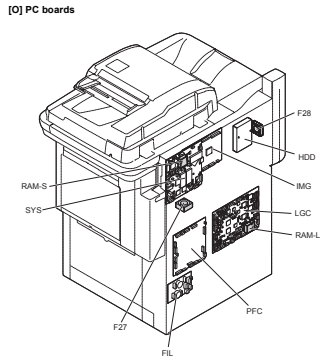
[M]-2 Paper feeding section



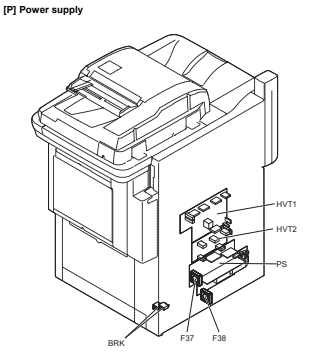
[N] Tandem LCF



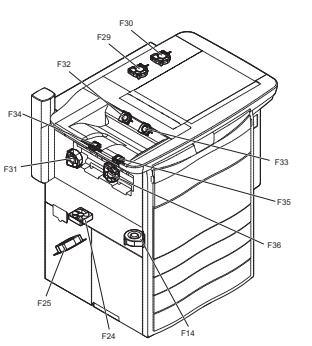
[O] PC boards



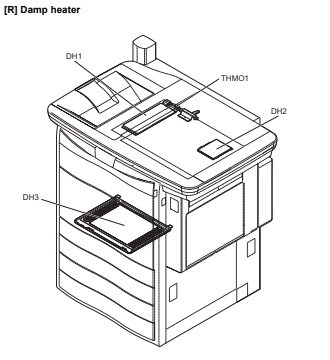
[P] Power supply



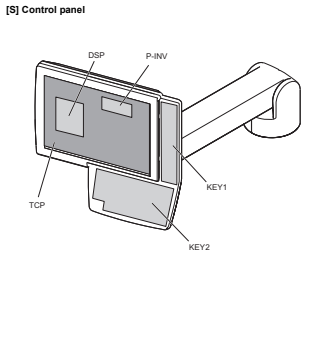
[Q] Fans



[R] Damp heater



[S] Control panel



Motors

Symbol	Name	Figure	Wire harness location
MR1	FEED-MOT Original feed motor	[A]-2	3-F
MR2	READ-MOT Read motor	[A]-2	3-F
MR3	SB-MOT Original reverse motor	[A]-2	3-F
MR4	EXIT-MOT Original exit motor	[A]-2	3-G
M1	SCAN-MOT Scan motor	[B]	2-F
M2	EXIT-MOT Exit motor	[C]	6-H
M3	REV-MOT Reverse motor	[C]	6-H
M4	BRIDGE-ENT-MOT Bridge unit transport entrance motor	[C]	6-H
M5	BRIDGE-EXIT-MOT Bridge unit transport exit motor	[C]	6-G
M6	FUS-MOT Fuser motor	[D]-1	6-D
M7	ADU-MOT-1 ADU motor-1	[J]	8-D
M8	ADU-MOT-2 ADU motor-2	[J]	8-D
M9	TR2-MOT 2nd transfer motor	[G]	4-A
M10	TRU-WASTE-TNR-MOT TRU waste toner motor	[G]	7-D
M11	TRU-WASTE-TNR-TEPT-MOT TRU waste toner transport motor	[G]	8-E
M12	SFB-MOT Bypass motor	[L]	8-D
M13	TBU-MOT Transfer belt motor	[F]	7-E
M14	TBU-CAM-MOT Transfer belt cam motor	[F]	7-E
M15	TNR-MOT-K Toner motor-K	[I]	6-E
M16	TNR-MOT-C Toner motor-C	[I]	6-D
M17	TNR-MOT-M Toner motor-M	[I]	6-D
M18	TNR-MOT-Y Toner motor-Y	[I]	6-D
M19	SUB-HOP-MOT-K Sub-hopper toner motor-K	[E]-3	8-B
M20	SUB-HOP-MOT-C Sub-hopper toner motor-C	[E]-3	8-A
M21	SUB-HOP-MOT-M Sub-hopper toner motor-M	[E]-3	7-B
M22	SUB-HOP-MOT-Y Sub-hopper toner motor-Y	[E]-3	7-A
M23	CH-CLN-MOT-K Needle electrode cleaner motor-K	[E]-3	8-C
M24	CH-CLN-MOT-C Needle electrode cleaner motor-C	[E]-3	8-B
M25	CH-CLN-MOT-M Needle electrode cleaner motor-M	[E]-3	7-C
M26	CH-CLN-MOT-Y Needle electrode cleaner motor-Y	[E]-3	7-B
M27	DRM-MOT-K Drum motor-K	[E]-1	4-B
M28	DRM-MOT-YMC Drum motor-YMC	[E]-1	4-B
M29	DEV-MOT-K Developer unit motor-K	[E]-1	5-F
M30	K-DEV-MIX-MOT Developer unit mixer motor-K	[E]-1	5-E
M31	DEV-MOT-YMC Developer unit motor-YMC	[E]-1	4-C
M32	DEV-MIX-MOT-YMC Developer unit mixer motor-YMC	[E]-1	4-B
M33	WASTE-TNR-TRPT-MOT Waste toner transport motor	[I]	6-C
M34	POL-MOT Polygonal motor	[H]	5-D
M35	MIR-MOT-M Mirror motor-M	[H]	5-C
M36	MIR-MOT-C Mirror motor-C	[H]	5-D
M37	MIR-MOT-K Mirror motor-K	[H]	5-D
M38	SHT-MOT Shutter motor	[H]	5-C
M39	RGST-MOT Registration motor	[G]	6-H
M40	TRNS-MOT-1 Transport motor-1	[M]-1	6-H
M41	TRNS-MOT-2 Transport motor-2	[M]-1	7-H
M42	FEED-MOT Feed motor	[M]-1	7-H
M43	FED/TR-MOT Feed/transport motor	[M]-1	8-C
M44	CST-TRY-MOT-1 Tray-up motor-1	[M]-1	8-F
M45	CST-TRY-MOT-2 Tray-up motor-2	[M]-1	8-G
M46	YLCF-TRY-MOT Tandem LCF tray-up motor	[N]	8-G
M47	TLCF-END-MOT Tandem LCF end fence motor	[N]	8-F

Fans

Symbol	Name	Figure	Wire harness location
FR1	DF-FAN-MOT RADF cooling fan	[A]-2	4-H
F1	FAN-SLG-MOT SLG board cooling fan	[B]	2-G
F2	FAN-INV-MOT Scanner unit cooling fan-1	[B]	2-G
F3	FAN-REAR-MOT Exposure lamp cooling fan-1	[B]	2-F
F5	EXIT-PAPER-FAN-MOT-R Exit paper cooling fan (front)	[C]	7-G
F6	BRIDGE-FAN-MOT-F Bridge unit cooling fan (front)	[C]	6-G
F7	BRGE-FAN-MOT-R Bridge unit cooling fan (rear)	[C]	7-G
F8	IH-FAN-MOT-1 IH board cooling fan-1	[D]-2	6-D
F9	IH-FAN-MOT-2 IH board cooling fan-2	[D]-2	6-D
F11	ADU-FAN-MOT Reversed paper cooling fan	[J]	7-E
F14	EPU-FAN-MOT EPU cooling fan	[Q]	6-C
F15	EXIT-PAPER-FAN-MOT-F Exit paper cooling fan (rear)	[D]-1	7-H
F17	EPU-FAN-MOT-K Main charger blowing fan-K	[E]-3	8-B
F18	EPU-FAN-MOT-C Main charger blowing fan-C	[E]-3	8-B
F19	EPU-FAN-MOT-M Main charger blowing fan-M	[E]-3	7-B
F20	EPU-FAN-MOT-Y Main charger blowing fan-Y	[E]-3	7-B
F21	TNR-CTRG-FAN-MOT Toner cartridge heat insulation fan	[D]-1	8-C
F22	LSU-FAN-MOT-F Laser optical unit cooling fan (Front)	[H]	7-C
F23	LSU-FAN-MOT-R Laser optical unit cooling fan (Rear)	[H]	7-E
F24	QZN-FAN-MOT Ozone suctioning fan	[Q]	6-C
F25	DEV-FAN-MOT Scattered toner suctioning fan	[Q]	6-C
F26	FAN-FRONT-MOT Exposure lamp cooling fan-2	[B]	2-F
F27	SYS-FAN-MOT SYS board cooling fan	[O]	1-H
F28	HDD-FAN-MOT HDD cooling fan	[O]	1-H
F29	UPPER-FAN-MOT-L Upper exhaust fan (left)	[Q]	8-C
F30	UPPER-FAN-MOT-R Upper exhaust fan (right)	[Q]	8-C
F31	TNR-EX-FAN-MOT Toner cooling exhaust fan	[Q]	7-C
F32	UP-EXIT-FAN-MOT-1 Upper exit section cooling fan-1	[Q]	7-F
F33	UP-EXIT-FAN-MOT-2 Upper exit section cooling fan-2	[Q]	7-F
F34	LOW-EXIT-FAN-MOT-1 Lower exit section cooling fan-1	[Q]	7-F
F35	LOW-EXIT-FAN-MOT-2 Lower exit section cooling fan-2	[Q]	7-F
F36	LOW-EXIT-FAN-MOT-3 Lower exit section cooling fan-3	[Q]	7-F
F37	PS-FAN-MOT-1 Power supply unit cooling fan-1	[P]	4-G
F38	PS-FAN-MOT-2 Power supply unit cooling fan-2	[P]	4-G

