

# TOSHIBA

# SERVICE MANUAL

MULTIFUNCTIONAL DIGITAL COLOR SYSTEMS  
**e-STUDIO5506AC/6506AC/  
7506AC**



Model: FC-5506AC/6506AC/7506AC  
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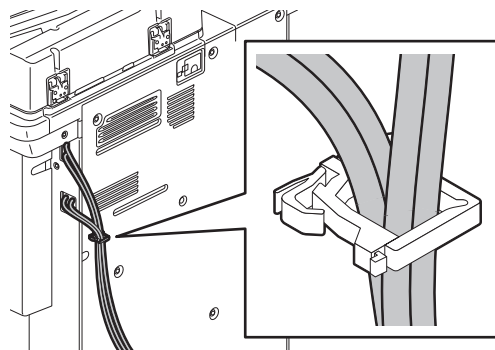
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# GENERAL PRECAUTIONS REGARDING THE SERVICE FOR e-STUDIO5506AC/6506AC/7506AC

**The installation and service shall be done by a qualified service technician.**

## 1. Transportation/Installation

- When transporting/installing the equipment, employ two or more persons and be sure to move it by the casters while lifting the stoppers.  
The equipment is quite heavy and weighs approximately Approx. 213 kg (469.6 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 DSDF) when transporting the equipment.
- Be sure to use a dedicated outlet with AC 120 V / 20 A, 220-240 V / 10 A for its power source.
- 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 30 cm (11.8") 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.
- Do not use an ozone generator near the MFP. Or, place any ozone generator as far away from the MFP as possible.
- When the LAN cable, USB cable or telephone line is connected, be sure to wire the cable or line by passing it through the clamp of the rear cover. Otherwise, they will be caught when the duplexing unit is opened/closed and thus may be damaged.



## 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 an antistatic wrist strap since the ICs on it may be damaged due to static electricity.

**Caution: Before using the antistatic wrist strap, 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, IH board, high-voltage transformer 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.
- Do not leave plastic bags where children can get at them. This may cause an accident such as suffocation if a child puts his/her head into a bag. Plastic bags of options or service parts must be brought back.
- There is a risk of an electric shock or fire resulting from the damage to the harness covering or conduction blockage. To avoid this, be sure to wire the harness in the same way as that before disassembling when the equipment is assembled/disassembled.

## 3. General operations

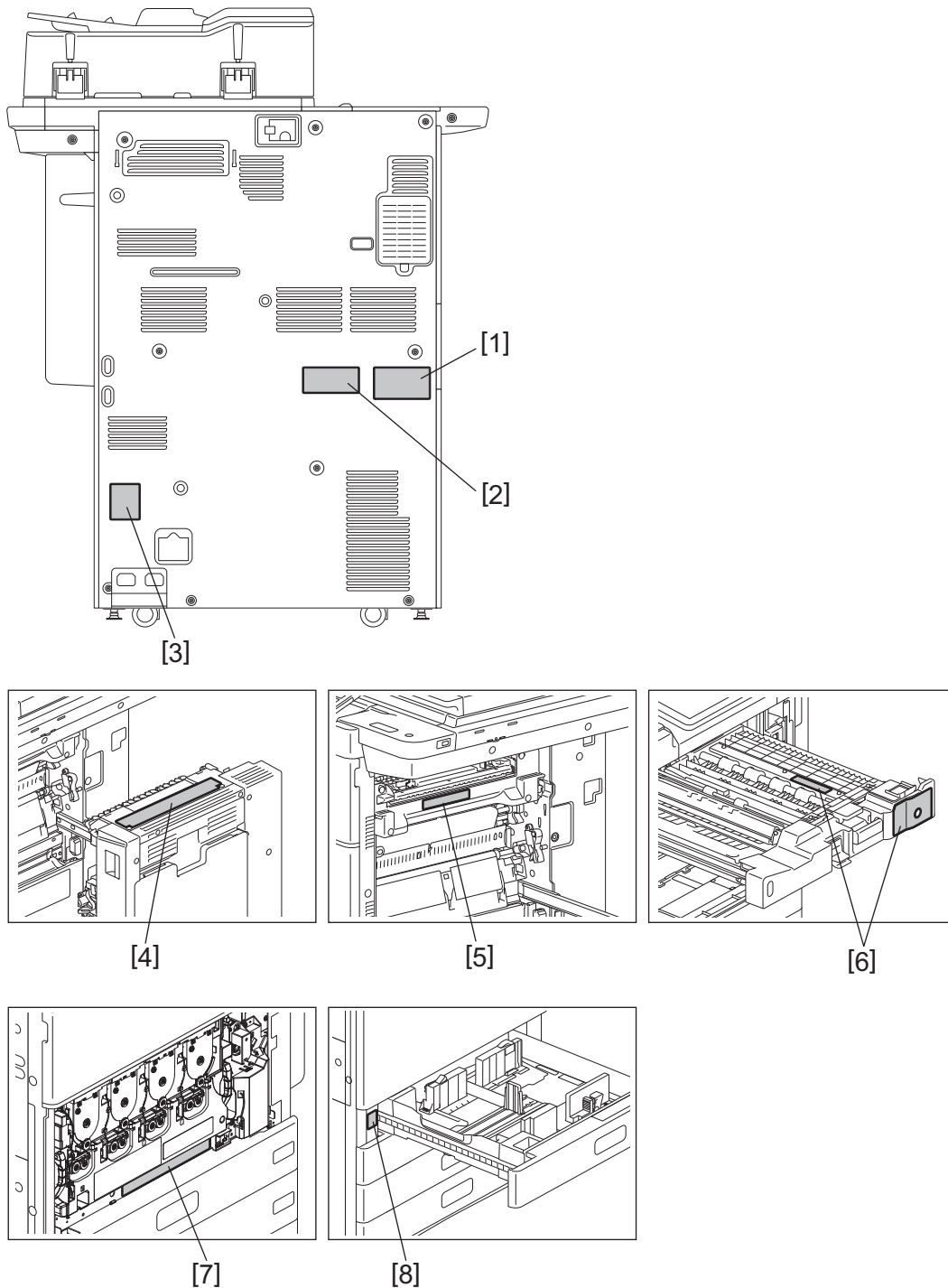
- Check the procedures and perform them as described in the Service Manual.
- Make sure you do not lose your balance.
- Avoid exposure to your skin and wear protective gloves as needed.

## 4. Important Service Parts for Safety

- The breaker, IH coil, 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 explosion or burnout. Avoid short-circuiting and do not use parts not recommended by Toshiba TEC Corporation.

## 5. Cautionary Labels

During servicing, be sure to check the rating plate and cautionary labels to see if there is any dirt on their surface and if they are properly stuck to the equipment.



- [1] Identification label
- [2] Explanatory label
- [3] Warning for power cable
- [4] Warning for high temperature area (Duplexing unit / Fuser unit)
- [5] Warning for high temperature area (Fuser unit)
- [6] Warning for high temperature area (Bridge unit)
- [7] Warning for laser
- [8] Warning for damp heater (for ARD, AUD, ASD, CND)

## **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.

**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

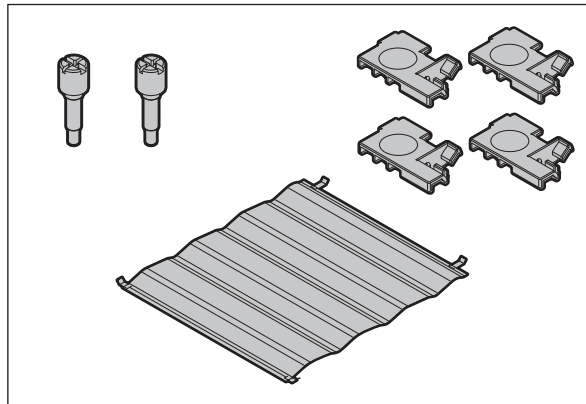
## 1.1 General Description

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.

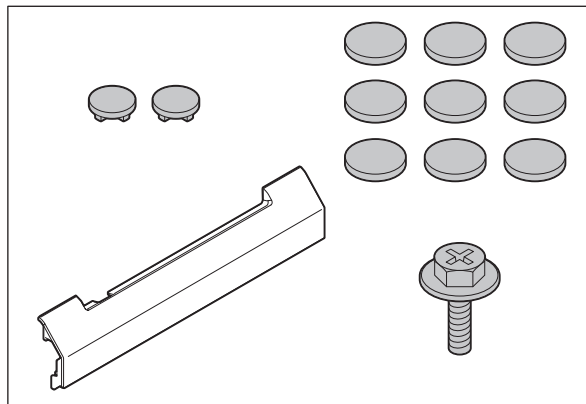
Item		Content
(1)	Scanning section	Fix the scanning section.
(2)	Drum	Install the drum protection sheet and 4 drum fixing holders.
(3)	Toner	Install sealing material on the toner supply opening of each toner cartridge.

### Remarks:

- Keep packing material removed at unpacking to reuse it in steps (1) and (2) above.



- Use a service jig PLATE-TONER-SEAL (6LJ06917000) as sealing material to be used in step (3) above.
- Do not install the accessories shown below when unpacking the equipment.



## 2. Precautions and Procedures for Transporting Equipment

### 2.1 Fixing the scanning section

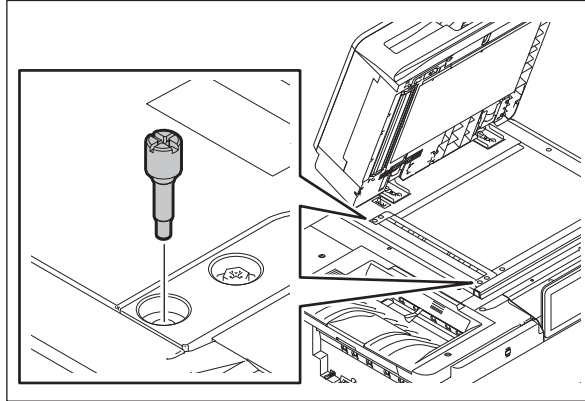
1. Move carriage-1 until it touches the left side of the frame. Then move it back to the right for 3 mm.

#### Notes:

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

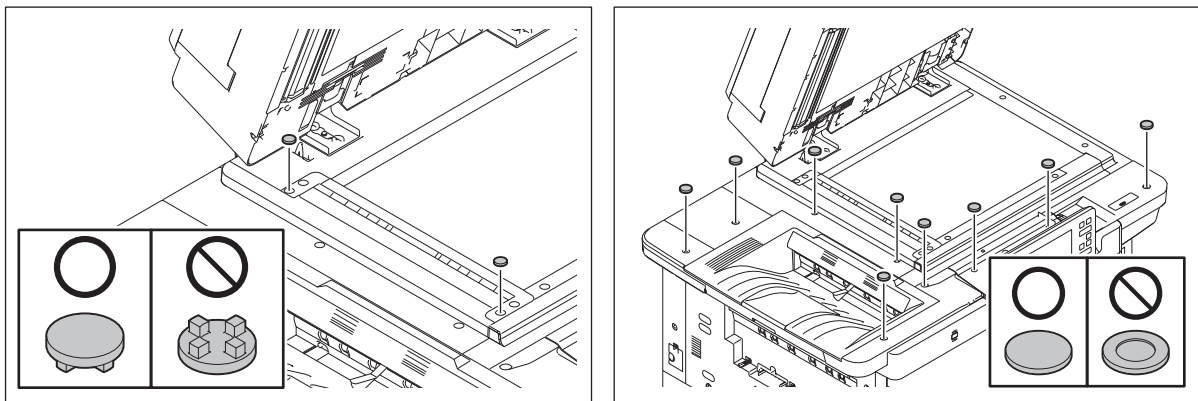
📖 P. 4-29"4.3.9 Carriage-1"

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

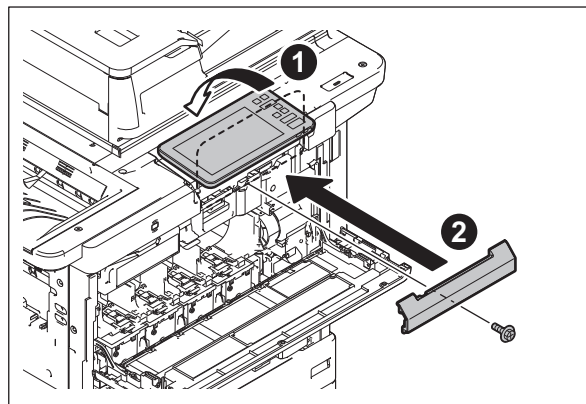


#### Notes:

- The installation of rubber caps for covering the holes of the scanner fixing screws, 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. (Large: 9 pcs. , Small: 2 pcs.)



- The installation of the front lower cover, which is described in the Unpacking Instructions, must not be performed when the equipment is unpacked but must when it is set up at a user's office.

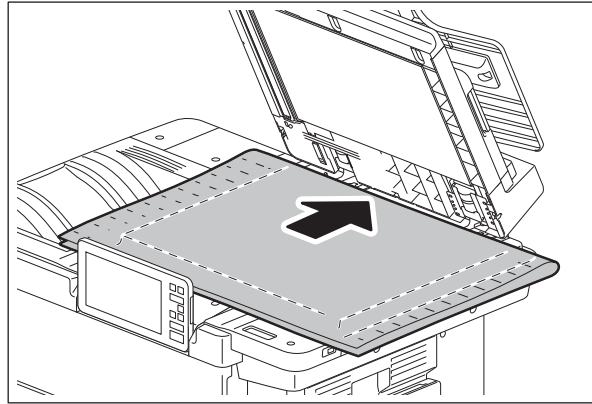
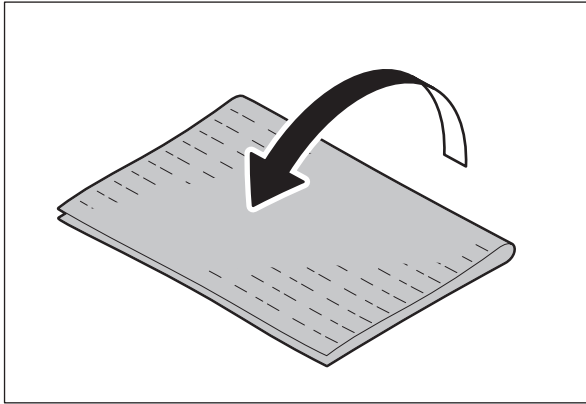




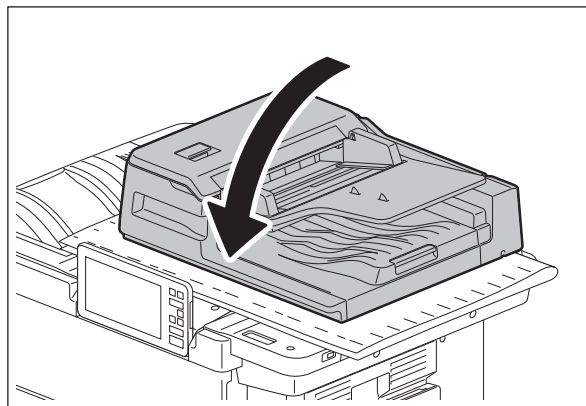
## 2.2 Attach the cushioning material of the scanning section

When transporting the equipment with the DSDF installed, be sure to attach the cushioning material as below to prevent the cover in the scanner section from being scratched by the protrusion of the DSDF cover.


1. Fold the cushioning material (packing material) in two. (Utilize the packing material used in the rear cover section, if available.) Place it on the upper surface of the scanner section so that it is covered.

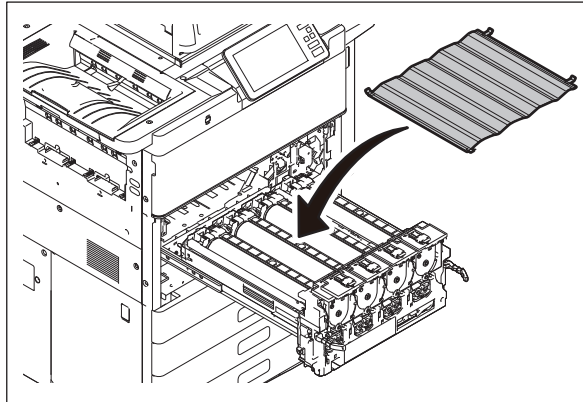


2. While paying attention to ensure that the cushioning material is not moved, slowly close the DSDF.

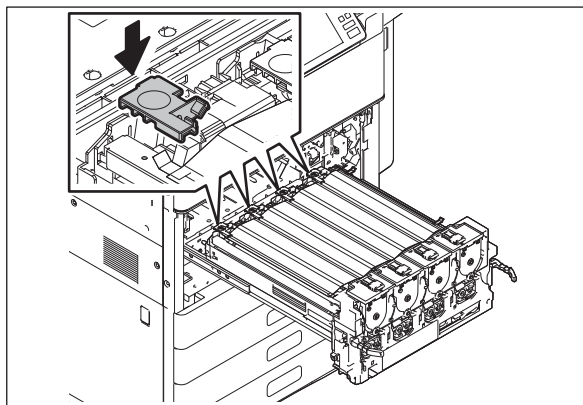


### 2.3 Install the drum protection sheet and 4 drum fixing holders.

1. Pull out the EPU tray.  
 P. 4-102"4.6.1 Pulling out the process unit (EPU tray)"
2. Attach a drum protection sheet to the drums.  
Be sure to fix the four corners of the drum protection sheet with a piece of tape. (Be careful not to let the tape contact the drum during this.)



3. Place 4 drum fixing holders on the specified positions and press them in until a sound is heard.



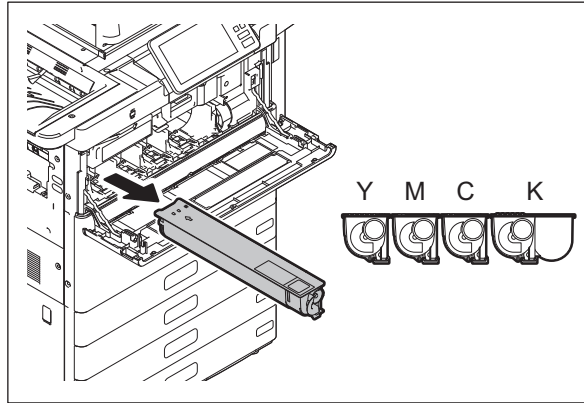
4. Push the EPU tray in, and then reassemble the equipment in the procedure reverse to disassembly.

#### Notes:

- It is recommended to keep the drum protection sheet and 4 drum fixing holders 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

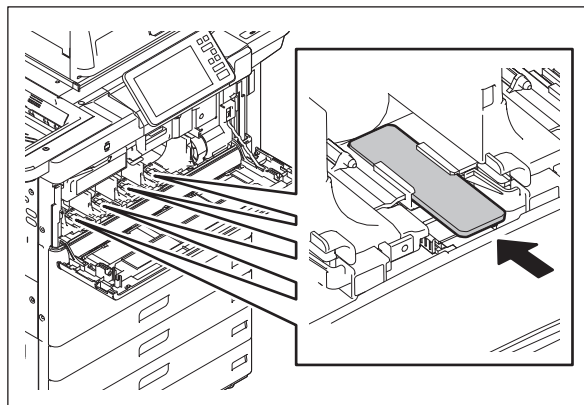
1. Open the front cover and then take off the toner cartridges (Y, M, C and K).



### Notes:

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

2. Install PLATE-TONER-SEAL (6LJ06917000) in the toner supply opening of each toner cartridge. Then close the front cover.

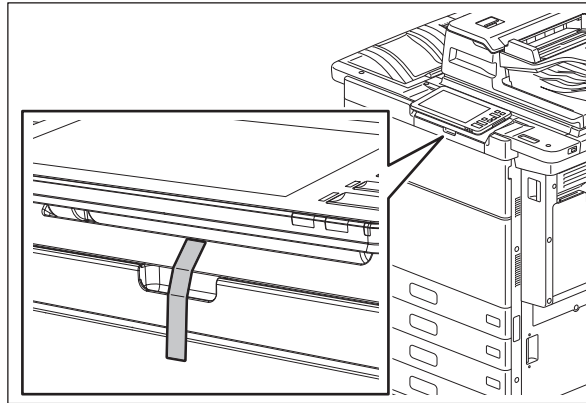


### Notes:

- Pay attention to prevent dust from entering into the toner supply openings.
- When installing PLATE-TONER-SEAL (6LJ06917000), be careful not to scratch or remove the sponge that is already attached to the toner supply openings.

## 2.5 Attaching packaging tape to the accessory tray

When an optional accessory tray is installed, be sure to fix it with packaging tape.

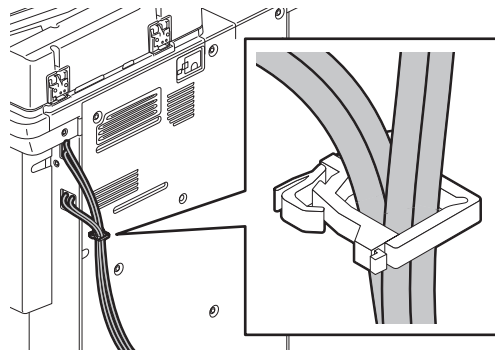


# ALLGEMEINE SICHERHEITSMASSNAHMEN IN BEZUG AUF DIE WARTUNG FÜR e-STUDIO5506AC/6506AC/7506AC

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

## 1. Transport/Installation

- Zum Transportieren/Installieren des Gerätes werden 2 Personen benötigt. Bewegen Sie es mit den Rollen, während Sie die Absperrvorrichtungen heben. Das Gerät ist sehr schwer und wiegt etwa 213 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.
- Eine spezielle Steckdose mit Stromversorgung von AC 120V/20A, 220-240V/10A als Stromquelle verwenden.
- Das Gerät ist aus Sicherheitsgründen zu erden.
- Einen geeigneten Standort für die Installation wählen. Standorte mit zuviel Hitze, hoher Luftfeuchtigkeit, Staub, Vibration 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.
- Wenn LAN-Kabel, USB-Kabel oder die Telefonleitung angeschlossen sind, müssen diese Kabel durch die Klemme an der Rückwand verlegt werden. Ansonsten können sie beim Öffnen/Schließen der Duplexeinheit eingeklemmt und beschädigt werden.



## 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 entfernten 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 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.
- Bewahren Sie Kunststofftüten kindersicher auf. Es besteht Erstickungsgefahr, wenn sich Kinder beim Spielen eine Kunststofftüte über den Kopf ziehen. Bitte nehmen Sie die Kunststofftüten von Optionen oder Serviceparts wieder zurück.
- Wenn der Schutzmantel eines Kabels oder die Steckerisolierung beschädigt werden, besteht Brandgefahr oder die Gefahr eines elektrischen Schlags. Um dies zu vermeiden, sollten Kabel in der gleichen Weise verlegt werden, wie sie vor der Demontage/dem Transport verlegt waren.

### 3. Allgemeine Sicherheitsmassnahmen

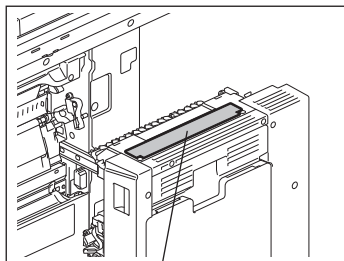
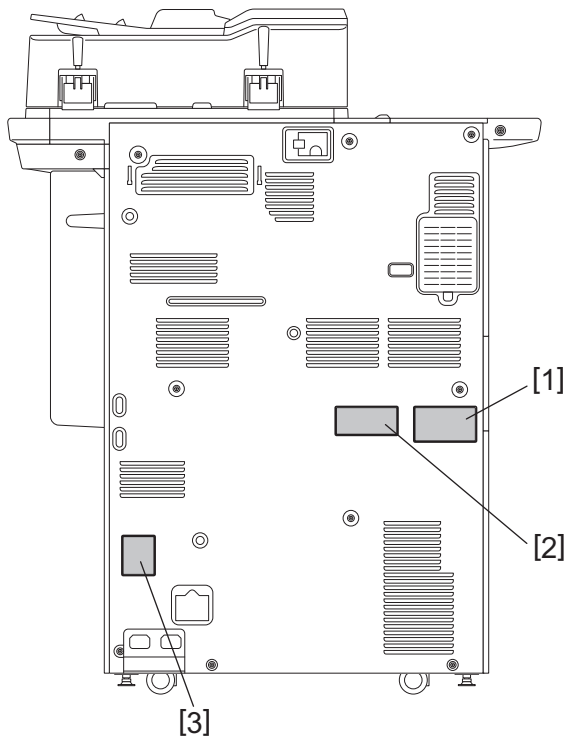
- Die Verfahren sind zu überprüfen und wie im Wartungshandbuch beschrieben durchzuführen.
- Vorsichtig, dass Sie nicht umfallen.
- Um Kontakt zur Haut zu vermeiden, tragen Sie wenn nötig Schutzhandschuhe.

### 4. Sicherheitsrelevante Wartungsteile

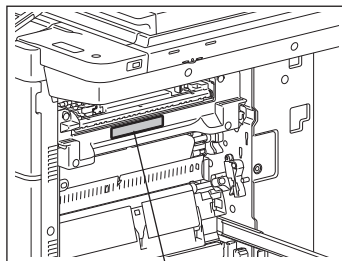
- Der Leistungsschutzschalter, die IH-Spule, der Türschalter, die Sicherung, der Thermostat, die Thermosicherung, der Thermistor, die Akkus, die IC-RAMs einschließlich der Lithium-Batterie sind besonders sicherheitsrelevant. Sie müssen unbedingt korrekt gehandhabt und installiert werden. Wenn diese Teile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

## 5. Warnetiketten

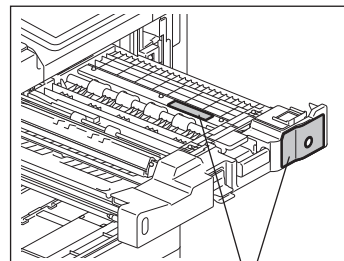
- Im Rahmen der Wartung unbedingt das Leistungsschild und die Etiketten mit Warnhinweisen überprüfen, um sicherzustellen, dass sie nicht verschmutzt sind und korrekt am Gerät angebracht sind.



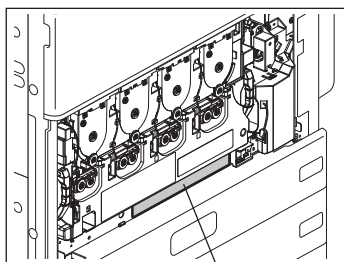
[4]



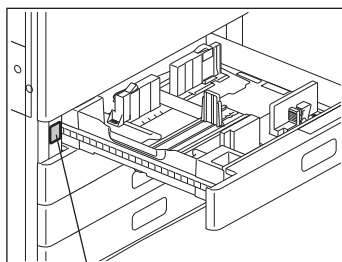
[5]



[6]



[7]



[8]

- 1) Erkennungsetikett
- 2) Erklärungsetikett
- 3) Warnung für das Stromkabel
- 4) Warnung für Bereiche mit hohen Temperaturen (Duplexeinheit / Fixiereinheit)
- 5) Warnung für Bereiche mit hohen Temperaturen (Fixiereinheit)
- 6) Warnung für Bereiche mit hohen Temperaturen (Brückeneinheit)
- 7) Warnung für den Laser
- 8) Warnung für die Anti-Kondensationsheizung (für ARD, AUD, ASD, CND)

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.

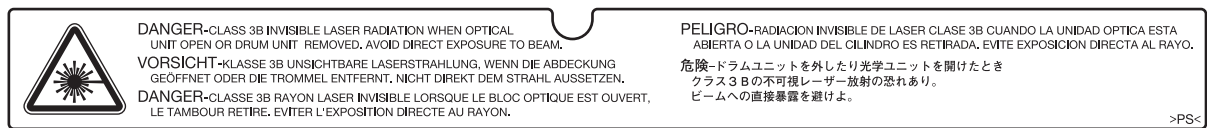
#### Vorsichtsmaßnahmen im Zusammenhang mit Lasern

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 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“ („Netz kabel 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.



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# 1. FEATURE

## 1.1 Main Feature of e-STUDIO5506AC/6506AC/7506AC

- **Adopting a capacitive touch panel**  
Digital keys are provided as an option instead of being located on the control panel.  
The user interface is changed, consequently transition operation to the self-diagnosis mode is updated.
- **Toner cartridge and developer material**  
Dedicated toner cartridges and developer materials are used in order to enable fixing at a lower temperature than that for current models.
- **Abolishing the use of the download jig**  
The use of the download jig is abolished. Instead, a USB device is used for all firmware updates.
- **Dual Scan Document Feeder (DSDF) is embedded as a standard.**
- **An IC chip is mounted to the toner cartridge**



## 2. SPECIFICATIONS/ACCESSORIES/OPTIONS/SUPPLIES

Note: In this document, a model name is replaced with an alias as follows:

Model name	Alias
e-STUDIO5506AC	55ppm
e-STUDIO6506AC	65ppm
e-STUDIO7506AC	75ppm

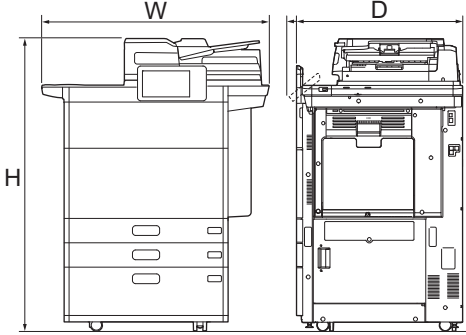
2

### 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	Belt fusing system with an external IH	
Photosensor type	OPC	
Original scanning sensor	Linear CCD sensor	
Scanning light source	LED	
Resolution	Scanning	600 dpi × 600 dpi
	Writing	Black: 600 dpi x 600 dpi, 5 bit 2400 dpi x 600 dpi (smoothing) Color: 600 dpi x 600 dpi, 5 bit
Gradation	256	
Paper feeding	4 drawers + Bypass feeding + LCF (optional) 2 drawers + Bypass feeding + Tandem LCF + LCF (optional)	
Paper supply	Drawers	Stack height 60.5 mm, equivalent to 540 sheets; 80 g/m <sup>2</sup> (23 lb. Bond)
	Bypass feeding	Stack height 13 mm, equivalent to 120 sheets; 80 g/m <sup>2</sup> (23 lb. Bond)
	LCF (optional)	Stack height 285 mm, equivalent to 2500 sheets; 80 g/m <sup>2</sup> (23 lb. Bond)
	Tandem LCF	Stack height 270 mm, equivalent to 2320 sheets; 80 g/m <sup>2</sup> (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") Non-standard (Copy): Width 140 - 297 mm (5.5"- 11.7"), Length 210 - 432 mm (8.3" - 17") Non-standard (Print): Width 140 - 313.4 mm (5.5" - 12.34"), Length 210 - 460 mm (8.3"- 18.1")
	Bypass feeding	A3, A4, A4-R, A5-R, A6-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"*, Envelope DL (110 x 220 mm), Envelope Com10/QUALITY PARK#10 (4 1/8 x 9 1/2"), Envelope Monarch (3 7/8 x 7 1/2"), Envelope Cho-3 (120 x 235 mm), Envelope You-4 (105 x 235 mm) 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")* * Stains or dirt may appear on the back side of the paper.
	LCF (optional)	A4, LT, B5, A5-R, ST-R (The paper sizes B5, A5-R and ST-R will be made available by your attaching the parts supplied as service parts.)
	Tandem LCF	A4, LT
Paper type	Drawers	Plain paper, Recycled paper, Thick, Thick 1, Thick 2, Thick 3
	Bypass feeding	Plain paper, Recycled paper, Thick, Thick 1, Thick 2, Thick 3, Thick 4, Sticker labels, OHP film, Special 1 (Waterproof paper), Special 2 (Waterproof paper), Tab paper, Water proof paper, Extra large paper, Envelope
	LCF (optional)	Plain paper, Recycled paper, Thick, Thick 1, Thick 2, Thick 3
	Tandem LCF	
Paper weight	Drawers	60 g/m <sup>2</sup> to 256 g/m <sup>2</sup> (17 lb. Bond to 80 lb. Cover)
	Bypass feeding	60 g/m <sup>2</sup> to 300 g/m <sup>2</sup> (17 lb. Bond to 110 lb. Cover)
	LCF (optional)	60 g/m <sup>2</sup> to 256 g/m <sup>2</sup> (17 lb. Bond to 80 lb. Cover)
	Tandem LCF	
Automatic duplexing unit	Type	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	60 g/m <sup>2</sup> to 256 g/m <sup>2</sup> (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	4 GB (including page memory)
	Page Memory	Included in main memory
HDD		320GB
Account codes		10,000 codes
Department codes		1,000 codes
Warm-up time		Normal start-up: Approx. 70 sec. <Standalone, temperature: 20 °C> Start-up with hibernation: Approx. 20 sec. <Stand-alone, temperature: 20 °C> * Varies depending on the settings, use conditions, and quality maintenance behavior such as toner refill.

Recovery from sleep	<p>55ppm/65ppm: 15 seconds or less            75ppm: 35 seconds or less            &lt;Standalone, temperature: 20 °C&gt;            * Varies depending on the settings, use conditions, and quality maintenance behavior such as toner refill.</p>
Power requirements	<p>AC 120 V ± 10%, 16 A (50/60 Hz)            AC 220-240 V ± 10%, 10 A (50/60 Hz)</p>
Power consumption	<p>2.0 kW or less (120 V)            2.4 kW or less (220-240 V)            (including optional equipments)</p>
Dimensions of the equipment	<p>W 955 x D 698 x H 1227 mm (When the tilt angle of the control panel is 90 degrees.)            W 955 x D 733.5 x H 1227 mm (When the tilt angle of the control panel is 7 degrees.)</p>  <p>The diagram shows two views of the equipment. The left view is a front view showing a control panel on top and three drawers below. Dimension lines indicate width (W) and height (H). The right view is a side view showing the depth of the machine. Dimension lines indicate depth (D) and height (H).</p>
Weight	<p>Approx. 213 kg (469.6 lb.) (equipment including developer and drum)</p>

## 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 and books
	Original size	Max. A3/LD
Dual Scan 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, FOLIO, LD, LG, LT, LT-R, ST-R, COMPUTER
	Original paper weight	35 - 209 g/m <sup>2</sup> (9.3 - 41.8 lb. Bond / 77.3 lb. Cover) (Bleed-through will occur when a 2-sided original with thin paper such as 35 g/m <sup>2</sup> (9.3 lb.) is scanned.)
	Original capacity	Max. 300 sheets (80 g/m <sup>2</sup> ) (Stack height 38 mm)
Eliminated portion	Black copy	Leading edges: 4.2 (+2.8 / -1.2) 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
Density control		The automatic density mode and the manual density mode are selectable in 11 steps.

### [ 2 ] First copy time

55ppm	Black	Approx. 5.2 sec.
	Color	Approx. 6.4 sec.
65ppm	Black	Approx. 4.5 sec.
	Color	Approx. 6.4 sec.
75ppm	Black	Approx. 4.1 sec.
	Color	Approx. 5.4 sec.



### [ 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 paper / Thick

• Plain paper: 60 g/m<sup>2</sup> to 80 g/m<sup>2</sup> / 16 lb. Bond to 21.3 lb. Bond

• Thick: 81 g/m<sup>2</sup> to 105 g/m<sup>2</sup> / 21.6 lb. Bond to 28 lb. Bond

#### 55ppm (Plain paper / Thick)

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT*		65 (55)	48 (46)	65 (55)	65 (55)
B5, 16K, A5-R, ST-R, 8.5"SQ					-
A6-R		-		-	-
A4-R, B5-R, LT-R, 16K-R		46 (38)	36 (35)	-	-
B4, FOLIO, LG, COMP, 13"LG		31 (29)	28 (27)	-	-
A3, LD, 8K		30 (27)	25 (24)	-	-
A3Wide, SRA3		27 (25)	21 (20)	-	-
330 x 483mm				-	-
Non-standard size (500 mm)		-	18 (17)	-	-

#### 65ppm (Plain paper / Thick)

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT*		75 (65)	52 (48)	75 (65)	75 (65)
B5, 16K, A5-R, ST-R, 8.5"SQ				-	-
A6-R		-		-	-
A4-R, B5-R, LT-R, 16K-R		54 (46)	38 (36)	-	-
B4, FOLIO, LG, COMP, 13"LG		39 (31)	30 (28)	-	-
A3, LD, 8K		37 (30)	27 (25)	-	-
A3Wide, SRA3		31 (27)	23 (21)	-	-
330 x 483mm				-	-
Non-standard size (500 mm)		-	20 (18)	-	-

#### 75ppm (Plain paper)

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT*		85 (75)	56 (52)	85 (75)	85 (75)
B5, 16K, A5-R, ST-R, 8.5"SQ				-	-
A6-R		-		-	-
A4-R, B5-R, LT-R, 16K-R		61 (54)	42 (38)	-	-
B4, FOLIO, LG, COMP, 13"LG		46 (39)	38 (30)	-	-
A3, LD, 8K		40 (37)	34 (27)	-	-
A3Wide, SRA3		33 (31)	30 (23)	-	-
330 x 483mm				-	-
Non-standard size (500 mm)		-	20 (20)	-	-

## 75ppm (Thick)

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT*		85 (65)	56 (48)	85 (65)	85 (65)
B5, 16K, A5-R, ST-R, 8.5"SQ		75 (65)	52 (48)	-	-
A6-R		-		-	-
A4-R, B5-R, LT-R, 16K-R		54 (46)	38 (36)	-	-
B4, FOLIO, LG, COMP, 13"LG		39 (31)	30 (28)	-	-
A3, LD		40 (30)	34 (25)	-	-
8K (Full Color)		(30)	(25)	-	-
8K (Monochrome)		37	27	-	-
A3Wide, SRA3		33 (27)	30 (21)	-	-
Non-standard size (500 mm)		-	20 (20)	-	-

\* Acceptable range of output sheets:

- Drawers for A4, LT, Tandem LCF and Option LCF: within +1 to -0.5 sheets
- Bypass tray: within  $\pm 2.0$  sheets

### [ 3-2 ] Thick 1 / Thick 2

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

### Thick 1 / Thick 2

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT		32 (32)	26 (26)	32 (32)	32 (32)
B5, ST-R, A5-R					-
16K, 8.5"SQ					-
A6-R, Post card (only 100mm x 148mm) *Monochrome		-	26	-	-
A4-R, B5-R, LT-R, 16K-R		23 (23)	20 (20)	-	-
B4, FOLIO, LG, COMP, 13"LG		15.5 (15.5)	13 (13)	-	-
A3, LD, 8K		13.5 (13.5)	11 (11)	-	-
A3Wide, SRA3		12 (12)	9 (9)	-	-
330 x 483mm		-		-	-
Non-standard size (500 mm)		-		8 (8)	-

### [ 3-3 ] Thick 3 / Thick 4

- Thick 3: 210 g/m<sup>2</sup> to 256 g/m<sup>2</sup> / 77.3 lb. Cover to 94.5 lb. Cover (141.4 lb. Index)
- Thick 4: 257 g/m<sup>2</sup> to 300 g/m<sup>2</sup> / 94.5 lb. Cover to 110 lb. Cover

### Thick 3 / Thick 4

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT		32 (21)	26 (17)	32 (21)	32 (21)
B5, ST-R, A5-R					-
16K, 8.5"SQ					-
A6-R, Post card (only 100mm x 148mm) *Monochrome		-	26	-	-
A4-R, B5-R, LT-R, 16K-R		23 (15)	20 (13)	-	-
B4, FOLIO, LG, COMP, 13"LG		15.5 (10.5)	13 (9.5)	-	-
A3, LD, 8K		13.5 (9)	11 (8)	-	-
A3Wide, SRA3		12 (8)	9 (6)	-	-
330 x 483mm		-		-	-
Non-standard size (500 mm)		-		8 (5)	-

### [ 3-4 ] Special paper 1

#### Special paper 1

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT		-	6 (6)	-	-
B5, ST-R, A5-R				-	-
16K, 8.5"SQ				-	-
A6-R, Post card (only 100mm x 148mm) *Monochrome		-	6	-	-
A4-R, B5-R, LT-R, 16K-R		-	4.5 (4.5)	-	-
B4, FOLIO, LG, COMP, 13"LG		-	3 (3)	-	-
A3, LD, 8K		-	2.5 (2.5)	-	-
A3Wide, SRA3		-	2 (2)	-	-
330 x 483mm		-		-	-
Non-standard size (500 mm)		-	1.5 (1.5)	-	-

### [ 3-5 ] Special paper 2, OHP film

#### Special paper 2, OHP film

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT		-	17 (17)	-	-
B5, ST-R, A5-R				-	-
16K, 8.5"SQ				-	-
A6-R, Post card (only 100mm x 148mm) *Monochrome		-	17	-	-
A4-R, B5-R, LT-R, 16K-R		-	13 (13)	-	-
B4, FOLIO, LG, COMP, 13"LG		-	9.5 (9.5)	-	-
A3, LD, 8K		-	8 (8)	-	-
A3Wide, SRA3		-	6 (6)	-	-
330 x 483mm		-		-	-
Non-standard size (500 mm)		-	5 (5)	-	-

### [ 3-6 ] Envelope

#### Envelope

Paper size	Paper supply	Drawer	Bypass feed Size specified	Option LCF	Tandem LCF
A4, LT		-	17 (17)	-	-
B5, ST-R, A5-R				-	-
16K, 8.5"SQ				-	-
A4-R, B5-R, LT-R, 16K-R, Envelope Cho-3 (120 x 235 mm), Envelope You-4 (105 x 235 mm), DL (110 x 220 mm), monarch (3 7/8" x 7 1/2"), COM10/ QUALITY PARK#10 (4 1/8" x 9 1/2"), Envelope You-4 (162x114 mm)		-	13 (13)	-	-
B4, FOLIO, LG, COMP, 13"LG		-	9.5 (9.5)	-	-
A3, LD, 8K		-	8 (8)	-	-
A3Wide, SRA3		-	6 (6)	-	-
330 x 483mm		-		-	-
Non-standard size (500 mm)		-	5 (5)	-	-

\* The length of 40 mm, which consists of the setting size and the flap length, is added to the size for Envelope.

**[ 4 ] System copy speed (Copies/min.)**

<b>Copy mode</b>	<b>55ppm</b>	<b>65ppm</b>	<b>75ppm</b>
Single-sided originals ↓ Single-sided copies	65 (55)	70 (65)	70 (70)
Single-sided originals ↓ Double-sided copies			
Double-sided originals ↓ Double-sided copies			
Double-sided originals ↓ Single-sided copies			

- \* When A4/LT size originals are set on the DSDF.
- \* 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 values in ( ) are the speeds of when in the color mode.

## 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), JPEG
Supported OS		Windows Vista / Windows 7 / Windows 8 / Windows 8.1 / Windows 10 / Windows Server 2003 / Windows Server 2008 / Windows Server 2012 Mac OS X 10.6.8 or later Solaris v11.2 HP-UX ver.11.iv3 AIX 7.x Red Hat Enterprise 5.x, 6.x, Fedora Ver 21,22, SuSE Linux Enterprise Server Ver.11,12, Open SuSE Ver.13.1, 13.2, Ubuntu 14.04LTS, 15.04, Debian 7.8, 8 CUPS V1.1.15
Resolution	Black	600 x 600 dpi, 5bit 1200 x 1200 dpi, 2bit (PS only) 3600 dpi (Equivalence) x 1200 dpi (PS only)
	Color	600 x 600 dpi, 5bit 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/n) Bluetooth V3.0 (HCRP/BIP/OPP/FTP/HID)

## 2.1.4 Scan

Scanning speed	Color / Black / Gray scale	70 sheets/min. (600 dpi x 600 dpi) 80 sheets/min. (400 dpi x 400 dpi) 120 sheets/min. (300 dpi x 300 dpi) 120 sheets/min. (200 dpi x 200 dpi) 120 sheets/min. (150 dpi x 150 dpi) 120 sheets/min. (100 dpi x 100 dpi)
Resolution		100, 150, 200, 300, 400 and 600 dpi
Color mode		Black, Gray scale, Color and ACS (Auto color Selection)
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 DSDF

## 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

## 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	3000 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. 100M Byte
	Message division	Page by page

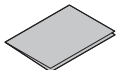

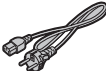

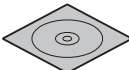
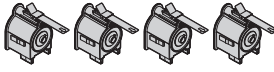


### [ 2 ] Internet FAX receiving

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

## 2.1.7 Network Fax (optional)

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

## 2.2 Accessories

Unpacking/Setup instruction		1 set
Operator's manual		1 set • Safety Information: 1 manual • Quick Start Guide: 1 manual
Power cable		1 pc.
Warranty sheet		1 pc. (for NAC / NAD, MJC / MJD, ARD, AUD)
Setup report		1 set (for NAD)
PM sticker		1 pc. (for MJC / MJD, ASD)
Cleaning cloth		1 pc.
Cloth case		1 pc.
Rubber plug		Large: 9 pcs. Small: 2 pcs.
DVD		1 pc. Client Utilities / User Documentation DVD
Developer material (Y, M, C, K)		1 pc. each
Harness clamp		1 pc.
Front cover, Screw (M4 x 8, BK)		1 pc. each

\* Machine version

NAC / NAD: North America, Brazil

MJC / MJD: Europe

AUD: Australia

ASD: Asia, Hong Kong, Latin America

ARD: Argentina

CND: China

### Notes:

Check that the above accessories are correctly co-packed at the time of unpacking.

## 2.3 System List

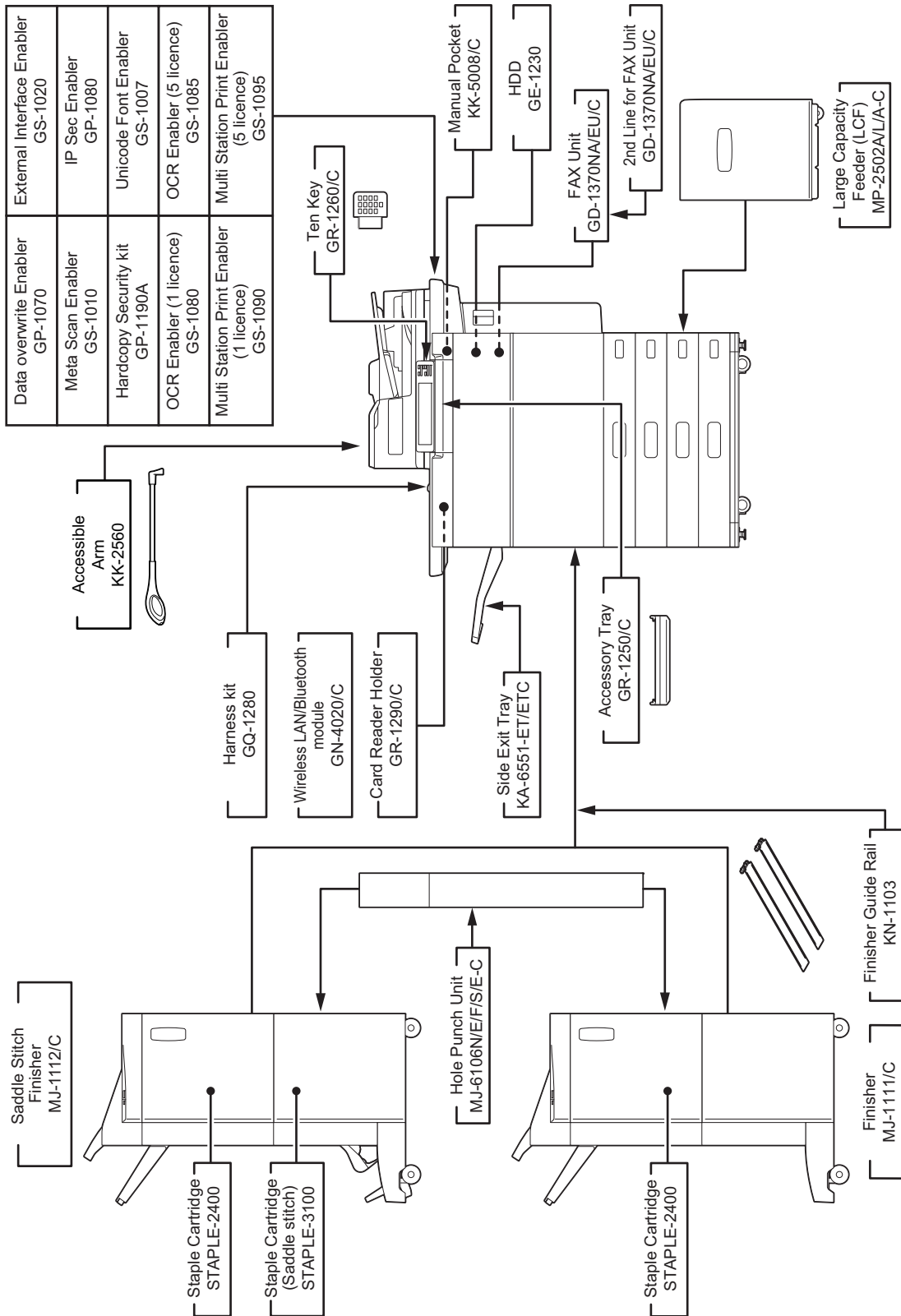


Fig. 2-1

### Notes:

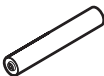
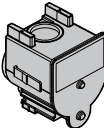
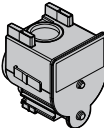
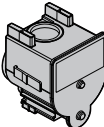
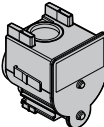
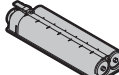
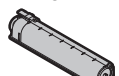


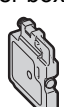
The finisher (MJ-1111/C or MJ-1112/C) is necessary for installation of the hole punch unit (MJ-6106N/E/F/S/E-C).



## 2.4 Options

Model	Option
MP-2502A/L/A-C	Large Capacity Feeder (LCF)
KK-5008/C	Operator's manual pocket
KA-6551-ET/ETC	Side Exit Tray
KK-2560	Accessible Arm
KN-1103	Finisher Guide Rail
MJ-1111/C	Finisher
MJ-1112/C	Saddle Stitch Finisher
MJ-6106N/E/F/S/E-C	Hole Punch Unit (for MJ-1111/1112)
STAPLE-2400	Staple Cartridge (for MJ-1111/1112)
STAPLE-3100	Staple Cartridge (MJ-1112 saddle stitch)
GD-1370NA/EU/C	Fax Unit / 2nd Line for FAX Unit
GR-1250/C	Accessory Tray
GR-1260/C	Ten Key
GR-1290/C	Card Reader Holder
GN-4020/C	Wireless LAN / Bluetooth Module
GQ-1280	Harness Kit
GE-1230	HDD (FIPS Hard Disk)
GS-1010	Meta Scan Enabler
GS-1020	External Interface Enabler
GP-1080	IPSec Enabler
GP-1070	Data Overwrite Enabler
GP-1190A	Hardcopy Security kit
GS-1007	Unicode Font Enabler
GS-1080	OCR Enabler (1 licence)
GS-1085	OCR Enabler (5 licences)
GS-1090	Multi Station Print Enabler (1 licence)
GS-1095	Multi Station Print Enabler (5 licences)

## 2.5 Supplies

Drum 	OD-FC556
Developer cartridge (K) 	D-FC556K
Developer cartridge (Y) 	D-FC556Y
Developer cartridge (M) 	D-FC556M
Developer cartridge (C) 	D-FC556C
Toner cartridge (K) 	PS-ZTFC556UK(1) (for North America, Central and South America) PS-ZTFC556EK(1) (for Europe) PS-ZTFC556PK(1) (for Asia and Australia) PS-ZTFC556CK(1) (for China)
Toner cartridge (Y) 	PS-ZTFC556UY(1) (for North America, Central and South America) PS-ZTFC556EY(1) (for Europe) PS-ZTFC556PY(1) (for Asia and Australia) PS-ZTFC556CY(1) (for China)
Toner cartridge (M) 	PS-ZTFC556UM(1) (for North America, Central and South America) PS-ZTFC556EM(1) (for Europe) PS-ZTFC556PM(1) (for Asia and Australia) PS-ZTFC556CM(1) (for China)
Toner cartridge (C) 	PS-ZTFC556UC(1) (for North America, Central and South America) PS-ZTFC556EC(1) (for Europe) PS-ZTFC556PC(1) (for Asia and Australia) PS-ZTFC556CC(1) (for China)
Waste toner box 	PS-TBFC55 (except for Europe and China) PS-TBFC55E (for Europe) PS-TBFC55C (for China)

### 3. OUTLINE OF THE MACHINE

#### 3.1 Sectional View

##### 3.1.1 Front side

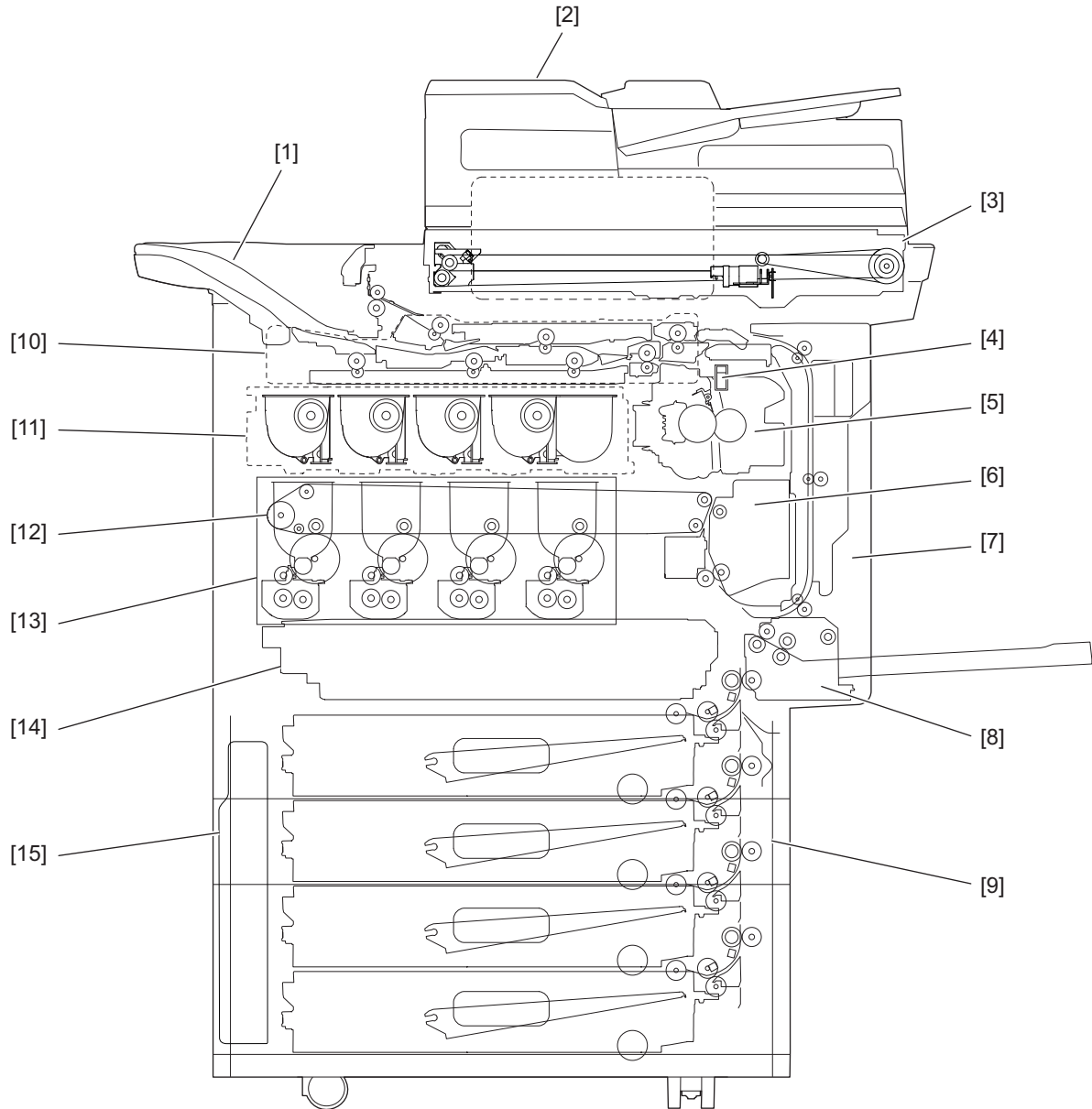


Fig. 3-1

[1]	Exit tray	[9]	Paper Feeding System
[2]	Dual Scan Document Feeder (DSDF)	[10]	Exit / Reverse Section
[3]	Scanner	[11]	Toner cartridge
[4]	Main power switch	[12]	Transfer belt unit
[5]	Fuser Unit	[13]	Process Unit Related Section
[6]	2nd transfer unit	[14]	Laser Optical Unit
[7]	Duplex Section	[15]	Waste toner box
[8]	Bypass feed unit		

### 3.1.2 Rear side

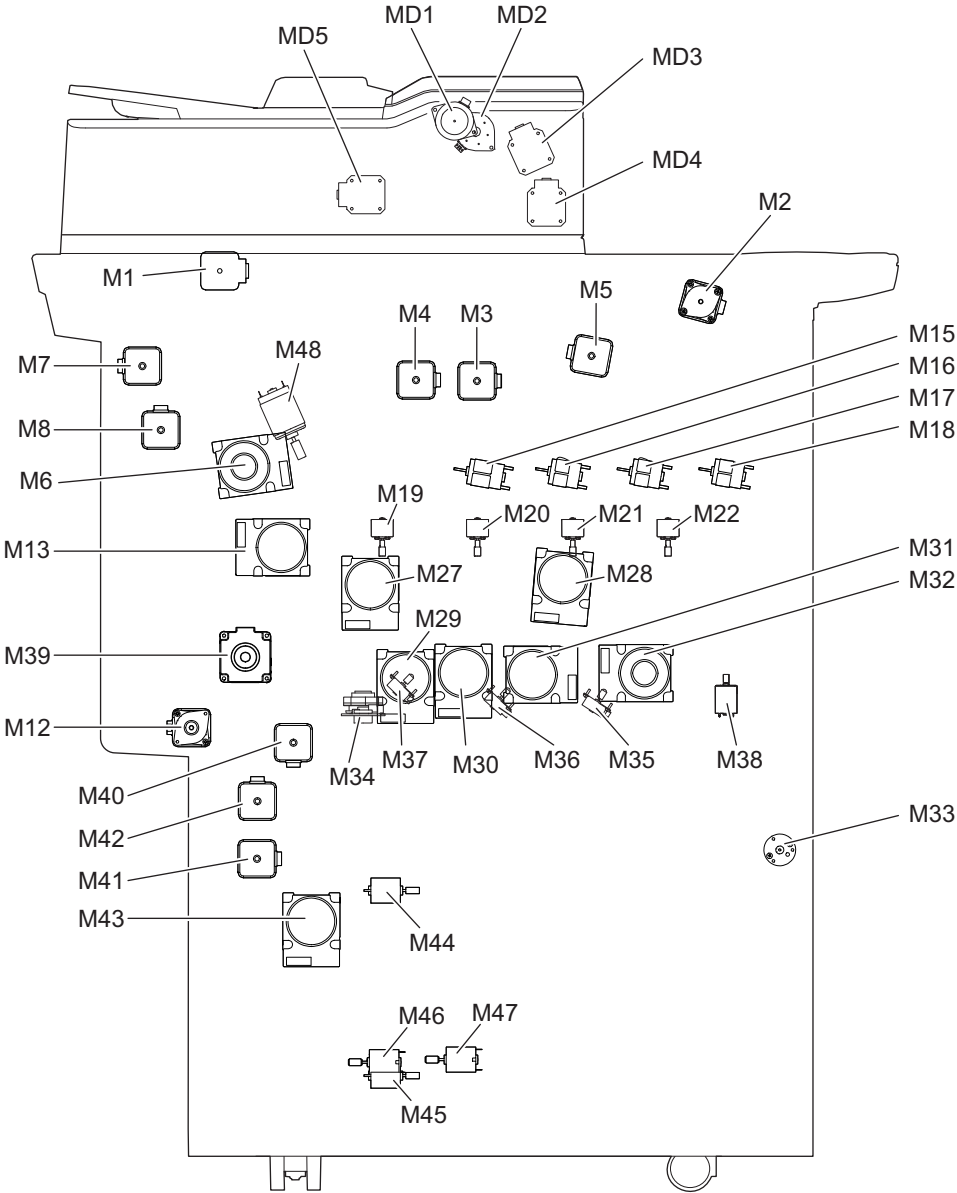


Fig. 3-2

MD1	DSDF feed motor	M27	Drum motor-K
MD2	DSDF separation motor	M28	Drum motor-YMC
MD3	DSDF registration motor	M29	Developer unit mixer motor-K
MD4	DSDF read motor	M30	Developer unit motor-K
MD5	DSDF exit motor	M31	Developer unit mixer motor-YMC
M1	Scan motor	M32	Developer unit motor-YMC
M2	Exit motor	M33	Waste toner transport motor
M3	Reverse motor	M34	Polygonal motor
M4	Bridge unit transport entrance motor	M35	Mirror motor-M
M5	Bridge unit transport exit motor	M36	Mirror motor-C
M6	Fuser motor	M37	Mirror motor-K
M7	ADU transport motor	M38	Shutter motor
M8	ADU feed motor	M39	Registration motor
M12	Bypass motor	M40	Transport motor-1
M13	Transfer belt motor	M41	Transport motor-2
M15	Toner motor-K	M42	1st/2nd drawer feed motor
M16	Toner motor-C	M43	3rd/4th drawer/LCF feed motor
M17	Toner motor-M	M44	1st/2nd drawer tray-up motor
M18	Toner motor-Y	M45	3rd/4th drawer/LCF tray-up motor
M19	Sub-hopper toner motor-K	M46	T-LCF tray-up motor
M20	Sub-hopper toner motor-C	M47	T-LCF end fence motor
M21	Sub-hopper toner motor-M	M48	Pressure roller contact/release motor
M22	Sub-hopper toner motor-Y		

# 3.2 Electric Parts Layout

## [A] Dual Scan Document Feeder (DSDF)

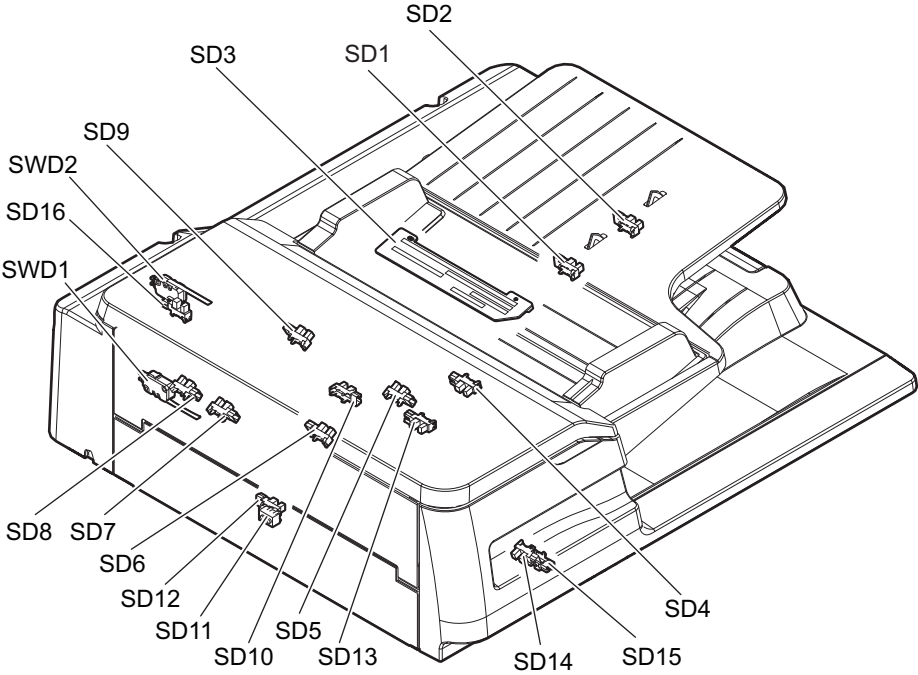


Fig. 3-3

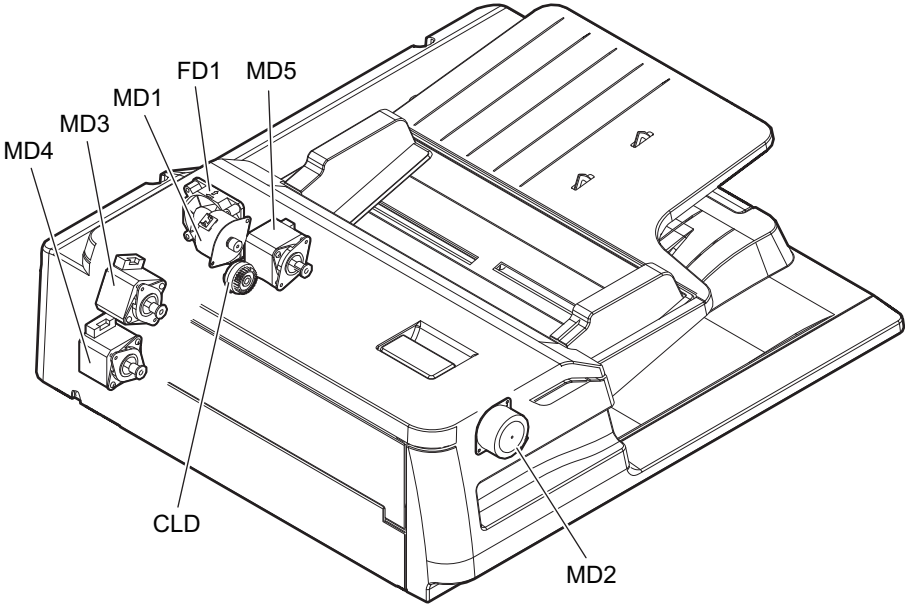


Fig. 3-4

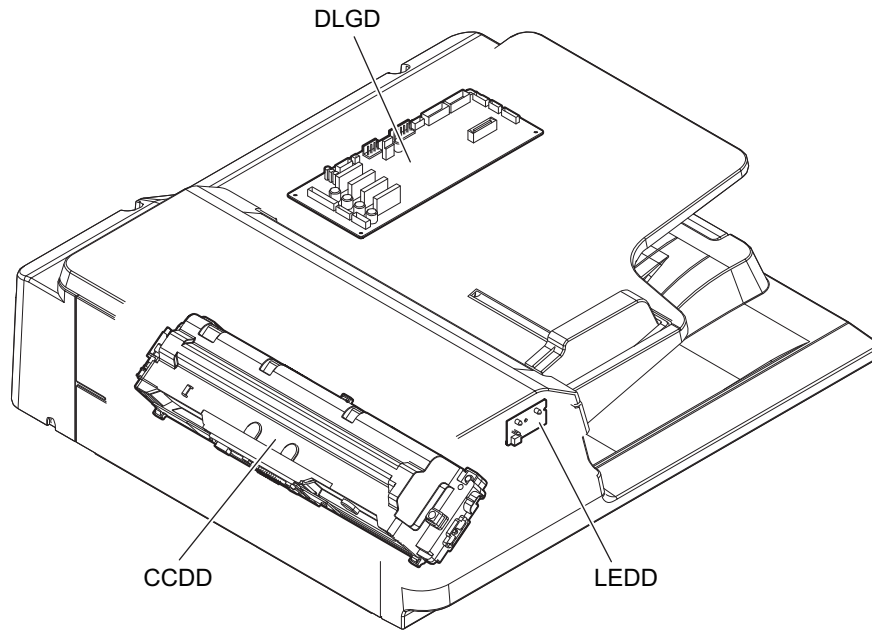
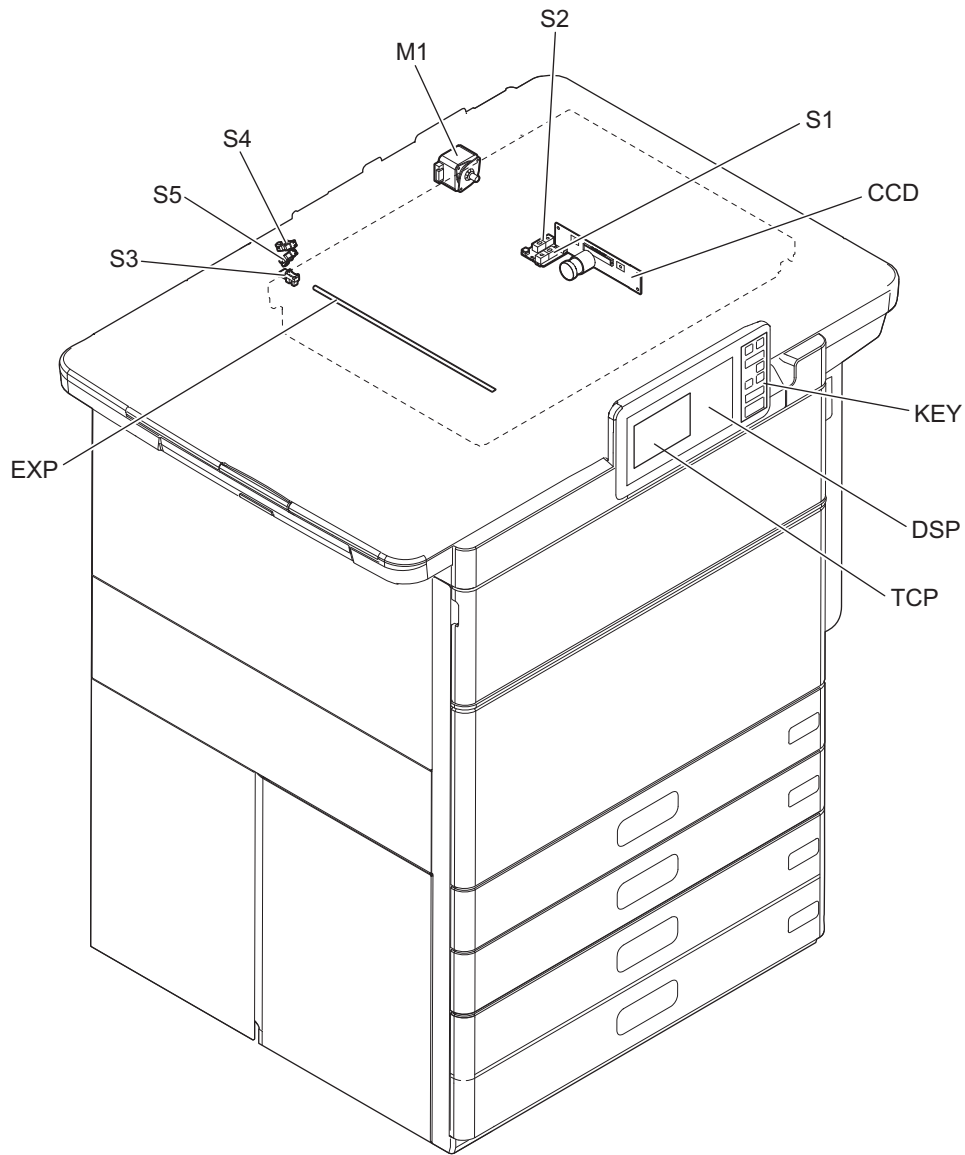


Fig. 3-5

**[B] Scanner unit, control panel**



**Fig. 3-6**



[C] Bridge unit/Paper exit

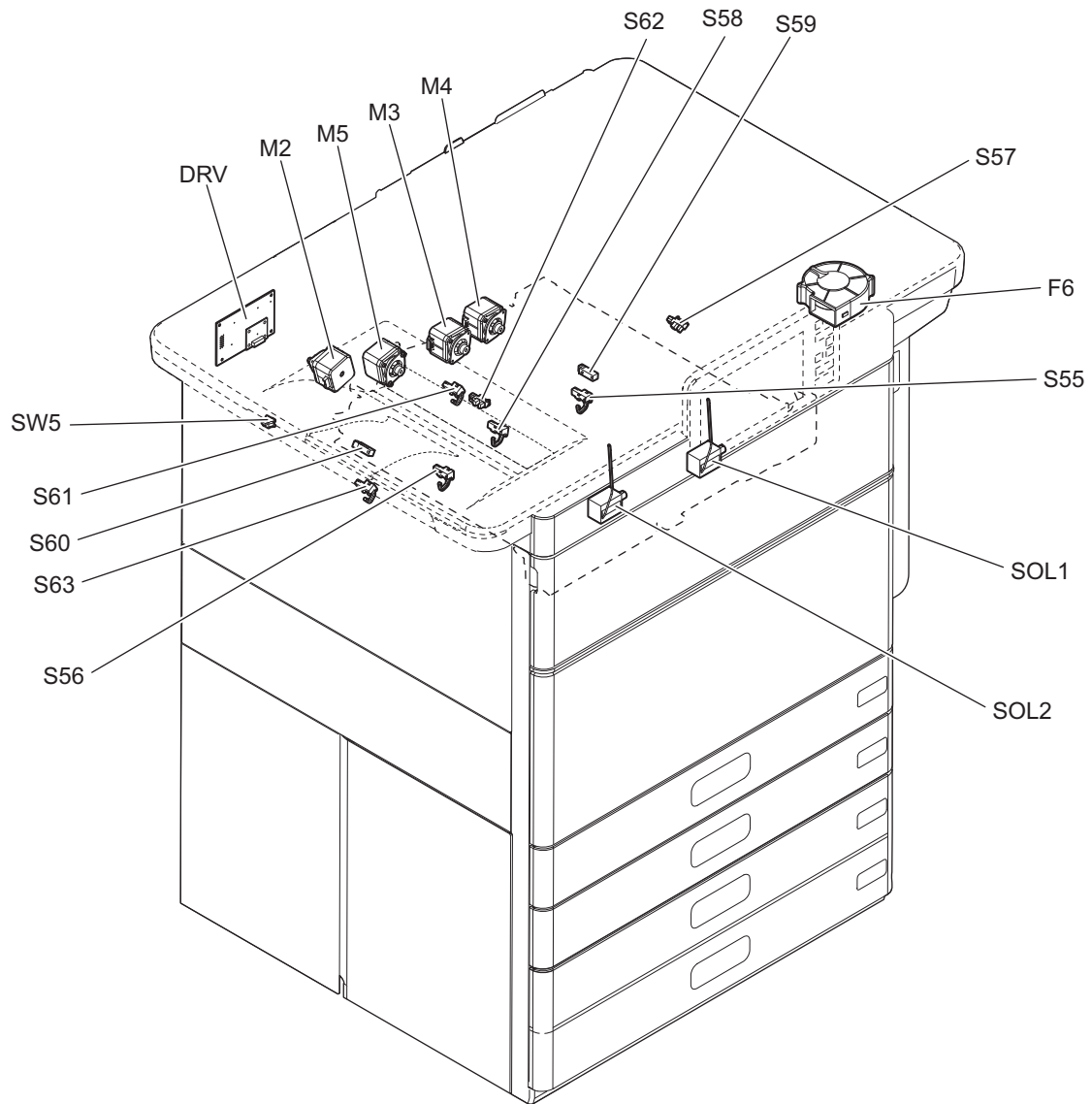


Fig. 3-7

[D] Fuser related section

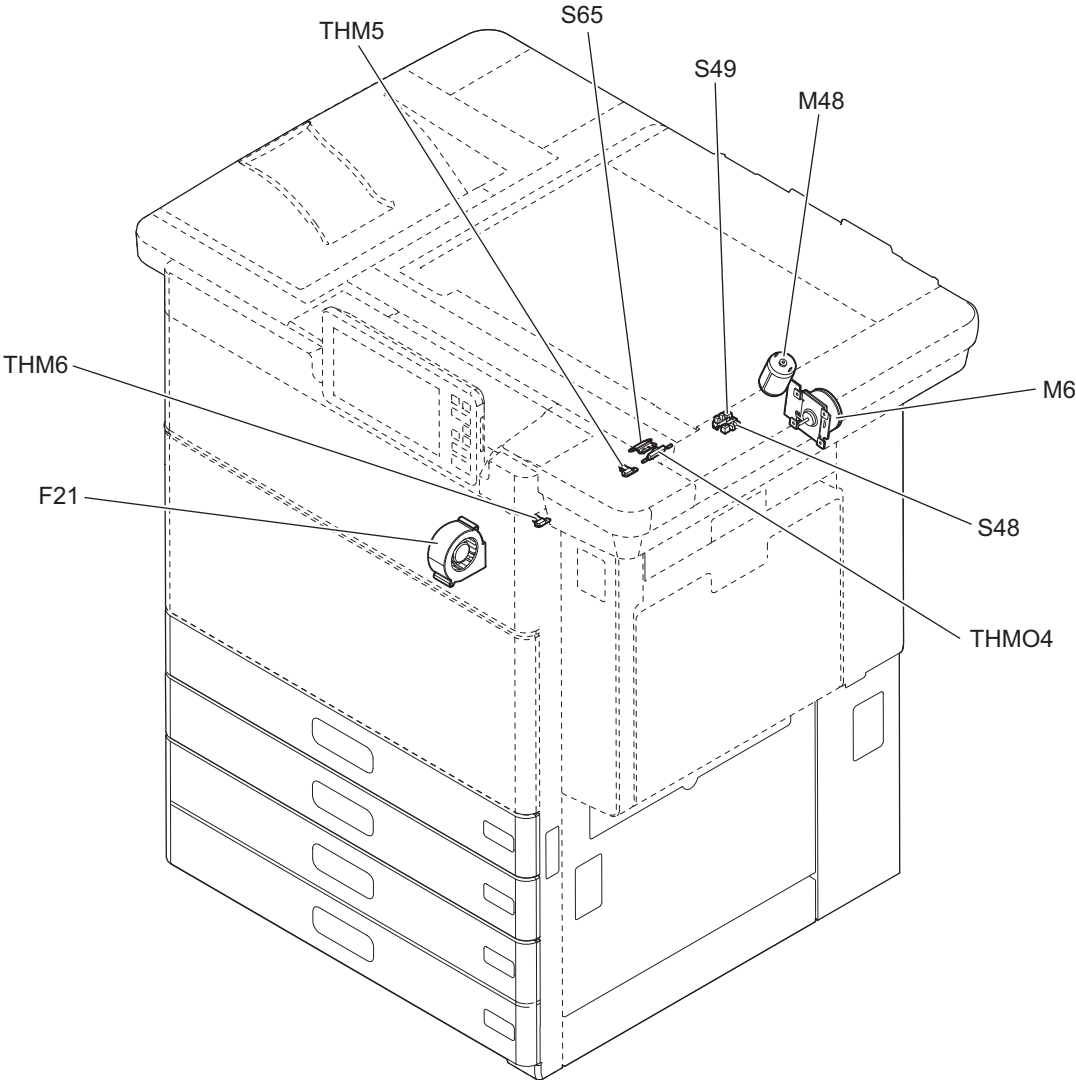


Fig. 3-8

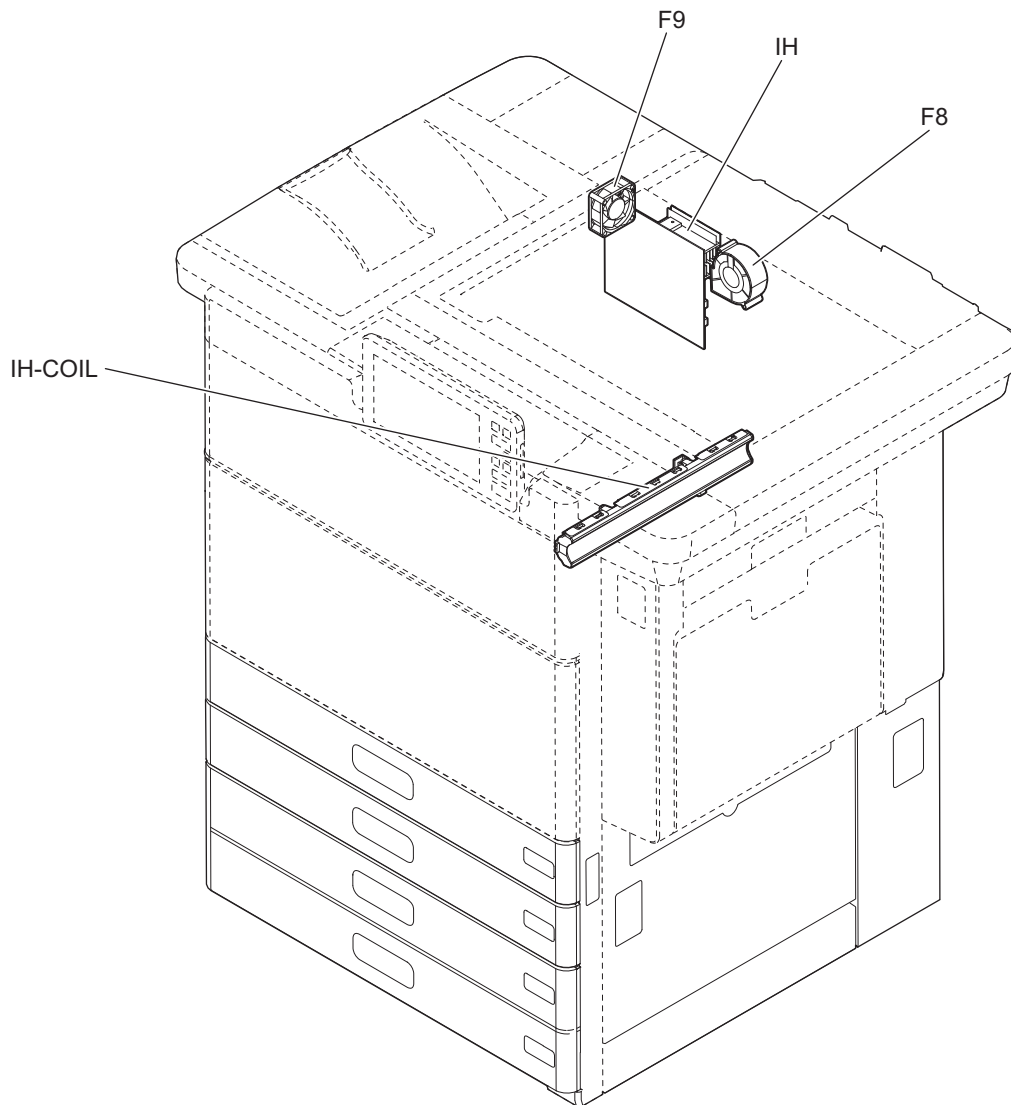


Fig. 3-9

[E] Developer unit

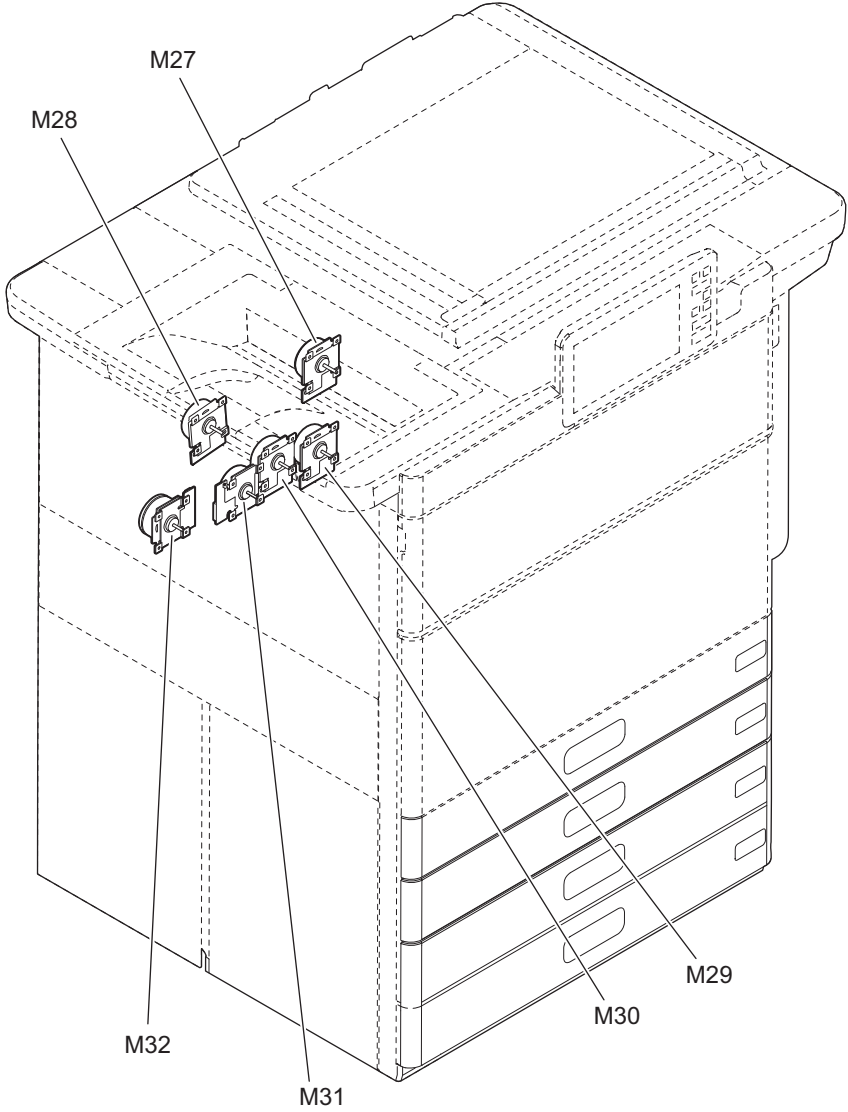


Fig. 3-10

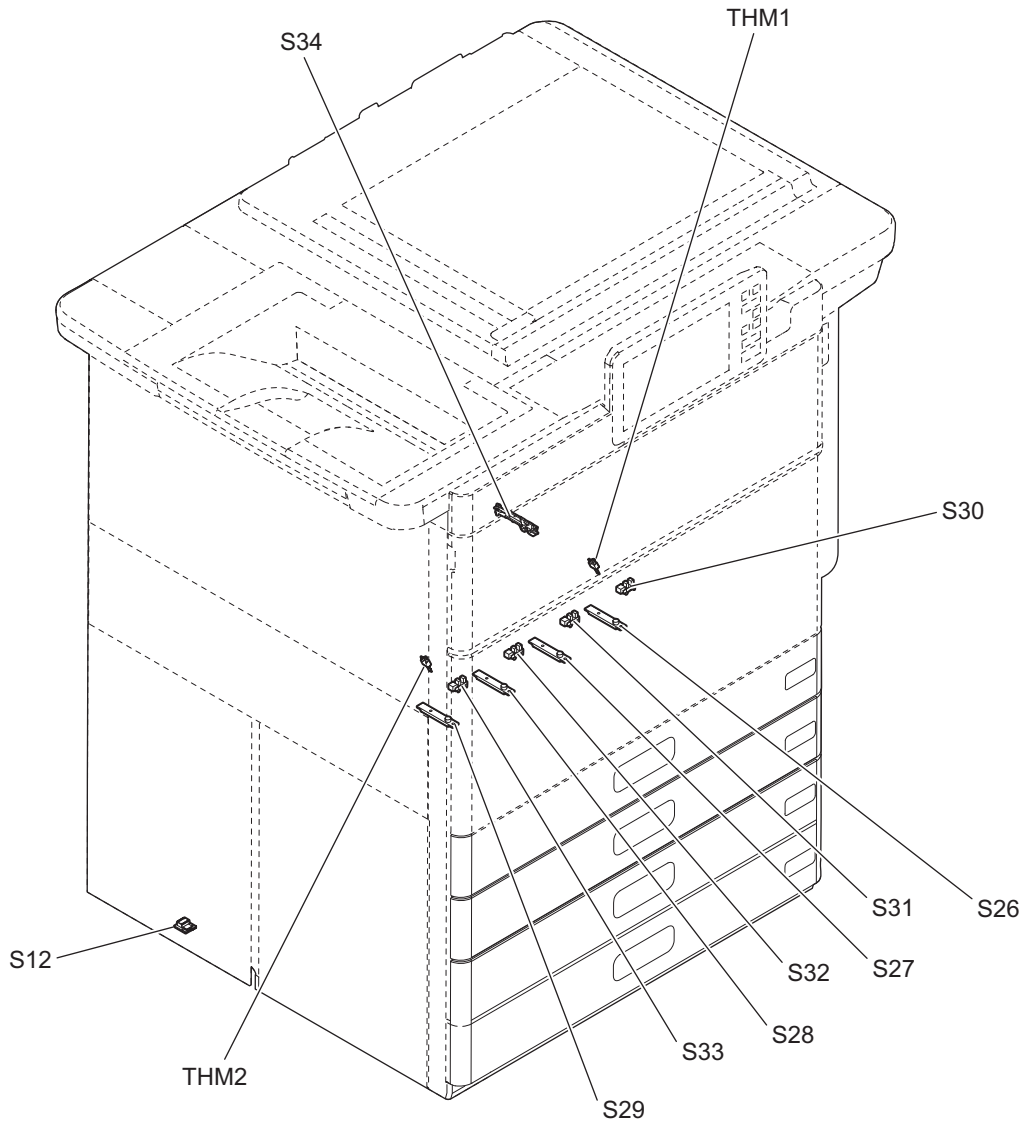


Fig. 3-11

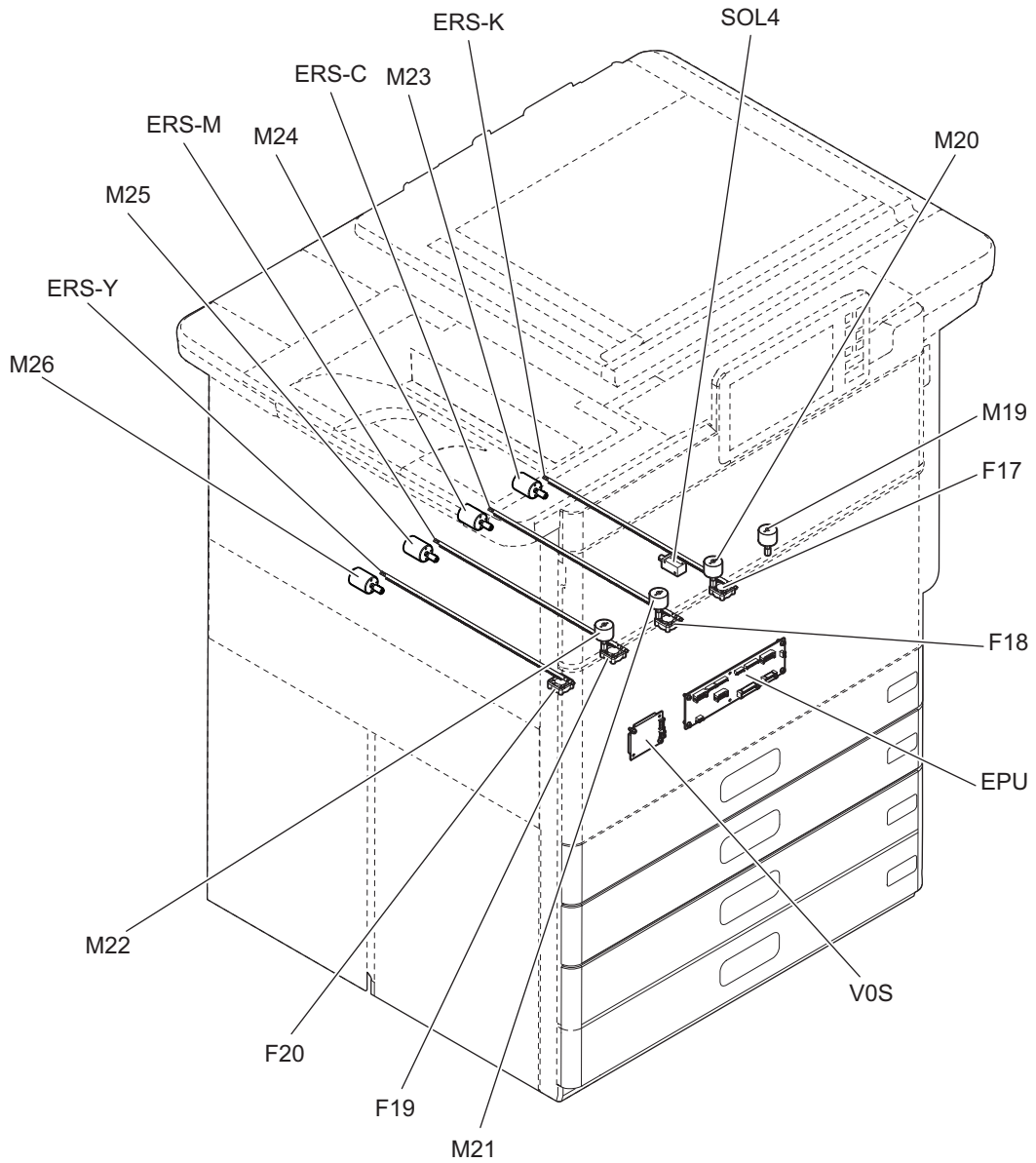


Fig. 3-12

[F] Transfer belt unit

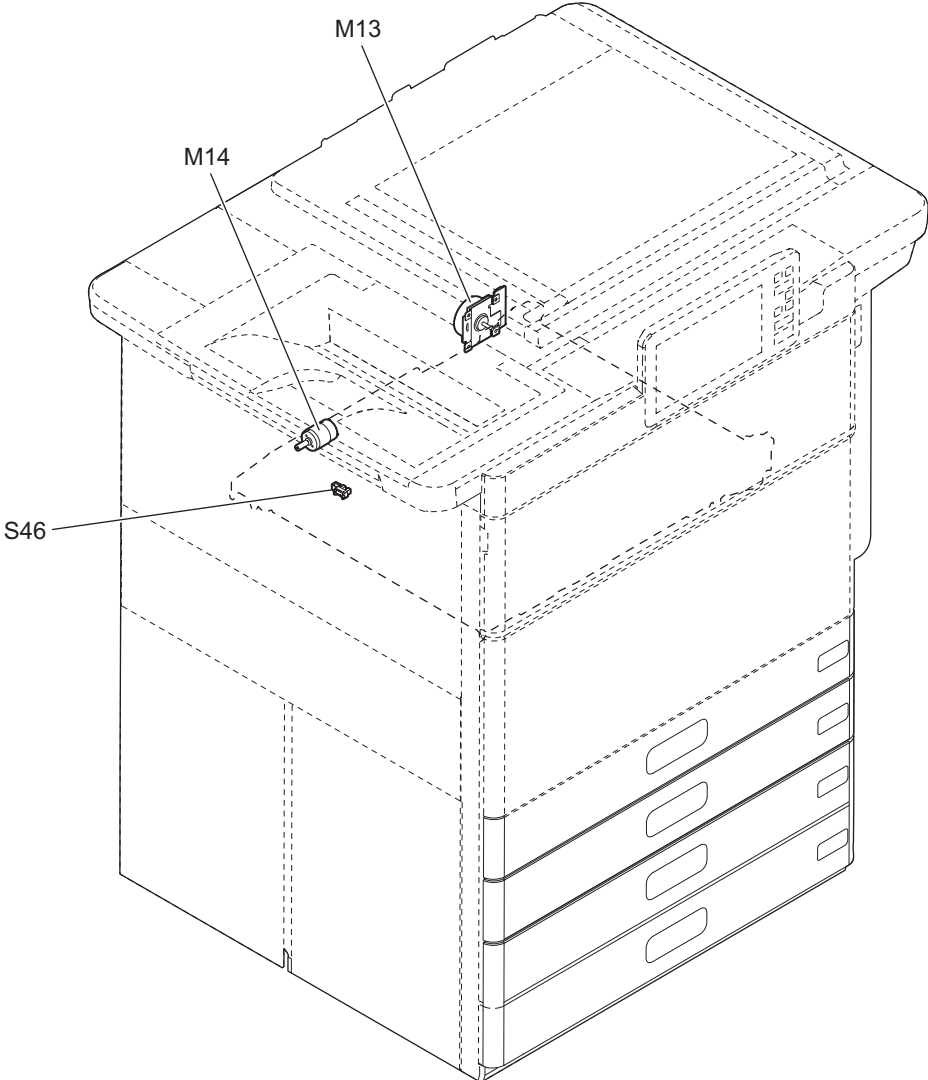


Fig. 3-13

[G] Transfer unit

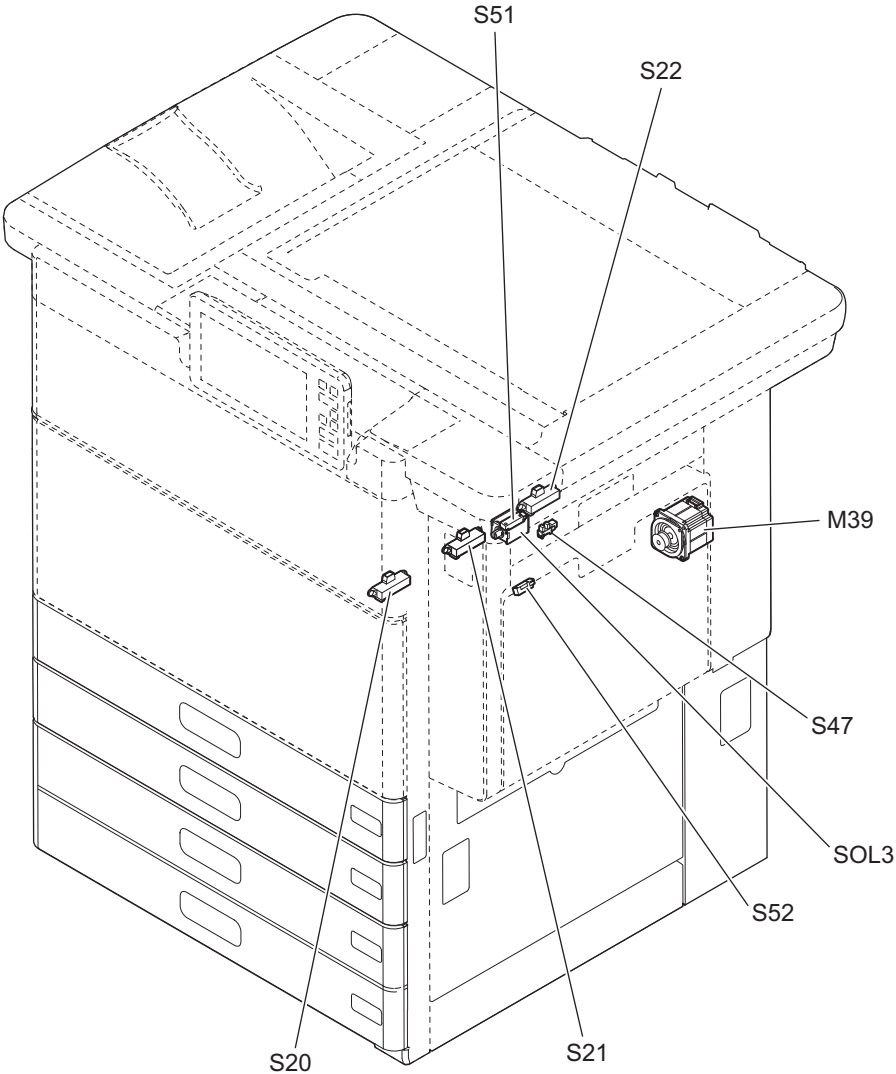


Fig. 3-14



[H] Laser unit

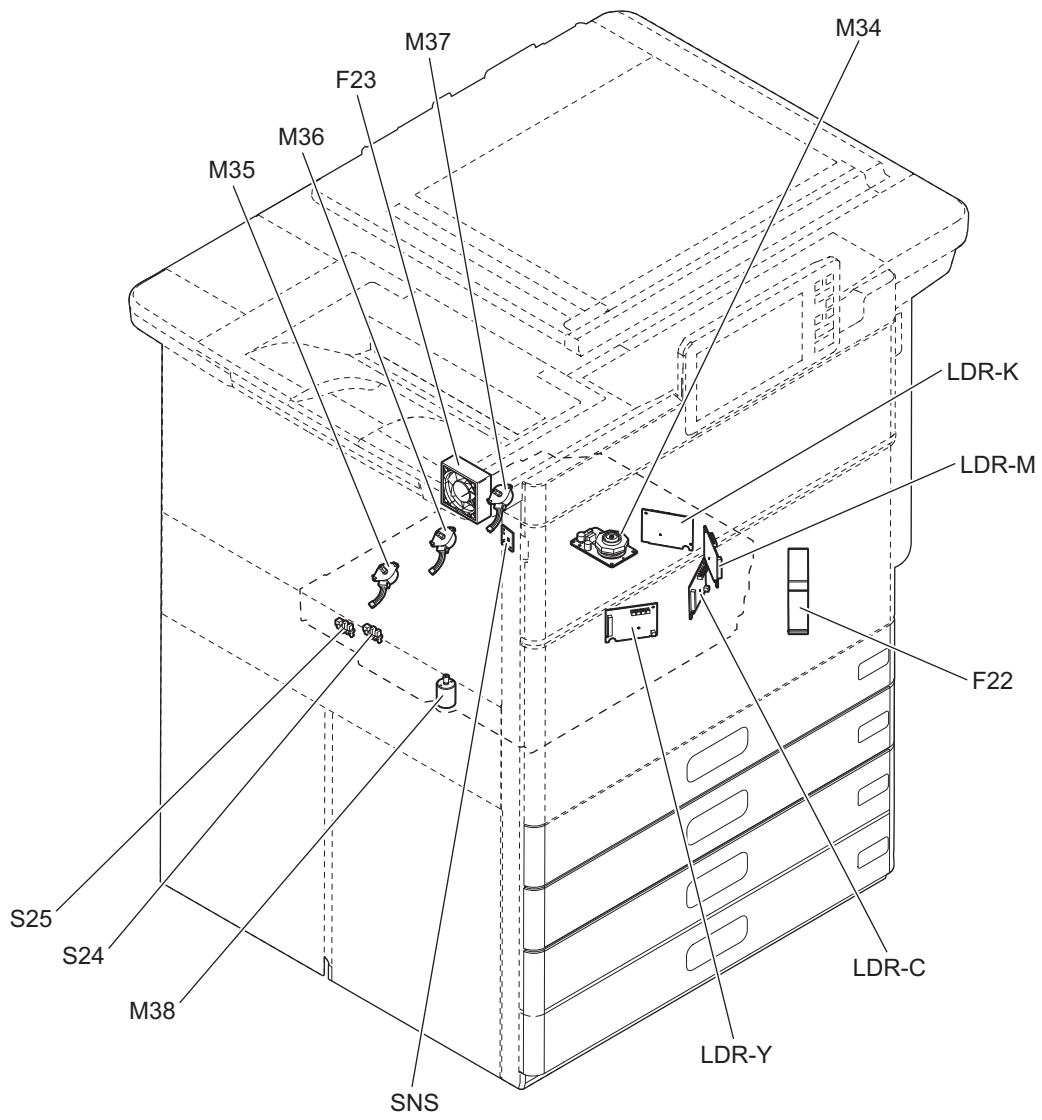
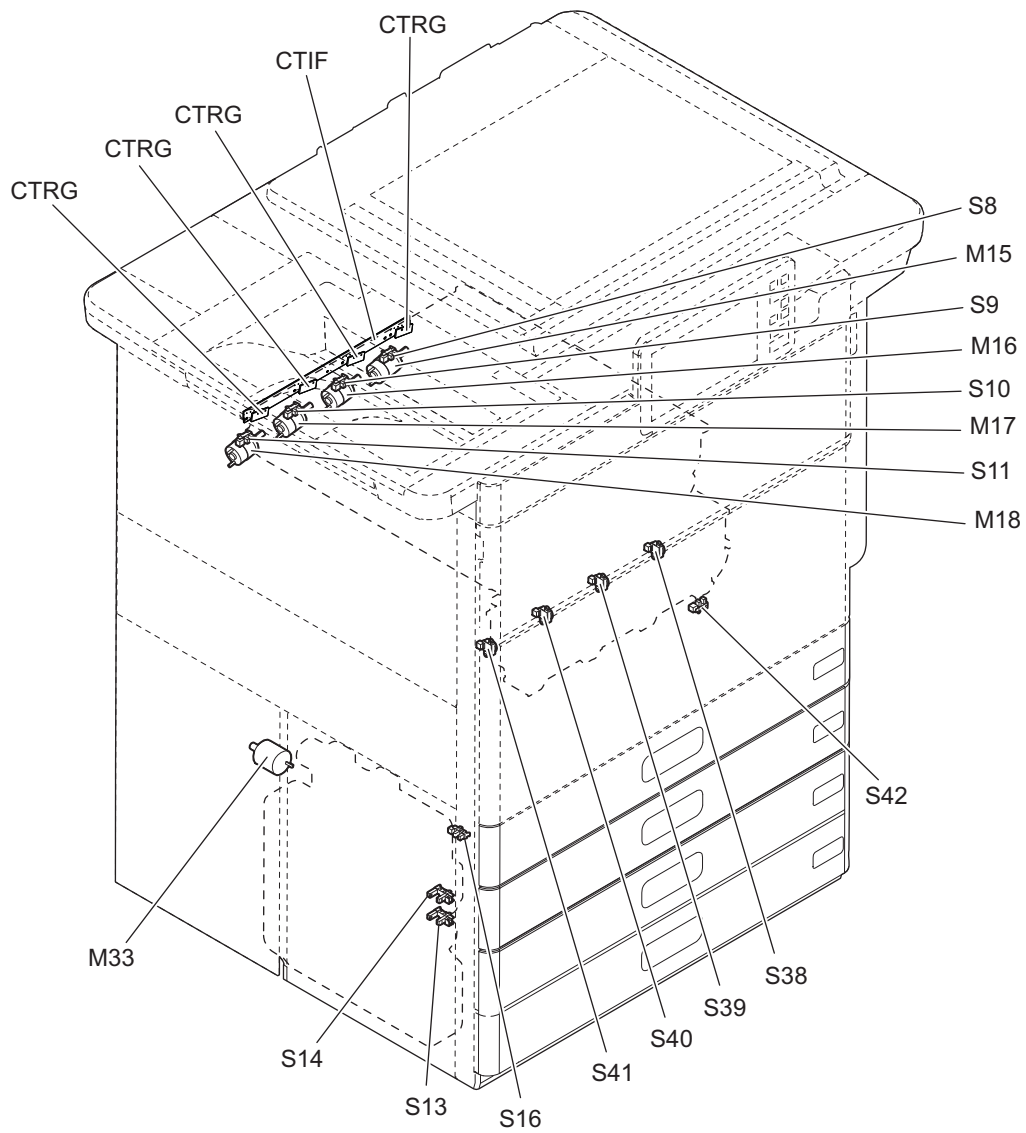