Sensors

Symbol	Name	Figure	Wire harness location
SR1	TRAY LENGTH-SNR Original tray sensor	[A]-1	3-E
SR2	TRAY WIDTH-SNR Original tray width sensor	[A]-1	3-F
SR3	EMPTY-SNR Original empty sensor	[A]-1	4-E
SR4	READ OUT-SNR Original reading end sensor	[A]-1	4-G
SR5	RGT-SNR Original registration sensor	[A]-1	4-F
SR6	WIDTH1-SNR Original width detection sensor-1	[A]-1	4-E
SR7	WIDTH2-SNR Original width detection sensor-2	[A]-1	4-F
SR8	WIDTH3-SNR Original width detection sensor-3	[A]-1	4-F
SR9	MIDDLE-SNR Original intermediate transport sensor	[A]-1	4-G
SR10	READ IN-SNR Original reading start sensor	[A]-1	4-G
SR11	EXITR-SNR Original exit/reverse sensor	[A]-1	4-F
SR12	EXIT-SNR Original exit sensor	[A]-1	4-G
SR13	JAM COVER-UPPER-SNR Original jam access cover opening/closing sensor	[A]-1	4-E
SR14	JAM COVER-LOWER-SNR Original reverse unit opening/closing sensor	[A]-1	4-G
SR15	DF OPEN-SNR RADF opening/closing sensor	[A]-1	4-G
S1	APS-2 Automatic original detection sensor (APS-2)	[B]	2-E
S2	APS-C Automatic original detection sensor (APS-C)	[B]	2-E
S3	APS-1 Automatic original detection sensor (APS-1)	[B]	2-E
S4	APS-3 Automatic original detection sensor (APS-3)	[B]	2-E
S5	APS-R Automatic original detection sensor (APS-R)	[B]	2-E
S6	HOME-SNR Carriage home position sensor	[B]	2-F
S7	PLTN-SNR Platen sensor	[B]	2-E
S8	TNR-SNR-K Toner cartridge paddle rotation detection sensor-K	[I]	6-E
S9	TNR-SNR-C Toner cartridge paddle rotation detection sensor-C	[I]	6-D
S10	TNR-SNR-M Toner cartridge paddle rotation detection sensor-M	[I]	6-D
S11	TNR-SNR-Y Toner cartridge paddle rotation detection sensor-Y	[I]	6-D
S12	TEMP/HUMI-SNR Temperature/humidity sensor	[E]-2	7-C
S13	WASTE-TNR-AMOT-SNR Waste toner amount detection sensor	[I]	6-C
S14	WASTE-TNRFLL-SNR Waste toner box full detection sensor	[I]	6-B
S16	WASTE-TNR-BOX-SNR Waste toner detection sensor	[I]	6-C
S17	TRU-WASTE-TNR-AMT-SNR TRU waste toner amount detection sensor	[K]	8-E
S20	IMG-POS-SNR-F Image position aligning sensor (front)	[G]	6-D
S21	IMG-POS-SNR-C Image position aligning sensor (center)	[G]	6-C
S22	IMG-POS-SNR-R Image position aligning sensor (rear)	[G]	6-C
S23	TNR-LVL-SNR Image quality sensor	[G]	6-C
S24	SHT-SNR-HP Shutter sensor (home position)	[H]	5-C
S25	SHT-SNR-EP Shutter sensor (end position)	[H]	5-C
S26	ATTNR-SNR-K Auto-toner sensor-K	[E]-2	8-C
S27	ATTNR-SNR-C Auto-toner sensor-C	[E]-2	8-B
S28	ATTNR-SNR-M Auto-toner sensor-M	[E]-2	7-C
S29	ATTNR-SNR-Y Auto-toner sensor-Y	[E]-2	7-B
S30	CH-CLN-SNR-K Needle electrode cleaner detection sensor-K	[E]-2	8-C
S31	CH-CLN-SNR-C Needle electrode cleaner detection sensor-C	[E]-2	8-A
S32	CH-CLN-SNR-M Needle electrode cleaner detection sensor-M	[E]-2	7-B
S33	CH-CLN-SNR-Y Needle electrode cleaner detection sensor-Y	[E]-2	7-B
S34	- Drum surface potential (V0) sensor-K	[E]-2	8-A
S35	- Drum surface potential (V0) sensor-C	[E]-2	8-A
S36	- Drum surface potential (V0) sensor-M	[E]-2	8-A
S37	- Drum surface potential (V0) sensor-Y	[E]-2	8-A
S38	SUB-HOP-TNR-SNR-K Sub-hopper toner sensor-K	[I]	8-B
S39	SUB-HOPTNR-SNR-C Sub-hopper toner sensor-C	[I]	8-A
S40	SUB-HOPTNR-SNR-M Sub-hopper toner sensor-M	[I]	8-A
S41	SUB-HOP-TNR-SNR-Y Sub-hopper toner sensor-Y	[I]	8-B
S42	AUG-LOCK-SNR Auger lock detection sensor	[I]	7-C
S43	YMC-DRM-PHASE-SNR Color drum phase sensor	[E]-1	5-E
S44	K-DRM-PHASE-SNR K drum phase sensor	[E]-1	5-E
S46	TBU-CONT-SNR Transfer belt contact/release detection sensor	[F]	7-E
S47	CLNG-SNR Transfer belt paper clinging detection sensor	[G]	6-C
S48	PRPOS-SNR Fuser unit contact/release detection sensor	[D]-1	6-B
S49	HRLOCK-SNR Fuser belt rotation detection sensor	[D]-1	6-B
S50	TR2-SNR 2nd transfer roller contact/release detection sensor	[G]	6-C
S51	TR2-CLNG-SNR 2nd transfer side paper clinging detection sensor	[G]	8-D
S52	RGST-SNR Registration sensor	[G]	7-G
S55	BRIDGE-ENT-SNR Bridge unit path entrance sensor	[C]	6-G
S56	BRIDGE-EXIT-SNR Bridge unit path exit sensor	[C]	6-G
S57	REV-PATH-SNR Reverse path sensor	[C]	6-G
S58	REV-JAM-SNR Reverse section stationary jam detection sensor	[C]	6-G
S59	REV-PATH-OPEN-SNR Reverse sensor	[C]	7-H
S60	REV-JAM-SNR Reverse section paper transport detection sensor	[C]	7-H
S61	UP-EXIT-SNR Upper paper exit sensor	[C]	7-G
S62	UP-EXIT-SNR Upper exit tray paper full detection sensor	[C]	7-G
S63	LOW-EXIT-SNR Lower paper exit sensor	[C]	7-G
S64	ADU-OPEN-SNR Duplexing unit opening/closing detection sensor	[J]	7-G
S65	FUS-TRPT-SNR Fuser transport sensor	[D]-1	8-D
S66	ADU-ENT-SNR Duplexing unit path entrance sensor	[J]	8-D
S67	ADU-EXIT-SNR Duplexing unit path exit sensor	[J]	8-D
S69	MEDIA-SNR Media sensor	[L]	8-E
S70	SFB-SIZE-SNR Bypass paper size detection sensor	[L]	8-E
S71	SFB-SNR Bypass paper sensor	[L]	8-C
S72	SFB-FEED-SNR Bypass feed sensor	[L]	8-C
S73	CST1-SNR 1st drawer detection sensor	[M]-2	8-D
S74	CST1-BTM-SNR 1st drawer bottom sensor	[M]-1	8-F
S75	CST1-EMP-SNR 1st drawer empty sensor	[M]-2	8-D
S76	CST1-TRY-SNR 1st drawer tray-up sensor	[M]-2	8-D
S77	CST1-TRNS-SNR 1st drawer transport sensor	[M]-2	8-D
S78	CST1-FEED-SNR 1st drawer feed sensor	[M]-2	8-D
S79	CST1-SIZE-SNR-1 1st drawer paper size detection sensor-1	[M]-1	8-F
S80	CST1-SIZE-SNR-2 1st drawer paper size detection sensor-2	[M]-1	8-F
S81	CST2-SNR 2nd drawer detection sensor	[M]-2	8-E
S82	CST2-BTM-SNR 2nd drawer bottom sensor	[M]-1	8-F
S83	CST2-EMP-SNR 2nd drawer empty sensor	[M]-2	8-E
S84	CST2-TRY-SNR 2nd drawer tray-up sensor	[M]-2	8-E
S85	CST2-TRNS-SNR 2nd drawer transport sensor	[M]-2	8-E
S86	CST2-FEED-SNR 2nd drawer feed sensor	[M]-2	8-E
S87	CST2-SIZE-SNR-1 2nd drawer paper size detection sensor-1	[M]-1	8-F
S88	CST2-SIZE-SNR-2 2nd drawer paper size detection sensor-2	[M]-1	8-G
S89	CST3/LCF-SNR 3rd drawer/tandem LCF detection sensor	[M]-2	8-F
S90	CST3-BTM-SNR 3rd drawer bottom sensor	[M]-1	8-G
S91	CST3/LCF-EMP-SNR 3rd drawer/tandem LCF empty sensor	[M]-2	8-F
S92	CST3/LCF-TRY-SNR 3rd drawer/tandem LCF tray-up sensor	[M]-2	8-E
S93	CST3/LCF-TRNS-SNR 3rd drawer/tandem LCF transport sensor	[M]-2	8-E
S94	CST3/LCF-FEED-SNR 3rd drawer/tandem LCF feed sensor	[M]-2	8-F
S95	CST3-SIZE-SNR-1 3rd drawer paper size detection sensor-1	[M]-1	8-G
S96	CST3-SIZE-SNR-2 3rd drawer paper size detection sensor-2	[M]-1	8-G
S97	CST4-SNR 4th drawer detection sensor	[M]-2	7-F
S98	CST4-BTM-SNR 4th drawer bottom sensor	[M]-1	8-H
S99	CST4-EMP-SNR 4th drawer empty sensor	[M]-2	7-F
S100	CST4-TRY-SNR 4th drawer tray-up sensor	[M]-2	7-E
S101	CST4-TRNS-SNR 4th drawer transport sensor	[M]-2	7-E
S102	CST4-FEED-SNR 4th drawer feed sensor	[M]-2	7-F
S103	CST4-SIZE-SNR-1 4th drawer paper size detection sensor-1	[M]-1	8-H
S104	CST4-SIZE-SNR-2 4th drawer paper size detection sensor-2	[M]-1	8-H
S106	TLCF-STTBY Standby side tray paper amount detection sensor	[N]	8-G
S107	TLCF-BTM-SNR Tandem LCF bottom sensor	[N]	8-H
S108	TLCF-STBY-TRY-SNR Standby side tray detection sensor	[N]	8-F
S109	TLCF-STTBY Standby side empty sensor	[N]	8-G
S110	TLCF-STPR-SNR-R Stopper opening/closing detection sensor (front)	[N]	8-H
S111	TLCF-STPR-SNR-F Stopper opening/closing detection sensor (rear)	[N]	8-H
S112	TLCF-HOME-SNR End fence home position sensor	[N]	8-G
S113	TLCF-STP-SNR End fence stop position sensor	[N]	8-G
S114	FEED-COV-SNR Feed cover sensor	[K]	7-C

Switches

Symbol	Name	Figure	Wire harness location
SWR1	JAM COVER-SW Jam access cover opening/closing switch	[A]-1	3-E
SWR2	DF OPEN-SW RADF opening/closing switch	[A]-1	3-E
SW1	Main power switch	[K]	AC Wire Harness
SW2	Interlock switch	[J]	AC Wire Harness
SW3	TNR-MOT-SW Toner motor interlock switch	[K]	6-E
SW4	Duplexing unit interlock switch	[J]	AC Wire Harness
SW5	REV-PATH-COV-SW Reverse path cover switch	[C]	7-H
SW7	Duplexing unit cover opening/closing detection switch	[J]	AC Wire Harness
SW8	Bridge unit connecting detection switch	[K]	AC Wire Harness
SW9	FRONT-COV-SW Front cover opening/closing detection switch	[K]	6-E

Electromagnetic spring clutches

Symbol	Name	Figure	Wire harness location
CLT1	PRS-ROL-CLT Pressure roller contact/release clutch	[D]-1	7-E
CLT2	TR2-CONT-CLT 2nd transfer roller contact/release clutch	[G]	7-F
CLT3	TR2-DRV-CLT 2nd transfer roller drive clutch	[G]	7-F
CLT4	CST3-TR-CLT 3rd drawer transport clutch	[M]-1	8-B
CLT5	CST3-FEED-CLT 3rd drawer feed clutch	[M]-1	8-B
CLT6	CST4-TR-CLT 4th drawer transport clutch	[M]-1	8-B
CLT7	CST4-FEED-CLT 4th drawer feed clutch	[M]-1	8-B

Solenoids

Symbol	Name	Figure	Wire harness location
SOLR1	PICKUP-SOL Original pickup solenoid	[A]-2	2-G
SOLR2	SB-SOL Original reverse solenoid	[A]-2	2-G
SOLR3	GATE-SOL Original exit solenoid	[A]-2	2-G
SOL1	TRNS-SOL-1 Transport path switching solenoid-1	[C]	6-F
SOL2	TRNS-SOL-2 Transport path switching solenoid-2	[C]	6-F
SOL3	SNR-SHUT-SOL Image quality shutter solenoid	[G]	6-C
SOL4	V0-SHUT-SOL-K V0 sensor shutter solenoid-K	[E]-3	8-C
SOL5	V0-SHUT-SOL-C V0 sensor shutter solenoid-C	[E]-3	8-B
SOL6	V0-SHUT-SOL-M V0 sensor shutter solenoid-M	[E]-3	7-C
SOL7	V0-SHUT-SOL-Y V0 sensor shutter solenoid-Y	[E]-3	7-B
SOL8	SFB-SOL Bypass pickup solenoid	[L]	8-E
SOL9	TLCF-SOL Tandem LCF solenoid	[N]	8-F
SOL10	TLCF-STPR-SOL-F Stopper opening/closing solenoid (front)	[N]	8-G
SOL11	TLCF-STPR-SOL-R Stopper opening/closing solenoid (rear)	[N]	8-H

PC boards

Symbol	Name	Figure	Wire harness location
DLG	PWA-D-DLG RADF control PC board	[A]-2	3-G
CCD	PWA-F-CCD CCD driving PC board (CCD board)	[B]	2-F
SLG	PWA-F-SLG Scanning section control PC board (SLG board)	[B]	2-E
INV	INV Lamp inverter board	[B]	2-F
DSP	PWA-F-DSP Display PC board (DSP board)	[S]	1-B
KEY1	PWA-F-KEY1 Key PC board-1 (KEY-1 board)	[S]	1-B
KEY2	PWA-F-KEY2 Key PC board-2 (KEY-2 board)	[S]	1-B
P-INV	P-INV Panel inverter board (P-INV board)	[S]	1-A
IMG	PWA-F-IMG Image processing PC board (IMG board)	[O]	4-D
SYS	PWA-F-SYS System control PC board (SYS board)	[O]	2-A
LGC	PWA-F-LGC Logic PC board (LGC board)	[O]	5-A
SNS	PWA-F-SNS H-sync detection PC board (SNS board)	[H]	5-E
LDR-Y	PWA-F-LDR-Y Laser driving PC board-Y (LDR-Y board)	[H]	5-D
LDR-M	PWA-F-LDR-M Laser driving PC board-M (LDR-M board)	[H]	5-B
LDR-C	PWA-F-LDR-C Laser driving PC board-C (LDR-C board)	[H]	5-D
LDR-K	PWA-F-LDR-K Laser driving PC board-K (LDR-K board)	[H]	5-B
EPU	PWA-F-EPU EPU PC board (EPU board)	[E]-3	7-A
V0S	PWA-F-V0 Drum surface potential sensors control PC board (V0S board)	[E]-3	8-A
PFC	PWA-F-PFC Paper feeding control PC board (PFC board)	[O]	7-C
ADU	PWA-F-ADU ADU control PC board (ADU board)	[J]	8-D
DRV	PWA-F-DRV DRV PC board	[C]	7-G
IH	PWA-F-IH Heater control PC board (IH board)	[D]-2	6-D
FIL	PWA-F-FIL Filter PC board (FIL board)	[O]	4-F
SRAM-S	PWA-F-SRAM-S SRAM board <for SYS board>	[O]	2-A
SRAM-L	PWA-F-SRAM-L SRAM board <for LGC board>	[O]	5-A

Lamps, coils, and heaters

Symbol	Name	Figure	Wire harness location
EXP	LP-EXPO Exposure lamp	[B]	2-F
ERS-K	LP-ERS-K Discharge LED-K	[E]-3	6-F
ERS-C	LP-ERS-C Discharge LED-C	[E]-3	6-E
ERS-M	LP-ERS-M Discharge LED-M	[E]-3	6-E
ERS-Y	LP-ERS-Y Discharge LED-Y	[E]-3	6-E
LED	PWA-F-LED Fuser unit jam releasing LED	[J]	8-H
LAMP	Pressure roller heater lamp	[D]-2	AC Wire Harness
IH-COIL	IH coil	[D]-2	AC Wire Harness
DH1	Scanner damp heater (Left)	[R]	AC Wire Harness
DH2	Scanner damp heater (Right)	[R]	AC Wire Harness
DH3	Drum damp heater	[R]	AC Wire Harness

Thermistors, thermopiles, and thermostats

Symbol	Name	Figure	Wire harness location
THM1	THMS-DRM-K Drum thermistor-K	[E]-2	8-C
THM2	THMS-DRM-Y Drum thermistor-Y	[E]-2	7-A
THM3	THMS-PR-C Pressure roller center thermistor	[D]-1	6-A
THM4	THMS-PR-S Pressure roller side thermistor	[D]-1	6-A
THM5	THMS-PR-E Pressure roller edge thermistor	[D]-1	6-A
THM6	THMS-FBLT-E Fuser belt edge thermistor	[D]-1	6-B
THMP1	THMP-FBLT-C Fuser belt center thermopile	[D]-1	6-B
THMP2	THMP-FBLT-S Fuser belt side thermopile	[D]-1	6-B
THMO1	Scanner damp heater thermostat	[R]	AC Wire Harness
THMO2	Pressure roller center thermostat	[D]-1	AC Wire Harness
THMO3	Pressure roller side thermostat	[D]-1	AC Wire Harness
THMO4	Fuser belt center thermostat	[D]-1	AC Wire Harness
THMO5	Fuser belt side thermostat	[D]-1	AC Wire Harness

Transformer

Symbol	Name	Figure	Wire harness location
HVT1	PS-HVT1 High-voltage transformer-1	[P]	6-A
HVT2	PS-HVT1 High-voltage transformer-2	[P]	6-B

Others

Symbol	Name	Figure	Wire harness location
TCP	TCP Touch panel	[S]	1-A
HDD	HDD Hard disk	[O]	1-G
PS	PS-ACC Switching regulator	[P]	5-G
BRK	BRK Breaker	[P]	AC Wire Harness

REVISION RECORD

Ver.13

Ver.13 <2013.10.28>	
Page	**Contents**
GENERAL PRECAUTIONS	"General operations" has been added.
25-32	Troubleshooting for E110 has been changed.
25-44	The connector number “CN337” has been changed to “CN309”.
25-110	The connector number “CN337” has been changed to “CN309”.