Fig. 3-15

**[I] Toner cartridge/Waste toner box**



**Fig. 3-16**

[J] Automatic duplexing unit

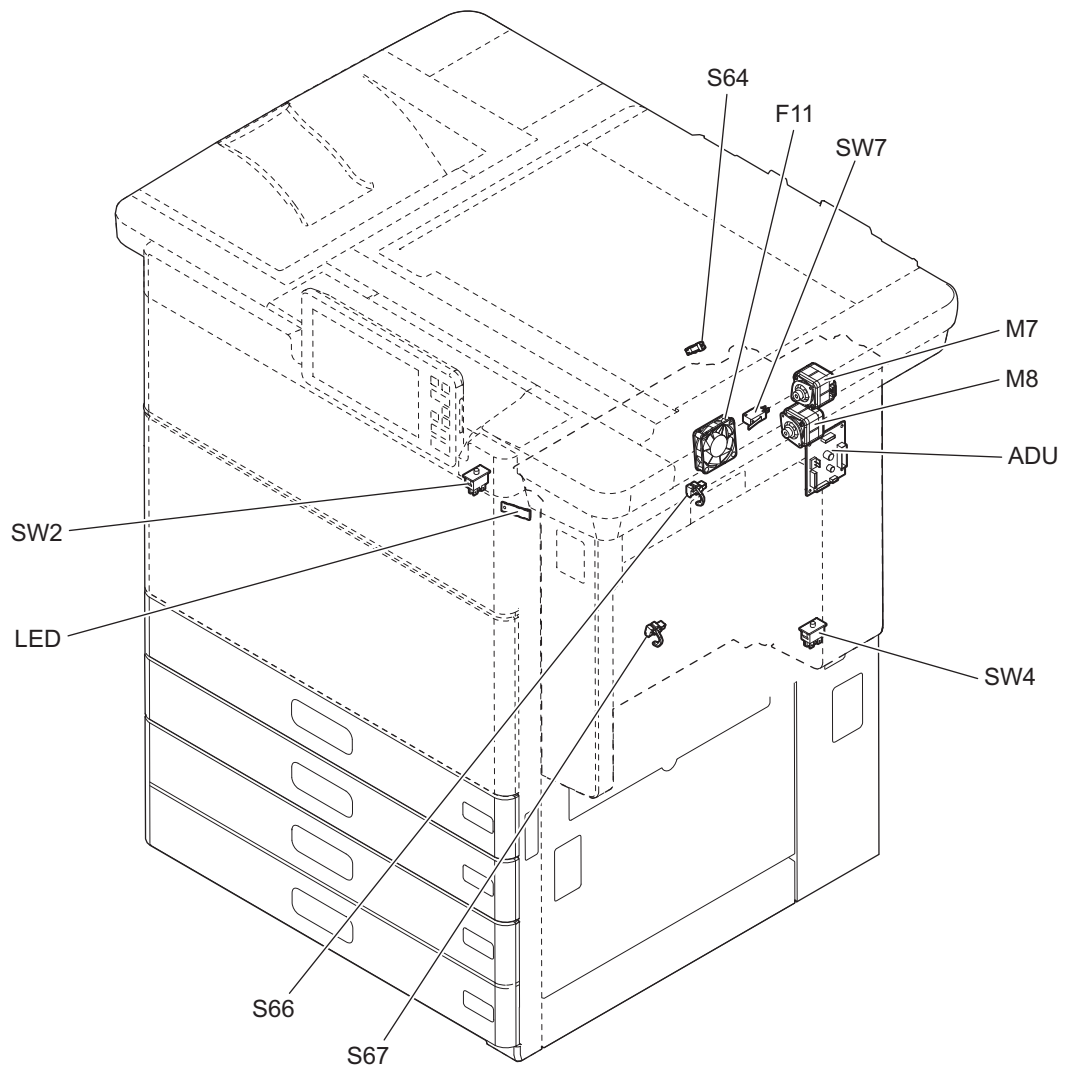


Fig. 3-17

[K] Cover switches/Cover sensor

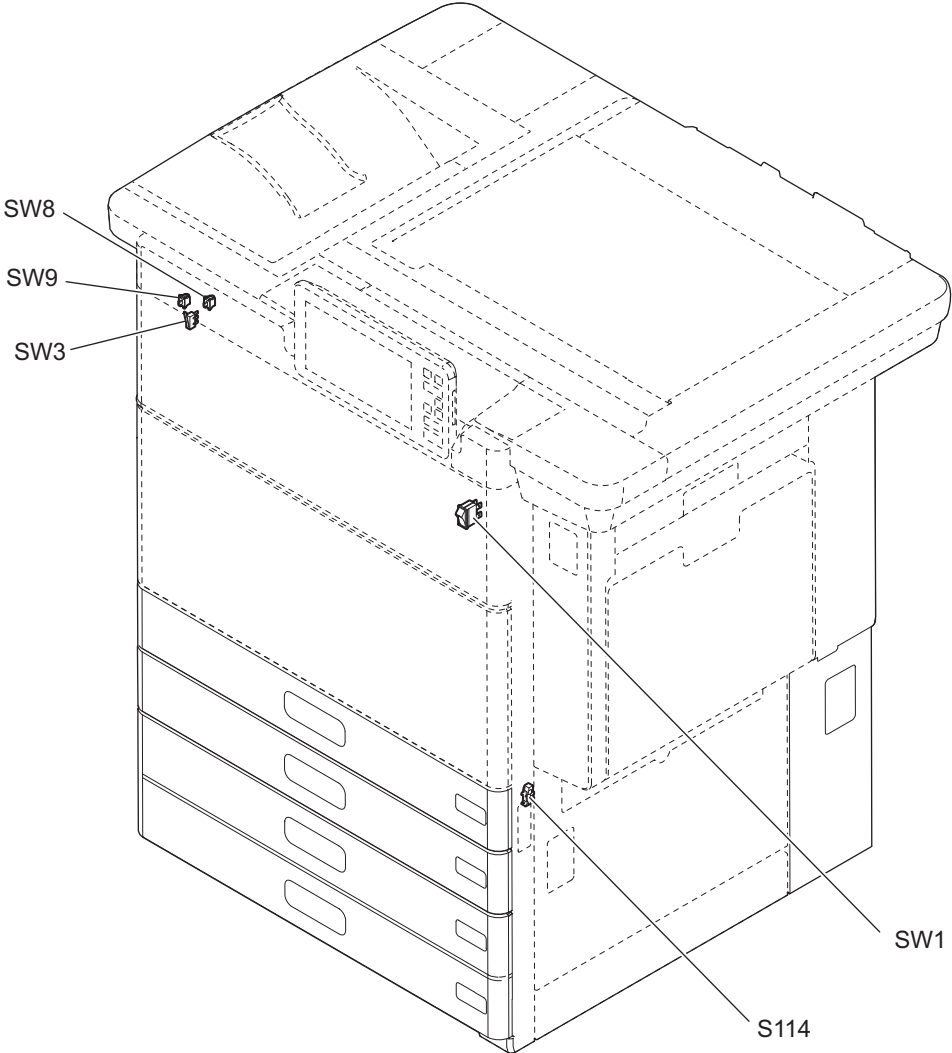


Fig. 3-18

[L] Bypass feed unit

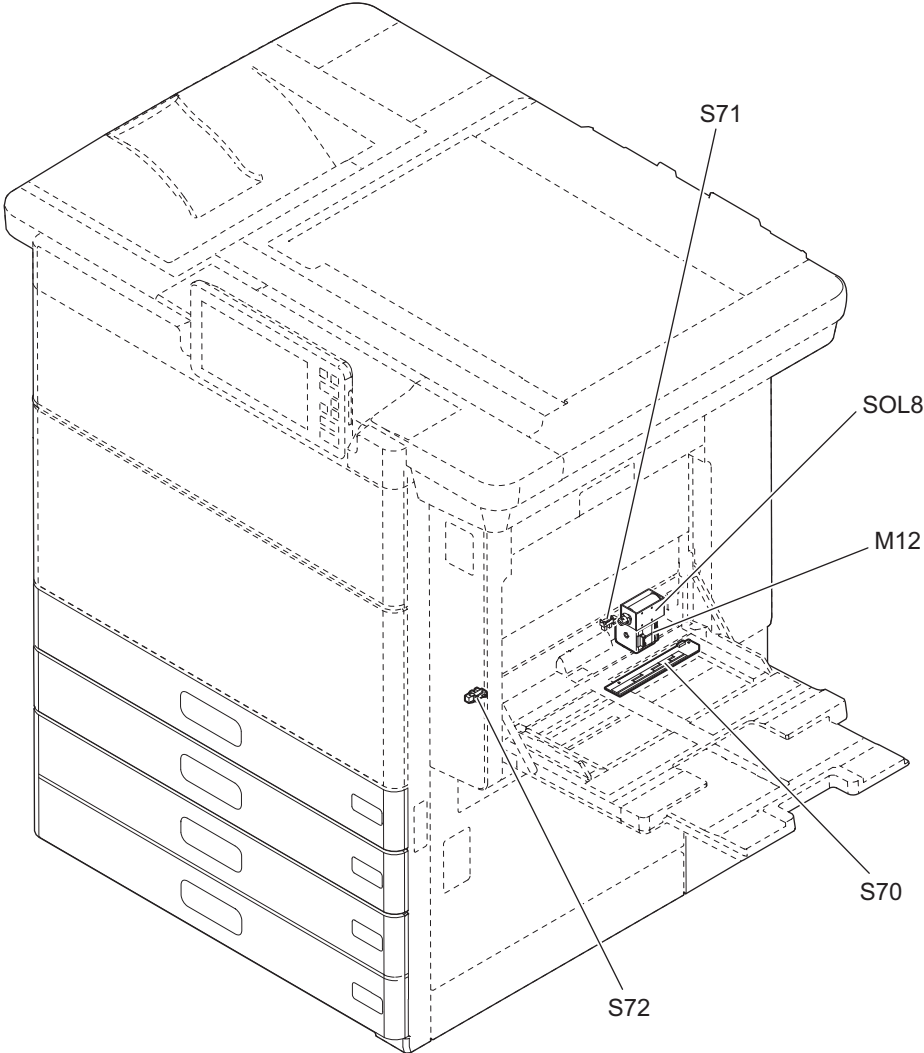


Fig. 3-19

[M] Paper feeding section

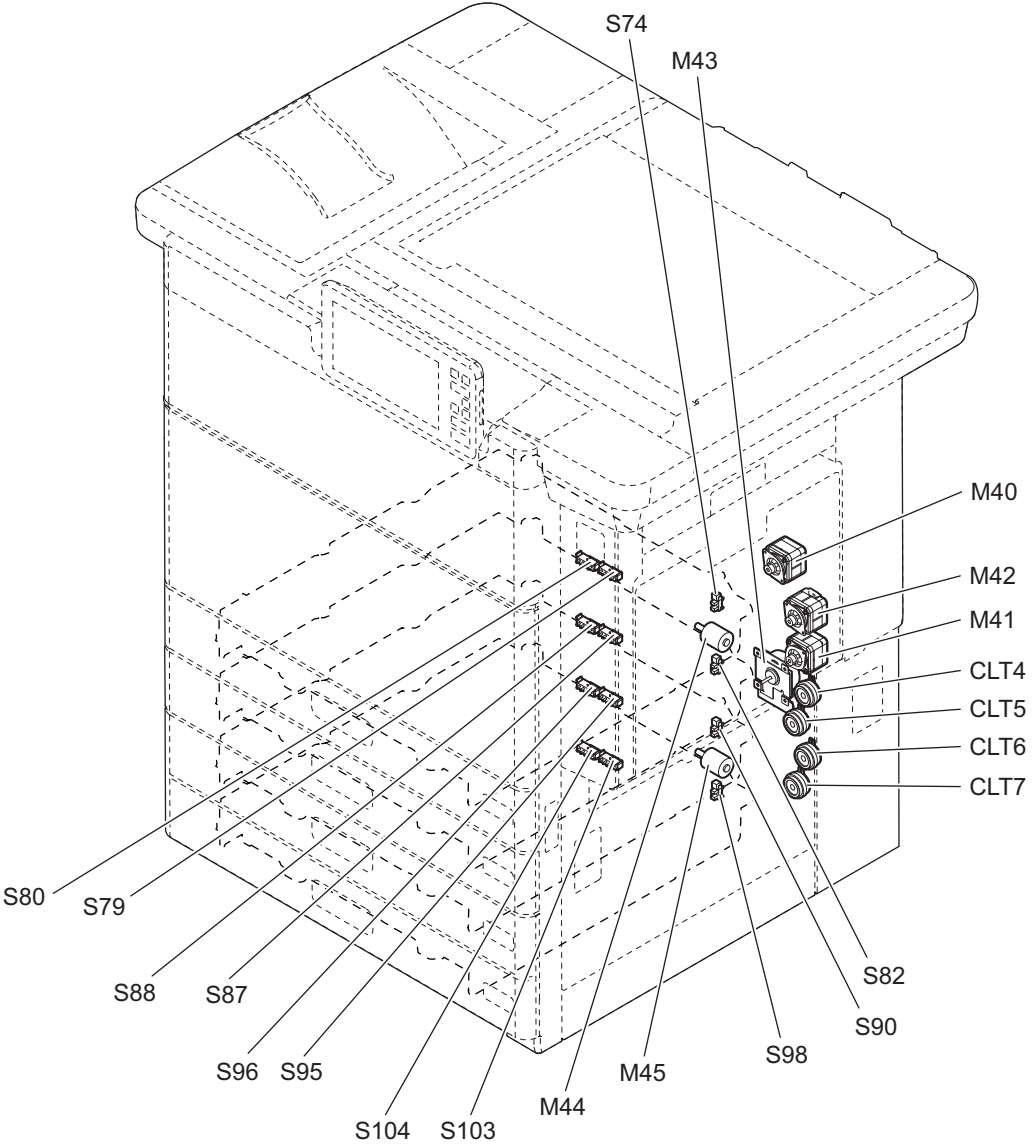


Fig. 3-20

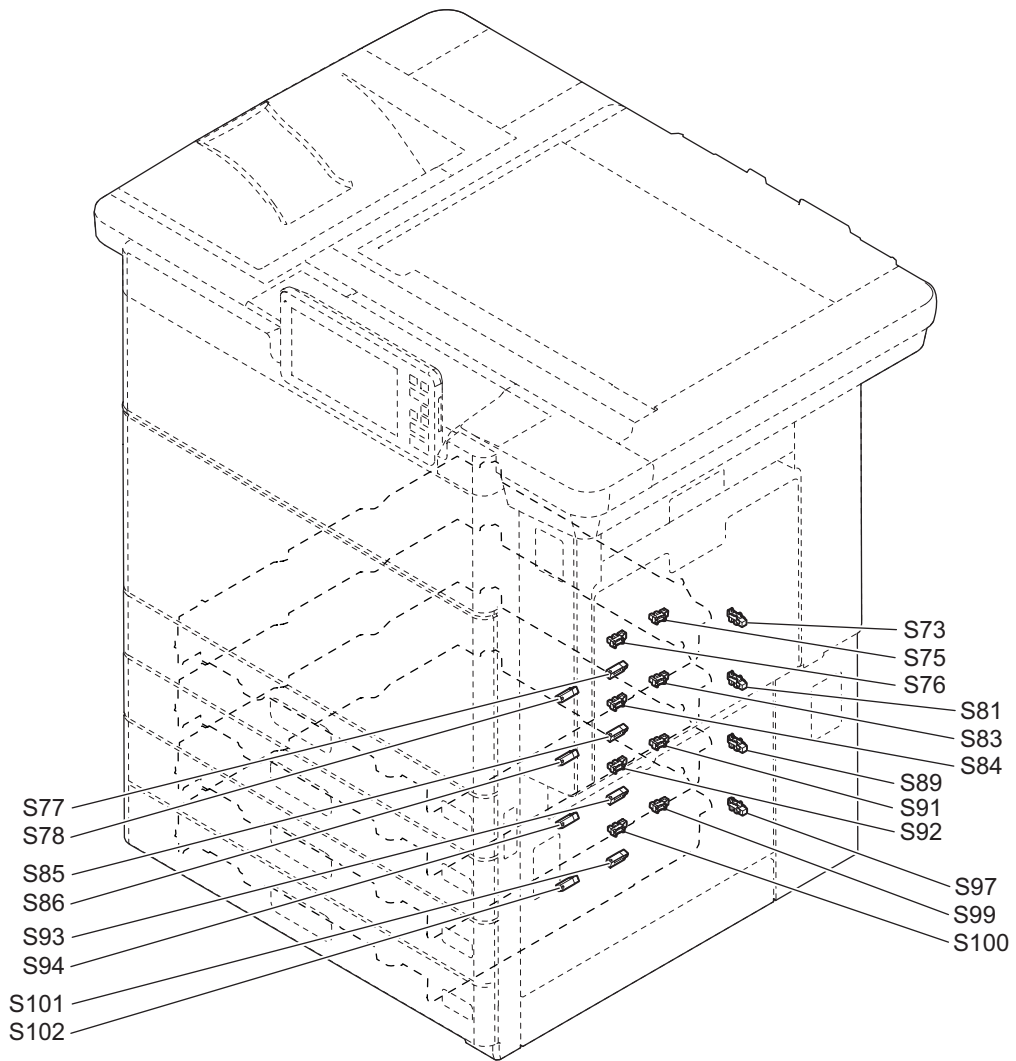


Fig. 3-21

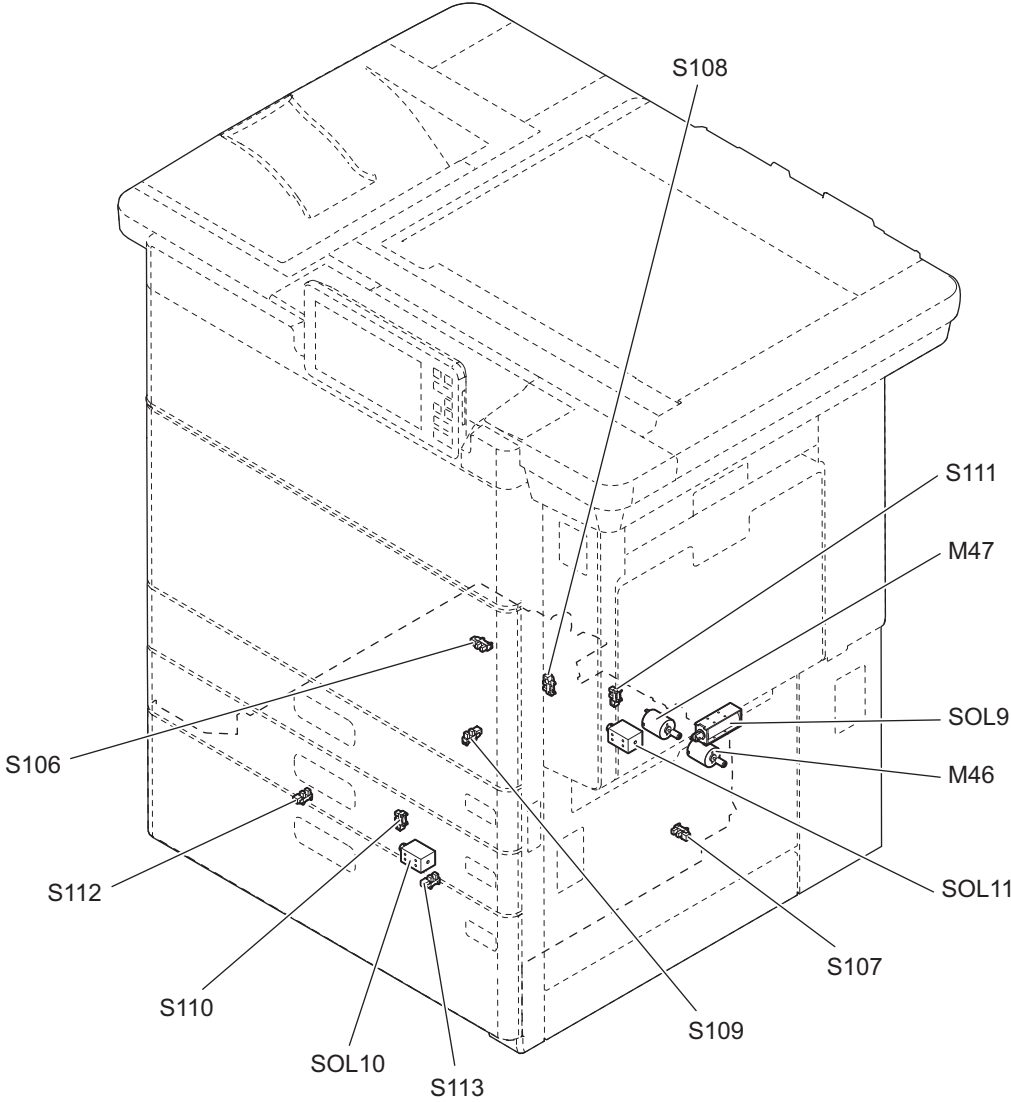


Fig. 3-22



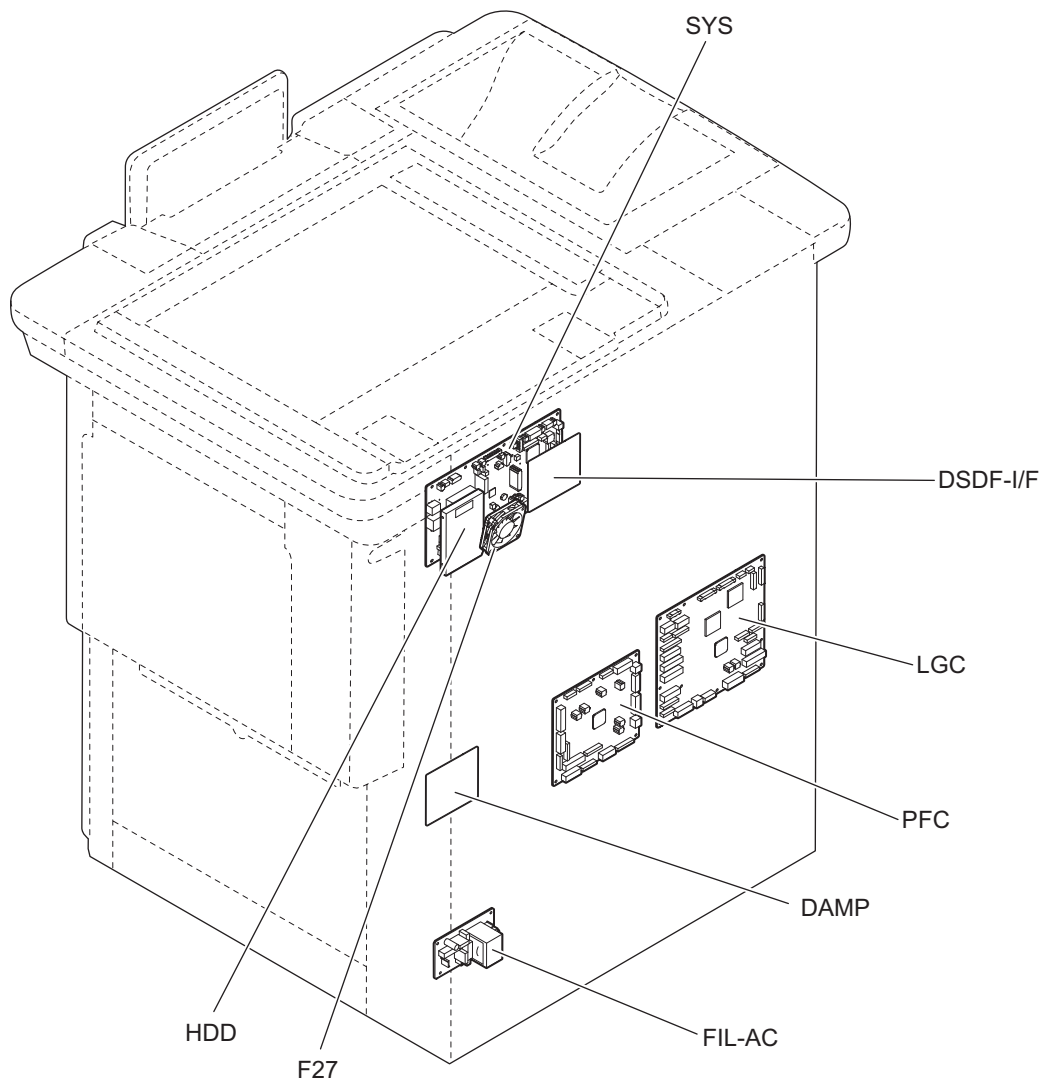


Fig. 3-23

[P] Power supply

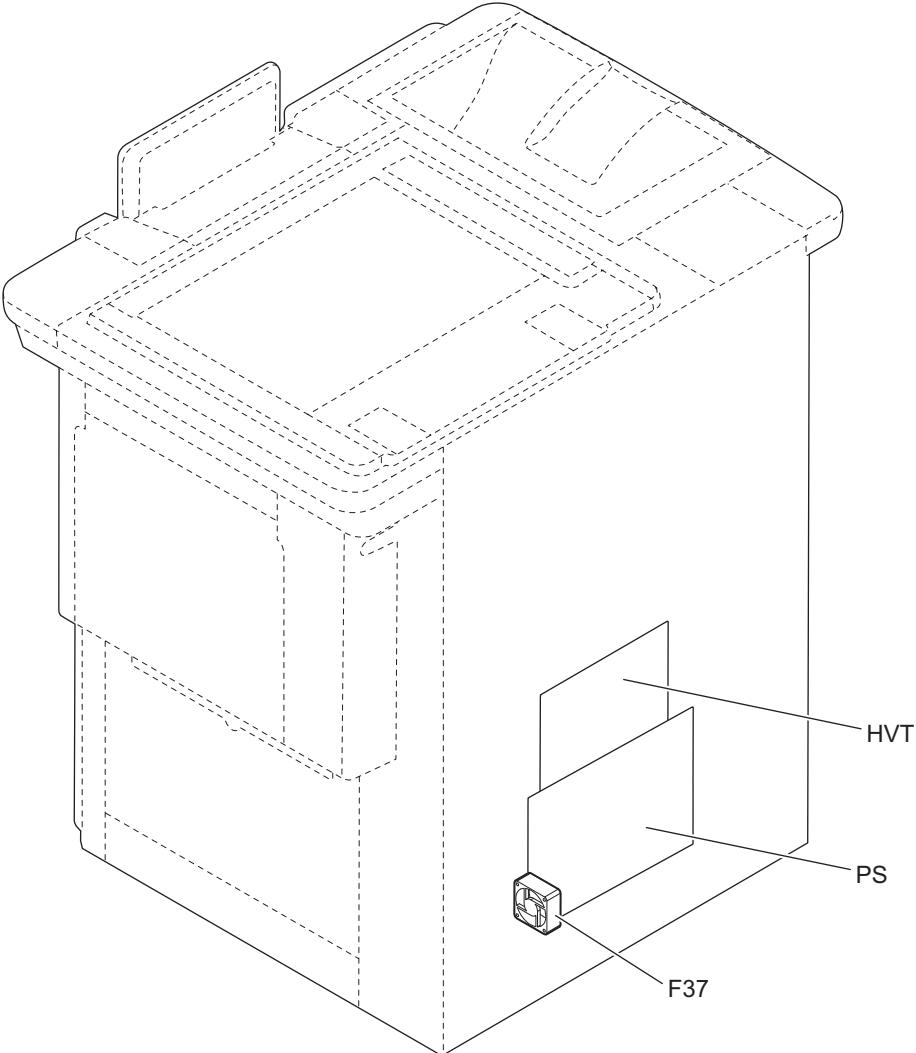


Fig. 3-24

[Q] Fans

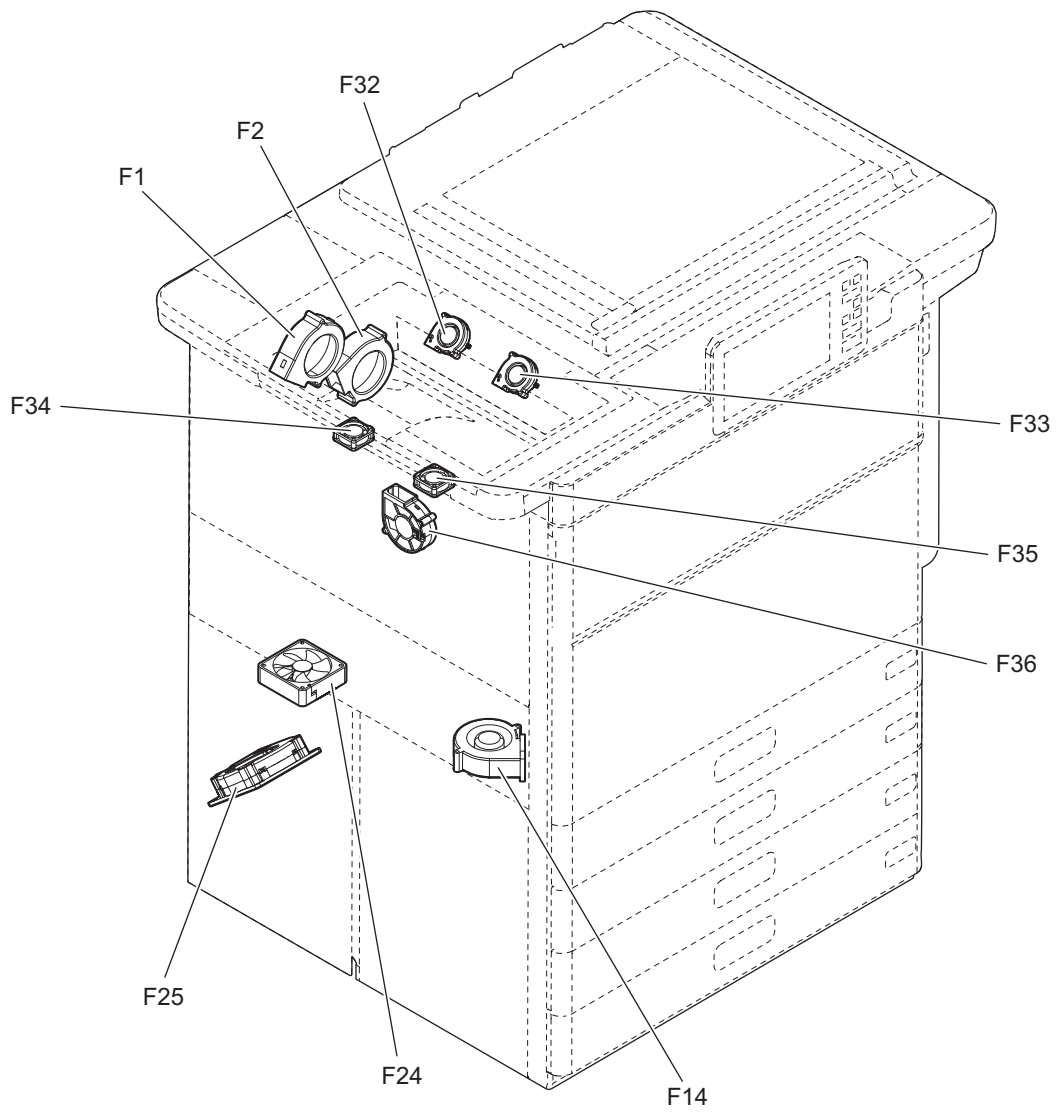
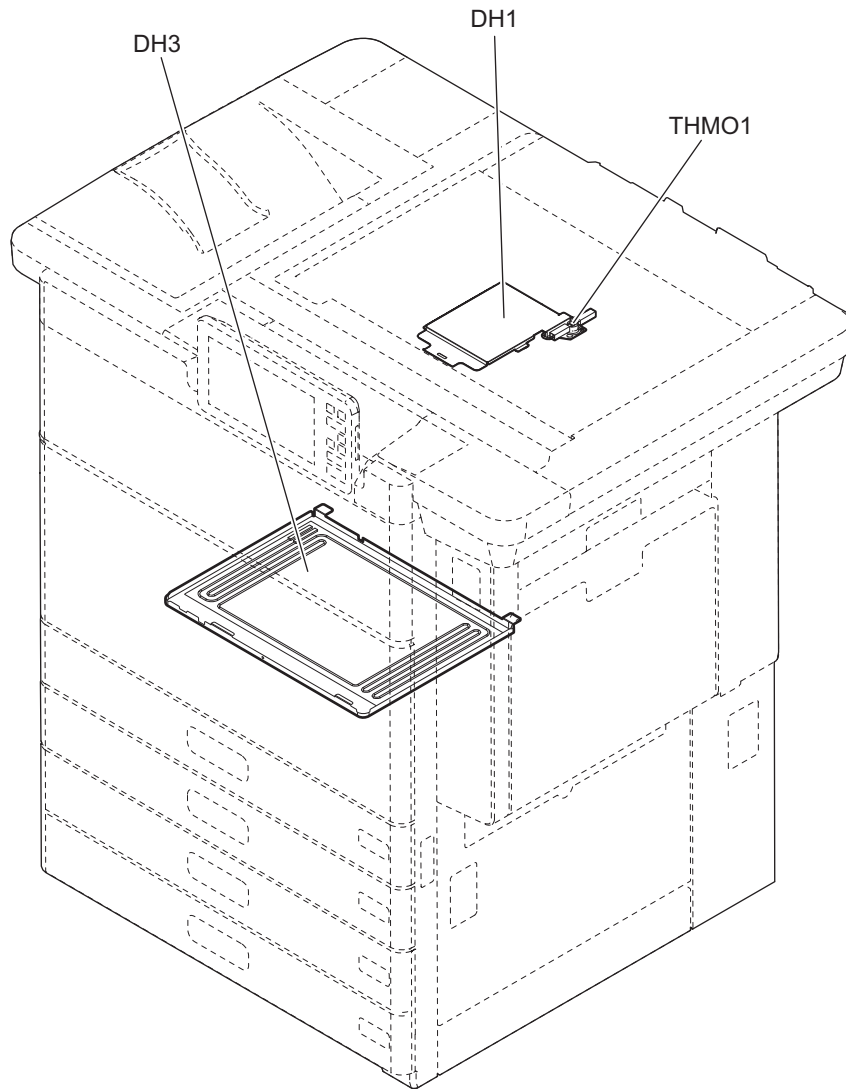


Fig. 3-25

**[R] Damp heater**



**Fig. 3-26**

### 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
MD1	DSDf feed motor	Driving the DSDf pickup roller and the DSDf feed roller	Fig. 3-4	86-8
MD2	DSDf separation motor	Performing the reverse operation of the DSDf separation roller and moving (up/lowering) the original tray lift	Fig. 3-4	85-10
MD3	DSDf registration motor	Driving the original registration roller	Fig. 3-4	86-4
MD4	DSDf read motor	Driving the pre-read roller-1, post-read roller-1, pre-read roller-2 and post-read roller-2	Fig. 3-4	90-5
MD5	DSDf exit motor	Driving the original exit motor and rotating the shading sheet	Fig. 3-4	90-5
M1	SCAN-MOT Scan motor	Driving the carriages	Fig. 3-6	51-8
M2	EXIT-MOT Exit motor	Driving the exit roller	Fig. 3-7	37-6
M3	REV-MOT Reverse motor	Driving the reverse section	Fig. 3-7	23-36
M4	BRIDGE-ENT-MOT Bridge unit transport entrance motor	Driving the entrance transport roller of the bridge unit	Fig. 3-7	23-36
M5	BRIDGE-EXIT-MOT Bridge unit transport exit motor	Driving the bridge unit exit transport roller of the bridge unit	Fig. 3-7	23-36
M6	FUS-MOT Fuser motor	Driving the fuser	Fig. 3-8	39-20
M7	ADU-MOT-1 ADU transport motor	Driving the paper transportation of the automatic duplexing unit	Fig. 3-17	18-2
M8	ADU-MOT-2 ADU feed motor	Driving the paper feeding of the automatic duplexing unit	Fig. 3-17	18-2
M12	SFB-MOT Bypass motor	Feeding/transporting paper in bypass unit	Fig. 3-19	15-77
M13	TBU-MOT Transfer belt motor	Driving the transfer belt	Fig. 3-13	28-11
M14	TBU-CAM-MOT Transfer belt contact/release motor	Driving the contact/release movement of the transfer belt	Fig. 3-13	32-18
M15	TNR-MOT-K Toner motor-K	Toner supply from the K toner cartridge to the K sub-hopper	Fig. 3-16	45-79
M16	TNR-MOT-C Toner motor-C	Toner supply from the C toner cartridge to the C sub-hopper	Fig. 3-16	45-83
M17	TNR-MOT-M Toner motor-M	Toner supply from the M toner cartridge to the M sub-hopper	Fig. 3-16	45-83
M18	TNR-MOT-Y Toner motor-Y	Toner supply from the Y toner cartridge to the Y sub-hopper	Fig. 3-16	45-83
M19	SUB-HOP-MOT-K 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. 3-12	60-20

Symbol	Name	Function	Remarks	P-I
M20	SUB-HOP-MOT-C 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. 3-12	60-13
M21	SUB-HOP-MOT-M 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. 3-12	60-13
M22	SUB-HOP-MOT-Y 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. 3-12	60-13
M23	CH-CLN-MOT-K Needle electrode cleaner motor-K	Driving the needle electrode cleaner-K	Fig. 3-12	59-11
M24	CH-CLN-MOT-C Needle electrode cleaner motor-C	Driving the needle electrode cleaner-C	Fig. 3-12	59-11
M25	CH-CLN-MOT-M Needle electrode cleaner motor-M	Driving the needle electrode cleaner-M	Fig. 3-12	59-11
M26	CH-CLN-MOT-Y Needle electrode cleaner motor-Y	Driving the needle electrode cleaner-Y	Fig. 3-12	59-11
M27	DRM-MOT-K Drum motor-K	Driving the K drum	Fig. 3-10	56-17
M28	DRM-MOT-YMC Drum motor-YMC	Driving the Y, M and C drums	Fig. 3-10	55-12
M29	K-DEV-MIX-MOT Developer unit mixer motor-K	Mixing the K developer material	Fig. 3-10	56-19
M30	DEV-MOT-K Developer unit motor-K	Driving the K developer sleeve (magnetic roller) and toner recovery auger	Fig. 3-10	56-19
M31	DEV-MIXMOT-YMC Developer unit mixer motor-YMC	Mixing the Y, M and C developer materials	Fig. 3-10	55-29
M32	DEV-MOT-YMC Developer unit motor-YMC	Driving the Y, M and C developer sleeve (magnetic roller) and toner recovery auger	Fig. 3-10	55-31
M33	WASTE-TNR-TRPT-MOT Waste toner transport motor	Transporting waste toner	Fig. 3-16	65-37
M34	POL-MOT Polygonal motor	Driving the polygonal mirror	Fig. 3-15	48-1
M35	MIR-MOT-M Mirror motor-M	Adjusting the irradiation angle of the M laser	Fig. 3-15	48-1
M36	MIR-MOT-C Mirror motor-C	Adjusting the irradiation angle of the C laser	Fig. 3-15	48-1
M37	MIR-MOT-K Mirror motor-K	Adjusting the irradiation angle of the K laser	Fig. 3-15	48-1
M38	SHT-MOT Shutter motor	Driving the laser emission outlet (slit glass) protective shutter	Fig. 3-15	48-1
M39	RGST-MOT Registration motor	Driving the registration roller	Fig. 3-14	10-22
M40	TRNS-MOT-1 Transport motor-1	Driving the intermediate transport roller-1	Fig. 3-20	8-3
M41	TRNS-MOT-2 Transport motor-2	Driving the intermediate transport roller-2	Fig. 3-20	8-3
M42	FEED-MOT 1st/2nd drawer feed motor	Driving the feed roller and pickup roller of the 1st and 2nd drawers	Fig. 3-20	8-3

Symbol	Name	Function	Remarks	P-I
M43	FED/TR-MOT 3rd/4th drawer/LCF feed motor	Driving the feed roller, pick-up roller and transport roller in the 3rd and 4th drawers or the tandem LCF	Fig. 3-20	9-50
M44	CST-TRY-MOT-1 1st/2nd drawer tray-up motor	Lifting up the trays in the 1st and 2nd drawers	Fig. 3-20	66-7
M45	CST-TRY-MOT-2 3rd/4th drawer/LCF tray-up motor	Lifting up the trays in the 3rd and 4th drawers	Fig. 3-20	66-7
M46	TLCF-TRY-MOT T-LCF tray-up motor	Lifting up the tray in the tandem LCF	Fig. 3-22	12-19
M47	TLCF-END-MOT T-LCF end fence motor	Driving the end fence in the tandem LCF	Fig. 3-22	12-19
M48	Pressure roller contact/release motor	Driving the pressure roller contact/release motor	Fig. 3-8	39-3

### 3.3.2 Fans

Symbol	Name	Function	Remarks	P-I
FD1	DSDF cooling fan motor	Cooling down inside of the DSDF	Fig. 3-4	85-1
F1	Bridge unit heat exhausting fan	Exhausting heat from the bridge unit, and cooling down the bridge unit transport motor	Fig. 3-25	49-6
F2	Fuser unit heat exhausting fan	Exhausting heat from the upper side of the fuser unit, preventing from water leaking, and exhausting heat from the toner cartridge area	Fig. 3-25	49-6
F6	BRIDGE-FAN-MOT Bridge unit cooling fan	Cooling down the bridge unit and scanner unit, and avoiding exposure to water	Fig. 3-7	49-6
F8	IH-FAN-MOT-1 IH board cooling fan (exhaust)	Cooling down the IH board	Fig. 3-9	38-29
F9	IH-FAN-MOT-2 IH board cooling fan (suction)	Cooling down the IH board	Fig. 3-9	38-33
F11	ADU-FAN-MOT Reversed paper cooling fan	Cooling down the reversed paper	Fig. 3-17	18-26
F14	EPU-FAN-MOT EPU cooling fan	Cooling down the developer unit (EPU)	Fig. 3-25	49-6
F17	EPU-FAN-MOT-K Mixing ozone fan-K	Stirring the ozone of the main charger unit-K	Fig. 3-12	59-2
F18	EPU-FAN-MOT-C Mixing ozone fan-C	Stirring the ozone of the main charger unit-C	Fig. 3-12	59-2
F19	EPU-FAN-MOT-M Mixing ozone fan-M	Stirring the ozone of the main charger unit-M	Fig. 3-12	59-2
F20	EPU-FAN-MOT-Y Mixing ozone fan-Y	Stirring the ozone of the main charger unit-Y	Fig. 3-12	59-3
F21	TNR-CTRG-FAN-MOT Fuser insulation fan	Insulating and cooling down the toner cartridge	Fig. 3-8	49-35
F22	LSU-FAN-MOT-F Laser optical unit cooling fan (Front)	Cooling down the laser optical unit	Fig. 3-15	48-8
F23	LSU-FAN-MOT-R Laser optical unit cooling fan (Rear)	Cooling down the laser optical unit, transport motor and feed motor	Fig. 3-15	49-13
F24	OZN-FAN-MOT Ozone suctioning fan	Suctioning ozone generated at charging	Fig. 3-25	49-32
F25	DEV-FAN-MOT Scattered toner suctioning fan	Suctioning toner scattering from the developer sleeve	Fig. 3-25	49-30
F27	SYS-FAN-MOT SYS board cooling fan	Cooling down the SYS board	Fig. 3-23	68-5

Symbol	Name	Function	Remarks	P-I
F32	UP-EXIT-FAN-MOT-1 Upper exit section cooling fan (rear)	Cooling the paper which exits in the upper exit section	Fig. 3-25	36-101
F33	UP-EXIT-FAN-MOT-2 Upper exit section cooling fan (front)		Fig. 3-25	36-101
F34	LOW-EXIT-FAN-MOT-1 Lower exit section cooling fan (rear)	Cooling the paper which exits in the lower exit section	Fig. 3-25	35-45
F35	LOW-EXIT-FAN-MOT-2 Lower exit section cooling fan (front)		Fig. 3-25	35-45
F36	LOW-EXIT-FAN-MOT-3 Lower exit section cooling fan (under)		Fig. 3-25	49-43
F37	PS-FAN-MOT-1 Power supply unit cooling fan	Cooling down the power supply unit	Fig. 3-24	70-1

### 3.3.3 Sensors

Symbol	Name	Function	Remarks	P-I
SD1	DSDF tray original length sensor-1	Detecting the original size (length) set on the original tray	Fig. 3-3	82-4
SD2	DSDF tray original length sensor-2	Detecting the original size (length) set on the original tray	Fig. 3-3	82-4
SD3	DSDF tray original width sensor	Detecting the original size (width) set on the original tray	Fig. 3-3	82-12
SD4	DSDF original empty sensor	Detecting the presence/absence of the original set on the original tray	Fig. 3-3	82-4
SD5	DSDF feed sensor	Detecting the original in the original feeding section	Fig. 3-3	84-7
SD6	DSDF registration sensor	Detecting transport of the original in the DSDF registration roller section, as well as the original size (length)	Fig. 3-3	84-7
SD7	DSDF original width detection sensor-1	Detecting the original size (width)	Fig. 3-3	83-11
SD8	DSDF original width detection sensor-2	Detecting the original size (width)	Fig. 3-3	83-11
SD9	DSDF tray lift upper limit sensor	Detecting the upper limit position of the original tray lift	Fig. 3-3	84-7
SD10	DSDF tray lift lower limit sensor	Detecting the lower limit position of the original tray lift	Fig. 3-3	91-5
SD11	DSDF read-in sensor-1	Detecting the original leading edge position at the original scanning section of the equipment	Fig. 3-3	94-14
SD12	DSDF read-in sensor-2	Detecting the original leading edge position at the CCD module original scanning section of the DSDF	Fig. 3-3	94-15
SD13	DSDF exit sensor	Detecting the original in the original exit section	Fig. 3-3	91-5
SD14	DSDF shading sheet HP sensor	Detecting the home position of the DSDF shading sheet	Fig. 3-3	95-8
SD15	DSDF lower cover opening/closing detection sensor	Detecting the opening/closing status of the DSDF lower cover	Fig. 3-3	95-8
SD16	DSDF upper cover opening/closing detection sensor	Detecting the opening/closing status of the DSDF upper cover	Fig. 3-3	86-22
S1	APS1 Automatic original detection sensor-1	Detecting original size	Fig. 3-6	50-12
S2	APS2 Automatic original detection sensor-2	Detecting original size (for LT size)	Fig. 3-6	50-12



Symbol	Name	Function	Remarks	P-I
S3	HOME-SNR Carriage home position sensor	Detecting the carriage home position	Fig. 3-6	50-5
S4	PLTN-SNR1 Platen sensor-1	Detecting the opening/closing status of the platen cover or DSDF	Fig. 3-6	51-13
S5	PLTN-SNR2 Platen sensor-2	Detecting the opening/closing status of the platen cover or DSDF	Fig. 3-6	51-13
S8	TNR-SNR-K Toner cartridge paddle rotation detection sensor-K	Detecting the paddle rotation in the K toner cartridge	Fig. 3-16	45-11
S9	TNR-SNR-C Toner cartridge paddle rotation detection sensor-C	Detecting the paddle rotation in the C toner cartridge	Fig. 3-16	45-11
S10	TNR-SNR-M Toner cartridge paddle rotation detection sensor-M	Detecting the paddle rotation in the M toner cartridge	Fig. 3-16	45-11
S11	TNR-SNR-Y Toner cartridge paddle rotation detection sensor-Y	Detecting the paddle rotation in the Y toner cartridge	Fig. 3-16	45-11
S12	TEMP/HUMI-SNR Temperature/humidity sensor	Detecting the ambient temperature/humidity of the equipment	Fig. 3-11	5-29
S13	WASTE-TNRA-MOT-SNR Waste toner amount detection sensor	Detecting the amount of waste toner in the waste toner box	Fig. 3-16	65-45
S14	WASTE-TNR-FLL-SNR Waste toner box full detection sensor	Detecting the full status of waste toner in the waste toner box	Fig. 3-16	65-45
S16	WASTE-TNR-BOX-SNR Waste toner detection sensor	Detecting the presence of the waste toner box and the opening/closing status of the waste toner box cover	Fig. 3-16	5-17
S20	IMG-POS-SNR-F Image position aligning sensor (front)	Detecting the front side position of a toner image (test pattern) developed on the transfer belt	Fig. 3-14	6-5
S21	IMG-POS-SNR-C Image position aligning/image quality sensor (center)	Detecting the center position of a toner image (test pattern) developed on the transfer belt/Detecting the density of a toner image (test pattern) developed on the transfer belt surface	Fig. 3-14	6-5
S22	IMG-POS-SNR-R Image position aligning sensor (rear)	Detecting the rear side position of a toner image (test pattern) developed on the transfer belt	Fig. 3-14	6-5
S24	SHT-SNR-HP Shutter sensor (home position)	Detecting the home position of the laser emission outlet (slit glass) protective shutter	Fig. 3-15	48-1
S25	SHT-SNR-EP Shutter sensor (end position)	Detecting the end position of the laser emission outlet (slit glass) protective shutter	Fig. 3-15	48-1
S26	ATTNR-SNR-K Auto-toner sensor-K	Detecting the toner density in the K developer unit	Fig. 3-11	62-41
S27	ATTNR-SNR-C Auto-toner sensor-C	Detecting the toner density in the C developer unit	Fig. 3-11	62-41
S28	ATTNR-SNR-M Auto-toner sensor-M	Detecting the toner density in the M developer unit	Fig. 3-11	62-41
S29	ATTNR-SNR-Y Auto-toner sensor-Y	Detecting the toner density in the Y developer unit	Fig. 3-11	62-41
S30	CH-CLN-SNR-K 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. 3-11	59-4
S31	CH-CLN-SNR-C 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. 3-11	59-4

Symbol	Name	Function	Remarks	P-I
S32	CH-CLN-SNR-M 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. 3-11	59-4
S33	CH-CLN-SNR-Y 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. 3-11	59-4
S34	V0-SNR-K Drum surface potential (V0) sensor-K	Detecting the K drum surface potential at charging (75ppm only)	Fig. 3-11	59-22
S38	SUB-HOP-TNR-SNR-K Sub-hopper toner sensor-K	Detecting the toner amount in the K sub-hopper	Fig. 3-16	58-23
S39	SUB-HOP-TNR-SNR-C Sub-hopper toner sensor-C	Detecting the toner amount in the C sub-hopper	Fig. 3-16	58-23
S40	SUB-HOP-TNR-SNR-M Sub-hopper toner sensor-M	Detecting the toner amount in the M sub-hopper	Fig. 3-16	58-23
S41	SUB-HOP-TNR-SNR-Y Sub-hopper toner sensor-Y	Detecting the toner amount in the Y sub-hopper	Fig. 3-16	58-23
S42	AUG-LOCK-SNR Auger lock detection sensor	Detecting the auger operation in the waste toner transport unit	Fig. 3-16	61-19
S46	TBU-CONT-SNR Transfer belt contact/release detection sensor	Detecting the contact/release status of the transfer belt	Fig. 3-13	33-2
S47	CLNG-SNR Transfer belt paper clinging detection sensor	Detecting paper clinging underneath the transfer belt	Fig. 3-14	28-18
S48	PRPOS-SNR Pressure roller contact/release detection sensor	Detecting the contact/release status of the fuser unit	Fig. 3-8	40-17
S49	HRLOCK-SNR Fuser belt rotation detection sensor	Detecting the rotation of the fuser belt	Fig. 3-8	40-17
S51	TR2-CLNG-SNR 2nd transfer side paper clinging detection sensor	Detecting paper clinging on the 2nd transfer roller side	Fig. 3-14	29-14
S52	RGST-SNR Registration sensor	Detecting paper transport at the registration roller section	Fig. 3-14	10-13
S55	BRIDGE-ENT-SNR Bridge unit path entrance sensor	Detecting the transporting status of paper at the entrance of the bridge unit	Fig. 3-7	23-7
S56	BRIDGE-EXIT-SNR Bridge unit path exit sensor	Detecting the transporting status of paper inside of the bridge unit	Fig. 3-7	23-7
S57	REV-PATH-SNR Reverse path sensor	Detecting the transporting status of the reversed paper	Fig. 3-7	20-28
S58	REV-JAM-SNR Reverse section stationary jam detection sensor	Detecting jams at the reverse section	Fig. 3-7	25-8
S59	REV-SNR Reverse sensor	Detecting the reversed paper	Fig. 3-7	26-25
S60	REV-JAM-SNR Reverse section paper transport detection sensor	Detecting the transporting status of paper at the reverse section	Fig. 3-7	37-16
S61	UP-EXIT-SNR Upper paper exit sensor	Detecting the exiting status of paper on the upper exit tray	Fig. 3-7	36-11
S62	UP-EXIT-FULL-SNR Upper exit tray paper full detection sensor	Detecting the full status of paper exited on the upper exit tray	Fig. 3-7	36-10
S63	LOW-EXIT-SNR Lower paper exit sensor	Detecting the exiting status of paper on the side exit tray	Fig. 3-7	35-11

Symbol	Name	Function	Remarks	P-I
S64	ADU-OPEN-SNR Duplexing unit opening/closing detection sensor	Detecting the opening/closing status of the automatic duplexing unit	Fig. 3-17	20-28
S65	FUS-TRPT-SNR Fuser transport sensor	Detecting the transporting status of paper at the fuser unit	Fig. 3-8	22-19
S66	ADU-ENT-SNR Duplexing unit path entrance sensor	Detecting the transporting status of paper at the entrance of the automatic duplexing unit	Fig. 3-17	21-45
S67	ADU-EXIT-SNR Duplexing unit path exit sensor	Detecting the transporting status of paper inside of the automatic duplexing unit	Fig. 3-17	21-45
S70	SFB-SIZE-SNR Bypass paper size detection sensor	Detecting the width of paper on the bypass feed unit	Fig. 3-19	17-14
S71	SFB-SNR Bypass paper sensor	Detecting the presence of paper on the bypass feed unit	Fig. 3-19	15-65
S72	SFB-FEED-SNR Bypass feed sensor	Detecting transported paper fed from the bypass feed unit	Fig. 3-19	16-65
S73	CST1-SNR 1st drawer detection sensor	Detecting opening/closing of the 1st drawer	Fig. 3-21	11-7
S74	CST1-BTM-SNR 1st drawer bottom sensor	Detecting the lowering status of the tray in the 1st drawer	Fig. 3-20	47-7
S75	CST1-EMP-SNR 1st drawer empty sensor	Detecting the presence of the paper in the 1st drawer	Fig. 3-21	11-7
S76	CST1-TRY-SNR 1st drawer tray-up sensor	Detecting the lifting status of the tray in the 1st drawer	Fig. 3-21	11-7
S77	CST1-TRNS-SNR 1st drawer transport sensor	Detecting the paper transport at the paper feeding system of the 1st drawer	Fig. 3-21	11-45
S78	CST1-FEED-SNR 1st drawer feed sensor	Detecting the paper feeding status of the 1st drawer	Fig. 3-21	11-45
S79	CST1-SIZE-SNR-1 1st drawer paper width detection sensor	Detecting the width of paper in the 1st drawer	Fig. 3-20	46-20
S80	CST1-SIZE-SNR-2 1st drawer paper length detection sensor	Detecting the length of paper in the 1st drawer	Fig. 3-20	46-20
S81	CST2-SNR 2nd drawer detection sensor	Detecting opening/closing of the 2nd drawer	Fig. 3-21	11-7
S82	CST2-BTM-SNR 2nd drawer bottom sensor	Detecting the lowering status of the tray in the 2nd drawer	Fig. 3-20	47-7
S83	CST2-EMP-SNR 2nd drawer empty sensor	Detecting the presence of the paper in the 2nd drawer	Fig. 3-21	11-7
S84	CST2-TRY-SNR 2nd drawer tray-up sensor	Detecting the lifting status of the tray in the 2nd drawer	Fig. 3-21	11-7
S85	CST2-TRNS-SNR 2nd drawer transport sensor	Detecting the paper transport at the paper feeding system of the 2nd drawer	Fig. 3-21	11-45
S86	CST2-FEED-SNR 2nd drawer feed sensor	Detecting the paper feeding status of the 2nd drawer	Fig. 3-21	11-45
S87	CST2-SIZE-SNR-1 2nd drawer paper width detection sensor	Detecting the width of paper in the 2nd drawer	Fig. 3-20	46-20
S88	CST2-SIZE-SNR-2 2nd drawer paper length detection sensor	Detecting the length of paper in the 2nd drawer	Fig. 3-20	46-20
S89	CST3/LCF-SNR 3rd drawer/T-LCF detection sensor	Detecting opening/closing of the 3rd drawer or the tandem LCF	Fig. 3-21	11-7
S90	CST3-BTM-SNR 3rd drawer bottom sensor	Detecting the lowering status of the tray in the 3rd drawer	Fig. 3-20	47-7

Symbol	Name	Function	Remarks	P-I
S91	CST3/LCF-EMP-SNR 3rd drawer/T-LCF empty sensor	Detecting the presence of the paper in the 3rd drawer or the tandem LCF	Fig. 3-21	11-7
S92	CST3/LCF-TRY-SNR 3rd drawer/T-LCF tray-up sensor	Detecting the lifting status of the tray in the 3rd drawer or the tandem LCF	Fig. 3-21	11-7
S93	CST3/LCF-TRNS-SNR 3rd drawer/T-LCF transport sensor	Detecting the paper transport at the paper feeding system of the 3rd drawer or the tandem LCF	Fig. 3-21	11-45
S94	CST3/LCF-FEED-SNR 3rd drawer/T-LCF feed sensor	Detecting the paper feeding status of the 3rd drawer or the tandem LCF	Fig. 3-21	11-45
S95	CST3-SIZE-SNR-1 3rd drawer paper width detection sensor	Detecting the width of paper in the 3rd drawer	Fig. 3-20	46-20
S96	CST3-SIZE-SNR-2 3rd drawer paper length detection sensor	Detecting the length of paper in the 3rd drawer	Fig. 3-20	46-20
S97	CST4-SNR 4th drawer detection sensor	Detecting opening/closing of the 4th drawer	Fig. 3-21	11-7
S98	CST4-BTM-SNR 4th drawer bottom sensor	Detecting the lowering status of the tray in the 4th drawer	Fig. 3-20	47-7
S99	CST4-EMP-SNR 4th drawer empty sensor	Detecting the presence of the paper in the 4th drawer	Fig. 3-21	11-7
S100	CST4-TRY-SNR 4th drawer tray-up sensor	Detecting the lifting status of the tray in the 4th drawer	Fig. 3-21	11-7
S101	CST4-TRNS-SNR 4th drawer transport sensor	Detecting the paper transport at the paper feeding system of the 4th drawer	Fig. 3-21	11-45
S102	CST4-FEED-SNR 4th drawer feed sensor	Detecting the paper feeding status of the 4th drawer	Fig. 3-21	11-45
S103	CST4-SIZE-SNR-1 4th drawer paper width detection sensor	Detecting the width of paper in the 4th drawer	Fig. 3-20	46-20
S104	CST4-SIZE-SNR-2 4th drawer paper length detection sensor	Detecting the length of paper in the 4th drawer	Fig. 3-20	46-20
S106	TLCF-STTBY-AMUT-SNR T-LCF standby side tray paper amount detection sensor	Detecting the remaining amount of paper on the standby side tray in the tandem LCF	Fig. 3-22	13-15
S107	TLCF-BTM-SNR T-LCF bottom sensor	Detecting the descending status of the trays in the tandem LCF	Fig. 3-22	14-32
S108	TLCF-STBY-TRY-SNR T-LCF standby side tray detection sensor	Detecting the presence of the standby side tray in the tandem LCF	Fig. 3-22	13-27
S109	TLCF-STTBY-EMP-SNR T-LCF standby side empty sensor	Detecting the presence of the paper at the standby side of the tandem LCF	Fig. 3-22	13-15
S110	TLCF-STPR-SNR-R T-LCF stopper opening/closing detection sensor (front)	Detecting the opening/closing status of the front stopper in the tandem LCF	Fig. 3-22	14-32
S111	TLCF-STPR-SNR-F T-LCF stopper opening/closing detection sensor (rear)	Detecting the opening/closing status of the rear stopper in the tandem LCF	Fig. 3-22	14-32
S112	TLCF-HOME-SNR T-LCF end fence home position sensor	Detecting the end fence home position in the tandem LCF	Fig. 3-22	13-15
S113	TLCF-STP-SNR T-LCF end fence stop position sensor	Detecting the end fence stop position in the tandem LCF	Fig. 3-22	13-15
S114	FEED-COV-SNR Feed cover sensor	Detecting the opening/closing status of the feed cover	Fig. 3-18	7-4

### 3.3.4 Switches

Symbol	Name	Function	Remarks	P-I
SWD1	DSDf lower cover interlock switch	Shutting down the 24 V power by opening the DSDf lower cover	Fig. 3-3	96-5
SWD2	DSDf upper cover interlock switch	Shutting down the 24 V power by opening the DSDf upper cover	Fig. 3-3	86-19
SW1	MAIN-SW Main power switch	Turning the main power of the equipment ON/OFF	Fig. 3-18	44-21
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. 3-17	44-18
SW3	TNR-MOT-SW Toner motor interlock switch	Supplying or shutting down the power to the toner motor by opening/closing the front cover (Cover open: Shutdown)	Fig. 3-18	44-5
SW4	IH interlock switch	Supplying or shutting down the IH power by opening/closing the duplexing unit (Unit open: Shutdown)	Fig. 3-17	46-6
SW5	REV-PATH-OPEN-SW Reverse path cover switch	Switching the opening/closing of the reverse path cover	Fig. 3-7	37-13
SW7	ADU-SET-SW Duplexing unit interlock switch / Duplexing unit cover opening/closing detection switch	Detecting the opening/closing of the automatic duplexing unit cover (supplying or shutting down the 24V of the automatic duplexing unit)	Fig. 3-17	18-40
SW8	REV-PATH-COV-SW Bridge unit connecting detection switch	Detecting the connection of the bridge unit	Fig. 3-18	44-4
SW9	FRONT-COV-SW Front cover opening/closing detection switch	Detecting the opening/closing of the front cover	Fig. 3-18	44-4

### 3.3.5 Electromagnetic spring clutches

Symbol	Name	Function	Remarks	P-I
CLD	DSDf tray-up clutch	Transmitting the driving force to move (up/lowering) the original tray	Fig. 3-3	88-13
CLT4	CST3-TR-CLT 3rd drawer transport clutch	Driving the transport roller of the 3rd drawer or the tandem LCF	Fig. 3-20	9-42
CLT5	CST3-FEED-CLT 3rd drawer feed clutch	Driving the separation roller, feed roller and pickup roller of the 3rd drawer or the tandem LCF	Fig. 3-20	9-42
CLT6	CST4-TR-CLT 4th drawer transport clutch	Driving the transport roller of the 4th drawer	Fig. 3-20	9-42
CLT7	CST4-FEED-CLT 4th drawer feed clutch	Driving the separation roller, feed roller and pickup roller of the 4th drawer	Fig. 3-20	9-42

### 3.3.6 Solenoids

Symbol	Name	Function	Remarks	P-I
SOL1	TRNS-SOL-1 Transport path switching solenoid (bridge unit/reverse section)	Driving the switching operation of the bridge unit transport paths	Fig. 3-7	24-28
SOL2	TRNS-SOL-2 Transport path switching solenoid (upper exit/lower exit)	Driving the switching operation of the bridge unit transport paths	Fig. 3-7	24-28
SOL3	SNR-SHUT-SOL Image quality shutter solenoid	Driving the sensor shutter of the image position aligning/image quality sensor (center) and image position aligning sensor (front / rear)	Fig. 3-14	6-11
SOL4	V0-SHUT-SOL-K V0 sensor shutter solenoid-K	Driving the opening/closing operation of the shutter of the drum surface potential (V0) sensor (75ppm only)	Fig. 3-12	59-33
SOL8	SFB-SOL Bypass pickup solenoid	Driving the lifting movement of the bypass pickup roller	Fig. 3-19	15-5
SOL9	TLCF-SOL T-LCF pickup solenoid	Driving the lifting movement of the tandem LCF pickup roller	Fig. 3-22	11-62
SOL10	TLCF-STPR-SOL-F T-LCF Stopper opening/closing solenoid (front)	Driving the opening/closing operation of the front stopper in the tandem LCF	Fig. 3-22	14-28
SOL11	TLCF-STPR-SOL-R T-LCF Stopper opening/closing solenoid (rear)	Driving the opening/closing operation of the rear stopper in the tandem LCF	Fig. 3-22	14-28

### 3.3.7 PC boards

Symbol	Name	Function	Remarks	P-I
DLGD	DSDf control PC board	Controlling the DSDf	Fig. 3-5	96-1
LEDD	DSDf-LED PC board	Lighting the LED when an original is set or an abnormality occurs	Fig. 3-5	85-9
CCD	PWA-F-CCD CCD driving PC board (CCD board)	Scanning originals with CCD	Fig. 3-6	50-9
DSP	PWA-F-DSP Display PC board (DSP board)	Controlling the whole control panel	Fig. 3-6	3-15
KEY	PWA-F-KEY Key PC board (KEY board)	Controlling the key switches and LEDs	Fig. 3-6	3-14
CTIF	PWA-H-CTIF Toner cartridge interface PC board (CTIF board)	Interface for detecting the toner cartridge (Detecting the CTRG board)	Fig. 3-16	45-85
CTRG	PWA-H-CTRG Toner cartridge PC board (CTRG board)	Storing the status of the toner cartridge (The CTRG board is installed in the toner cartridge.)	Fig. 3-16	-
SYS	PWA-F-SYS System control PC board (SYS board)	Controlling the whole system and image processing	Fig. 3-23	68-10
LGC	PWA-H-LGC Logic PC board (LGC board)	Controlling the print engine section	Fig. 3-23	69-4
SNS	PWA-F-SNS H-sync detection PC board (SNS board)	Detecting the laser beam position	Fig. 3-15	48-1
LDR-Y	PWA-F-LDR-Y Laser driving PC board-Y (LDR-Y board)	Driving the Y laser diode	Fig. 3-15	48-1

Symbol	Name	Function	Remarks	P-I
LDR-M	PWA-F-LDR-M Laser driving PC board-M (LDR-M board)	Driving the M laser diode	Fig. 3-15	48-1
LDR-C	PWA-F-LDR-C Laser driving PC board-C (LDR-C board)	Driving the C laser diode	Fig. 3-15	48-1
LDR-K	PWA-F-LDR-K Laser driving PC board-K (LDR-K board)	Driving the K laser diode	Fig. 3-15	48-1
EPU	PWA-H-EPU EPU PC board (EPU board)	Storing information of the developer unit (EPU)	Fig. 3-12	61-24
V0S	PWA-F-V0 Drum surface potential sensors control PC board (V0S board)	Controlling the drum surface potential (V0) sensors	Fig. 3-12	59-22
PFC	PWA-H-PFC Paper feeding control PC board (PFC board)	Controlling paper feeding	Fig. 3-23	69-3
ADU	PWA-H-ADU ADU control PC board (ADU board)	Controlling the automatic duplexing unit	Fig. 3-17	18-35
DRV	PWA-H-DRV DRV PC board	Controlling bypass unit, transfer belt unit and paper exiting	Fig. 3-7	46-60
IH	PWA-H-IH Heater control PC board (IH board)	Controlling the IH coil of the fuser unit	Fig. 3-9	38-28
DAMP	PWA-H-DAMP DAMP board (DAMP board)	Power supplying to each damp heater (ASD/ARD/AUD/CND)	Fig. 3-23	24-18
FIL-AC	Filter PC board (FIL board)	Filtering out the AC power noise	Fig. 3-23	71-7
DSDF-I/F	DSDF Interface board (DSDF-I/F)	Transmits signals among the DSDF-CCD module and System control PC board.	Fig. 3-23	68-3

### 3.3.8 Lamps, coils, and heaters

Symbol	Name	Function	Remarks	P-I
EXP	LP-EXPO Exposure lamp	Exposing originals	Fig. 3-6	52-3
ERS-K	LP-ERS-K Discharge LED-K	Eliminating residual charge on the K drum surface	Fig. 3-12	64-20
ERS-C	LP-ERS-C Discharge LED-C	Eliminating residual charge on the C drum surface	Fig. 3-12	64-20
ERS-M	LP-ERS-M Discharge LED-M	Eliminating residual charge on the M drum surface	Fig. 3-12	64-20
ERS-Y	LP-ERS-Y Discharge LED-Y	Eliminating residual charge on the Y drum surface	Fig. 3-12	64-20
LED	PWA-F-LED Fuser unit jam releasing LED	Illuminating the exit roller section of the fuser unit for releasing paper jams	Fig. 3-17	44-50
IH-COIL	IH-COIL IH coil	Heating of the fuser belt	Fig. 3-9	38-4
DH1	Scanner damp heater (Left)	Preventing condensation of the mirrors of the carriage	Fig. 3-26	50-17
DH3	Drum damp heater	Preventing condensation of the drum	Fig. 3-26	5-20

### 3.3.9 Thermistors and thermostats

Symbol	Name	Function	Remarks	P-I
THM1	THMS-DRM-K Drum thermistor-K	Detecting the surface temperature of the drum for K	Fig. 3-11	59-27
THM2	THMS-DRM-Y Drum thermistor-Y	Detecting the surface temperature of the drum for Y	Fig. 3-11	59-27
THM5	PHETHHMS-FBLT-C Fuser belt center thermistor	Detecting the surface temperature of the center of the fuser belt	Fig. 3-8	42-21
THM6	PHETHHMS-FBLT-E Fuser belt edge thermistor	Detecting the surface temperature of the front edge of the fuser belt	Fig. 3-8	42-21
THMO1	Scanner damp heater thermostat	Controlling the temperature of the scanner damp heater	Fig. 3-26	50-17
THMO4	Fuser belt thermostat	Controlling the temperature of the Fuser belt	Fig. 3-8	42-21
THMO5	Drum damp heater thermostat	Controlling the temperature of the damp heater	-	5-20

### 3.3.10 Transformer

Symbol	Name	Function	Remarks	P-I
HVT	PS-HVT High-voltage transformer	Generating high-voltage and supplying it to the following sections <ul style="list-style-type: none"> <li>• Main charger needle electrode</li> <li>• Main charger grid</li> <li>• Developer bias</li> <li>• 1st transfer bias</li> <li>• 2nd transfer bias</li> </ul>	Fig. 3-24	70-5

### 3.3.11 Others

Symbol	Name	Function	Remarks	P-I
CCDD	DSDf-CCD module	Scanning the back side of the original in the DSDf	Fig. 3-5	85-22
TCP	TCP Touch panel	Displaying and entering various kinds of information	Fig. 3-6	3-1
HDD	HDD Hard disk	Saving program data and image data	Fig. 3-23	68-19
PS	PS-ACC Switching regulator	Generating DC voltage and supplying it to each section of the equipment	Fig. 3-24	70-1



### 3.4 Copy Process

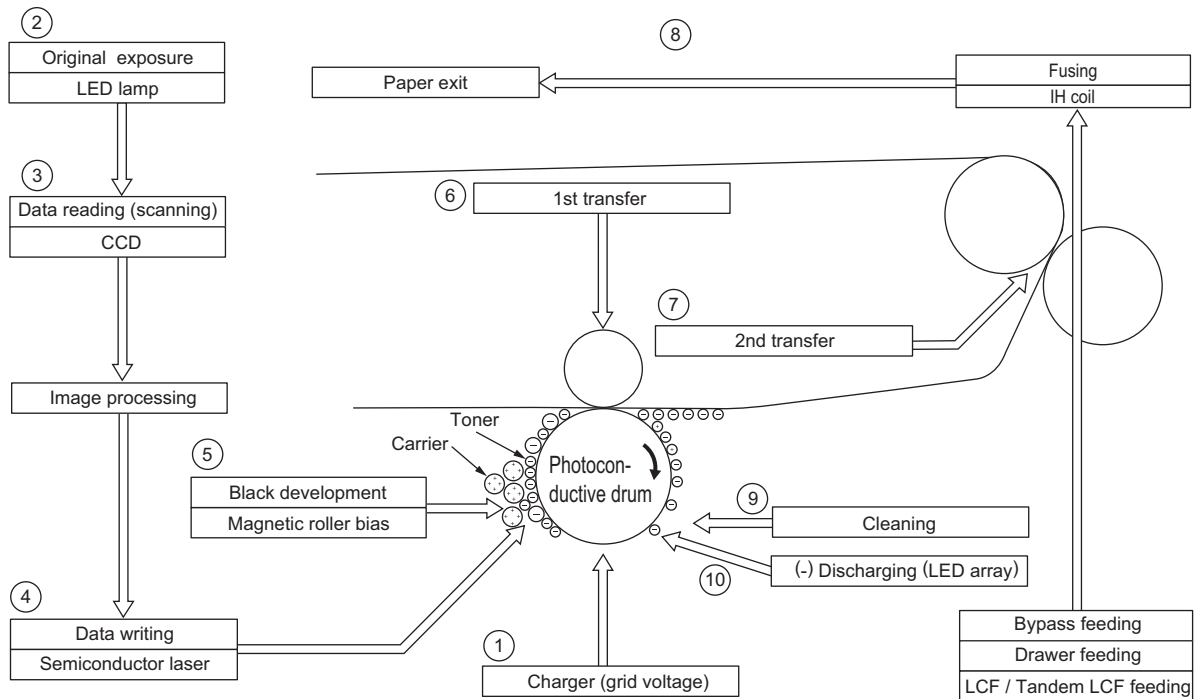


Fig. 3-27

- |  |  |
|--|--|
| <p>(1) Charging: Places a negative charge on the surface of the photoconductive drum.</p> <p style="text-align: center;">↓</p> <p>(2) Original exposure: Converts images on the original into optical signals.</p> <p style="text-align: center;">↓</p> <p>(3) Data reading: The optical image signals are read into CCD and converted into electrical signals.</p> <p style="text-align: center;">↓</p> <p>(4) Data writing: The electrical image signals are changed to light signals (by laser emission) which expose the surface of the photoconductive drum.</p> <p style="text-align: center;">↓</p> <p>(5) Development: Negatively-charged toner is made to adhere to the photoconductive drum, producing a visible image.</p> <p style="text-align: center;">↓</p> | <p>(6) 1st transfer: Transfers the visible image (toner) on photoconductive drum to the transfer belt.</p> <p style="text-align: center;">↓</p> <p>(7) 2nd transfer: Transfers the visible image (toner) on the transfer belt to paper.</p> <p style="text-align: center;">↓</p> <p>(8) Fusing: Fuses the toner image to the paper by applying heat and pressure.</p> <p style="text-align: center;">↓</p> <p>(9) Blade cleaning: While scraping off the residual toner from the drum by the blade.</p> <p style="text-align: center;">↓</p> <p>(10) (-) Discharging: Eliminates the residual (-) charge from the surface of the photoconductive drum.</p> |
|--|--|

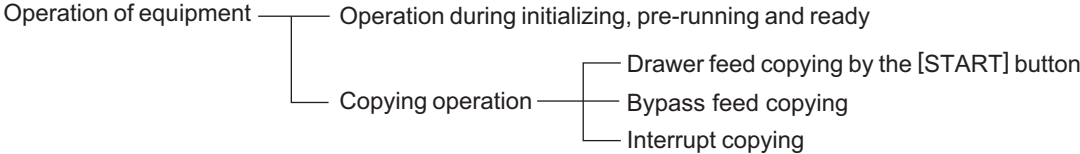
### 3.5 Comparison with e-STUDIO5560C/6560C/6570C

Process		e-STUDIO5560C/6560C/6570C	e-STUDIO5506AC/6506AC/7506AC
1. Photoconductive drum	Drum	OD-FC55 (OPC drum)	PS-ODFC556 (OPC drum)
	Sensitivity	Highly sensitized drum (ø60)	←
2. Charging		Scorotron type -250 to -1200 V (grid voltage) (adjusting by image quality control) (Feedback control with the surface potential sensor only for K station in e-STUDIO6570C)	←  (adjusting by image quality control) (Feedback control with the surface potential sensor only for K station in e-STUDIO7506AC)
3. Data writing	Light source	Semiconductor laser	←
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	Sub-hopper toner remaining amount detection method	←
	Toner	NAC/NAD PS-ZTFC75UK PS-ZTFC75UY PS-ZTFC75UM PS-ZTFC75UC MJC/MJD PS-ZTFC75EK PS-ZTFC75EY PS-ZTFC75EM PS-ZTFC75EC AUD PS-ZTFC75DK PS-ZTFC75DY PS-ZTFC75DM PS-ZTFC75DC ARD PS-ZTFC75AK PS-ZTFC75AY PS-ZTFC75AM PS-ZTFC75AC CND PS-ZTFC65CK PS-ZTFC65CY PS-ZTFC65CM PS-ZTFC65CC Others PS-ZTFC75PK PS-ZTFC75PY PS-ZTFC75PM PS-ZTFC75PC (K: Black, Y: Yellow, M: Magenta, C: Cyan)	NAC/NAD PS-ZTFC556UK(1) PS-ZTFC556UY(1) PS-ZTFC556UM(1) PS-ZTFC556UC(1) MJC/MJD PS-ZTFC556EK(1) PS-ZTFC556EY(1) PS-ZTFC556EM(1) PS-ZTFC556EC(1) CND PS-ZTFC556CK(1) PS-ZTFC556CY(1) PS-ZTFC556CM(1) PS-ZTFC556CC(1) Others PS-ZTFC556PK(1) PS-ZTFC556PY(1) PS-ZTFC556PM(1) PS-ZTFC556PC(1) (K: Black, Y: Yellow, M: Magenta, C: Cyan)
	Developer material	D-FC65-K (black) D-FC65-Y (yellow) D-FC65-M (magenta) D-FC65-C (cyan)	D-FC556K (black) D-FC556Y (yellow) D-FC556M (magenta) D-FC556C (cyan)
Developer bias	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	←

Process		e-STUDIO5560C/6560C/6570C	e-STUDIO5506AC/6506AC/7506AC
8. Photoconductive drum cleaning	Method	Blade cleaning	←
	Recovered toner	Non-reusable	←
9. Transfer belt cleaning		Blade cleaning	←
10. Discharge		LED array (red)	←
11. Fusing	Method	Belt fusing system with an external IH	←
		Fuser belt: PFA tube belt (ø60) Pressure roller: Silicon rubber roller, (Surface-PFA tube)(ø50)	Fuser belt: PFA tube belt (ø40) Pressure roller: Silicon rubber roller, (Surface-PFA tube)(ø40)
	Cleaning	None	←
	Heater temperature	ON/OFF control and power control by thermopile/thermistor	ON/OFF control and power control by thermistor
	Heater	IH coil + Heater lamp IH coil: 1 coil <ul style="list-style-type: none"> <li>• 200 to 1240W (for MJC/MJD)</li> <li>• 200 to 1100W (for NAC/NAD, ASU, ASD, ARD, AUC/AUD, CND)</li> </ul>	IH coil IH coil: 1 coil <ul style="list-style-type: none"> <li>• 200 to 1240W (for MJC/MJD)</li> <li>• 200 to 1100W (for NAC/NAD, ASD, ARD, AUD, CND)</li> </ul>

# 3.6 General Operation

## 3.6.1 Overview of Operation



## 3.6.2 Description of Operation

### [ 1 ] Warming-up

#### 1. Initialization

- Power ON
- IH coils (IH-COIL) 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 transfer belt moves to the releasing position.
  - The needle electrode cleaner moves to the home position.
- Cleaning of transfer belt\*<sup>1</sup>
  - The drum motor (M27, M28) is turned ON.
  - The transfer belt motor (M13) is turned ON.
  - (Performs image quality control.)\*<sup>1</sup>
- 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.

- The fuser motor (M6) is turned ON.
- Fuser roller rotation.

#### 3. When the temperature of the fuser belt becomes sufficient for fusing,

- The IH coil (IH-COIL) 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.

### [ 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

### [ 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), developer unit mixer motor (M29, M31), developer unit 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 1st/2nd drawer 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 1st/2nd drawer 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.

## 5. Printing operation

### 1) Color printing operation

- The drum motor (M27, M28), transfer belt motor (M13) and discharge LED-Y, -M, -C, -K (ERS) ON.
- The 2nd transfer bias is turned ON.
- The main charger bias is turned ON.
- The transfer belt contact/release motor (M14) is turned ON.
- The 1st transfer rollers (Y, M and C) contact the transfer belt.
- The YMCK developer bias (DC), developer unit mixer motor (M29, M31) and developer unit motor (M30, M32) are 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 contact/release 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 mixer motor (M29, M31), developer unit motor (M30, M32) and developer bias (YMC and K) are turned OFF.
- The drum motor (M27, M28), transfer belt motor (M13) and discharge LED-Y, -M, -C, -K (ERS) OFF.
- The 2nd transfer bias is turned OFF.

### 2) Black printing operation

- The drum motor (M27), transfer belt motor (M13), 2nd transfer motor (M9) and discharge LED-K (ERS) ON.
- The 2nd transfer bias is turned ON.
- The main charger bias is turned ON.
- The K developer bias (DC), developer unit mixer motor (M29) and developer unit motor (M30) are 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 mixer motor (M29), developer unit motor (M30) and developer bias (K) are turned OFF.
- The Drum motor (M27), transfer belt motor (M13) and discharge LED-K (ERS) OFF.
- The 2nd transfer bias is turned OFF.

## 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 motor (M30, M32), transfer belt motor (M13), transport motor (M40, 41), developer unit mixer 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.

## [ 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), transport motor (M40, 41), developer unit mixer motor (M29, M31), developer unit 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 "[ 3 ]Drawer feed copying (1st drawer paper feeding)" are repeated.

## [ 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.



### 3.6.3 Detection of Abnormality

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

#### [ 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 power switch
  - (F) Call for service

#### [ 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.

- 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.

## [B] Paper misfeed in bypass

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

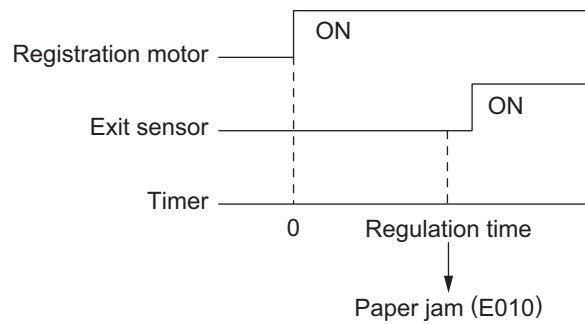
## [C] No toner in the cartridge

- 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.

**[D] Misfeed in equipment**

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

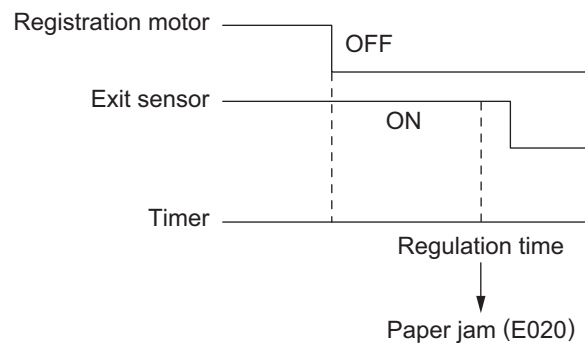
↓  
 The registration motor (M39) is turned ON  
 ↓ Regulation time  
 Exit sensor (S61, S63) turned ON  
 If the exit sensor (S61, S63) is not turned ON after a regulation time,  
 ↓  
 Paper jam (E010) → The copying operation is stopped.



**Fig. 3-28**

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

The registration motor (M39) is turned OFF  
 ↓ Regulation time.  
 The exit sensor (S61, S63) turned OFF  
 If the exit sensor (S61, S63) is not turned OFF a regulation time,  
 ↓  
 Paper jam (E020) → The copying operation is stopped.



**Fig. 3-29**

- 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)


- 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. 8-6"8.2 Error Code List"

### 3.6.4 Hibernation function

A hibernation function is embedded in this equipment. This function allows the equipment to store the last status of the system in the HDD immediately before the power is turned OFF, and to restart from this stored status at the next boot-up. The equipment starts up in the specified time described in the warmup time after the execution of the 2nd hibernation when the power is turned OFF and then back ON correctly. \*

For warming-up time, refer to  P. 2-1"2.1.1 General"

It is recommended to shut down the equipment while pressing the [ACCESS] button and the [ON/OFF] button simultaneously before maintenance. However, warming-up takes longer when the equipment boots up next time since no hibernation is executed. The equipment therefore boots up in the initialization status. "Checking" is displayed on the LCD screen when the equipment boots up normally (without hibernation), and "Checking" is not displayed when hibernation is executed.

If hibernation is not performed when the power is turned OFF or the equipment boots up immediately after the settings, warming-up takes longer. It differs depending on the usage conditions; warming-up will take approx. 30 to 150 sec, though it takes approx. 20 sec. if hibernation is performed (normal situation).

The following are the conditions which necessitate a longer warming-up time.

- Rebooting from TopAccess
- First booting after power interruption
- First booting after a self-diagnosis code is changed in the Service UI
- First booting after the power is turned OFF with the main power switch during the super sleep mode
- Installing options or finishers
- First booting after an option or a finisher is removed
- During toner supply
- Operating while "READY (WARMING UP)" is still on the control panel
- First booting after the [ACCESS] and [ON/OFF] buttons are pressed and held until the power is shut down
- Shutting down during network initialization
- First booting after the power is turned OFF in a procedure other than the correct one described in the Quick Start Guide

\* How to turn the power OFF correctly

Press the [ON/OFF] button on the control panel to shut down the equipment. Be sure to check that the ON/OFF lamp (green) has stopped blinking and the touch panel screen and the lamp (green) have gone off. Then turn the power OFF with the main power switch.

# 3.7 Control Panel

## 3.7.1 General Description

The control panel consists of button switches and touch-panel to operate the equipment and select various modes, and LEDs to display the state of the equipment.

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 9-inch capacitive touch panel is used in this equipment, resulting in the improvement of operability.

The [ON/OFF] button is placed on the control panel, and this button is used instead of the main power switch to turn the power ON/OFF. Press this button to turn the power of the equipment ON/OFF.

The digital keys are displayed on the touch panel instead of being located on the control panel. In addition to this, a digital key pad can be installed optionally for a user who wants to carry out the button operation by means of the actual keys.

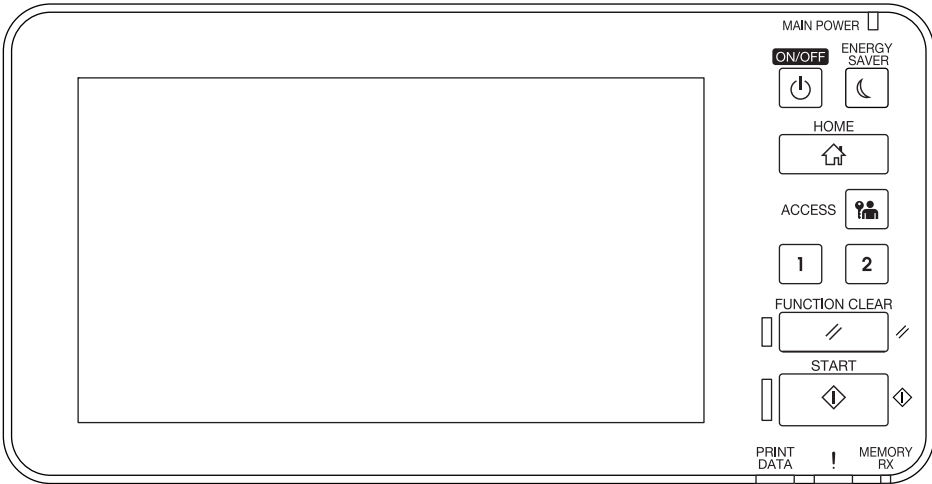


Fig. 3-30

## 3.8 Scanner

### 3.8.1 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.

In this equipment, a reduction-type CCD for color processing is used. What this CCD differs from black-and-white CCDs is that its devices are arranged in 3 lines and covered with color filters (Red, Green, and Blue). These lines are composed with 3-line color devices and black-and-white device with no filter.

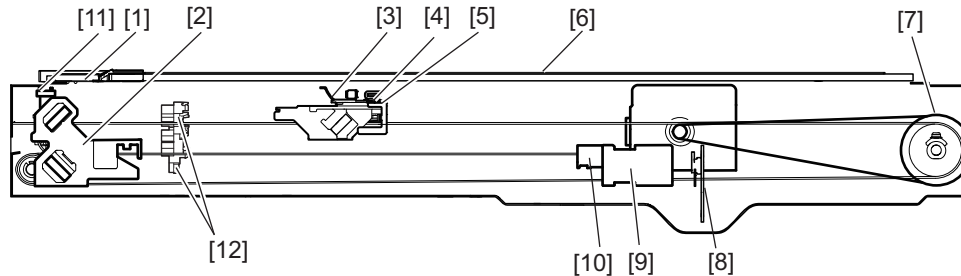


Fig. 3-31

- [1] ADF original glass
- [2] Carriage-2
- [3] Reflector
- [4] Exposure lamp
- [5] Carriage-1
- [6] Original glass
- [7] Drive pulley
- [8] CCD board
- [9] Lens
- [10] Automatic original detection sensor
- [11] Carriage home position sensor
- [12] Platen sensor



### 3.8.2 Construction

Scanner		
Original glass	Original glass	
	ADF original glass	
Carriage-1	Exposure lamp (EXP)	
	Reflector	
	Mirror-1	
Carriage-2	Mirror-2	
	Mirror-3	
Lens unit	Lens	
	CCD driving PC board (CCD)	
Automatic original detection sensor (S1, S2)		
Driving section	Scan motor (M1)	<ul style="list-style-type: none"> <li>• 2-phase stepping motor</li> <li>• Driving the carriage-1 and carriage-2</li> </ul>
Other	Carriage home position sensor (S3)	
	Platen sensor-1 (S4)	
	Platen sensor-2 (S5)	

### 3.8.3 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. The original is transported on the ADF original glass by the Automatic Document Feeder. This original is then read under the original glass by the carriage stopped. 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), reflector, mirror-1, etc. It is driven by the scan motor (M1) and scans an original on the glass.

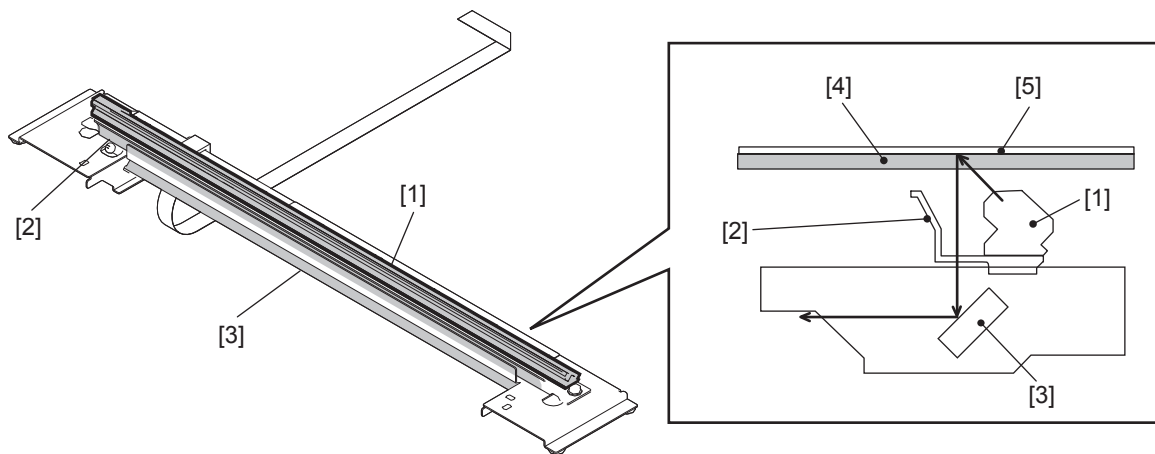


Fig. 3-32

- [1] Exposure lamp
- [2] Reflector
- [3] Mirror-1
- [4] Original glass
- [5] Original

- Exposure lamp (EXP)  
This lamp is the light source to irradiate the original on the glass. (LED lamp)
- 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.

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).

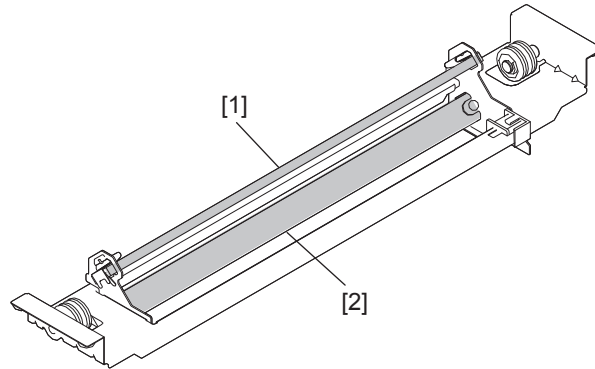


Fig. 3-33

- [1] Mirror-2
- [2] Mirror-3

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.

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.

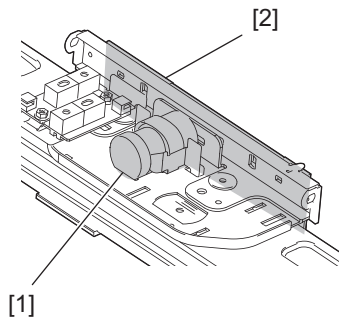


Fig. 3-34

- [1] Lens
- [2] CCD board

6. Automatic original detection sensor (S1, S2)

The size of an original placed on the glass is instantly detected using the automatic original detection sensors (S1, S2) fixed on the base frame without moving the carriage-1.

## 3.8.4 Description of Operation

### [ 1 ] Scanning operation

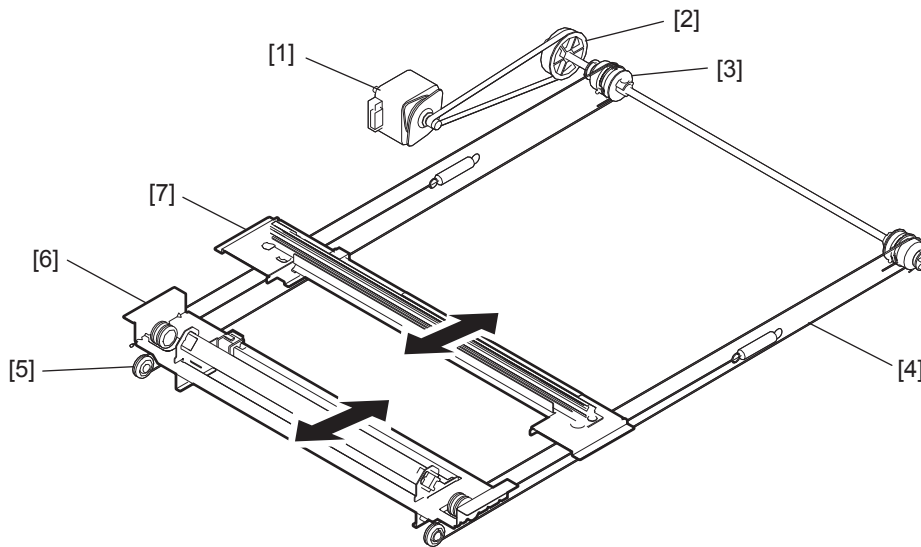


Fig. 3-35

- [1] Scan motor
- [2] Motor speed-reduction pulley
- [3] Wire pulley
- [4] Wire
- [5] Idler pulley
- [6] Carriage-2
- [7] Carriage-1

- 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 (S3). 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 DSDF  
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.

### 3.8.5 Process of detection of original size

In this equipment, detection of original sizes is performed with the combination of a CCD and the automatic original detection sensors-1 and -2 (S1 and S2).

A size in the primary scanning direction is detected by the CCD while that in the secondary scanning direction is detected by the sensors.

#### [ 1 ] Original size detection procedure

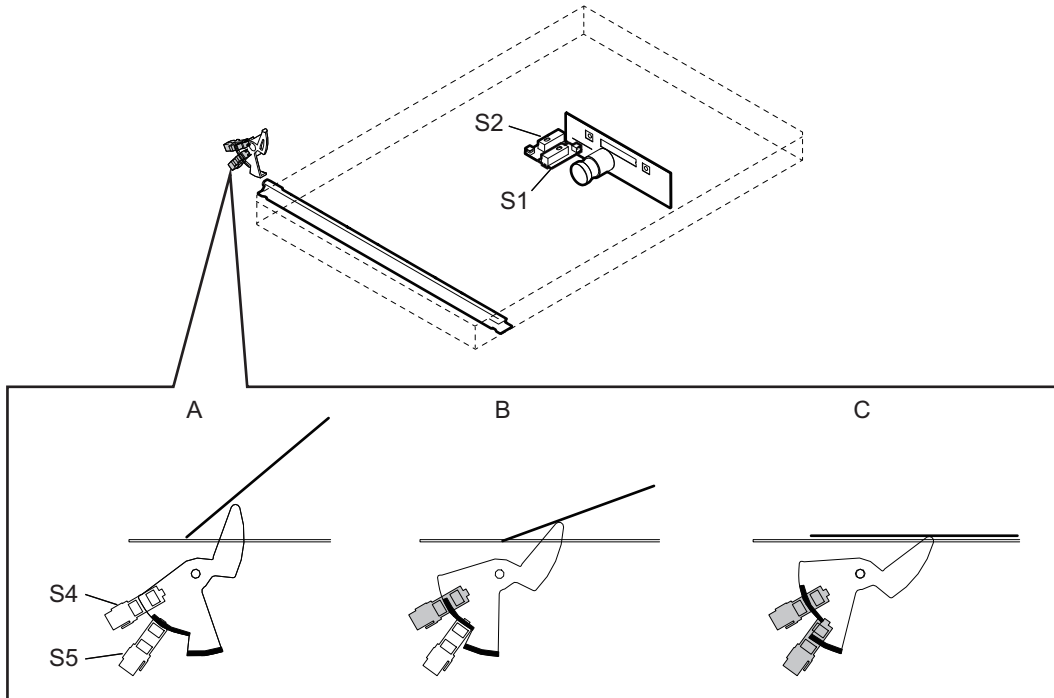


Fig. 3-36

A: DSDF fully opened

When the DSDF is fully opened, the original size is not detected.

B: DSDF opened by 25 degrees - Detected by the platen sensor-1 (S4)

When this status is detected, the exposure lamp of the scanner emits light and the presence/absence of the original in the secondary scanning direction and the paper size of the original in the primary scanning direction are detected by the automatic original detection sensor. (As for the LT series, two automatic original detection sensors are used.)

C: DSDF closed - Detected by the platen sensors-1 & -2 (S4 & S5)

This status is detected by the platen sensors (S4 and S5). The exposure lamp of the scanner emits light for a short time and the sensors detect the length of the original in the primary scanning direction again.

Tip: When the DSDF is fully closed or closed by 25 degrees or less, the exposure lamp emits light as follows.

Light emitted -> OFF -> light emitted -> OFF -> carriage moved

If the connectors are connected to the platen sensors (S4 and S5) in reverse, the exposure lamp emits light as follows.

Light emitted -> OFF -> carriage moved -> light emitted

When the following phenomena have occurred, the platen sensor (S4) may be damaged.

In such a case, check the sensors and harnesses.

- The exposure lamp does not emit light even when the platen cover is opened by 25 degrees.
- The detected paper size of the original is not correct.

## [ 2 ] Detection points

### Sensor detection points [A4, K Series]

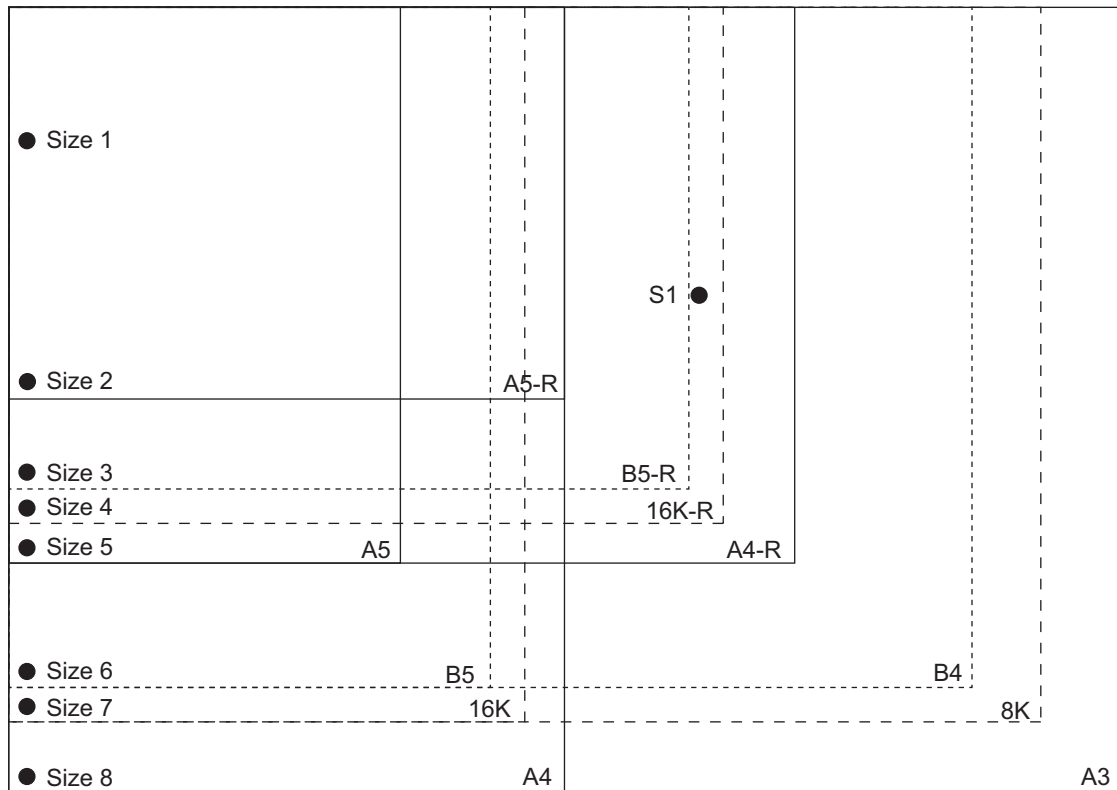


Fig. 3-37

### Sensor detection points [LT Series]

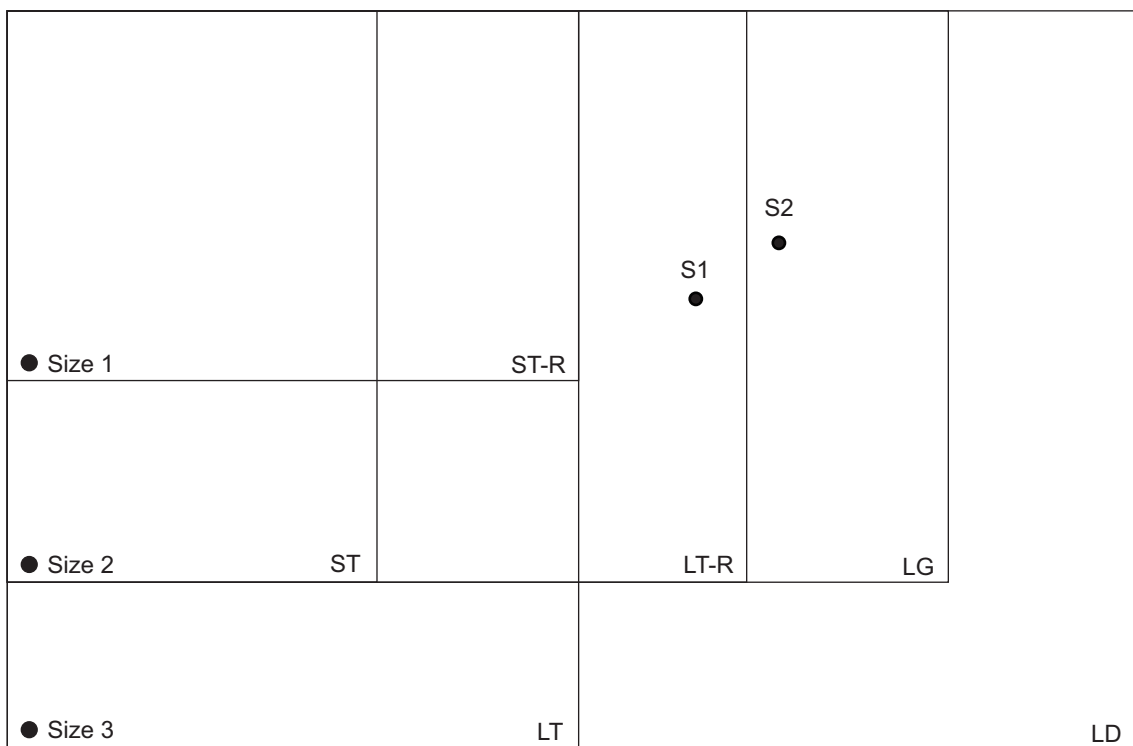


Fig. 3-38

## 3.9 Laser Optical Unit

### 3.9.1 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. The 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 polygonal mirror (polygonal motor) and lens. The unit must not be disassembled in the field as they are very sensitive to dust and finely adjusted at the factory.

This unit differs depending on 75ppm and 55/65ppm. The corresponding one can be identified the end digit of the serial number of the laser optical unit as below.

75ppm: End digit of the serial No. is "E".

55/65ppm: End digit of the serial No. is "D".

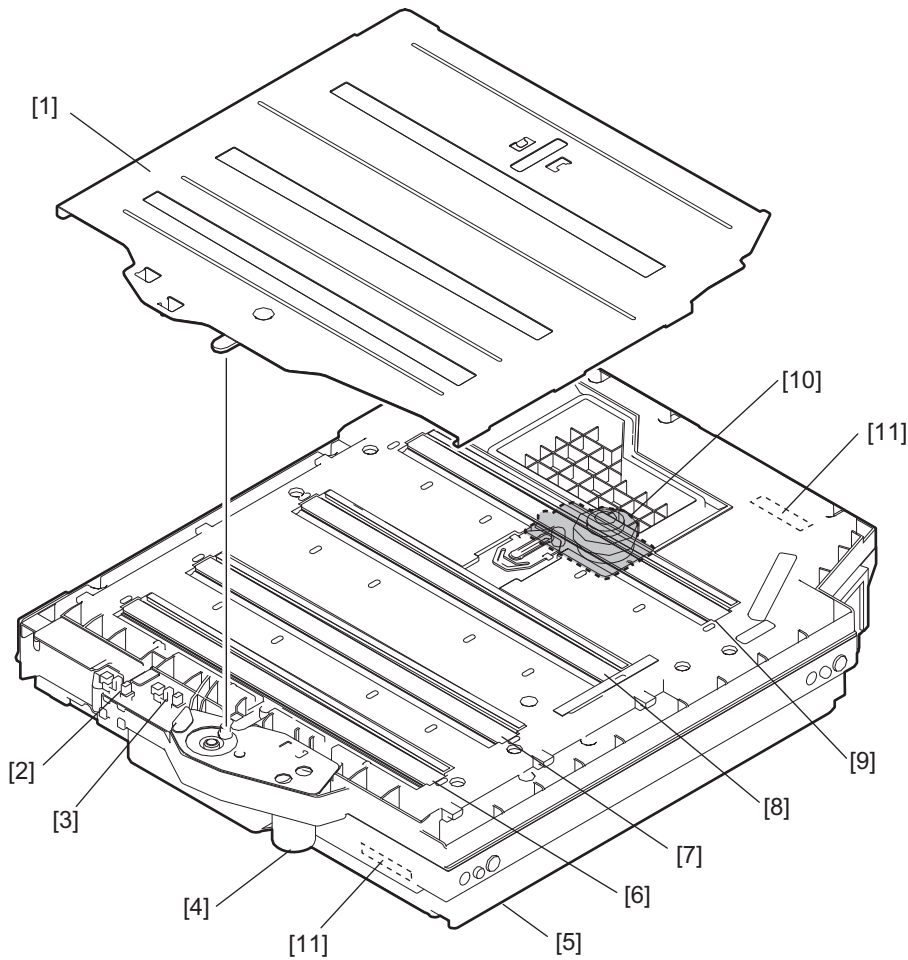


Fig. 3-39

- [1] Shutter
- [2] Shutter sensor (end position)
- [3] Shutter sensor (home position)
- [4] Shutter motor
- [5] Laser optical unit
- [6] Slit glass-Y
- [7] Slit glass-M
- [8] Slit glass-C
- [9] Slit glass-K
- [10] Polygonal motor
- [11] Laser optical unit serial No.

### 3.9.2 Laser precautions

- 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.

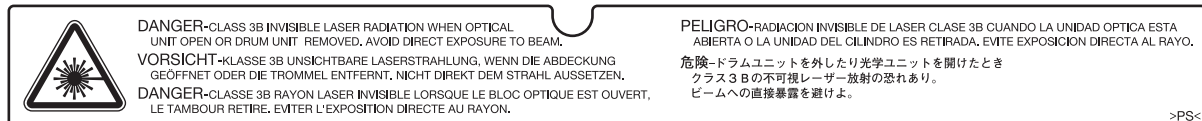


Fig. 3-40

**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.



### 3.9.3 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 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.

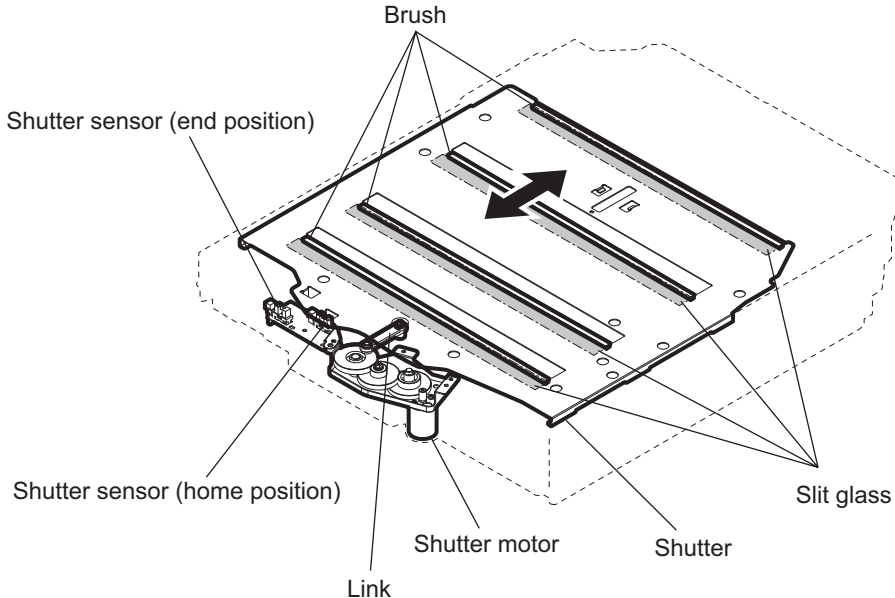


Fig. 3-41

## 3.10 Paper Feeding System

### 3.10.1 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 3rd/4th drawer/LCF feed motor, Transport motor-1, Transport motor-2, 1st/2nd drawer feed motor and registration motor drives the above rollers.

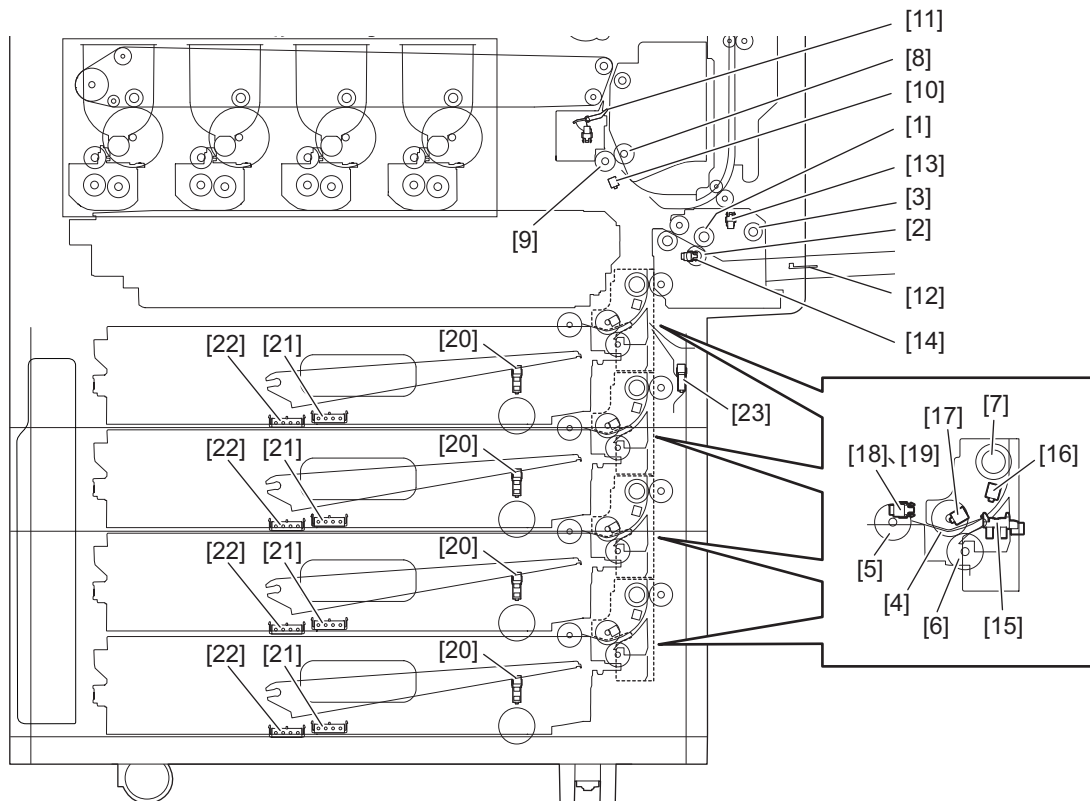


Fig. 3-42

No.	Name	No.	Name
1	Bypass feed roller	13	Bypass paper sensor
2	Bypass separation roller	14	Bypass feed sensor
3	Bypass pickup roller	15	1st / 2nd / 3rd / 4th drawer detection sensor
4	1st / 2nd / 3rd / 4th drawer feed roller	16	1st / 2nd / 3rd / 4th drawer transport sensor
5	1st / 2nd / 3rd / 4th drawer pickup roller	17	1st / 2nd / 3rd / 4th drawer feed sensor
6	1st / 2nd / 3rd / 4th drawer separation roller	18	1st / 2nd / 3rd / 4th drawer bottom sensor
7	1st / 2nd / 3rd / 4th drawer transport roller	19	1st / 2nd / 3rd / 4th drawer empty sensor
8	Registration roller (rubber roller)	20	1st / 2nd / 3rd / 4th drawer tray-up sensor
9	Registration roller (metal roller)	21	1st / 2nd / 3rd / 4th paper width detection sensor
10	Registration sensor	22	1st / 2nd / 3rd / 4th drawer paper length detection sensor
11	Transfer belt paper clinging detection sensor	23	Feed cover sensor
12	Bypass paper size detection sensor		

<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.

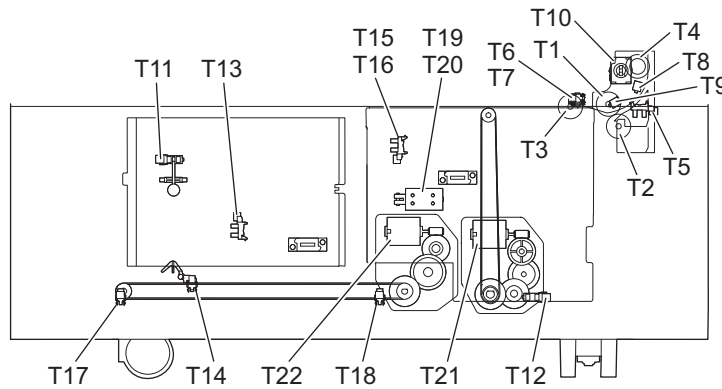


Fig. 3-43

No.	Name	No.	Name
T1	Tandem LCF feed roller	T12	T-LCF bottom sensor
T2	Tandem LCF separation roller	T13	T-LCF standby side tray detection sensor
T3	Tandem LCF pickup roller	T14	T-LCF standby side empty sensor
T4	Tandem LCF transport roller	T15	T-LCF stopper opening/closing detection sensor (front)
T5	Tandem LCF detection sensor	T16	T-LCF stopper opening/closing detection sensor (rear)
T6	Tandem LCF empty sensor	T17	T-LCF end fence home position sensor
T7	Tandem LCF tray-up sensor	T18	T-LCF end fence stop position sensor
T8	Tandem LCF transport sensor	T19	T-LCF Stopper opening/closing solenoid (front)
T9	Tandem LCF feed sensor	T20	T-LCF Stopper opening/closing solenoid (rear)
T10	T-LCF pickup solenoid	T21	T-LCF tray-up motor
T11	T-LCF standby side tray paper amount detection sensor	T22	T-LCF end fence motor

### 3.10.2 Composition

Feeding system		
1st / 2nd / 3rd / 4th drawer feeding unit	1st / 2nd / 3rd / 4th drawer pickup roller	
	1st / 2nd / 3rd / 4th drawer feed roller	
	1st / 2nd / 3rd / 4th drawer separation roller	
	1st / 2nd / 3rd / 4th drawer transfer roller	
	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	
	Bypass feed roller	
	Bypass separation roller	
	Bypass paper roller	S71
	Bypass feed sensor	S72
	Bypass transport sensor	SOL8
	Bypass pickup solenoid	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
	1st/2nd drawer feed motor	M42
	3rd/4th drawer/LCF feed motor	M43
	Registration motor	M39
	Registration roller	
	Registration sensor	S52
	Transfer belt paper clinging detection sensor	S47
	1st/2nd drawer tray-up motor / 3rd/4th drawer/LCF tray-up motor	M44/M45
Tandem LCF	Tandem LCF pickup roller	
	Tandem LCF feed roller	
	Tandem LCF separation roller	
	Tandem LCF transport roller	
	Tandem LCF feed sensor	S94
	Tandem LCF transport sensor	S93
	T-LCF pickup solenoid	SOL9
	T-LCF end fence motor	M47
T-LCF tray-up motor	M46	

### 3.10.3 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. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. Drawer detection sensor (S73/S81/S89/S97)  
This sensor detects if the drawer is fully inserted.
13. Feed clutch (3rd drawer (CLT5) / 4th drawer (CLT7))  
This is a clutch used to transmit the drive from the 3rd/4th drawer/LCF feed motor to the drawer pickup roller and drawer feed roller.

14. Drawer transport clutch (3rd drawer (CLT4) / 4th drawer (CLT6))  
This is a clutch used to transmit the drive from the 3rd/4th drawer/LCF feed motor to the transport roller.  
When the clutch is turned ON, the transport roller rotates at high speed to transport paper.
15. 3rd/4th drawer/LCF feed motor (M43)  
This motor drives the pickup rollers, feed rollers and transport rollers of the drawers and bypass tray.
16. 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.
17. 1st/2nd drawer tray-up motor / 3rd/4th drawer/LCF tray-up motor (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.
18. Bypass motor (M12)  
This stepping motor drives the bypass pickup roller, feed roller and transport roller.
19. Bypass pickup solenoid (SOL8)  
This is a solenoid to move down the bypass pickup roller.
20. 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.
21. Drawer paper width detection sensor / Drawer paper length detection sensor (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.

### 3.10.4 Description of Operation

#### [ 1 ] Drive of rollers

The drive of each motor in the paper feeding area activates the paper transfer roller as follows.

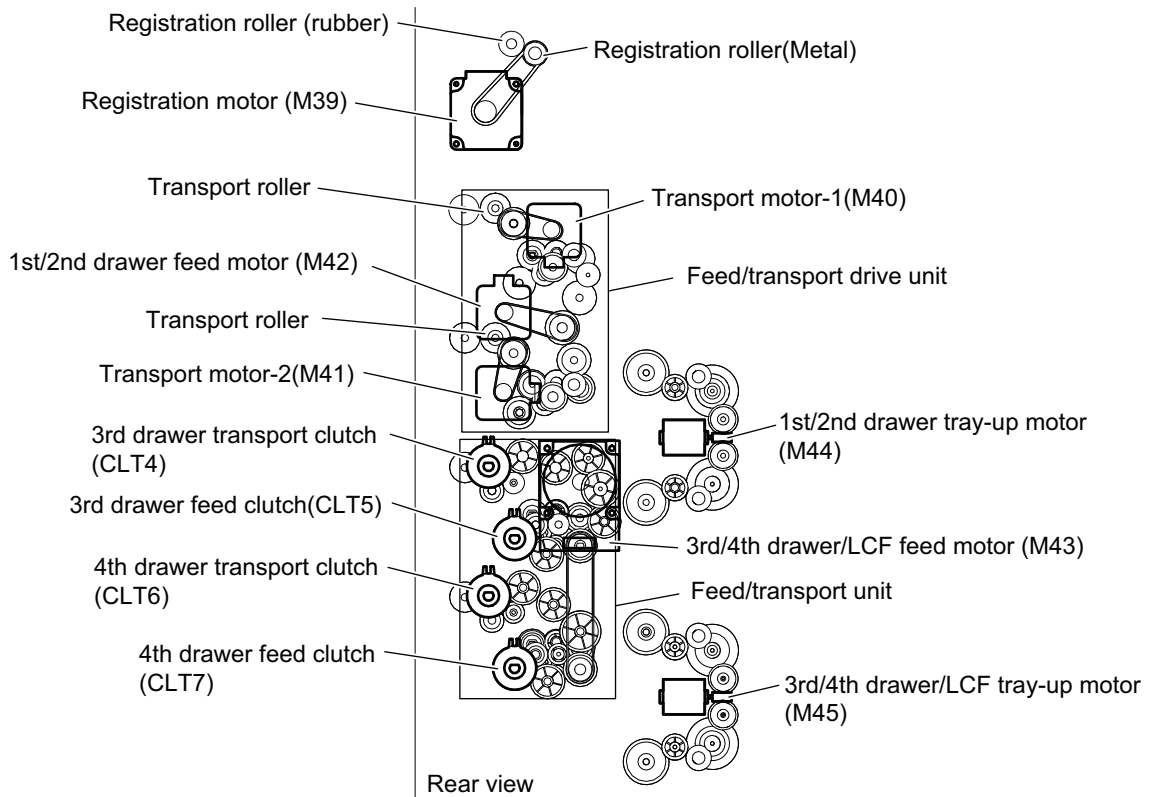
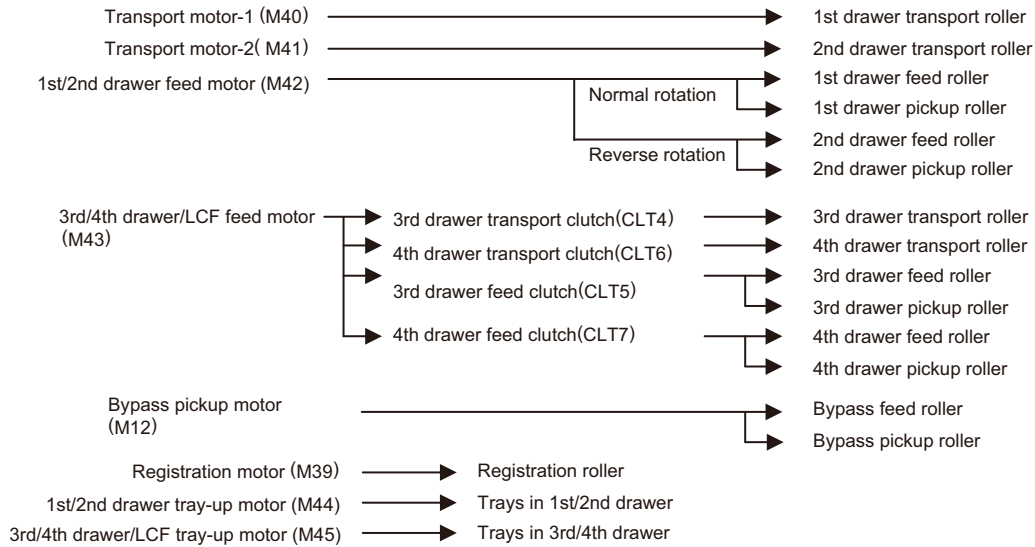


Fig. 3-44

## [ 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.

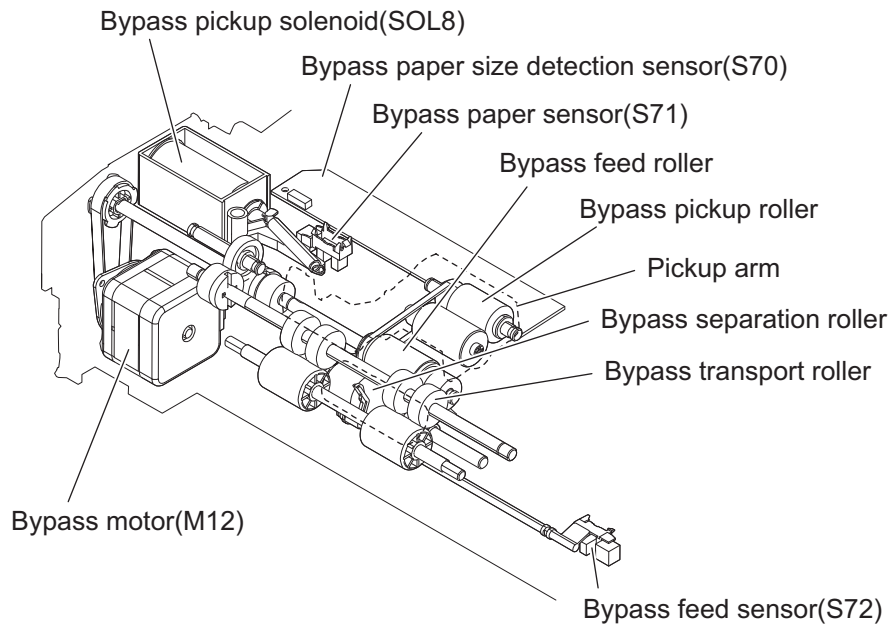


Fig. 3-45



### [ 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.

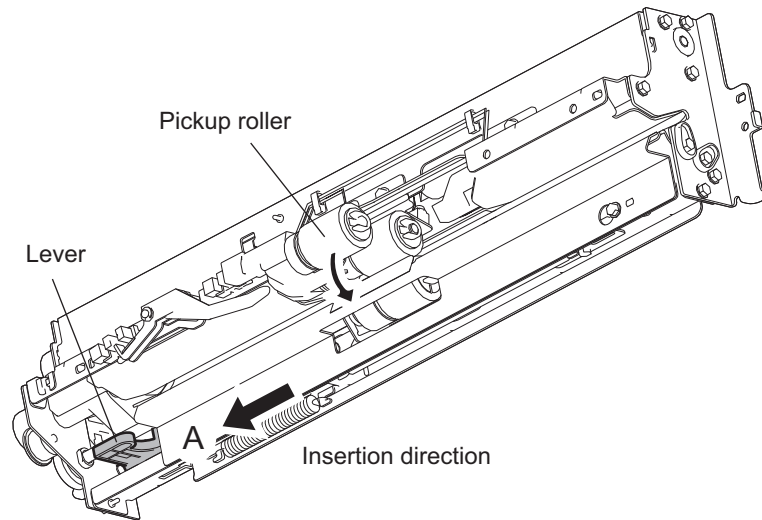


Fig. 3-46

#### [ 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 width detection sensor and drawer paper length detection sensor.

Thus the paper size is detected with the combination of the pushing statuses of the drawer paper width detection sensor and drawer paper length detection sensor.

The drawer paper width detection sensor detects the movement of the side guides while the drawer paper length detection sensor detects that of the end guide.

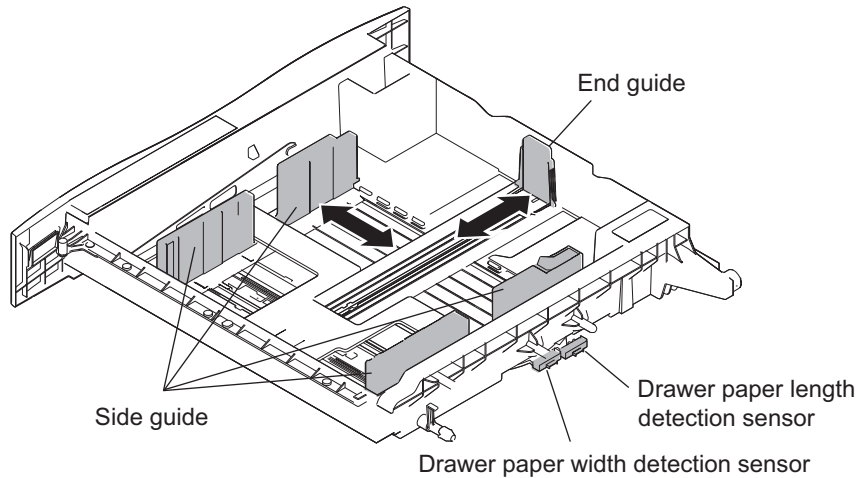


Fig. 3-47

[Example]

The positions of the guides and the pusher in cases of A3 and A4-R are shown below as examples.

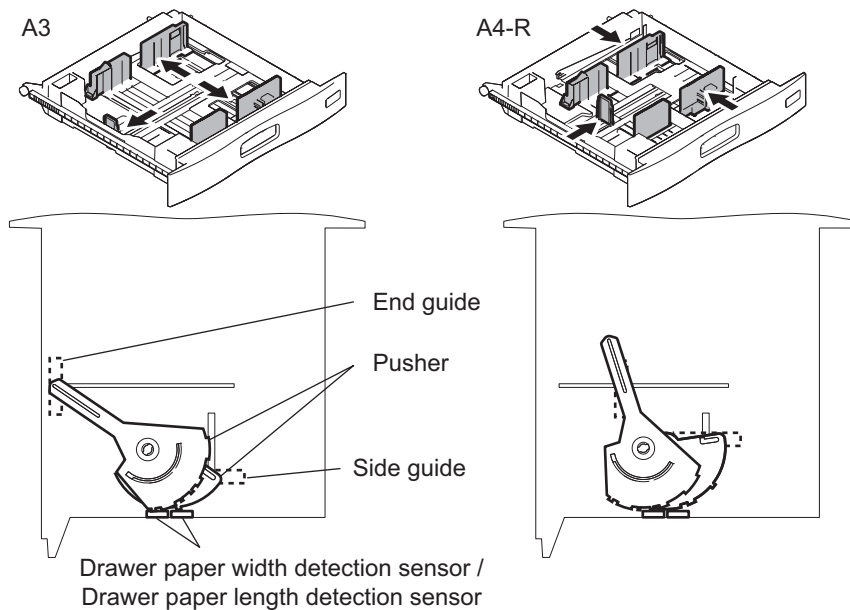


Fig. 3-48

## [ 5 ] General operation

### [A] From power-ON to ready status

1. When the equipment is turned ON, the 1st/2nd drawer tray-up motor (M44) is activated and the 1st drawer tray starts to rise. When the tray-up sensor (S76) is turned ON (L→H), the 1st/2nd drawer tray-up motor (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 1st/2nd drawer tray-up motor (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.

## **[D] Drawer feeding**

### **[D-1] 2nd drawer**

- The 1st/2nd drawer 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 1st/2nd drawer 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.

## 3.11 Process Unit Related Section

### 3.11.1 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.

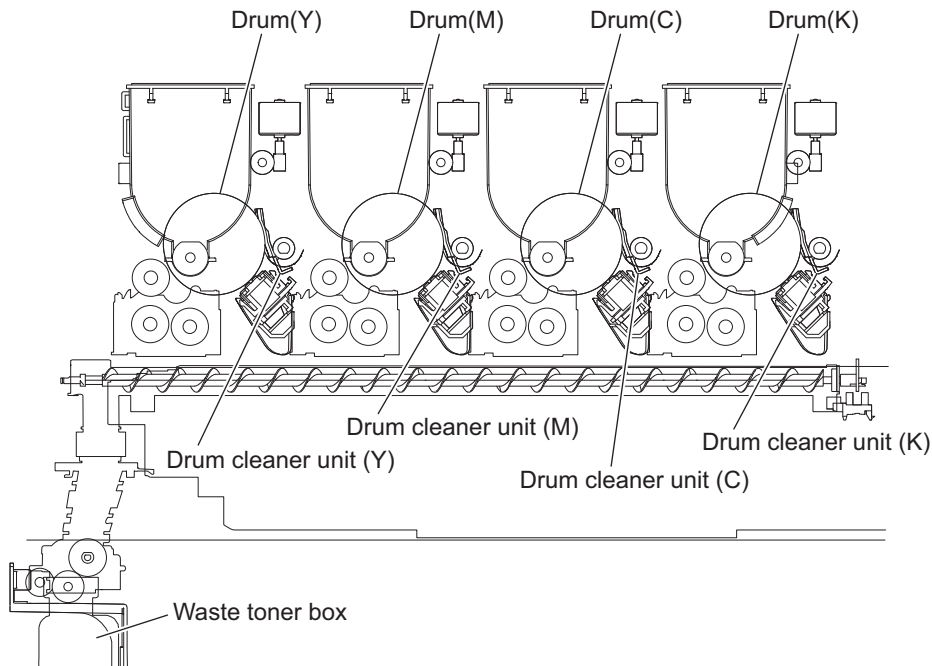


Fig. 3-49

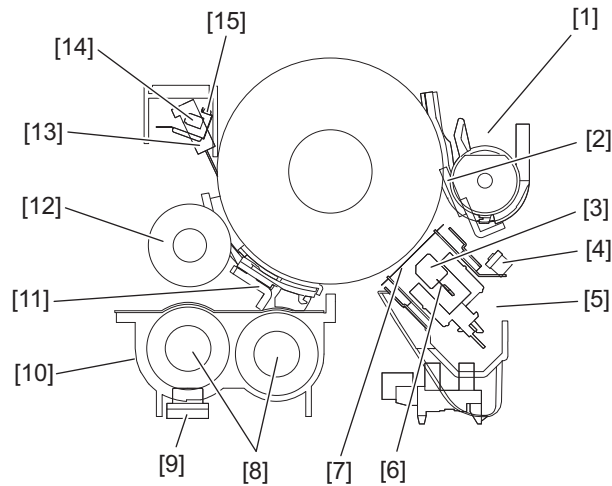


Fig. 3-50

- [1] Drum cleaner unit
  - [2] Drum cleaning blade
  - [3] Needle electrode cleaner
  - [4] Discharge LED
  - [5] Main charger unit
  - [6] Needle electrode
  - [7] Main charger grid
  - [8] Mixer
  - [9] Auto toner sensor
  - [10] Developer unit
  - [11] Doctor blade
  - [12] Developer sleeve
  - [13] Drum thermistor
  - [14] Drum surface potential sensor \*1
  - [15] Shutter \*1
- \*1: Only for K station in 75ppm

### 3.11.2 Composition

Process unit (Y, M, C, K)	Drum cleaner unit	Drum	
		Cleaning blade	
		Recovery blade	
		Blade side seal	
		Toner recovery auger	
	Main charger unit	Main charger grid	
		Needle electrode	
		Needle electrode cleaner	
		Discharge LED	ERS-Y, -M, -C, -K
	V0 sensor unit	Drum surface potential (V0) sensor (75ppm only)	S34
		V0 sensor shutter solenoid -K (75ppm only)	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
		Mixing ozone 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		
	Ozone suctioning fan	F24	
	High-voltage transformer	HVT	
	Developer unit mixer motor-K/-YMC	M29, M31	
	Developer unit motor-K/-YMC	M30, M32	
	Drum motor-K/-YMC	M27, M28	
	Toner filter		
	Scattered toner suctioning fan	F25	
EPU cooling fan	F14		

### 3.11.3 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.



#### 9. High-voltage transformer (HVT)

A circuit generates the output control voltage  $V_c$  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.

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.

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.

#### 16. Developer material

The developer material consists of the carrier and toner. 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.

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.

## 3.11.4 Electric Circuit Description

### [ 1 ] Drum Surface Potential Sensor Control Circuit

#### [ 1-1 ] 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.

#### [ 1-2 ] 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.

### 3.11.5 Functions of the toner cartridge PC board (CTRG)

An IC chip is embedded in this board. Data such as identification information for the recommended TOSHIBA toner cartridge, thresholds to determine if the cartridge is nearly empty, and controlling data for the image quality to be optimal according to the toner characteristics are written in this chip. To measure the amount of toner remaining in the cartridge, when the value of the counter for the period of the toner cartridge rotation time is updated, this equipment writes the updated value into the toner cartridge PC board (CTRG).

These data written in the toner cartridge PC board (CTRG) enable the functions below, and accordingly this equipment operates as shown below.

Data reading is performed every time when the power is turned ON, the front cover is closed, a job is finished and the equipment has recovered from the sleep mode.

#### [ 1 ] Data read by the toner cartridge PC board (CTRG)

- Data to identify recommended TOSHIBA toner cartridges
- Thresholds to determine if the toner cartridge is nearly empty
- Value of the counter for the period of the toner cartridge rotation time
- Data for optimizing image quality
- Threshold of toner remaining displays

#### [ 2 ] Functions

- Cartridge detecting function  
This function checks whether the toner cartridge is inserted correctly or not, and whether the recommended toner cartridge is used or not.
- Toner remaining check function  
This function notifies the user of the near-empty status of toner. Normally, the message (Toner is low) is displayed when the toner is running out, and (Toner empty) when the toner cartridge is empty.
- Toner remaining check notification function  
Upon detecting the near-empty status of toner, this function automatically notifies your service representative.
- Image optimization function  
This function controls the quality of images to be optimal according to the characteristics of the toner used.
- Toner remaining display function  
This function displays the remaining toner amount from 0% to 100%.

#### [ 3 ] Operations

A sign indicating that the toner cartridge is nearly empty appears in the following cases:

- The counter value for the toner cartridge rotation time has exceeded the threshold previously written in the toner cartridge PC board (CTRG). (Related code: FS-08-5155)
- The remaining amount of toner is equal to or less than the set amount (percentage or number of sheets). (Related code: FS-08-5155, FS-08-5810, FS-08-5811)

When a used cartridge refilled with new toner is used, a sign indicating that the toner cartridge is empty appears because information for determining the empty status is already written in the toner cartridge PC board (CTRG).

When a non-recommended toner cartridge is used, "Toner not recognized" appears on the control panel, and then the equipment may stop normal operations. The toner remaining display function, the toner remaining check function, the automatic remote supply order to TOSHIBA sales representatives and the image optimization function may also be disabled.

The self-diagnosis codes to adjust the timing for displaying the toner near-empty status are as follows.

- Toner near-empty status threshold setting (FS-08-5155)

<Setting value>

0: The period from the appearance of the toner near-empty sign to the actual complete consumption of the toner is set to long.

1: Normal (Default)

2: The period from the appearance of the toner near-empty sign to the actual complete consumption of the toner is set to short.

4: Toner near-empty status threshold value: (%)

5: Toner near-empty status threshold value: (Number of sheets)

- Toner near-empty status threshold value setting (%) (FS-08-5810)

Use this code to specify the threshold value (unit: %) for displaying the toner near-empty status. This code is used when the value of FS-08-5155 is set to "4".

Sub-code 0: K, sub-code 1: Y, sub-code 2: M, sub-code 3: C

- Toner near-empty status threshold value setting (number of sheets) (FS-08-5811)

Use this code to specify the threshold value (unit: number of sheets) for displaying the toner near-empty status. This code is used when the value of FS-08-5155 is set to "5".

Sub-code 0: K, sub-code 1: Y, sub-code 2: M, sub-code 3: C

- Fine adjustment of threshold value for displaying the toner remaining amount / toner near-empty (FS-08-5156)

Performs fine adjustment of the threshold value for displaying the toner remaining amount and toner near-empty.

Display threshold value = Default threshold value x setting value/100 (Unit: %)

#### **[ 4 ] Toner near-empty / toner empty display adjustment**

The toner empty appears when the sub-hopper toner sensor in the sub-hopper detects that the level amount of toner in the sub-hopper has actually become low. The toner remaining amount is displayed by means of calculating it by counting the value of the counter for the period of the toner motor rotation time. Then the toner near-empty appears when the calculated toner remaining amount has reached the specified value (the toner amount which can print approx. 2,000 sheets of paper when an image whose print ratio is 6% is printed with the A4/LT equivalent paper size). The relationship between the period of the toner motor rotation time and the actual toner consumption amount varies depending on the printed images and usage conditions. Therefore, the displaying of the toner remaining amount can be adjusted by the codes shown below. However, it is recommended to handle the toner remaining amount as the reference since the printed images and usage conditions are always unstable and there will be variations in the systems.

##### 1. Fine adjustment of the toner remaining amount display

When the displayed toner remaining amount is decreased more quickly than that for the actual toner (when "1%" is being displayed for a long time), set a value in FS-08-5156 larger than the default one. When the displayed toner remaining amount is decreased more slowly than that for the actual toner (when the toner near-empty appears before "1%" is displayed), set a value in FS-08-5156 than smaller the default one.

##### 2. Toner near-empty setting change

- Setting change of the period from the toner near-empty to the toner empty  
When the period is made longer, set "0" in FS-08-5155. When the period is made shorter, set "2" in FS-08-5155.
- Setting change of the toner near-empty threshold value  
When the threshold value (default: printing approx. 2,000 sheets of paper is available when an image whose print ratio is 6% is printed with the A4/LT equivalent paper size) used to designate toner near-empty is changed, perform the following setting change.

When the change is made by using the toner remaining amount (%), set "4" in FS-08-5155 and exchange the value of FS-08-5810. In order to designate the toner near-empty while the toner remaining amount is greater than the default value, set a larger value in FS-08-5810.

When the change is made by using the available remaining number of print sheets, set "5" in FS-08-5155 and exchange the value of FS-08-5811. In order to designate the toner near-empty while the available remaining number of print sheets is greater than the default value (printing approx. 2,000 sheets of paper is available when an image whose print ratio is 6% is printed with the A4/LT equivalent paper size), set a larger value in FS-08-5811.

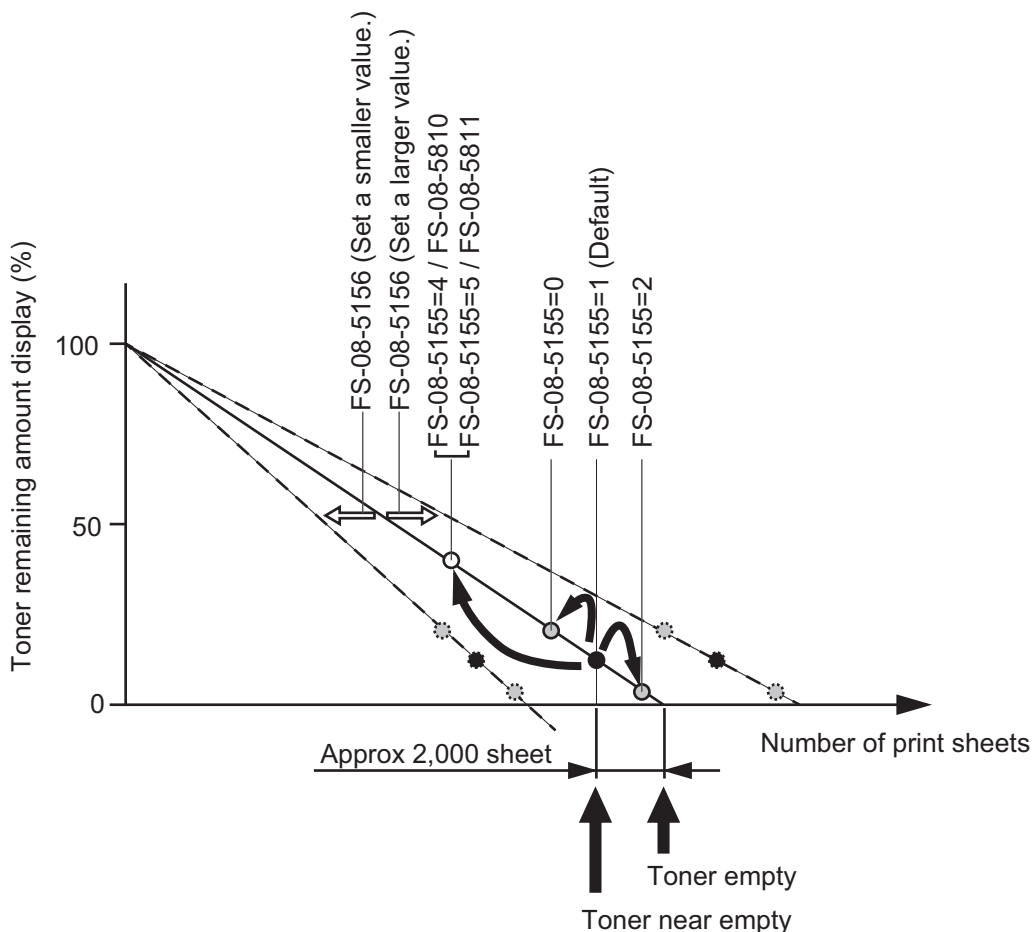


Fig. 3-51

**Notes:**

- Do not perform the change operations 1 (Fine adjustment of the toner remaining amount display) and 2 (Toner near-empty setting change) simultaneously. Otherwise, the desired results may not be obtained. If the change is required by the combination of the operations 1 (Fine adjustment of the toner remaining amount display) and 2 (Toner near-empty setting change), only perform either of them first. Then change the setting for another one while checking the results.
- The values of the toner remaining amount and the number of print sheets are the reference. They will vary depending on the printed images and usage conditions.

## 3.12 Transfer unit

### 3.12.1 General Descriptions

Transfer is a process of decaling 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.

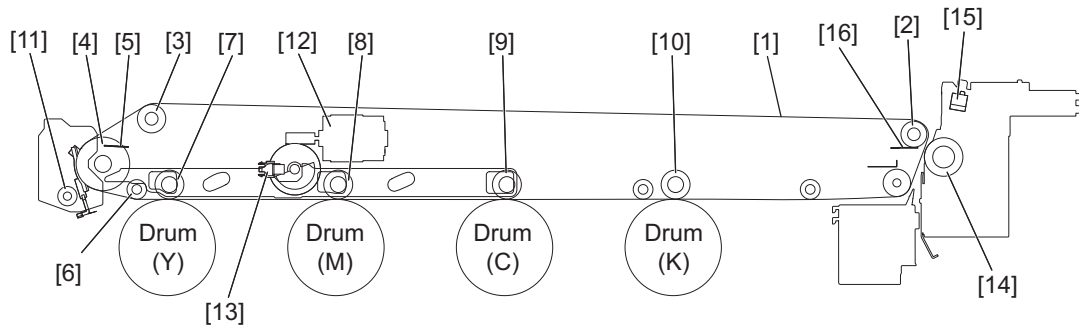


Fig. 3-52

- [1] Transfer belt
- [2] 2nd transfer facing roller
- [3] Tension roller
- [4] Cleaning facing roller
- [5] Cleaning facing roller cleaning pad
- [6] Lift roller
- [7] 1st transfer roller (Y)
- [8] 1st transfer roller (M)
- [9] 1st transfer roller (C)
- [10] 1st transfer roller (K)
- [11] Waste toner auger
- [12] Transfer belt contact/release motor
- [13] Transfer belt contact/release detection sensor
- [14] 2nd transfer roller
- [15] 2nd transfer side paper clinging detection sensor
- [16] 2nd transfer facing roller cleaning pad



### 3.12.2 Composition

Transfer belt unit	Transfer belt	
	1st transfer roller	Y, M, C, K
	Cleaning facing roller	
	Tension roller	
	2nd transfer facing roller	
	Lift roller	
	Idling roller	
	Transfer belt contact/release motor	M14
	Transfer belt contact/release detection sensor	S46
	2nd transfer facing roller cleaning pad	
	Cleaning facing roller cleaning pad	
	Transfer belt cleaning	Transfer belt cleaning blade
Transfer belt cleaner side seal		
Transfer belt motor		M13
2nd transfer unit	2nd transfer roller	
	2nd transfer side paper clinging detection sensor	S51
Image position aligning/image quality sensor (center)		S21
Image position aligning sensor (front /rear)		S20/S22

### 3.12.3 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.

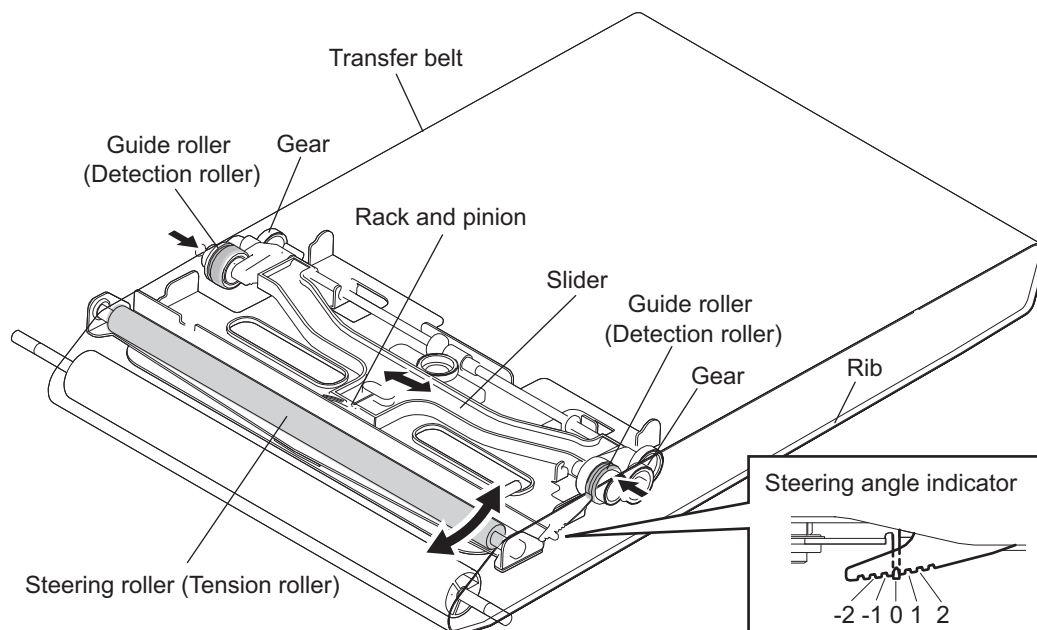


Fig. 3-53

#### 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  $\pm 2$  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?

## 3.13 Image Quality Control

### 3.13.1 General Description

Three image position aligning sensors are mounted inside of the 2nd transfer front guide beneath the transfer belt.

The image position aligning sensor on the center combines its own functions with those of the image quality sensors.

At this control, image forming conditions are automatically adjusted so as to minimize the change in the image density or tone reproduction caused by the fluctuation of working environment or life of supply items.

At first, the image position aligning/image quality sensor operates to output reflected light amount voltage when no toner image is formed on the transfer belt. The output voltage is then converted analog-to-digital to be output as the reflected light amount signal. The light source amount voltage of the sensor is adjusted to correspond with the value set in advance and the output value of reflected light amount signal at this adjustment is stored. This output value is considered as the reading of the belt surface. Next, the sensor outputs the reflected light amount signal when a test pattern is developed on the transfer belt.

This output value is considered as the reading of the toner image.

The difference between the reading of the transfer belt and that of the toner image is defined as toner adhesion amount. Image forming conditions are determined in approximating this toner adhesion amount to the value set in advance.

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.

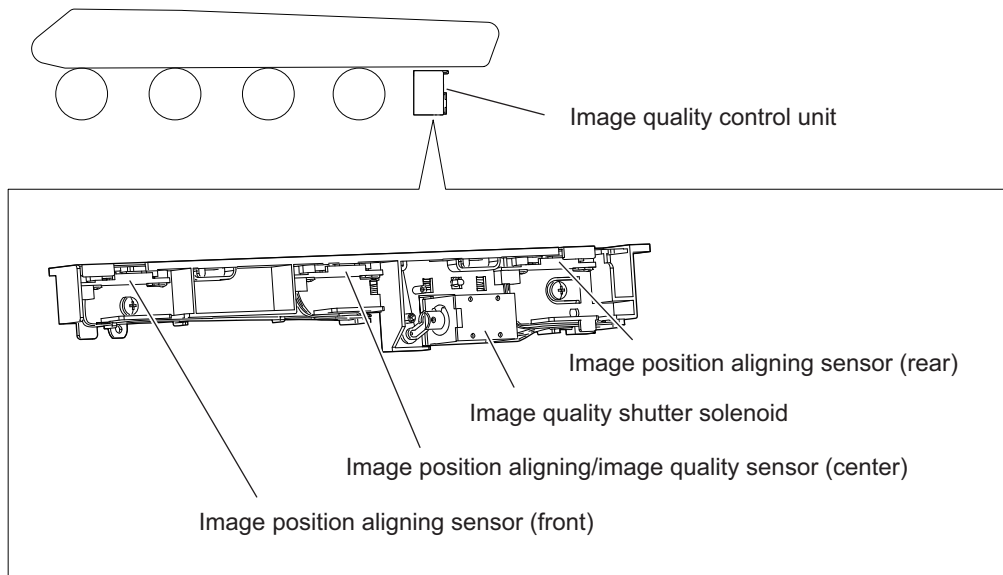


Fig. 3-54

## 3.14 Fuser Unit

### 3.14.1 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, IH coil, pressure roller, separation plate, thermistors, thermostats, sensor etc.

The fuser belt and pressure roller in the fuser unit are driven by the fuser motor.

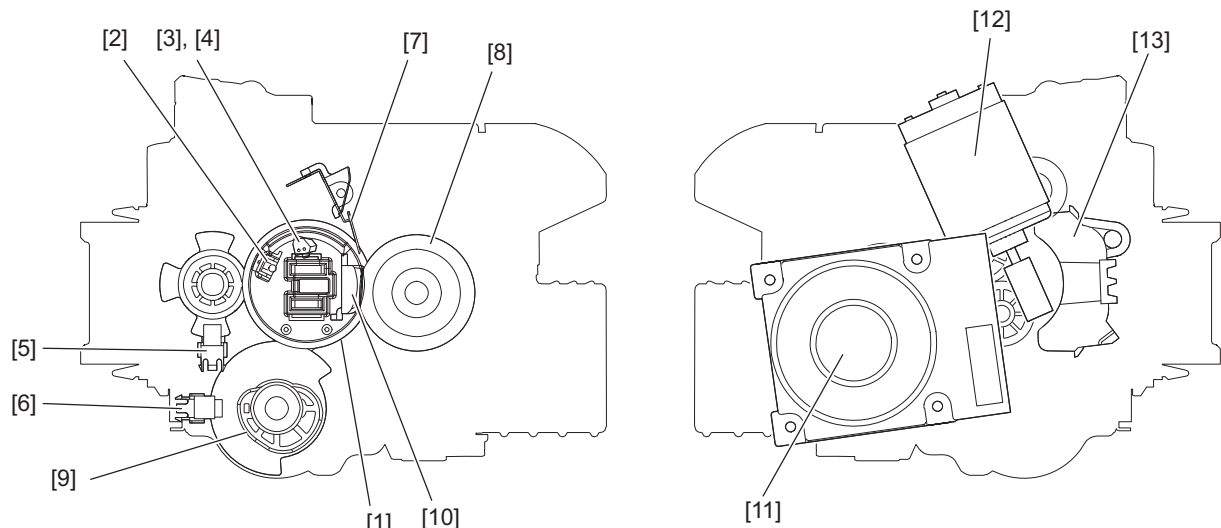


Fig. 3-55

- [1] Fuser belt
- [2] Fuser belt thermostat
- [3] Fuser belt center thermistor
- [4] Fuser belt edge thermistor
- [5] Fuser belt rotation detection sensor
- [6] Pressure roller contact/release detection sensor
- [7] Separation Plate
- [8] Pressure roller
- [9] Pressure roller contact/release cam
- [10] Fuser belt pad
- [11] Fuser motor
- [12] Pressure roller contact/release motor
- [13] IH coil

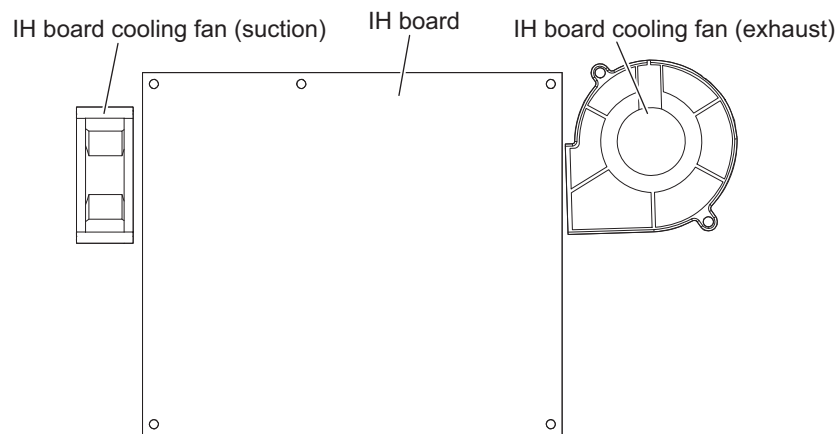


Fig. 3-56

### 3.14.2 Composition

Fuser belt section	Fuser belt	
	Fuser belt thermostat	THMO4
	Fuser belt edge thermistor	THM6
	Fuser belt center thermistor	THM5
	Fuser belt rotation detection sensor	S49
	Separation plate	
Pressure roller section	Pressure roller	
	Separation guide	
	Pressure roller contact / release detection sensor	S48
IH coil section	IH coil	IH COIL
	IH board	IH
	IH board cooling fan (exhaust)	F8
	IH board cooling fan (suction)	F9
	Drive section / Others	Fuser motor
	Fuser unit jam releasing LED	LED

### 3.14.3 Pressure mechanism

In the equipment, when "Envelope" is selected from the menu on the LCD panel, the pressure roller contact/release cams rotate and come to the semi-contact position (envelope position). Then the pressure for the envelope printing is adjusted.

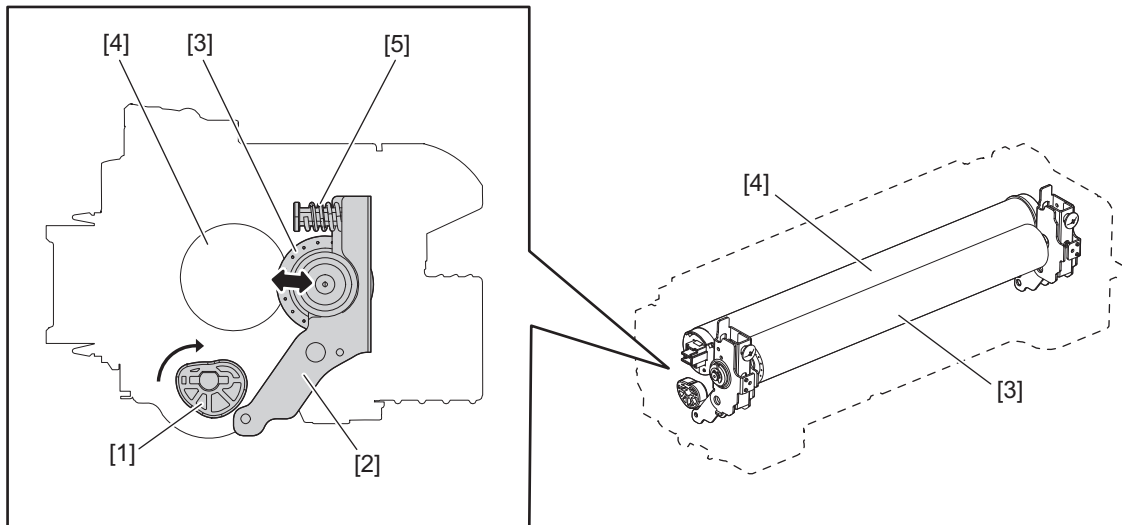


Fig. 3-57

- [1] Pressure roller contact/release cam
- [2] Arm
- [3] Pressure roller
- [4] Fuser belt
- [5] Spring

### **3.14.4 Electric Circuit Description**

#### **[ 1 ] Fuser unit control circuit**

##### **[ 1-1 ] Configuration**

This equipment employs an external IH coil unit for heating the fuser belt. 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 temperature of the fuser belt is detected with the center and edge thermistors.

The detected temperature data are sent to the ASIC. Based on the received temperature data, the ASIC then controls the electricity of the IH coils. When the surface temperature of the fuser belt exceeds the preset temperature, the forcible power OFF circuit sends a power supply relay OFF signal as well as an overheating signal to the ASIC, and then shuts OFF power supply over all parts except the control panel.

If the circuit noted above does not operate due to problems such as thermistor malfunction and therefore the fuser belt is abnormally heated, the thermostat shuts OFF power supply to the IH coils to protect the equipment.

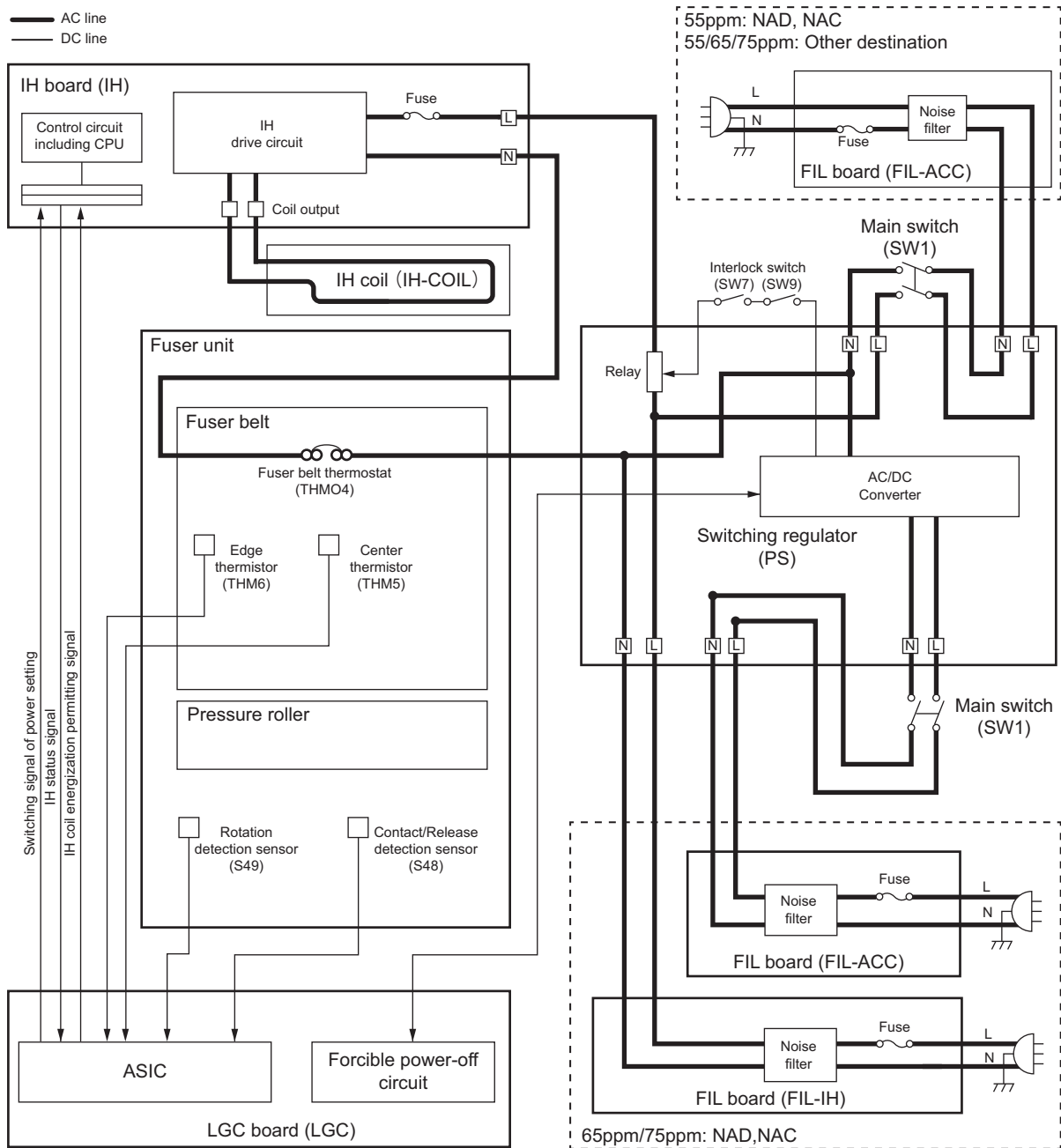


Fig. 3-58

## [ 1-2 ] Temperature detection section

### Fuser unit error status counter control

- To enhance the safety of the fuser unit section, the following protection is provided: When a third [C445] error has occurred after two consecutive [C445] errors, the IH coils are not turned ON and an error code [C446] 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 "5", the counter is cleared to "0".
- If any of the error codes [C445] to [C449] is displayed but the error is still not cleared and the IH heater is not turned ON even after the thermistor, thermostat or IH heater were repaired, check the fuser unit error status counter value (FS-08-2002) to clear the value to "0".

#### Tips:

The fuser unit error status counter never has any values other than 0 to 66. If the counter value is "67" or over, data in EEPROM may possibly have been ruined due to causes such as leakage from the chargers. In this case, check the bias, high-voltage transformers and needle electrodes to see if any of them is defective, and also recheck all the data in the EEPROM.

- When the thermistors detect overheating, the engine CPU determines an error code and the fuser unit error status counter value. After turning OFF each output (from exposure lamp, control panel, motors and so on) to protect the fuser unit, the engine CPU shuts OFF power supply to the main power switch.

Error code: C449

Counter value of the fuser unit error status (FS-08-2002): 9, 22, 23, 25, 27 and 29

The thermistors continue detecting abnormal temperatures even after an error code and a counter value are determined. Even if the main power switch is turned ON immediately, the switch is automatically turned OFF unless otherwise the surface temperature of the fuser belt goes lower than the abnormal temperature detected. In this case, therefore, wait until the surface temperature of the fuser belt becomes lower than the abnormal temperature detected, and then turn ON the main power switch. Then check the counter value while you are waiting for the main power switch to be automatically turned OFF. After confirming that it is a fuser unit abnormality, correct the subject part in the unit and clear the counter value to "0" so that the equipment can be started up normally.

### Temperature detection circuit

A thermistor is a device whose resistance varies according to the detected temperature. The ASIC detects voltages output from this device, and judges whether the operation of the fuser unit is normal or abnormal from the changes in voltages.

If any of the thermistors is broken, the control circuit judges that the surface temperature of the fuser belt is extremely low and keeps turning the IH circuit ON. As a result, the surface temperature of the fuser belt rises, and this possibly activates a thermostat which is a safety protection device. To prevent this in advance, the ASIC detects whether each thermistor is broken or not.

Also, the control circuit constantly monitors the surface temperature of the fuser belt to prevent them from excessive heating caused by abnormalities in circuits or thermistors, and automatically shuts OFF power supply when the surface temperature exceeds the preset temperature.



### Abnormality detection by the thermistors

The following table shows the conditions for judging the temperature abnormality of the fuser belt and the detecting timing.

Check timing	Error code	Counter	Center	Edge	Error judging timing
Power ON	C449	9 Fixed	220°C or above	237°C or above	
When pre-running end temperature or ready temperature is detected	C449	22 Fixed	220°C or above	237°C or above	On usual
	C445	5 Not fixed	Ready temperature or above	-	
	C446	6 Fixed			
During ready	C449	23 Fixed	220°C or above	237°C or above	On usual
	C447	7 Fixed	0°C or below	-	
	C447	63 Fixed	-	0°C or below	
During printing	C449	25 Fixed	220°C or above	237°C or above	On usual
	C447	24 Fixed	0°C or below	-	
	C447	64 Fixed	-	0°C or below	
	C447	65 Fixed	40°C or below	-	
	C447	66 Fixed	-	40°C or below	
At energy saving mode	C449	27 Fixed	220°C or above	237°C or above	On usual
At paper jam	C449	29 Fixed	220°C or above	237°C or above	On usual

## 3.15 Exit / Reverse / Duplex Section

### 3.15.1 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

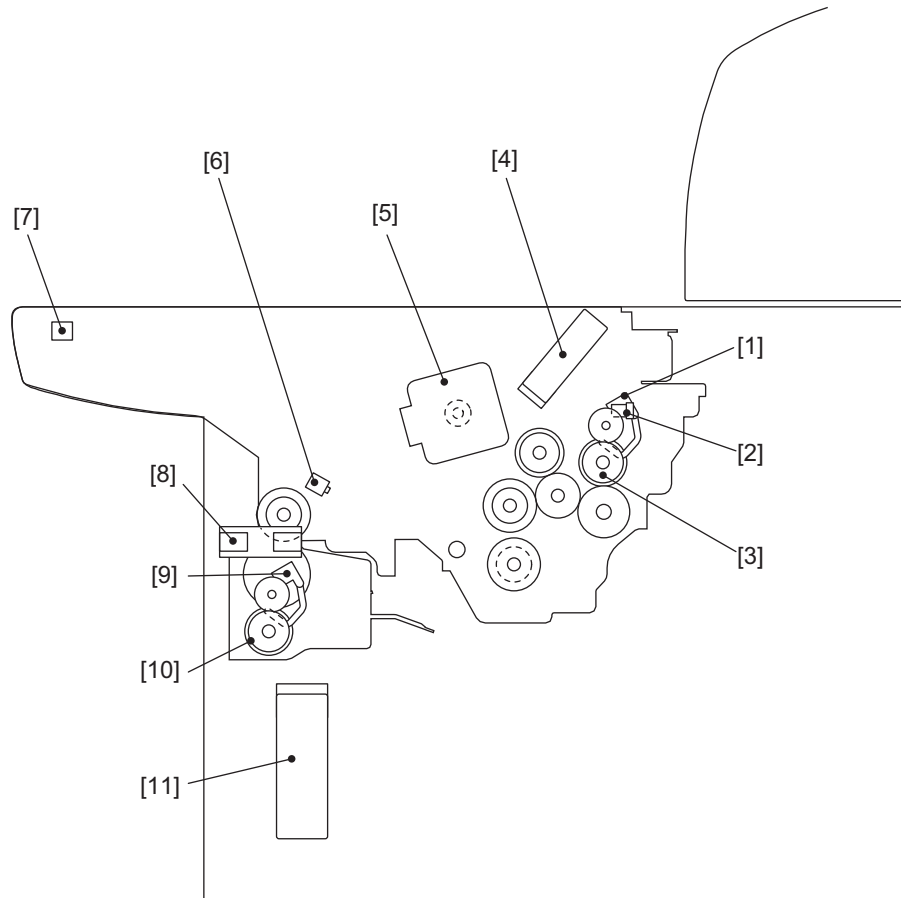
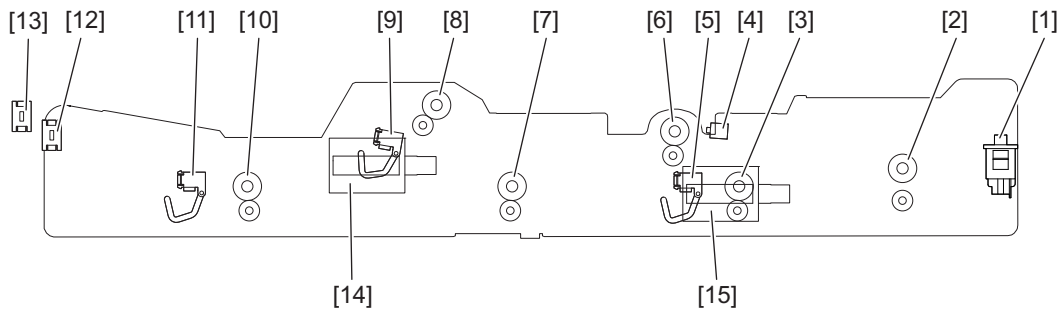


Fig. 3-59

- [1] Upper paper exit sensor
- [2] Upper exit tray paper full detection sensor
- [3] Upper paper exit roller
- [4] Upper exit section cooling fan (front)/(rear)
- [5] Exit motor
- [6] Reverse section stationary jam detection sensor
- [7] Reverse path cover switch
- [8] Lower exit section cooling fan (front)/(rear)
- [9] Lower paper exit sensor
- [10] Lower paper exit roller
- [11] Lower exit section cooling fan (under)

• Bridge unit

(Front view)



(Rear view)

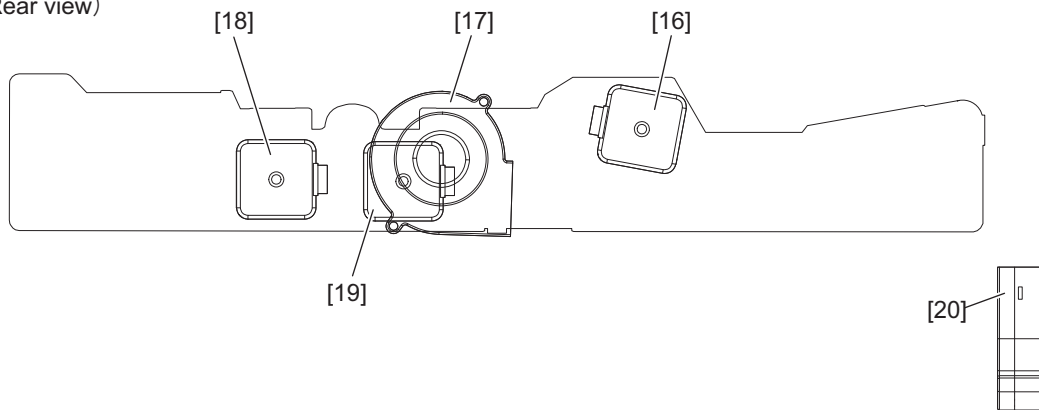


Fig. 3-60

- [1] Interlock switch
- [2] Bridge unit transport roller-1
- [3] Bridge unit transport roller-2
- [4] Reverse sensor
- [5] Bridge unit path entrance sensor
- [6] Reverse roller
- [7] Bridge unit transport roller-3
- [8] Bridge unit exit roller-1
- [9] Reverse section stationary jam detection sensor
- [10] Bridge unit exit roller-2
- [11] Bridge unit path exit sensor
- [12] Bridge unit connecting detection switch
- [13] Front cover opening/closing detection switch
- [14] Transport path switching solenoid (upper exit/lower exit)
- [15] Transport path switching solenoid (bridge unit/reverse section)
- [16] Bridge unit transport exit motor
- [17] Exit paper cooling fan
- [18] Bridge unit transport roller-2
- [19] Reverse motor
- [20] Exit paper unit cooling fan

- Duplexing bridge unit / Duplexing unit

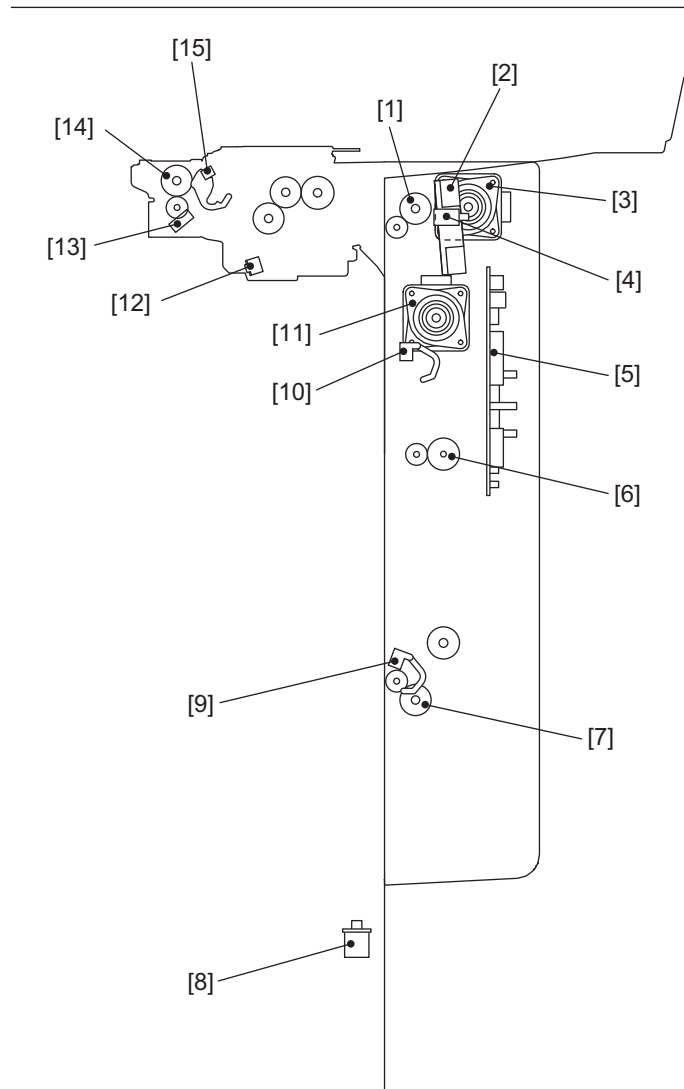


Fig. 3-61

- [1] ADU transport roller-1
- [2] Reversed paper cooling fan
- [3] ADU transport motor
- [4] Duplexing unit cover opening/closing detection sensor
- [5] ADU board
- [6] ADU transport roller-2
- [7] ADU transport roller-3
- [8] IH interlock switch
- [9] Duplexing unit path exit sensor
- [10] Duplexing unit path entrance sensor
- [11] ADU feed motor
- [12] Fuser transport sensor
- [13] Duplexing unit opening/closing detection sensor
- [14] Duplexing bridge transport roller
- [15] Reverse path sensor

### 3.15.2 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 (rear)	(F32)
	Upper exit section cooling fan (front)	(F33)
	Lower exit section cooling fan (rear)	(F34)
	Lower exit section cooling fan (front)	(F35)
	Lower exit section cooling fan (under)	(F36)
	Exit motor	(M2)
	Bridge unit	Bridge unit path entrance sensor
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 (bridge unit/reverse section)		(SOL1)
Transport path switching solenoid (upper exit/lower exit)		(SOL2)
Bridge unit cooling fan		(F6)
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	
Duplexing unit	Duplexing unit path entrance sensor	(S66)
	Duplexing unit path exit sensor	(S67)
	IH interlock switch	(SW4)
	Duplexing unit interlock switch / Duplexing unit cover opening/closing detection switch	(SW7)
	ADU board	(ADU)
	Reversed paper cooling fan	(F11)
	ADU transport roller-1	
	ADU transport roller-2	
	ADU transport roller-3	
	ADU transport motor	(M7)
	ADU feed motor	(M8)
	Fuser transport sensor	(S65)

### 3.15.3 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 solenoid (bridge unit/reverse section) (SOL1) and transport path switching solenoid (upper exit/lower exit) (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 (bridge unit/reverse section) (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 (bridge unit/reverse section) (SOL1) is turned ON in order to lower flapper-1, and transport path switching solenoid (upper exit/lower exit) (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.

# [ 1 ] Paper transport paths

## 1. Upper exit section

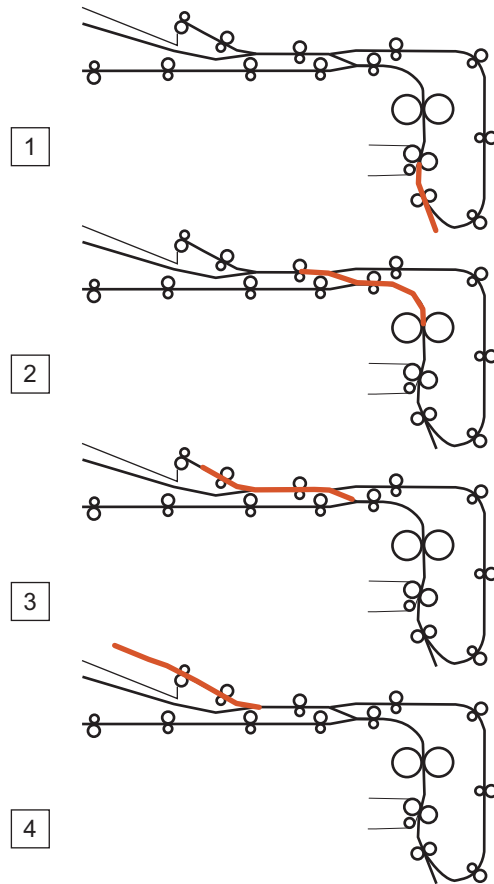


Fig. 3-62

## 2. Lower exit section

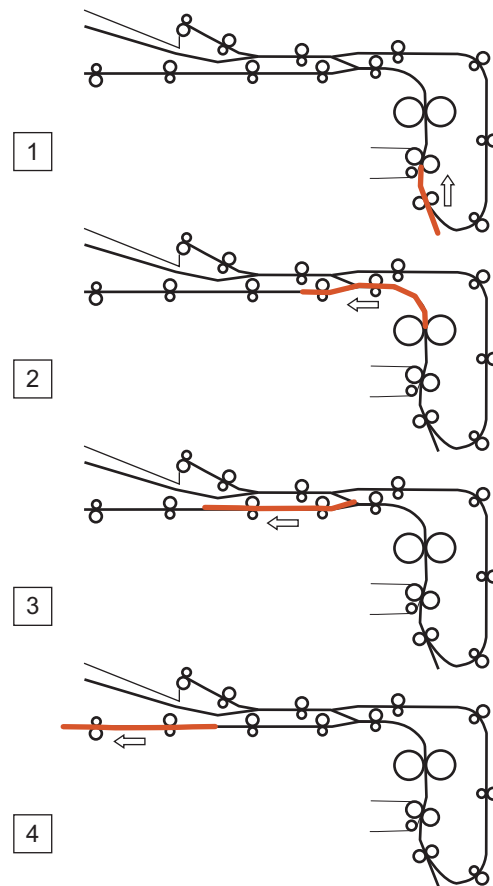


Fig. 3-63



## 3.16 Dual Scan Document Feeder (DSDF)

### 3.16.1 General Description

The Dual Scan Document Feeder (DSDF) scans both sides of a sheet type original at the same time. The original is transported to the ADF original glass. Its front side is scanned by the CCD of the equipment and the back side is scanned by the DSDF-CCD module of the DSDF. Due to this, no reversing of the original will take place.