Ver.12

Ver.12 <2012.08.31>	
Page	**Contents**
Cover 2	Trademarks description has been changed.
24-2, 24-225	08-8633, 8634 and 8635 have been added.

Ver.11

Ver.11 <2012.03.30>	
Page	**Contents**
22-10	Table 5 has been changed.

Ver.10

Ver.10 <2011.11.25>	
Page	**Contents**
2	Copyright description has been changed.
3-40	Fig. 3-27 has been changed.
9-21 to 22	“9.4.8 Disassembly and replacement of the polygonal motor” has been added.
10-3	“Bypass paper roller” has been changed to “Bypass paper sensor”. “Bypass transport sensor” has been changed to “Bypass pickup solenoid” “Bypass pickup solenoid” has been changed to “Bypass paper size detection sensor”. “Tandem LCF pickup solenoid” has been changed to “Tandem LCF solenoid”.
10-6	“Bypass pickup motor” has been changed to “Bypass motor”.
14-26	Note has been added.
14-29	Step 3 has been changed, note has been added to step 3, and Fig. 14-21 has been changed.
14-51	“Pressure roller contact/release sensor” has been changed to “Pressure roller contact/release detection sensor”.
19-29	Step 10 has been changed.
19-31	Step 10 has been changed.
19-32	“Converter PC board” has been changed to “LGC board”.
21-5	08-620, 621, 622, 623, 624, 629, 1472 have been added.
21-5	08-3631, 8624, 8625, 8626, 8628, 8629 have been added.
21-5	08-3506, 3507, 8608, 8609, 8610, 9015, 9103, 9193, 9700 have been added.
21-21	“and scrambler board” has been deleted.
23-2	8026-0 to 2, 8027-0 to 2, 8028-0 to 2, 8029-0 to 2, 8030-0 to 2, 8031-0 to 2, 8032-0 to 2, 8033-0 to 2, 8034-0 to 2, 8035-0 to 2, 8036-0 to 2, 8037-0 to 2, 8038-0 to 2, 8039-0 to 2, 8040-0 to 2, 8041-0 to 2, 8150-0 to 2, 8151-0 to 2, 8152-0 to 2, 8153-0 to 2, 8154-0 to 2, 8155-0 to 2, 8156-0 to 2, 8157-0 to 2 have been changed.
23-45	Items of 7025 have been changed.

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Ver.10 <2011.11.25>	
Page	**Contents**
23-55	8026-0 to 2, 8027-0 to 2, 8028-0 to 2, 8029-0 to 2 have been added.
23-56	8030-0 to 2, 8031-0 to 2, 8032-0 to 2, 8033-0 to 2, 8034-0 to 2, 8035-0 to 2, 8036-0 to 2, 8037-0 to 2, 8038-0 to 2 have been added.
23-57	8039-0 to 2, 8040-0 to 2, 8041-0 to 2 have been added.
23-63	8150-0 to 2 has been added.
23-64	8151-0 to 2, 8152-0 to 2, 8153-0 to 2, 8154-0 to 2, 8155-0 to 2, 8156-0 to 2, 8157-0 to 2 have been added.
24-2	8624, 8625, 8626 have been added.
24-8	3631 has been added.
24-13	8628 and 8629 have been added.
24-130	Default <Acceptable value> and contents of 08-292 have been changed.
24-141	Contents of 08-727 have been changed.
24-160	Item, default <Acceptable value>, and contents of 08-1477 have been changed.
24-171	Contents of 08-1773 have been changed.
24-172	Contents of 08-1774, 08-1775 have been changed.
24-207	08-3631 has been added.
24-217	Contents of 08-3864 have been changed.
24-224	08-8624, 8625, 8626, 08-8628 have been added.
24-225	8629 has been added.
24-237	Item, default <Acceptable value>, and contents of 08-9980 have been changed.
25-14	[C4E0] and [C4E1] have been changed.
25-14	[C570] and [C580] have been changed.
25-65	[EAE0] and [EB30] have been changed.
25-86	“Fuser unit releasing operation abnormality” has been changed to “Fuser pressure release abnormality”. “Fuser unit contacting operation abnormality” has been changed to “Fuser pressure contact abnormality”.
25-87	[C570] and [C580] have been changed.
25-95	[CB00] and [CB01] have been changed.
25-106	“Converter PC board” has been changed to “LGC board”.
25-124	“M31” has been changed to “M33”.
25-126	“2nd transfer roller position detection sensor” has been changed to “2nd transfer roller contact/release detection sensor”.
25-168	“ozone exhaust fan” has been changed to “ozone suctioning fan”.
25-176	“pre-registration guide” has been changed to “registration guide”.
25-185	“pre-registration guide” has been changed to “registration guide”.
27-21 to 26	“27.2.4 Adjusting paper exit speed” has been added.
30-1	“30.1 DC Wire Harness” has been added.
30-2	“30.2 Electric Parts Layout” has been added.

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Ver.09

Ver.09 <2011.04.25>	
Page	**Contents**
2-9	Message size limitation has been changed.
7-39	Fig. 7-77 has been changed.
8-33	[B] Reproduction ratio adjustment of primary scanning direction has been changed.
16-62	Fig. 16-150 has been changed.
21-1 to 21-2	Added in 21.1.2 Precautions.
21-3	Added in 2.Setting data file.
21-5	08-204, 205, 206, 218, 219, 221, 250, 254, 259, 260, 272, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 302, 331, 342, 503, 550, 603, 610, 611, 619, 634, 638, 640, 642, 645, 649, 650, 651, 652, 653, 658, 659, 671, 702, 703, 707, 721, 723, 726, 727, 728, 729, 730, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 969, 970, 973, 978, 979, 1002, 1017, 1022, 1125, 1432, 1740, 1744, 1772, 1780 have been added.
21-6	08-3508, 3722, 3723, 3724, 3736, 3737, 3738, 3739, 3740, 3754, 3755, 3757, 3758, 3759, 3760, 3783, 3785, 3789, 3796, 3797, 3812, 3833, 3851, 3852, 3853, 3854, 3855, 3856, 3857, 3858, 3859, 3860, 3861, 3862, 3863, 8504, 8511, 8543, 8580, 8581, 8582, 8583, 8584, 8585, 8586, 8587, 8588, 8589, 8590-0 to 4, 8591, 8592, 8593, 8604, 8605, 8606, 8615, 8616, 8617, 8618, 8619, 8620, 8803, 8804, 8805, 8817, 8818, 9117, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9294, 9384, 9629, 9791, 9799, 9829, 9889, 9891, 9957, 9958, 9980, 9984-0 to 4 have been added.
21-9	Added in <When “3: Setting Back Up” is selected>.
21-10	Fig. 21-5 has been changed.
21-12	Added in <When “4: Setting Restore” is selected>.
21-13	Fig. 21-10 has been changed.
21-14	ERROR 12 has been added.
23-2	7380-0 to 2 has been added.
23-48	05-7380-0 to 2 has been added.
24-2	8612 has been added.
24-7	8608, 8609, 8610 have been added.
24-9	8616, 8617, 8618, 8619, 8620 have been added.
24-10	8613 has been added.
24-12	3626, 8622, 8611, 8615 have been added.
24-13	Procedure 3 has been changed.
24-126	08-265 and 266 have been changed.
24-130	08-331 has been changed.
24-156	08-1426 has been changed.
24-159	08-1482 has been changed.
24-160	08-1496 (EFI) has been deleted.
24-170	08-1776-0 to 1 has been added.
24-171	08-1776-2 to 15 has been added.
24-203	08-3626 has been added.
24-205	08-3743 has been changed.
24-206	08-3755 (EFI) has been deleted.
24-218	08-8589 has been changed. 08-8590-0 to 4 has been added.
24-219	08-8608 has been added.
24-220	08-8609, 8610, 8611, 8612, 8613, 8615, 8616, 8617, 8618, 8619, 8620, 8622 have been added.
24-233	08-9984-0 to 4 has been added.
25-46	[E030] has been changed.
25-48	[E550] has been changed.

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Ver.09 <2011.04.25>	
Page	**Contents**
25-56	[EA10] has been changed.
25-74	[EF25] has been changed.