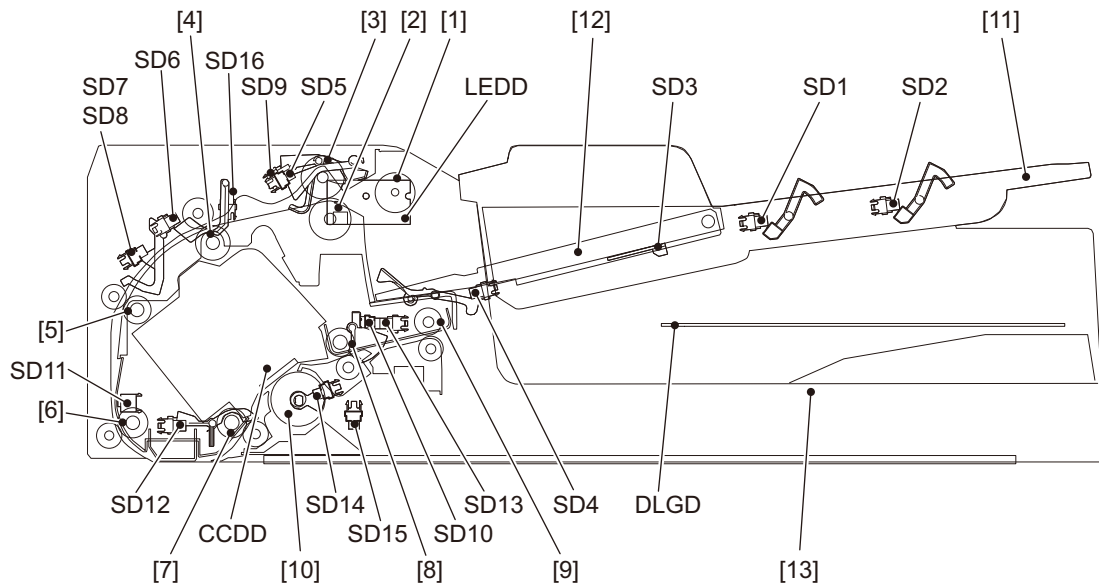


Fig. 3-64

Symbol	Name	Symbol	Name
LEDD	DSDF-LED PC board	SD16	DSDF upper cover opening/closing detection sensor
SD1	DSDF tray original length sensor-1	CCDD	CCDD
SD2	DSDF tray original length sensor-2	DLGD	DSDF control PC board
SD3	DSDF tray original width sensor	1	DSDF pickup roller
SD4	DSDF original empty sensor	2	DSDF separation roller
SD5	DSDF feed sensor	3	DSDF feed roller
SD6	DSDF registration sensor	4	DSDF registration roller
SD7	DSDF original width detection sensor-1	5	Pre-read roller-1
SD8	DSDF original width detection sensor-2	6	Post-read roller-1
SD9	DSDF tray lift upper limit sensor	7	Pre-read roller-2
SD10	DSDF tray lift lower limit sensor	8	Post-read roller-2
SD11	DSDF read-in sensor-1	9	DSDF exit roller
SD12	DSDF read-in sensor-2	10	DSDF shading sheet
SD13	DSDF exit sensor	11	Original tray
SD14	DSDF shading sheet HP sensor	12	Original tray lift
SD15	DSDF lower cover opening/closing detection sensor	13	Original exit tray

## 3.16.2 DESCRIPTION OF OPERATIONS

### [ 1 ] General Descriptions

Transportation of originals is operated by the DSDF feed motor, DSDF read motor and DSDF exit motor.

The role for each motor is as below.

Motor	Type	Rotational direction	Function
DSDF feed motor	Stepping motor	Clockwise	Driving the DSDF pickup roller and the DSDF feed roller
DSDF separation motor	Stepping motor	Clockwise	Lowering the original tray lift
	Stepping motor	Counterclockwise	Performing the reverse operation of the DSDF separation roller and moving the original tray lift upward
DSDF registration motor	Stepping motor	Counterclockwise	Driving the DSDF registration roller
DSDF read motor	Stepping motor	Counterclockwise	Driving the pre-read roller-1, post-read roller-1, pre-read roller-2 and post-read roller-2
DSDF exit motor	Stepping motor	Clockwise	Rotating the shading sheet
		Counterclockwise	Driving the original exit roller

### [ 2 ] Drive Section

#### [ 2-1 ] DSDF feed motor

When the feed signal from the equipment is received, feeding and transporting of an original will start. The DSDF feed motor starts rotating to drive the DSDF pickup roller and the DSDF feed roller to transport the original to the registration roller.

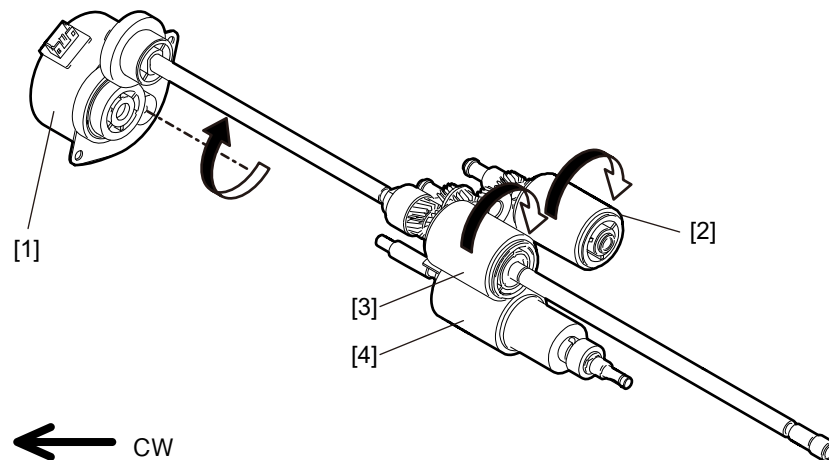


Fig. 3-65

No.	Name	No.	Name
[1]	DSDF feed motor	[3]	DSDF feed roller
[2]	DSDF pickup roller	[4]	DSDF separation roller

**[ 2-2 ] DSDF separation motor**

The DSDF separation motor performs the reverse operation of the original separation roller and moves (up/lowering) the original tray lift.

When original feeding starts, the DSDF separation motor rotates clockwise to perform the reverse operation of the original separation roller.  
This will prevent multiple feeding of an original.

Moreover, when the DSDF empty sensor is turned ON, the DSDF separation motor rotates counterclockwise, resulting in the original tray lift going up.  
When the DSDF empty sensor is turned OFF, the DSDF separation motor rotates counterclockwise, resulting in the original tray lift lowering.  
Transmitting the driving force from the DSDF separation motor to the original tray lift is controlled by the DSDF tray-up clutch.

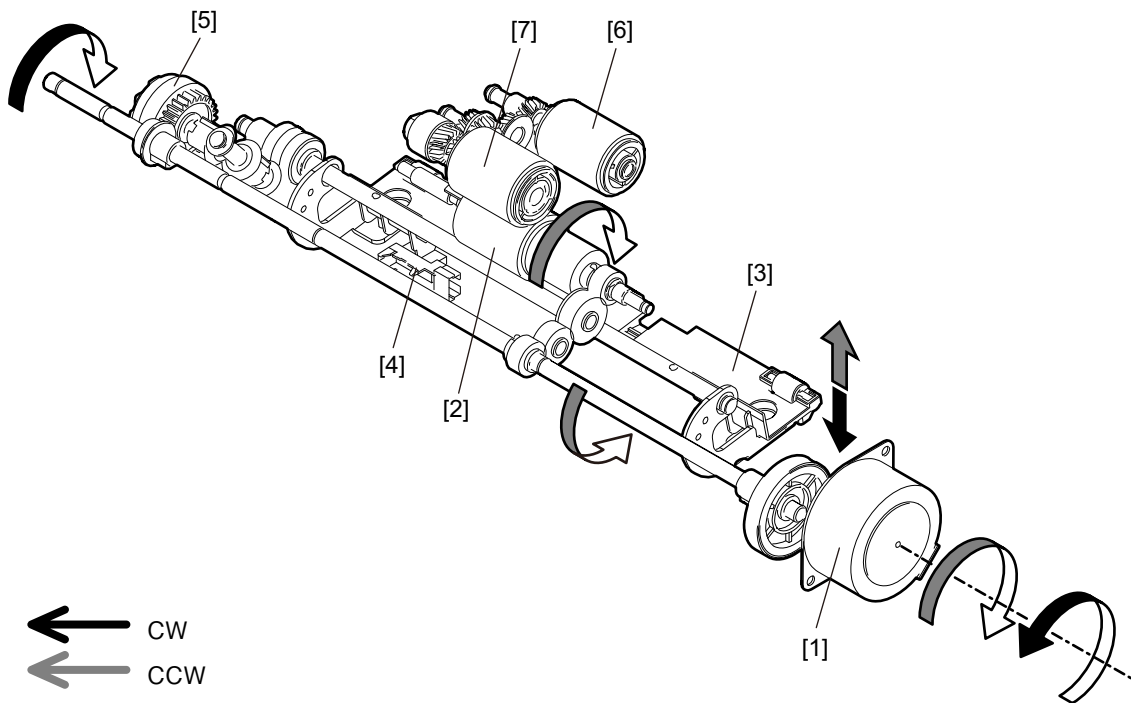


Fig. 3-66

No.	Name	No.	Name
[1]	DSDF separation motor	[5]	DSDF tray-up clutch
[2]	DSDF separation roller	[6]	DSDF pickup roller
[3]	Original tray lift	[7]	DSDF feed roller
[4]	DSDF tray lift lower limit sensor		

### [ 2-3 ] DSDF registration motor

The DSDF registration motor rotates the DSDF registration roller.

The DSDF registration roller aligns the paper and transports it to the pre-read roller-1.

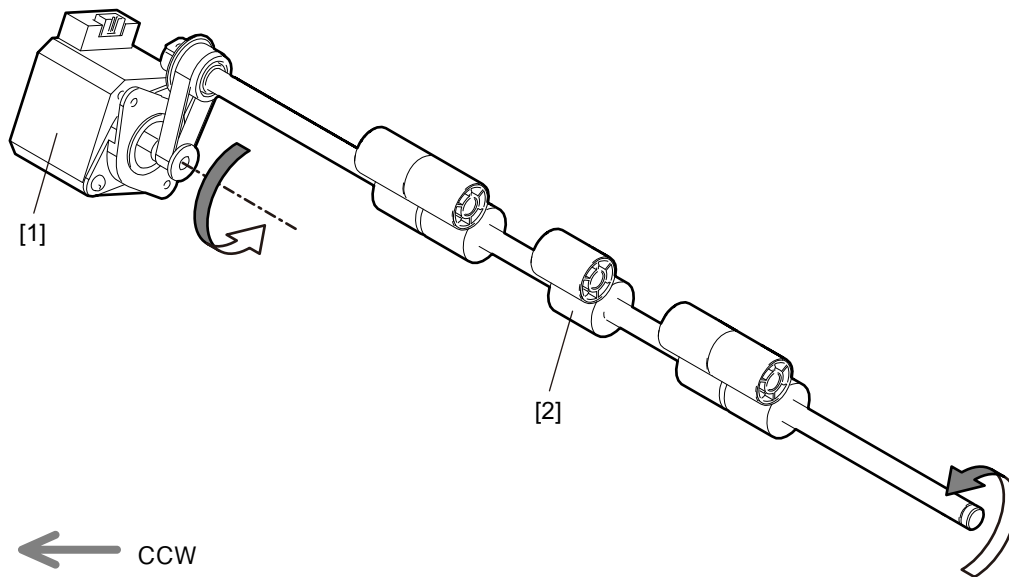


Fig. 3-67

No.	Name	No.	Name
[1]	DSDF registration motor	[2]	DSDF registration roller

**[ 2-4 ] DSDF read motor**

The DSDF read motor drives four rollers; the pre-read roller-1, post-read roller-1, pre-read roller-2 and post-read roller-2, by means of the timing belt.

The pre-read roller-1 and the post-read roller-1 perform paper transporting at the scanning section of the ADF original glass.

The pre-read roller-2 and the post-read roller-2 perform paper transporting at the scanning section of the DSDF-CCD module.

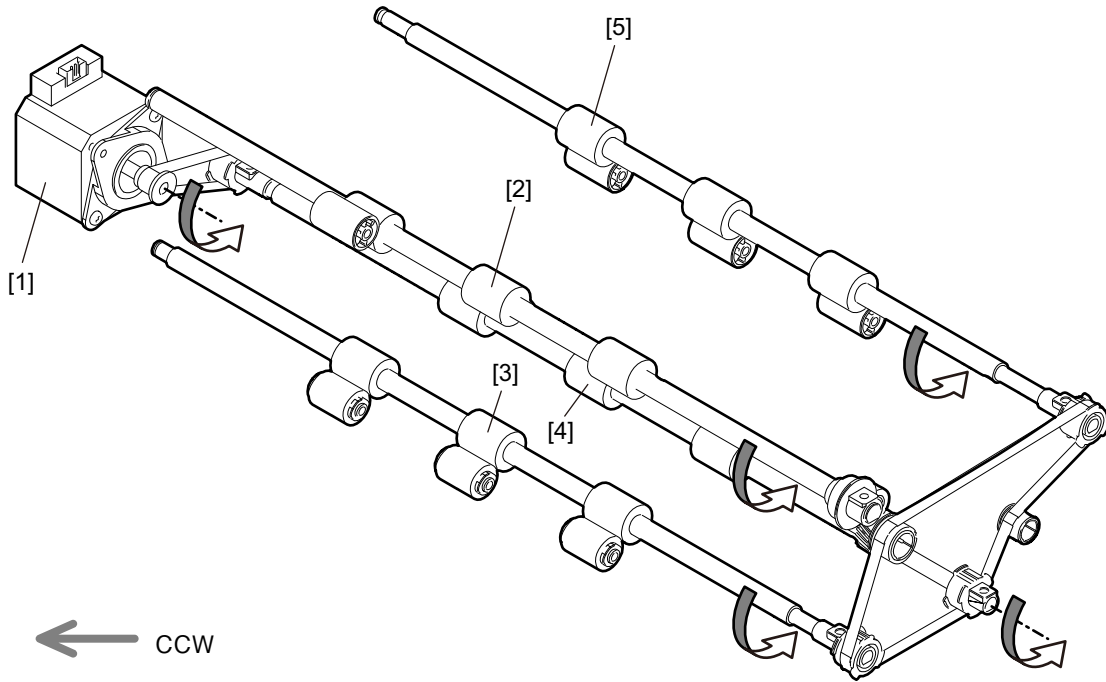


Fig. 3-68

No.	Name	No.	Name
[1]	DSDF read motor	[4]	Pre-read roller-2
[2]	Pre-read roller-1	[5]	Post-read roller-2
[3]	Post-read roller-1		

**[ 2-5 ] DSDF exit motor**

When the DSDF exit motor rotates counterclockwise, the DSDF exit roller starts rotating to exit an original.

When the DSDF exit motor rotates clockwise, the guide covering the DSDF shading sheet starts rotating and then it appears.

The home position of the guide covering the DSDF shading sheet is detected by the DSDF shading sheet HP sensor.

The DSDF shading sheet is used to correct the values of the background peak of the DSDF-CCD module.

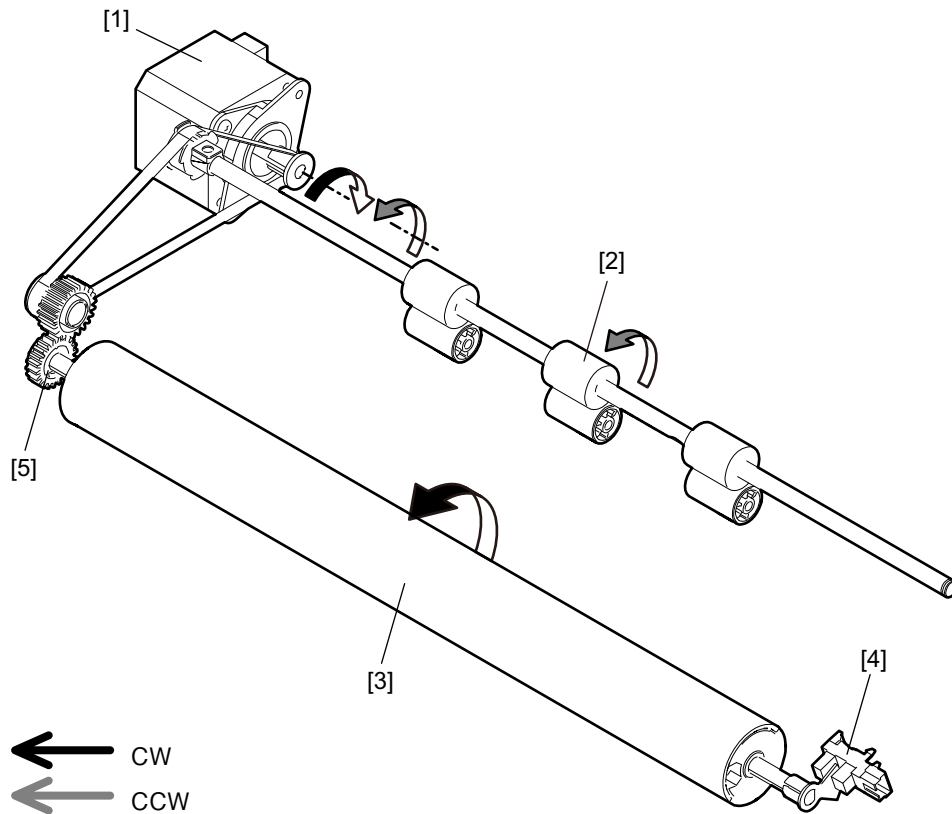


Fig. 3-69

No.	Name	No.	Name
[1]	DSDF exit motor	[4]	DSDF shading sheet HP sensor
[2]	DSDF exit roller	[5]	One-way clutch
[3]	DSDF shading sheet		

### [ 3 ] Original Size Detection

The size of the original on the original tray is detected by the combination of the DSDF tray original width sensor, DSDF tray original length sensor-1 and -2.

After an original on the original tray has been fed and transported, the original size is detected again by the combination of the DSDF original width detection sensor-1 and -2 and the DSDF registration sensor to determine the paper size.

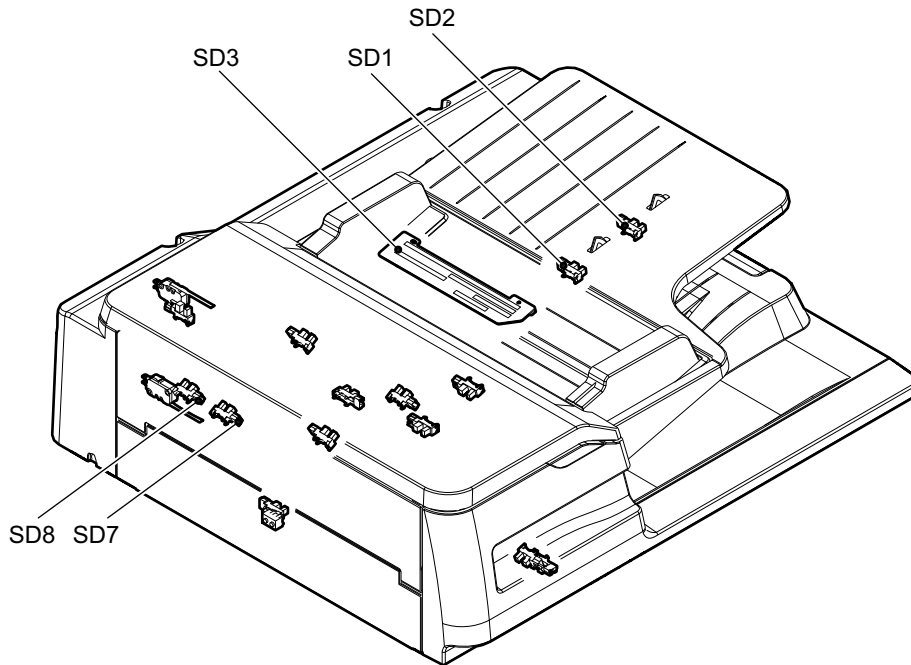


Fig. 3-70

Symbol	Name	Symbol	Name
SD1	DSDF tray original length sensor-1	SD7	DSDF original width detection sensor-1
SD2	DSDF tray original length sensor-2	SD8	DSDF original width detection sensor-2
SD3	DSDF tray original width sensor		

#### [ 3-1 ] DSDF tray original width sensor

The DSDF tray original 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)
L	H	H	-	B5-R
H	L	H	ST-R	A5-R
L	L	H	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

### [ 3-2 ] Original width detection sensors-1 and -2 / Original length detection sensor

By being based on the original size detected by the DSDF tray original width sensor, DSDF tray original length sensor-1 and -2 located on the original tray, the size is detected again by the combination of the DSDF original width sensor-1 and -2 and the DSDF registration sensor to determine the paper size.

Sizes detectable in combination of these sensors are as follows:

#### A4 series (ORG-SRS: 1)

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
OFF	OFF	OFF	A5-R	-
	ON	OFF	B5	-
	ON	ON	A4	-
ON	OFF	OFF	B5-R	-
	ON	OFF	A4-R / FOLIO	Determined by a gap between guides
	ON	ON	A3	

#### A4 series (width sizes mixed at A3 / A4 standard)

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	ON	ON	A3	A3 / A4
	OFF	OFF	A4-R / FOLIO	
	ON	OFF	B4	
OFF	ON	OFF	B5	
	ON	ON	A4	

#### A4 series (width sizes mixed at B4 / B5 standard)

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	OFF	OFF	A4-R / FOLIO	B4/B5
	ON	OFF	B4	
OFF	ON	OFF	B5	
	OFF	OFF	A5-R	

#### A4 series (width sizes mixed at A4-R standard)

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	OFF	OFF	B5-R	A4-R
	ON	OFF	A4-R / FOLIO	
OFF	OFF	OFF	A5-R	

#### A4 series (width sizes mixed at B5-R standard)

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	OFF	OFF	B5-R	B5-R
OFF	OFF	OFF	A5-R	



**LT series (ORG-SRS: 0)**

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
OFF	OFF	OFF	ST-R	-
	ON	OFF	8.5x8.5	-
	ON	ON	A4	-
ON	ON	OFF	LT-R / LG / COMP / 13"LG	-
	ON	ON	LD	-

**LT series (width sizes mixed at LD / LT standard)**

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	ON	ON	LD	LD / LT
	ON	OFF	COMP	
	OFF	OFF	LT-R / LG / 8.5x8.5 / 13"LG	
OFF	ON	ON	LT	

**LT series (width sizes mixed at LG / LT-R standard)**

DSDF registration sensor	DSDF original width sensor-1	DSDF original width sensor-2	Size determined	Original tray width
ON	ON	OFF	LT-R / LG / 8.5x8.5 / 13"LG	LD / LT
OFF	OFF	OFF	ST-R	

## 3.17 Power Supply Unit

### 3.17.1 General Description

The power supply unit consists of the AC filter, insulation type DC output circuit.

**Notes:**

In a model with 2 power cables, the total current capacity to be used should not exceed the breaker rating.

### 3.17.2 Composition

#### [ 1 ] Description of Operations

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 power 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 power 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. Voltage (+24VD) is output only when the main power switch of the equipment is turned ON, and the front cover and the automatic duplexing unit are closed.

### 3.17.3 Operation of DC Output Circuits

1. Starting operation of the equipment  
When the main power switch of the equipment is turned ON, power starts supplying to all the lines only when two doors (front cover and ADU) are closed.
2. Stopping line output  
When the main power switch of the equipment is turned OFF, PWR-DN signal is output after the instantaneous outage insurance time elapses and then the supply of each voltage stops. If the supply of voltage of the main line (+5VS, +12VA) stops earlier than the 24V 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 elapses.
3. 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 to clear the overcurrent protection.
4. Recovering from super sleep mode (By manual)  
When the [ON/OFF] button on the control panel is pressed during the super sleep mode, a super sleep mode shifting/recovering signal (SYS-EN) is output from the SYS board and then voltage starts being supplied to all the lines, if no error was detected.
5. Recovering from super sleep mode (when receiving a packet)  
During the super sleep mode, when print or fax data without performing printing or packet reception from a network are received, this mode is temporarily shifted to the sleep mode.  
When they are received frequently, a control is performed to keep the sleep mode for a specified period. The sleep mode holding time by means of this control will not be affected by the setting of the self-diagnostic code.
6. Shifting to super sleep mode (By manual)  
When the [ON/OFF] button on the control panel is pressed for 1 second or more while the main power switch of the equipment is toggled ON, a super sleep mode shifting/recovering signal (SYS-EN) is output from the SYS board after the initialization is finished and then all lines for output voltage except +5VS are closed.

The Super sleep mode is disabled under the following conditions.

- When the Super sleep mode is set to be disabled on the control panel, TopAccess and with the code FS-08-8543.
  - When the Wireless LAN Module, Bluetooth Module, e-BRIDGE ID Gate or Data Overwrite Enabler is installed, or when the IPsec Enabler is installed and its function is set to be enabled.
  - When operation is being performed in the self-diagnosis mode (Disabled until the main power switch is turned OFF).
7. 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 +12VA and +5VS DC voltages are supplied only to the SYS board, the equipment enters into the ready state.
  
- Super Sleep mode  
Only DC voltage and +5VS are output from the power supply unit. The [ON/OFF] button is monitored and the LED of the main power switch is lit.

### 3.17.4 Output Channel

The following are output channels for the main power switch line.

Main power switch line

Connector	Pin No.	Voltage	Destination
CN511	5	+5VS	SYS board
	6		
	9	+12VA	
	10		
CN512	5	+12VA	LGC board
	6		

The following are output channels for the cover switch line.

Cover switch line

Connector	Pin No.	Voltage	Destination
CN512	19	+24VD2	LGC board
	20		
CN513	3	+24VD3	SYS board
CN515	4	+24VD4	LGC board
	5		
CN516	2	+24VD5	Finisher

Output voltage by the type of connector

#### Main power switch line

Connector	Destination	Voltage
CN105	For the SYS board	+5.1VA, +5.1VB, +5.1VS, +12VA
CN353	For the PFC board, LCF (Option: via PFC board)	+5VF, +24VD2
CN317	For the LGC board	+5.1V
CN305	LGC board, For the Finisher (Option: via LGC board)	+5.1V
CN122	For the SYS board (DSDF)	+5.1V, +24V

#### Cover switch line

Connector	Destination	Voltage
CN353	For the PFC board, LCF (Option: via LGC board),	+5VF, +24VD2
CN305	For the Finisher (Option)	+5.1VLPS
CN122	For the SYS board (DSDF)	+5.1V, 24V

#### AC line

Connector	Destination	Voltage
CN501/CN502	AC line	
CN503	Main power switch	
CN506	Fuser unit input	
CN504/CN505	Fuser unit output	

### 3.17.5 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: 5 A (Semi time-lag)
		Transfer belt contact/release 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 mixer motor-K	M29	
		Developer unit motor-K	M30	
		Developer unit mixer motor-YMC	M31	
		Developer unit motor-YMC	M32	
		Discharge LED-Y	ERS-Y	
		Discharge LED-M	ERS-M	
		Discharge LED-C	ERS-C	
		Discharge LED-K	ERS-K	
Key copy counter, copy key card, coin controller				
+24VD2	LGC board	Transfer belt motor	M13	F202: 5 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 (75ppm only)	S34	
		Image quality shutter solenoid	SOL3	
		V0 sensor shutter solenoid-K (75ppm only)	SOL4	
		IH board cooling fan (exhaust)	F8	
		IH board cooling fan (suction)	F9	
		EPU cooling fan	F14	
		Fuser insulation fan	F21	

Voltage	Board/Unit	Part		Fuse type
+24VD2	LGC board	Laser optical unit cooling fan (Front)	F22	F202: 5 A (Semi time-lag)
		Laser optical unit cooling fan (Rear)	F23	
		Ozone suctioning fan	F24	
		Scattered toner suctioning fan	F25	
		Lower exit section cooling fan (under)	F36	
		High-voltage transformer	HVT	
+24VD3	SYS board			F203: 5 A (Semi time-lag)
+24VD4	PFC board	1st/2nd drawer tray-up motor	M44	F204: 5 A (Semi time-lag)
		3rd drawer transport clutch	CLT4	
		3rd drawer feed clutch	CLT5	
		4th drawer transport clutch	CLT6	
		4th drawer feed clutch	CLT7	
		T-LCF pickup solenoid	SOL9	
		T-LCF Stopper opening/closing solenoid (front)	SOL10	
		T-LCF Stopper opening/closing solenoid (rear)	SOL11	
		Exit motor	M2	
		Reverse motor	M3	
		Bridge unit transport entrance motor	M4	
		Bridge unit transport exit motor	M5	
		+24VD3	PFC board	
ADU feed motor	M8			
Bypass motor	M12			
Registration motor	M39			
Transport motor-1	M40			
Transport motor-2	M41			
1st/2nd drawer feed motor	M42			
3rd/4th drawer/LCF feed motor	M43			
3rd/4th drawer/LCF tray-up motor	M45			
T-LCF tray-up motor	M46			
T-LCF end fence motor	M47			
Transport path switching solenoid (bridge unit/reverse section)	SOL1			
Transport path switching solenoid (upper exit/lower exit)	SOL2			
Bypass pickup solenoid	SOL8			
Bridge unit cooling fan	F6			
Reversed paper cooling fan	F11			
Upper exit section cooling fan (rear)	F32			
Upper exit section cooling fan (front)	F33			
Lower exit section cooling fan (rear)	F34			
Lower exit section cooling fan (front)	F35			
+24VD5	Finisher			F205: 5 A (Semi time-lag)





## 4. DISASSEMBLY and REPLACEMENT

### 4.1 Disassembly and Replacement of Covers

#### 4.1.1 Front lower cover

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



Fig. 4-1

#### 4.1.2 Front cover

- (1) Remove the front lower cover.  
📖 P. 4-1 "4.1.1 Front lower cover"
- (2) Open the front cover.
- (3) Remove 2 screws and take off the cover support [1].

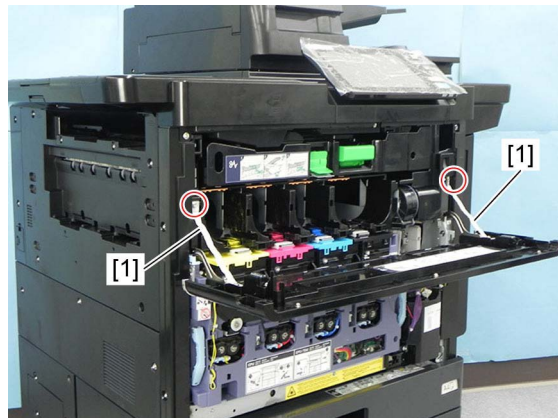


Fig. 4-2

- (4) Remove 1 clip.

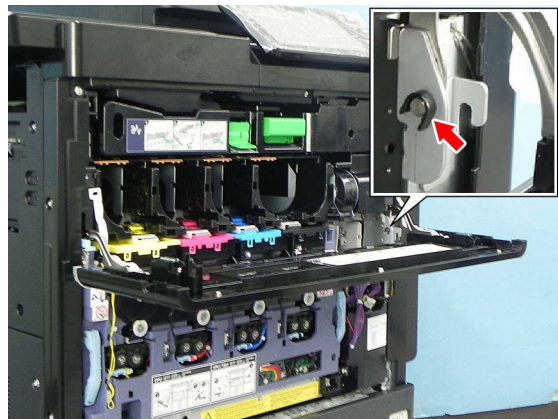


Fig. 4-3

- (5) Lift up the supporting point of the left side hinge [2] and move the front cover [3] to the right side to take it off.

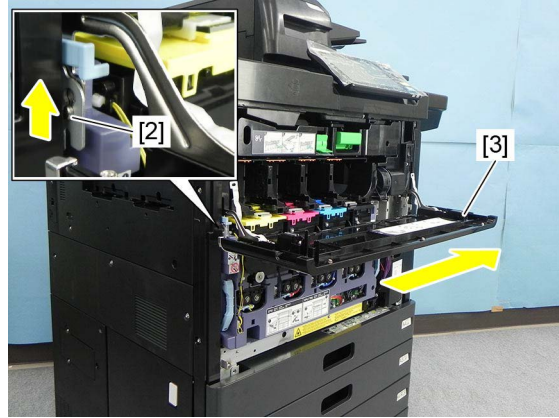


Fig. 4-4

### 4.1.3 Top right cover

- (1) Open the DSDP.
- (2) Remove the front right cover (control panel right cover).  
 📖 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (3) Remove 2 screws and take off the top right cover [1].



Fig. 4-5

### 4.1.4 Right top cover

- (1) Open the duplexing unit.
- (2) Remove the top right cover.  
 📖 P. 4-2 "4.1.3 Top right cover"
- (3) Remove 3 screws and take off the right top cover [1].

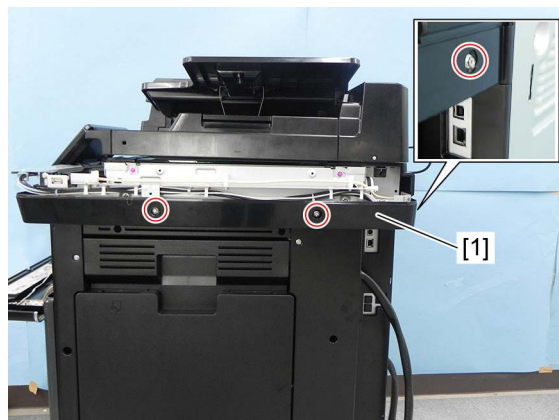


Fig. 4-6

#### 4.1.5 Front right cover (Control panel right cover)

- (1) Open the front cover.
- (2) Remove 1 cap.
- (3) Remove 2 screws and take off the front right cover [1].

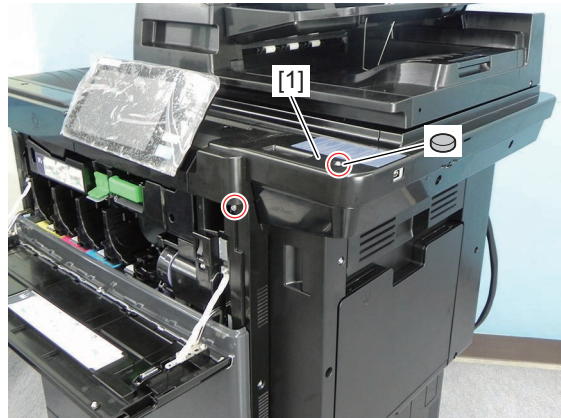


Fig. 4-7

#### 4.1.6 Front top cover (Control panel top cover)

- (1) Remove the front left cover (control panel left cover).  
P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (2) Raise the control panel [1].
- (3) Remove 2 caps.

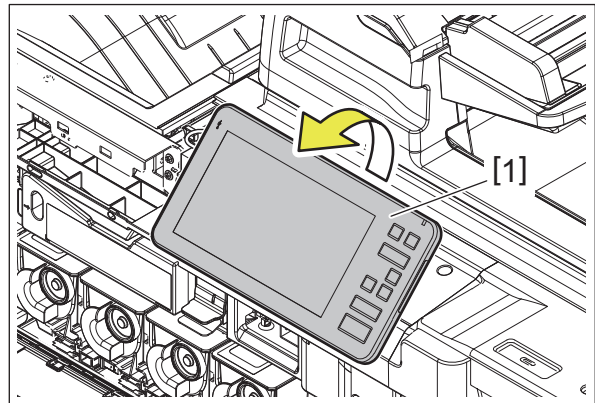


Fig. 4-8

- (4) Remove 2 screws and take off the front top cover [2].

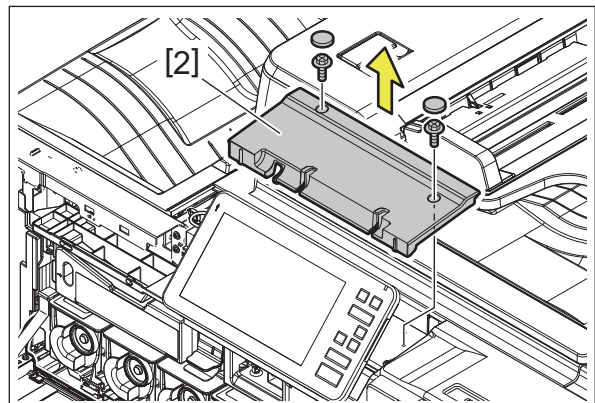


Fig. 4-9

### 4.1.7 Front lower cover (Control panel lower cover)

- (1) Open the front cover.
- (2) Make the control panel [1] level.

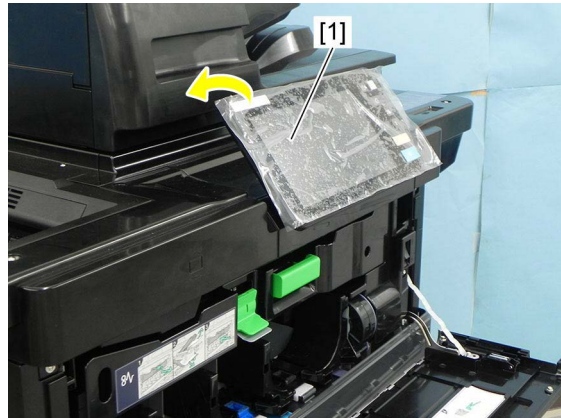


Fig. 4-10

- (3) Remove 1 screw and take off the front lower cover [2].



Fig. 4-11

### 4.1.8 Front left cover (Control panel left cover)

- (1) Open the front cover.
- (2) Remove 2 caps.
- (3) Remove 3 screws and take off the front left cover [1].

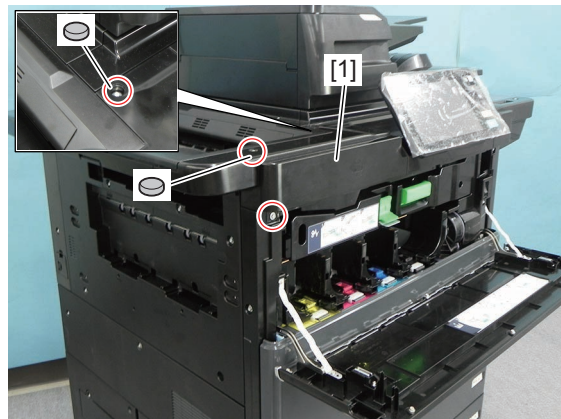


Fig. 4-12

### 4.1.9 Top front cover

- (1) Open the DSDF.  
📖 P. 4-277 "4.11.1 Removing the DSDF"
- (2) Remove the front top cover (control panel top cover).  
📖 P. 4-3 "4.1.6 Front top cover (Control panel top cover)"
- (3) Remove the front left cover (control panel left cover).  
📖 P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (4) Remove the front right cover (control panel right cover).  
📖 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (5) Remove 2 screws and take off the top front cover [1].

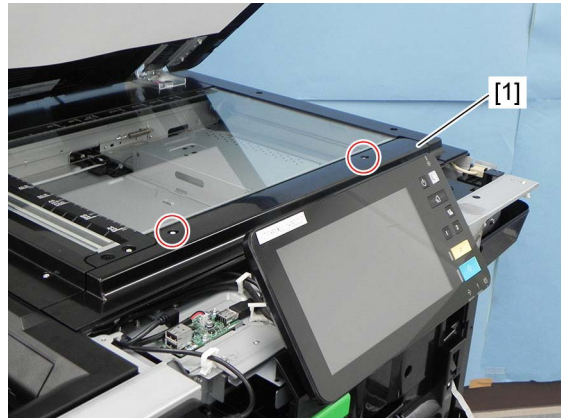


Fig. 4-13

### 4.1.10 Top left cover

- (1) Open the DSDF.
- (2) Remove the left rear cover.  
📖 P. 4-5 "4.1.11 Left rear cover"
- (3) Remove the top rear left cover.  
📖 P. 4-6 "4.1.12 Top rear left cover"
- (4) Remove 2 screws and take off the top left cover [1].

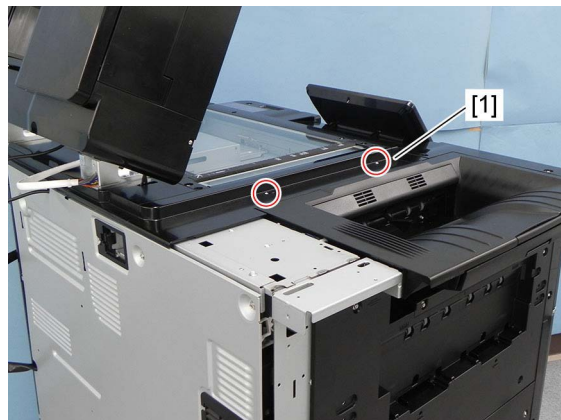


Fig. 4-14

### 4.1.11 Left rear cover

- (1) Remove 4 screws and take off the left rear cover [1].

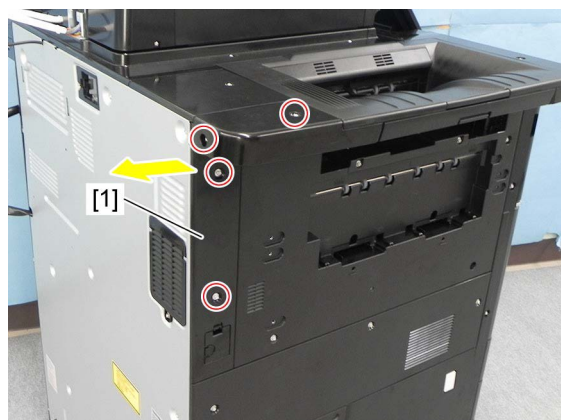


Fig. 4-15

### 4.1.12 Top rear left cover

- (1) Remove the left rear cover.  
📖 P. 4-5 "4.1.11 Left rear cover"
- (2) Remove 1 screw and take off the top rear left cover [1].

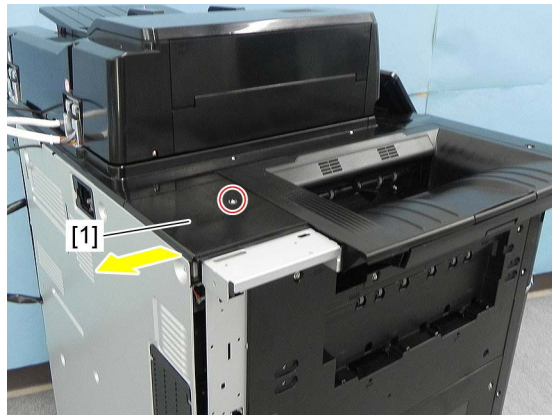


Fig. 4-16

### 4.1.13 Receiving tray

- (1) Remove the front left cover (control panel left cover).  
📖 P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (2) Remove the top left cover.  
📖 P. 4-5 "4.1.10 Top left cover"
- (3) Open the reverse path cover [1].



Fig. 4-17

- (4) Remove 2 screws and take off the receiving tray [2].



Fig. 4-18

#### 4.1.14 Left middle cover

- (1) Remove 3 screws to take off the left middle cover [1].



Fig. 4-19

#### 4.1.15 Left top cover

- (1) Remove the receiving tray.  
📖 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove the left middle cover.  
📖 P. 4-7 "4.1.14 Left middle cover"
- (3) Remove 2 screws and take off the fan cover [1].

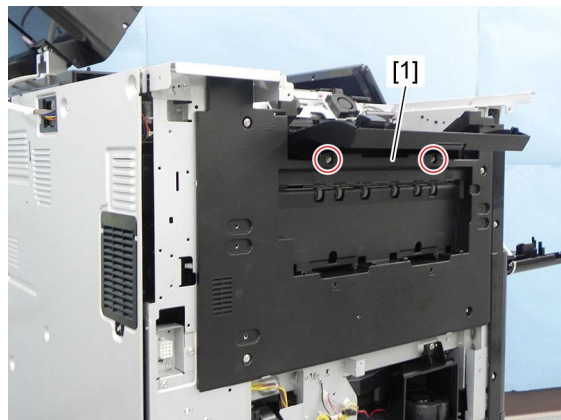


Fig. 4-20

- (4) Remove 6 screws and take off the left top cover [2].

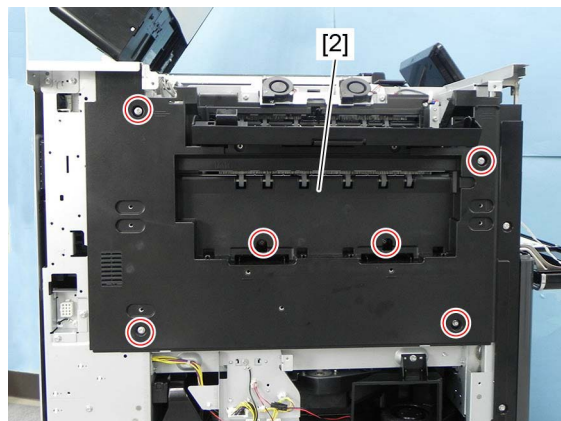


Fig. 4-21

## 4.1.16 Left lower cover


- (1) Remove the left middle cover.  
 P. 4-7 "4.1.14 Left middle cover"
- (2) Remove 2 screws and take off the filter cover [1].



Fig. 4-22

- (3) Remove 1 screw and take off the left lower cover [2].



Fig. 4-23

## 4.1.17 Bypass tray unit (Removing tray arm)

- (1) Open the bypass tray.
- (2) Secure the sliding section [2] of the tray arm [1], and then remove the tray arm by pulling its joint [3] up.  
The tray arm can be easily taken out by lifting up its leading edge [4] with the sliding section [2] secured.

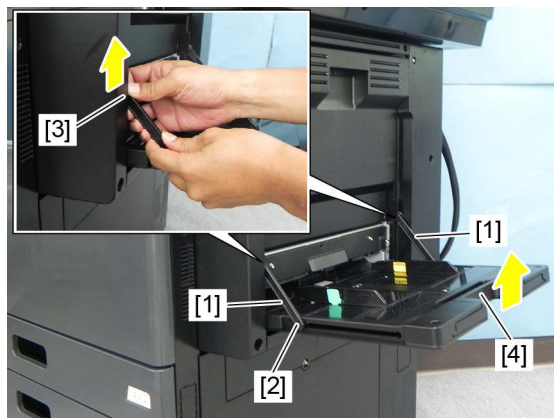


Fig. 4-24



#### 4.1.18 Duplexing unit front cover

- (1) Open the duplexing unit.
- (2) Remove the tray arms.  
📖 P. 4-8 "4.1.17 Bypass tray unit (Removing tray arm)"
- (3) Remove 3 screws and take off the duplexing unit front cover [1].



Fig. 4-25

#### 4.1.19 Duplexing unit rear cover

- (1) Open the duplexing unit.
- (2) Remove the tray arms.  
📖 P. 4-8 "4.1.17 Bypass tray unit (Removing tray arm)"
- (3) Remove 3 screws and take off the duplexing unit rear cover [1].



Fig. 4-26

#### 4.1.20 Paper feed cover

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

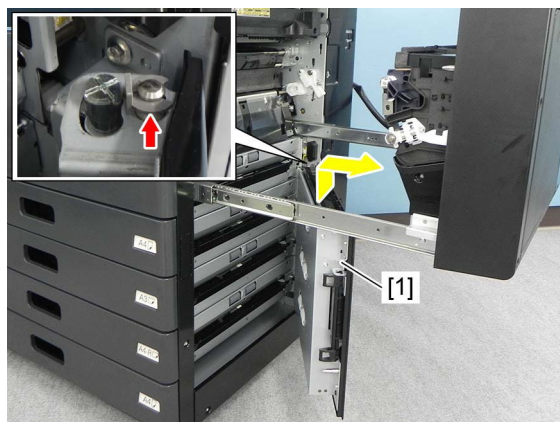


Fig. 4-27

### 4.1.21 Right rear cover

- (1) Remove the right top cover.  
📖 P. 4-2 "4.1.4 Right top cover"
- (2) Remove 4 screws and take off the right rear cover [1].



Fig. 4-28

### 4.1.22 Rear cover

- (1) Remove 9 screws and take off the rear cover [1].

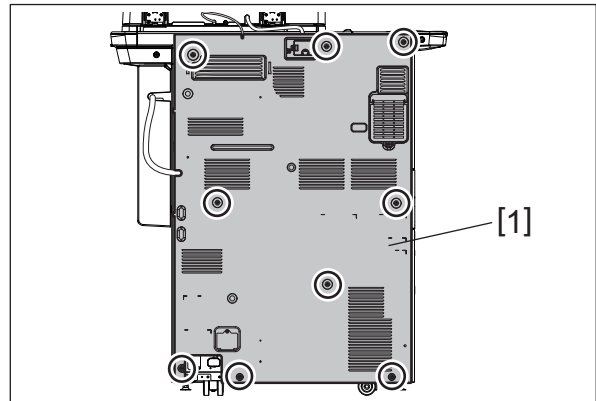


Fig. 4-29

#### Notes:

When installing, do not let the harness be caught.

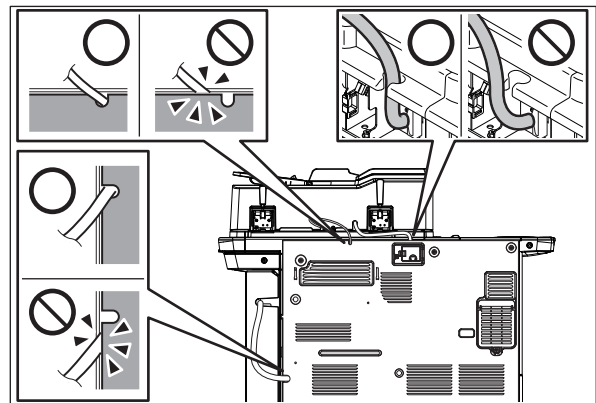


Fig. 4-30

### 4.1.23 Top rear cover

- (1) Remove the DSDF.  
📖 P. 4-277 "4.11.1 Removing the DSDF"
- (2) Remove the top left cover.  
📖 P. 4-5 "4.1.10 Top left cover"
- (3) Remove 2 screws and take off the top rear cover [1].



Fig. 4-31

### 4.1.24 Left corner cover

- (1) Remove the front lower cover.  
📖 P. 4-4 "4.1.7 Front lower cover (Control panel lower cover)"
- (2) Remove the front left cover (control panel left cover).  
📖 P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (3) Pull out all the drawers.
- (4) Open the front cover.
- (5) Remove 3 screws and take off the left corner cover [1].



Fig. 4-32

### 4.1.25 Right corner cover

- (1) Pull out all the drawers.
- (2) Remove the front lower cover.  
📖 P. 4-1 "4.1.1 Front lower cover"
- (3) Open the front cover.
- (4) Remove the right top cover.  
📖 P. 4-2 "4.1.4 Right top cover"
- (5) Remove the front right cover (control panel right cover).  
📖 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (6) Open the paper feed cover.
- (7) Remove 2 screws and take off the right corner cover [1].



Fig. 4-33

## 4.2 Control Panel

### 4.2.1 Control panel unit

- (1) Remove the dual scan document Feeder (DSDF).  
P. 4-277 "4.11.1 Removing the DSDF"
- (2) Remove the top rear cover.  
P. 4-11 "4.1.23 Top rear cover"
- (3) Remove the front left cover (control panel left cover).  
P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (4) Remove the front lower cover (control panel lower cover).  
P. 4-4 "4.1.7 Front lower cover (Control panel lower cover)"
- (5) Remove the top front cover.  
P. 4-5 "4.1.9 Top front cover"
- (6) Remove the top left cover.  
P. 4-5 "4.1.10 Top left cover"
- (7) Remove the rear cover.  
P. 4-10 "4.1.22 Rear cover"
- (8) Remove the SYS board cover.  
P. 9-1 "9.1.1 SYS board cover"
- (9) Disconnect 1 connector.
- (10) Release the harness [1] from 4 harness clamps.

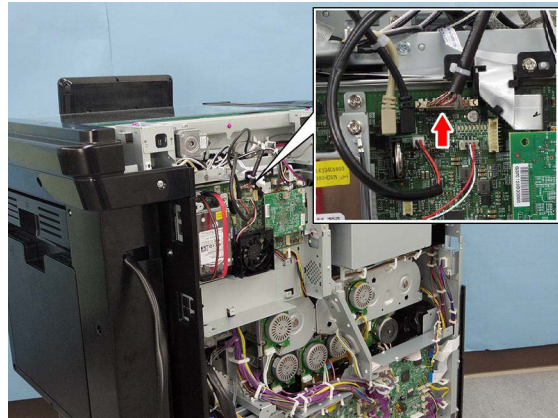


Fig. 4-34

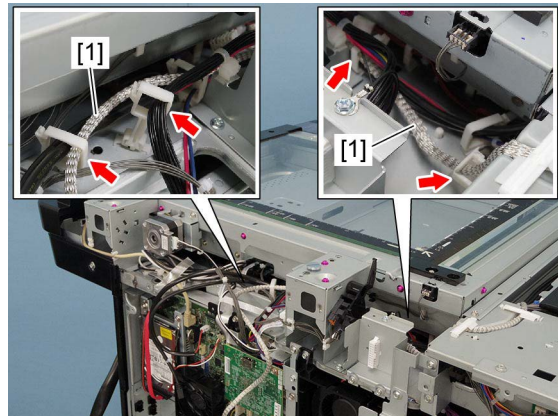


Fig. 4-35

- (11) Release the harness [1] from 3 harness clamps.

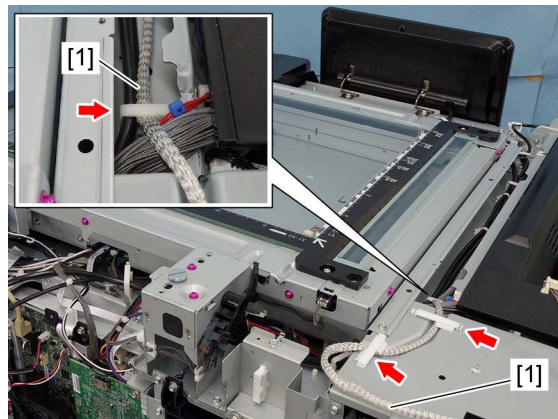


Fig. 4-36

- (12) Release the harness [1] from 5 harness clamps.

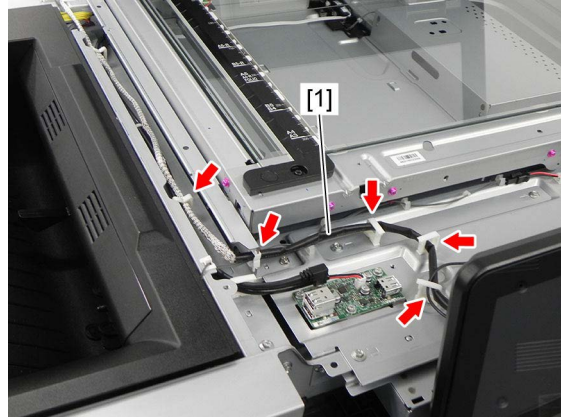


Fig. 4-37

- (13) Remove 3 screws and take off the control panel unit [2] by sliding it toward the rear side.

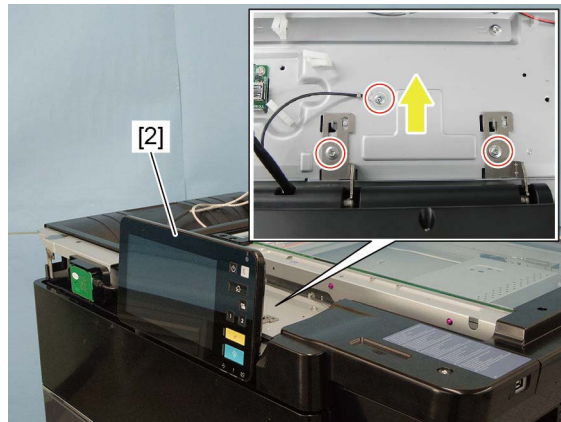


Fig. 4-38

## 4.2.2 Hinge cover


- (1) Remove the control panel unit.  
 P. 4-12 "4.2.1 Control panel unit"
- (2) Remove 2 screws.



Fig. 4-39

- (3) Raise 2 hinges and remove the hinge cover [1].

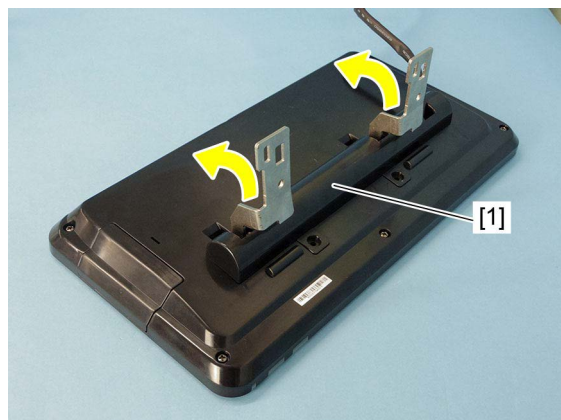



Fig. 4-40



Fig. 4-41

### 4.2.3 Signal harness

- (1) Remove the hinge cover.  
 P. 4-14 "4.2.2 Hinge cover"
- (2) Remove 6 screws and open the control panel rear cover [1].

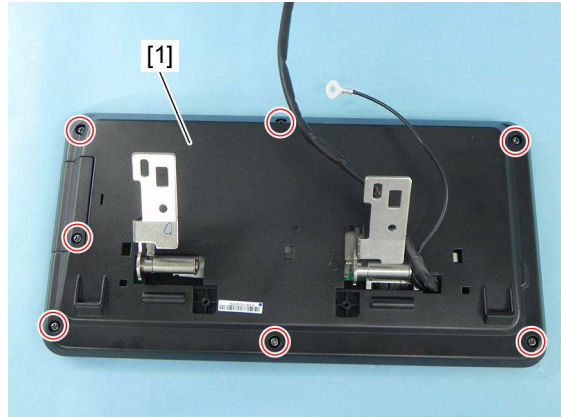


Fig. 4-42

- (3) Disconnect 1 connector [2] and take off the signal harness [3].

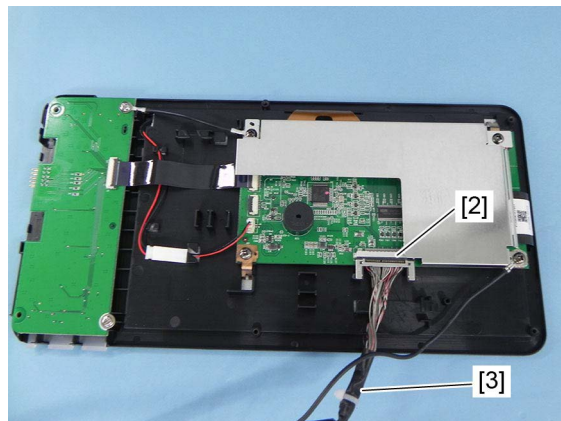


Fig. 4-43

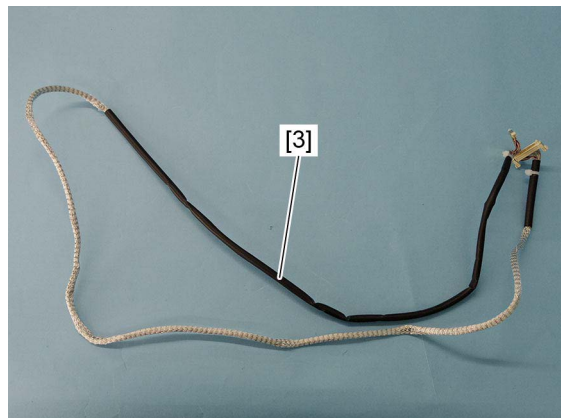
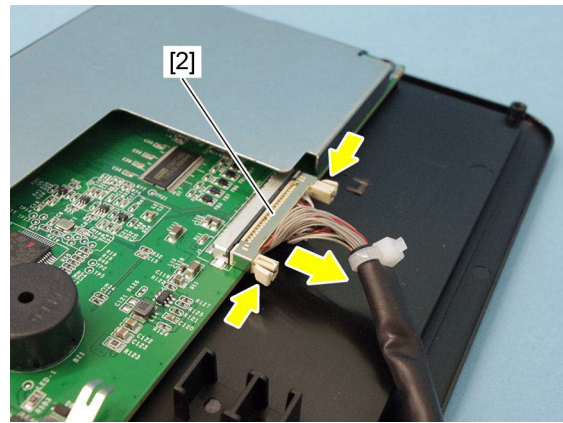


Fig. 4-44

**Notes:**

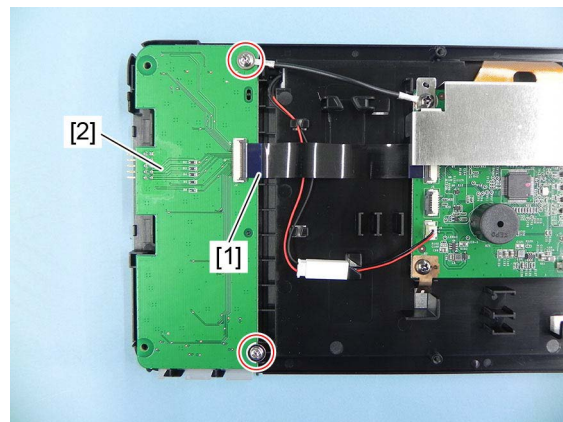
When disconnecting the connector [2],  
release the lock and disconnect it.



**Fig. 4-45**

#### 4.2.4 KEY board/button

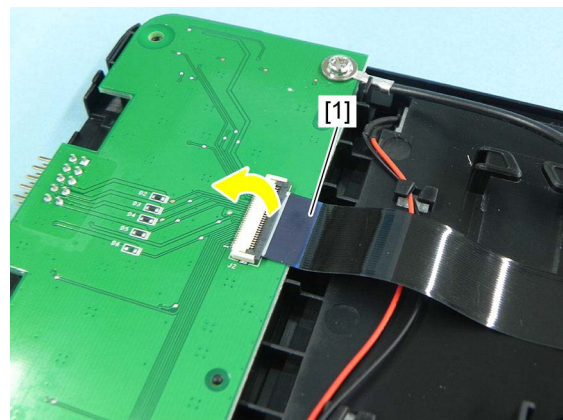
- (1) Remove the control panel unit.  
P. 4-12 "4.2.1 Control panel unit"
- (2) Remove the control panel rear cover.  
P. 4-15 "4.2.3 Signal harness"
- (3) Disconnect 1 flat cable [1] and remove 2 screws, and then remove the KEY board [2].



**Fig. 4-46**

**Notes:**

When disconnecting the flat cable [1],  
release the lock by raising the latch and  
disconnect it.



**Fig. 4-47**



(4) Remove 6 buttons [3].

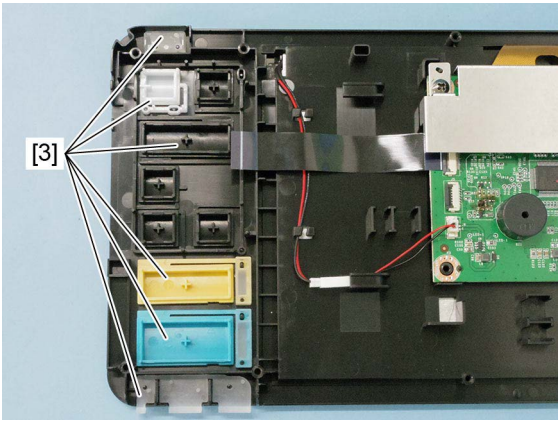


Fig. 4-48



Fig. 4-49

## 4.2.5 DSP board

- (1) Remove the control panel unit.  
📖 P. 4-12 "4.2.1 Control panel unit"
- (2) Remove the signal harness.  
📖 P. 4-15 "4.2.3 Signal harness"
- (3) Remove 3 screws and take off the bracket [1].
- (4) Remove 1 screw and take off the leaf spring [2].

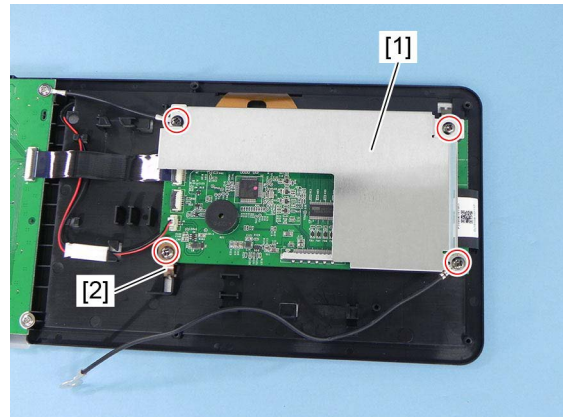


Fig. 4-50

- (5) Remove the leaf spring [3]. Disconnect 1 connector and remove the flat cable [4], [5], and [6], and then remove the DSP board [7].

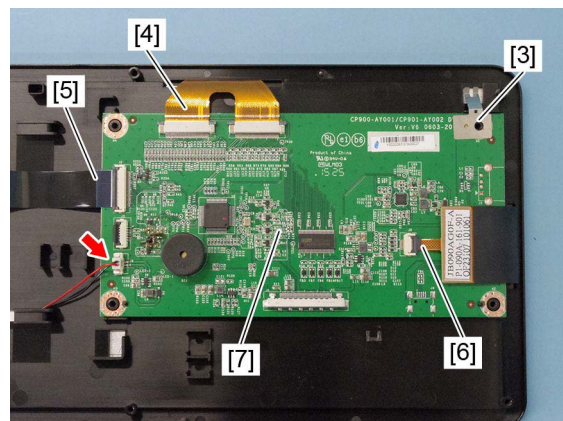


Fig. 4-51

### Notes:

- When removing the flat cable [4], release 4 latches and remove it.

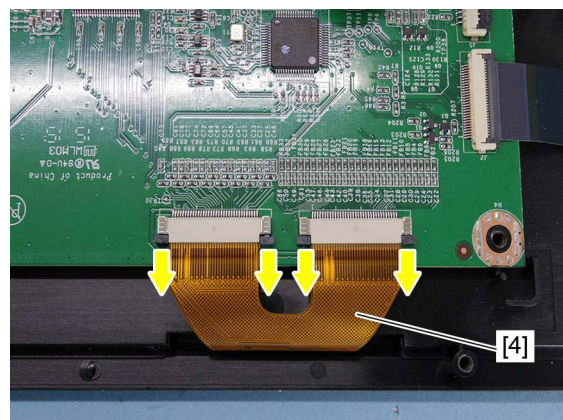


Fig. 4-52

- When removing the flat cable [5], release the lock by raising the latch [8] and remove the flat cable.

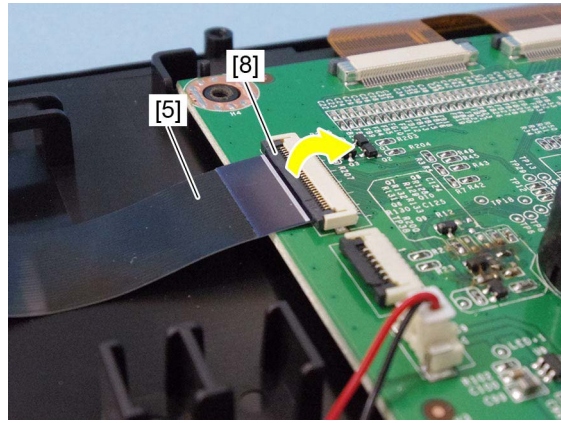


Fig. 4-53

- When removing the flat cable [6], release the lock by raising the latch [9] and remove the flat cable.

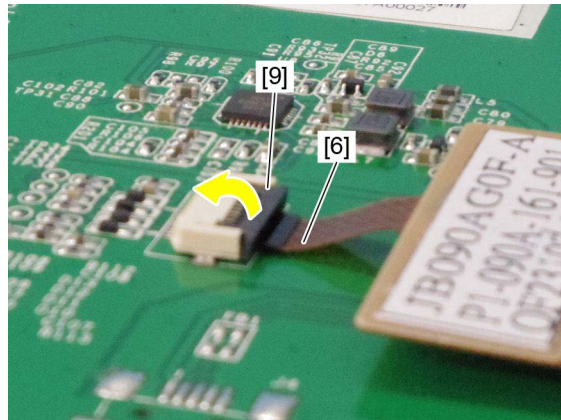


Fig. 4-54

## 4.3 Scanner Unit

### Notes:

Since the scanner section is assembled with high precision, be sure not to perform any disassembling other than that instructed in the Service Manual.

### 4.3.1 Original glass

- (1) Open the DSDF.
- (2) Remove the top right cover.  
📖 P. 4-2 "4.1.3 Top right cover"
- (3) Remove 2 screws and take off the original glasses [1] and DF original glasses [2].

### Notes:

- Make sure that the DF original glass [2] is securely inserted into the groove of the fixing part of the original glass [1].
- Securely insert 2 pins of the original glass [1] into the holes in the frame.

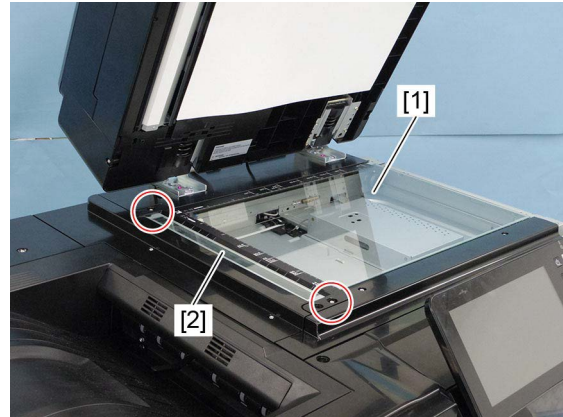


Fig. 4-55

### 4.3.2 Lens cover

- (1) Remove the original glass.  
📖 P. 4-20 "4.3.1 Original glass"
- (2) Remove 1 screw and take off the lens cover [1] by sliding it toward the left side.

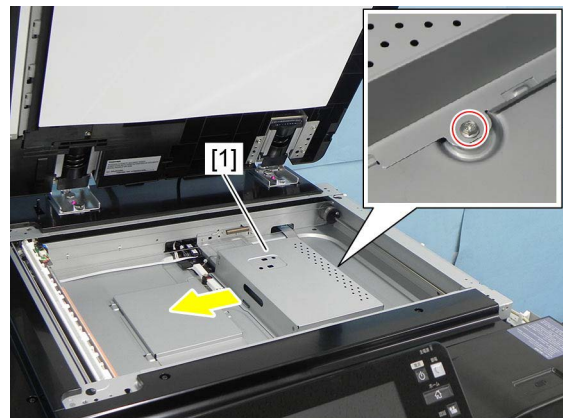



Fig. 4-56

### 4.3.3 Automatic original detection sensor-1, -2 (S1/S2)

- (1) Remove the lens cover.  
 P. 4-20 "4.3.2 Lens cover"
- (2) Remove 1 screw and disconnect 1 connector [1], and then take off the automatic original detection sensor-1 and -2 [2].

**Notes:**

A4 models are equipped only with automatic original detection sensor-1 and LT models are equipped with automatic original detection sensors-1 and -2.

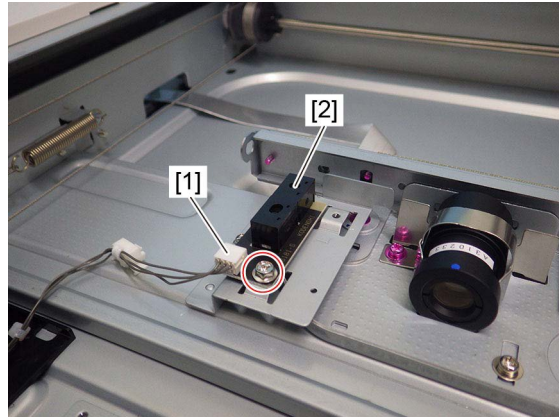


Fig. 4-57

### 4.3.4 Lens unit/CCD driving PC board (CCD)

- (1) Remove 1 screw and take off the automatic original detection sensor with the bracket [1].

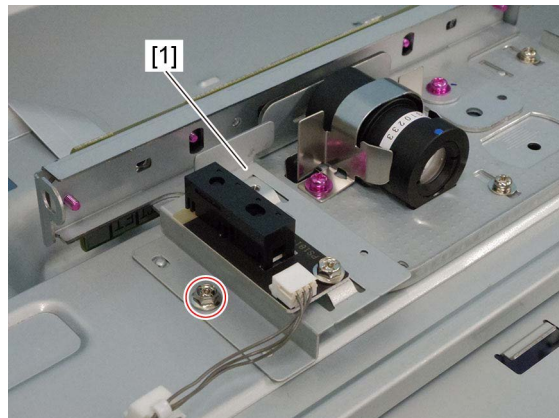


Fig. 4-58

- (2) Release the lock by tilting the flap and remove 1 flat cable [2].

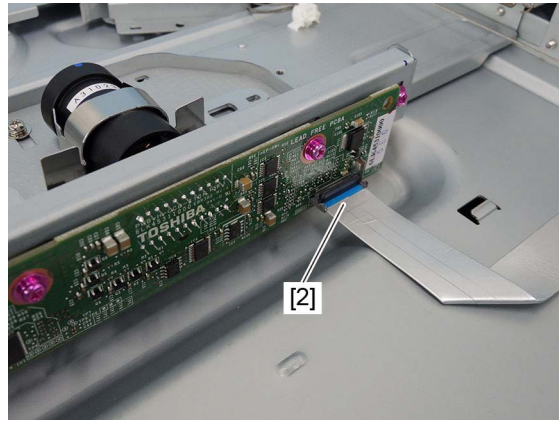


Fig. 4-59

**Notes:**

- When removing the flat cable [2], change the lever position so that the connector is released, and remove the flat cable by lifting it up slightly (approx. 7 degrees) as shown in the right figure.
- When connecting the flat cable [2] to the connector, insert the flat cable straightly and lock it securely. Confirm that the tabs are in the positions shown in the right figure.

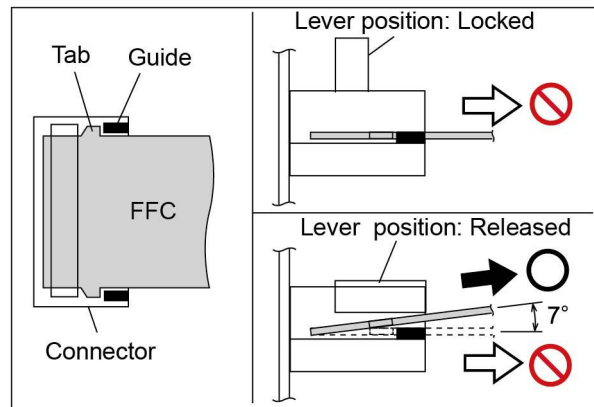


Fig. 4-60

**Notes:**

- When installing the flat cable [2], do not push it in strongly.
- When installing the flat cable [2], be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable [2].

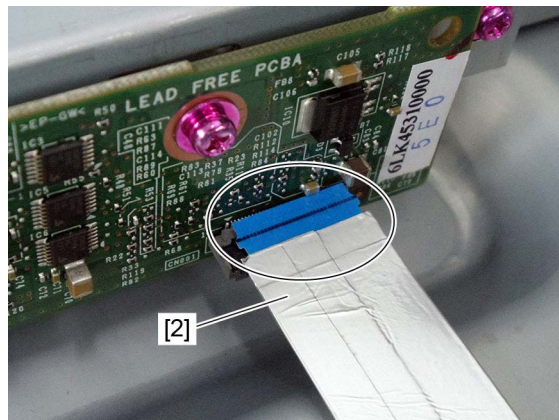


Fig. 4-61

- (3) Remove 3 screws and take off the CCD lens unit [3].

**Notes:**

1. The CCD lens unit is adjusted finely, so the re-adjustment or replacement of some parts are impossible in the field. The lens unit must be replaced on a unit basis.
2. Handle the lens unit with care. Do not hold the adjustment unit or lens.

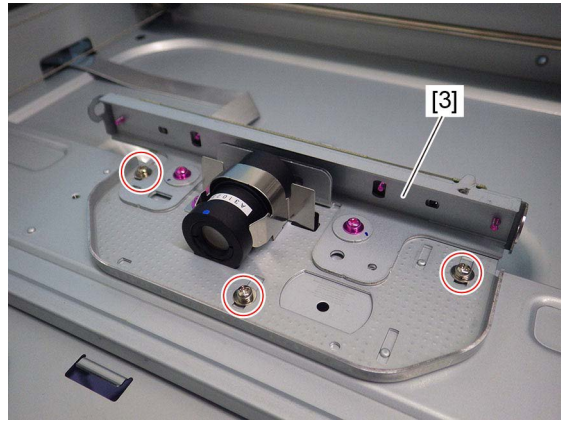


Fig. 4-62

3. Count the number of lines [4] and write it down for later reference before removing the CCD lens unit. When installing the CCD lens unit, the same number of lines needs to be visible.

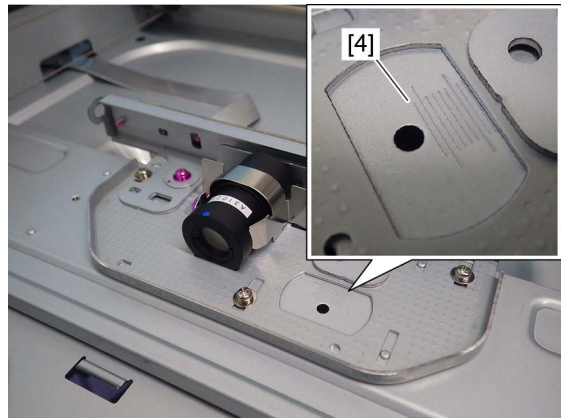


Fig. 4-63

**Notes:**

When replacing the lens unit, do not touch the screws (7 places).

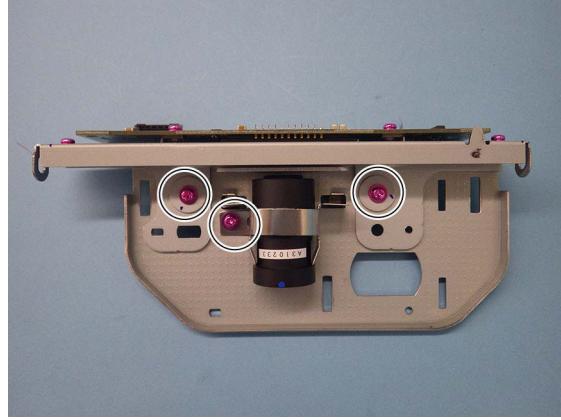


Fig. 4-64

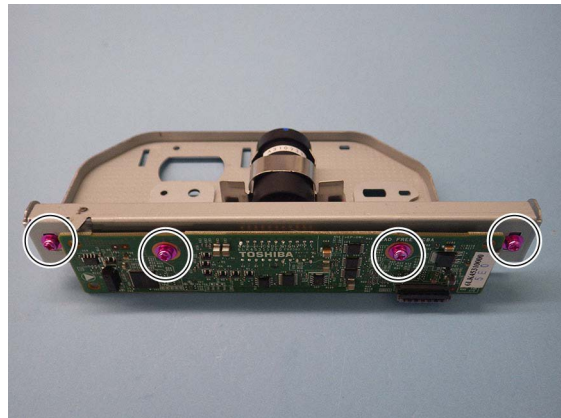


Fig. 4-65

### 4.3.5 Carriage home position sensor (S3)

- (1) Remove the original glass.  
📖 P. 4-20 "4.3.1 Original glass"
- (2) Remove the top rear cover.  
📖 P. 4-11 "4.1.23 Top rear cover"
- (3) Disconnect 1 connector and release 3 latches, and then remove carriage home position sensor [1].

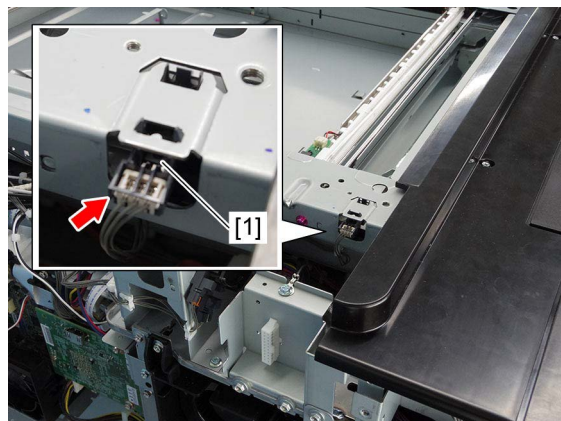


Fig. 4-66



### 4.3.6 Exposure lamp (EXP)

- (1) Remove the original glass.  
📖 P. 4-20 "4.3.1 Original glass"
- (2) Remove the top front cover.  
📖 P. 4-5 "4.1.9 Top front cover"
- (3) Remove the top rear cover.  
📖 P. 4-11 "4.1.23 Top rear cover"
- (4) Move carriage-1 [1] to a place where you can see the exposure lamp mounting screw through the frame hole.

**Notes:**

- Move the carriage until the screw at the front side can be seen.

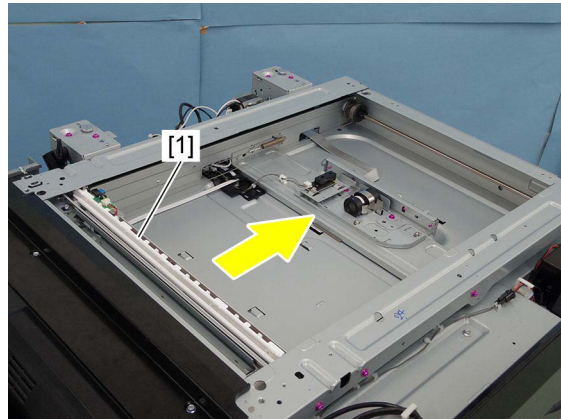


Fig. 4-67

**Notes:**

- To move the carriage, manually rotate the drive pulley.

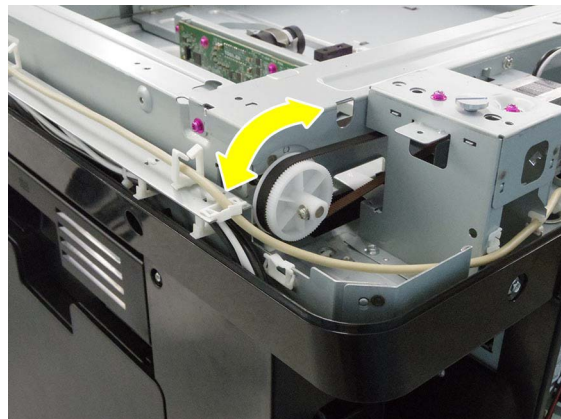


Fig. 4-68

- (5) Remove 1 screw.



Fig. 4-69

- (6) Disconnect the flat cable [3] by sliding the front side of the exposure lamp [2] toward the direction of the arrow shown in the figure. Remove the exposure lamp [2] from the front side.

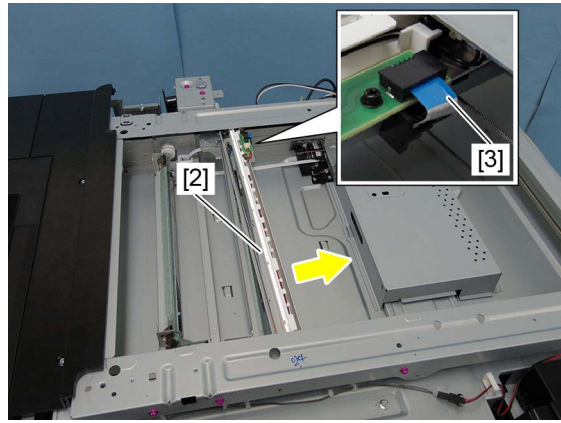


Fig. 4-70



Fig. 4-71

### 4.3.7 Scan motor (M1)

- (1) Remove the top rear cover.  
P. 4-11 "4.1.23 Top rear cover"
- (2) Disconnect 1 connector.

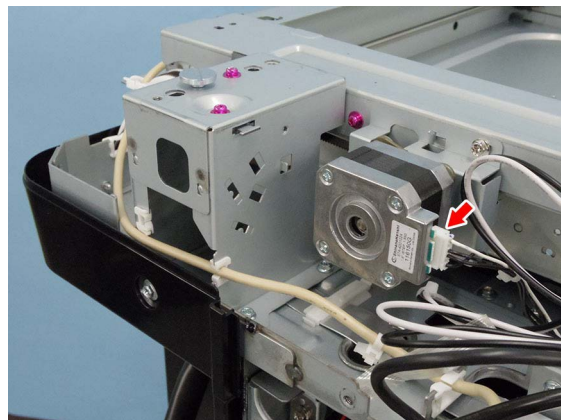


Fig. 4-72

- (3) Remove 2 screws and take off the scan motor assembly [1].

**Notes:**

When installing the scan motor, use the belt tension jig.

📖 P. 6-83 "6.6.3 Belt tension adjustment of the Scan motor"

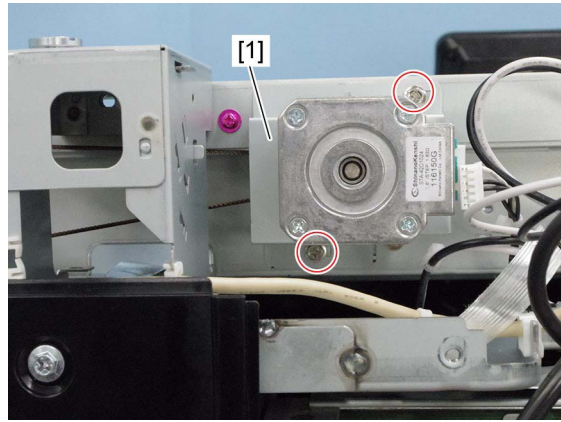


Fig. 4-73

- (4) Remove 2 screws and take off the scan motor [2].

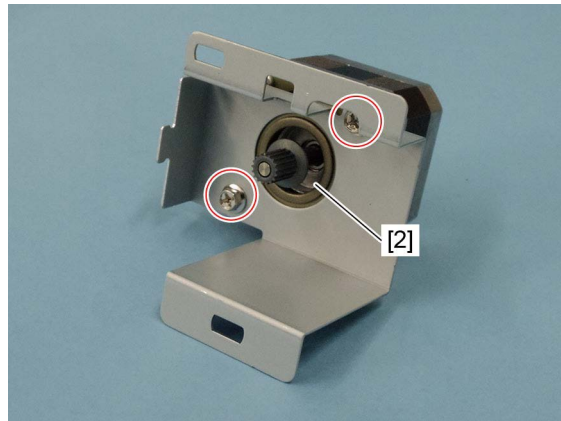


Fig. 4-74

### 4.3.8 Platen sensor (S4/S5)

- (1) Remove the top rear cover.  
📖 P. 4-11 "4.1.23 Top rear cover"
- (2) Remove 5 screws.

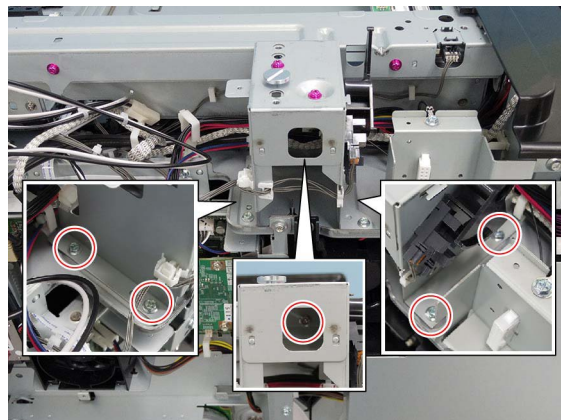


Fig. 4-75

- (3) Remove 1 harness clamp [1]. Release the harness [2] from 2 harness clamps [3]. Disconnect 2 connectors.

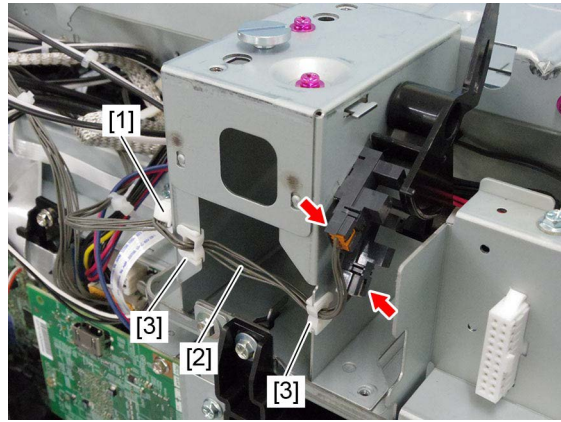


Fig. 4-76

- (4) Remove 2 harness clamps and take off the platen sensor assembly [4].

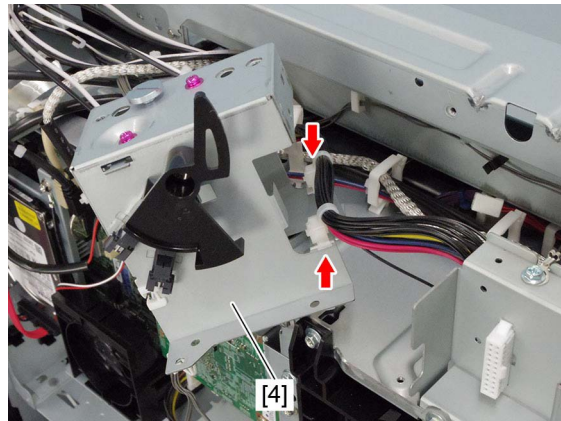


Fig. 4-77

**Notes:**

When installing, be careful not to connect each different connector.

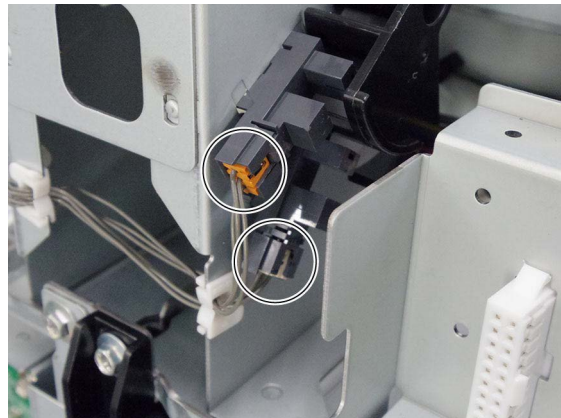


Fig. 4-78

- (5) Release each 3 latch and remove the platen sensor-1 [5] and -2 [6].

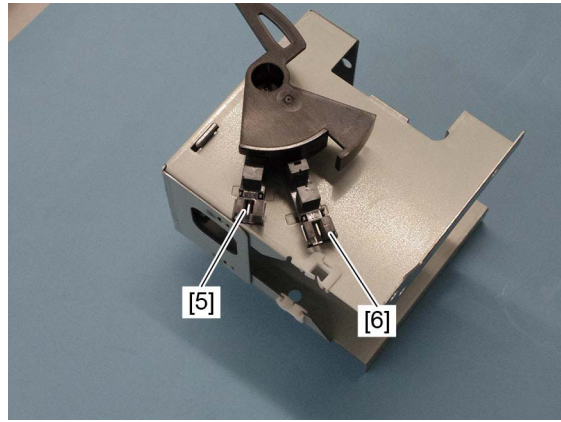


Fig. 4-79

### 4.3.9 Carriage-1

- (1) Remove the original glass.  
 P. 4-20 "4.3.1 Original glass"
- (2) Remove the top rear cover.  
 P. 4-11 "4.1.23 Top rear cover"
- (3) Remove the top front cover.  
 P. 4-5 "4.1.9 Top front cover"
- (4) Move carriage-1 [1] to the leftmost side, and make sure that the screws on carriage-1 are showing. Remove 2 screws.

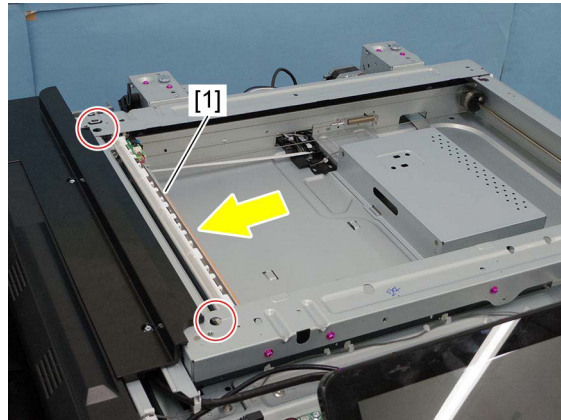


Fig. 4-80

#### Notes:

To move the carriage, manually rotate the drive pulley.

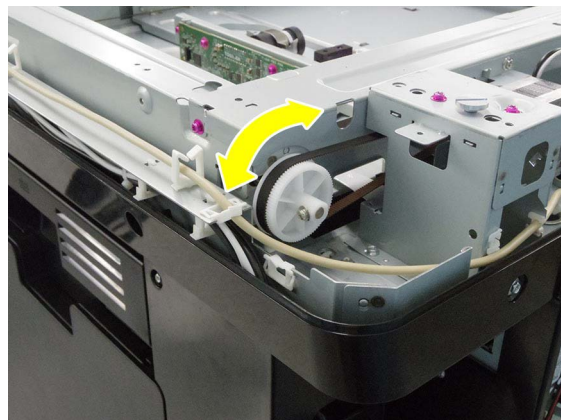


Fig. 4-81

- (5) Slide the front of the carriage-1 [1] toward the direction of the arrow shown in the figure, while trying not to touch the mirror [2].

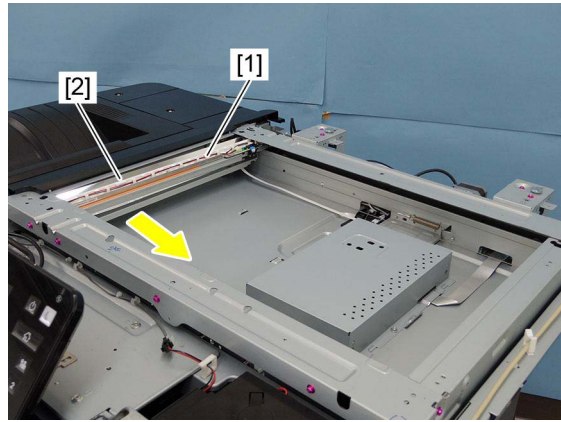


Fig. 4-82

- (6) Release the harness from 3 harness guides [3] and disconnect the connector [4]. Remove the carriage-1 [1].