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Ver.08

Ver.08 <2010.12.13>	
Page	**Contents**
3	Description has been added.
6-7	No.92 has been added.
8-12	Description has been changed.
8-13	Notes have been added.
11-22	11.4.9 has been added.
11-23	11.4.10 has been added.
14-60	Notes have been added.
18-39	Fig. 18-41 has been changed. L14 has been added.
18-41	L14 has been added. Description has been changed.
19-4	Notes have been added.
-	20.1.18 has been deleted.
20-21	Notes have been added.
20-36	20.2.9 has been added.
21-1	Description has been changed.
21-4	21.1.4 has been added.
21-5	Fax function mode (13) has been added.
21-6	Notes have been changed.
21-9	Notes have been changed.
22-2	<Operation procedure> has been changed. Description has been added.
22-8	Description has been changed.
22-9	Description has been changed.
22-10	Table 5 has been deleted.
22-13	Description has been changed.
22-16	Description has been changed.
22-20	Description has been changed.
22-23	Description has been changed.
22-33	Description has been added.
22-34	Description has been added.
23-4	05-2675-0 to 3 has been added.
23-16	05-2675-0 to 3 has been added.
23-65	8361, 8362, 8363, 8365 have been changed.
24-1	08-983, 9985, 9986 have been added.
24-2	08-8598, 8591, 9987 have been added.
24-3	08-2492, 2494, 2496, 2498, 2499, 2500, 2501 have been added.
24-5	08-404, 405, 416-0 to 1, 433-0 to 15, 434-0 to 9, 435-0 to 1, 436-0 to 1, 801-0 to 7, 885, 896-0 to 15, 531-0 to 9, 532, 2133-0 to 2, 2134-0 to 2, 2179-0 to 2, 2209-0 to 7, 2210-0 to 7, 2246-0 to 1, 5275-0 to 3, 5300-0 to 15, 5301-0 to 15, 5390, 5391-0 to 9, 5401-0 to 9, 5402-0 to 14, 5413-0 to 3, 5417, 2074, 5239, 5248, 415-0 to 3, 426-0 to 3, 427-0 to 3, 428-0 to 3, 429-0 to 1, 2016-0 to 7, 2033-0 to 1, 2248, 5279-0 to 3, 5297-0 to 3, 5324-0 to 1 have been added.
24-6	08-3789, 9791, 8584, 8585, 8586, 8587, 8588, 8590, 8605, 8606 have been added.
24-7	08-8589, 8823 have been added.
24-8	08-8594 has been added.
24-9	08-1530-5 to 7, 1531-5 to 7, 1532-5 to 7, 1533-2 to 7, 1534-2 to 7 have been added.
24-10	08-3625, 8595 have been added.

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Ver.08 <2010.12.13>	
Page	**Contents**
24-11	08-8597, 8601 have been added.
24-12	08-8600, 8596, 9984, 8599, 8602, 8603, 8604 have been added.
24-15	08-404 has been added.
24-16	08-405 has been added.
24-18	08-415-0 to 3, 416-0 to 1, 426-0 to 3 have been added.
24-19	427-0 to 3, 428-0 to 3, 429-0 to 1, 433-0 to 2 have been added.
24-20	08-433-3 to 12 has been added.
24-21	08-433-13 to 15, 434-0 to 6 have been added.
24-22	08-434-7 to 9, 435-0 to 1, 436-0 to 1 have been added.
24-25	08-531-0 to 9 has been added.
24-26	08-532 has been added.
24-29	08-801-0 to 7, 885 have been added.
24-30	08-896-0 to 9 has been added.
24-31	08-896-10 to 15 has been added.
24-32	08-2016-0 to 7 has been added.
24-34	08-2033-0 to 1, 2074, 2133-0 to 2, 2134-0 to 2 have been added.
24-35	08-2179-0 to 2 has been added.
24-36	08-2209-0 to 7 has been added.
24-37	08-2210-0 to 7, 2246-0 to 1, 2248 have been added.
24-39	08-2492, 2494, 2496, 2498, 2499, 2500, 2501 have been added.
24-43	08-5239 has been added.
24-44	08-5248 has been added.
24-45	08-5275-0 to 3 has been added.
24-46	08-5279-0 to 3 has been added.
24-49	08-5297-0 to 3,5300-0 to 5 have been added.
24-50	08-5300-6 to 15 has been added.
24-51	08-5301-0 to 9 has been added.
24-52	08-5301-10 to 15, 5324-0 to 1 have been added. 08-5323-0 to 3 has been changed.
24-53	08-5390, 5391-0 to 7 have been added. 08-5325 has been changed.
24-54	08-5391-8 to 9, 5401-0 to 7 have been added.
24-55	08-5401-8 to 9, 5402-0 to 10 have been added.
24-56	08-5402-11 to 14 has been added.
24-57	08-5413-0 to 3, 5417 have been added.
24-63	08-481 has been changed.
24-65	08-1912 has been changed.
24-92	08-1530-0 to 7, 1531-0 to 7 have been changed.
24-93	08-1532-0 to 7 has been changed.
24-94	08-1533-0 to 7 has been changed.
24-95	08-1534-0 to 7, 1535-0, 1535-7 have been changed.
24-104	08-6806-0 to 7 has been changed.
24-105	08-6810-0 to 7 has been changed.
24-123	08-202 has been changed.
24-130	08-331 has been changed.
24-139	08-721 has been changed.
24-147	08-983 has been changed.

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Ver.08 <2010.12.13>	
Page	**Contents**
24-149	08-1021(EFI) has been added. 08-1022 has been changed.
24-156	08-1431, 1432 have been changed.
24-157	08-1449 has been changed.
24-200	08-3625 has been added.
24-204	08-3789 has been added.
24-214	08-8533, 8534 have been changed.
24-215	08-8584, 8585, 8586, 8587, 8588, 8589, 8590, 8591, 8594, 8595, 8596, 8597 have been added. 08-8548 has been changed.
24-216	08-8598, 8599, 8600, 8601, 8602, 8603, 8604, 8605, 8606 have been added.
24-218	08-8823 has been added.
24-223	08-9791 has been added.
24-226	08-9889, 9933 have been changed.
24-229	08-9984, 9985, 9986 have been added.
24-230	08-9987 has been added.
25-1	25.1.1 has been added.
25-18	F140 has been added.
25-28	Description has been changed.
25-127	F140 has been added.
25-145	Description has been added.
25-146	Description has been changed.
25-200	25.5.32 has been added.
28-5	Description has been deleted.

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Ver.07

Ver.07 <2010.1.22>	
Page	**Contents**
3	Description has been added.
2-6	OHP film has been added.
2-8	Page Description Language and Supported OS have been added.
8-43	Codes for User Custom have been changed.
12-37	12.6.26 (2) and fig. 12-79 have been changed.
14-1	Description has been changed. Fig. 14-1 has been changed.
14-4	Description has been changed.
14-6	Description has been changed.
14-7	Description has been changed.
14-8	Fig. 14-2 has been changed.
14-25	Fig. 14-10 has been changed.
14-33	Fig. 14-32 and 14-33 have been changed.
14-34	Fig. 14-35, 14-36, and 14-37 have been changed.
14-48	Fig. 14-75 has been changed.
14-52	Fig. 14-84 has been changed.
14-60	Note has been added. Fig. 14-105, 106, and 107 have been added.
15-42	Step has been added. Fig. 15-84, 15-85, 15-86 have been changed.
15-43	Step has been added. Fig. 15-87 has been changed.
18-39	Fig. 18-41 has been changed.
18-40	L15 has been added.
18-41	Note has been added. Fig. 18-42 has been added. L15 has been added.
19-3	Note has been deleted.
19-4	Note has been added.
20-19	20.1.18 has been added.
21-1	File name has been changed.
21-2	Item and file name have been added.
21-4	Notes have been added.
21-5	Backup items have been added.
21-7	Notes have been added.
21-8	Restored items have been changed.
22-29	Fig. 22-9 has been changed.
23-2	05-1799-0 to 2, 1800-0 to 2, 1801-0 to 2, 1802-0 to 2 have been deleted.
23-45	05-1799-0 to 2, 1800-0 to 2, 1801-0 to 2, 1802-0 to 2 have been deleted.
23-49	05-7489 has been changed.
24-1	08-1934 has been deleted.
24-2	08-8546, 9982, 3635, 8540 have been added.
24-3	08-2703, 8548, 2380, 2381 have been added. 08-2548-0 to 3 have been changed.
24-4	08-2677, 2678-0 to 3, 2679-0 to 3, 2702 have been added. 08-2380 and 2381 have been deleted.
24-5	08-461-0 to 9 and 583 have been added.
24-6	08-9933 and 3871 have been added.

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Ver.07 <2010.1.22>	
Page	**Contents**
24-8	08-8549 has been added.
24-10	08-3508 has been added.
24-11	08-1132 has been deleted.
24-12	08-8514, 3623, 3624 have been added.
24-19	461-0 to 9 have been added.
24-23	08-583-0 to 1 have been added.
24-27	08-2380, 2381 have been changed.
24-28	08-2548-0 to 3 have been changed.
24-29	08-2677, 2678-0 to 2, 2679-0 to 2, 2702 have been added.
24-30	08-2703 has been added.
24-43	08-481 has been changed.
24-45	08-4016-0 to 1 have been changed.
24-52	08-4621 (EFI) has been added.
24-103	08-202 has been changed.
24-104	08-219 has been changed.
24-108	08-288 has been changed.
24-109	08-289 has been changed.
24-110	08-343 has been changed.
24-117	08-683 has been changed.
24-122	08-774 has been changed.
24-126	08-983 has been changed.
24-134	08-1132 has been deleted.
24-135	08-1432 has been changed.
24-137	08-1478 has been changed.
24-147	08-1772 has been changed.
24-148	08-1773, 1774 have been changed.
24-149	08-1775 has been changed.
24-163	08-1928 has been changed.
24-164	08-1934 has been deleted.
24-167	08-3508 has been added.
24-180	08-3623, 3624, 3635 have been added.
24-185	08-3800-0 has been changed.
24-187	08-3841 has been changed.
24-189	08-3852, 3854, 3855, 3857, 3859 have been changed.
24-190	08-3860, 3862 have been changed.
24-191	08-3871 has been added.
24-192	08-8514 has been added.
24-194	08-8540, 8546, 8548, 8549 have been added.
24-196	08-9059 has been changed.
24-203	08-9933 has been added.
24-206	08-9982 has been added.
25-28	Error history has been changed.
25-29	25.2.5 has been added.
25-34	Step has been changed.
25-52	Step has been changed.
25-83	Step has been added.
25-85	Step has been changed and added.

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Ver.07 <2010.1.22>	
Page	**Contents**
25-144	25.3.25 has been added.
25-156	25.4.13 has been added.
25-196	25.5.30, 25.5.31 have been deleted. Fig. 25-41, 25-43 have been changed.
25-198	Fig. 25-46, 25-47 have been changed.

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Ver.06

Ver.06 <2009.8.06>	
Page	**Contents**
3-2	The positions from M19 to M22 have been corrected.
3-27	Page-Item numbers have been added to the P-I field.
3-28	Page-Item numbers have been added to the P-I field.
3-29	Page-Item numbers have been added to the P-I field.
3-30	Page-Item numbers have been added to the P-I field.
3-32	Page-Item numbers have been added to the P-I field.
8-9	The code number 1643 has been corrected to 1644.
8-13	The adjustment procedure of (05) 396 has been corrected.
8-14	The adjustment procedure of (05) 4719 has been corrected.
8-41	A pattern number "10" has been added.
9-13	The procedure has been changed due to discontinuation of the LGC board cover.
10-39	"Note" for disassembling the registration roller (Rubber) has been added.
11-33	"Note" for the screws to fix the motor has been added.
11-44	"Note" for discharging the developer material has been added.
11-45	"Note" for discharging the developer material has been added.
11-47	The shape of the polarity adjustment plate has been changed.
11-61	"Note" for the screws to fix the motor has been added.
11-63	"Note" for the screws to fix the motor has been added.
12-20	The position of the serial number on the transfer belt has been corrected from rear to front.
12-22	"Note" for the screws to fix the motor has been added.
12-35	"Note" for the screws to fix the motor has been added.
12-36	"Note" for the screws to fix the motor has been added.
14-24	A note for the harnesses has been added.
14-31	"Note" for the disassembling procedure of the separation plate has been added.
14-39	"Note" for installing the bushing has been added.
14-40	Step 10 has been changed.
14-41	Step 11 has been changed.
14-59	"Note" for installing the fuser drive unit has been added.
14-60	The shape of the exit paper cooling fan has been corrected.
14-61	The shape of the exit paper cooling fan has been corrected.
14-64	A note for long-time storage of the fuser unit has been added.
14-68	A note for long-time storage of the fuser unit has been added.
14-71	A note for long-time storage of the fuser unit has been added.
14-74	A note for long-time storage of the fuser unit has been added.
15-29	"Note" for the idling rollers has been added.
15-36	"Note" for the idling rollers has been added.
18-3	An explanation of PM display has been added.
18-40	The note for handling the fuser belt has been deleted. Notes for the pressure roller and fuser belt have been added.
18-41	A description of the separation plate has been added.
18-47	The quantity of the PM kit has been corrected.
19-47	A procedure for removing the FAX cover plate has been added.
20-1	A note for replacing the board has been added.
20-5	The disassembly procedure of the LGC board cover has been deleted. The procedure has been changed due to discontinuation of the LGC/PFC board covers.
20-6	The disassembly procedure of the PFC board cover has been deleted. The procedure has been changed due to discontinuation of the LGC/PFC board covers.

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Ver.06 <2009.8.06>	
Page	**Contents**
20-7	The procedure has been changed due to discontinuation of the LGC/PFC board covers.
20-8	The procedure has been changed due to discontinuation of the LGC/PFC board covers.
20-12	The procedure has been changed due to discontinuation of the LGC/PFC board covers.
20-27	The procedure of "[D] Reinstall options" has been changed.
20-28	Procedures have been added to "20.2.5 Procedures and settings when replacing the SLG board".
20-32	The procedure of "[J] Reinstall options" has been changed.
22-23	"Version list" has been added.
22-32	"Version list" has been added.
23-1	(05) 4732 -0 to 1 have been deleted.
23-106	(05) 7489 has been added. (05) 4719 and 4720-0 to 1 have been changed.
23-4	(05) 468-0 to 2 have been deleted. (05) 4721 has been changed.
23-6	(05) 7489 has been added.
23-50	(05) 468-0 to 2 have been deleted.
23-76	(05) 4732-0 to 1 have been deleted.
24-3	(08) 4621 and 4622 have been added.
24-5	(08) 5433 has been deleted.
24-6	(08) 9981 has been added.
24-30	The items of (08) 5277-0 to 7 have been corrected.
24-35	(08) 5433 has been deleted.
24-49	(08) 4621 has been added.
24-50	(08) 4622 has been added.
24-102	Descriptions for (08) 206 have been added.
24-182	The item of (08) 3800-0 has been corrected.
24-203	(08) 9981 has been added.
25-34	Step 7 has been added to E010.
25-84	Step 13 has been added to C4E0 and C4E1. Step 9 has been added to C4E2.
25-119	The name has been corrected from "Developer roller" to "Developer sleeve". (Uniform terminology)
25-152	The description of "Countermeasure for stain on paper back side" has been added. The description of "Measures against exit paper side deviation" has been added.
25-157	The troubleshooting for "uneven pitch and jitter image" has been changed.
25-184	The checking procedure for the developer unit has been added.
25-189	The checking procedure for the fuser unit has been changed.
25-194	The name has been corrected from "Developer roller unit" to "Developer upper unit". (Uniform terminology) The name has been corrected from "Developer roller" to "Developer sleeve". (Uniform terminology) Step numbers have been changed due to the Unpacking Installation update.
25-195	The name has been corrected from "Developer roller unit" to "Developer upper unit". (Uniform terminology) The name has been corrected from "Developer roller" to "Developer sleeve". (Uniform terminology) Step numbers have been changed due to the Unpacking Installation update.
25-197	The troubleshooting of "Feathered image - 3" has been added.
25-199	The troubleshooting "Low density image (rear side)" has been added.

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Ver.05

Ver.05 <2009.5.22>	
Page	**Contents**
6-6	The message and the note have been changed.
8-9	Fig. 8-8 has been changed.
11-29	The contents of Note have been corrected.
12-16	The contents of Note have been corrected.
12-30	The procedure has been corrected and a note has been added in 12.6.16.
12-32	The contents of Note have been corrected.
16-43	The contents of Note and illustration have been corrected.
18-25	A note and an illustration have been added when the side seal is to be replaced.
18-33	A note and an illustration have been added when the side seal is to be replaced.
18-36	A note and an illustration have been added when the 2nd transfer roller is to be replaced. A note and an illustration have been added when the side seal is to be replaced.
18-37	The layout of the illustration has been changed in Fig 18-39.
19-9	The contents of Note have been changed.
20-23	Fig. 20-56 has been changed.
20-27	"[I] Adjustment image quality" has been added.
20-28	The procedure in "20.2.4 Precaution and Procedures when replacing the SYS board" has been changed.
20-29	The procedure in "20.2.5 Procedures and settings when replacing the SLG board" has been changed.
25-46	Step 2 has been added to E091.
25-50	The procedure in E712 has been changed.
25-55	Step 4 has been added to EA21.
25-56	YES has been exchanged for NO in EA22.
25-58	Step 3 has been corrected in EA31. Step 4 has been added to EA32.
25-62	A model name has been added to E9F0.
25-79	Step 7 has been added to C461.
25-81	The procedure in C471-474 has been changed.
25-91	The connector number in CA20 has been corrected. YES has been exchanged for NO.
25-96	A procedure has been added to CB40.
25-169	The procedure in "25.5.12 White banding" has been changed.
25-173	The procedure in "25.5.15 Color banding (in feeding direction)" has been changed.

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Ver.04

Ver.04 <2009.2.19>	
Page	**Contents**
2-10	The "Harness kit for coin controller" has been added to "Options".
6-7	No.90 and 91 have been added to "6.2.2 Message".
7-10	The behavior inside the exposure lamp has been corrected.
7-24	Step 5 has been changed. Note for installing the fan has been added. Fig. 7-35 has been changed.
7-27	Step 5 has been changed. Note for installing the fan has been added. Fig. 7-43 has been changed.
11-29	A note for the side seals has been added.
12-16	A note for the side seals has been added.
12-32	Fig.12-63 has been added. Fig.12-64 has been corrected. A note for the side seals has been added.
13-1	Descriptions of the image quality process control and image quality TRC control have been added.
13-2	The number has been changed due to the control flow revision.
13-4	The control flow has been revised.
14-25	A note for installing the pressure roller cover has been added to "14.6.2 Pressure roller cover".
14-31	Notes regarding harness routing have been added to step 6.
14-32	A note regarding harness installation has been added to step 8.
14-44	Illustration in Fig.14-68 has been corrected.
14-46	A note regarding harness installation has been added to step 4. Step 6 has been added. A note regarding harness installation has been added to step 6.
14-50	A note regarding harness installation has been added to step 3. A note regarding harness installation has been added to step 5.
17-8	Fig.17-1 has been revised. (Connector divided)
18-24	"Also clean the doctor blade when the drum is being replaced." has been added.
18-25	The attachment criteria have been added.
18-27	Fig.18-24 has been replaced with one including an illustration of the equipment.
18-33	The attachment criteria have been added to Fig.18-30. Names of the parts have been added to Fig.18-31.
18-36	The attachment criteria in Fig.18-34 have been corrected.
19-5	A note regarding updating with the USB media has been added.
19-9	A note has been added.
19-18	A note has been added.
21-3	Step 3 has been corrected. The contents of Note have been changed.
21-6	Step 3 has been corrected. The contents of Note have been changed.
25-46	[E090] has been revised. (Check items for the page memory have been added.)
25-77	Contents of [C452] have been revised.
25-94	The connector and sensor numbers have been corrected in [CB31].
25-150	Steps in Ch.25.4.7 have been corrected. Steps in Ch.25.4.8 have been corrected.