**Notes:**

- After connecting the exposure lamp harness, move carriage-1 to the leftmost side and check the lamp harness for any twists.
- When installing carriage-1, make sure that the wire is placed on the front and rear notch of carriage-1.

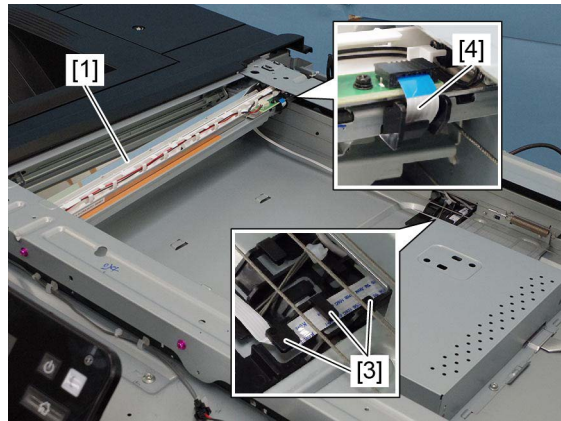


Fig. 4-83

**Notes:**

When installing carriage-1, make sure that the wire is placed on the front and rear notch of carriage-1.



Fig. 4-84

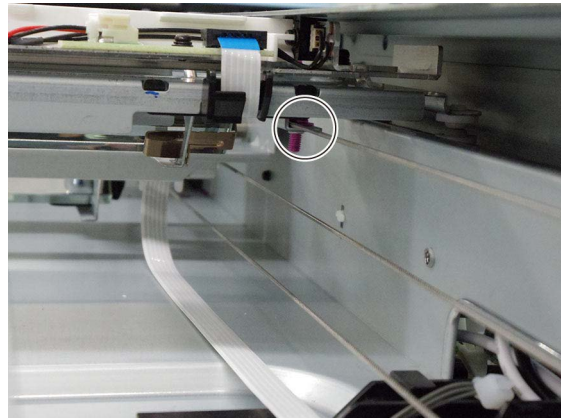


Fig. 4-85

### 4.3.10 Carriage wire, carriage-2

**Notes:**

- When replacing the carriage wire with a new one, replace the front and rear at the same time.
- When replacing the carriage wire with a new one, set the value of FS-08-6123 to "0".

#### [A] Carriage wire, carriage-2

- (1) Remove carriage-1.  
P. 4-29 "4.3.9 Carriage-1"
- (2) Attach the wire holder jig [1] to the wire pulley to prevent the wire from coming loose.

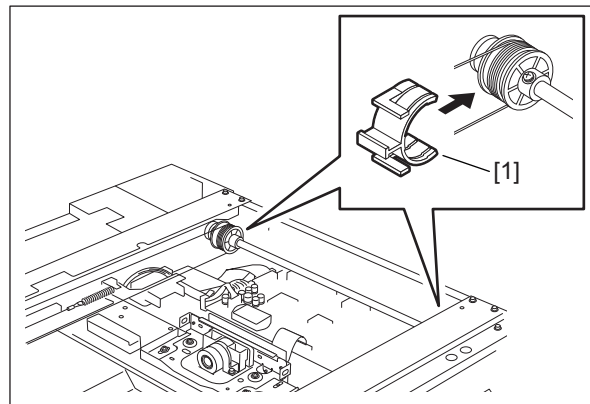
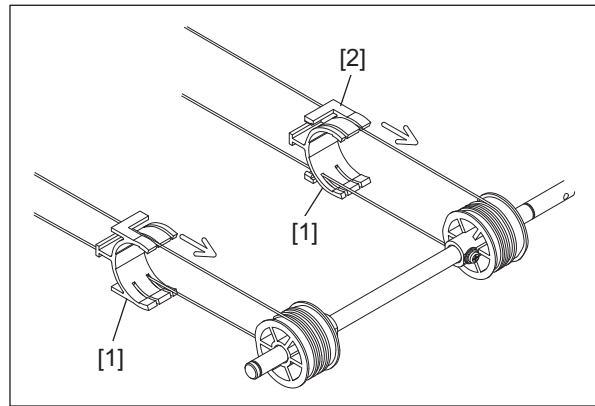


Fig. 4-86

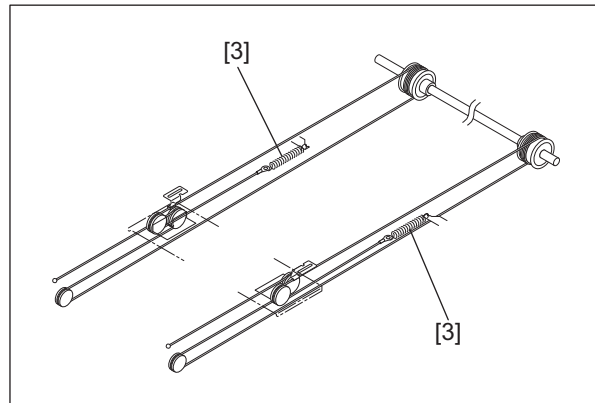
**Notes:**

1. When the wire holder jig [1] 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 [1] and be passed under the arm [2] of it.



**Fig. 4-87**

- (3) Remove the tension springs [3] in the front and rear sides.
- (4) Remove the carriage wire.

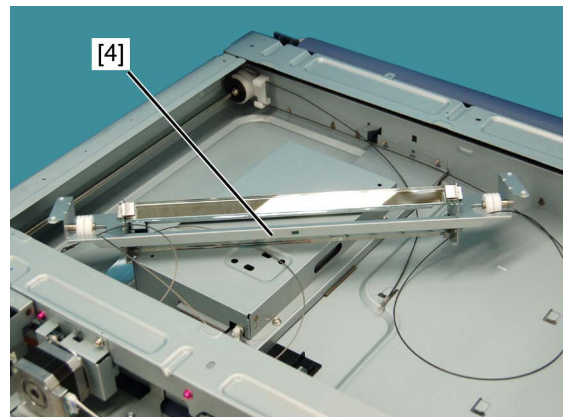


**Fig. 4-88**

- (5) Rotate the carriage-2 not to touch the mirrors. Remove the carriage-2 [4].

**Notes:**

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.



**Fig. 4-89**



## [B] Installing the carriage wire

- (1) As shown on the right, replace the carriage wire and install a new wire.

- [1] Carriage-2
- [2] Carriage wire
- [3] Bracket for carriage-1
- [4] Idler pulley
- [5] Hook
- [6] Tension spring
- [7] Wire pulley

### Notes:

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.

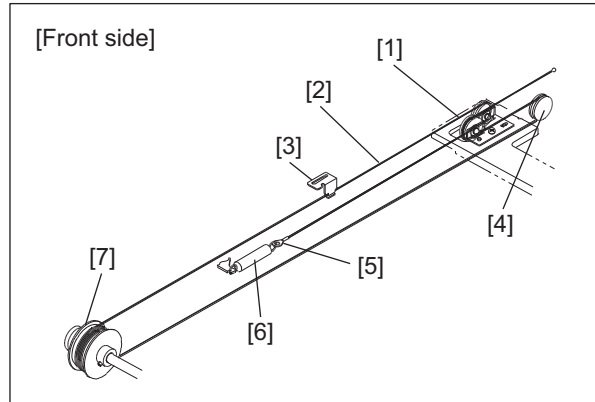


Fig. 4-90

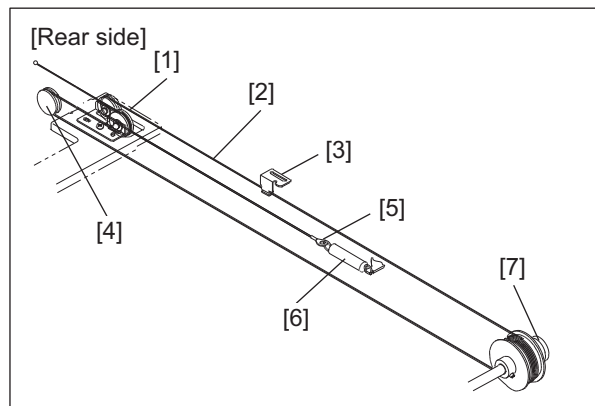


Fig. 4-91

### [C] Winding on the wire pulley

- (1) Pull the  $\varnothing 3$  ball terminal [1] located at the center of the wire into a hole on the wire pulley. One end of the wire with the hook [2] 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:

When winding the wire onto the pulley, be sure to note the following.

- 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.

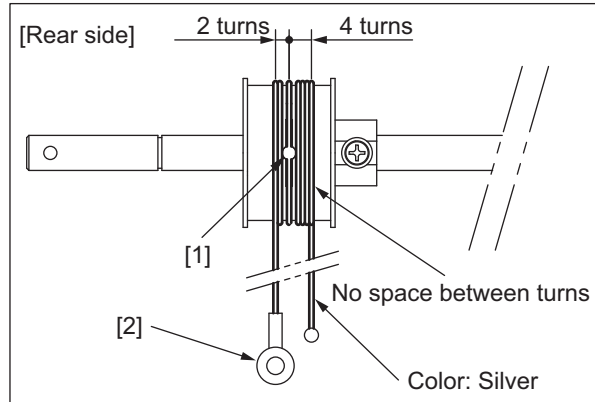


Fig. 4-92

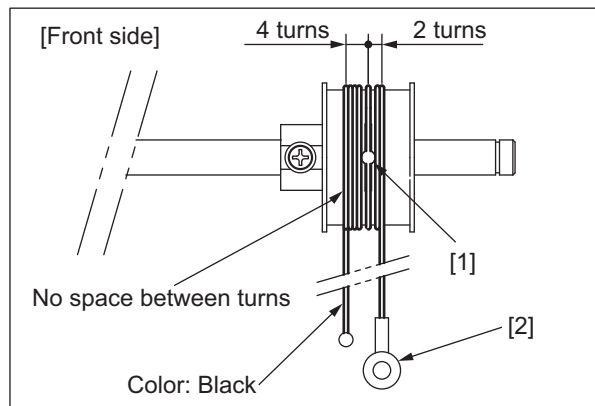


Fig. 4-93

- (3) After winding the wires around the pulleys, attach the wire holder jigs [3] to prevent the wire from coming loose.

#### Notes:

1. When attaching the wire holder jig, make sure that the wire has not shifted or become loose.
2. The wire should come out of the slot of the wire holder jig and be passed under the jig arm [4].

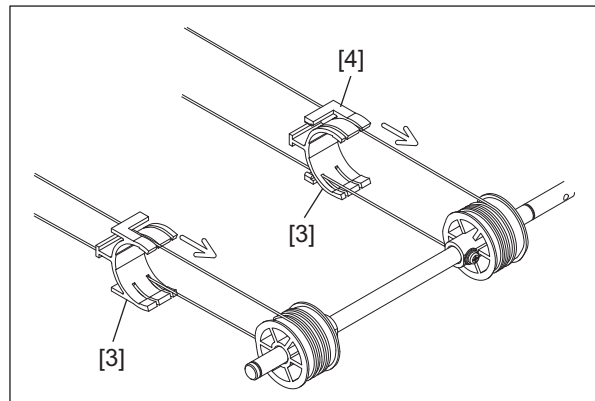


Fig. 4-94

### 4.3.11 Scanner damp heater (DH1)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove the original glass.  
📖 P. 4-20 "4.3.1 Original glass"
- (3) Disconnect 1 connector.

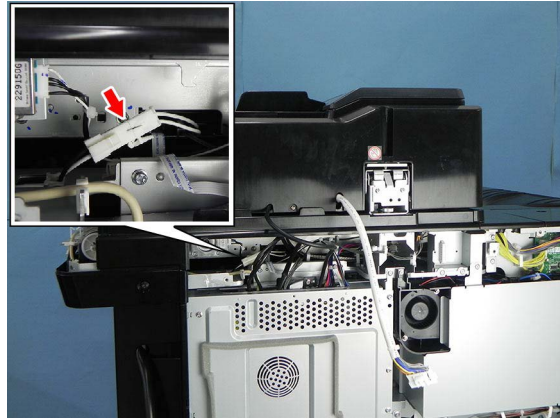


Fig. 4-95

- (4) Remove the scanner damp heater [1].

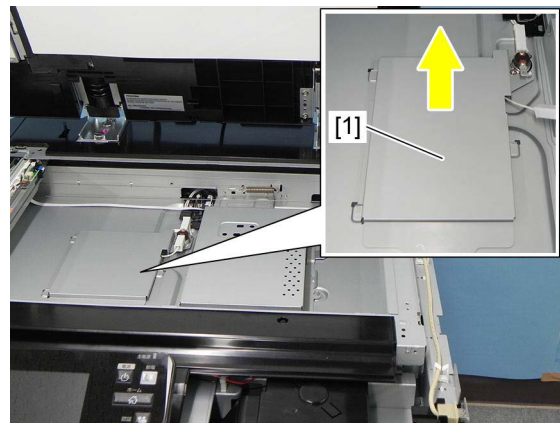


Fig. 4-96

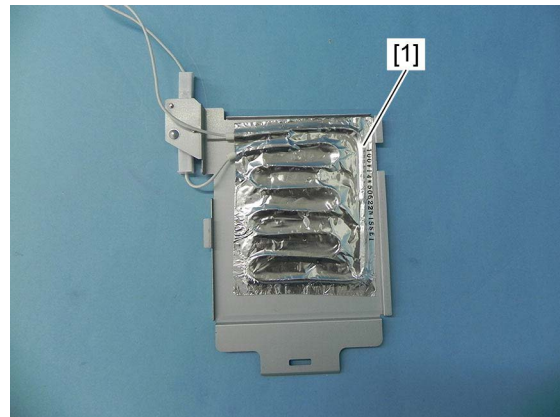


Fig. 4-97

### 4.3.12 Scanner damp heater thermostat (THMO1)

**Notes:**

If the scanner damp heater thermostat is not installed appropriately when it is replaced or installed, it may result in fatal accidents such a burnout. To avoid this, be sure to perform correct handling and installation.

- (1) Remove the scanner damp heater.  
☞ P. 4-35 "4.3.11 Scanner damp heater (DH1)"
- (2) Remove 2 screws and disconnect 2 connectors, and then take off the thermostat [1].

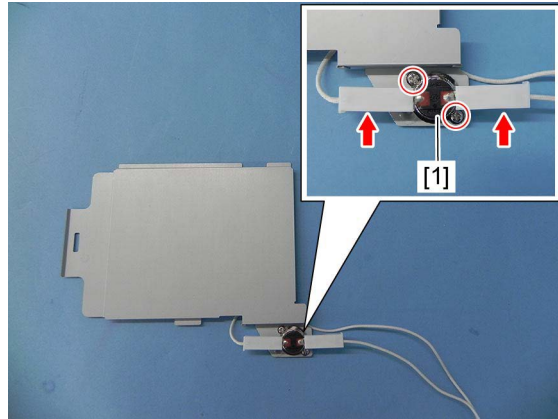


Fig. 4-98

## 4.4 Laser Optical Unit

### 4.4.1 Laser optical unit

- (1) Remove the front lower cover.  
P. 4-1 "4.1.1 Front lower cover"
- (2) Remove the rear cover.  
P. 4-10 "4.1.22 Rear cover"
- (3) Remove the left middle cover.  
P. 4-7 "4.1.14 Left middle cover"

**Notes:**

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

- (4) Disconnect 3 connectors and release the harness from 2 harness clamps [1].
- (5) Remove 2 harness clamps [2].
- (6) Disconnect 1 connector and remove 1 harness clamp [3]. Then remove 1 screw and a grounding terminal [4] to take off the bracket [5].

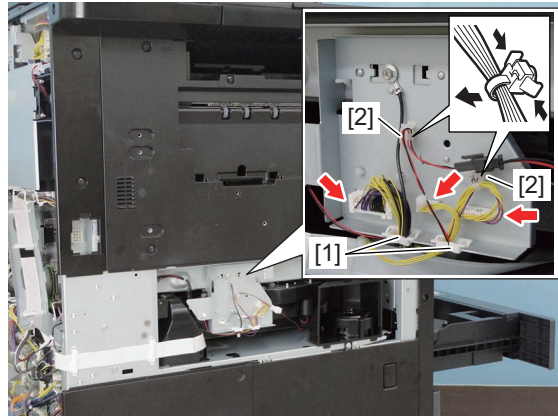


Fig. 4-99

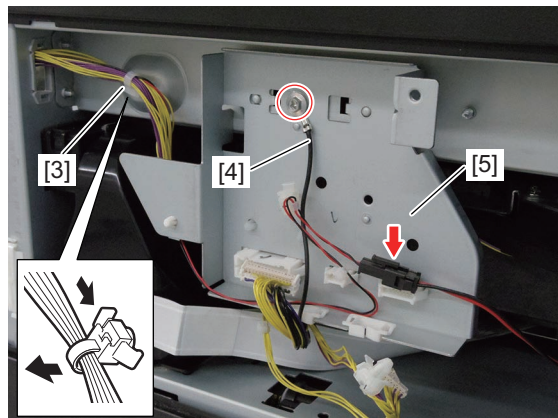


Fig. 4-100

**Notes:**

Install the removed harness clamp [3] in the hole [6] of the frame, so that you can remove the laser optical unit easily.

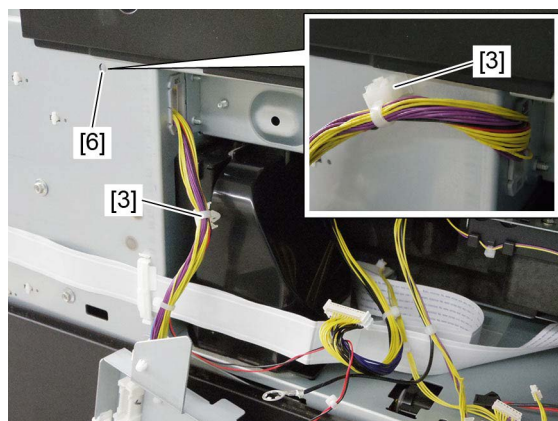


Fig. 4-101

- (7) Release the lock by tilting the flap, and disconnect 4 flat cables from the LGC board.

**Notes:**

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

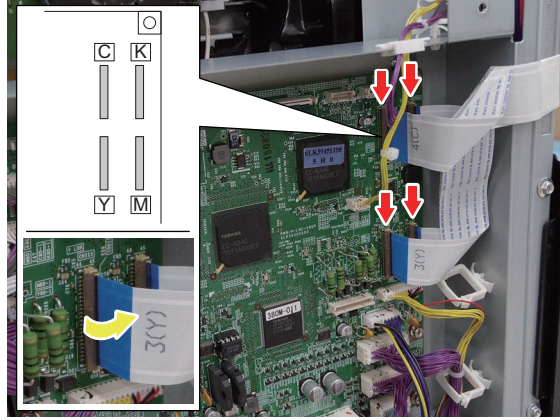


Fig. 4-102

- (8) Release the flat cables from 2 flat cable clamps.

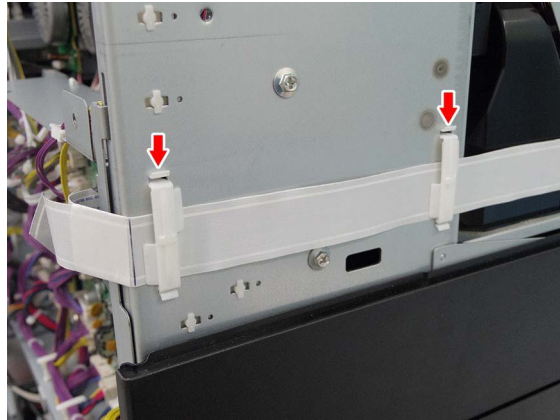


Fig. 4-103

**Notes:**

When installing, be sure to align its black line [7] with the edge of the equipment.

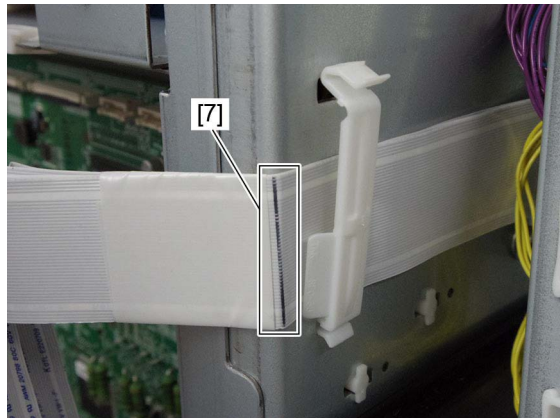


Fig. 4-104

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

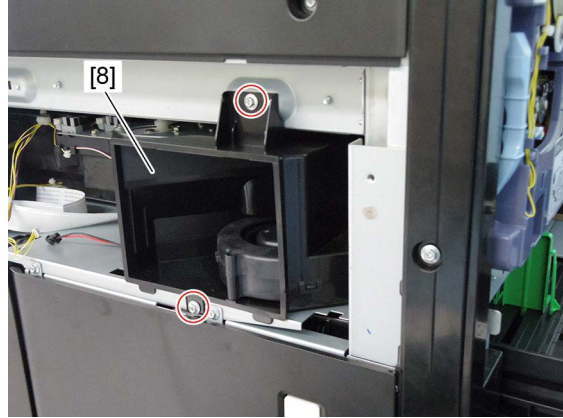


Fig. 4-105

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

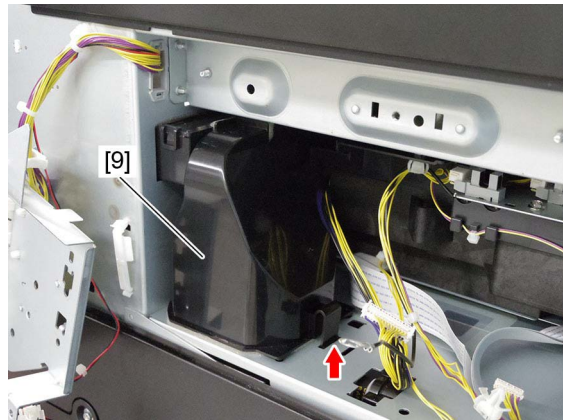


Fig. 4-106

- (11) Pull out the EPU together with the transfer belt.
- 📖 P. 4-164 "4.7.1 Pulling out of the transfer belt unit"
- (12) Remove 2 screws.

**Notes:**

When reassembling, make sure the bosses of the laser optical unit is securely inserted into the holes [10] of the plate.

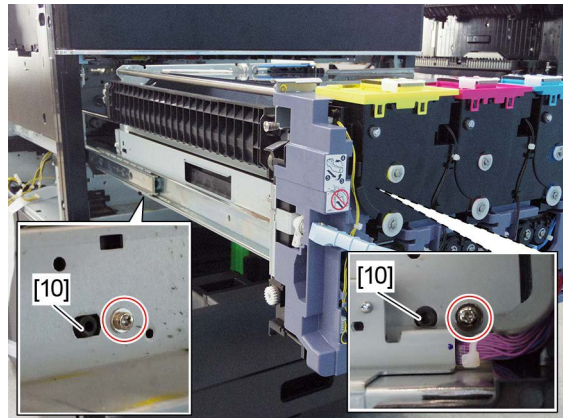


Fig. 4-107

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

**Notes:**

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

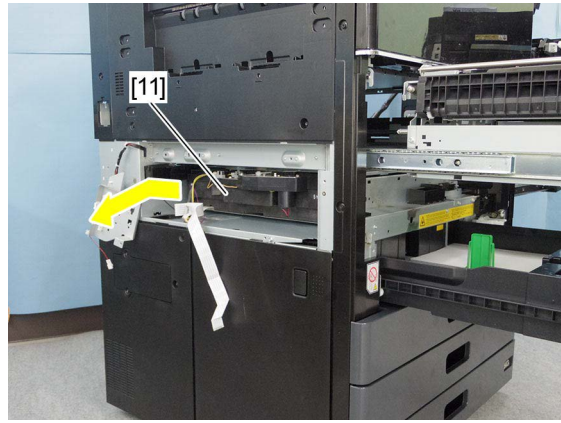


Fig. 4-108

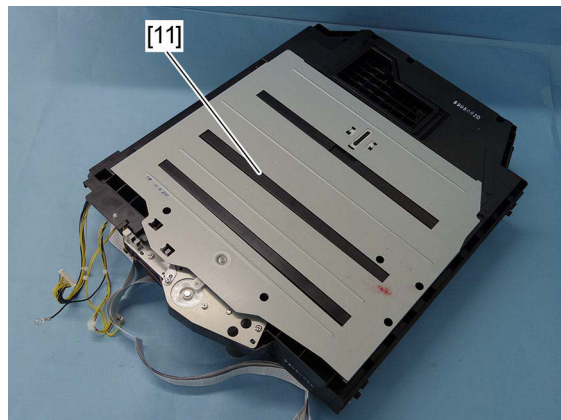


Fig. 4-109

**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.

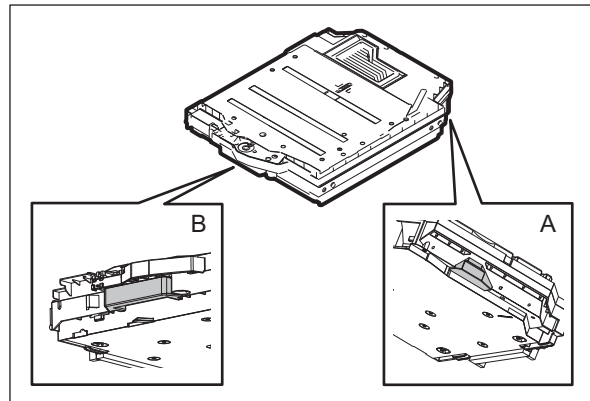


Fig. 4-110



## 4.4.2 Laser optical unit cooling fan (front) (F22)

- (1) Remove the right corner cover.  
📖 P. 4-11 "4.1.25 Right corner cover"
- (2) Pull out the process unit.  
📖 P. 4-102 "4.6.1 Pulling out the process unit (EPU tray)"
- (3) Disconnect the 3 connectors, and release the harness from 1 harness clamp [1].

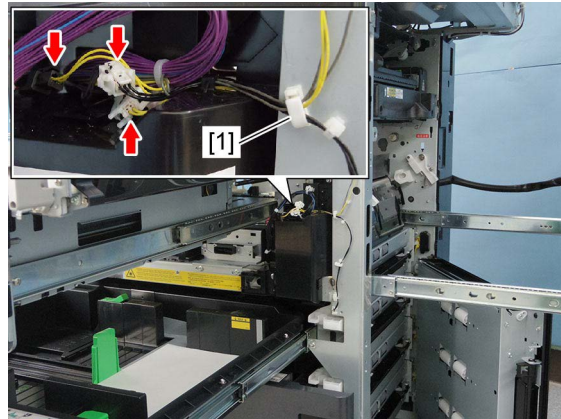


Fig. 4-111

- (4) Remove 1 harness clamp.

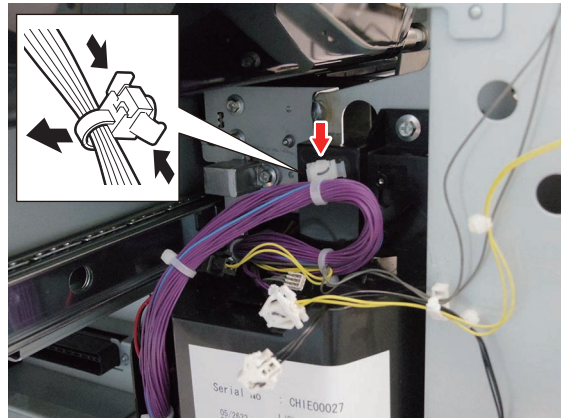


Fig. 4-112

- (5) Remove 2 screws.



Fig. 4-113

- (6) Remove the laser optical unit cooling duct [2] by rotating it as shown in the figure.

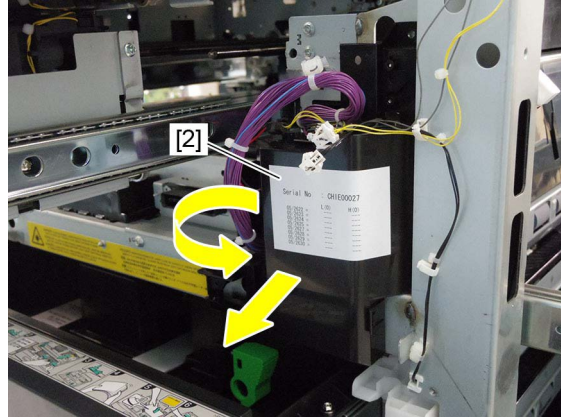


Fig. 4-114

**Notes:**

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



Fig. 4-115

- (7) Release 4 latches and take off the case [3].

**Notes:**

When taking off the case, do not pull any harness which is coming out of the hole in the case.

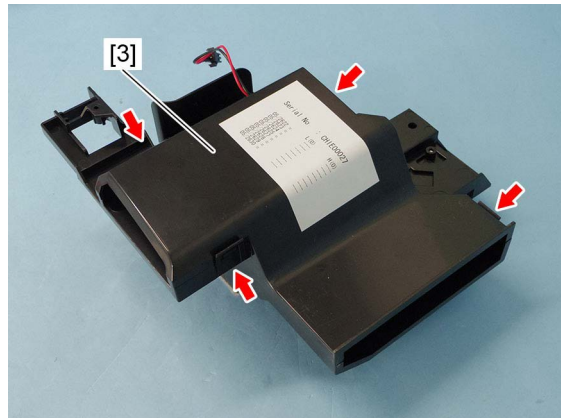


Fig. 4-116

- (8) Remove the laser optical unit cooling fan (front) [4].

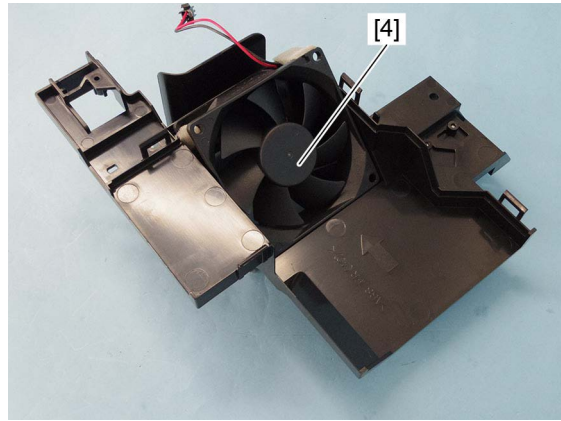



Fig. 4-117

### 4.4.3 Laser optical unit cooling fan (rear) (F23)

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 2 screws and disconnect 6 connectors. Release the harness from 8 harness clamps [1] and release the bracket [2].

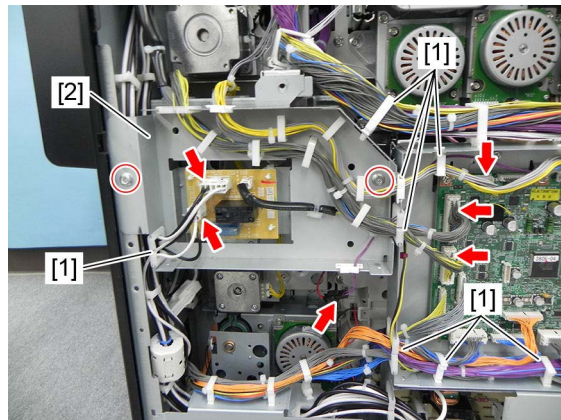


Fig. 4-118

- (3) Remove 2 screws and take off the laser optical unit cooling duct [3].

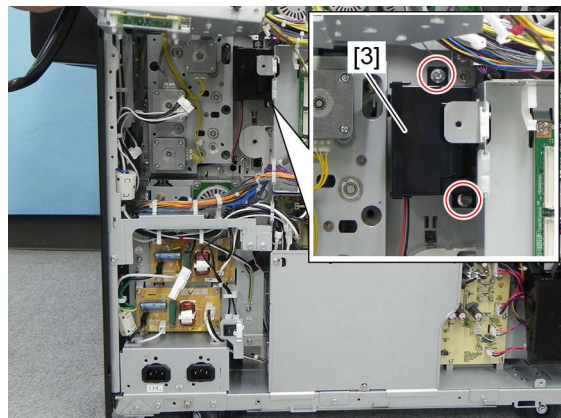


Fig. 4-119

- (4) Release 2 latches and take off the duct cover [4].
- (5) Remove the laser optical unit cooling fan (rear) [5].

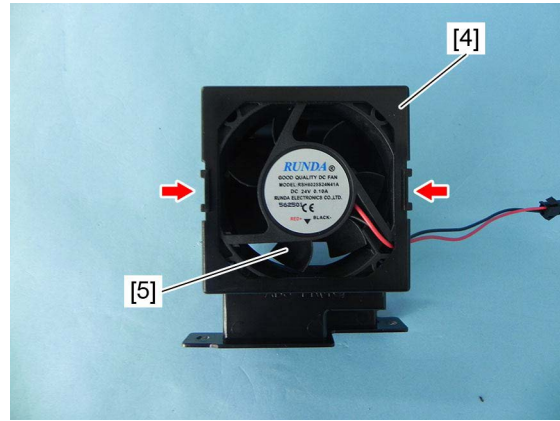


Fig. 4-120

#### 4.4.4 Shutter

- (1) Remove the laser optical unit.  
 📖 P. 4-37 "4.4.1 Laser optical unit"
- (2) If the shutter [1] is closed, rotate the shutter motor section to open it.  
 A: Shutter closed  
 B: Shutter opened

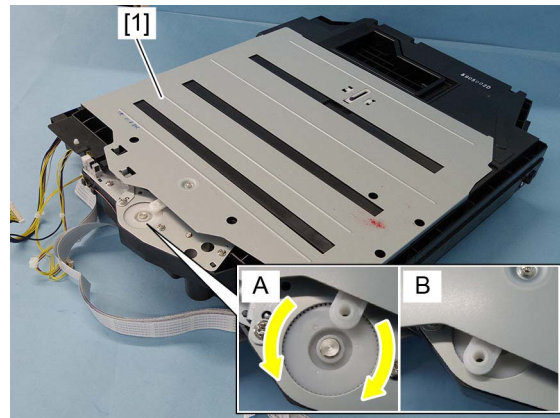


Fig. 4-121

- (3) Remove the shutter [1].

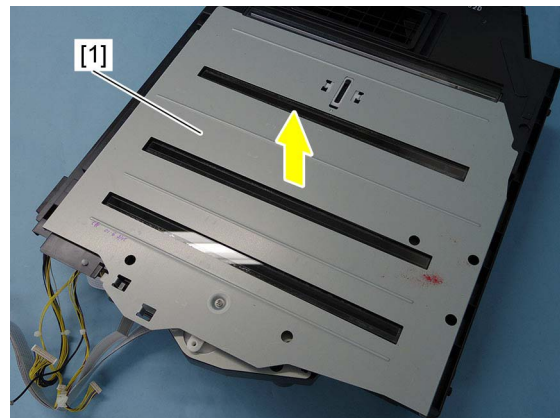


Fig. 4-122

#### 4.4.5 Shutter motor (M38)

- (1) Remove the laser optical unit.  
📖 P. 4-37 "4.4.1 Laser optical unit"

**Notes:**

- Make sure that the shutter is closed.
- (2) Remove 2 screws.

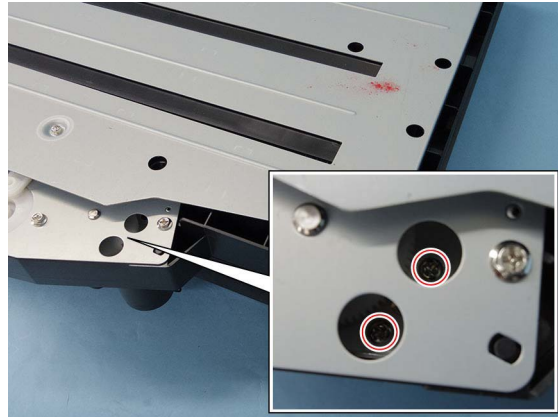


Fig. 4-123

- (3) Disconnect 1 connector and take off the shutter motor [1].

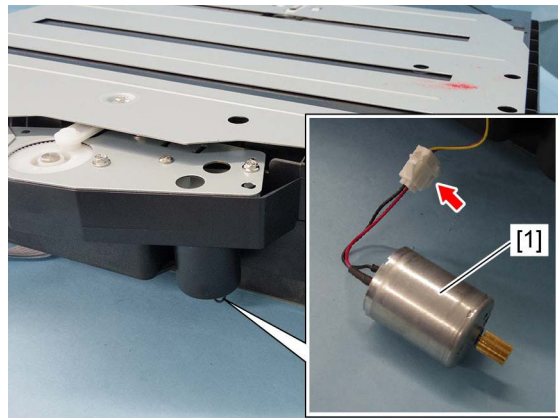


Fig. 4-124

#### 4.4.6 Shutter sensor (home position) (S24)

- (1) Remove the laser optical unit.  
📖 P. 4-37 "4.4.1 Laser optical unit"
- (2) Remove the shutter.  
📖 P. 4-44 "4.4.4 Shutter"
- (3) Disconnect 1 connector.
- (4) Release 3 latches and take off the shutter sensor (home position) [1].

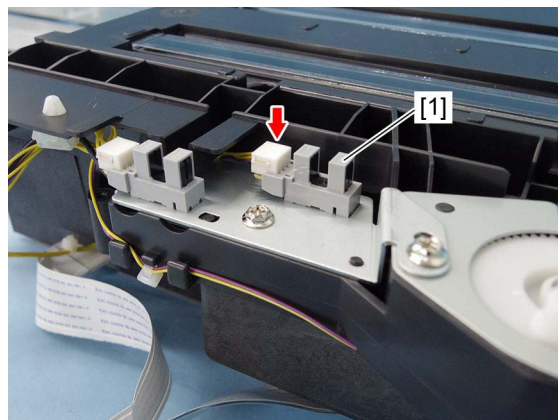


Fig. 4-125

#### 4.4.7 Shutter sensor (end position) (S25)

- (1) Remove the laser optical unit.  
📖 P. 4-37 "4.4.1 Laser optical unit"

**Notes:**

- Make sure that the shutter is closed.
- (2) Remove 1 harness clamp [1]. Disconnect 1 connector.
- (3) Release 3 latches and take off the shutter sensor (end position) [2].

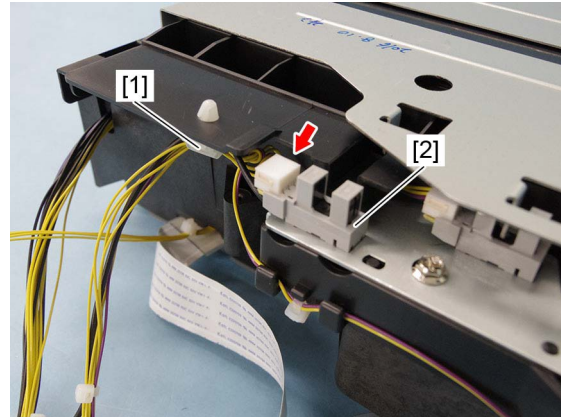


Fig. 4-126

## 4.5 Paper Feeding System

### 4.5.1 Bypass feed tray

- (1) Remove the duplexing unit front cover.  
📖 P. 4-9 "4.1.18 Duplexing unit front cover"
- (2) Remove the duplexing unit rear cover.  
📖 P. 4-9 "4.1.19 Duplexing unit rear cover"
- (3) Disconnect 1 connector and remove 1 screw.

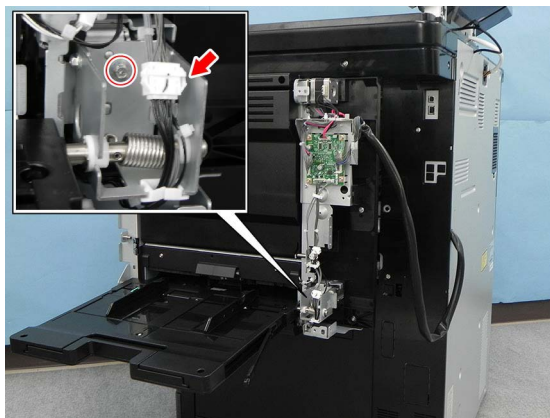


Fig. 4-127

- (4) Lift up the hinge [1] slightly and take off the bypass tray [2].

**Notes:**

When installing or taking off the bypass tray, keep it setting up because it is tensed with a spring.

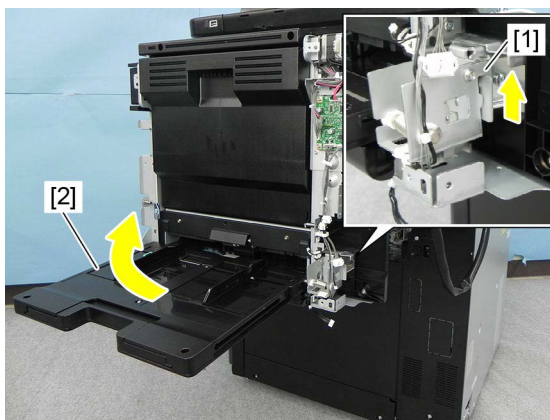


Fig. 4-128

### 4.5.2 Bypass feed unit

- (1) Remove the bypass feed tray.  
📖 P. 4-47 "4.5.1 Bypass feed tray"
- (2) Open the duplexing unit.
- (3) Remove 1 screw and take off the SFB lower cover [1].

**Notes:**

When the optional LCF is installed, be sure to install the cover with the duplexing unit opened wider than the LCF.

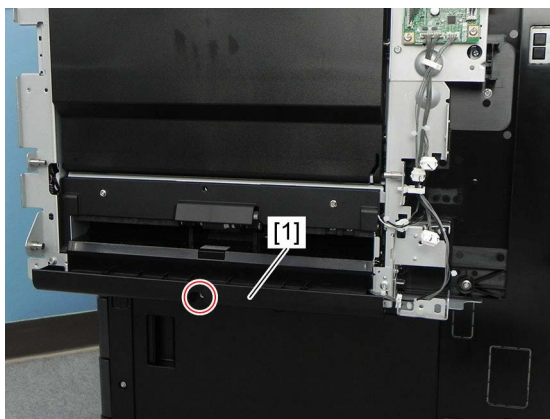


Fig. 4-129

- (4) Disconnect 4 connectors and remove 2 screws. Then take off the bypass feed unit [2].

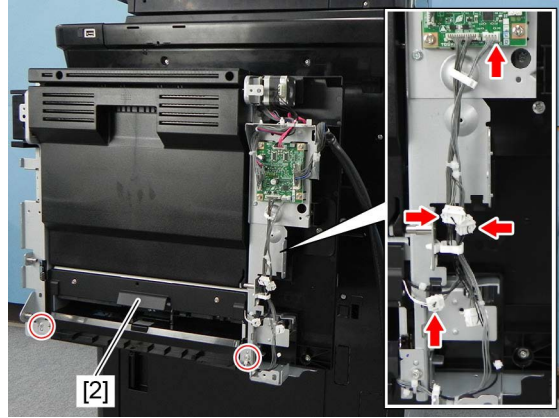


Fig. 4-130

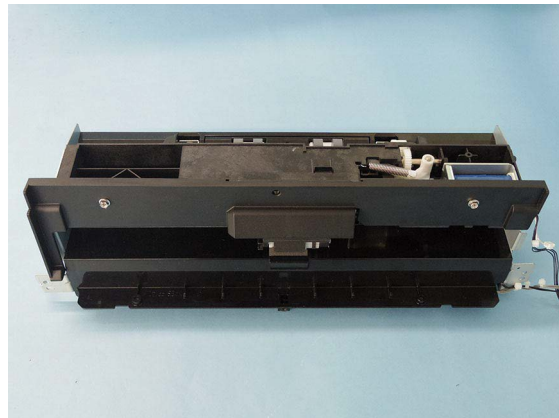


Fig. 4-131

### 4.5.3 Bypass pickup solenoid (SOL8)

- (1) Remove the bypass feed unit.  
📖 P. 4-47 "4.5.2 Bypass feed unit"
- (2) Remove 2 screws and take off the SFB upper cover [1].

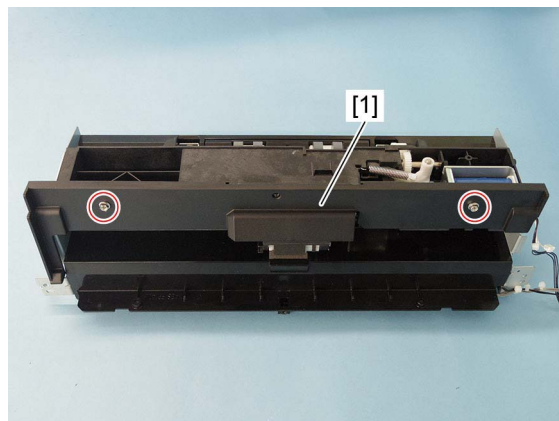


Fig. 4-132



- (3) Remove 1 spring [2] and 2 screws. Remove the bypass pickup solenoid [3].

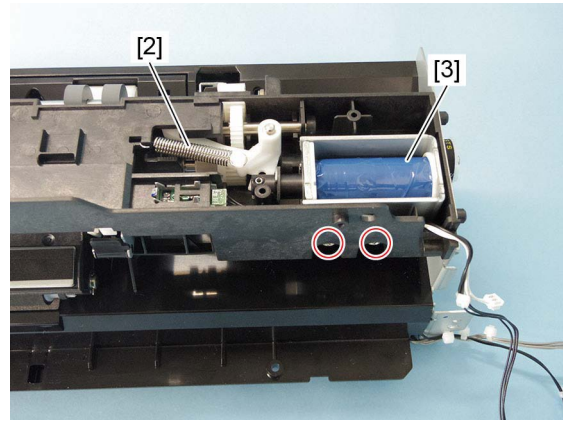



Fig. 4-133

#### 4.5.4 Bypass paper sensor (S71)

- (1) Remove the bypass pickup solenoid.  
 P. 4-48 "4.5.3 Bypass pickup solenoid (SOL8)"
- (2) Remove the actuator [1].

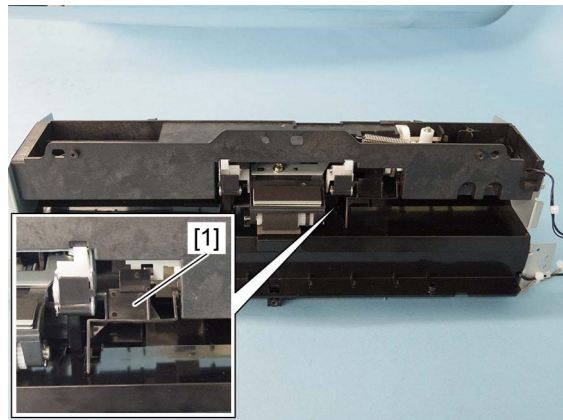


Fig. 4-134

- (3) Release 3 latches and take off the bypass paper sensor [2].

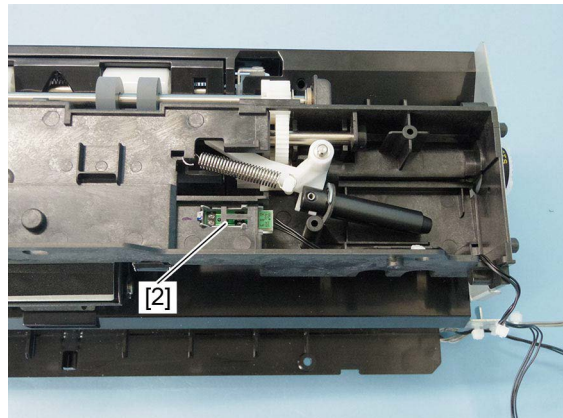


Fig. 4-135

- (4) Disconnect 1 connector.

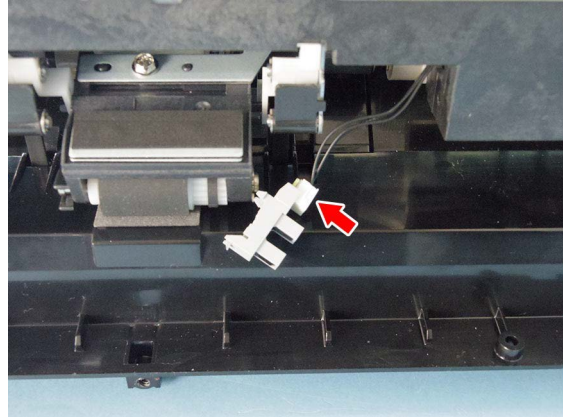


Fig. 4-136

#### 4.5.5 Bypass pickup roller

- (1) Open the bypass feed tray.
- (2) Remove 2 screws and then take off the SFB upper cover [1].

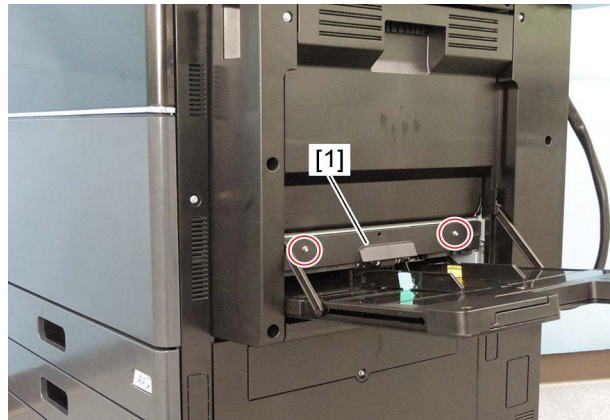


Fig. 4-137

- (3) Remove 1 clip and pull out the shaft. Then take off the bypass pickup roller [2].

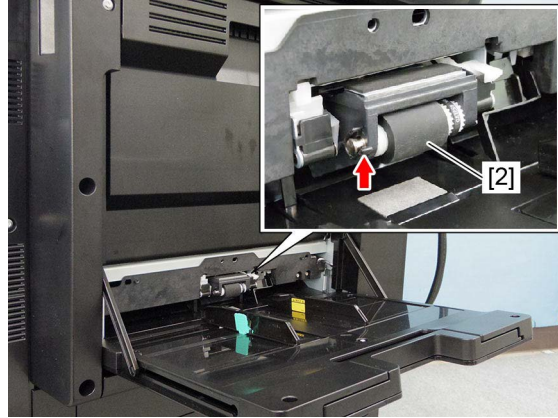


Fig. 4-138



Fig. 4-139

#### 4.5.6 Bypass upper unit

- (1) Remove the bypass feed unit.  
📖 P. 4-47 "4.5.2 Bypass feed unit"
- (2) Remove 2 screws and take off the SFB upper cover [1].

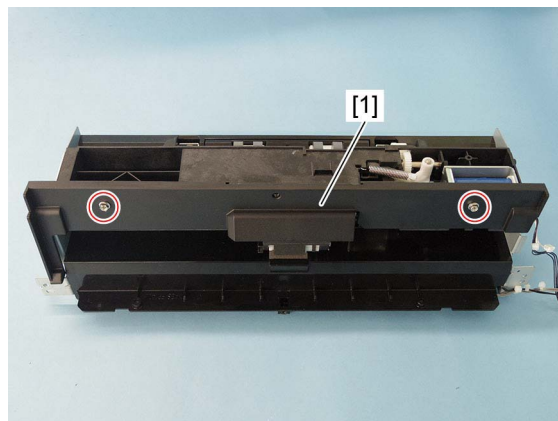


Fig. 4-140

- (3) Remove 4 screws and take off the bracket [2].

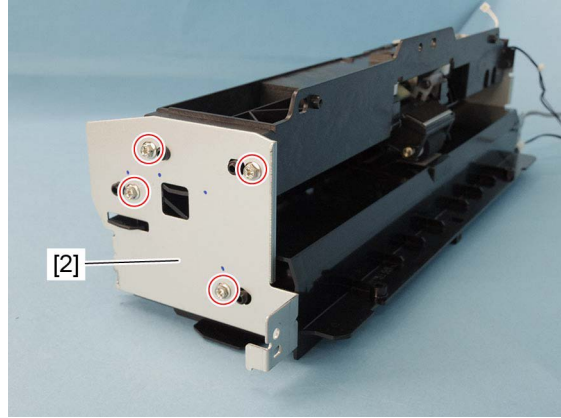


Fig. 4-141

- (4) Remove 1 E-ring [3], 1 belt [4], 1 gear [5] and 1 bushing [6].

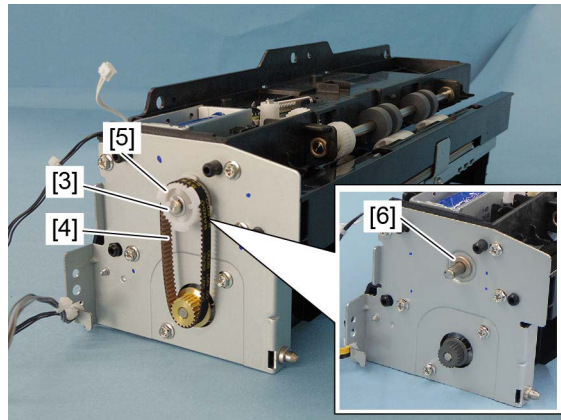


Fig. 4-142

(5) Remove 2 screws, and then take off the bypass upper unit [7].

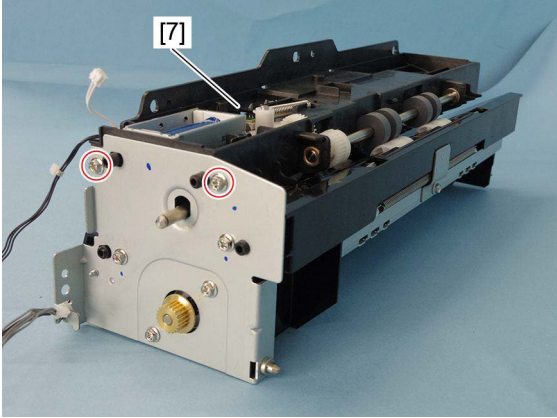


Fig. 4-143

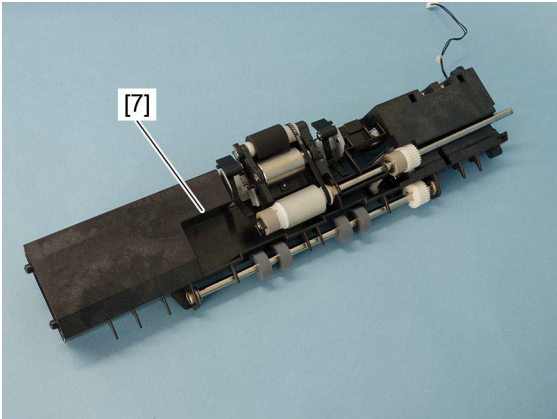



Fig. 4-144

## 4.5.7 Bypass feed roller

- (1) Remove the bypass upper unit.  
 P. 4-51 "4.5.6 Bypass upper unit"
- (2) Remove the clip and take off the bypass feed roller [1].

### 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.

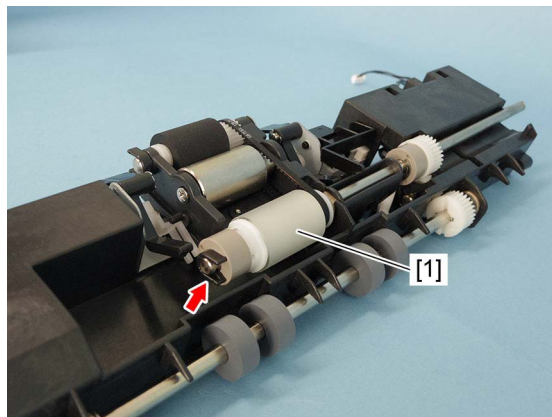


Fig. 4-145



Fig. 4-146

## 4.5.8 Bypass transport roller

- (1) Remove the bypass upper unit.  
📖 P. 4-51 "4.5.6 Bypass upper unit"
- (2) Remove 1 E-ring and slide the bushing [1] to the inner side.
- (3) Move the shaft [2] to the right side and remove the left bushing [3]. Then take off the bypass transport roller [4].

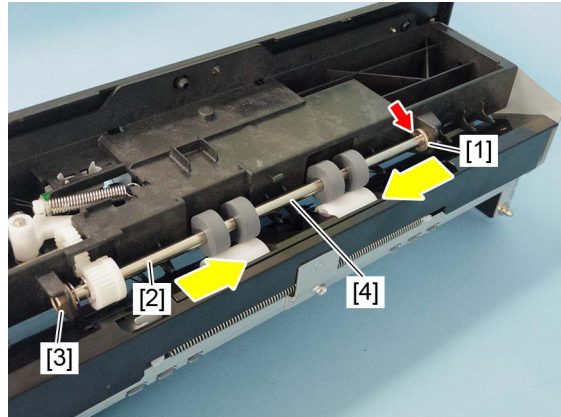


Fig. 4-147



Fig. 4-148

## 4.5.9 Bypass motor (M12)

- (1) Remove the bypass feed unit.  
📖 P. 4-47 "4.5.2 Bypass feed unit"
- (2) Remove 1 belt [1], 1 E-ring, 1 gear [2] and 1 bushing [3].

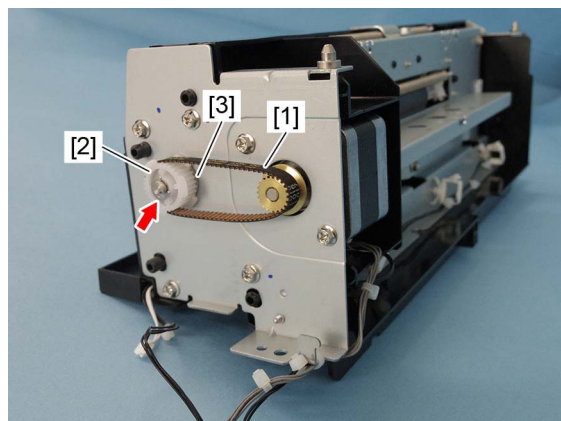


Fig. 4-149

- (3) Release the ground wire [4] from 1 harness clamp. Remove 1 screw and take off the ground wire [4].

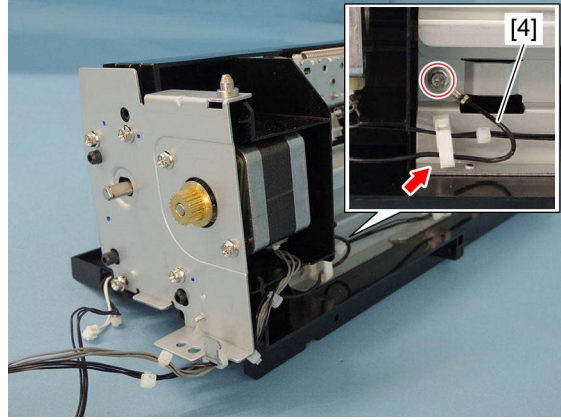


Fig. 4-150

- (4) Remove 4 screws and a bracket [5].

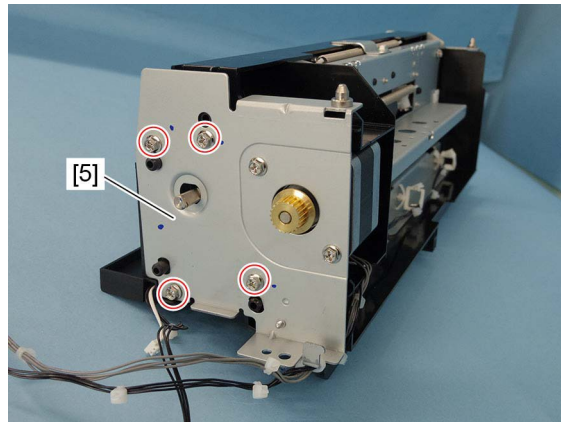


Fig. 4-151

- (5) Remove 2 screws.

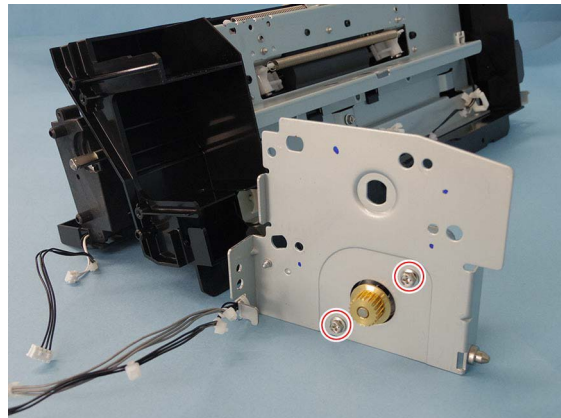


Fig. 4-152



- (6) Disconnect 1 connector and take off the bypass motor [6].

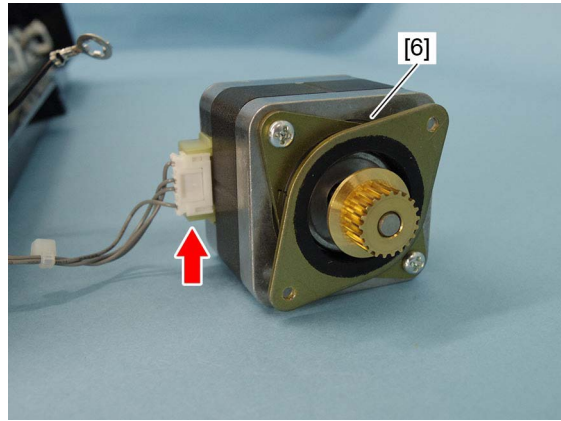



Fig. 4-153

#### 4.5.10 Bypass separation roller

- (1) Remove the bypass feed unit.  
 P. 4-47 "4.5.2 Bypass feed unit"
- (2) Remove 1 screw and take off the bracket [1].

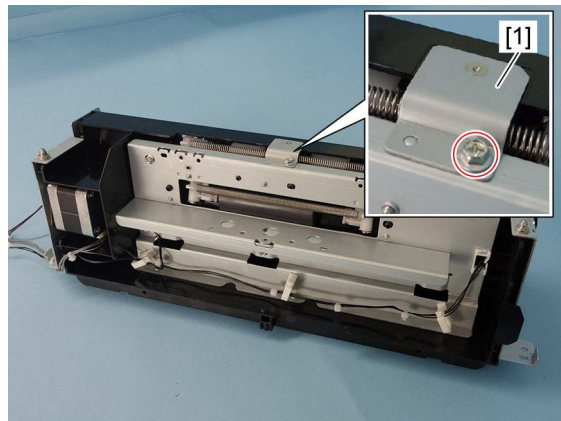


Fig. 4-154

- (3) Release the harness from 4 harness clamps. Remove 4 screws and take off the SFB lower unit [2].

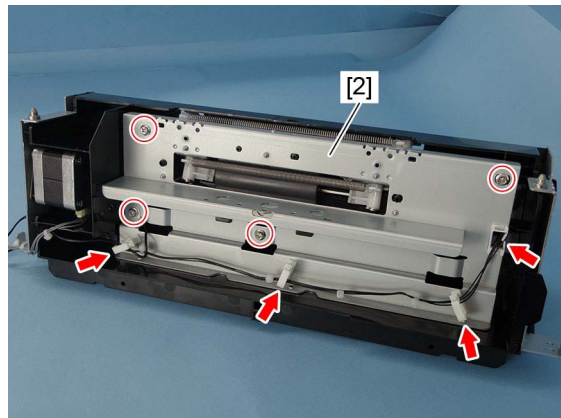


Fig. 4-155

- (4) Remove 2 screws and take off the SFB lower guide [3].

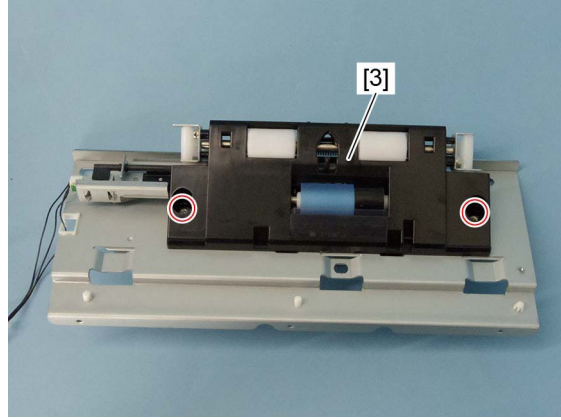


Fig. 4-156

- (5) Lift up the shaft [4] and then take off the bypass separation roller [5].

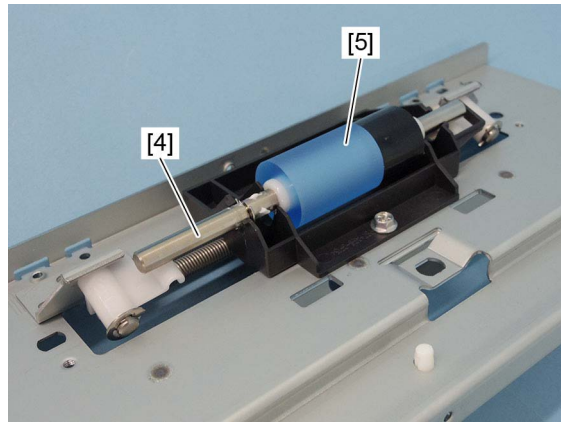


Fig. 4-157

- (6) Remove the washer [6] of the shaft [4].

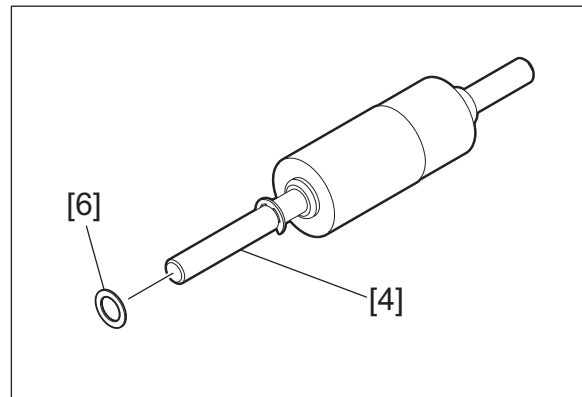


Fig. 4-158

**Notes:**

Make sure not to damage the latch [7] of the holder.

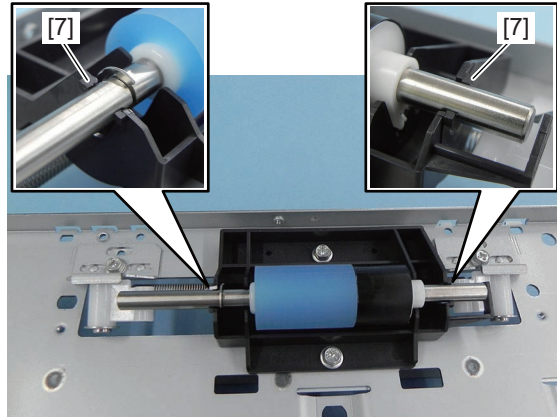


Fig. 4-159

#### 4.5.11 Bypass feed sensor (S72)

- (1) Remove the SFB lower unit.  
📖 P. 4-57 "4.5.10 Bypass separation roller"
- (2) Disconnect 1 connector and release 3 latches. Then take off the bypass feed sensor [2] by pushing its actuator [1].

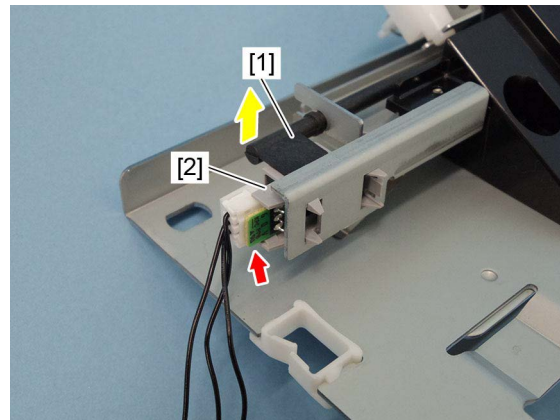


Fig. 4-160

#### 4.5.12 Bypass paper size detection sensor (S70)

- (1) Remove the bypass feed tray.  
📖 P. 4-47 "4.5.1 Bypass feed tray"
- (2) Remove 5 screws and take off the upper tray [1].

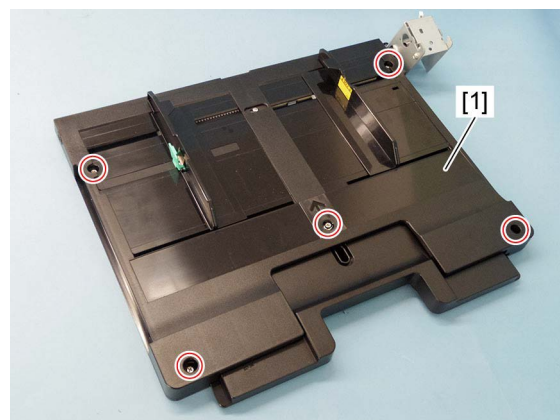


Fig. 4-161

- (3) Remove 1 screw and remove a plate spring [2].

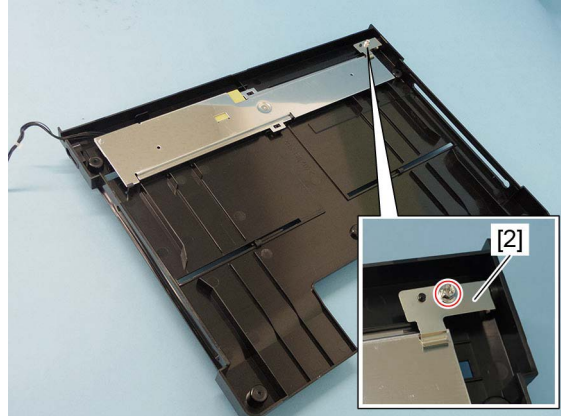


Fig. 4-162

- (4) Remove 1 screw and take off the bracket [3].

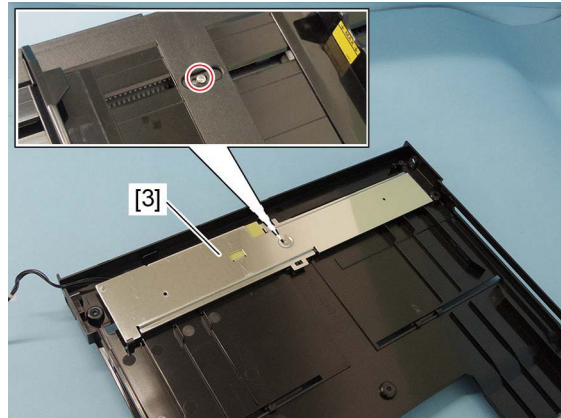


Fig. 4-163

- (5) Disconnect 1 connector and remove 1 screw. Then take off the bypass paper size detection sensor [4].

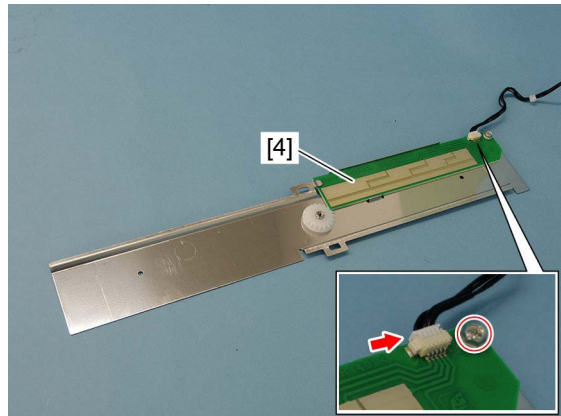



Fig. 4-164

## 4.5.13 Drawer feeding unit

- (1) Remove the paper feed cover.  
 P. 4-9 "4.1.20 Paper feed cover"
- (2) Pull out the drawer.
- (3) Disconnect 1 connector and remove 2 screws.

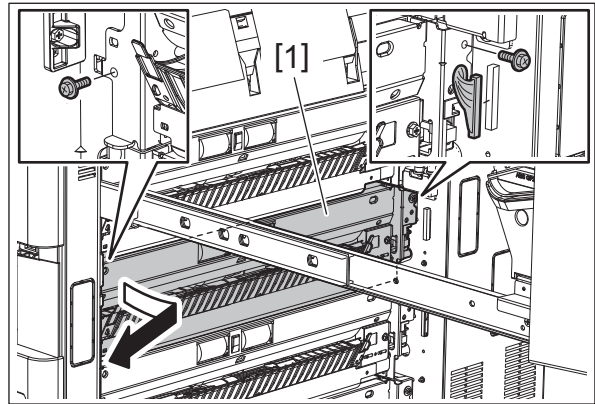


Fig. 4-165

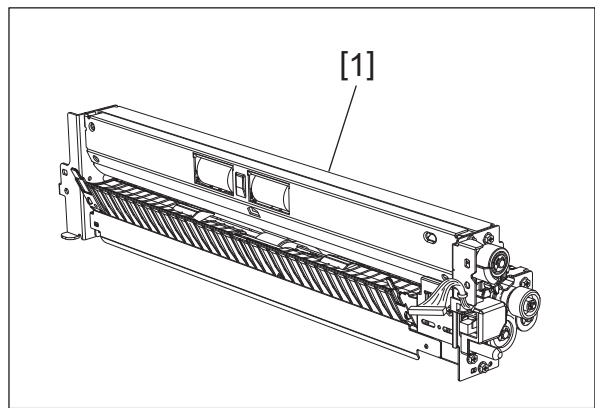


Fig. 4-166

### Notes:

- When removing the 1st drawer feeding unit, take off the connector cover [2].

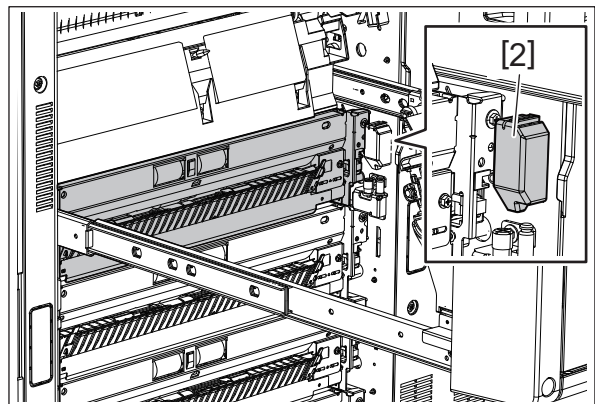
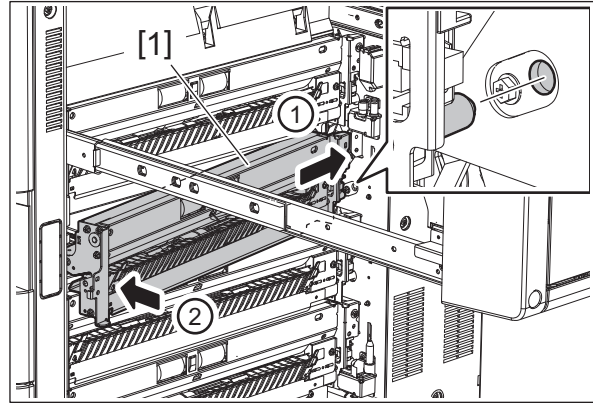


Fig. 4-167

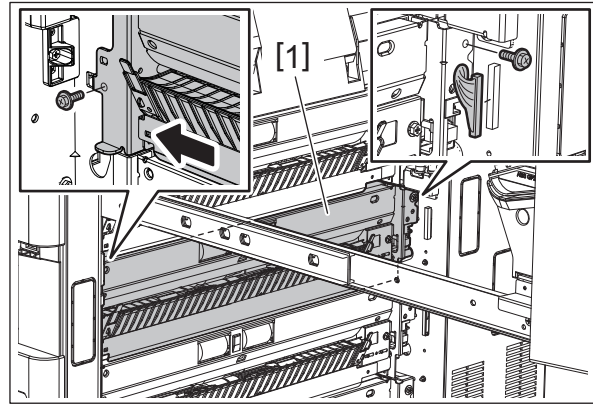
**Notes:**

- Install the drawer feeding unit as shown in the figure.




**Fig. 4-168**

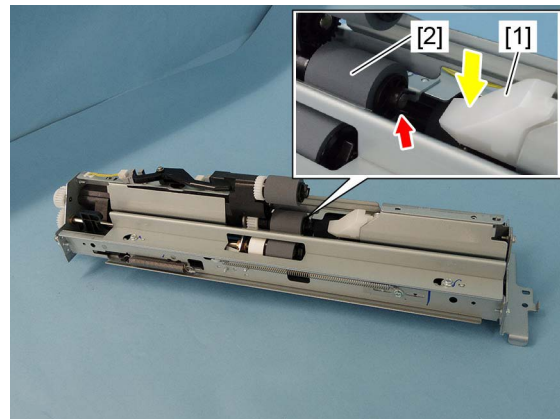
- Move the drawer feeding unit [1] to the front side by the amount of the fixed backlash and then secure it with the screws.



**Fig. 4-169**


#### 4.5.14 Feed roller

- (1) Remove the drawer feeding unit.  
 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Remove 1 clip. Press down the lever [1] and take off the feed roller [2].



**Fig. 4-170**

### 4.5.15 Pickup roller

- (1) Remove the drawer feeding unit.  
 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Remove 1 clip and take off the pickup roller [1].

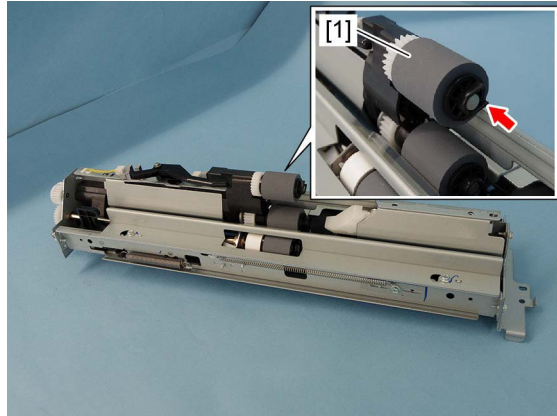



Fig. 4-171

### 4.5.16 Separation roller

- (1) Remove the drawer feeding unit.  
 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Remove 2 screws and take off the paper guide A [1].

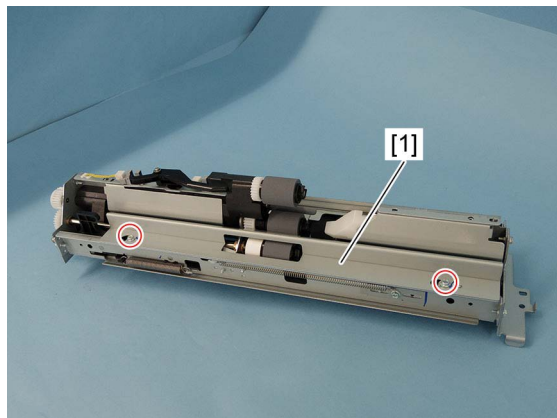


Fig. 4-172

- (3) Remove 1 clip and take off the separation roller [2].

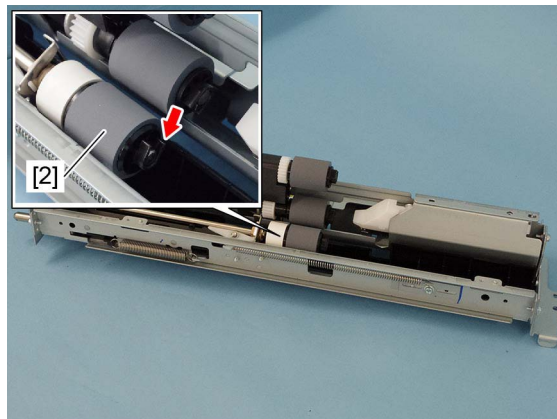



Fig. 4-173

## 4.5.17 Transport roller

- (1) Remove the drawer feeding unit.  
 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Remove 2 screws and take off the paper guide A [1].

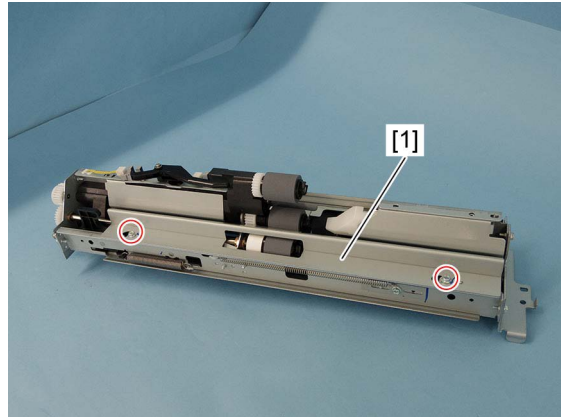


Fig. 4-174

- (3) Remove 1 screw and take off the bracket [2]. Remove the paper guide B [3] by sliding it.

**Notes:**

When installing the paper guide B, fix the bracket temporarily with 1 screw. Then install the paper guide B.

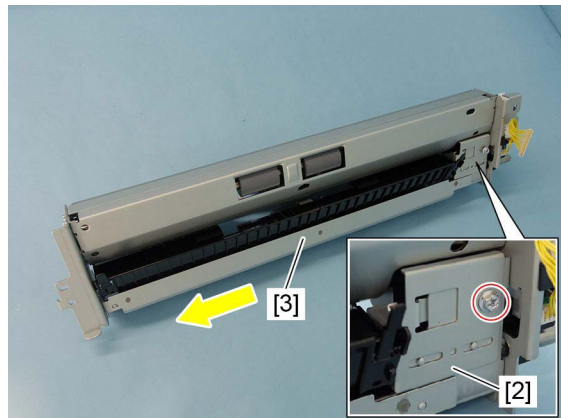


Fig. 4-175

- (4) Release the harness [4] from 4 harness clamps. Disconnect 1 connector [5] and remove 1 screw. Then take off the sensor cover [6].

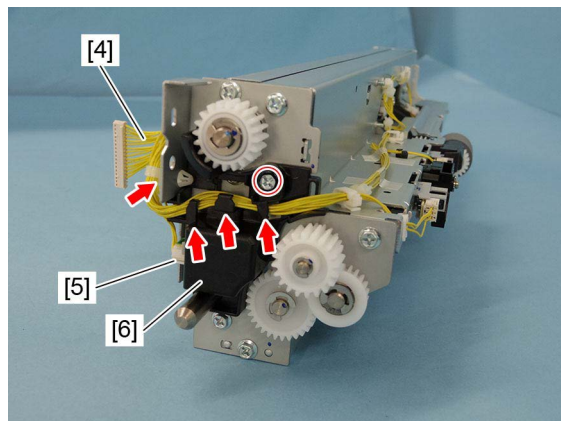


Fig. 4-176



(5) Remove 1 E-ring and the gear [7].

**Notes:**

When assembling the unit, pay attention to the orientation of the one-way clutch.

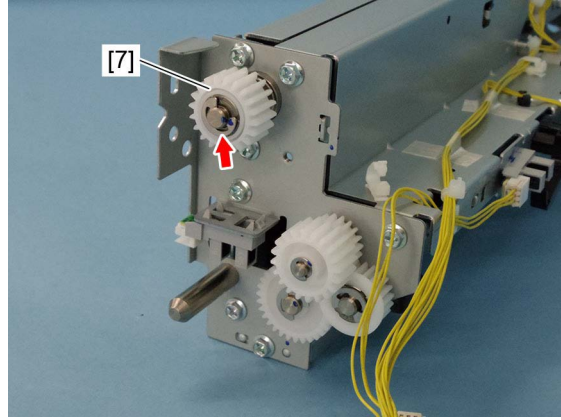


Fig. 4-177

(6) Remove 1 E-ring.

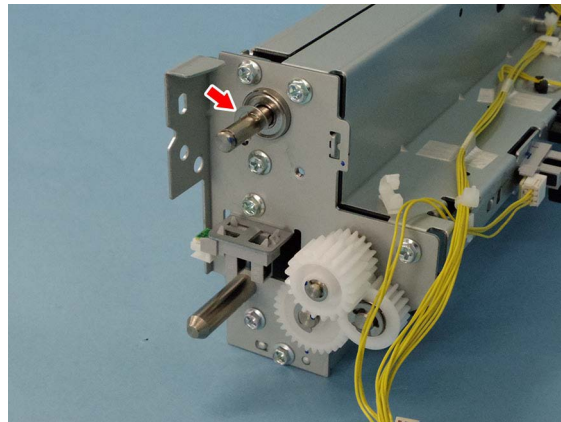


Fig. 4-178

(7) Remove 4 screws, and then take off the paper guide C [8].

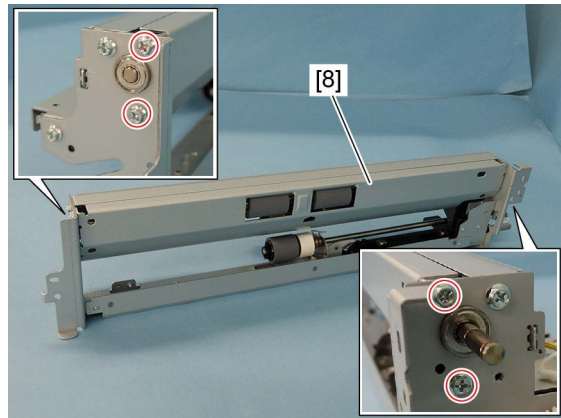
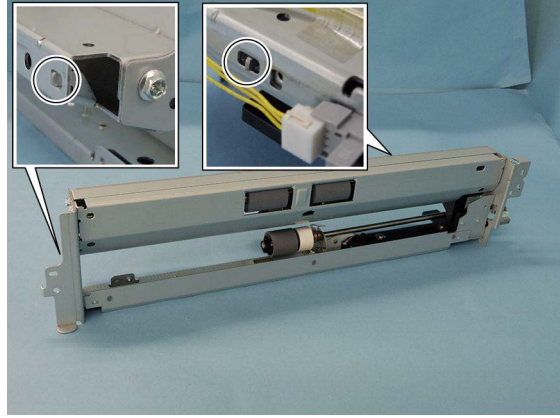


Fig. 4-179

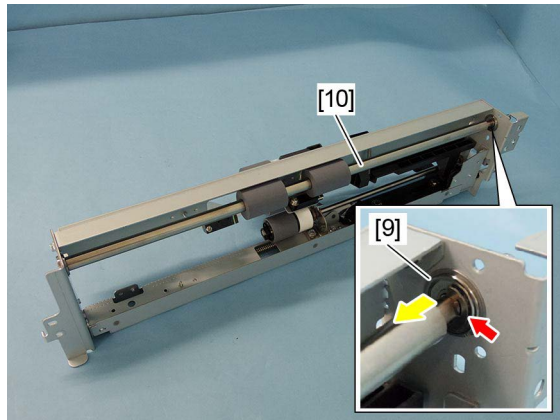
**Notes:**

When reassembling, make sure the boss of the paper guide is securely inserted into the hole of the plate.



**Fig. 4-180**

- (8) Remove 1 E-ring and slide the bearing [9] to the inner side. Then take off the transport roller [10].



**Fig. 4-181**



**Fig. 4-182**

#### 4.5.18 Drawer detection sensor (S73/S81/S89/S97)

- (1) Remove the drawer feeding unit.  
P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Release the harness [1] from 4 harness clamps. Disconnect 1 connector [2] and remove 1 screw. Then take off the sensor cover [3].

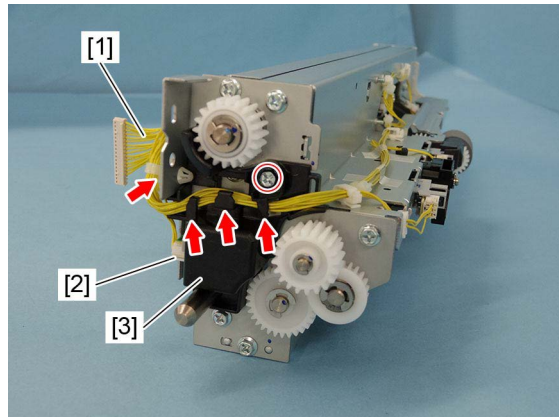


Fig. 4-183

- (3) Release 3 latches and take off the drawer detection sensor [4].

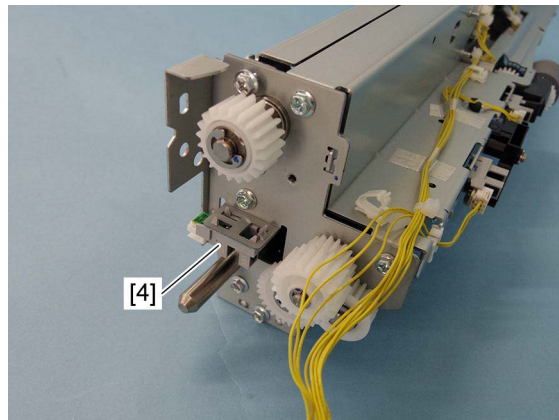


Fig. 4-184

#### 4.5.19 Drawer feed sensor (S78/S86/S94/S102)

- (1) Remove the drawer feeding unit.  
P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Release the harness [1] from 1 harness clamp. Remove 1 screw and take off the sensor bracket [2].

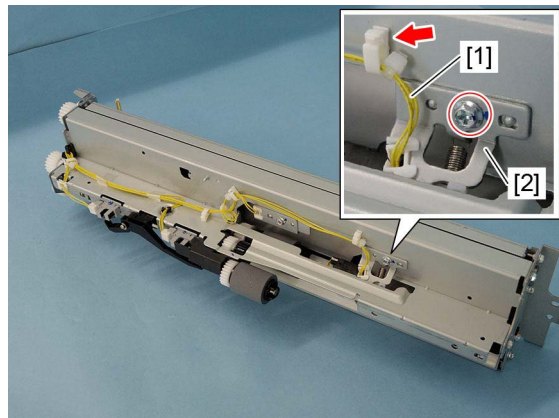


Fig. 4-185

- (3) Release the harness [1] from 1 harness clamp. Disconnect 1 connector [3] and remove 1 screw. Then take off the drawer feed sensor [4].

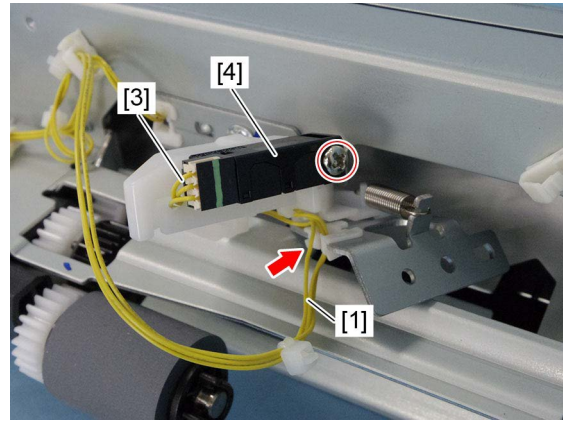


Fig. 4-186

**Notes:**

When installing the sensors, make sure that the protrusion of each sensor is inserted into the hole of the bracket securely.

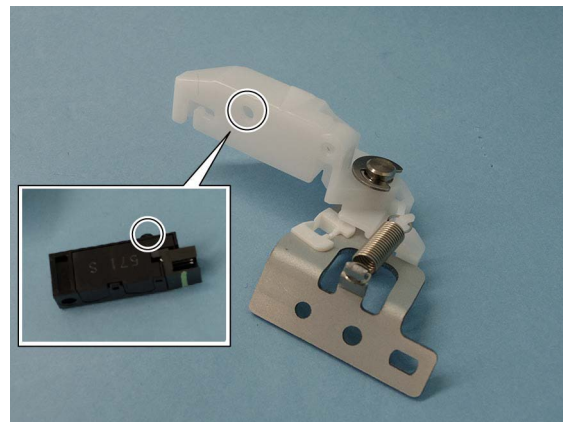


Fig. 4-187

#### 4.5.20 Drawer transport sensor (S77/S85/S93/S101)

- (1) Remove the drawer feeding unit.  
 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Release the harness [1] from 1 harness clamp. Remove 1 screw and take off the sensor bracket [2].

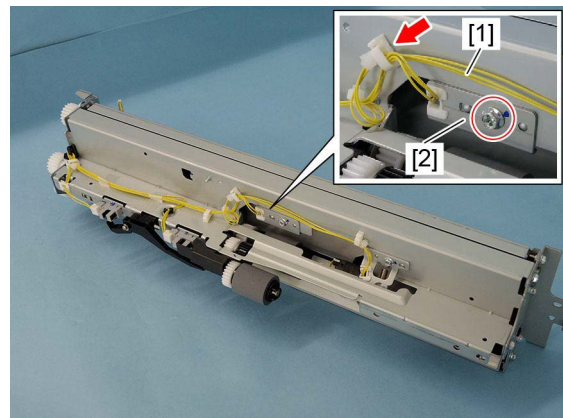


Fig. 4-188

- (3) Disconnect 1 connector and remove 1 screw. Then take off the drawer transport sensor [3].

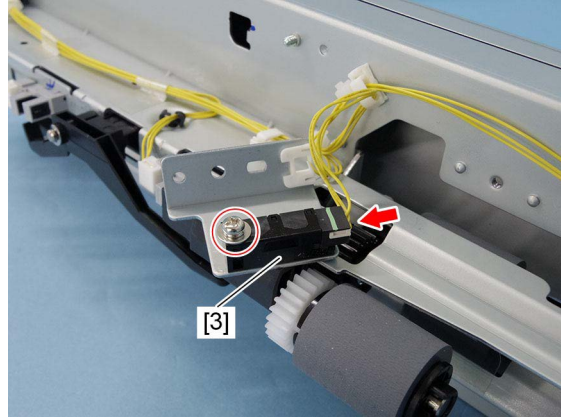


Fig. 4-189

**Notes:**

When installing the sensors, make sure that the protrusion of each sensor is inserted into the hole of the bracket securely.

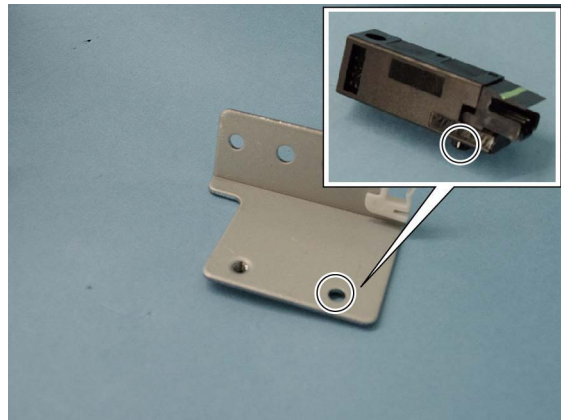


Fig. 4-190

#### 4.5.21 Drawer empty sensor (S75/S83/S91/S99)

- (1) Remove the drawer feeding unit.  
P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Release the harness [1] from 1 harness clamp. Disconnect 1 connector [2] and release 3 latches. Then take off the drawer empty sensor [3].

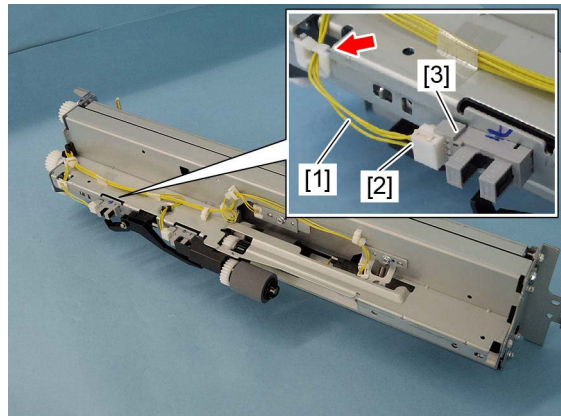


Fig. 4-191

#### 4.5.22 Drawer tray-up sensor (S76/S84/S92/S100)

- (1) Remove the drawer feeding unit.  
📖 P. 4-61 "4.5.13 Drawer feeding unit"
- (2) Disconnect 1 connector and release 3 latches. Then take off the drawer tray-up sensor [1].

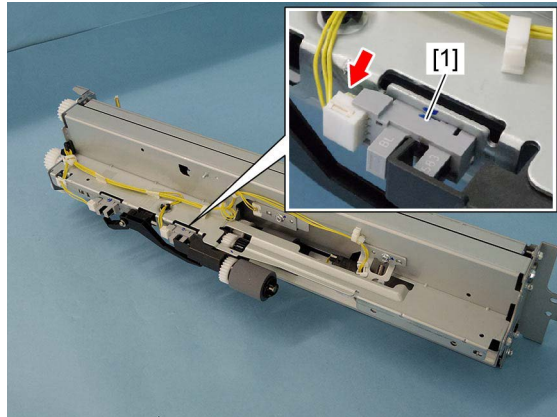


Fig. 4-192

#### 4.5.23 Drawer bottom sensor (S74/S82/S90/S98)

- (1) Remove all the drawers.  
📖 P. 4-76 "4.5.30 Drawer"
- (2) Disconnect 1 connector and release 3 latches, and then remove the drawer bottom sensor [1].  
There are 4 drawer bottom sensors in total.

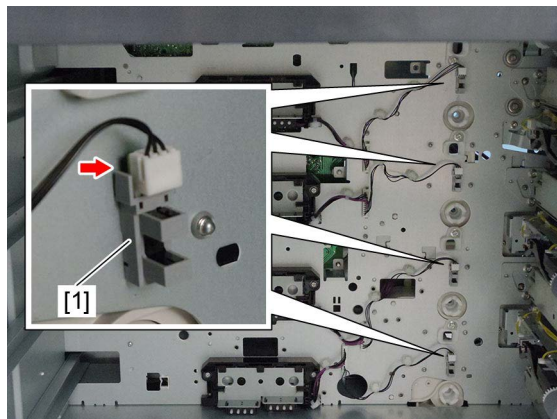


Fig. 4-193

#### 4.5.24 Registration roller (Rubber)

- (1) Remove the 2nd transfer roller unit.  
📖 P. 4-179 "4.7.14 2nd transfer unit (TRU)"
- (2) Remove 1 screw and 1 spring [1], and then take off the holder on the front side [2].

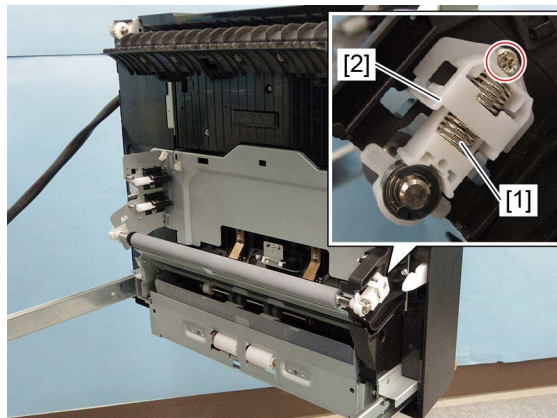


Fig. 4-194

- (3) Remove 1 screw and 1 spring [3], and then take off the holder on the rear side [4]. Remove the registration roller (rubber) [5].

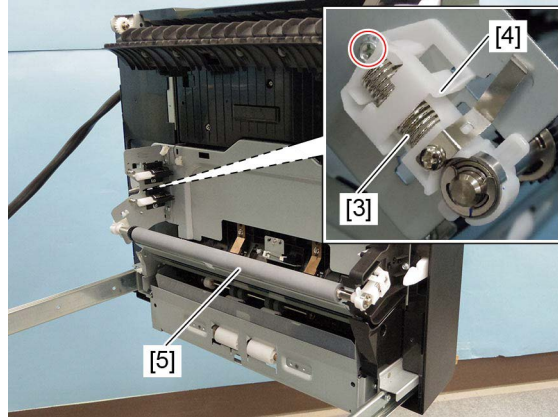


Fig. 4-195

- (4) Remove 3 E-rings [6], 2 holders [7], 1 gear [8] and 1 pin.

**Notes:**

Make sure that the holders are installed in a correct position because those for the front side differ from those for the rear side.

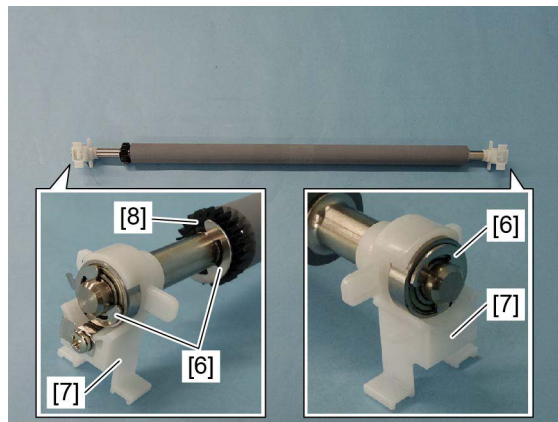


Fig. 4-196

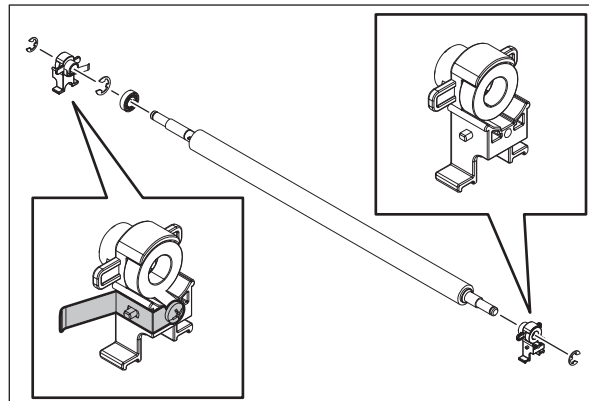


Fig. 4-197

## 4.5.25 Registration guide

- (1) Open the duplexing unit.
- (2) Remove 3 screws and slide the registration guide [1] slightly to the rear side to release the front hook.

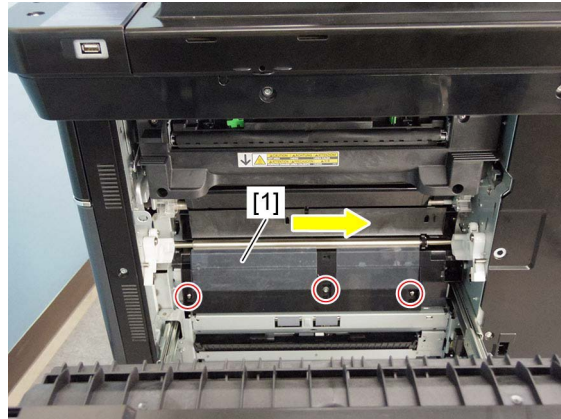


Fig. 4-198

- (3) Disconnect 1 connector. Then take off the registration guide [1].

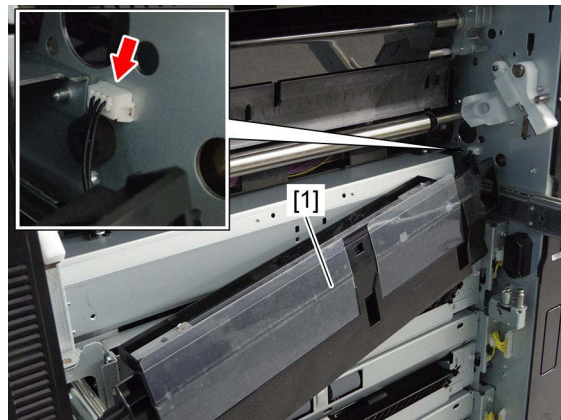


Fig. 4-199

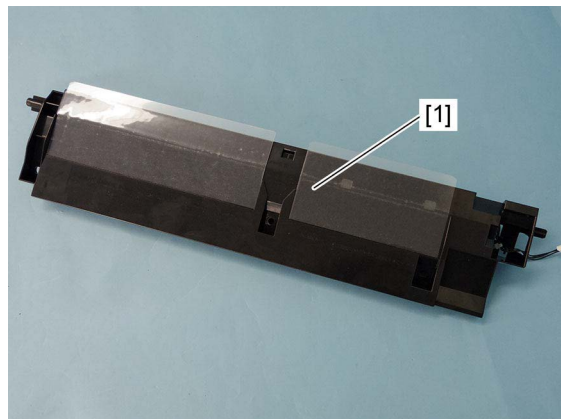



Fig. 4-200



## 4.5.26 Registration sensor (S52)

- (1) Take off the registration guide.  
 P. 4-72 "4.5.25 Registration guide"
- (2) Remove 3 screws and the paper dust receiving tray [1].

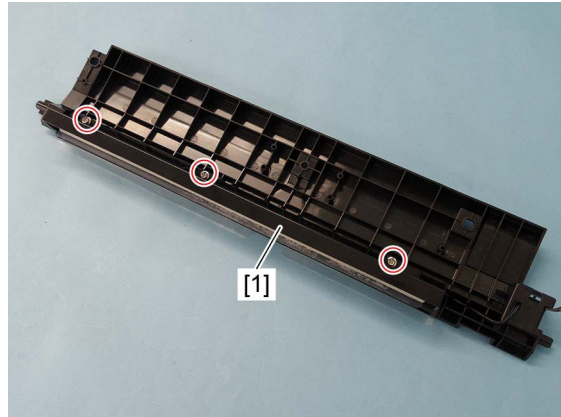


Fig. 4-201

- (3) Disconnect 1 connector and remove 1 screw. Then take off the registration sensor [2].

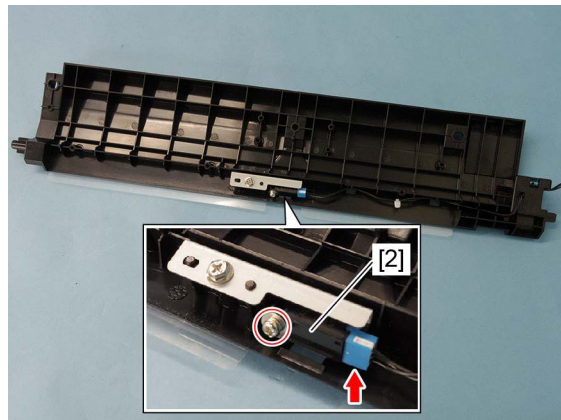


Fig. 4-202

### Notes:

When installing the sensor, make sure that the protrusion of the sensor is inserted into the hole of the bracket securely.



Fig. 4-203

## 4.5.27 Registration roller (Metal)

- (1) Remove the registration guide.  
 P. 4-72 "4.5.25 Registration guide"
- (2) Remove the registration motor.  
 P. 4-77 "4.5.32 Registration motor (M39)"
- (3) Remove the laser unit cooling duct.  
 P. 4-41 "4.4.2 Laser optical unit cooling fan (front) (F22)"
- (4) Remove 1 E-ring and the bearing [1] on the front side.

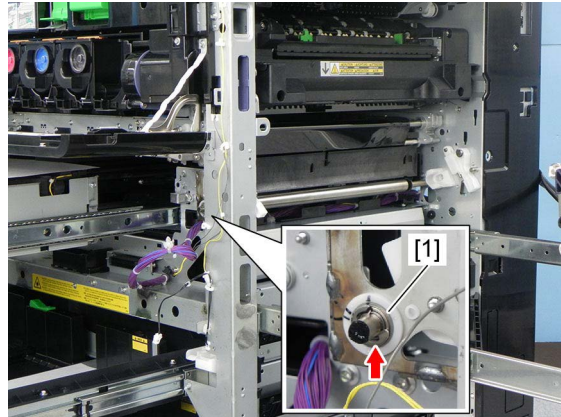


Fig. 4-204

- (5) Remove the registration roller (metal) [2] by sliding it to the rear side and pulling it out toward you.

### Notes:

When removing the registration roller (metal) [2], be careful not to hit the roller gear on the rear side to the frame because it may scratch the roller.

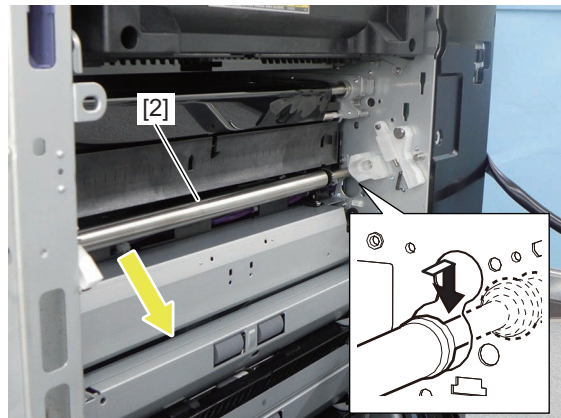


Fig. 4-205

## 4.5.28 2nd transfer side paper clinging detection sensor (S51)

- (1) Remove the 2nd transfer unit.  
 P. 4-179 "4.7.14 2nd transfer unit (TRU)"
- (2) Remove 1 screw and take off the sensor holder [1].

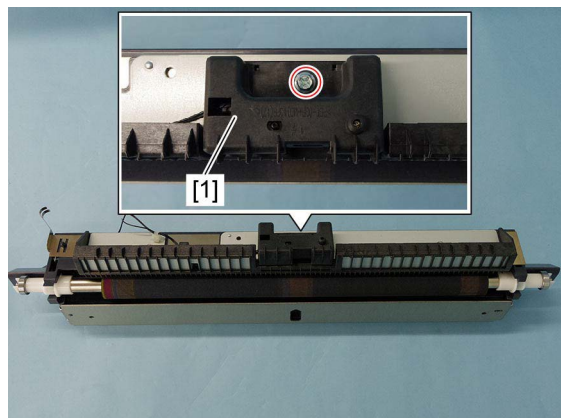


Fig. 4-206

- (3) Remove 1 screw and 1 connector. Remove the 2nd transfer side paper clinging detection sensor [2].

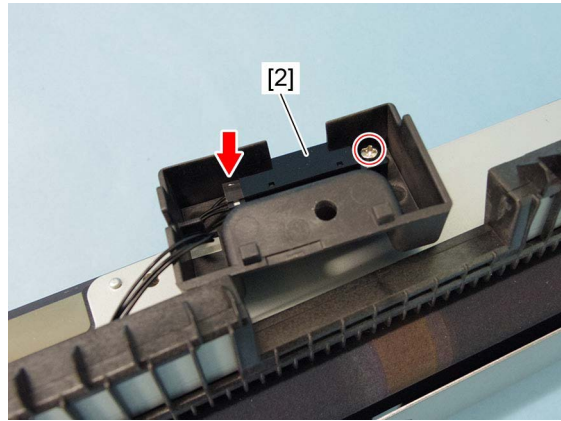


Fig. 4-207

**Notes:**

When installing the sensor, make sure that the protrusion of the sensor is inserted into the hole of the bracket securely.

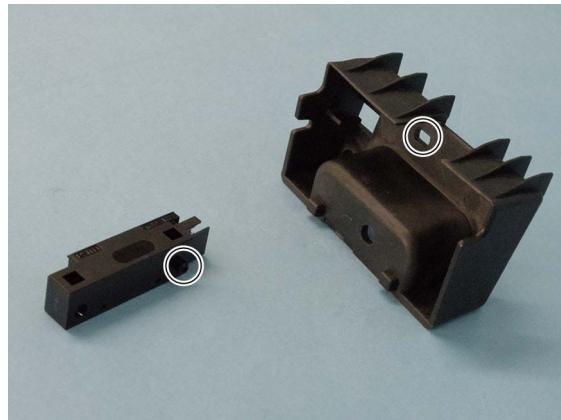


Fig. 4-208

### 4.5.29 Feed cover sensor (S114)

- (1) Open the duplexing unit.
- (2) Open the feed cover.
- (3) Take off the sensor cover [1] by pushing the latch on its upper side.

**Notes:**

When installing the sensor cover, insert the latch on its lower side into the hole of the frame first.

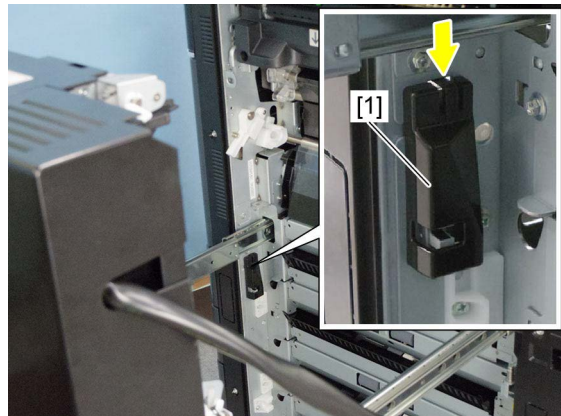


Fig. 4-209

- (4) Disconnect 1 connector and release 3 latches. Then take off the feed cover sensor [2].

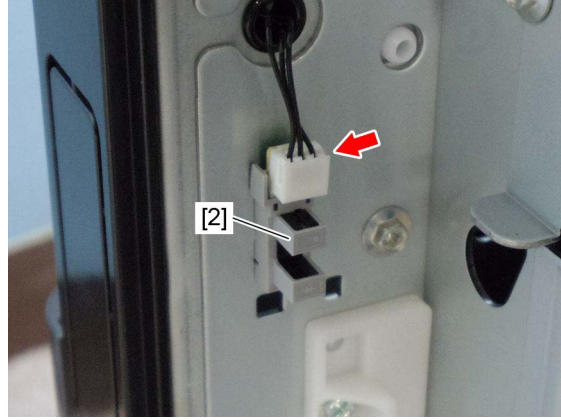


Fig. 4-210

### 4.5.30 Drawer

- (1) Pull out the drawer and remove paper in it.
- (2) Remove 3 screws and take off the drawer [1].

**Notes:**

When installing, engage the left roller of the drawer with the rail of the equipment, and then place the right roller on the rail.

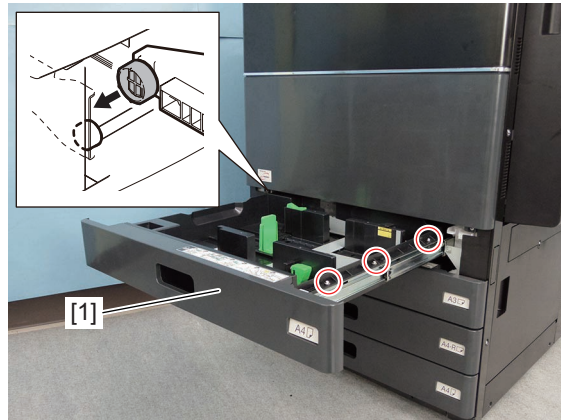


Fig. 4-211

### 4.5.31 Drawer paper width detection sensor / Drawer paper length detection sensor (S79/S80/S87/S88/S95/S96/S103/S104)

- (1) Remove all the drawers.  
 P. 4-76 "4.5.30 Drawer"
- (2) Disconnect 1 connector [1] and release 2 hooks. Remove the drawer paper width detection sensor [2] and the drawer paper length detection sensors [3].  
 There are 4 drawer paper width detection sensors and drawer paper length detection sensors respectively.

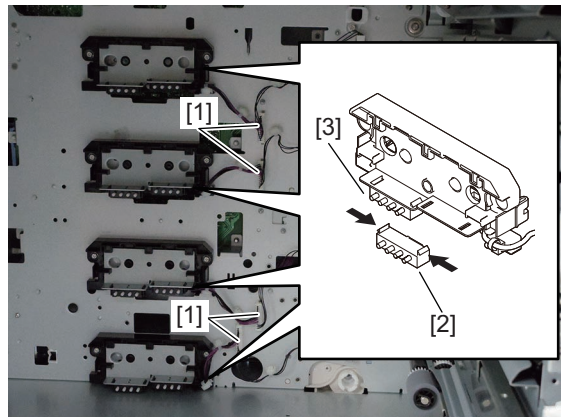



Fig. 4-212

### 4.5.32 Registration motor (M39)

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 1 connector and remove 3 screws, and then remove the registration motor [1] with its bracket.

**Notes:**

When installing the motor, make sure that the belt is hung on the gear and the pulley of the motor securely.

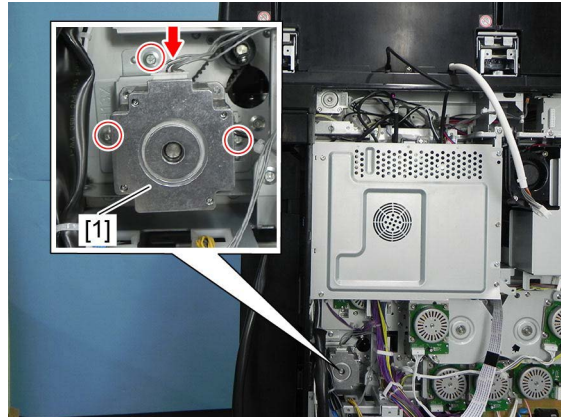


Fig. 4-213

- (3) Remove 2 screws and take off the registration motor [1].

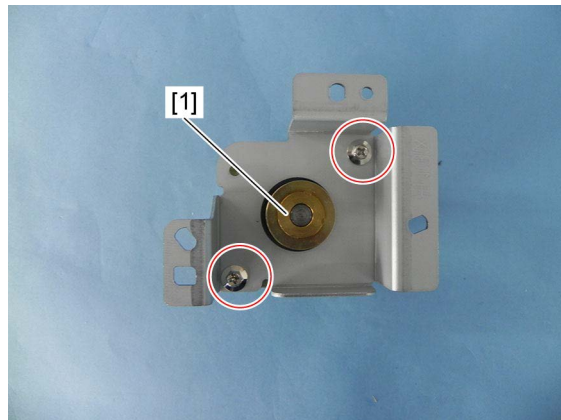



Fig. 4-214

### 4.5.33 3rd/4th drawer/LCF feed motor

- (1) Remove the PFC board case.  
 P. 9-9 "9.1.9 LGC/PFC board case"
- (2) Release the harness of the bracket from the harness clamp [1].
- (3) Remove 2 harness clamps [2].
- (4) Disconnect 3 connectors and remove 4 screws, and then take off the feed/transport drive unit [3].

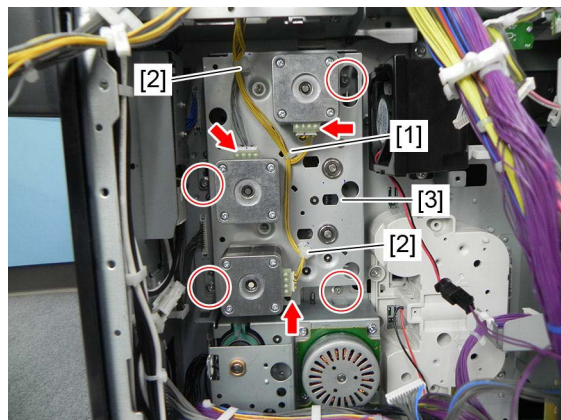
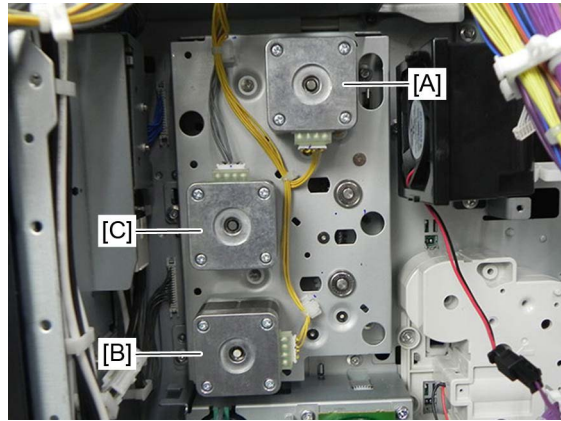


Fig. 4-215


**Remarks:**

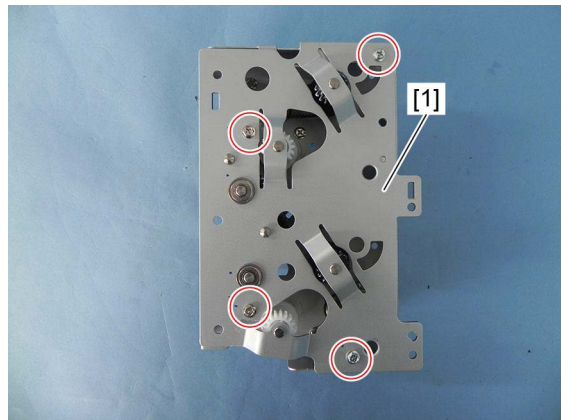
- [A] Transport motor-1 (M40)
- [B] Transport motor-2 (M41)
- [C] 1st/2nd drawer feed motor (M42)



**Fig. 4-216**

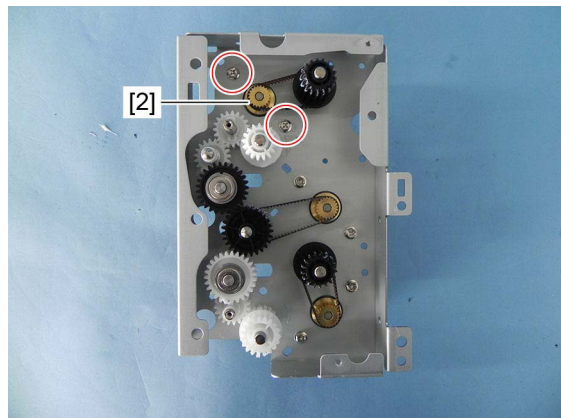
### 4.5.34 Transport motor-1 (M40)

- (1) Remove the feed/transport drive unit.  
 P. 4-77 "4.5.33 3rd/4th drawer/LCF feed motor"
- (2) Remove 4 screws and the plate [1].




**Fig. 4-217**

- (3) Remove 2 screws and take off the transport motor-1 [2].



**Fig. 4-218**

### 4.5.35 Transport motor-2 (M41)

- (1) Remove the plate.  
 P. 4-78 "4.5.34 Transport motor-1 (M40)"
- (2) Remove 2 screws and take off the transport motor-2 [1].

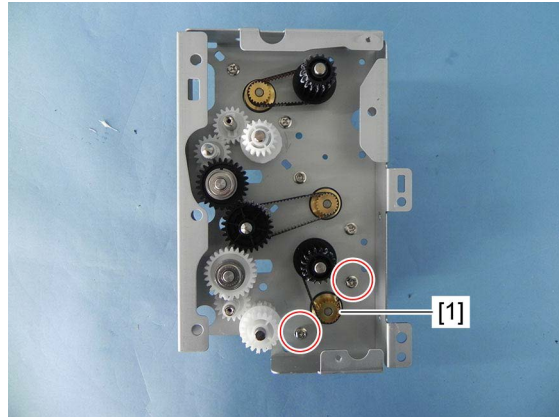



Fig. 4-219

### 4.5.36 1st/2nd drawer feed motor (M42)

- (1) Remove the plate.  
 P. 4-78 "4.5.34 Transport motor-1 (M40)"
- (2) Remove 2 screws and take off the 1st/2nd drawer feed motor [1].

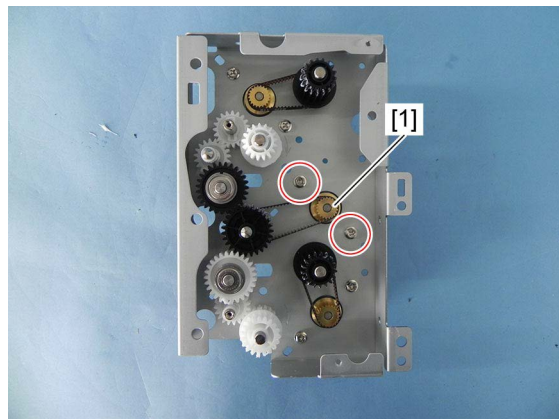



Fig. 4-220

### 4.5.37 3rd/4th drawer/LCF feed motor (M43)

- (1) Release the bracket.  
 P. 4-80 "4.5.38 Paper feed drive unit"
- (2) Remove 4 screws and 1 connector and then take off the 3rd/4th drawer/LCF feed motor [1].

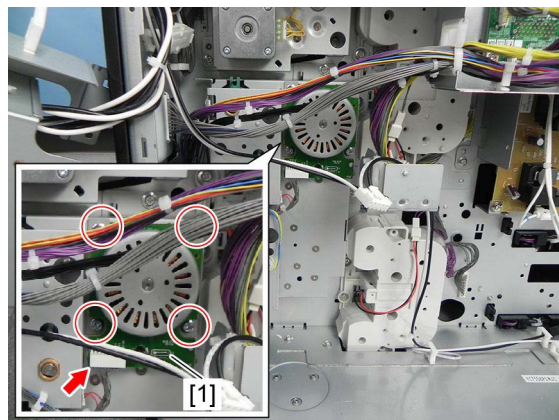



Fig. 4-221

## 4.5.38 Paper feed drive unit

- (1) Remove the switching regulator case.  
 P. 9-14 "9.1.13 Switching regulator case"
- (2) Release the harness from 3 harness clamps.

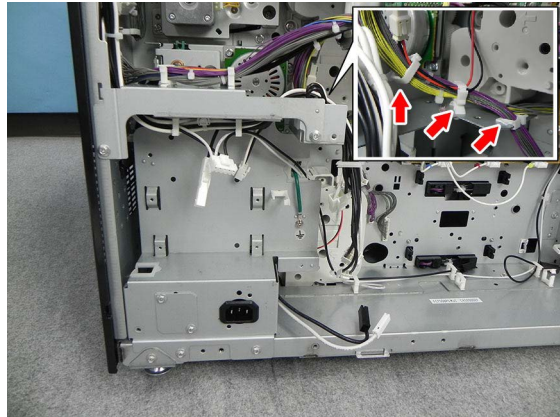


Fig. 4-222

- (3) Release the harness from 5 harness clamps. Remove 4 screws and release the bracket [1].

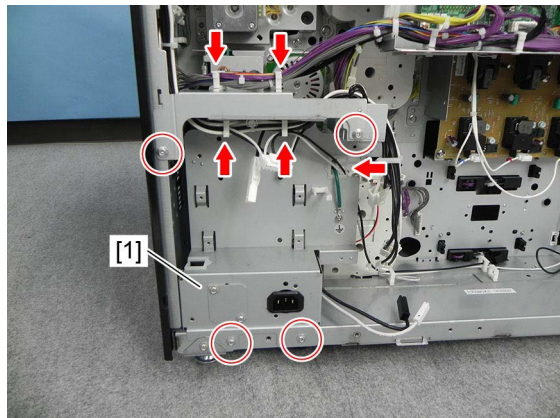


Fig. 4-223

- (4) Remove 4 screws and take off the paper feed drive unit [2].

### Notes:

The number of clutches in the paper feed drive unit of the Tandem LCF model differs from that of the 4-drawer model.

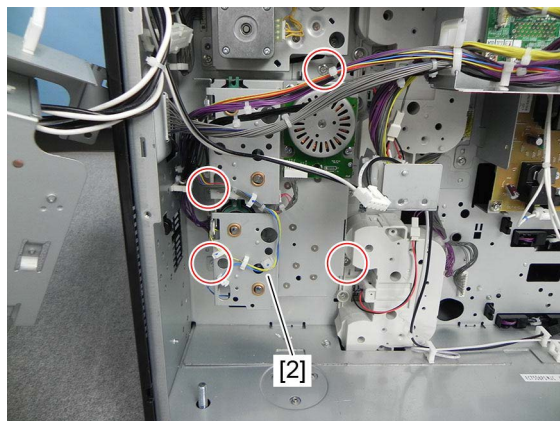


Fig. 4-224



### 4.5.39 3rd drawer transport clutch (CLT4)/3rd drawer feed clutch (CLT5)

- (1) Remove the paper feed drive unit.  
☞ P. 4-80 "4.5.38 Paper feed drive unit"
- (2) Disconnect 1 connector [1] and release the harness from 4 harness clamps. Remove the harness clamp [2].
- (3) Remove 2 screws and take off the bracket [3].

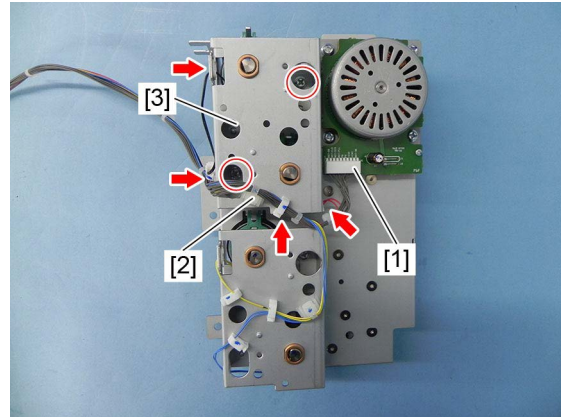


Fig. 4-225

- (4) Disconnect 1 connector.  
Remove 1 bushing [4] and 2 clips [5].  
Remove the 3rd drawer transport clutch [6] from the shaft.

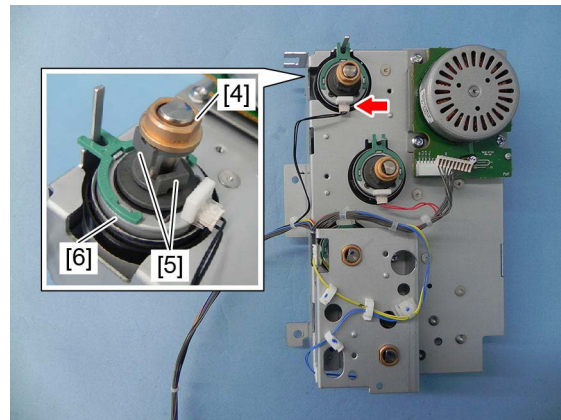


Fig. 4-226

- (5) Disconnect 1 connector.  
Remove 1 bushing [7] and 2 clips [8].  
Remove the 3rd drawer feed clutch [9] from the shaft.

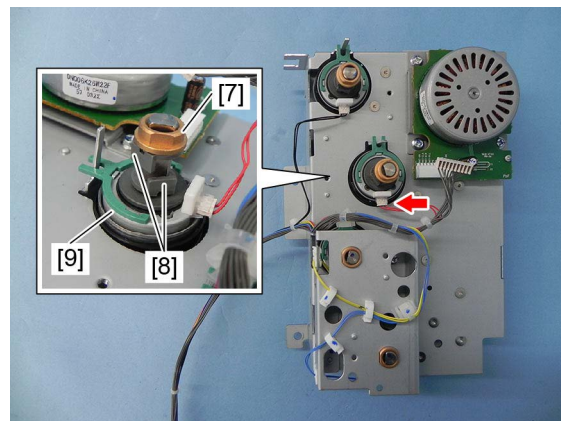


Fig. 4-227

**Notes:**

- When installing, be sure to align the protrusion of the clutch to the position shown in the figure.
- The color of the harnesses for the drawer transport clutch and for the drawer feed clutch is different. When installing, be sure to attach the corresponding harness. Black: 3rd drawer transport clutch harness [10]  
Red: 3rd drawer feed clutch harness [11]

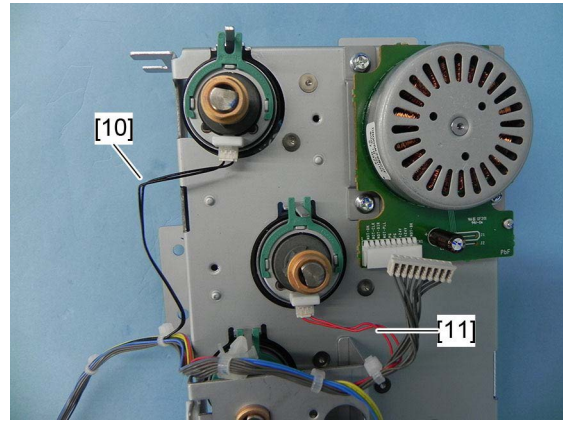


Fig. 4-228

#### 4.5.40 4th drawer transport clutch (CLT6)/4th drawer feed clutch (CLT7)

- (1) Remove the paper feed drive unit.  
 P. 4-80 "4.5.38 Paper feed drive unit"
- (2) Release the harness from 5 harness clamps. Remove the harness clamp [1].
- (3) Remove 2 screws and take off the bracket [2].

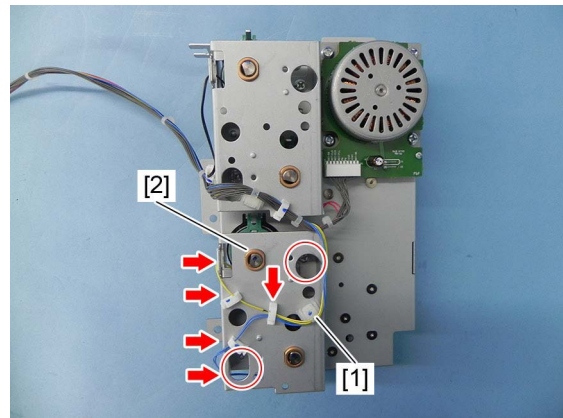


Fig. 4-229

- (4) Disconnect 1 connector. Remove 1 bushing [3] and 2 clips [4]. Remove the 4th drawer transport clutch [5] from the shaft.

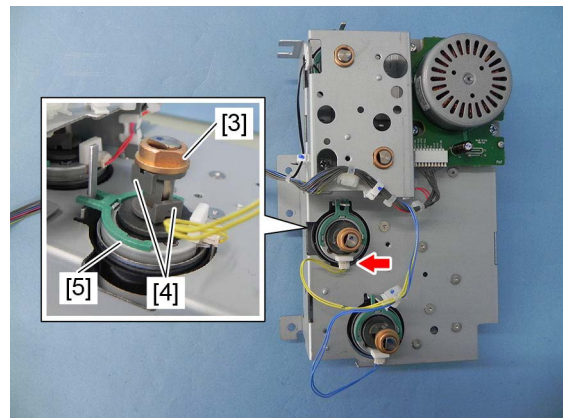


Fig. 4-230

- (5) Disconnect 1 connector.  
Remove 1 bushing [6] and 2 clips [7].  
Remove the 4th drawer feed clutch [8] from the shaft.

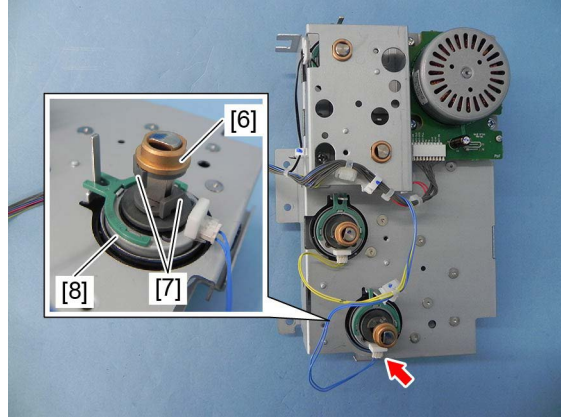


Fig. 4-231

**Notes:**

1. When installing, be sure to align the protrusion of the clutch to the position shown in the figure.
2. The color of the harnesses for the drawer transport clutch and for the drawer feed clutch is different. When installing, be sure to attach the corresponding harness. Yellow: 4th drawer transport clutch harness [9]  
Blue: 4th drawer feed clutch harness [10]

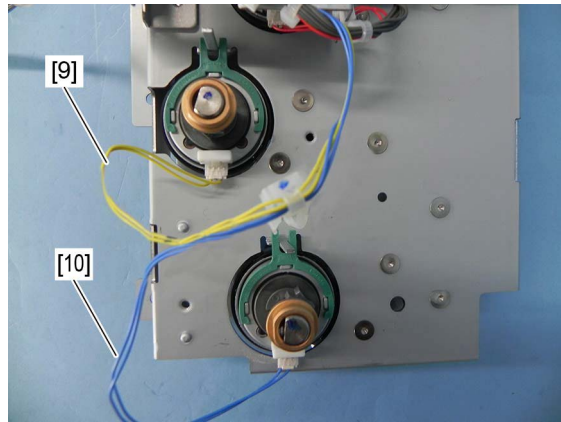


Fig. 4-232

#### 4.5.41 1st/2nd drawer tray-up motor (M44)

- (1) Remove the 1st and 2nd drawers.
- (2) Remove the LGC/PFC board case.  
📖 P. 9-9 "9.1.9 LGC/PFC board case"
- (3) Remove the switching regulator case.  
📖 P. 9-14 "9.1.13 Switching regulator case"
- (4) Disconnect 1 connector and release the harness from 2 harness clamps [1].
- (5) Remove 4 screws and take off the tray drive unit [2].

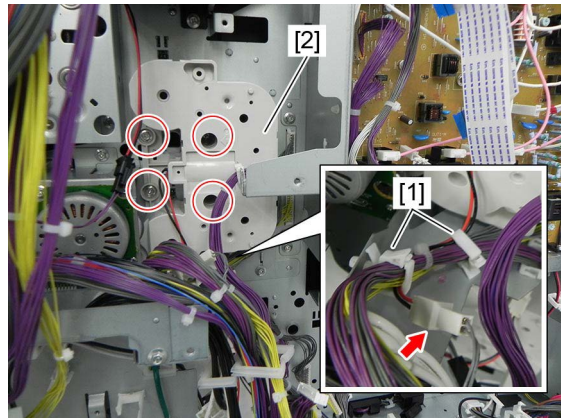


Fig. 4-233

(6) Release 6 latches and remove the cover [3].

**Notes:**

Be careful in taking off the cover because there is a spring in the tray drive unit.

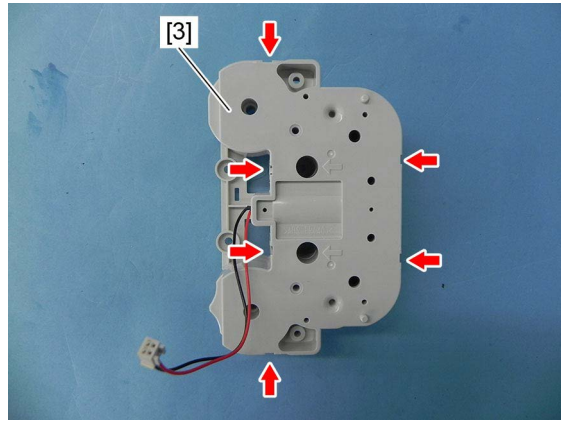


Fig. 4-234

(7) 1st/2nd drawer tray-up motor [4].

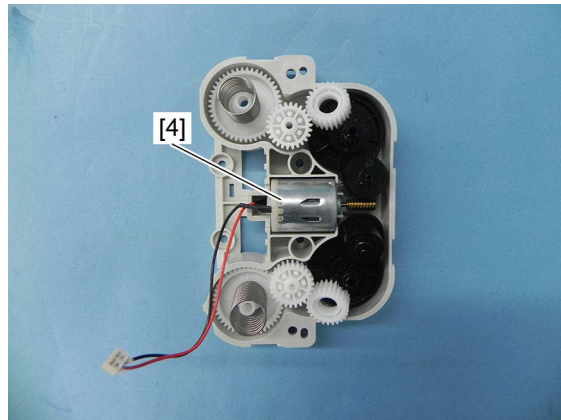


Fig. 4-235

**Notes:**

Match the hole of the gear with the boss of the cover when installing the motor.

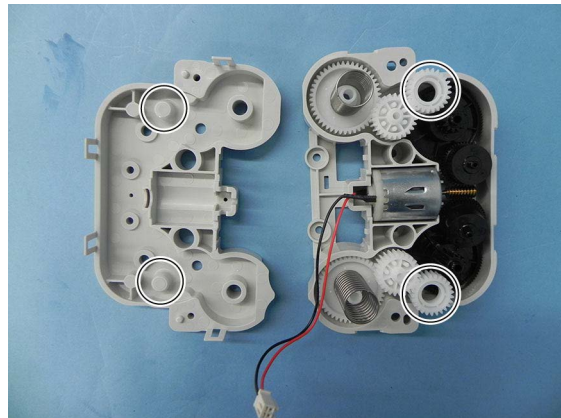



Fig. 4-236

## 4.5.42 3rd/4th drawer/LCF tray-up motor (M45)

- (1) Remove the 3rd and 4th drawers or tandem LCF.
- (2) Remove the switching regulator case.  
 P. 9-14 "9.1.13 Switching regulator case"
- (3) Release the harness from 5 harness clamps. Remove 4 screws and release the bracket [1].

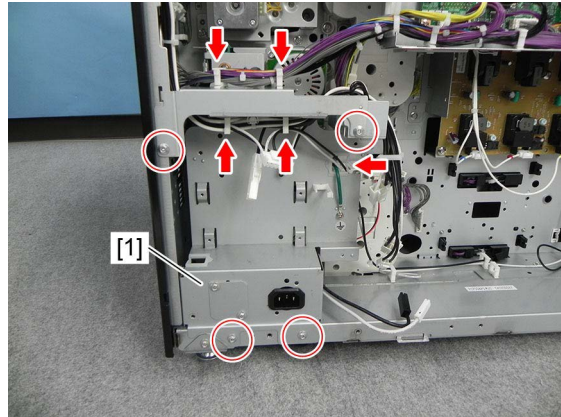


Fig. 4-237

- (4) Disconnect 1 connector. Remove 4 screws and take off the tray drive unit [2].

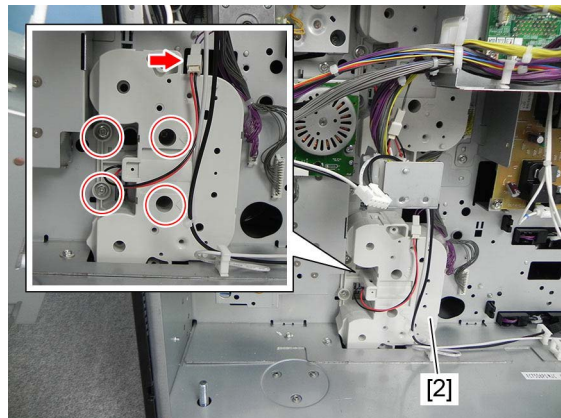


Fig. 4-238

- (5) Release 6 latches and remove the cover [3].

**Notes:**

Be careful in taking off the cover because there is a spring in the tray drive unit.

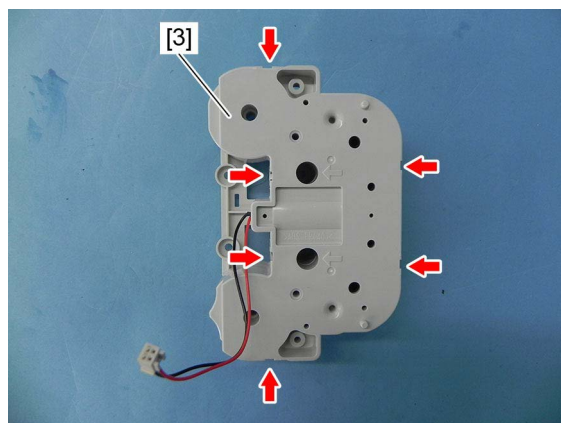


Fig. 4-239

- (6) Remove the 3rd/4th drawer/LCF tray-up motor [4].

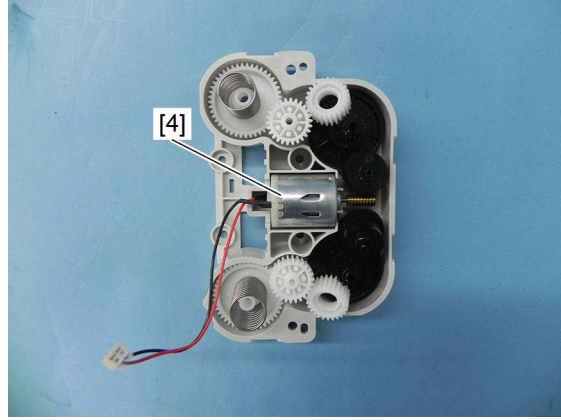


Fig. 4-240

**Notes:**

Match the hole of the gear with the boss of the cover when installing the motor.

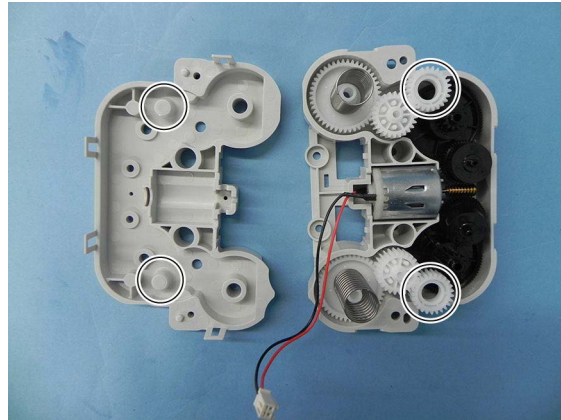


Fig. 4-241

#### 4.5.43 Transfer belt paper clinging detection sensor (S47)

- (1) Pull out the transfer belt unit.  
📖 P. 4-164 "4.7.1 Pulling out of the transfer belt unit"
- (2) Remove 2 screws and lift up the middle guide [1].

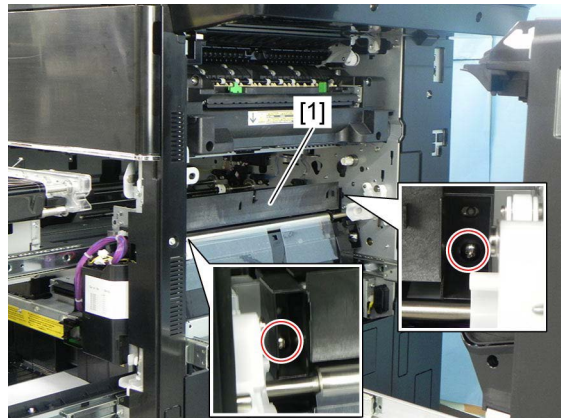


Fig. 4-242

- (3) Disconnect 1 connector and remove the middle guide [1].

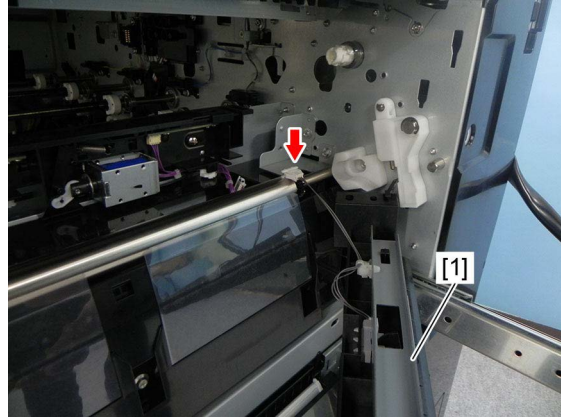


Fig. 4-243

- (4) Remove 1 screw and 1 harness clamp. Remove the plate [2] by sliding it.

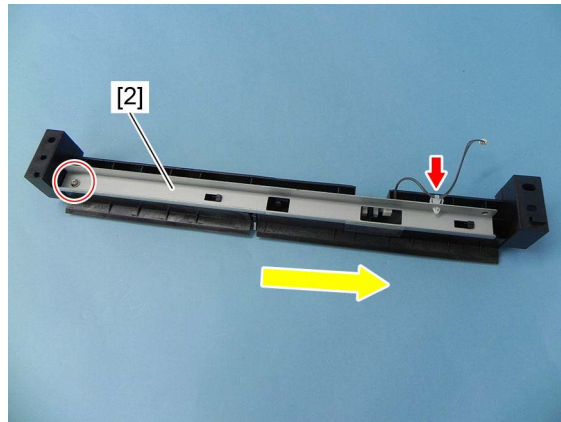


Fig. 4-244

- (5) Disconnect 1 connector and remove the transfer belt paper clinging detection sensor [3].

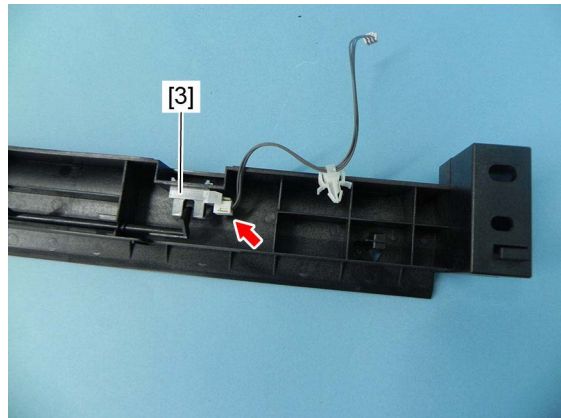




Fig. 4-245

#### 4.5.44 T-LCF tray-up motor (M46)

- (1) Pull out the tandem LCF.
- (2) Remove the switching regulator case.  
 P. 9-14 "9.1.13 Switching regulator case"
- (3) Release the bracket.  
 P. 4-80 "4.5.38 Paper feed drive unit"
- (4) Disconnect 1 connector and remove 3 screws, and then take off the T-LCF tray-up motor unit [1].

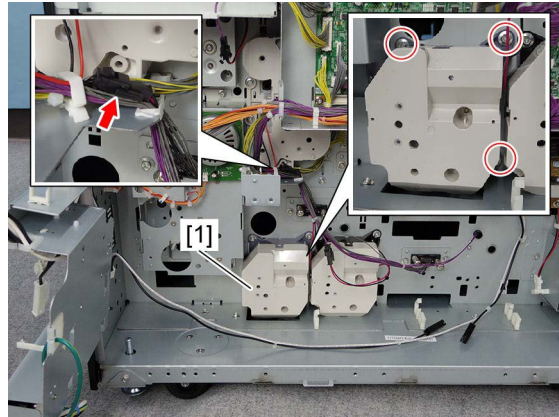


Fig. 4-246

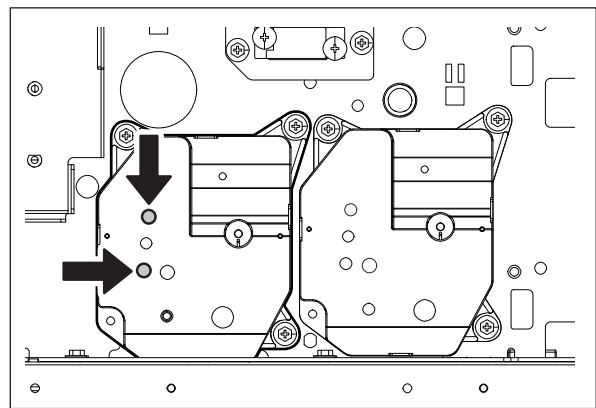


Fig. 4-247

- (5) Release 2 latches and remove the coupling [2] and spring [3].

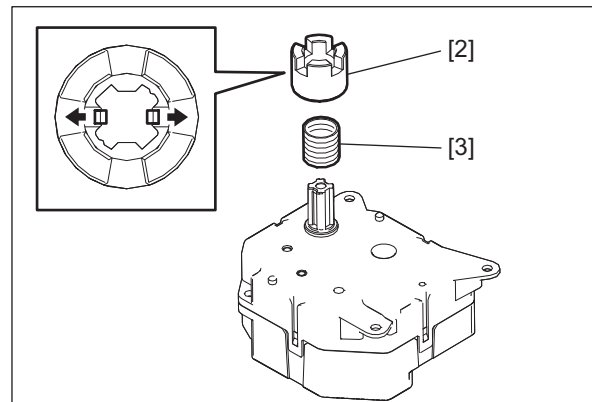


Fig. 4-248



- (6) Release 4 latches and remove the T-LCF tray-up motor [4].

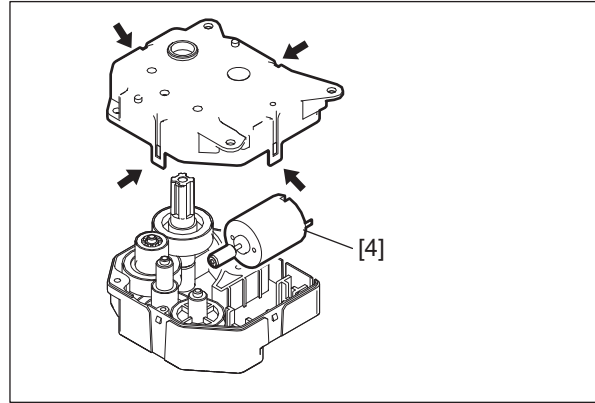


Fig. 4-249

#### 4.5.45 T-LCF end fence motor (M47)

- (1) Pull out the tandem LCF.
- (2) Remove the switching regulator case.  
 P. 9-14 "9.1.13 Switching regulator case"
- (3) Disconnect 1 connector and remove 3 screws, and then take off the T-LCF end fence motor unit [1].

**Notes:**

Do not mix the T-LCF tray-up motor and the T-LCF end fence motor [1] when installing them.

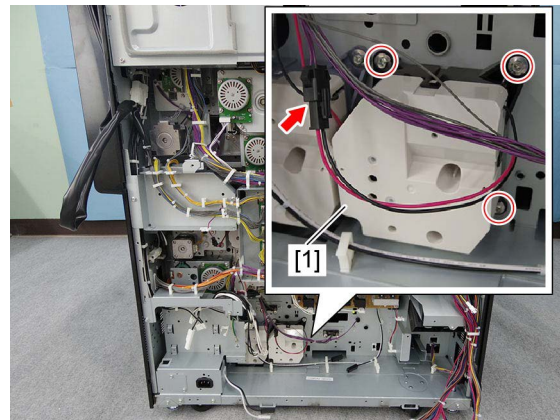


Fig. 4-250

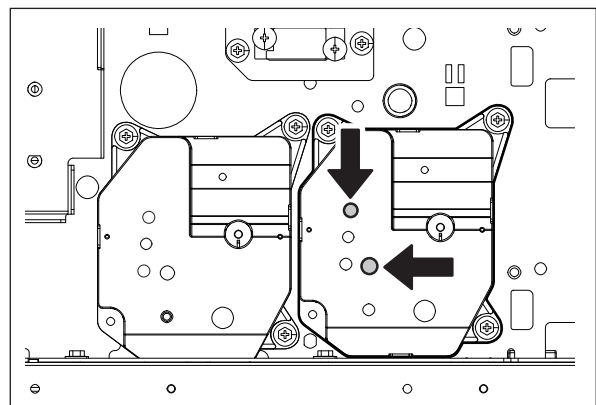


Fig. 4-251

- (4) Release 2 latches and remove the coupling [2] and spring [3].

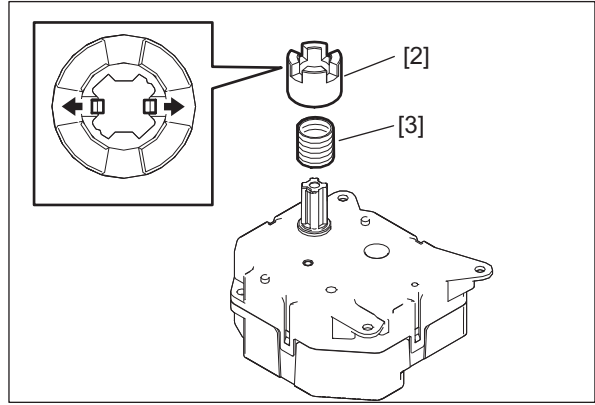


Fig. 4-252

- (5) Release 4 latches and remove the T-LCF end fence motor [4].

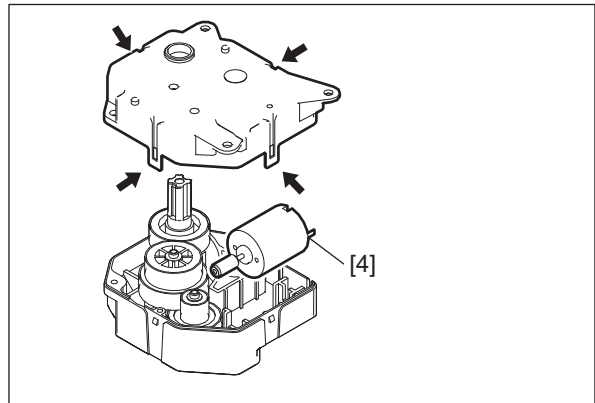


Fig. 4-253

#### 4.5.46 Tandem LCF standby unit

- (1) Pull out the tandem LCF.
- (2) Remove 2 screws and take off the stopper plate [1].

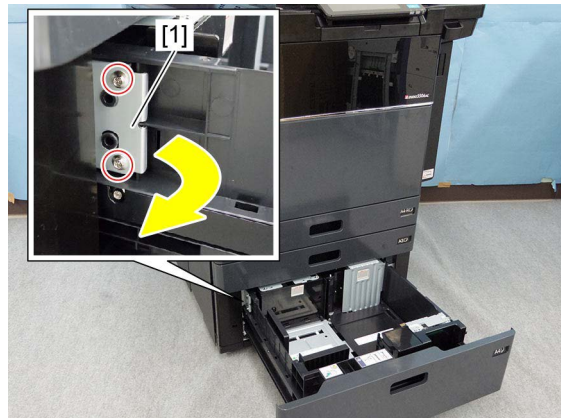


Fig. 4-254

- (3) Insert the tandem LCF feeding unit [2].



Fig. 4-255

- (4) Remove 3 screws and take off the tandem LCF standby unit [3].

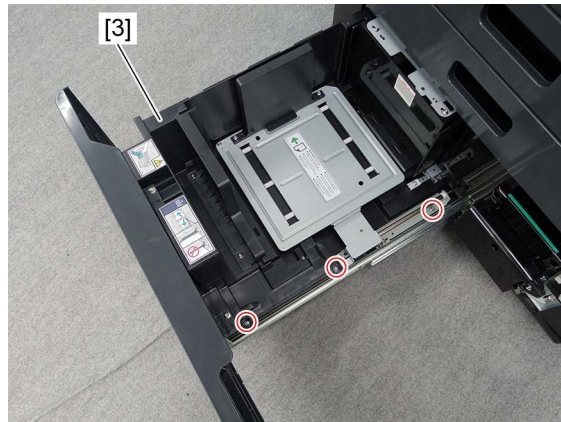


Fig. 4-256


#### 4.5.47 Tandem LCF feeding unit

- (1) Take off the tandem LCF standby unit.  
📖 P. 4-90 "4.5.46 Tandem LCF standby unit"  
(2) Remove 3 screws and take off the tandem LCF feeding unit [1].



Fig. 4-257

#### 4.5.48 T-LCF Stopper opening/closing solenoid (front) (SOL10)/ T-LCF stopper opening/closing detection sensor (front) (S110)

- (1) Take off the tandem LCF feeding unit.  
 P. 4-91 "4.5.47 Tandem LCF feeding unit"
- (2) Remove 4 screws, and then take off the feeding unit front cover [1].

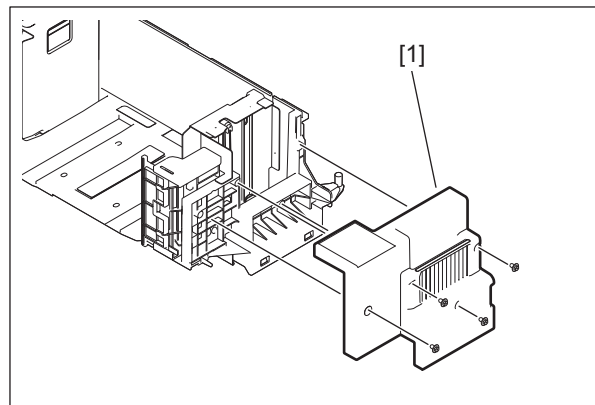


Fig. 4-258

- (3) Remove 2 screws, release 2 hooks and then take off the stopper unit [2].

**Notes:**

The position of the hook differs depending on the destination.

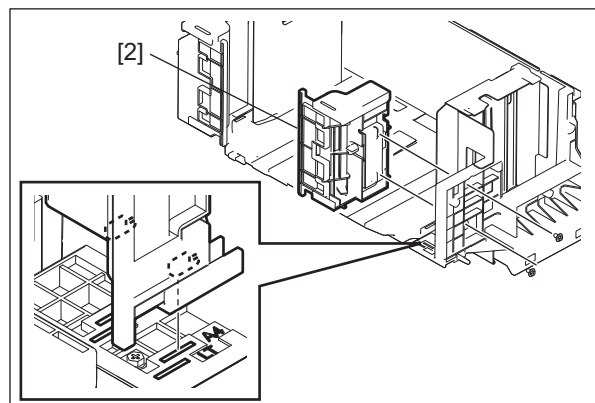


Fig. 4-259

- (4) Remove 2 screws, and then take off the plate [3].

**Notes:**

The direction of the plate differs depending on the destination (A4/LT).

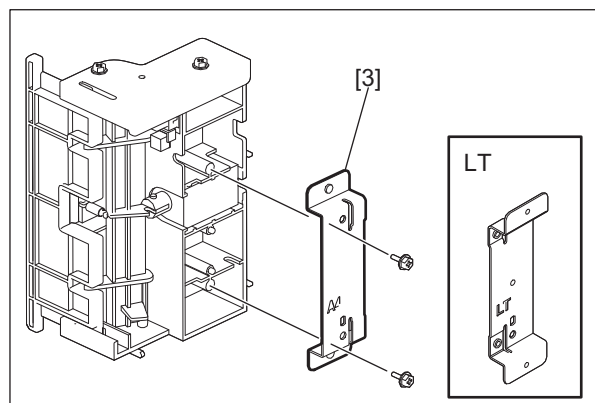


Fig. 4-260

- (5) Disconnect 1 connector, and then take off the T-LCF Stopper opening/closing solenoid (front) [4].
- (6) Disconnect 1 connector and release 3 latches. Then take off the T-LCF stopper opening/closing detection sensor (front) [5].

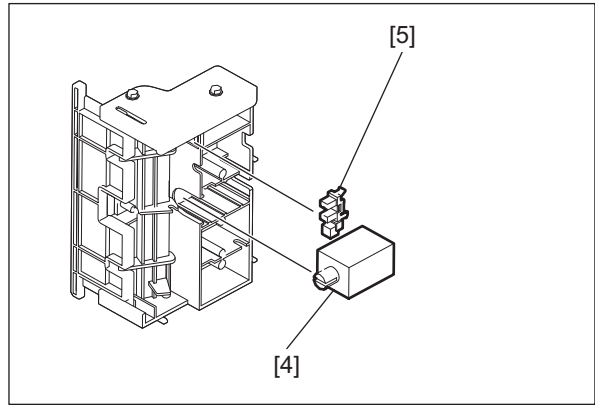


Fig. 4-261

#### 4.5.49 T-LCF Stopper opening/closing solenoid (rear) (SOL11)/ T-LCF stopper opening/closing detection sensor (rear) (S111)

- (1) Take off the tandem LCF feeding unit.  
     📖 P. 4-91 "4.5.47 Tandem LCF feeding unit"
- (2) Remove 2 screws, release 2 hooks and then take off the stopper unit [1].

**Notes:**

The position of the hook differs depending on the destination.

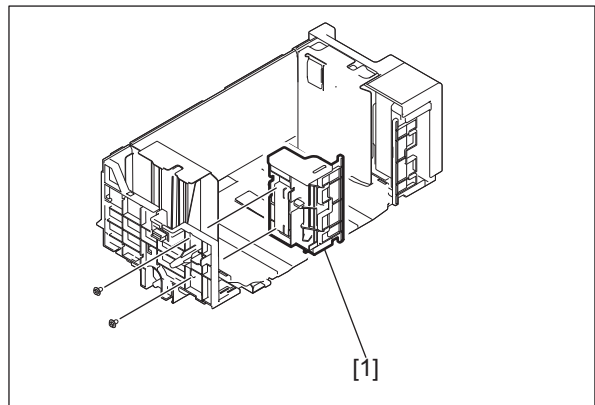


Fig. 4-262

- (3) Remove 2 screws, and then take off the plate [2].

**Notes:**

The direction of the plate differs depending on the destination (A4/LT).

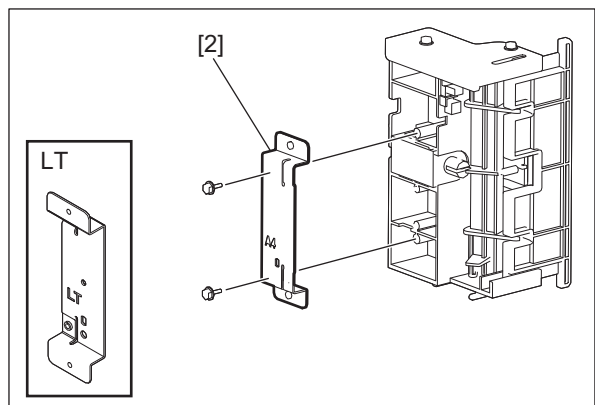


Fig. 4-263

- (4) Disconnect 1 connector, and then take off the T-LCF Stopper opening/closing solenoid (rear) [3].
- (5) Disconnect 1 connector and release 3 latches. Then take off the T-LCF stopper opening/closing detection sensor (rear) [4].

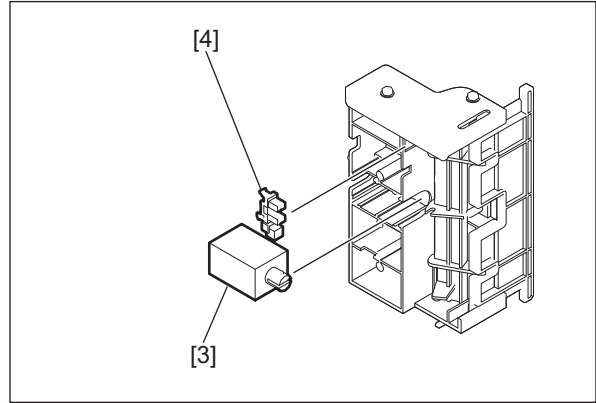


Fig. 4-264

#### 4.5.50 T-LCF bottom sensor (S107)

- (1) Take off the tandem LCF feeding unit.  
 ⓘ P. 4-91 "4.5.47 Tandem LCF feeding unit"
- (2) Remove 6 screws, and then take off the feeding side tray [1].

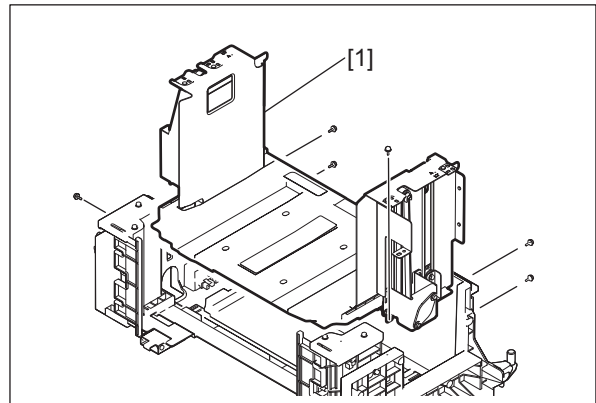


Fig. 4-265

- (3) Disconnect 1 connector and release 3 latches. Then take off the T-LCF bottom sensor [2].

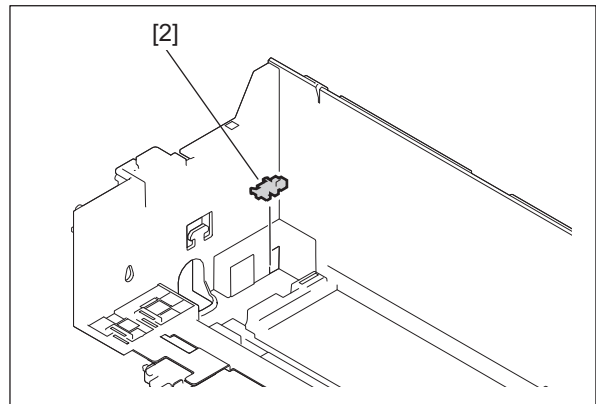



Fig. 4-266

## 4.5.51 T-LCF standby side tray paper amount detection sensor (S106)

- (1) Take off the tandem LCF feeding unit.  
 P. 4-91 "4.5.47 Tandem LCF feeding unit"
- (2) Remove 4 screws, and then take off the plate [1].

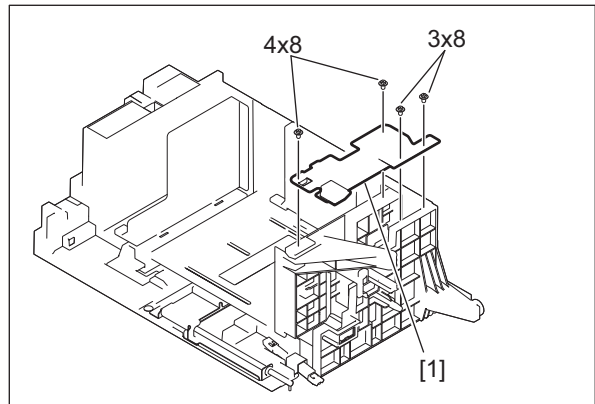


Fig. 4-267

- (3) Remove 3 screws, and then take off the link arm [2].

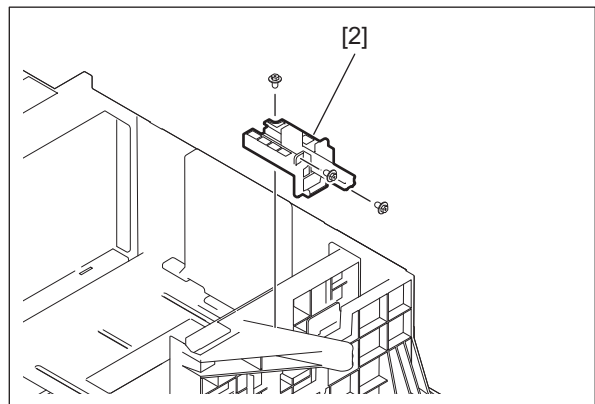


Fig. 4-268

- (4) Remove 1 screw, and then take off the rear fence [3].

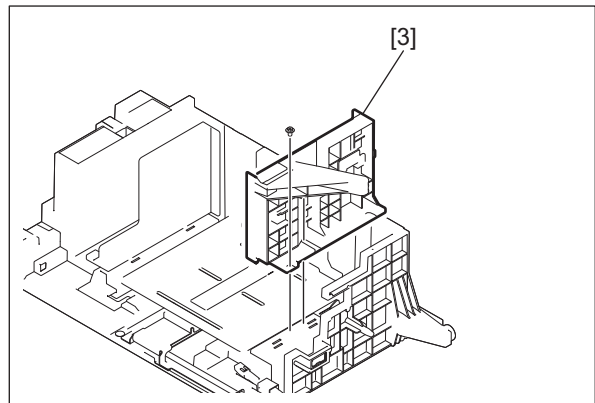


Fig. 4-269

- (5) Remove 2 screws, and then take off the bracket [4].

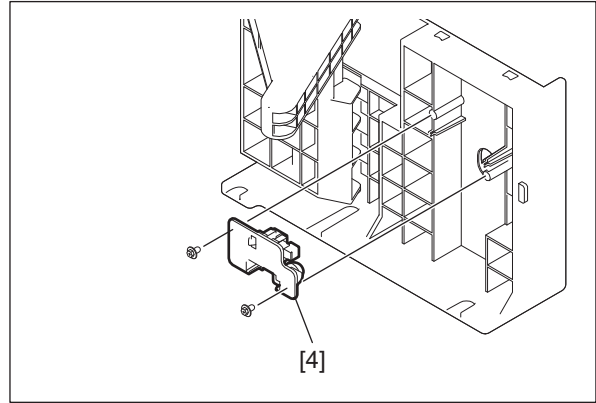


Fig. 4-270

- (6) Disconnect 1 connector and release 3 latches. Then take off the T-LCF standby side tray paper amount detection sensor [5].

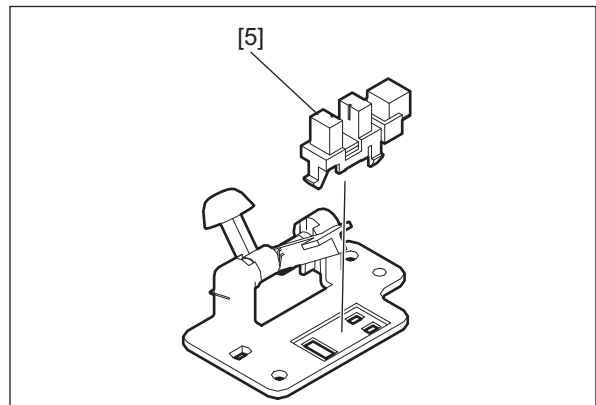


Fig. 4-271

#### 4.5.52 T-LCF end fence home position sensor (S112)

- (1) Pull out the standby unit, and slide the standby tray [1] to the feeding side.

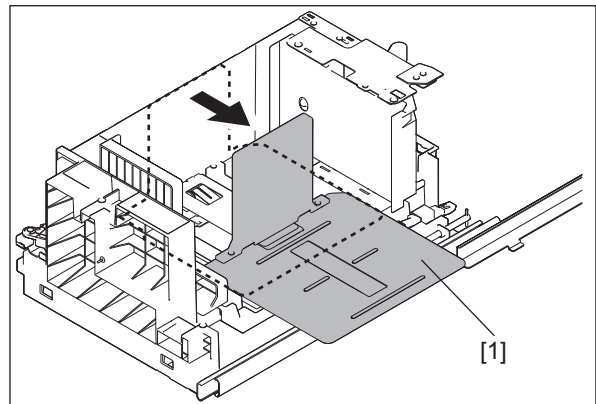


Fig. 4-272



- (2) Remove 1 screw, and then take off the sensor cover [2].

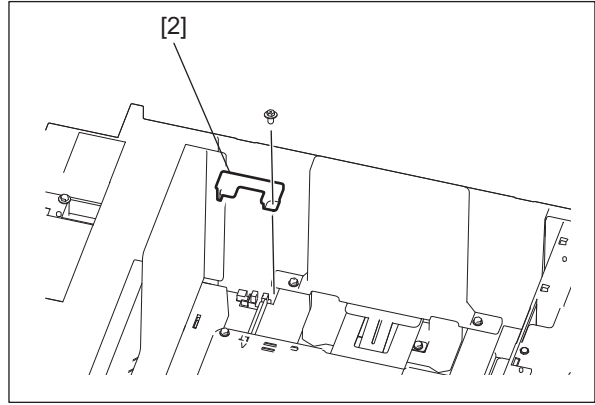


Fig. 4-273

- (3) Disconnect 1 connector and release 3 latches. Then take off the T-LCF end fence home position sensor [3].

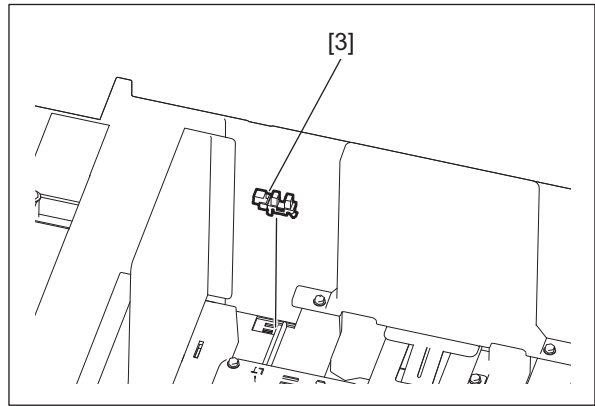


Fig. 4-274

### 4.5.53 T-LCF end fence stop position sensor (S113)

- (1) Pull out the standby unit.
- (2) Remove 2 screws, and then take off the front fence [1].

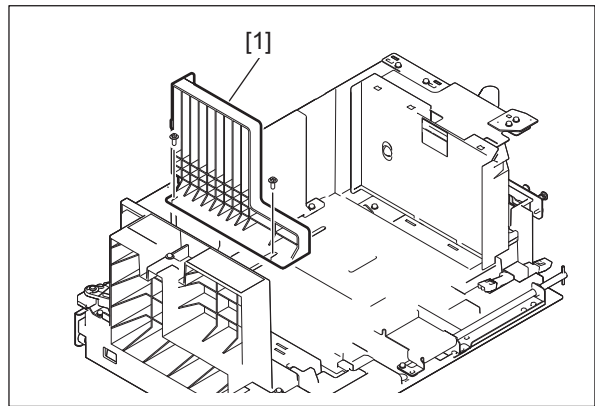


Fig. 4-275

- (3) Remove 1 screw, and then take off the sensor cover [2].

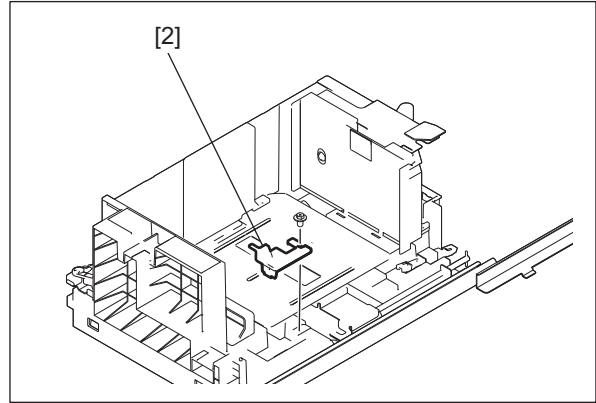


Fig. 4-276

- (4) Disconnect 1 connector and release 3 latches. Then take off the T-LCF end fence stop position sensor [3].

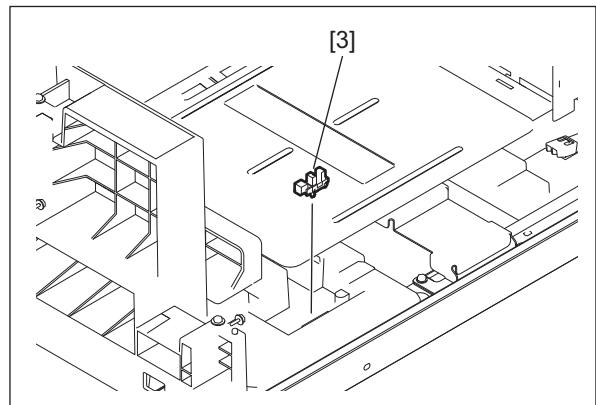


Fig. 4-277

#### 4.5.54 T-LCF standby side empty sensor (S109)

- (1) Take off the tandem LCF feeding unit.  
P. 4-91 "4.5.47 Tandem LCF feeding unit"
- (2) Take off the rear fence.  
P. 4-95 "4.5.51 T-LCF standby side tray paper amount detection sensor (S106)"
- (3) Remove 1 screw, and then take off the sensor cover [1].

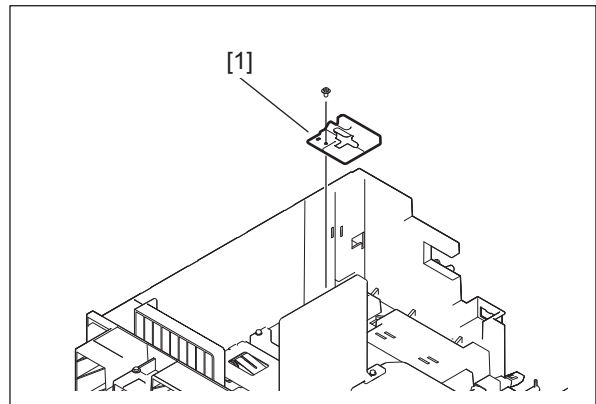


Fig. 4-278

- (4) Remove 2 screws, and then take off the sensor bracket [2].
- (5) Disconnect 1 connector and release 3 latches. Then take off the T-LCF standby side empty sensor [3].

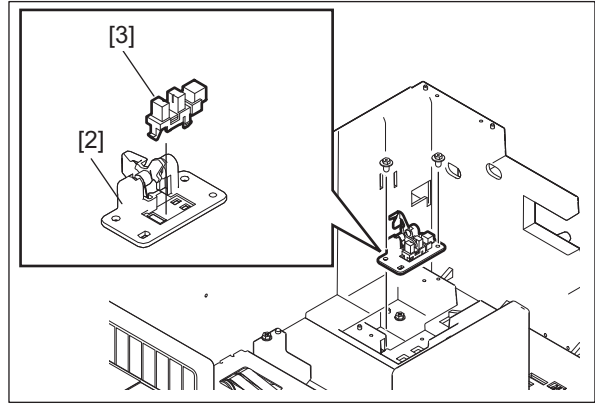


Fig. 4-279

#### 4.5.55 T-LCF standby side tray detection sensor (S108)

- (1) Take off the tandem LCF standby unit.  
 P. 4-90 "4.5.46 Tandem LCF standby unit"
- (2) Remove 1 screw and take off the sensor bracket [1].

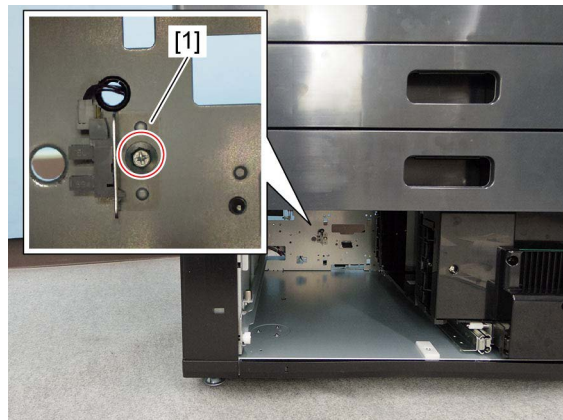


Fig. 4-280

- (3) Disconnect 1 connector and remove the T-LCF standby side tray detection sensor [2].

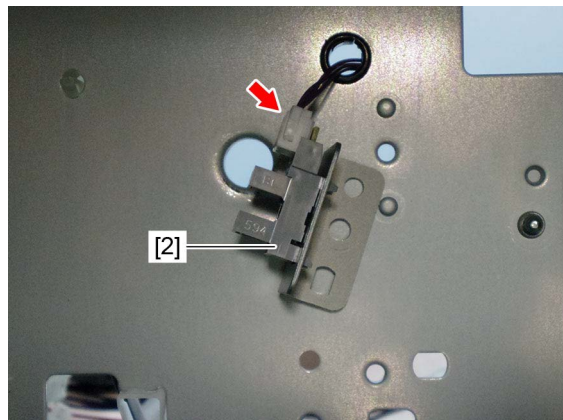


Fig. 4-281

#### 4.5.56 T-LCF pickup solenoid (SOL9)


- (1) Remove the paper feed cover.  
 P. 4-9 "4.1.20 Paper feed cover"
- (2) Pull out the tandem LCF.
- (3) Remove 2 screws and disconnect 1 connector. Take off the drawer feed unit [1].



Fig. 4-282

- (4) Remove 2 screws and disconnect 1 connector. Take off the T-LCF pickup solenoid [2].

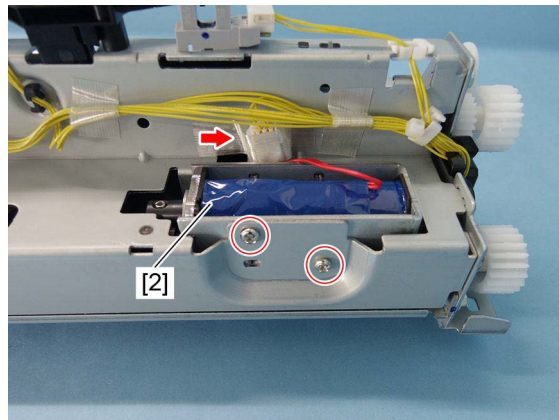



Fig. 4-283

#### 4.5.57 1st drawer idling roller

- (1) Remove the bypass feed unit.  
 P. 4-47 "4.5.2 Bypass feed unit"
- (2) Remove 1 spring [1] and take off the 1st drawer idling roller unit assembly [2].

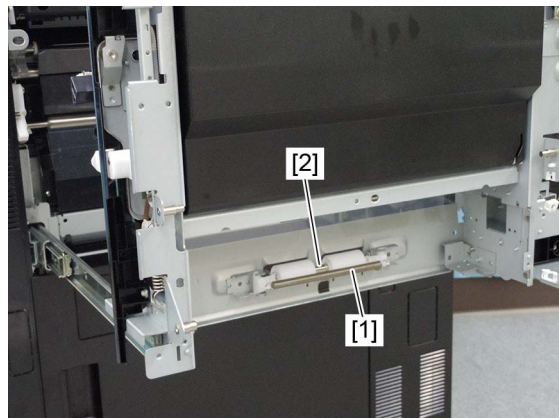


Fig. 4-284

- (3) Remove 2 E-rings and take off 2 bushings [3].

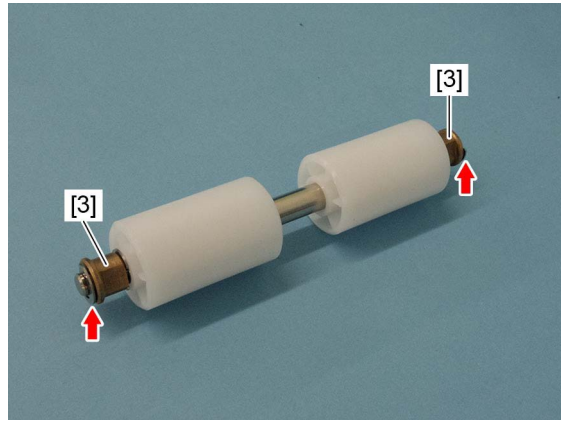


Fig. 4-285

- (4) Remove 2 E-rings and take off the 1st drawer idling roller [4].

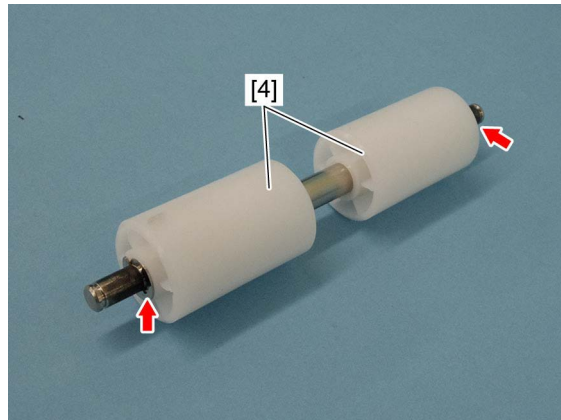


Fig. 4-286



Fig. 4-287

## 4.6 Process Unit Related Section

### 4.6.1 Pulling out the process unit (EPU tray)

- (1) Remove the front lower cover.  
P. 4-1 "4.1.1 Front lower cover"
- (2) Loosen the fixing screw of the right TBU lifting lever [1] to unfix it.

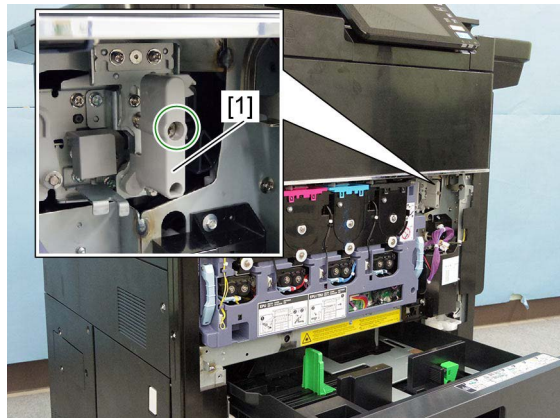


Fig. 4-288

- (3) Pull out the left TBU lifting lever [2] toward you until it reaches to the mark [3].

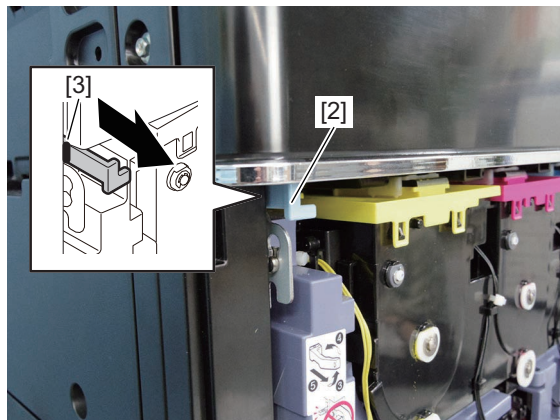


Fig. 4-289

- (4) Turn the right TBU lifting lever [1] to the left for 90 degrees.
- (5) Turn the TBU locking lever [4] for 45 degrees (right hand).

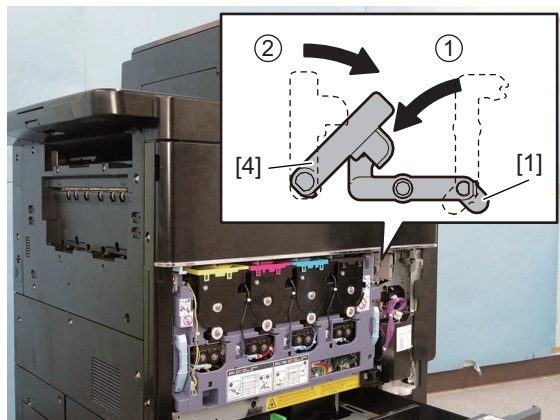


Fig. 4-290

- (6) Lift up the EPU locking lever [5].

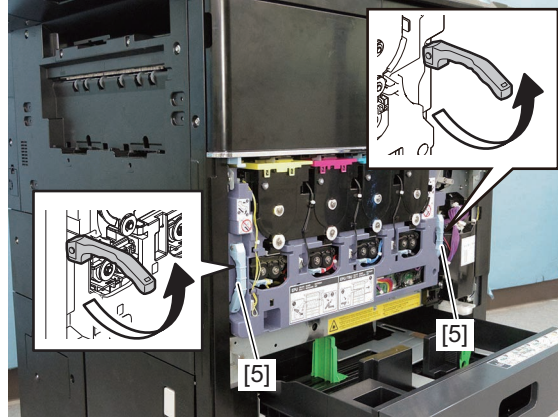


Fig. 4-291

- (7) Turn the EPU locking lever [5] for 90 degrees.

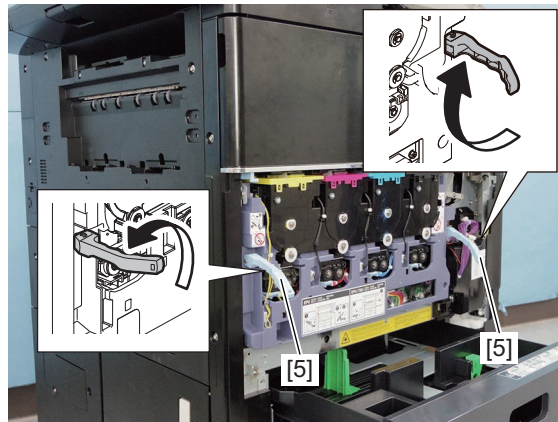


Fig. 4-292

- (8) Pull out the process unit [6] by holding the EPU locking lever [5].

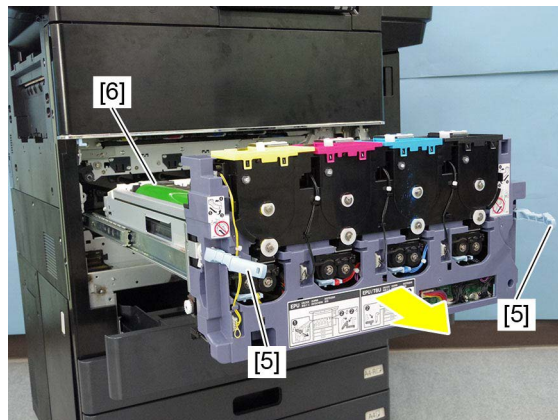
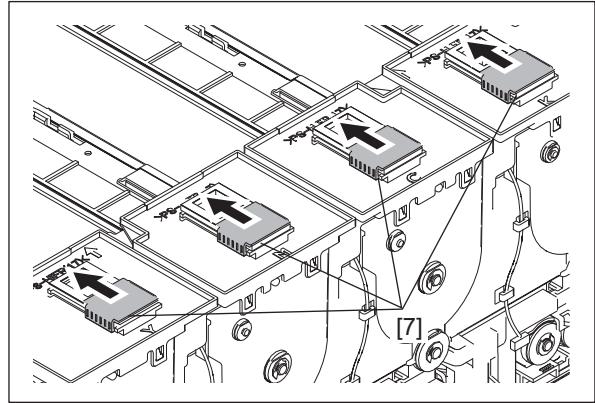


Fig. 4-293

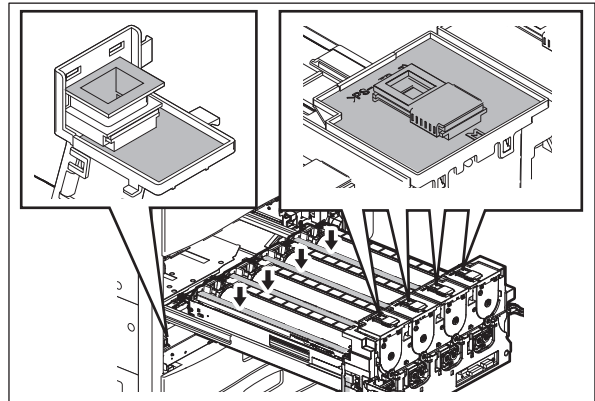
**Notes:**

1. When the process unit is pulled out, be sure to close the shutter [7] of the sub-hopper to prevent dust from entering into the unit.