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Ver.03

Ver.03 <2008.12.17>	
Page	**Contents**
6-7	No.89 has been added to "6.2.2 Message".
8-25	"[B] Primary scanning data laser writing start position" has been changed.
10-70	"Front" and "Rear" in Fig10-158 have been switched.
11-22	The step number for the left TBU lifting lever has been changed to the one before.
11-37	The error in the procedure has been corrected. (take off -> lift up)
11-62	The disassembly procedure for the "Waste toner transport unit" has been added.
12-16	The illustration has been changed due to the TBU handle position change.
14-43	The error has been corrected in the illustration (Fig. 14-66).
18-28	"Removal of foreign matter in the developer unit" has been added.
18-29	"Removal of foreign matter on the developer sleeve" has been added.
19-49	A note has been added to "19.4 Confirmation of the updated data".
20-23	A note has been added to "20.2.3 Precautions and procedures when replacing the HDD".
20-29	A note has been added to "20.2.6 Precautions and procedures when replacing SRAM board (for SYS board)"
20-35	"20.2.8 Firmware confirmation after the PC board/HDD replacement" has been added.
20-36	The title of 20.3 has been changed to "Precautions for Installation of GP-1070 and Disposal of HDD/board".
21-4	Step 4 in the "[A] Backup procedure" has been corrected.
21-7	Step 4 in the "[B] Restoring procedure" has been corrected.
22-22	(04) 70 has been added.
23-4	(05) 2800-0 to 11, 2801-0 to 11, 2802-0 to 11 and 2803-0 to 11 have been added.
23-5	(05) 2924-9, 2925-9, 2926-9, 2927-9, 2934-9, 2935-9, 2936-9, 2937-9, 2938-9, 2939-9, 2940-9 and 2941-9 have been added.
23-10	(05) 151 has been added.
23-18	(05) 2800-0 to 5 have been added.
23-19	(05) 2800-6 to 11 and 2801-0 to 5 have been added.
23-20	(05) 2801-6 to 11 and 2802-0 to 5 have been added.
23-21	(05) 2802-6 to 11 and 2803-0 to 5 have been added.
23-22	(05) 2803-6 to 11 have been added.
23-27	(05) 2924-9 and 2925-9 have been added.
23-28	(05) 2926-9 and 2927-9 have been added.
23-29	(05) 2934-9 and 2935-9 have been added.
23-30	(05) 2936-9 and 2937-9 have been added.
23-31	(05) 2938-9 and 2939-9 have been added.
23-32	(05) 2940-9 and 2941-9 have been added.
24-3	(08) 8103 and 2600 have been added.
24-5	(08) 5323-0 to 3 and 5325 have been added.
24-12	(08) 3870 has been added.
24-28	(08) 2600 and 8103 have been added.
24-34	(08) 5323-0 to 3 and 5325 have been added.
24-132	Some descriptions for (08) 1422 and 1424 have been added.
24-187	(08) 3870 has been added.
24-196	The default value of (08) 9749 has been changed.
25-2	The classification and contents of E010 and E020 have been corrected.
25-3	The link for E180 has been added.
25-4	The links for E230, E240, E260 and E290 have been added.

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Ver.03 <2008.12.17>	
Page	**Contents**
25-5	The links for E370, E380 and E3F0 have been added. The name of E400 has been corrected.
25-6	The links for E511, E540, E570 and E580 have been added. The classifications of E590 and E5A0 have been corrected.
25-7	The names of E727 and E729 have been corrected.
25-8	The classifications and contents of E970 and E980 have been corrected.
25-9	The links for EA22-EA29 and EAB1 have been added.
25-11	The links for EF10, EF11 and EF12 have been added.
25-13	The links for C451, C452, C461, C462, C463 and C464 have been added.
25-14	The links for C471-C474, C480, C481, C490, C4B1, C730 and C8C0 have been added.
25-15	The links for CB13 and CB14 have been added.
25-16	The links for CB82 - CB84, CB91 - CB95, CC73 and CC74 have been added.
25-29	The contents of E590, E5A0 and E970 have been corrected.
25-30	The contents of E980 have been corrected.
25-33	E180 has been added.
25-35	The contents of E010 and E020 have been corrected.
25-36	E230 and E240 have been added.
25-37	E260 and E290 have been added.
25-38	E370 has been added.
25-39	E380 and E3F0 have been added.
25-40	E511 and E540 have been added.
25-41	E570 and E580 have been added.
25-48	The name and troubleshooting for E400 have been corrected. A step has been added to E430.
25-51	The name and troubleshooting for E727 have been changed. The name of E729 has been corrected.
25-56	EA22-EA24 have been added.
25-57	EA25-EA28 have been added.
25-58	EA29 has been added.
25-60	EAB1 has been added.
25-65	EF10 and EF11 have been added. EF12 has been added.
25-77	C452 has been added.
25-78	Troubleshooting for C451 and C463 has been added.
25-79	Troubleshooting for C461, C462 and C464 has been added.
25-80	Troubleshooting for C471-C474 has been added.
25-81	Troubleshooting for C480, C481 and C490 has been added.
25-82	Troubleshooting for C4B1 has been added.
25-116	Troubleshooting for CE41 has been changed.
25-117	Steps have been added to CE60 and CE90.
25-120	A step has been added to C360.
25-121	Steps have been added to C380, C381, C382, C390, C391, C392, C3A0, C3A1, C3A2, C3B0, C3B1, C3B2 and C3C0.
25-122	Steps have been added to CD60, CD61, CD62, CD63 and CD64.
25-123	A step has been added to CD80.
25-124	Steps have been added to CD81.
25-151	"25.4.8 Operation of the control panel locked at the power-ON and not released" has been added.
25-170	The procedure for "25.5.12 White banding (in feeding direction)" has been changed.

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Ver.02

Ver.02 <2008.10.31>	
Page	**Contents**
2-2	"2.1.1 General" SAD Rated current and Power consumption have been corrected.
2-9	"2.2 Accessories" - Power cable NAC/NAD and SAD have been deleted.
8-6	Fig.8-7 and Fig.8-8 have been deleted.
9-4	The description of the laser diode has been added.
9-6	The description of "b. Polygonal mirror" has been changed. The illustration in Fig.9-5 has been changed. The description of Fig.9-5 has been changed.
10-49	Note for installing the sensor holder has been added.
11-29	Disassembly procedure of the blade side seal has been added.
11-43	Note for the direction of the coupling rotation has been added.
11-45	Notes for the direction of the coupling rotation and for scraper have been added.
12-15	The number of fixing screws for the transfer belt cleaning blade has been changed from 3 to 2.
12-16	The installation procedure for the transfer belt cleaner side seal has been added.
12-30	The installation procedure for the 2nd transfer roller side seal has been added.
14-3	"Fuser roller lock detection sensor" has been corrected to "Fuser belt rotation detection sensor".
14-38	Notes for installing the gear in the fuser unit have been added.
18-1	The contents of PM display have been added.
18-2	The contents of PM display have been added.
18-3	The contents of PM display have been added.
18-25	The contents of the attachment criteria of the blade side seals have been changed.
18-32	The attachment criteria of the transfer belt cleaner side seals have been added.
18-35	The attachment criteria of the 2nd transfer roller side seal have been added.
19-1	"19. FIRMWARE UPDATING" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-2	"19. FIRMWARE UPDATING" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-3	"19. FIRMWARE UPDATING" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-4	"19.1 Firmware Updating with USB Media" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-5	"19.1 Firmware Updating with USB Media" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-7	"19.1 Firmware Updating with USB Media" The item of "Imaging Acceleration Board (GE-1170)" has been added.
19-17 to 19-22	"19.1.2 Imaging Acceleration Board ROM (GE-1170)" The update procedure has been added.
19-51	"19.4 Confirmation of the updated data" The item of "Imaging Acceleration Board (GE-1170)" has been added.
23-2	(05) 8066, (05) 8242-0 to 1 and 8243-0 to 3 have been added.
23-4	(05) 2788 has been added.
23-6	(05) 2417 has been added.
23-17	The procedure of (05) 2416 has been corrected from 15 to 5. (05) 2417 has been added.
23-19	(05) 2788 has been added.
23-54	(05) 8066 has been added.
23-59	(05) 8242-0 to 1 and 8243-0 to 3 have been added.
24-2	(08) 9051 and 3846 have been added.