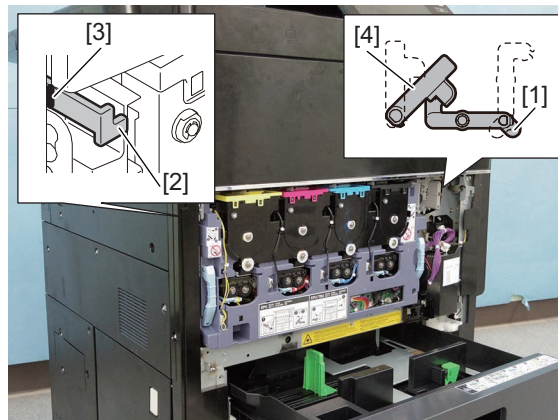
**Fig. 4-294**

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 and stay, if there is any.



**Fig. 4-295**

3. Before you push the process unit back, make sure that each lever is set as shown in the figure.  
[1]TBU lifting lever right  
[2]TBU lifting lever left  
[3]Mark  
[4]TBU locking lever
4. Turn the right TBU lifting lever downward to unlock the TBU locking lever.



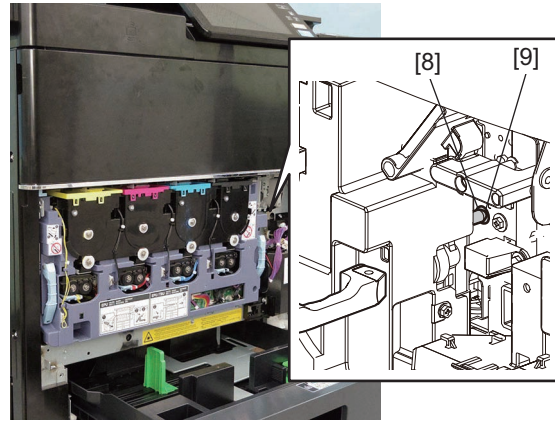
**Fig. 4-296**



**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 [8] should be inserted into the hole [9] of the frame.) In this case, the levers face the inside.



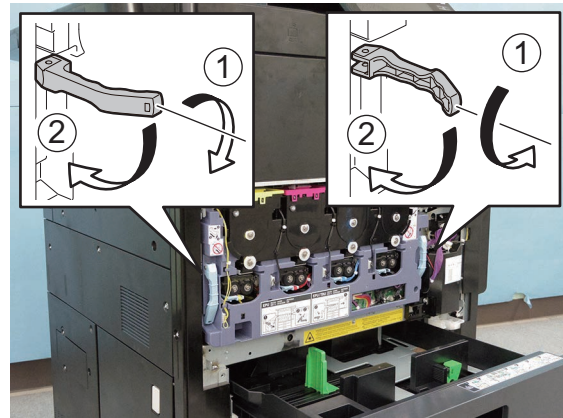
**Fig. 4-297**

2. Place your hands in the position indicated by the arrows below, and push it well.



**Fig. 4-298**

3. Turn both levers outside by 90 degrees and push them down.



**Fig. 4-299**

## 4.6.2 Drum cleaner unit

- (1) Pull out the process unit.  
☞ P. 4-102 "4.6.1 Pulling out the process unit (EPU tray)"
- (2) Remove the drum cleaner unit [1] quietly not to hit the drum to the surrounding parts.

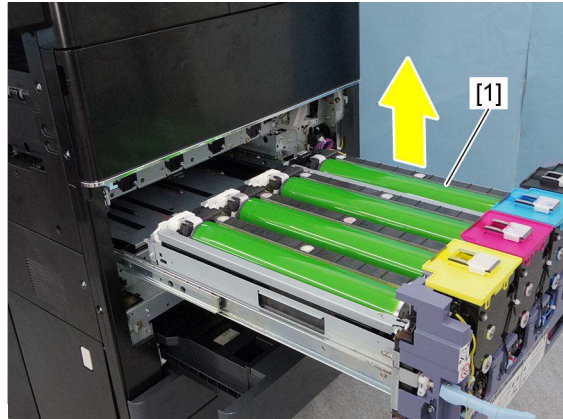


Fig. 4-300

### Notes:

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.

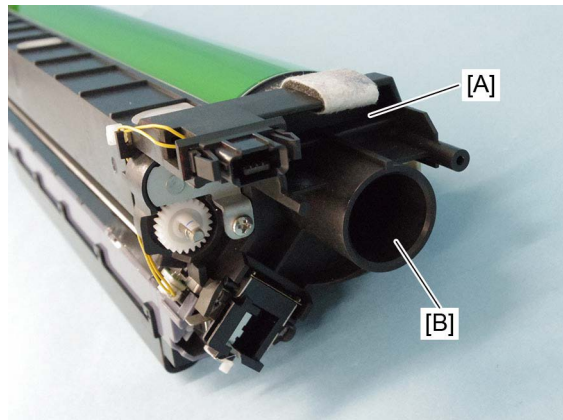


Fig. 4-301

**Notes:**

- 1. When installing, place the drum cleaner unit by keeping it horizontal.
- 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.

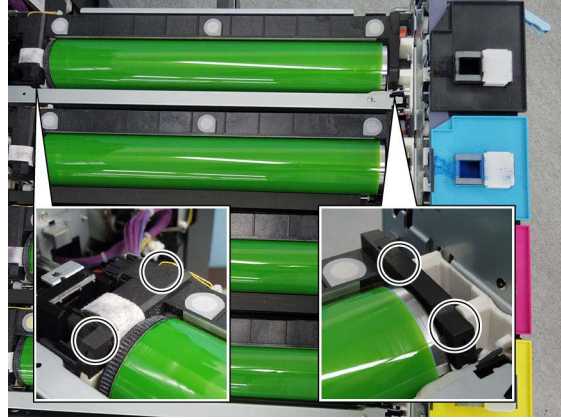


Fig. 4-302

- 3. When installing the drum cleaner unit, be sure that the orange label attached on the shutter is clearly seen.

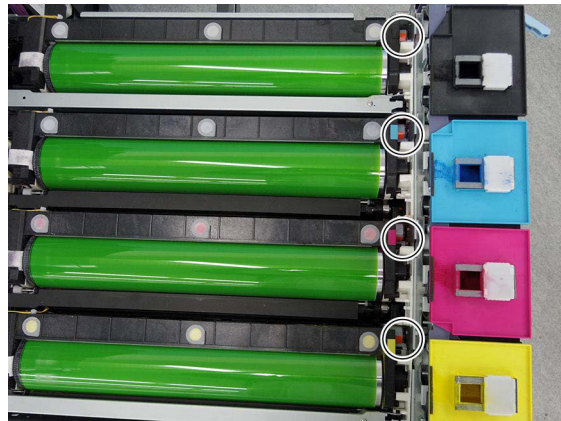


Fig. 4-303

**Notes:**

The respective colors are separate in the drum cleaner unit.  
 Only the location with the same color as the EPU tray can be installed.  
 When installing, check that the colors match.

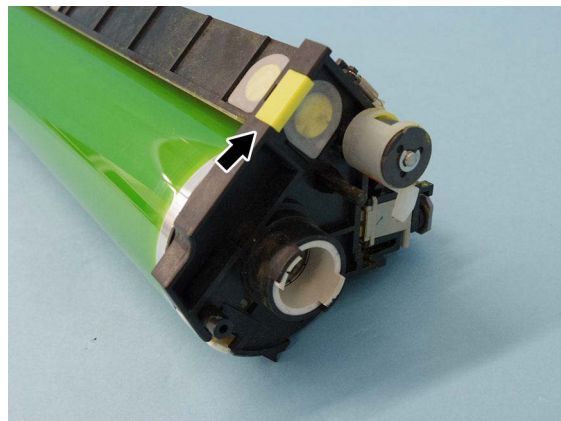




Fig. 4-304

### 4.6.3 Drum

- (1) Remove the drum cleaner unit.  
 P. 4-106 "4.6.2 Drum cleaner unit"
- (2) Remove the main charger unit.  
 P. 4-110 "4.6.6 Main charger unit"
- (3) Remove 2 drum holders [1].
- (4) Remove the drum [2] by lifting it up straight.

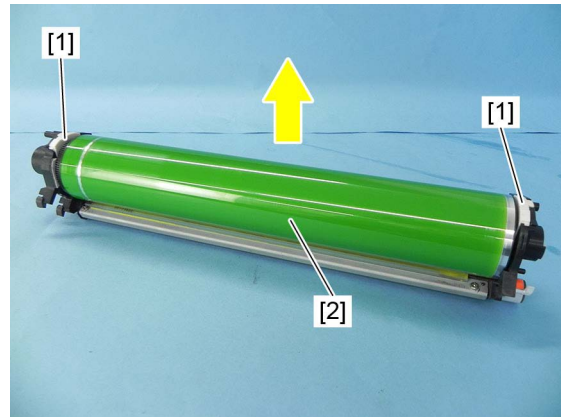


Fig. 4-305

#### Notes:

Do not install the drum in a wrong direction.  
Do not touch the drum flanges on the front [3] and rear [4] sides because grease will adhere to your hands.

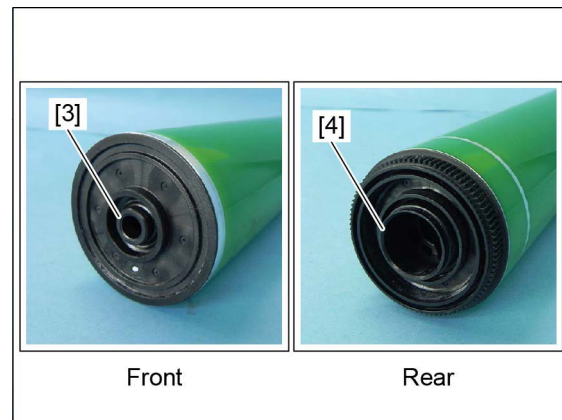




Fig. 4-306

### 4.6.4 Drum cleaning blade

- (1) Remove the main charger unit.  
 P. 4-110 "4.6.6 Main charger unit"
- (2) Remove the drum.  
 P. 4-108 "4.6.3 Drum"
- (3) Remove 2 screws and take off the drum cleaning blade [1].

#### Notes:

When replacing the drum cleaning blade, replace the blade side seal too if the conditions of the blade side seal are as follows:

- If the flock on the surface layer of blade side seal has peeled off and the sponge of the layer below protrudes.
- If not in accordance with P. 4-109"Fig. 4-309" and P. 4-109"Fig. 4-310" of "4.6.5 Blade side seal".

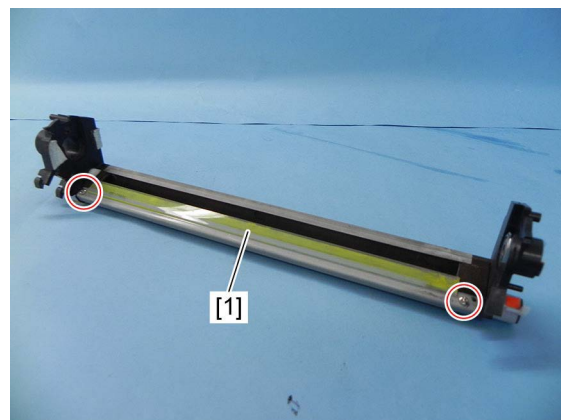


Fig. 4-307

## 4.6.5 Blade side seal

- (1) Remove the drum cleaning blade.  
📖 P. 4-108 "4.6.4 Drum cleaning blade"
- (2) Remove 2 blade side seals [1].

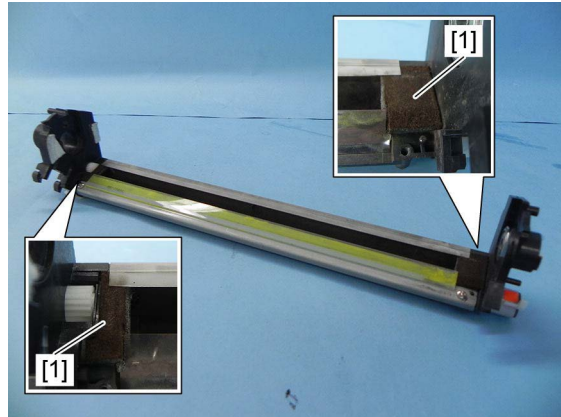


Fig. 4-308

### Notes:

When replacing the blade side seals, follow the procedure below.

1. Move the blade [2] to the front side and then install it with 2 screws.
2. Install the 2 blade side seals [1] following the standard shown in the figure.

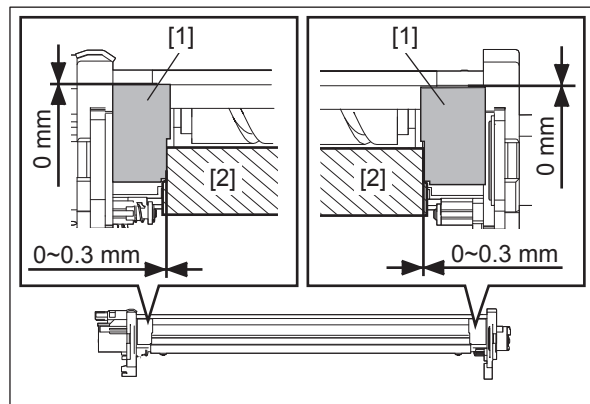


Fig. 4-309

3. After the side seals [1] are attached, move the bracket retaining the blade [2] and check that it is neither caught nor comes up on to the side seal.

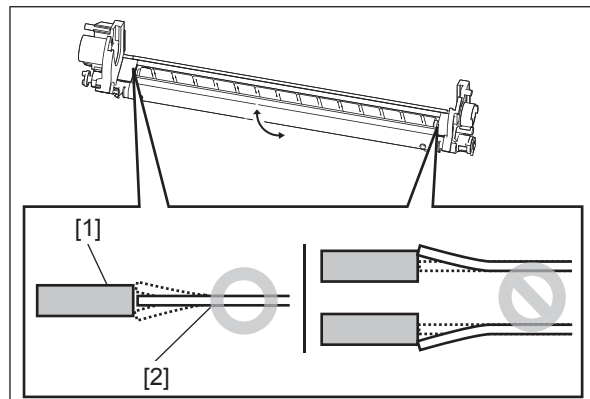


Fig. 4-310

## 4.6.6 Main charger unit

- (1) Remove the drum cleaner unit.  
📖 P. 4-106 "4.6.2 Drum cleaner unit"
- (2) Disconnect 1 connector.

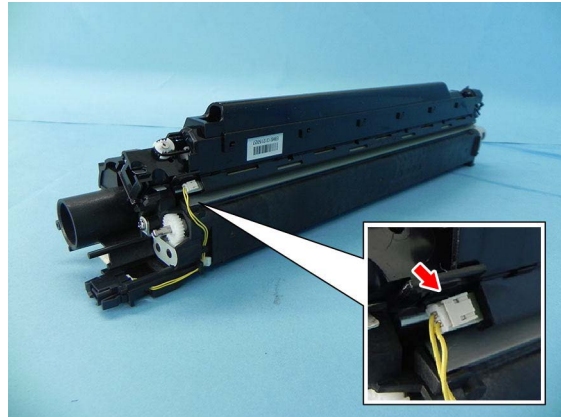


Fig. 4-311

- (3) Release 2 latches and remove the main charger unit [1].

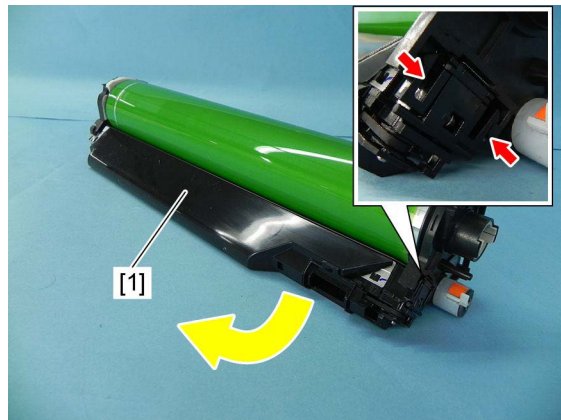


Fig. 4-312

## 4.6.7 Main charger grid

- (1) Remove the main charger unit.  
📖 P. 4-110 "4.6.6 Main charger unit"
- (2) Remove the main charger grid [1] by pulling the lever of the holder.

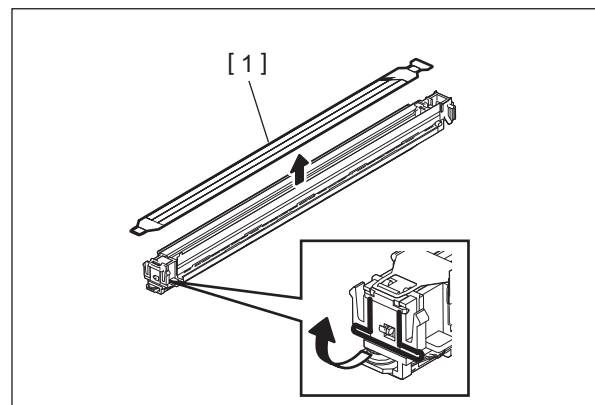



Fig. 4-313

#### 4.6.8 Needle electrode cleaner

- (1) Remove the main charger grid.  
 P. 4-110 "4.6.6 Main charger unit"
- (2) Remove the needle electrode cleaner [1].

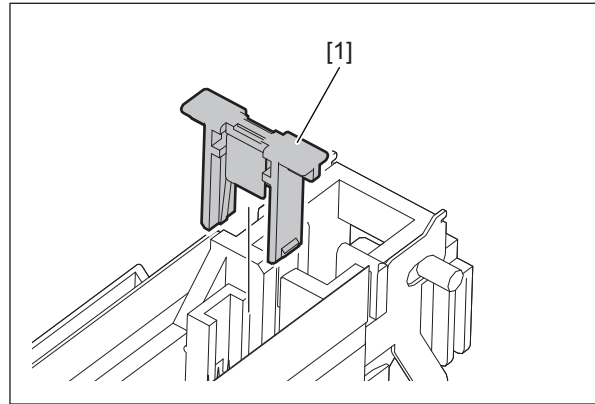



Fig. 4-314

#### 4.6.9 Needle electrode

- (1) Remove the needle electrode cleaner.  
 P. 4-111 "4.6.8 Needle electrode cleaner"
- (2) Remove the holder and take off the needle electrode [1].

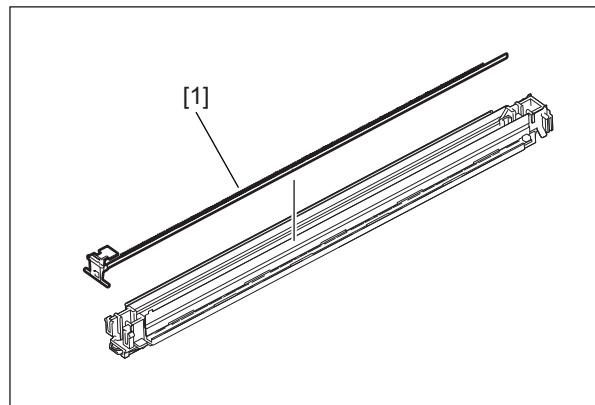



Fig. 4-315

#### 4.6.10 Discharge LED (K/C/M/Y) (ERS-K/ERS-C/ERS-M/ERS-Y)

- (1) Remove the main charger unit.  
 P. 4-110 "4.6.6 Main charger unit"
- (2) Remove the discharge LED [1] from the protrusion of the charger case and take it off by sliding it.

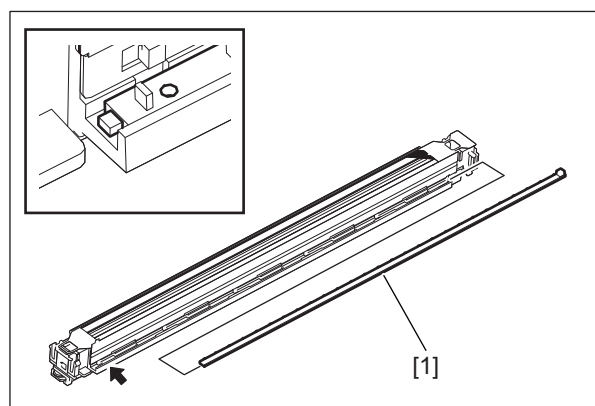


Fig. 4-316

## 4.6.11 Sub-hopper

- (1) Pull out the process unit.  
☞ P. 4-102 "4.6.1 Pulling out the process unit (EPU tray)"
- (2) Disconnect 4 connectors and release the harness [1] from 2 hooks [2].

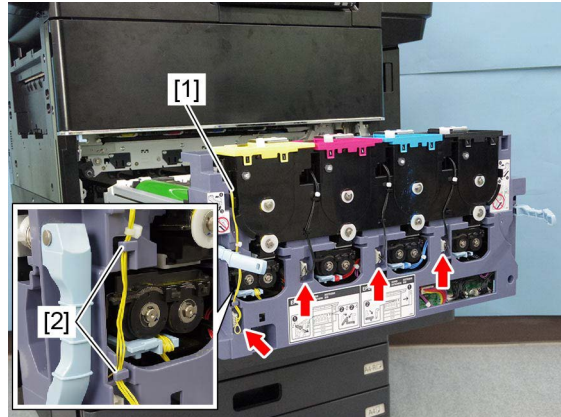


Fig. 4-317

- (3) Release 4 hooks on the rear side.

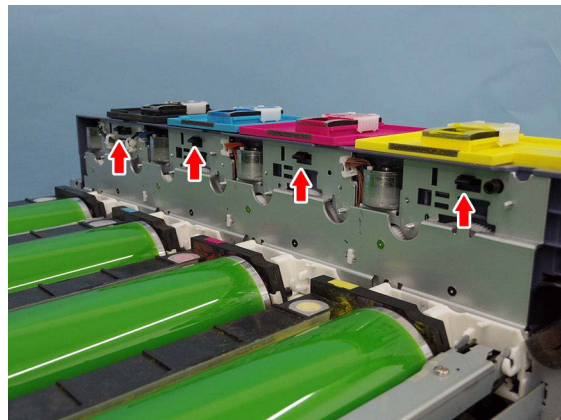


Fig. 4-318

- (4) Release 2 hooks on the both sides.
- (5) Remove the sub-hopper [3].

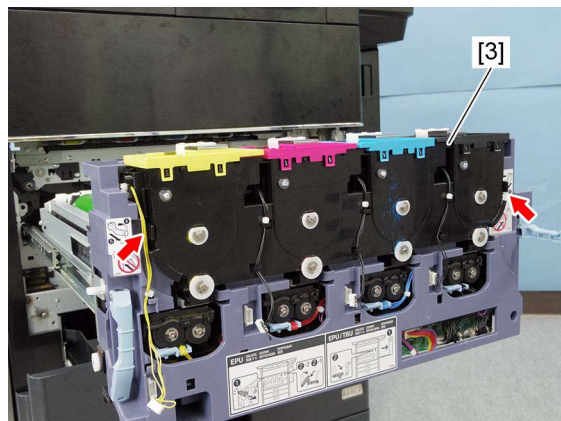


Fig. 4-319



## 4.6.12 Sub-hopper toner sensor (K/C/M/Y) (S38/S39/S40/S41)

- (1) Remove the sub-hopper.  
📖 P. 4-112 "4.6.11 Sub-hopper"
- (2) Discharge toner.

**Notes:**

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 the hook and remove the holder [1].

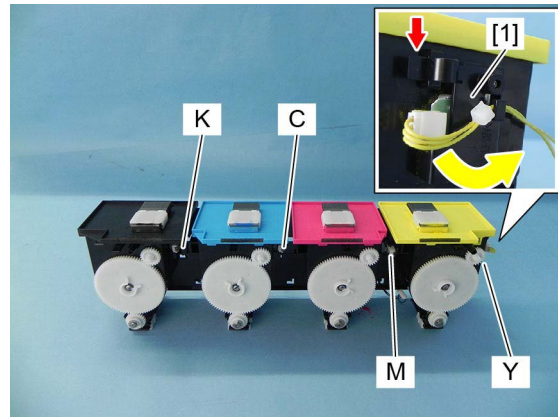


Fig. 4-320

- (4) Disconnect 1 connector and remove 1 screw, and then take off the sub-hopper toner sensor [2].

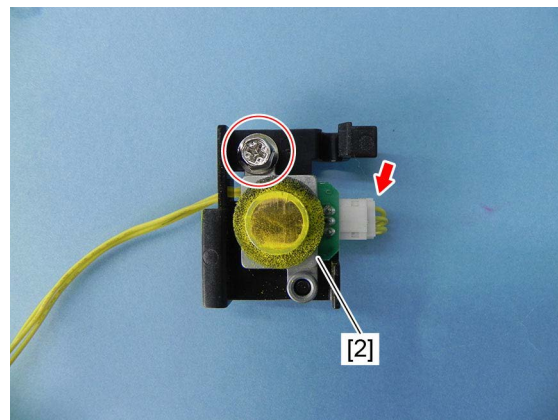



Fig. 4-321

## 4.6.13 EPU cover

- (1) Remove the sub-hopper.  
 P. 4-112 "4.6.11 Sub-hopper"
- (2) Remove 6 screws and release 5 latches, and then pull out the EPU cover [1] toward you.

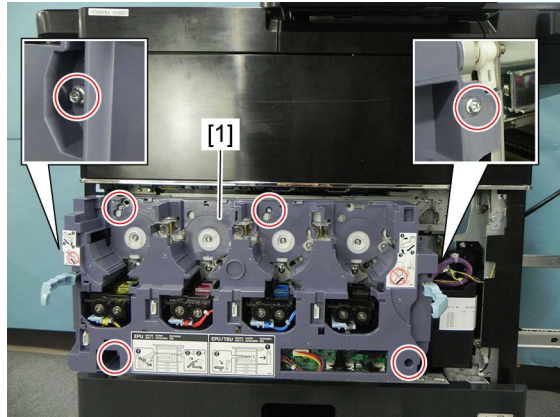


Fig. 4-322

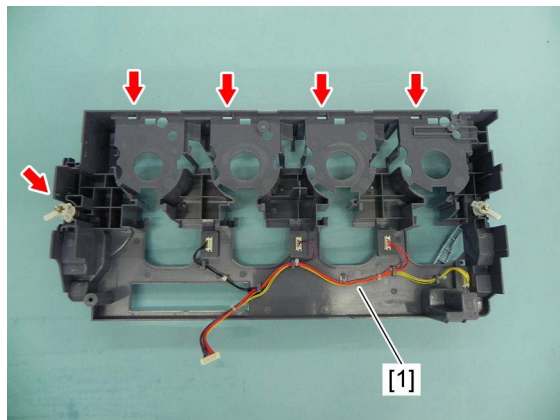


Fig. 4-323

- (3) Disconnect 1 connector and take off the EPU cover [1].

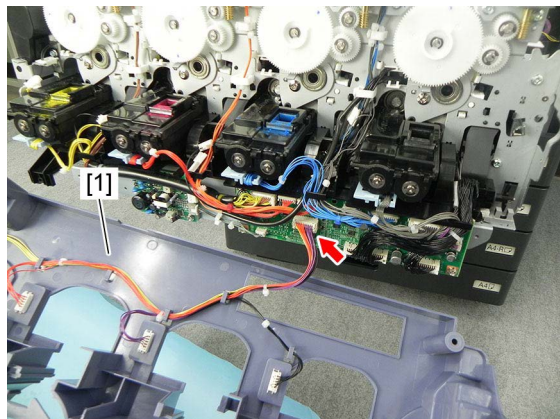



Fig. 4-324

#### 4.6.14 Sub-hopper toner motor (K/C/M/Y) (M19/M20/M21/M22)

- (1) Remove the EPU cover.  
 P. 4-114 "4.6.13 EPU cover"
- (2) Remove 2 screws. Disconnect 1 connector and take off the motor bracket [1].

**Notes:**

The shape of the bracket for K differs from those for Y, M and C.

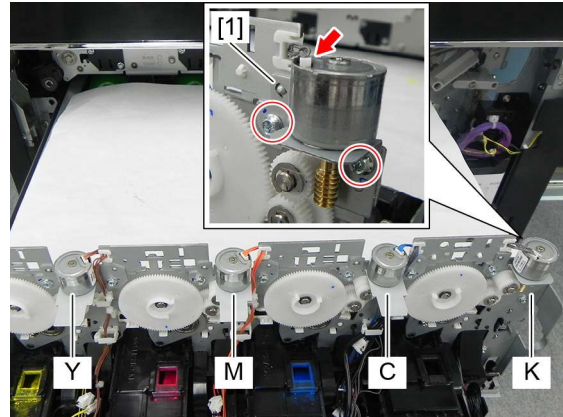


Fig. 4-325

- (3) Remove 2 screws and take off the sub-hopper toner motor [2].

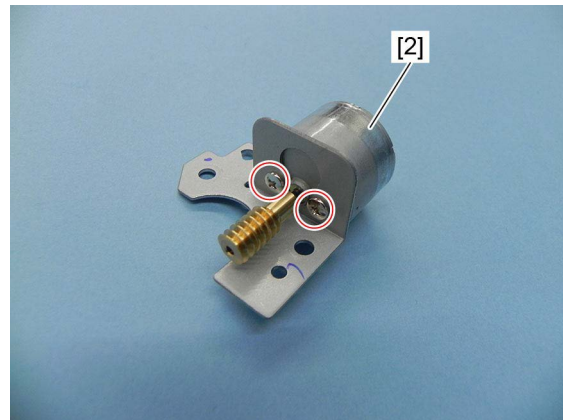



Fig. 4-326

#### 4.6.15 EPU PC board (EPU)

- (1) Remove the EPU cover.  
 P. 4-114 "4.6.13 EPU cover"
- (2) Disconnect all the connectors that are connected to the EPU board [1].

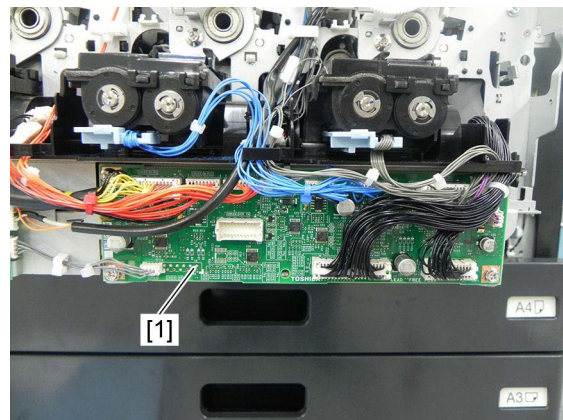


Fig. 4-327

- (3) Remove 4 screws and take off the EPU board [1].

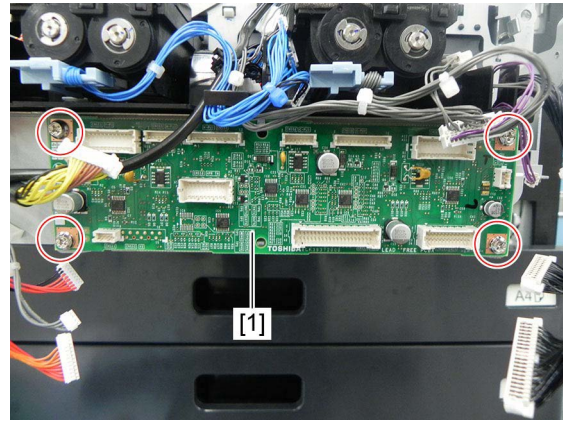


Fig. 4-328

#### 4.6.16 Drum surface potential sensors control PC board (V0S board) (V0S) (75ppm only)

- (1) Remove the EPU cover.  
 📖 P. 4-114 "4.6.13 EPU cover"
- (2) Disconnect 2 connectors.
- (3) Remove 2 screws and take off the V0S board [1].

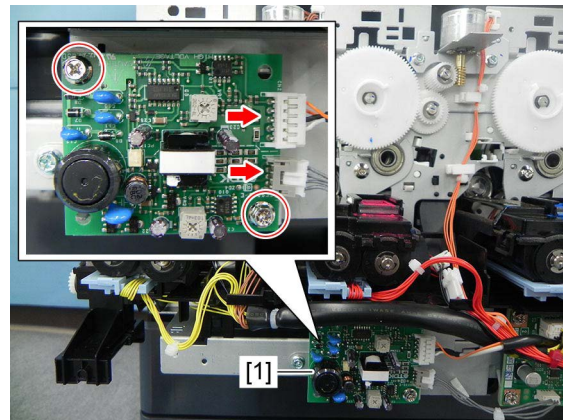


Fig. 4-329

#### 4.6.17 Auger lock detection sensor (S42)

- (1) Remove the EPU cover.  
 📖 P. 4-114 "4.6.13 EPU cover"
- (2) Rotate the auger [1] to escape the actuator [2] from the auger lock detection sensor [3].

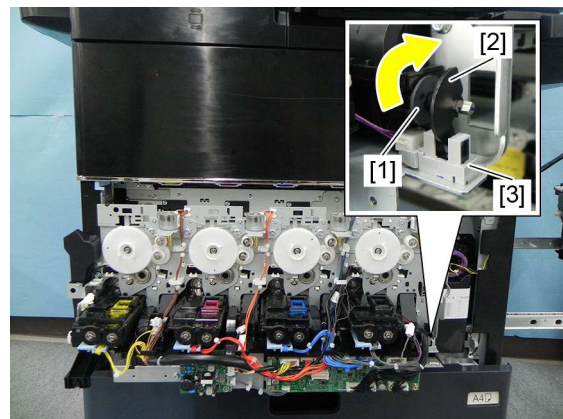


Fig. 4-330

- (3) Disconnect 1 connector and remove the auger lock detection sensor [3].

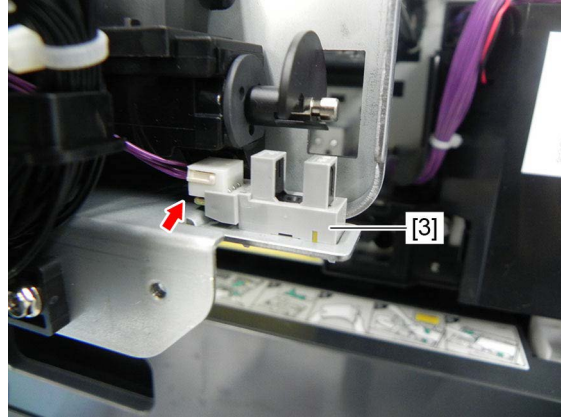


Fig. 4-331

#### 4.6.18 Drum unit side vertical duct

- (1) Remove the drum cleaner unit.  
 P. 4-106 "4.6.2 Drum cleaner unit"
- (2) Remove the EPU cover.  
 P. 4-114 "4.6.13 EPU cover"
- (3) Release 2 latches and remove the drum unit side vertical duct [1].

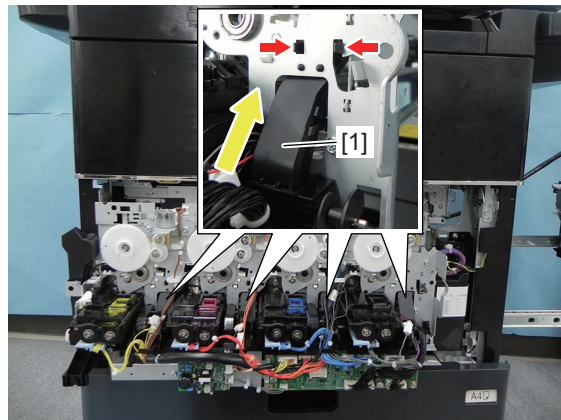


Fig. 4-332

#### 4.6.19 Mixing ozone fan (K/C/M/Y) (F17/F1/F19/F20)

- (4) Remove the Drum cleaner unit duct.  
 P. 4-117 "4.6.18 Drum unit side vertical duct"
- (5) Disconnect 1 connector and take off the mixing ozone fan [1] by sliding it.

**Notes:**

Do not mix the duct of the fan for Y color with others because its form differs from that of others.

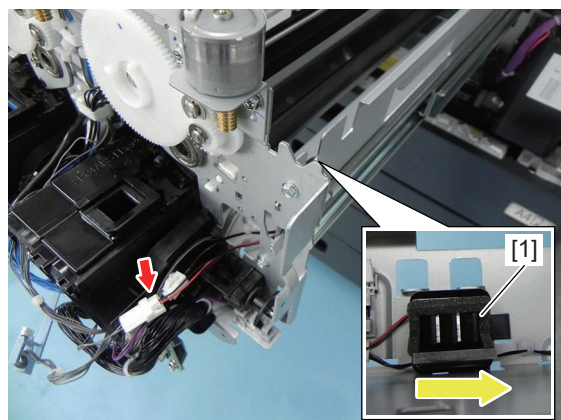


Fig. 4-333

#### 4.6.20 Needle electrode cleaner detection sensor (K/C/M/Y) (S30/S31/S32/S33)

- (1) Remove the drum cleaner unit.  
📖 P. 4-106 "4.6.2 Drum cleaner unit"
- (2) Disconnect 1 connector and release 3 latches, and then take off the needle electrode cleaner detection sensor [1].

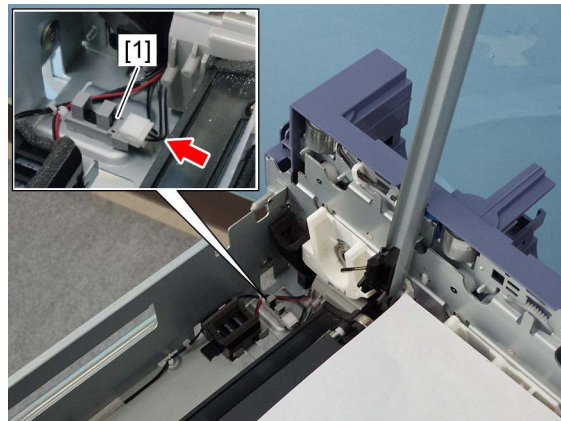


Fig. 4-334

#### 4.6.21 Needle electrode cleaner motor (K/C/M/Y) (M23/M24/M25/M26)

- (1) Remove the developer unit.  
📖 P. 4-124 "4.6.25 Developer unit"
- (2) Release 2 latches and lift up the motor holder [1].

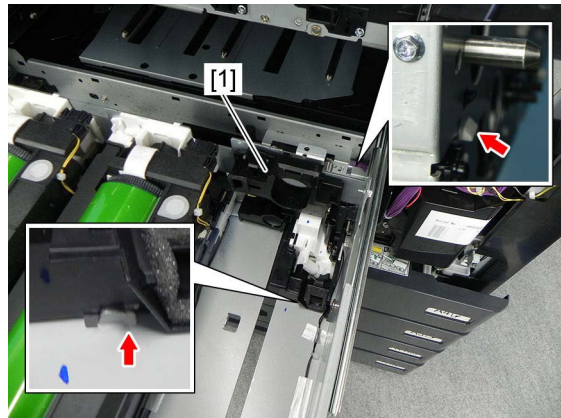


Fig. 4-335

- (3) Disconnect 1 connector and take off the motor holder [1].

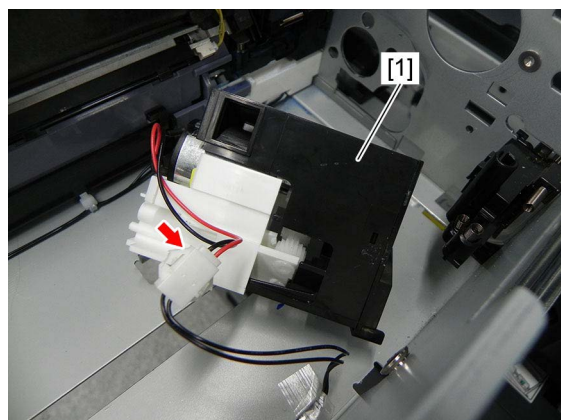


Fig. 4-336

- (4) Release 2 hooks and take off the duct [2].

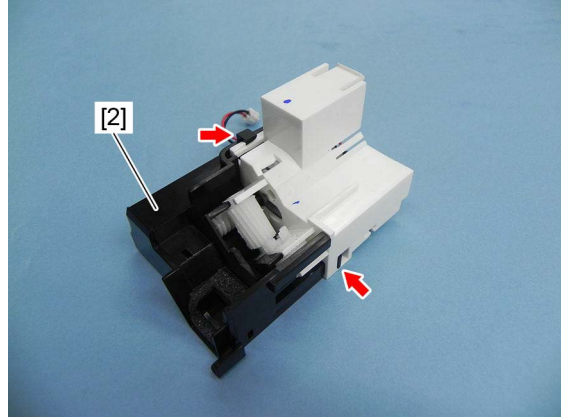


Fig. 4-337

- (5) Remove 2 gears [3].

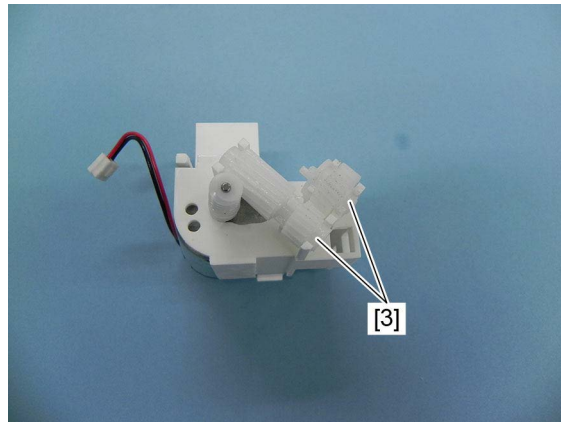


Fig. 4-338

- (6) Release 1 lock and remove the needle electrode cleaner motor [4].

**Notes:**

When installing the motor, engage the locking part with the recessed part of the motor.

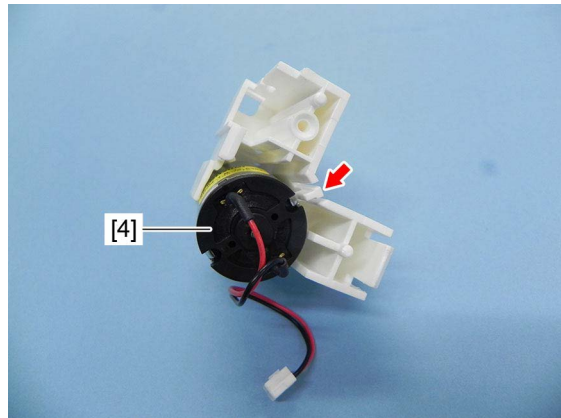



Fig. 4-339

## 4.6.22 V0 sensor shutter solenoid (SOL) (75ppm only)

- (1) Remove the EPU cover.  
 P. 4-114 "4.6.13 EPU cover"
- (2) Disconnect 3 connectors.

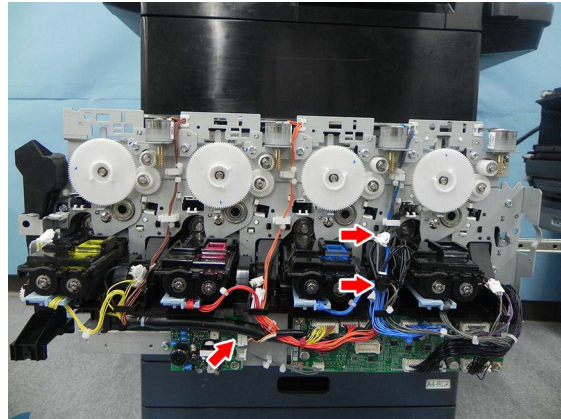


Fig. 4-340

- (3) Release 1 hook and remove the stay [1] by raising it.

**Notes:**

Hold the upper side of the stay. Avoid touching its shutter.

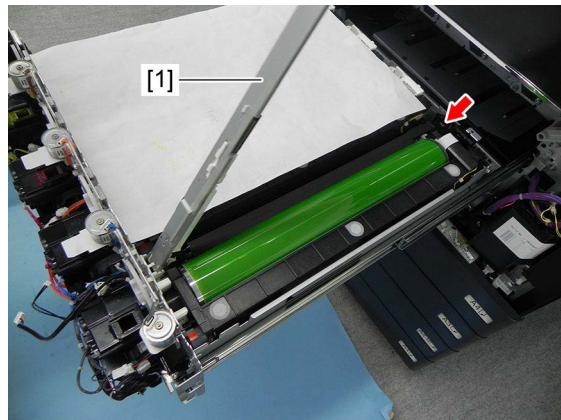


Fig. 4-341

- (4) Remove 1 screw and take off the solenoid holder [2] by sliding it.

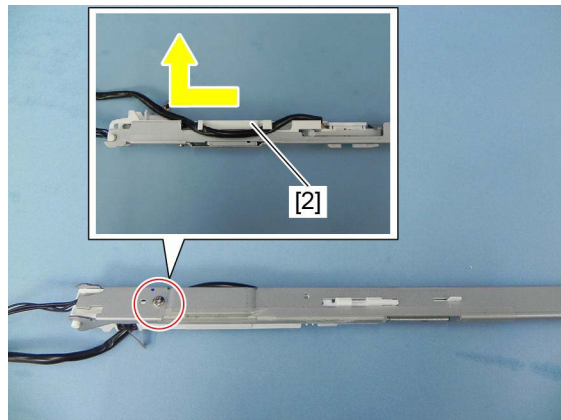


Fig. 4-342



(5) Disconnect the joint of the link arm [3].

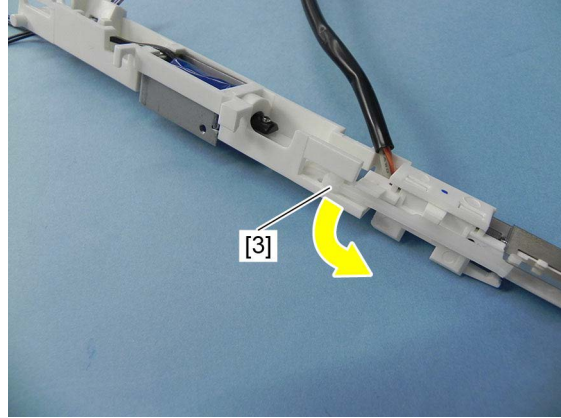


Fig. 4-343

(6) Remove the link arm [4].

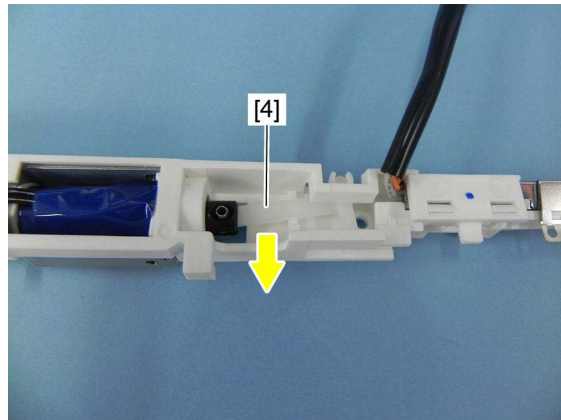


Fig. 4-344

(7) Release the harness from the hook of the harness holder and remove the V0 sensor shutter solenoid [5].

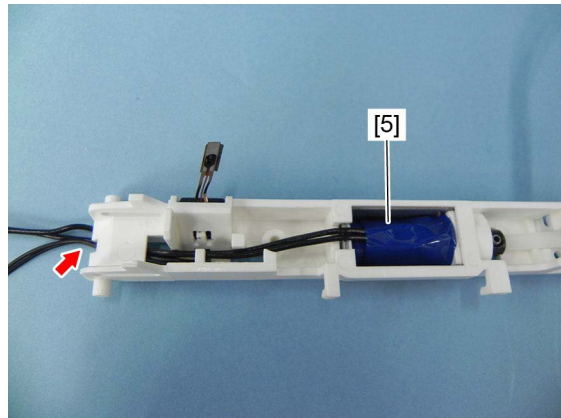


Fig. 4-345

## 4.6.23 Drum surface potential sensor (K) (S34) (75ppm only)

- (1) Remove the solenoid holder.  
☞ P. 4-120 "4.6.22 V0 sensor shutter solenoid (SOL) (75ppm only)"
- (2) Remove the link arm [1].

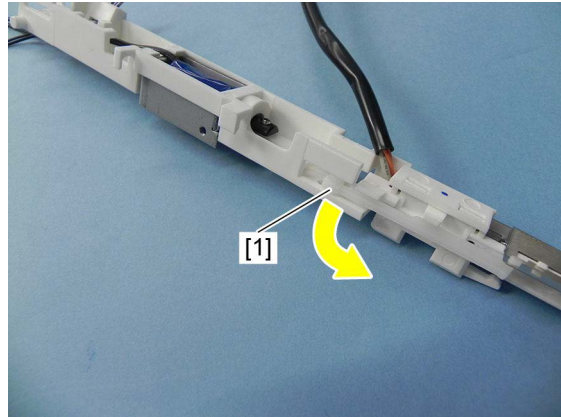


Fig. 4-346

- (3) Remove 1 spring [2].

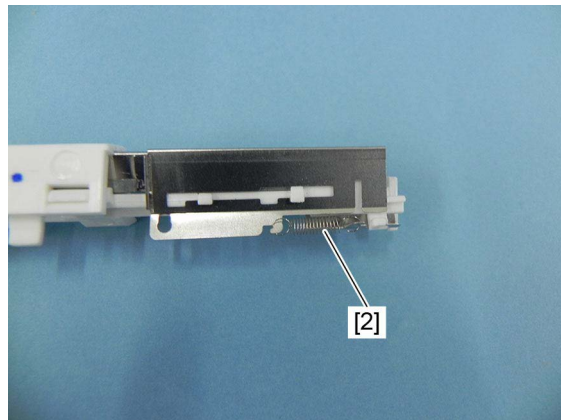


Fig. 4-347

- (4) Remove the shutter [4] by sliding it while lifting the edge [3] of the shutter.

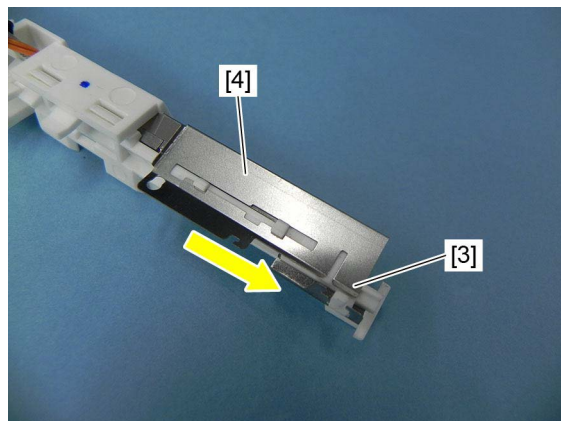


Fig. 4-348

(5) Release 2 hooks.

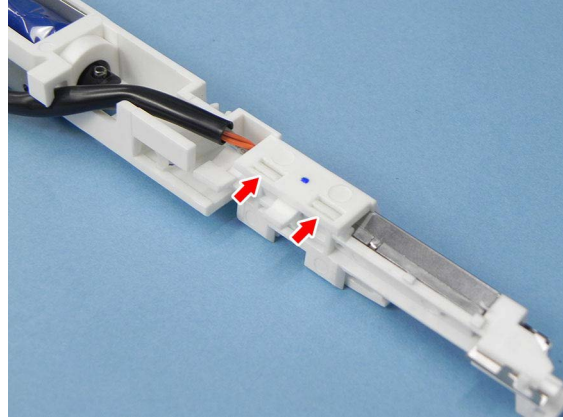


Fig. 4-349

(6) Release the harness from the harness guide and remove the drum surface potential sensor [5].

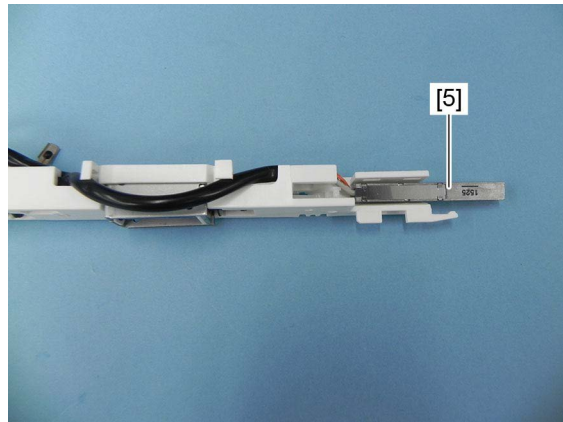



Fig. 4-350

#### 4.6.24 Drum thermistor (K/Y) (THM1/THM2)

The drum thermistor is installed only on the Y and K drums.

- (1) Remove the solenoid holder.  
 P. 4-120 "4.6.22 V0 sensor shutter solenoid (SOL) (75ppm only)"
- (2) Remove the drum thermistor [1].

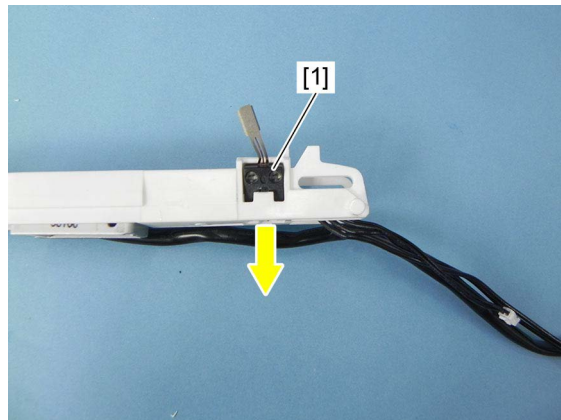





Fig. 4-351

#### 4.6.25 Developer unit

- (1) Remove the front cover.  
 P. 4-1 "4.1.2 Front cover"
- (2) Remove the drum cleaner unit.  
 P. 4-106 "4.6.2 Drum cleaner unit"
- (3) Remove the sub-hopper.  
 P. 4-112 "4.6.11 Sub-hopper"
- (4) Remove the connector holder [1].

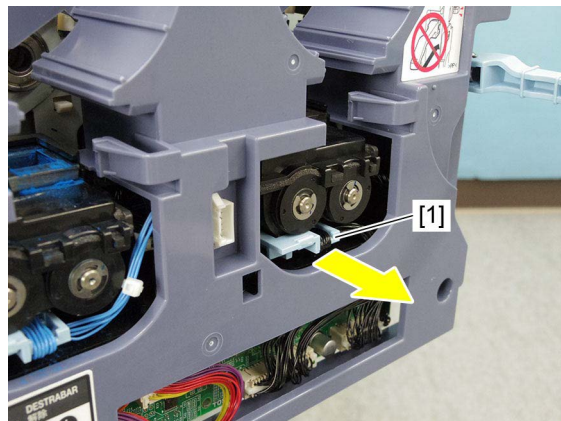


Fig. 4-352

- (5) Remove 1 screw and the developer unit locking [2].

**Notes:**

Be sure not to drop screws into the toner inlet.

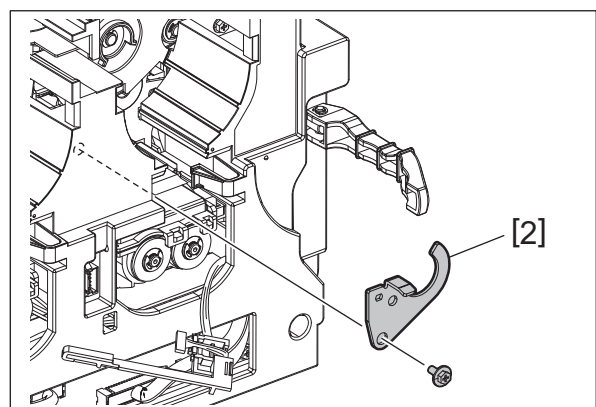


Fig. 4-353

(6) Release 1 lock [3] to set up a stay [4].

**Notes:**

Hold the upper side of the stay. Avoid touching its shutter.

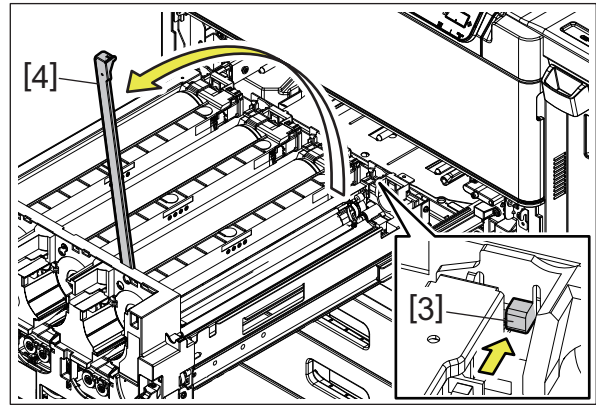


Fig. 4-354

(7) Remove the duct [5].

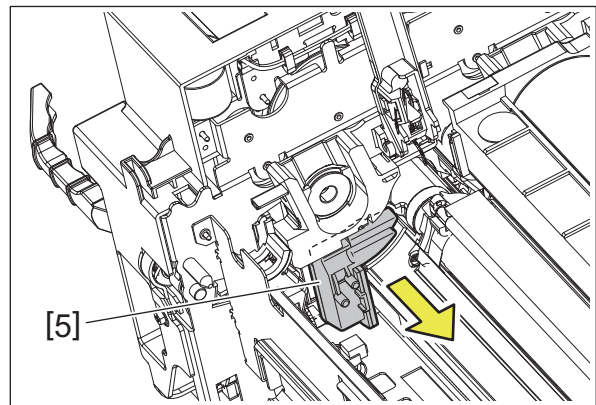


Fig. 4-355

(8) Slide the developer unit [6] toward the front.

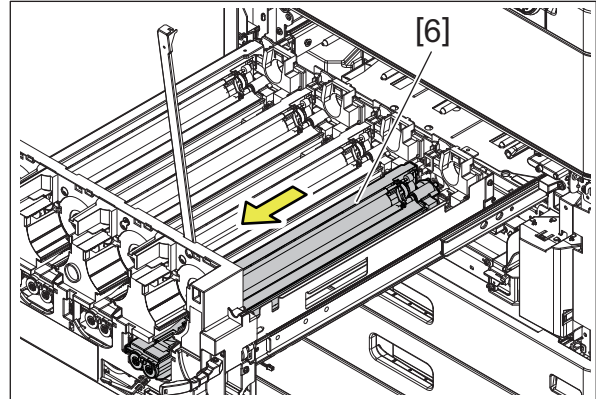


Fig. 4-356

- (9) While lifting the rear side of the developer unit [6], slide it toward the rear and remove it.

**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.

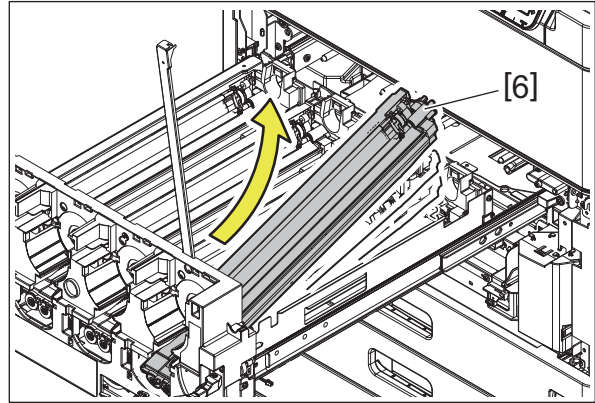


Fig. 4-357

2. Never turn the coupling [7] behind the developer unit in a direction opposite to the one shown with the arrow.

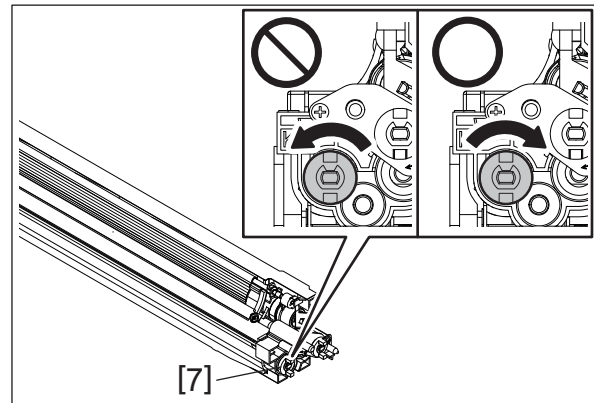


Fig. 4-358

#### 4.6.26 Developer material

- (1) Remove the Developer unit.  
P. 4-124 "4.6.25 Developer unit"
- (2) Release 2 hooks and remove the developer front cover [1] by sliding it.

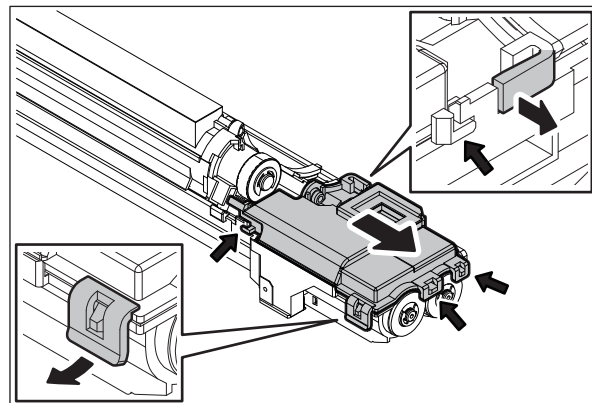


Fig. 4-359

- (3) Remove the developer upper unit [2] by sliding it.

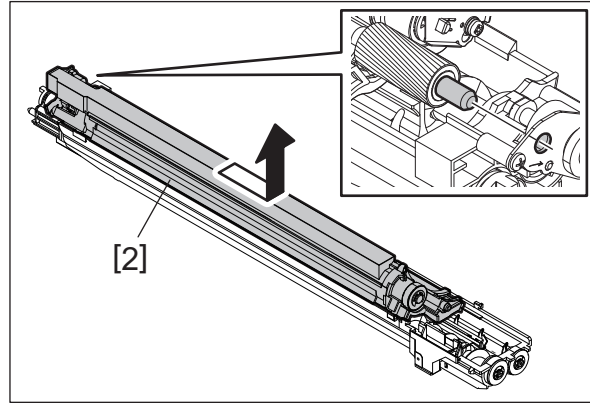


Fig. 4-360

**Notes:**

When removing the developer upper unit, be sure not to lose the springs.

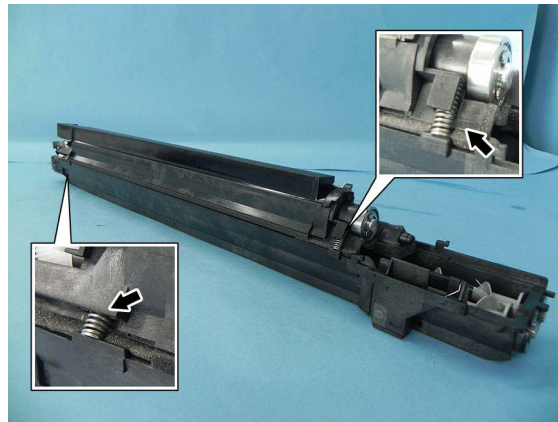


Fig. 4-361

- (4) Discharge the developer material.

**Notes:**

When discharging the developer material, be careful not to scatter the developer material on the gear in the developer unit.



Fig. 4-362

**Notes:**

1. Never turn the coupling [3] behind the developer unit in a direction opposite to the one shown with the arrow.

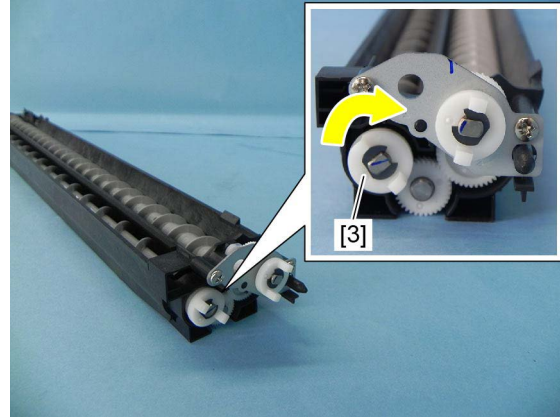


Fig. 4-363

2. Be sure not to lose the scraper [4] in the developer. Make sure that the scraper is installed passing through the hole [5], and check if the coupling can be turned in the direction of the arrow in the figure.

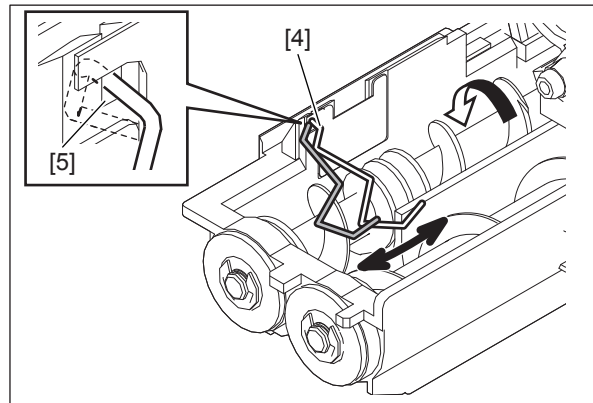


Fig. 4-364

3. Be sure that there is no developer material adhering to the driving gear [6] in the developer unit.

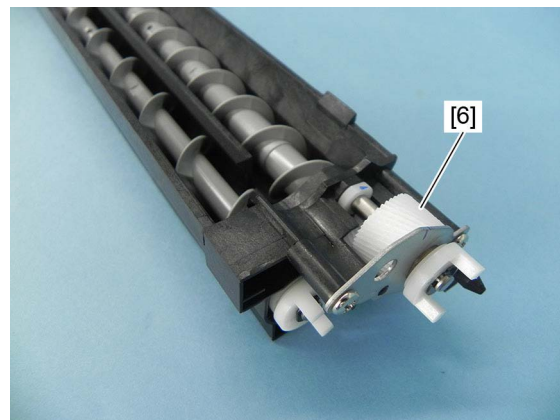


Fig. 4-365


**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 cartridge to the sub-hopper.
3. Perform FS-05 and key in [2400].
4. Install the sub-hopper after developer material has been filled up.



## 4.6.27 Mixer-1 / Mixer-2

- (1) Remove the developer unit.  
 P. 4-126 "4.6.26 Developer material"
- (2) Remove the scraper.

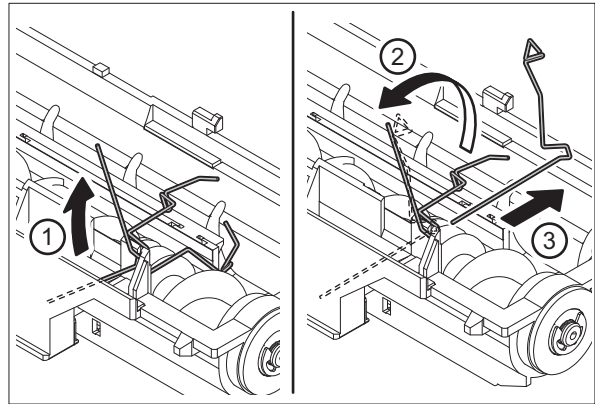


Fig. 4-366

### Notes:

- When attaching the scraper [1], pass it through the hole [2].
- The scraper is moved in the direction of the arrow when the coupling is rotated clockwise.
- Do not rotate the coupling counterclockwise.

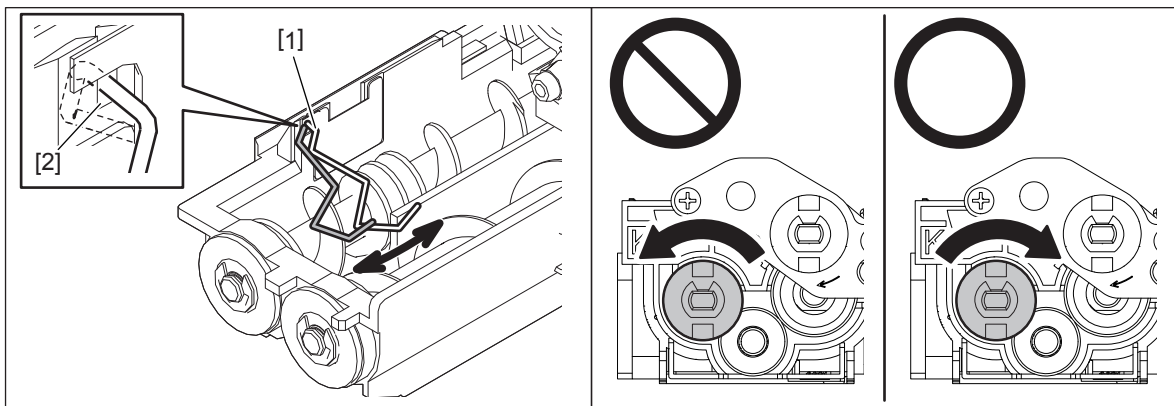


Fig. 4-367

- (3) Remove the E-ring [3], coupling [4] and gear [5].

### Notes:

Be sure to attach the shaft as shown in the figure.

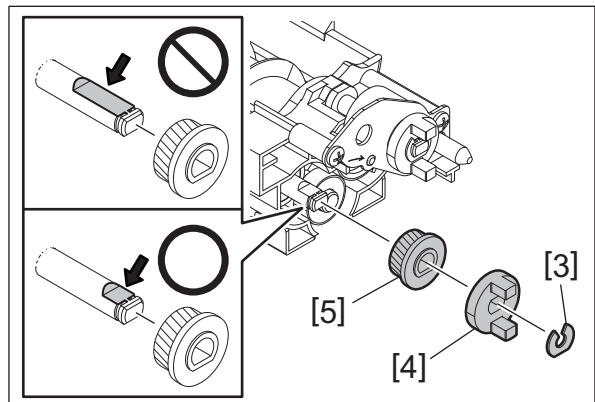


Fig. 4-368

- (4) Remove the bearing [6] and oil seal [7].

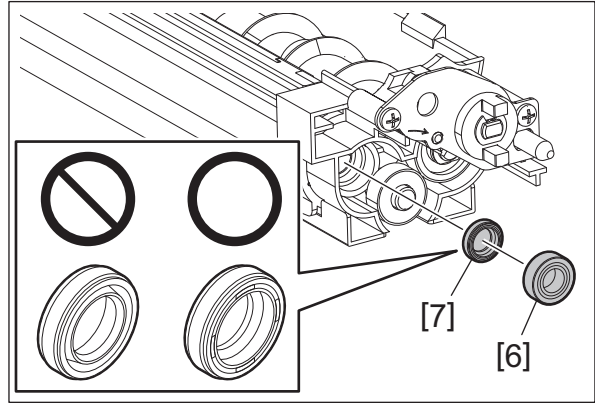


Fig. 4-369

- (5) Take out the mixer-1 [8].

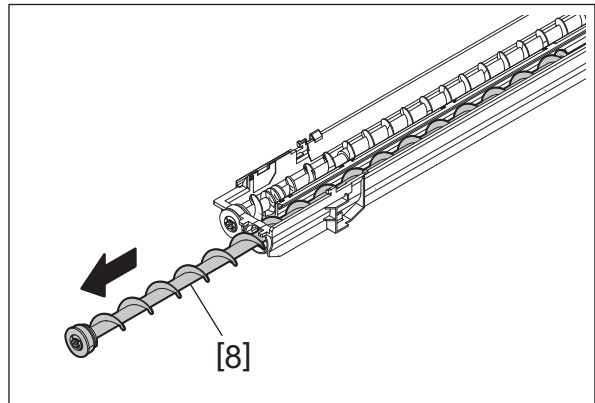


Fig. 4-370

- (6) Remove the E-ring [9], bearing [10], oil seal [11] and bushing [12].

**Notes:**

Be sure to attach the oil seal in the direction shown in the figure.

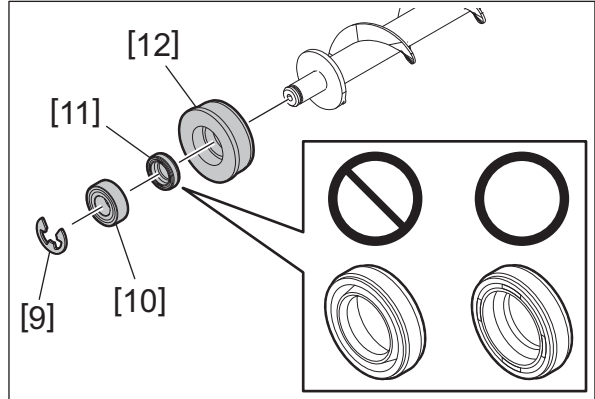


Fig. 4-371

- (7) Remove the 2 screws and take off the gear unit [13].

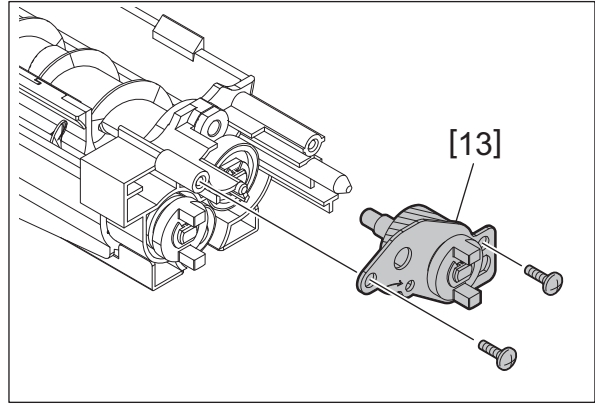


Fig. 4-372

- (8) Remove the E-ring [14], gear [15] and bushing [16].

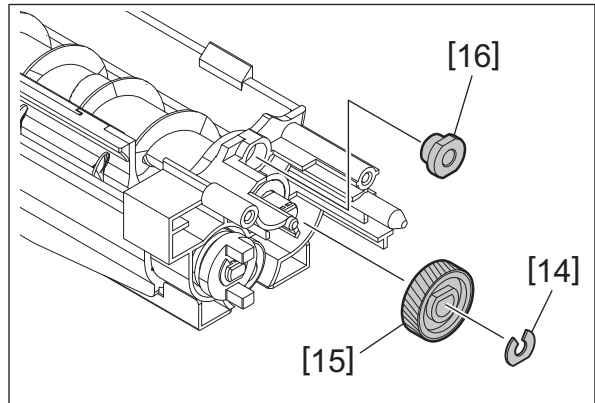


Fig. 4-373

- (9) Remove the bearing [17] and oil seal [18].

**Notes:**

Be sure to attach the oil seal in the direction shown in the figure.

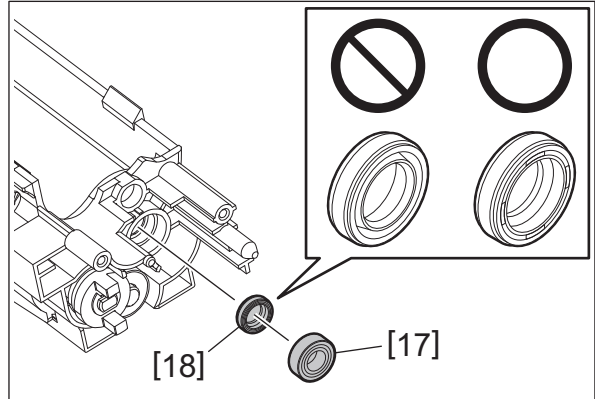


Fig. 4-374

(10) Take out the mixer-2 [19].

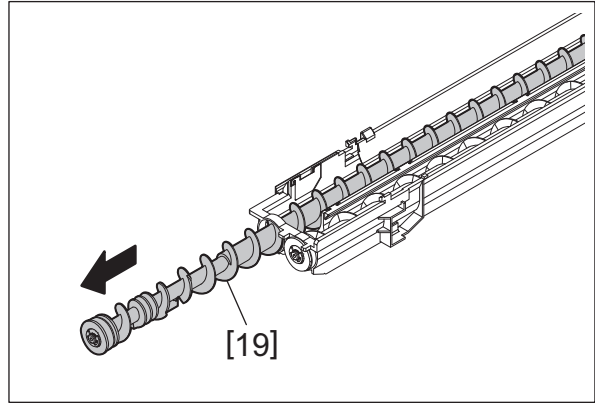


Fig. 4-375

(11) Remove the E-ring [20], bearing [21], oil seal [22] and bushing [23].

**Notes:**

- Be sure to attach the oil seal in the direction shown in the figure.

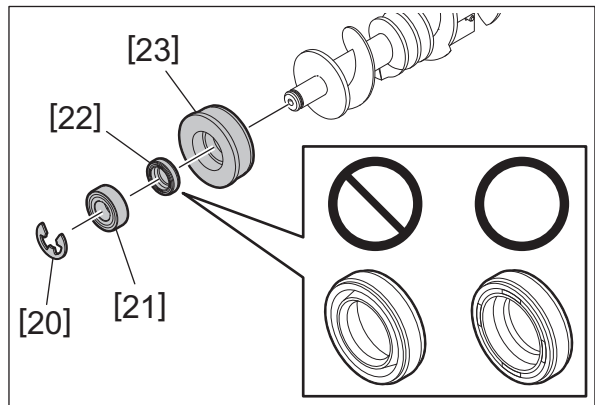


Fig. 4-376

- Be sure to attach the oil seal parallel to the bushing.

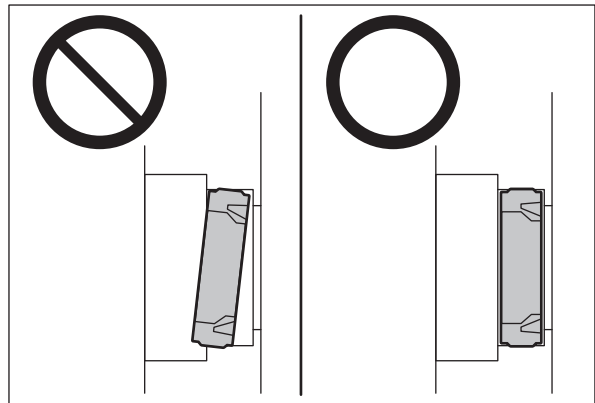


Fig. 4-377

## 4.6.28 Developer sleeve

### Notes:

When the developer sleeve has been replaced or taken off, adjust the gap between the developer sleeve and the doctor blade.

📖 P. 6-93 "6.8.3 Adjustment of the doctor-sleeve gap"

- (1) Remove the developer unit.  
📖 P. 4-124 "4.6.25 Developer unit"
- (2) Release 2 latches and remove the cover [1].

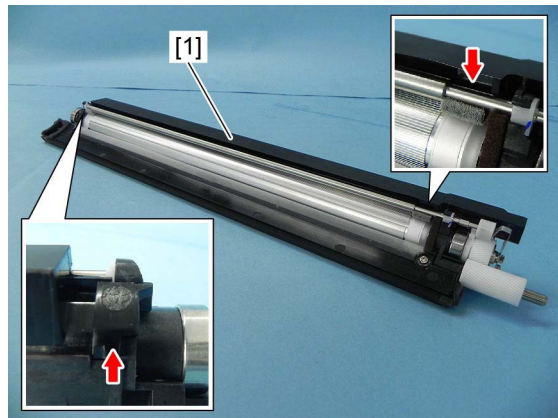


Fig. 4-378

- (3) Release 1 latch and remove the recovery roller [2].

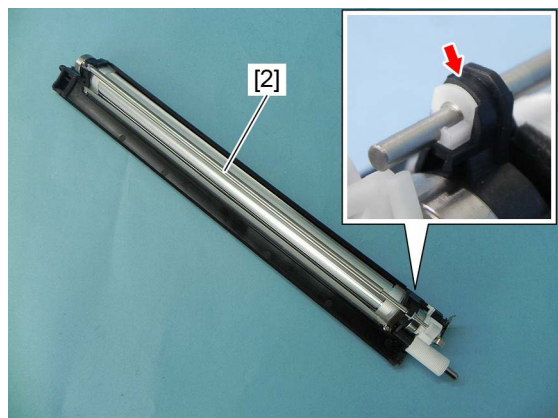


Fig. 4-379

- (4) Remove 1 screw and take off the polarity adjustment plate [3].

### Notes:

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.

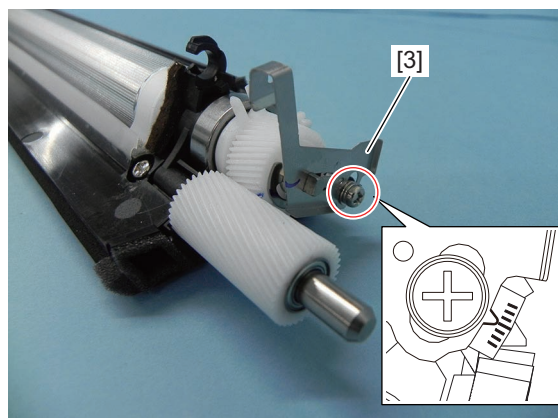


Fig. 4-380

- (5) Remove the E-ring and bearing [4] on the front side.



Fig. 4-381

- (6) Remove the E-ring and gear [5] on the rear side.



Fig. 4-382

- (7) Remove 2 screws.



Fig. 4-383

- (8) Remove the blade cover [7] which is fixed with adhesive tape [6].

**Notes:**

Be careful not to damage seals when taking off the blade cover.

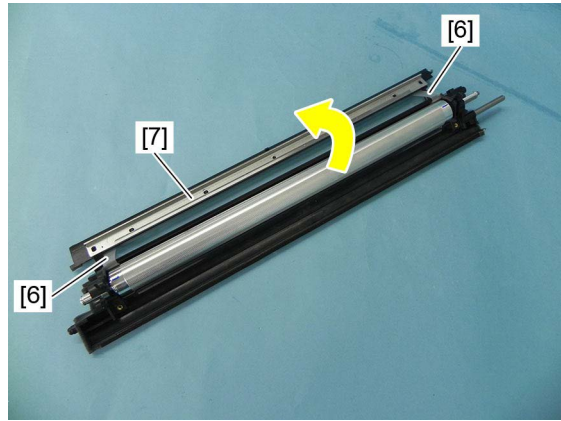


Fig. 4-384

- (9) Remove 2 bearings [8].
- (10) Remove the developer sleeve [9].



Fig. 4-385

### 4.6.29 Auto-toner sensor (K/C/M/Y) (S26/S27/S28/S29)

- (1) Remove 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. 4-124 "4.6.25 Developer unit"
  - 📖 P. 4-126 "4.6.26 Developer material"
- (2) Remove 1 screw and disconnect 1 connector, and then take off the auto-toner sensor [1].



Fig. 4-386

## 4.6.30 K-Drum and developer drive unit (K) / Color Drum and developer drive unit (YMC)

- (1) Pull out the process unit.  
📖 P. 4-102 "4.6.1 Pulling out the process unit (EPU tray)"
- (2) Remove the Drum motor-K.  
📖 P. 4-137 "4.6.31 Drum motor-K (M27)"
- (3) Remove the developer unit motor-K and developer unit motor-YMC.  
📖 P. 4-138 "4.6.33 Developer unit motor-K/ YMC (M29)/(M31)"
- (4) Remove the Developer unit mixer motor-K and Developer unit mixer motor-YMC.  
📖 P. 4-138 "4.6.34 Developer unit mixer motor-K/YMC (M30)/(M32)"
- (5) Remove 4 screws and take off the K-Drum and developer drive unit [1].
- (6) Remove 4 screws and take off the Color Drum and developer drive unit [2].

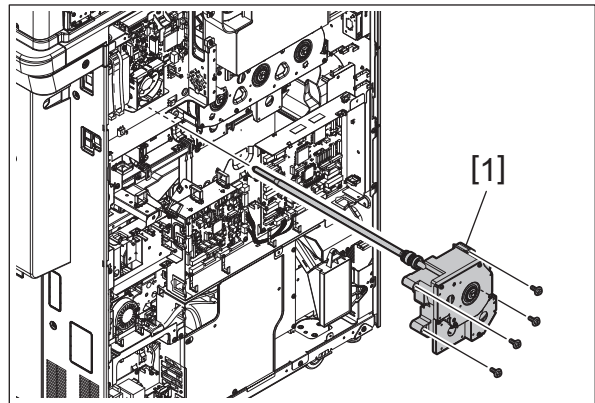


Fig. 4-387

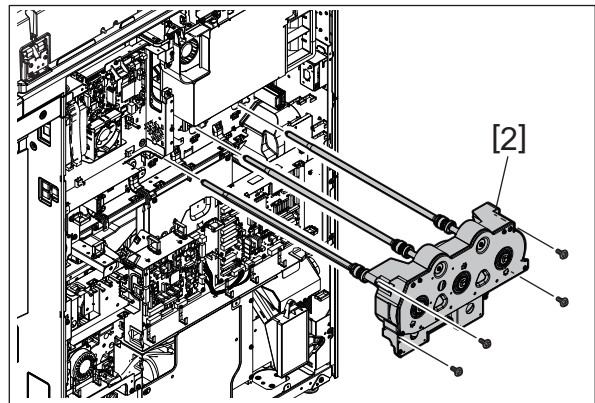


Fig. 4-388

### 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.

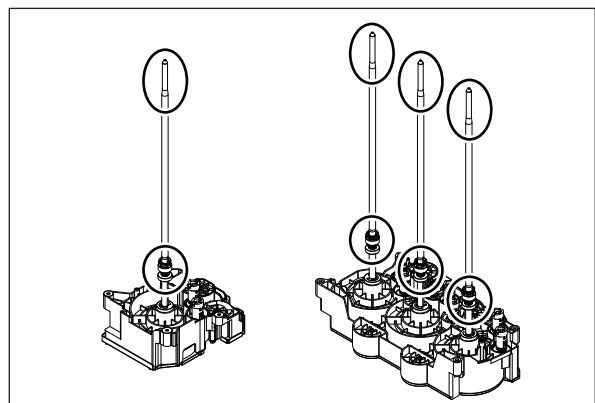


Fig. 4-389



### 4.6.31 Drum motor-K (M27)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 1 connector and remove 4 screws, and then take off the drum motor-K [1].

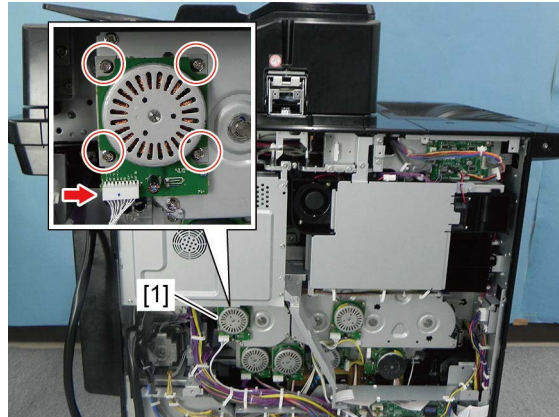


Fig. 4-390

### 4.6.32 Drum motor-YMC (M28)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 1 connector and remove 4 screws, and then take off the drum motor-YMC [1].

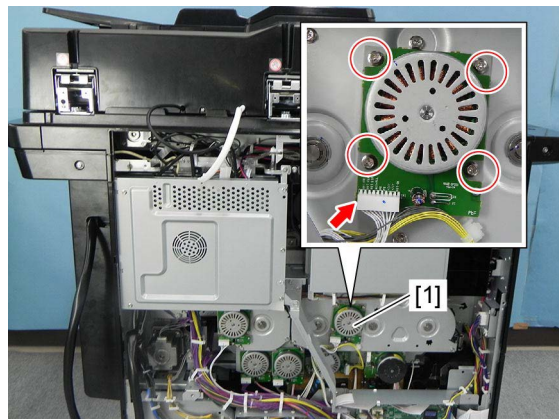


Fig. 4-391

#### Notes:

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).

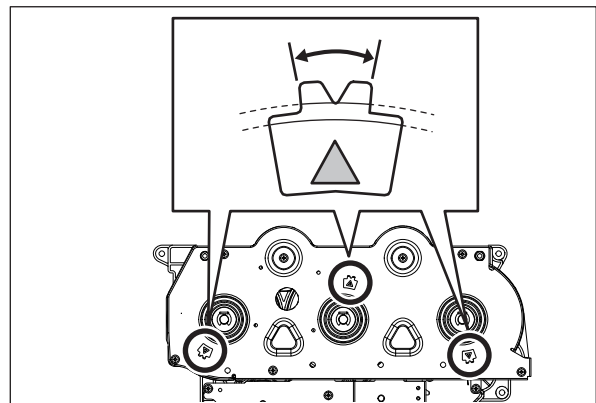


Fig. 4-392

#### 4.6.33 Developer unit motor-K/YMC (M29)/(M31)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 3 screws and disconnect 1 connector for each motor. Remove the developer unit motor-K [1] and the developer unit motor-YMC [2].

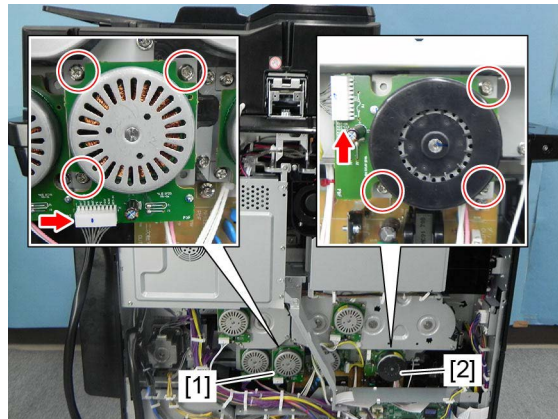


Fig. 4-393

#### 4.6.34 Developer unit mixer motor-K/YMC (M30)/(M32)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 3 screws and disconnect 1 connector for each motor. Remove the developer unit mixer motor-K [1] and the developer unit mixer motor-YMC [2].

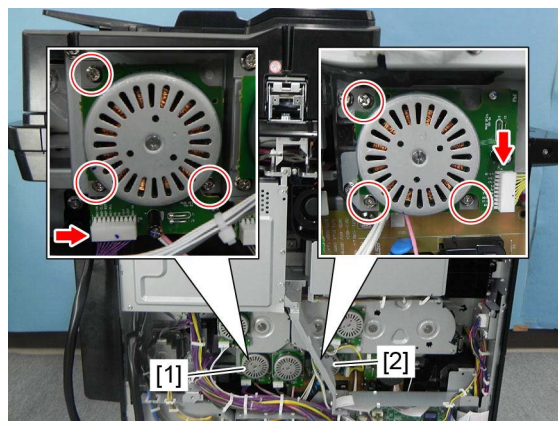


Fig. 4-394

#### 4.6.35 EPU tray developer unit cooling duct

- (1) Remove the Developer unit.  
📖 P. 4-124 "4.6.25 Developer unit"
- (2) Remove the drum unit side vertical duct.  
📖 P. 4-117 "4.6.18 Drum unit side vertical duct"
- (3) Disconnect all connectors connected to the drum surface potential sensor control PC board (75ppm only) [1] and the EPU PC board [2].

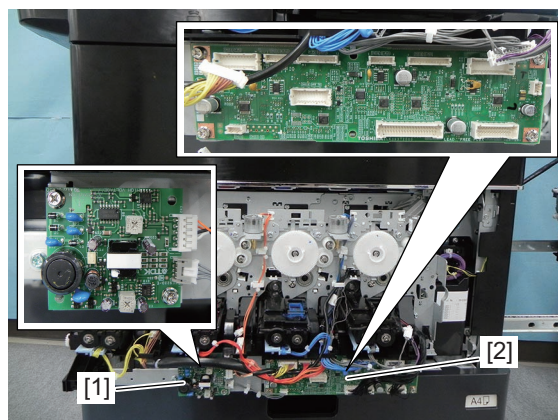


Fig. 4-395

- (4) Remove 1 screw and take off the bracket [3] by sliding it.

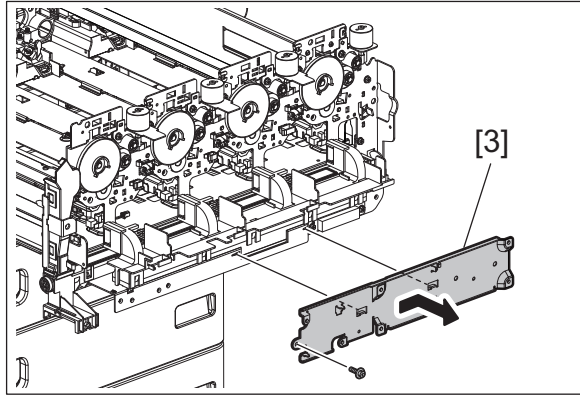


Fig. 4-396

- (5) Remove the EPU tray developer unit cooling duct [4] by sliding it.

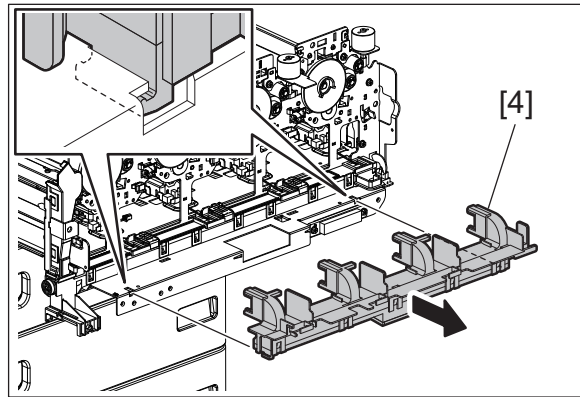


Fig. 4-397

### 4.6.36 TBU cleaner side vertical duct

- (1) Remove the EPU tray developer unit cooling duct.  
P. 4-138 "4.6.35 EPU tray developer unit cooling duct"
- (2) Remove 1 screw and take off the bracket [1].

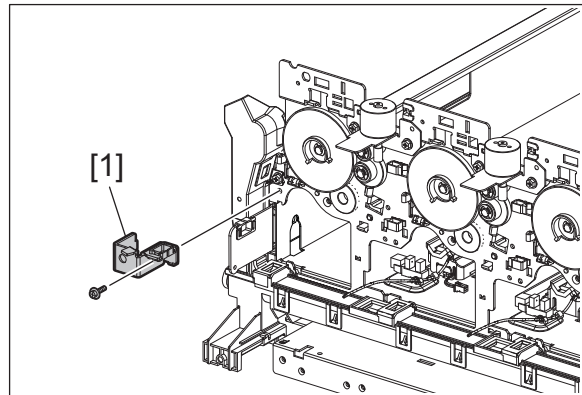


Fig. 4-398

- (3) Remove 1 screw and take off the TBU cleaner side vertical duct [2].

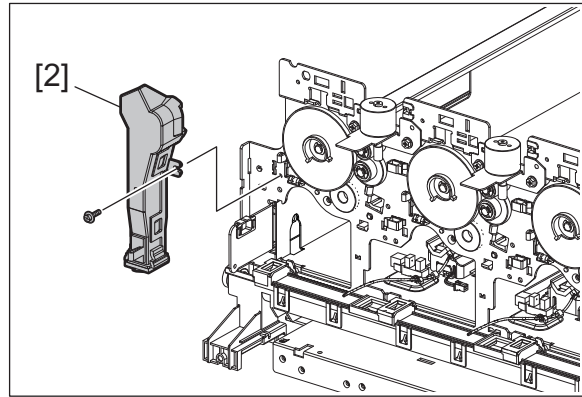


Fig. 4-399

#### 4.6.37 EPU tray waste toner horizontal transport unit

- (1) Remove the TBU cleaner side vertical duct.  
 📖 P. 4-139 "4.6.36 TBU cleaner side vertical duct"
- (2) Remove the auger lock detection sensor.  
 📖 P. 4-116 "4.6.17 Auger lock detection sensor (S42)"
- (3) Remove 2 screws and take off the EPU tray waste toner horizontal transport unit [1].