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Ver.02 <2008.10.31>	
Page	**Contents**
24-5	(08) 411-0 to 5 have been added.
24-6	(08) 8535, 8536, 9957, 9958, 9959 and 9980 have been added. (08) 3506 and 3507 have been deleted.
24-7	(08) 1021 and 9749 have been added.
24-8	(08) 9746 and 9798 have been added.
24-9	(08) 9965 has been added.
24-10	(08) 3630, 3797, 8513-0, 9966 and 8534 have been added.
24-11	(08) 8537 and 9799 have been added.
24-17	(08) 411-0 to 5 have been added.
24-42	The acceptable value of (08) 481 has been changed.
24-44	The contents of (08)1906 have been added.
24-50	(08) 4606-0 to 3 have been corrected.
24-87	The default values of (08) 6452-0 to 3 have been changed.
24-88	The default values of (08) 6454-0 to 3 have been changed.
24-117	The setting value of (08) 331 has been changed.
24-137	(08) 1021 has been added.
24-143	The acceptable value of (08) 1431 has been changed.
24-145	The acceptable value of (08) 1471 has been changed.
24-158	(08) 1779 (EFI) has been added.
24-179	(08) 3506 and 3507 have been deleted.
24-193	The item name and content of (08) 3619 have been changed. (08) 3630 has been added.
24-195	(08) 3754 (EFI) and 3755 (EFI) have been added.
24-196	(08) 3767 (EFI) has been added.
24-198	(08) 3797 has been added.
24-199	The default value of (08) 3805 has been changed.
24-201	(08) 3846 has been added.
24-202	The default value of (08) 3850 has been changed.
24-205	(08) 8513-0 has been added. The default value of (08) 8518 has been changed.
24-207	(08) 8534, 8535, 8536, 8537, 8800 (EFI), 8802 (EFI), 8804 (EFI) and 8805 (EFI) have been added.
24-209	(08) 9051 has been added.
24-213	(08) 9746, 9749 and 9798 have been added.
24-214	(08) 9799 has been added.
24-218	(08) 9957, 9958 and 9959 have been added.
24-219	(08) 9965, 9966 and 9980 have been added.
25-13	The descriptions and linked pages for C4E0, C4E1 and C4E2 have been added. "Heat roller rotation detection abnormality" (name of C4E2) has been corrected to "Fuser belt rotation detection sensor abnormality".
25-14	IPC board and PFC board have been corrected to CNV board.
25-53	IPC board has been corrected to CNV board.
25-71	The troubleshooting of C4E0, C4E1 and C4E2 has been added.
25-72	IPC board and PFC board have been corrected to CNV board.
25-122	Imaging Acceleration Board (GE-1170) has been added.
25-123	Imaging Acceleration Board (GE-1170) has been added.
25-138	Imaging Acceleration Board (GE-1170) has been added.

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Ver.01

Ver.01 <2008.09.30>	
Page	**Contents**
3-6	The illustration in Fig.3-6 has been corrected.
3-7	The illustration in Fig.3-7 has been corrected.
3-11	The illustration in Fig.3-11 has been corrected.
3-27	The corresponding page-item has been added to the column of <P-I> in the list.
3-28	The corresponding page-item has been added to the column of <P-I> in the list.
3-29	The corresponding page-item has been added to the column of <P-I> in the list.
3-30	The corresponding page-item has been added to the column of <P-I> in the list.
3-31	The corresponding page-item has been added to the column of <P-I> in the list.
3-32	The corresponding page-item has been added to the column of <P-I> in the list.
3-33	The corresponding page-item has been added to the column of <P-I> in the list.
3-34	The corresponding page-item has been added to the column of <P-I> in the list.
3-35	The corresponding page-item has been added to the column of <P-I> in the list.
3-36	The corresponding page-item has been added to the column of <P-I> in the list.
3-37	The corresponding page-item has been added to the column of <P-I> in the list.
3-38	The corresponding page-item has been added to the column of <P-I> in the list.
3-39	The corresponding page-item has been added to the column of <P-I> in the list.
7-6	The description of "Carriage speed" has been added to "7.4.1 Scanning operation".
7-12	The pixel count of CCD has been corrected from "7500" to "7450".
8-16	"2. Printer related adjustment" has been corrected to "2. Printer-related image dimensional adjustment". "3. Scanner related adjustment" has been corrected to "2. Scanner-related image dimensional adjustment".
8-23	"[B] Adjustment by direct code entry" The code list has been corrected.
8-24	"8.5.7 Printer related adjustment" is corrected to "8.5.7 Printer-related image dimensional adjustment".
8-31	"8.5.8 Scanner related adjustment" is corrected to "8.5.8 Scanner-related image dimensional adjustment".
8-33	"10 mm" has been corrected to "5 mm". "10±0.5 mm" has been corrected to "5±0.5 mm".
8-38	"10±0.5 mm" has been corrected to "5±0.5 mm".
10-76	The procedure for "10.7.3 Sheet sideways deviation caused by paper transporting adjustment" has been changed.
11-25	Note for installing the process unit has been added.
11-27	Note for installing the drum cleaner unit has been added.
12-18	Note for the spring has been added.
14-5	The description for "2. Exit paper cooling fan (rear) (F15)" has been corrected.
14-26	The content of "Note 2" for the installation procedure of the fuser unit has been changed.
14-32	The illustrations of Fig.14-29, Fig.14-30 and Fig.14-31 have been corrected. (The shape of lamp rear bracket has been corrected.) "Note" has been added to step (6).
14-37	"Note" has been added to step (6).
14-43	"Note" has been added to step (6).
14-45	"Note" has been added to step (5).
14-62	The name of the jig has been changed from "JIG-FU-THRMT-BP" to "JIG-FU-THRMST-BP".
14-66	The name of the jig has been changed from "JIG-FU-THRMIS-BP" to "ASYB-JIG-THRMIS-BP".

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Ver.01 <2008.09.30>	
Page	**Contents**
14-69	The name of the jig has been changed from "JIG-FU-THRMT-BP" to "JIG-FU-THRMST-BP".
15-1	"Upper exit tray paper full detection sensor" has been exchanged for "Upper paper exit sensor" in Fig.15-1.
15-3	"Duplexing unit opening/closing detection sensor" has been exchanged for "Reverse path sensor" in Fig.15-3.
15-7	The descriptions for "9. Exit paper cooling fan (front) (F5)", "10. Bridge unit cooling fan (front) (F6)" and "11. Bridge unit cooling fan (rear) (F7)" have been corrected.
18-10	The flow in Fig.18-8 has been corrected.
18-13	The content of "A5: Filter cover" has been added to Fig.18-12 and the list. The corresponding page-item has been added to the column of <P-I> in the list.
18-15	The corresponding page-item has been added to the column of <P-I> in the list.
18-16	The corresponding page-item has been added to the column of <P-I> in the list.
18-17	The corresponding page-item has been added to the column of <P-I> in the list. The amount for applying white grease (Molykote HP-300) has been changed from "adequate amount" to "1 rice-sized grain".
18-18	The corresponding page-item has been added to the column of <P-I> in the list.
18-20	The corresponding page-item has been added to the column of <P-I> in the list.
18-24	The corresponding page-item has been added to the column of <P-I> in the list.
18-26	The corresponding page-item has been added to the column of <P-I> in the list.
18-27	The corresponding page-item has been added to the column of <P-I> in the list.
18-29	The corresponding page-item has been added to the column of <P-I> in the list.
18-30	The corresponding page-item has been added to the column of <P-I> in the list.
18-32	The amount for applying white grease (Molykote EM30-L) has been changed from "adequate amount" to "1 rice-sized grain".
18-33	The corresponding page-item has been added to the column of <P-I> in the list.
18-34	The corresponding page-item has been added to the column of <P-I> in the list.
18-36	The corresponding page-item has been added to the column of <P-I> in the list.
18-37	The corresponding page-item has been added to the column of <P-I> in the list.
18-38	The corresponding page-item has been added to the column of <P-I> in the list.
18-39	The corresponding page-item has been added to the column of <P-I> in the list.
18-42	"Pressure roller: HR-FC55-L" has been added to the component of "FR-KIT-FC55". The content for "ROL-KIT-4004" has been added.
18-43	The corresponding page-item has been added to the column of <P-I> in the list.
18-45	The corresponding page-item has been added to the column of <P-I> in the list. Step 1 for "18.10 Operation Items in Overhauling" has been corrected.
20-1	The illustration in Fig.20-1 has been corrected.
20-5	The illustration in Fig.20-12 has been corrected.
20-7	The illustration in Fig.20-19 has been corrected.
20-18	The illustration in Fig.20-52 has been corrected.
22-2	207 has been deleted. 300 has been added.
22-3	207 has been deleted.
22-24	207 has been deleted. 300 has been added.
23-1	The "Classification" name for 497 has been corrected.
23-3	8240 has been added.
23-30	The item for 678 has been corrected.
23-58	8240 has been added.
24-2	7000, 7001, 7300, 7301, 7400 and 7500 have been added.

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Ver.01 <2008.09.30>	
Page	**Contents**
24-10	3869 and 9956 have been added.
24-105	7000 has been added.
24-106	7001 has been added.
24-107	7300 has been added.
24-108	7301, 7400 and 7500 have been added.
24-202	3869 has been added.
24-214	The default value for 9955 has been corrected. 9956 has been added.
25-28	The procedure has been added to E010.
25-37	The procedure has been added to E011.
25-107	The name has been corrected from "Sub-hopper toner supply motors" to "Sub-hopper toner motor".
25-136	"25.4.8 Troubleshooting for one-time dongle" has been added.

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