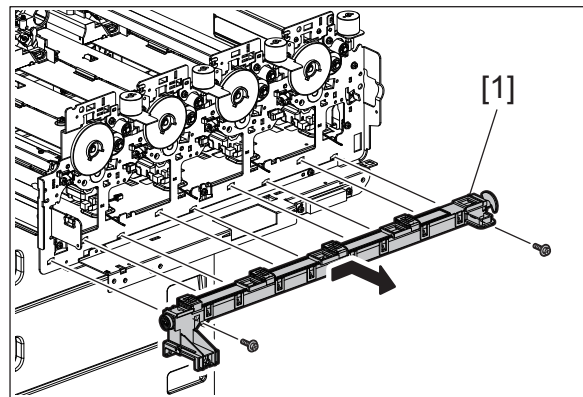


Fig. 4-400

#### 4.6.38 Waste toner box

- (1) Open the waste toner cover [1].

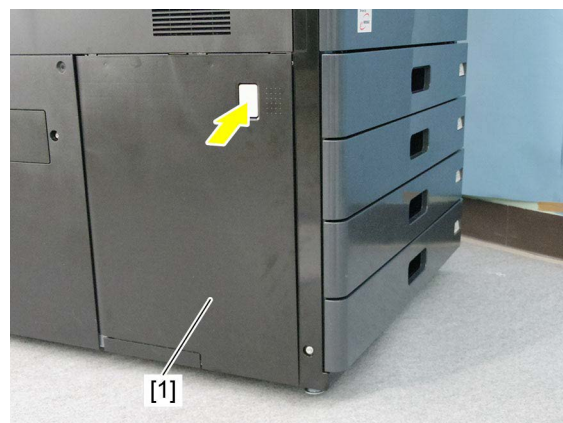


Fig. 4-401

- (2) Take out the waste toner box [2].



Fig. 4-402

- (3) Attach the cap [3].



Fig. 4-403

#### 4.6.39 Waste toner amount detection sensor (S13)

- (1) Remove the left lower cover.  
📖 P. 4-8 "4.1.16 Left lower cover"  
(2) Remove 1 screw and take off the bracket [1].

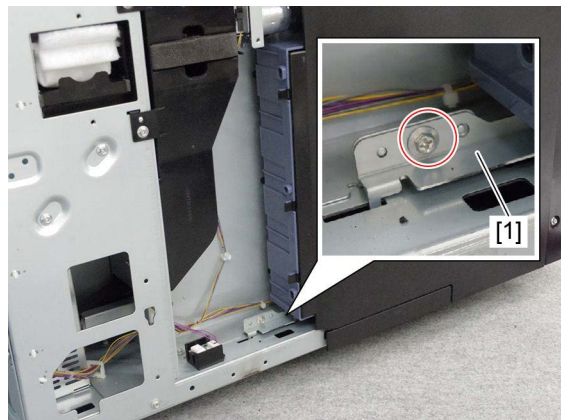


Fig. 4-404

- (3) Lower the dowel [2] located at the upper of the waste toner case [3].

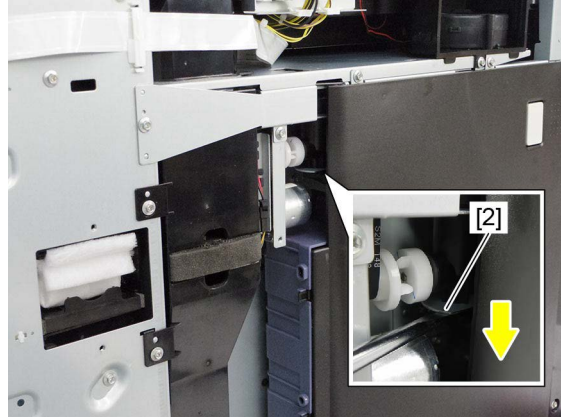


Fig. 4-405

- (4) Hold up the bottom of the waste toner case [3] and remove the dowel [2]. Remove the waste toner case [3] by lowering it.



Fig. 4-406

- (5) Release 1 hook and remove the sensor cover [4].



Fig. 4-407

- (6) Disconnect 1 connector and release 3 latches, and then remove the waste toner amount detection sensor [5].

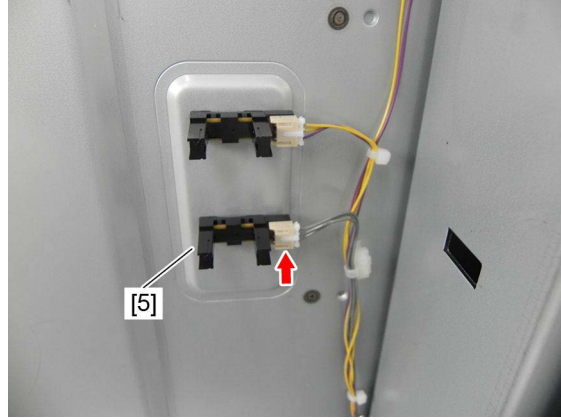


Fig. 4-408

#### 4.6.40 Waste toner box full detection sensor (S14)

- (1) Take off the sensor cover.  
📖 P. 4-141 "4.6.39 Waste toner amount detection sensor (S13)"
- (2) Disconnect 1 connector and release 3 latches, and then remove the waste toner box full detection sensor [1].

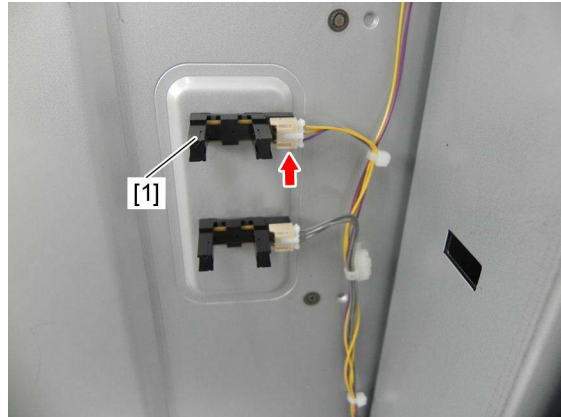


Fig. 4-409

#### 4.6.41 Waste toner box detection sensor (S16)

- (1) Remove the sensor cover.  
📖 P. 4-141 "4.6.39 Waste toner amount detection sensor (S13)"
- (2) Disconnect 1 connector and release 3 latches, and then remove the waste toner box detection sensor [1].

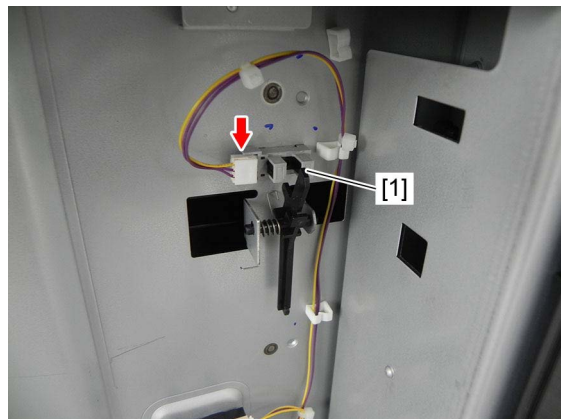


Fig. 4-410



## 4.6.42 Ozone filter-1

- (1) Remove 2 screws and take off the filter cover [1].



Fig. 4-411

- (2) Remove the ozone filter-1 [2].

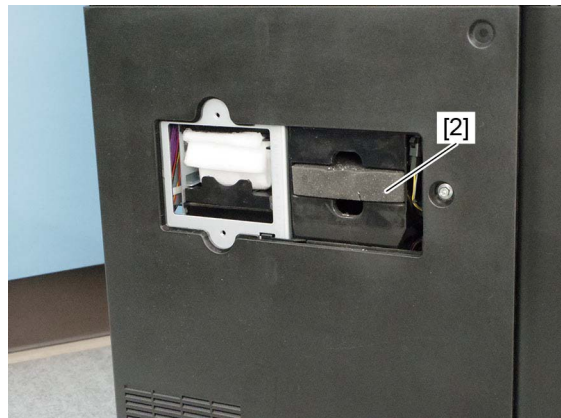


Fig. 4-412

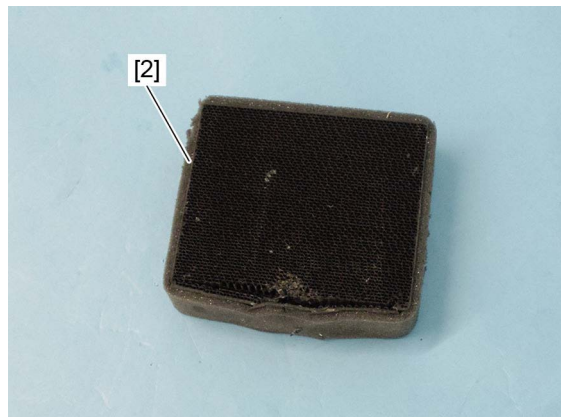


Fig. 4-413

#### 4.6.43 Ozone filter-2

- (1) Remove 2 screws and take off the cover [1].



Fig. 4-414

- (2) Remove the ozone filter-2 [2].



Fig. 4-415



Fig. 4-416

#### 4.6.44 Power supply unit cooling fan (F37)

- (1) Remove the switching regulator.  
📖 P. 9-13 "9.1.12 Switching regulator (PS)"
- (2) Remove 2 screws and take off the Power supply unit cooling fan [1].

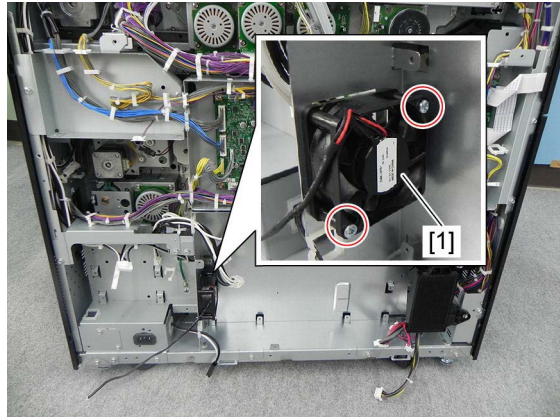


Fig. 4-417

#### 4.6.45 Ozone filter3

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 2 screws and take off the Ozone filter3 [1].

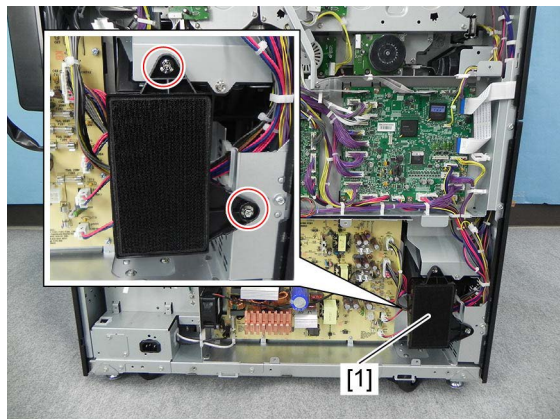


Fig. 4-418

#### 4.6.46 Toner filter

- (1) Remove 2 screws and take off the cover [1].



Fig. 4-419

(2) Remove the toner filter [2].

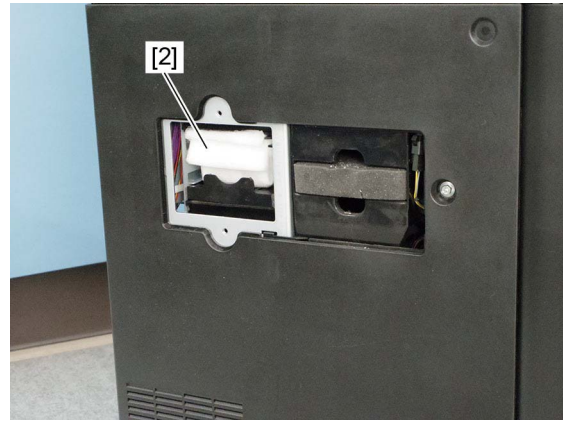


Fig. 4-420

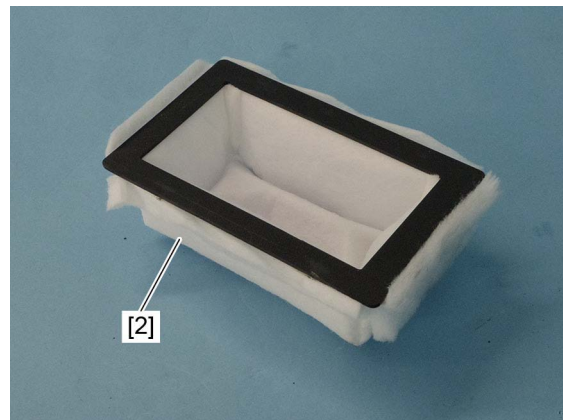





Fig. 4-421

#### 4.6.47 Toner motor (K/C/M/Y) (M15/M16/M17/M18)

- (1) Remove the front cover.  
 P. 4-1 "4.1.2 Front cover"
- (2) Remove the switch cover.  
 P. 4-158 "4.6.54 Toner motor interlock switch (SW3)"
- (3) Remove the toner cartridge.
- (4) Pull out the transfer belt unit.  
 P. 4-164 "4.7.1 Pulling out of the transfer belt unit"
- (5) Remove 2 screws and take off the toner guide [1] by sliding it to the left and pulling it out toward you.

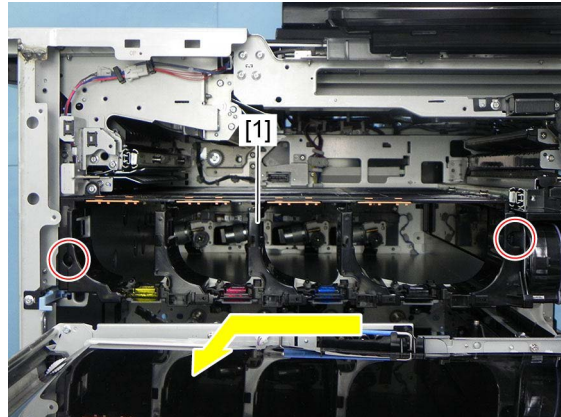


Fig. 4-422

- (6) Remove 2 screws and pull the toner cover [2] a little toward you to release the hook. Remove the toner cover [2] by lifting it up a little.

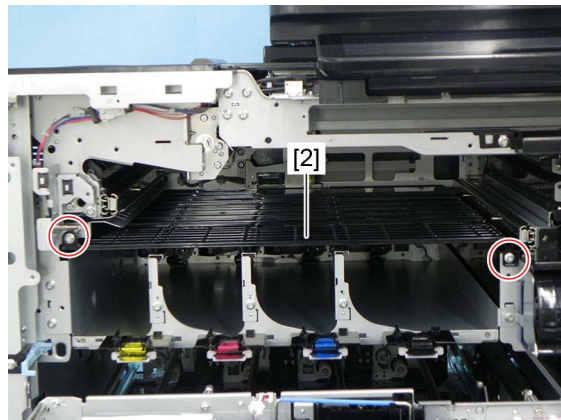


Fig. 4-423

- (7) Remove 3 screws and 3 stays [3].

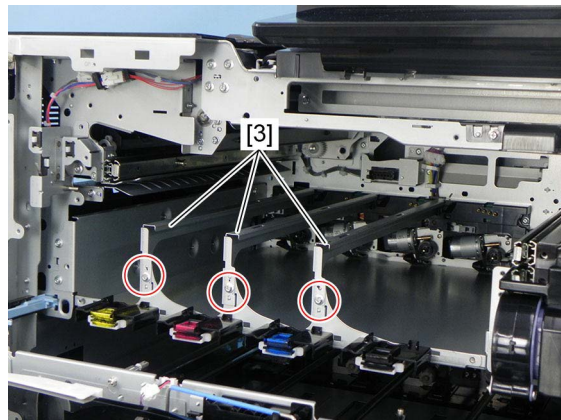


Fig. 4-424

- (8) Remove 2 screws and release the harness from the harness clamp [4].
- (9) Disconnect 2 connectors and remove the toner motor assembly [5].

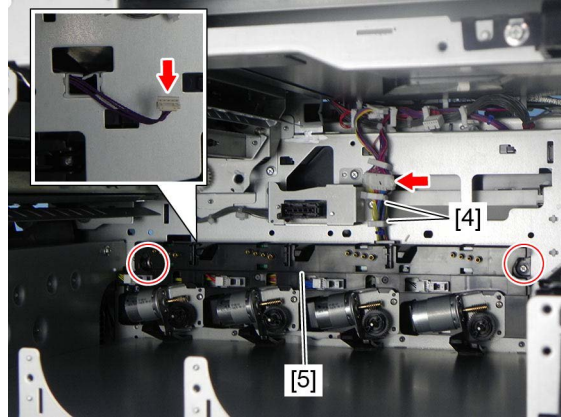


Fig. 4-425

- (10) Disconnect 1 connector.

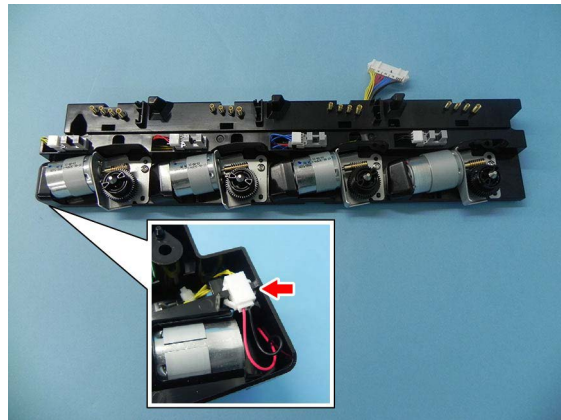


Fig. 4-426

- (11) Release 2 hooks and remove the gear [6].

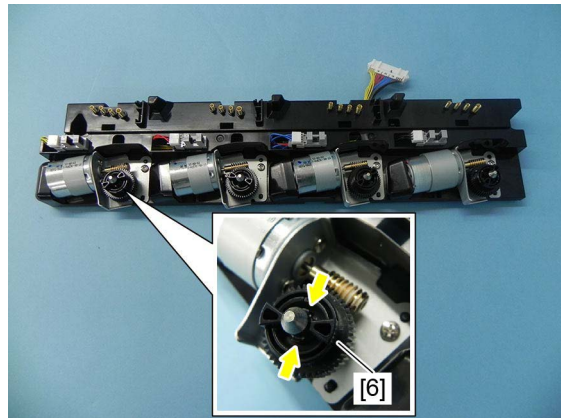


Fig. 4-427

- (12) Remove the spring [7]. Remove 1 screw and take off the toner motor bracket [8].

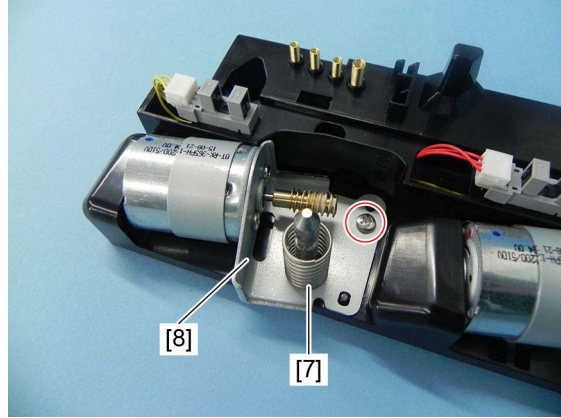


Fig. 4-428

- (13) Remove 2 screws and take off the toner motor [9].

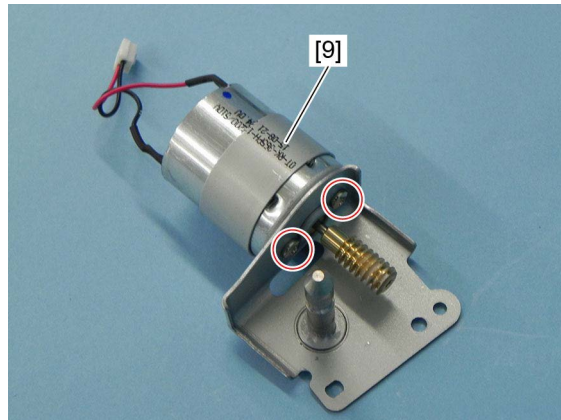


Fig. 4-429

#### 4.6.48 Toner cartridge paddle rotation detection sensor (K/C/M/Y) (S8/S9/S10/S11)

- (1) Remove the toner motor assembly.  
 ⓘ P. 4-149 "4.6.47 Toner motor (K/C/M/Y) (M15/M16/M17/M18)"
- (2) Disconnect 1 connector and remove the toner cartridge paddle rotation detection sensor [1].

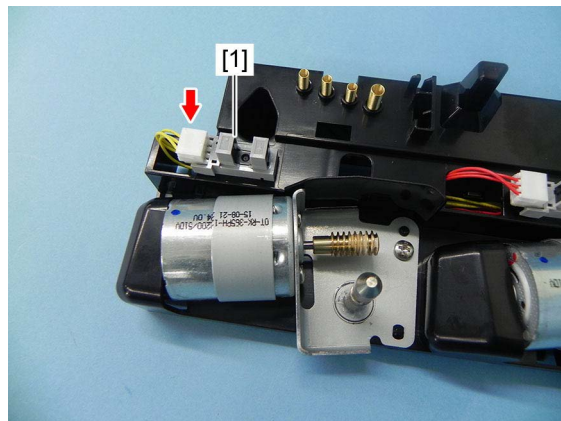




Fig. 4-430

## 4.6.49 Waste toner transport motor (M33)

- (1) Remove the left lower cover.  
 P. 4-8 "4.1.16 Left lower cover"
- (2) Remove the stay.  
 P. 4-154 "4.6.51 Ozone suctioning fan (F24)"
- (3) Disconnect 1 connector and release the harness from 2 harness clamps [1].
- (4) Remove 2 screws and separate the belt [2] from the pulley, and then take off the motor drive unit [3].

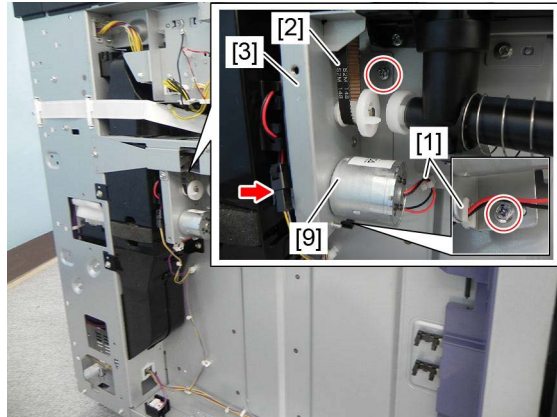


Fig. 4-431

- (5) Remove 2 screws, 1 C-ring [4] and 1 bushing [5], and then take off the bracket [6].

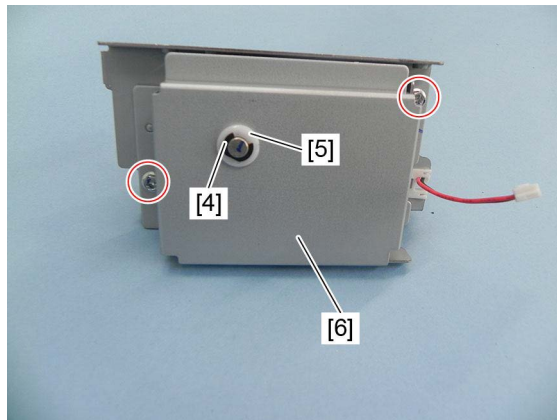


Fig. 4-432

- (6) Remove 2 screws and separate the belt [7] from the pulley. Release the harness from the harness clamp [8] and remove the waste toner transport motor [9].

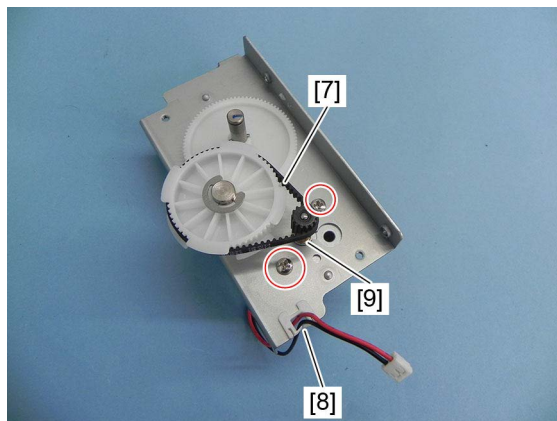


Fig. 4-433



## 4.6.50 Waste toner transport unit

- (1) Remove the motor drive unit.  
📖 P. 4-152 "4.6.49 Waste toner transport motor (M33)"
- (2) Remove the stay.  
📖 P. 4-154 "4.6.51 Ozone suctioning fan (F24)"
- (3) Remove 5 screws and take off the waste toner transport unit [1].

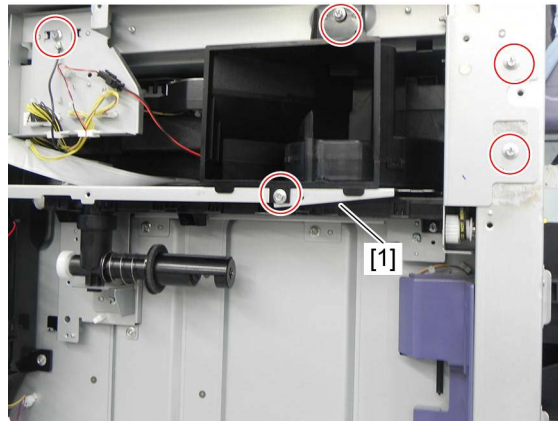


Fig. 4-434

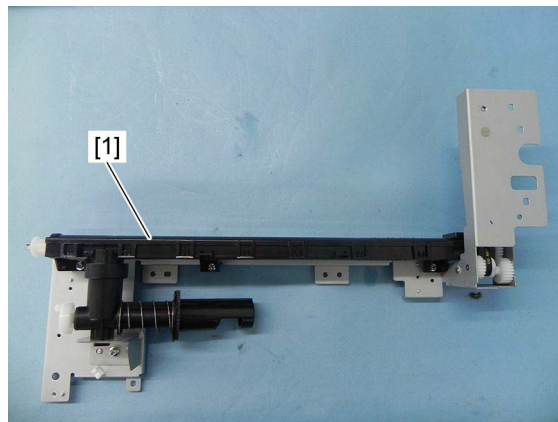


Fig. 4-435

### Notes:

When you reinstall the removed belt of the waste toner drive unit, check that the belt [3] does not contact a plate [2].

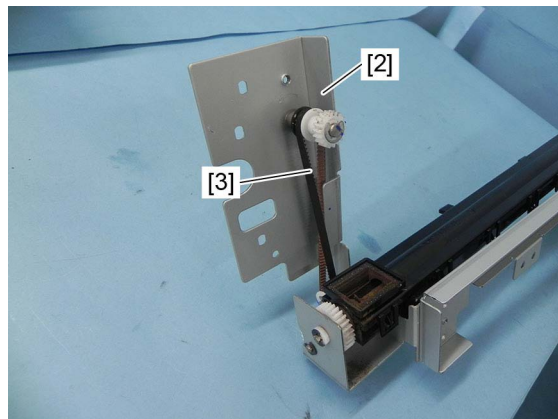


Fig. 4-436

## 4.6.51 Ozone suctioning fan (F24)

- (1) Remove the left lower cover.  
📖 P. 4-8 "4.1.16 Left lower cover"
- (2) Remove the ozone filter-1.  
📖 P. 4-145 "4.6.42 Ozone filter-1"
- (3) Remove the waste toner case.  
📖 P. 4-141 "4.6.39 Waste toner amount detection sensor (S13)"
- (4) Remove 5 screws and take off the stay [1].

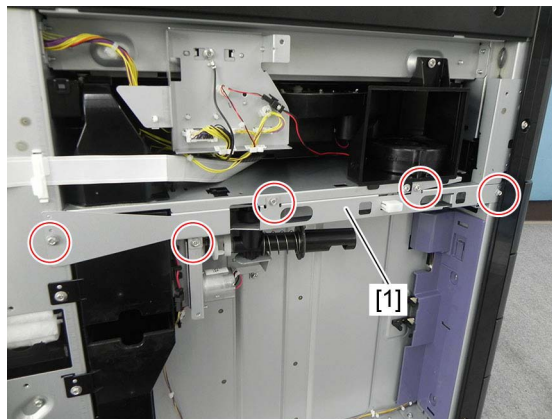


Fig. 4-437

- (5) Remove 3 screws and disconnect 1 connector, and then take off the duct [2].

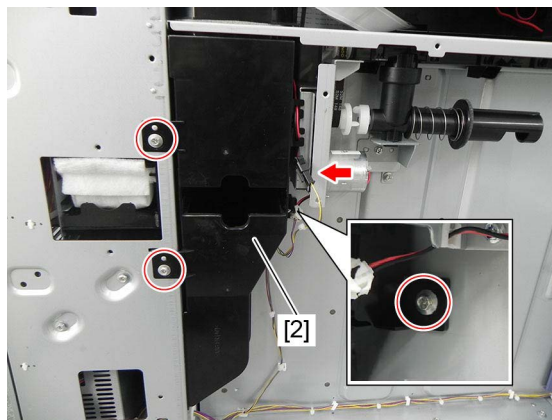


Fig. 4-438

- (6) Release 7 latches and separate the duct [2] from the fan.

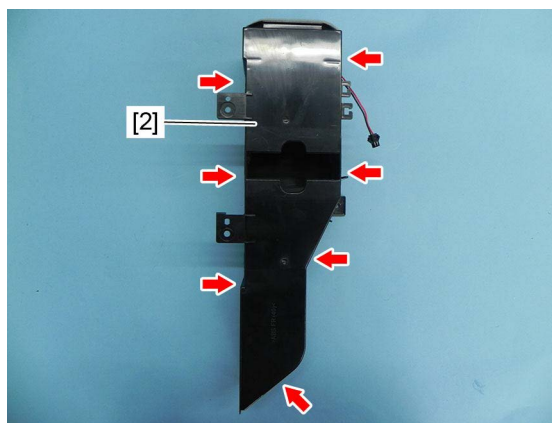


Fig. 4-439

- (7) Release the harness from 2 harness guides and remove the ozone suctioning fun [3].

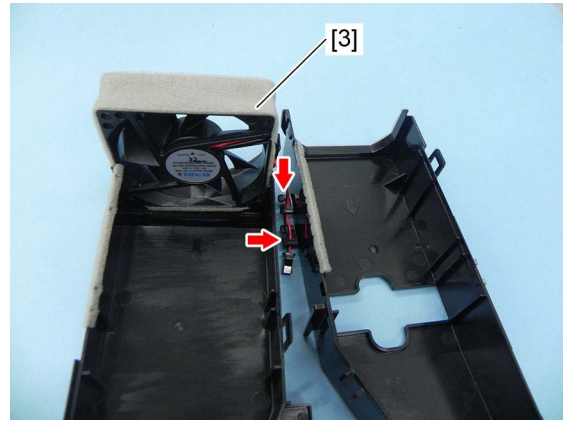


Fig. 4-440

#### 4.6.52 Fuser insulation fan (F21)

- (1) Remove the front cover.  
 P. 4-1 "4.1.2 Front cover"
- (2) Remove the left corner cover.  
 P. 4-11 "4.1.24 Left corner cover"
- (3) Remove the front right cover (control panel right cover).  
 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (4) Remove the front lower cover (control panel lower cover).  
 P. 4-4 "4.1.7 Front lower cover (Control panel lower cover)"
- (5) Remove the bridge unit.  
 P. 4-229 "4.10.11 Bridge unit"
- (6) Remove 2 screws and take off the right inner cover [1].
- (7) Remove 3 screws and take off the stay [2] and inner cover [3].

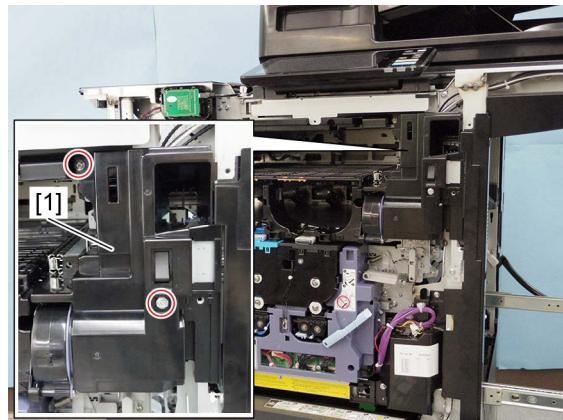


Fig. 4-441

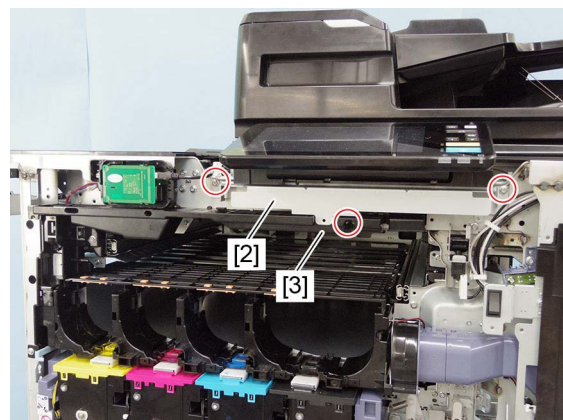


Fig. 4-442

- (8) Remove 2 screws and take off the switch cover [4].

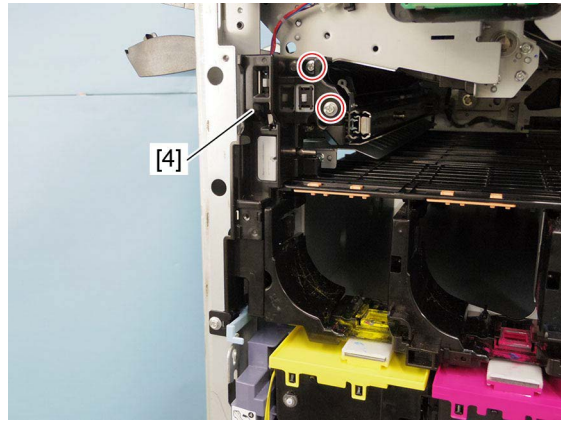


Fig. 4-443

- (9) Pull out the process unit.  
P. 4-102 "4.6.1 Pulling out the process unit (EPU tray)"
- (10) Remove 2 screws and take off the toner guide [5] by sliding it to the left and pulling it out toward you.

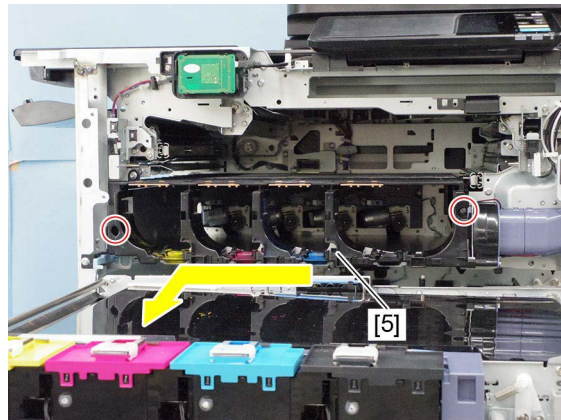


Fig. 4-444

- (11) Remove 1 screw and disconnect 1 connector, and then take off the duct [6].

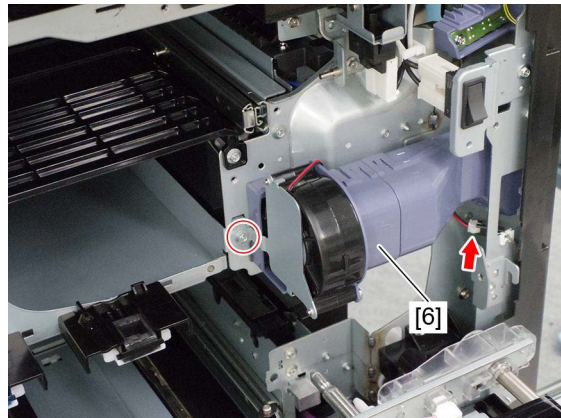


Fig. 4-445

- (12) Remove 2 screws and take off the Fuser insulation fan [7]. Release the harness from the harness guide.

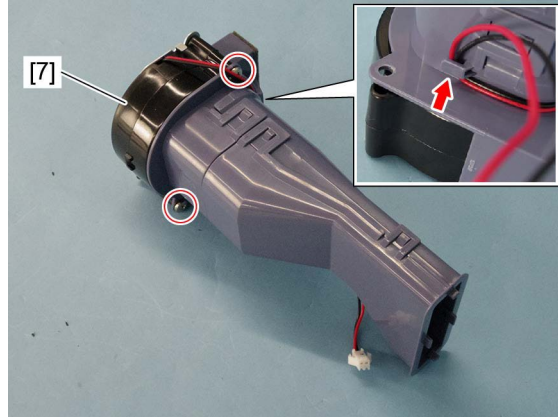


Fig. 4-446

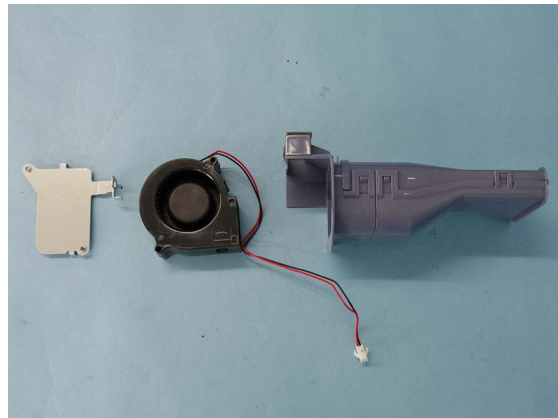


Fig. 4-447

#### 4.6.53 Temperature/humidity sensor (S12)

- (1) Remove the left lower cover.  
P. 4-8 "4.1.16 Left lower cover"
- (2) Release 2 latches.

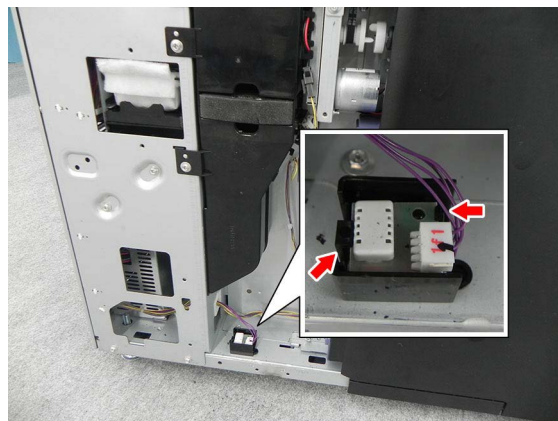


Fig. 4-448

- (3) Disconnect 1 connector and remove the temperature/humidity sensor [1].

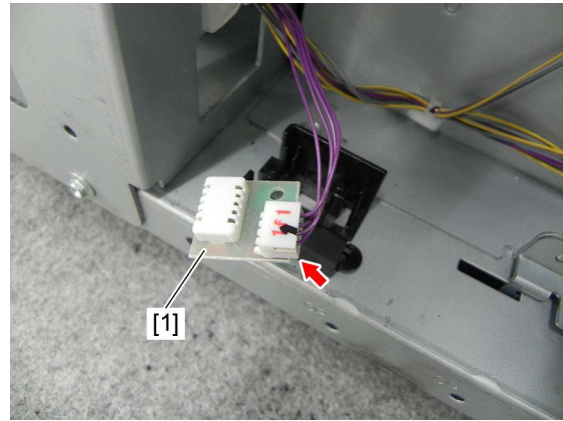


Fig. 4-449

#### 4.6.54 Toner motor interlock switch (SW3)

**Notes:**

When the toner motor interlock switch (SW3) is replaced or removed, be sure to perform the operation check with the input check (test mode 03).

If the interlock switch is not installed appropriately when it is replaced or installed, it may not work normally. If you carry out the maintenance of the equipment in such a situation, you could get an electric shock by touching live sections or be injured by touching moving sections. Therefore, to avoid this, be sure to perform correct handling and installation.

- (1) Remove the front right cover (control panel right cover).  
 📖 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (2) Remove the front lower cover (control panel lower cover).  
 📖 P. 4-1 "4.1.1 Front lower cover"
- (3) Remove the left corner cover.  
 📖 P. 4-11 "4.1.24 Left corner cover"
- (4) Remove the bridge unit.  
 📖 P. 4-229 "4.10.11 Bridge unit"
- (5) Insert 2 rails [1] all the way in.

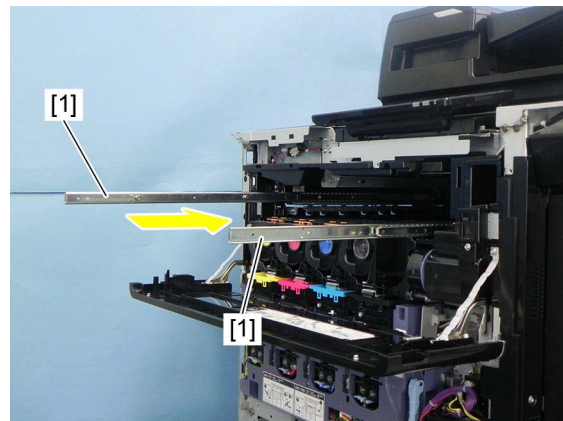


Fig. 4-450

- (6) Remove 3 screws. Remove the stay [2] and inner cover [3].

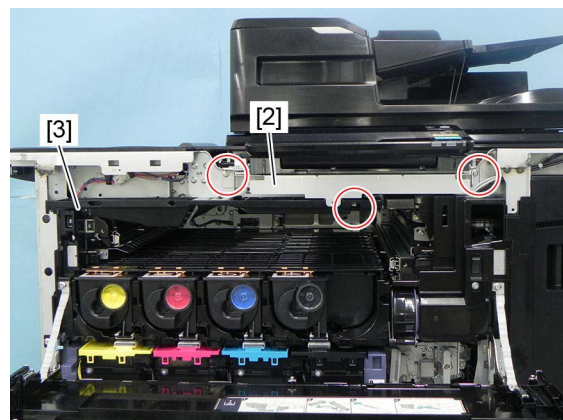


Fig. 4-451

- (7) Remove 2 screws and take off the switch cover [4].

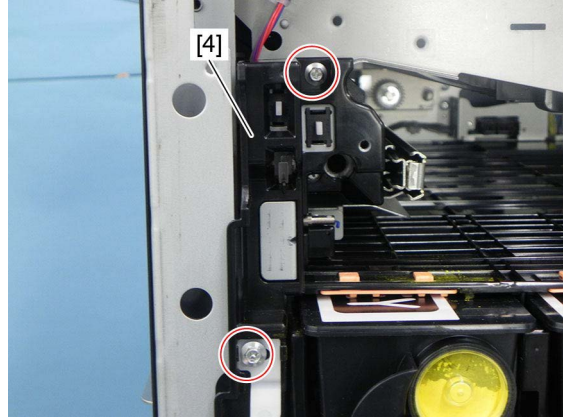


Fig. 4-452

- (8) Disconnect 2 connectors and release the harness from the harness clamp [5].
- (9) Remove 2 screws and take off the switch bracket [6].

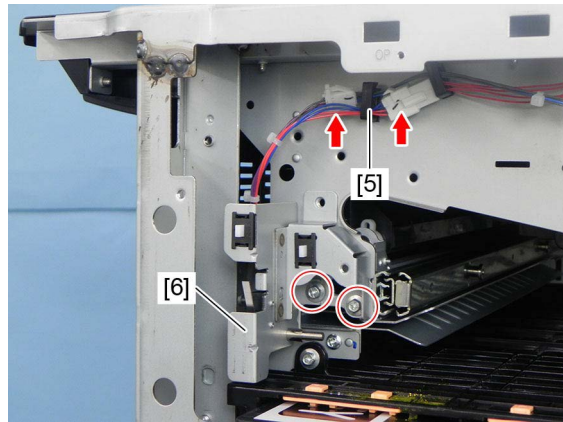


Fig. 4-453

- (10) Disconnect 2 connectors and remove 2 screws, and then take off the toner motor interlock switch [7].

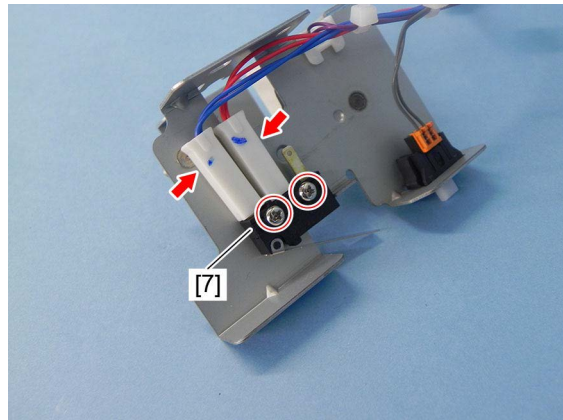



Fig. 4-454

#### 4.6.55 EPU cooling fan (F14)

- (1) Take off the EPU cooling fan duct.  
 P. 4-37 "4.4.1 Laser optical unit"
- (2) Release 6 latches. Then take off the EPU cooling fan [1].

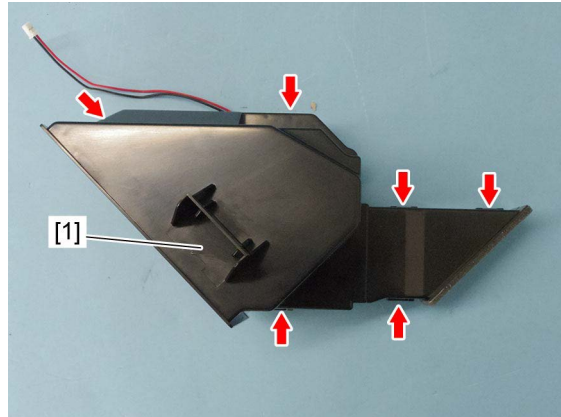


Fig. 4-455

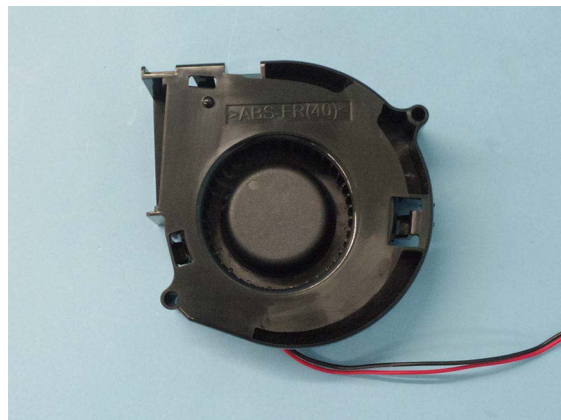





Fig. 4-456

#### 4.6.56 Scattered toner suctioning fan (F25)

- (1) Remove the LGC/PFC board case.  
 P. 9-9 "9.1.9 LGC/PFC board case"
- (2) Remove the switching regulator case.  
 P. 9-14 "9.1.13 Switching regulator case"
- (3) Remove the left lower cover.  
 P. 4-8 "4.1.16 Left lower cover"
- (4) Remove 2 screws.

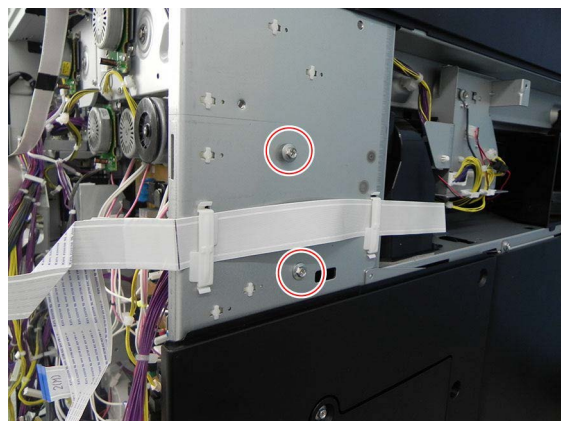


Fig. 4-457



- (5) Remove 2 screws and take off the bracket [1] and duct [2].

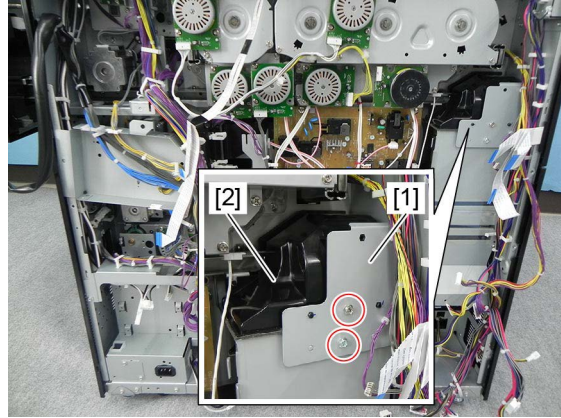


Fig. 4-458

- (6) Rotate 2 clamps by 90 degrees to take them off.

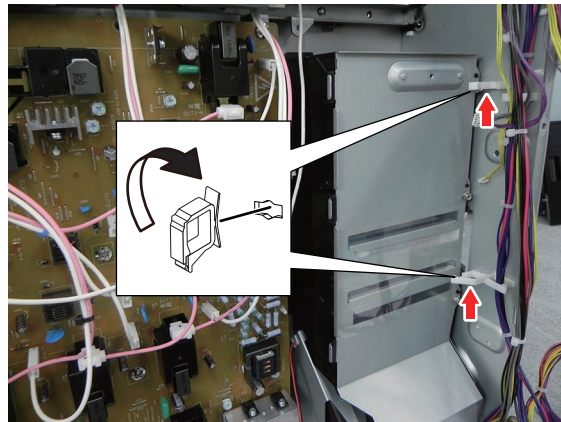


Fig. 4-459

- (7) Disconnect 1 connector and release the harness from 1 harness clamp [3].

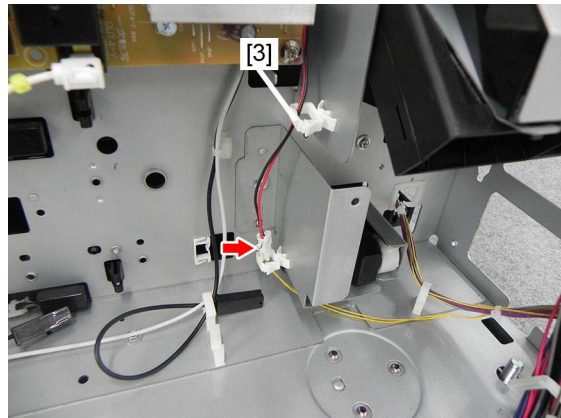


Fig. 4-460

(8) Remove 2 screws.



Fig. 4-461

(9) Remove the duct [4].

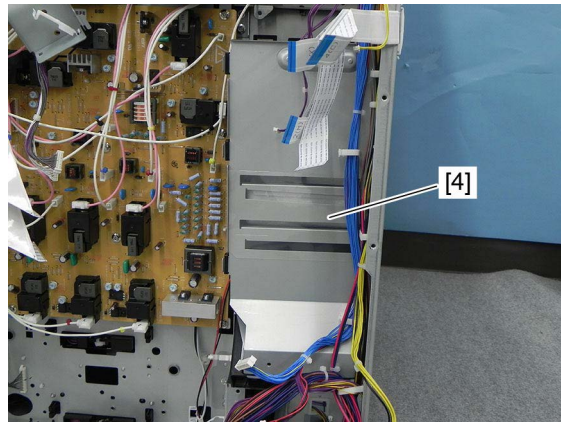


Fig. 4-462

(10) Release the harness from 1 harness clamp. Remove 2 screws and take off the scattered toner suctioning fan [5].

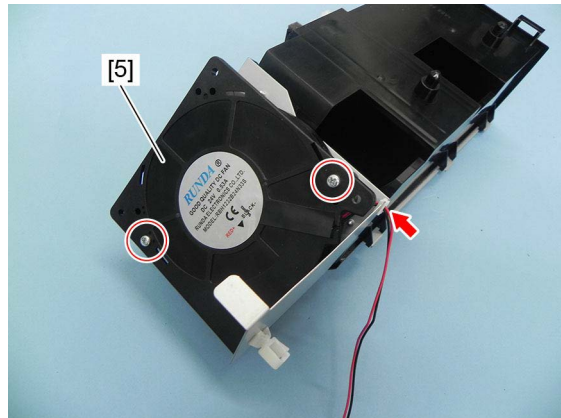




Fig. 4-463

## 4.6.57 Main power switch (SW1)

- (1) Remove the right inner cover.  
 P. 4-273 "4.10.50 Interlock switch (SW2)"
- (2) Remove the right corner cover.  
 P. 4-11 "4.1.25 Right corner cover"
- (3) Remove 1 screw and take off the bracket [1].

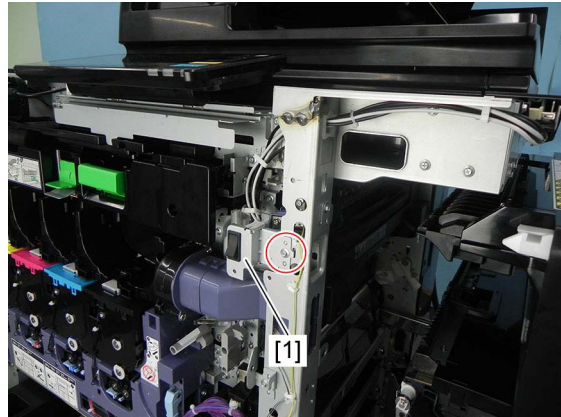


Fig. 4-464

- (4) Disconnect 1 connector.

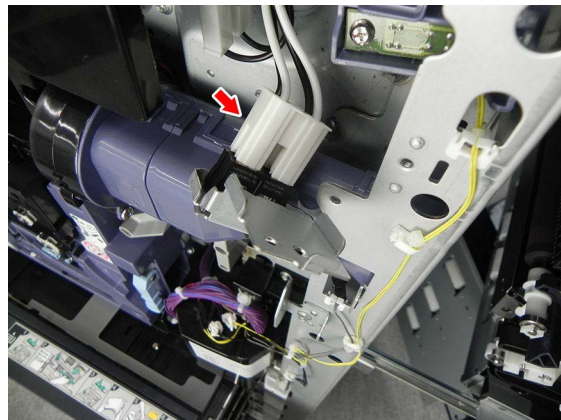


Fig. 4-465

- (5) Push the latches and remove the main power switch [2].

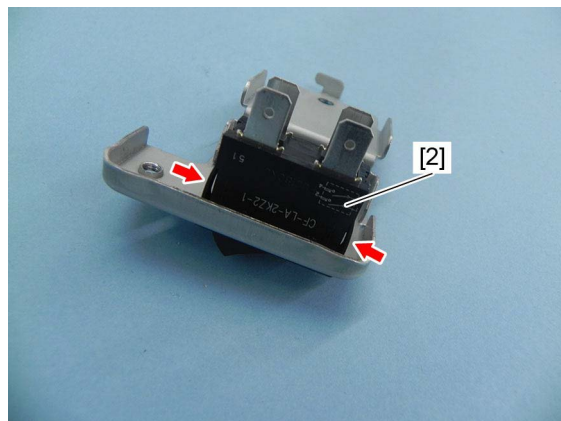


Fig. 4-466

## 4.7 Transfer Unit

### 4.7.1 Pulling out of the transfer belt unit

- (1) Fully open the duplexing unit until it stops.

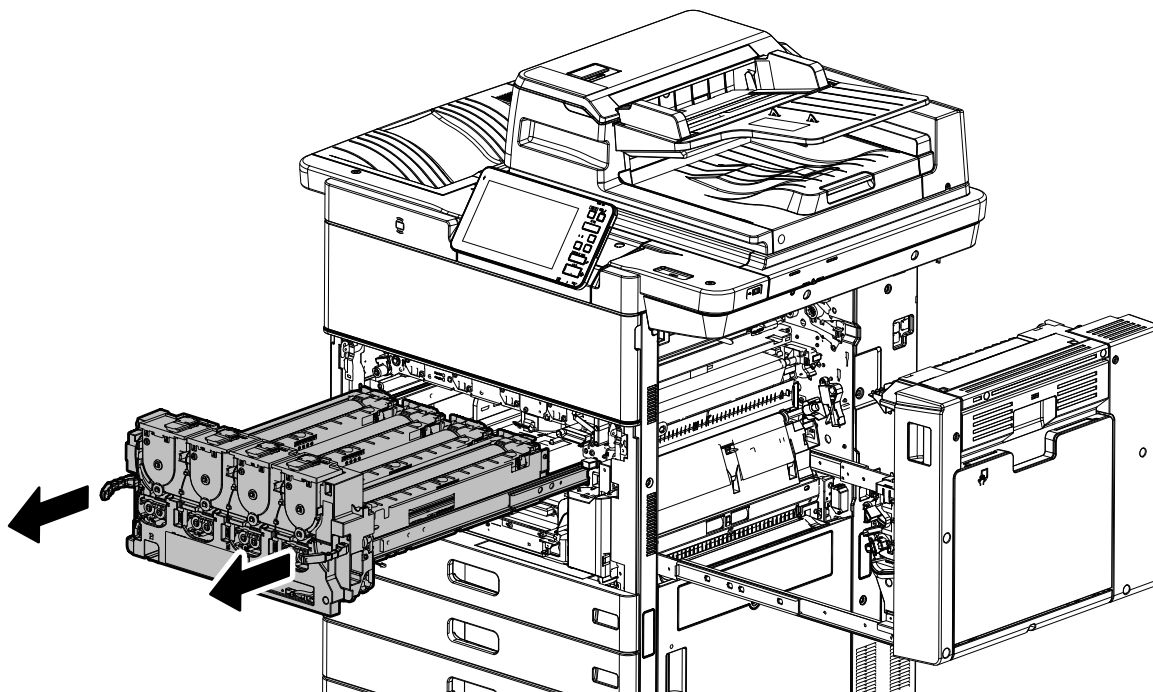
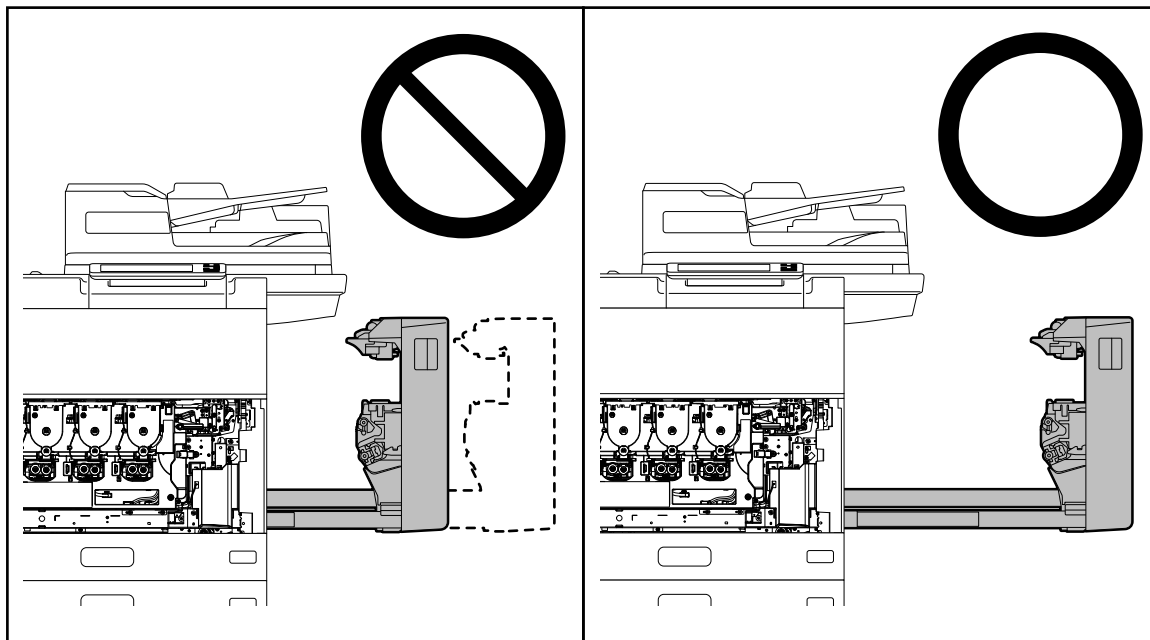


Fig. 4-467

- (2) Remove the front lower cover.  
P. 4-1 "4.1.1 Front lower cover"
- (3) Turn the TBU locking lever [1] for 90 degrees.

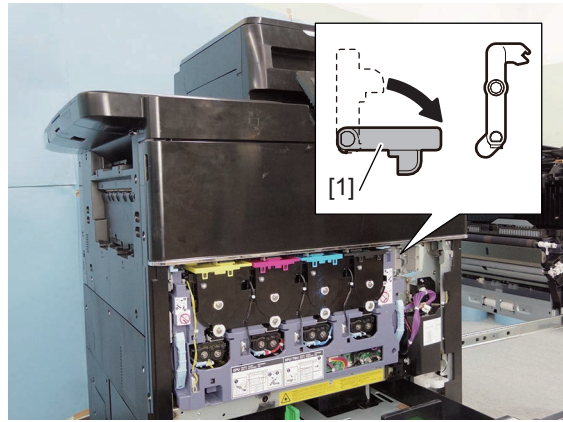


Fig. 4-468

- (4) Lift up the EPU locking levers [2].

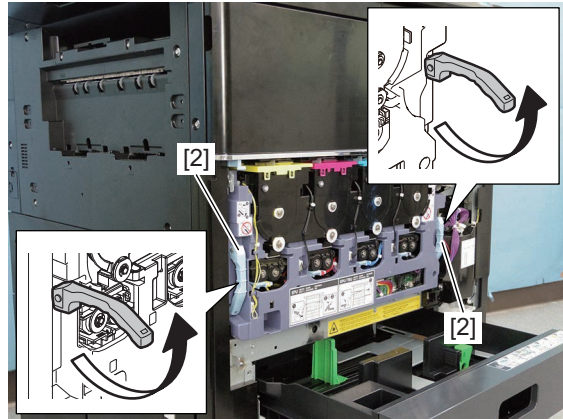


Fig. 4-469

- (5) Turn the EPU locking levers [2] for 90 degrees.

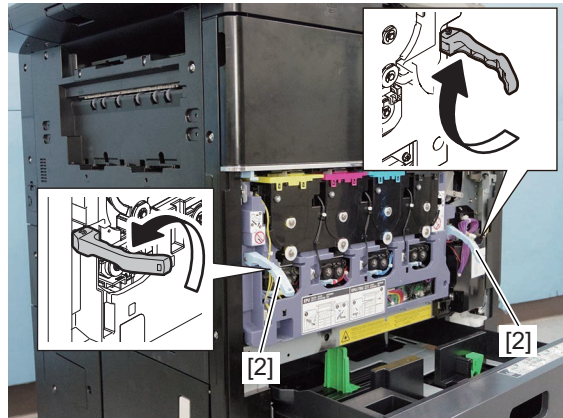


Fig. 4-470

- (6) Pull out the transfer belt unit [3] by holding the EPU locking levers [2].

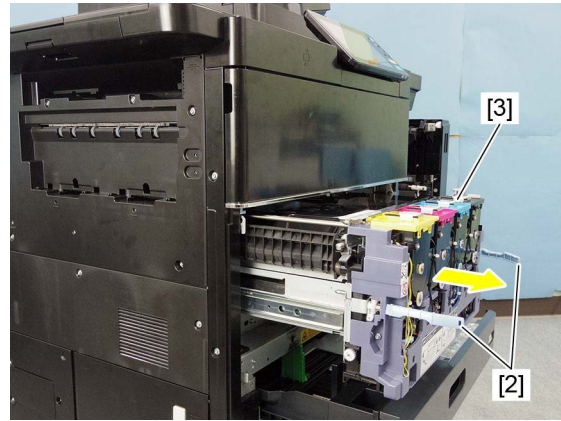


Fig. 4-471

**Notes:**

When installing or removing the transfer belt unit (EPU tray), make sure that the duplexing unit is pulled out fully. Moreover, check that the transfer belt unit is completely set before the duplexing unit is closed.

If the transfer belt unit and duplexing unit are under the following states, parts may be damaged.

1. When the duplexing unit is opened or closed without fully pulling out or closing the transfer belt unit (EPU unit)
2. When the transfer belt unit is pulled out or closed without fully opening the duplexing unit
  - The clips on both edges of the 2nd transfer roller may fall off.
  - The 2nd transfer unit front guide may be damaged.
  - The transfer belt may be damaged.
  - The 2nd transfer roller may be damaged.
  - The bearings on both edges of the 2nd transfer roller may fall off.
  - The 2nd transfer unit (TRU) may fall off.

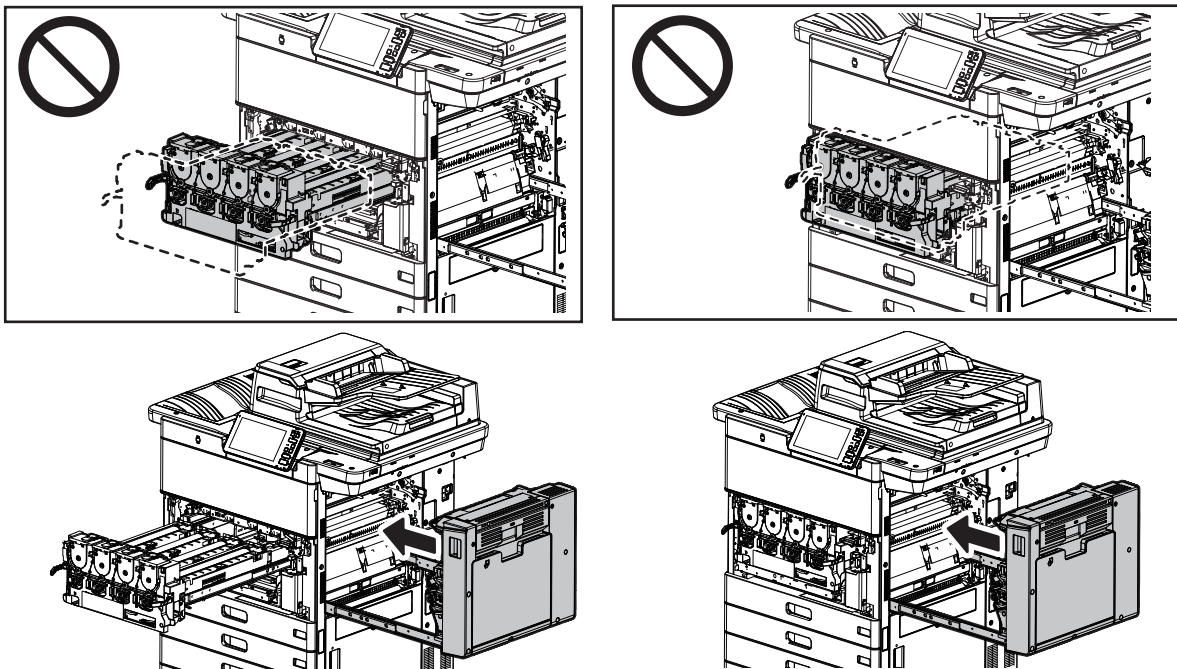


Fig. 4-472

## 4.7.2 2nd transfer facing roller cleaning pad **PM**


- (1) Remove the front lower cover.  
 P. 4-1 "4.1.1 Front lower cover"
- (2) Remove 1 screw and then take off the 2nd transfer facing roller cleaning pad [1].



Fig. 4-473

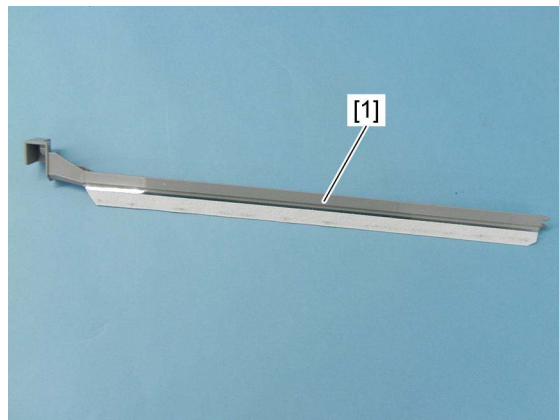



Fig. 4-474

## 4.7.3 Transfer belt cleaning unit

- (1) Pull out the transfer belt unit.  
 P. 4-164 "4.7.1 Pulling out of the transfer belt unit"
- (2) Loosen 2 screws.

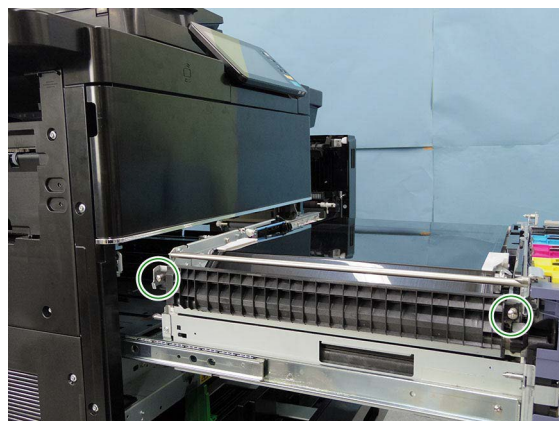


Fig. 4-475

- (3) Remove the transfer belt cleaning unit [2] while pushing the lever [1] on the front side.

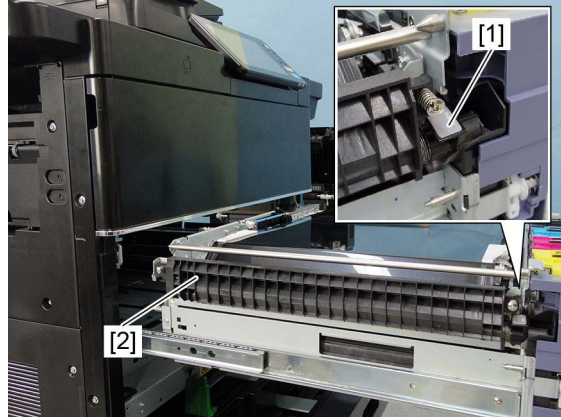


Fig. 4-476

**Notes:**

When taking off the TBU cleaner, clean it if it is dusty or stained [3].  
 When the film [4] sheet indicated by the figure gets dusty or stained [3].

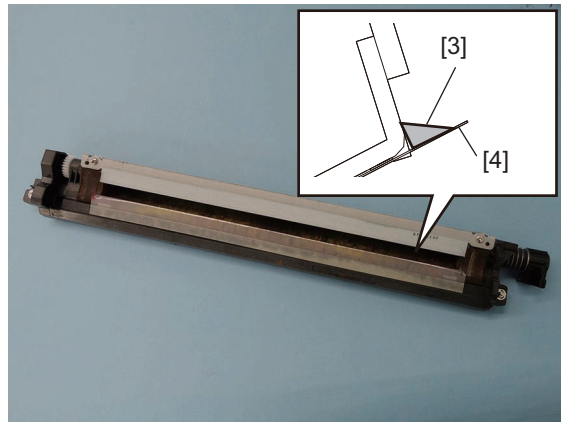



Fig. 4-477

#### 4.7.4 Transfer belt cleaning blade

- (1) Remove the transfer belt cleaning unit.  
 P. 4-167 "4.7.3 Transfer belt cleaning unit"
- (2) Remove 2 screws and take off the transfer belt cleaning blade [1].

**Notes:**

When taking off the transfer belt cleaning blade, be sure to check the back side and clean it if it is dirty.

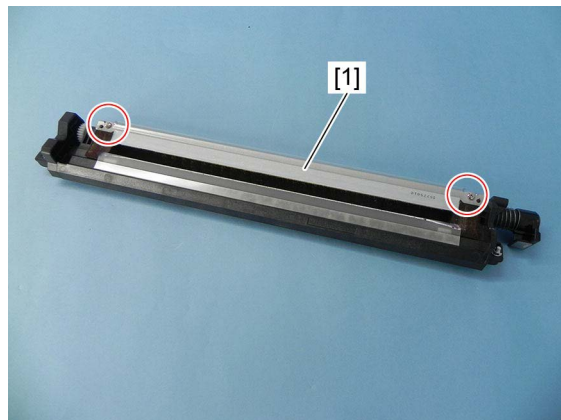


Fig. 4-478



## 4.7.5 Transfer belt cleaner side seal

- (1) Turn up a recovery blade and then remove the transfer belt cleaner side seals [1] on both sides.

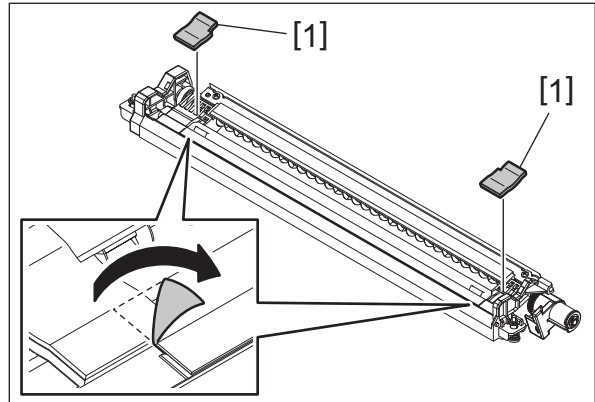


Fig. 4-479

### Notes:

- When installing the transfer belt cleaner side seals, install them following the standard shown in the figure.
  1. Install the 2 transfer belt cleaner side seals following the standard shown in the figure.

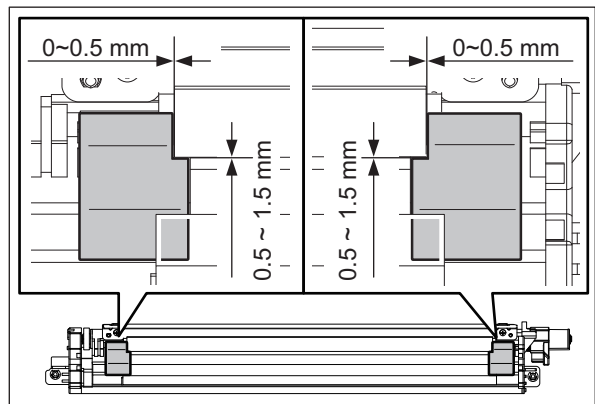



Fig. 4-480

## 4.7.6 Transfer belt unit (TBU)

- (1) Remove the transfer belt cleaning unit.  
 P. 4-167 "4.7.3 Transfer belt cleaning unit"
- (2) Pull out 2 hand grips [1].

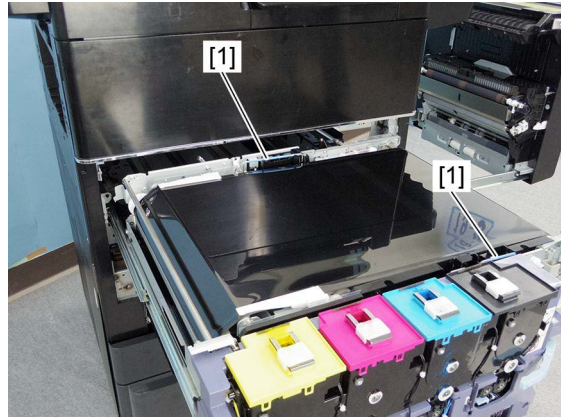


Fig. 4-481

- (3) Remove the transfer belt unit [2] with its front side up slantwise not to hit the motor on its rear side to the equipment.

### Notes:

When the transfer belt unit [2] or the lever assembly is replaced, be sure to perform the adjustment of the degree of parallelization for the transfer belt unit [2].

Adjustment is not necessary when a part other than those described above (such as a roller) is replaced.

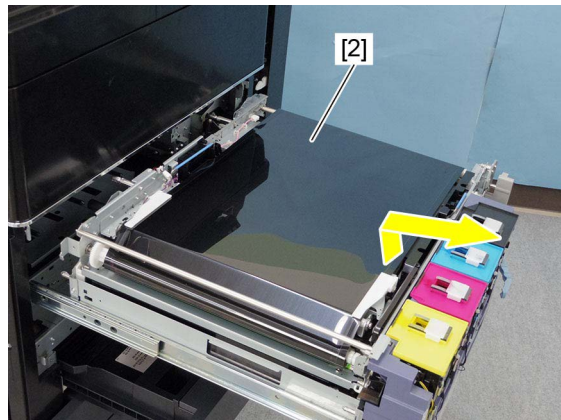


Fig. 4-482

**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.

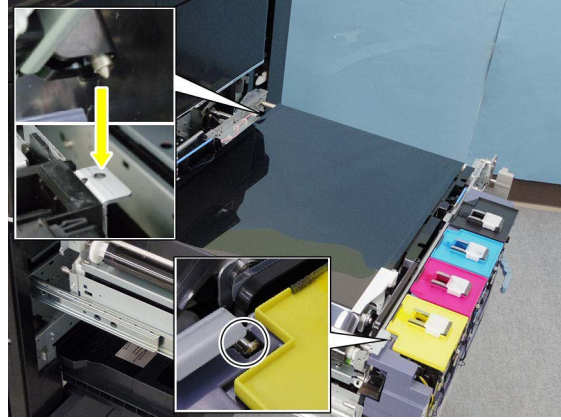


Fig. 4-483

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.

- [1] 1st transfer roller (Y)
- [2] 1st transfer roller (M)
- [3] 1st transfer roller (C)
- [4] 1st transfer roller (K)
- [5] 2nd transfer facing roller
- [6] The power supply spring (for the 1st transfer roller: Y)
- [7] The power supply spring (for the 1st transfer roller: M)
- [8] The power supply spring (for the 1st transfer roller: C)
- [9] The power supply spring (for the 1st transfer roller: K)
- [10] The power supply spring (for the 2nd transfer facing roller)

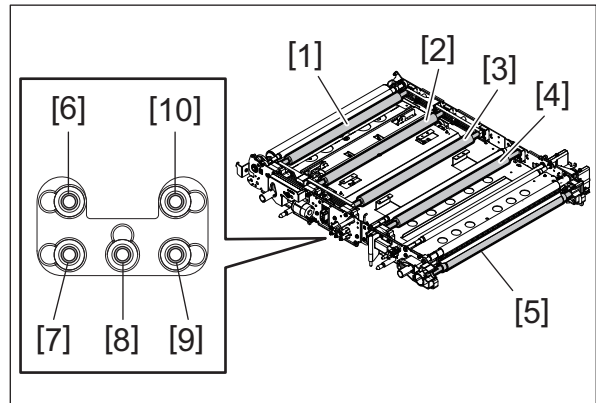


Fig. 4-484

3. After the transfer belt unit is taken out, install it securely in the equipment, and then close the duplexing unit. If you close the duplexing unit without having securely installed the transfer belt unit, this may damage the transfer belt or the 2nd transfer roller, deform the 2nd transfer front guide or cause the bearing on both ends of the 2nd transfer roller to fall off.

**Check points**

- Make sure that the process unit is installed securely.
- Check that the TBU locking lever is locked.

## 4.7.7 Transfer belt

### Notes:

It is recommended to wear gloves to avoid a direct touch on the belt surface.

- (1) Take off the transfer belt unit.  
P. 4-170 "4.7.6 Transfer belt unit (TBU)"
- (2) Pull up the belt guides [1] by approx. 20 degrees and then pull them out to take them off.

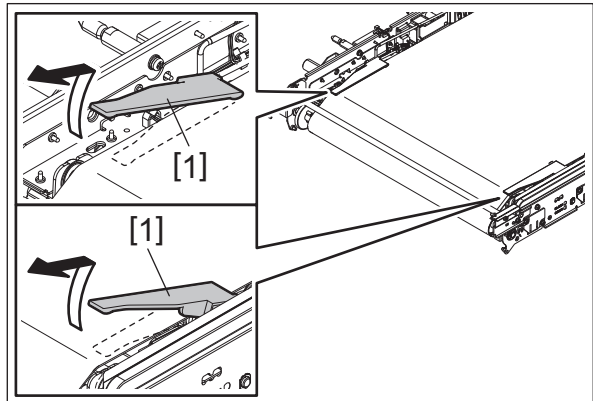


Fig. 4-485

### Notes:

When installing the belt guide [1], 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 [2] might get on the rib [3] of the guide.

[4]: Pulley

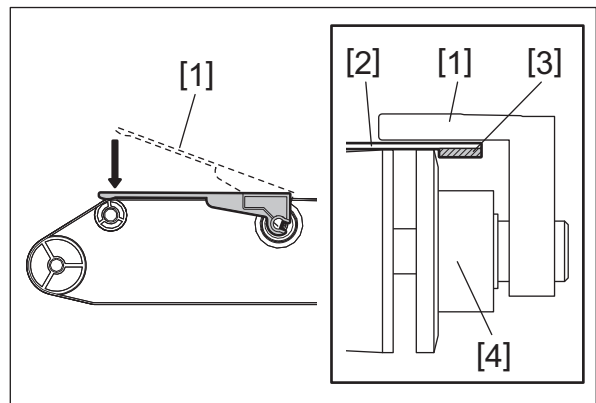


Fig. 4-486

- (3) Remove 1 screw and a stay [5].

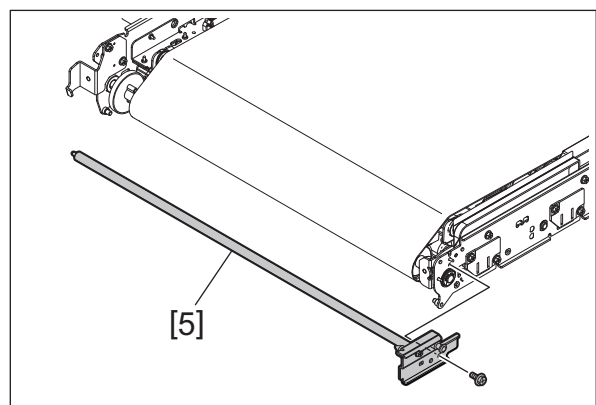


Fig. 4-487

- (4) Remove 2 screws and take off the fixing bracket [6] on the front side.
- (5) Remove 2 screws and take off the fixing bracket [7] on the rear side.

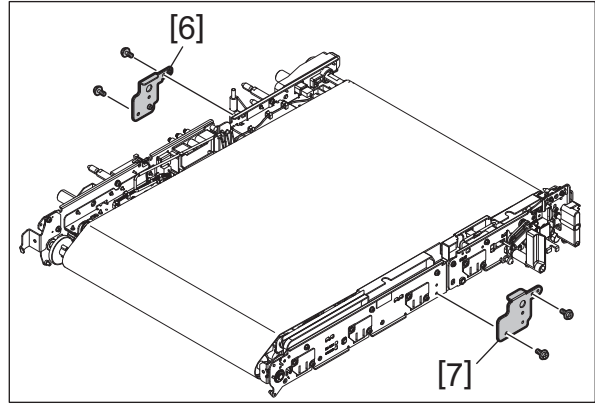


Fig. 4-488

- (6) Fold the frame with its rear side down.
- (7) Pull out the transfer belt [8] upward to take it off.

**Notes:**

When replacing the transfer belt, check the cleanable facing 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.

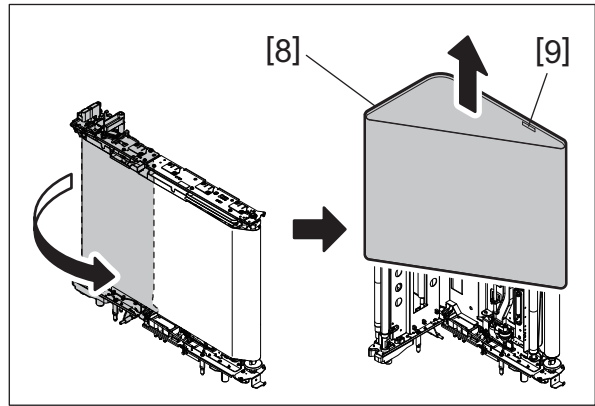


Fig. 4-489

**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 [9] 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 cleanable facing 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 cleanable facing roller in the direction of the arrow to set the value of the cutting angle indicator to 0+/-0.5 degree.

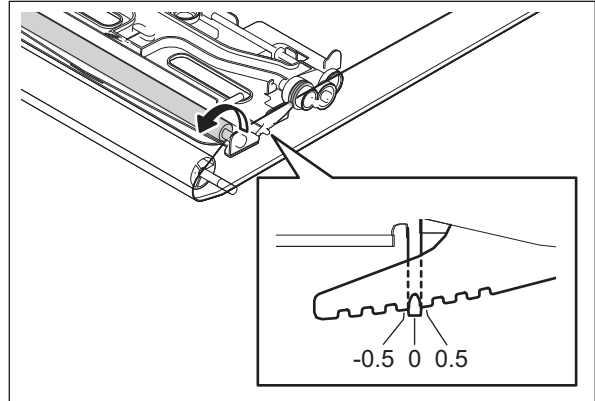



Fig. 4-490

### 4.7.8 Transfer belt contact/release motor (M14)

- (1) Remove the transfer belt unit.  
 P. 4-170 "4.7.6 Transfer belt unit (TBU)"
- (2) Remove 2 screws.

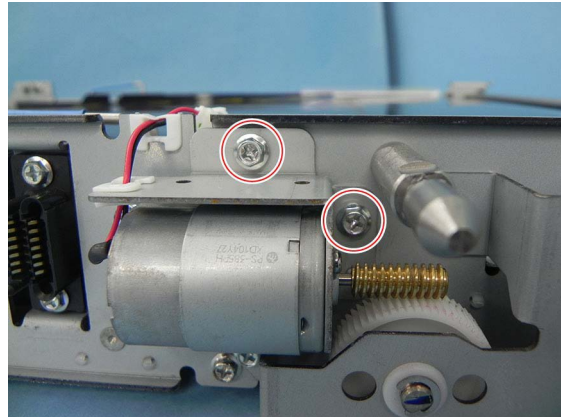


Fig. 4-491

- (3) Release the harness from the harness clamp [1] and disconnect 1 connector.

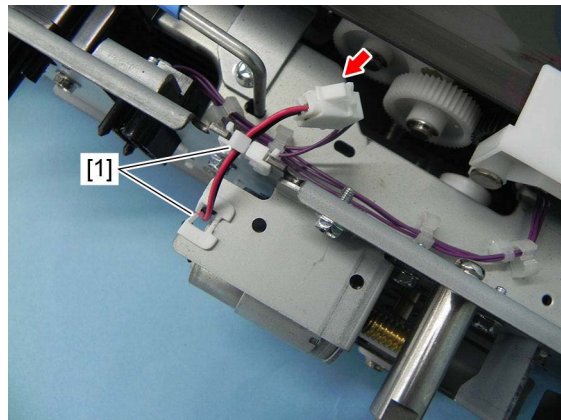


Fig. 4-492

- (4) Remove 2 screws.

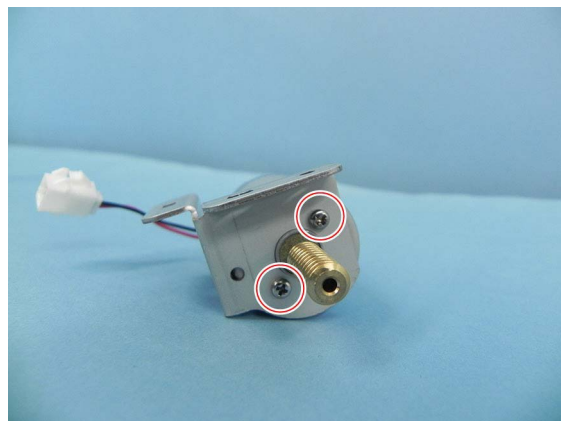


Fig. 4-493

- (5) Release the harness from 1 harness clamp and remove the Transfer belt contact/release motor [2].

**Notes:**

Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

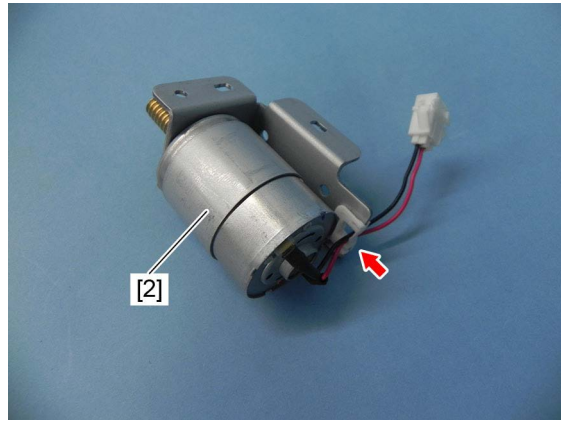


Fig. 4-494

### 4.7.9 Transfer belt contact/release detection sensor (S46)

- (1) Take off the transfer belt.  
 📖 P. 4-172 "4.7.7 Transfer belt"
- (2) Disconnect 1 connector [1] and release 3 latches. Then take off the transfer belt contact/release detection sensor [2].

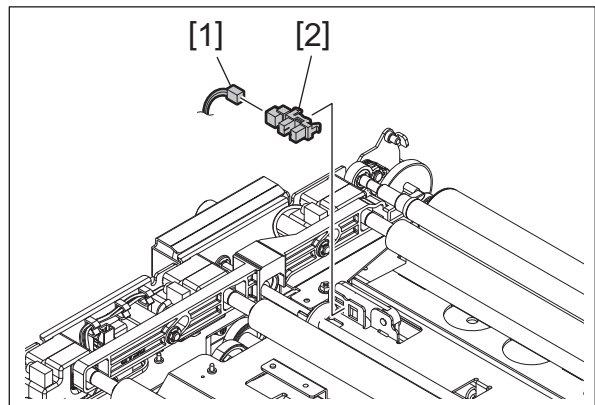


Fig. 4-495

### 4.7.10 1st transfer roller (Y/M/C/K)

- (1) Take off the transfer belt.  
 📖 P. 4-172 "4.7.7 Transfer belt"
- (2) Remove 2 screws each and take off a holder [1].

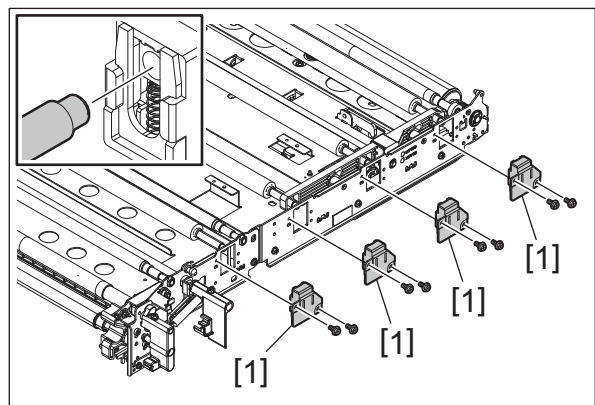


Fig. 4-496

- (3) Take off the 1st transfer roller [2] (Y/M/C/K).

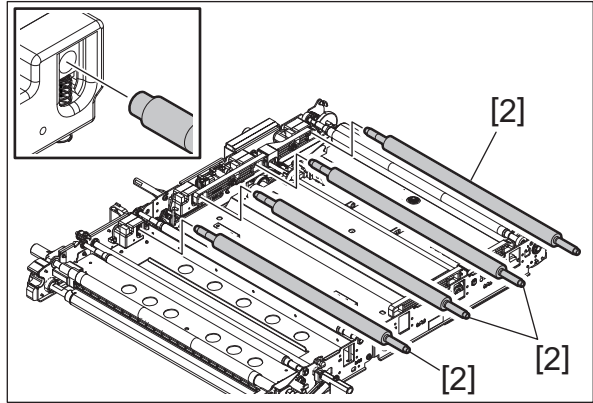


Fig. 4-497

#### 4.7.11 Cleanable facing roller

- (1) Take off the transfer belt.  
P. 4-172 "4.7.7 Transfer belt"  
(2) Take off 1 E-ring and 1 bearing [1].

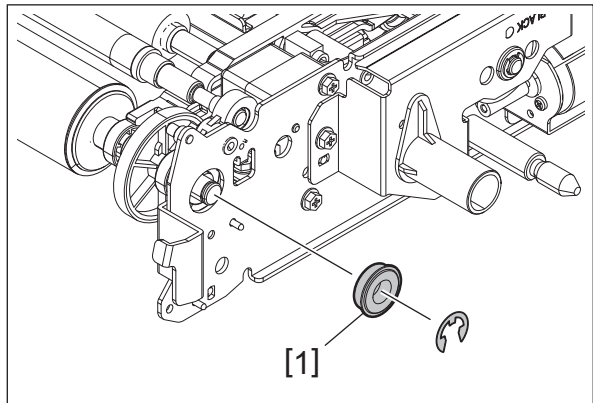


Fig. 4-498

- (3) Remove 1 E-ring and 1 bearing [2].

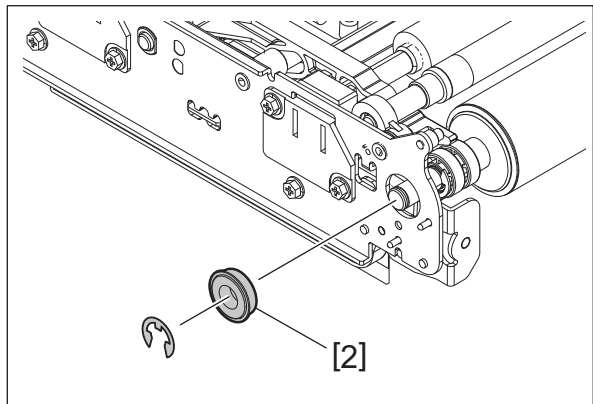


Fig. 4-499



- (4) Take off the cleanable facing roller assembly [3].

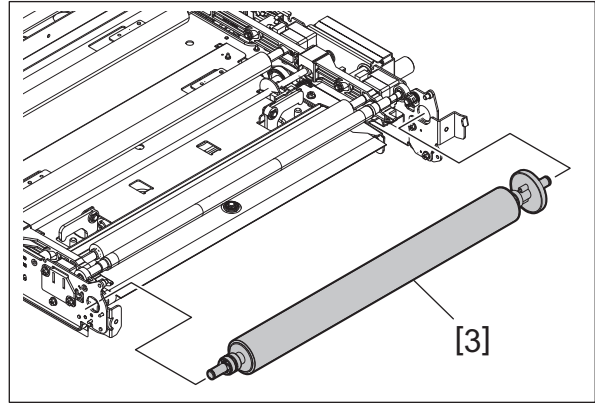


Fig. 4-500

- (5) Remove 2 E-rings, 1 gear [6], 1 pin [7] and 4 bearings [5] from the cleanable facing roller [4].

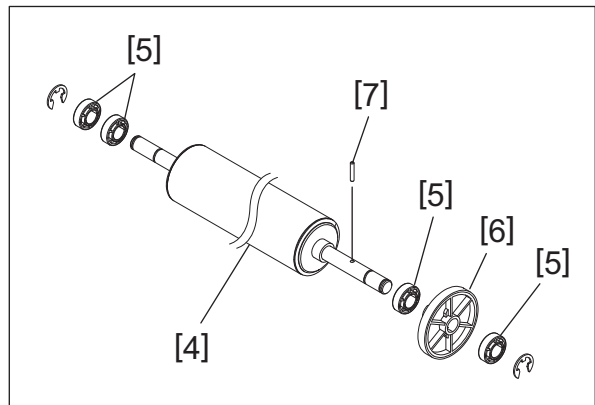


Fig. 4-501

## 4.7.12 Tension roller

- (1) Take off the transfer belt.  
📖 P. 4-172 "4.7.7 Transfer belt"
- (2) Remove 2 collars [1].

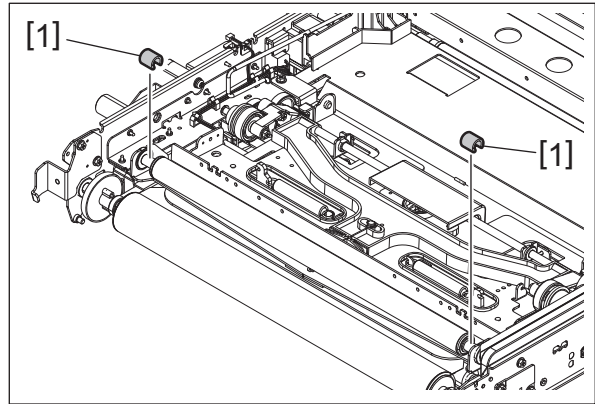


Fig. 4-502

- (3) Move the bearing [2] to the inner side and then take off the tension roller [3].

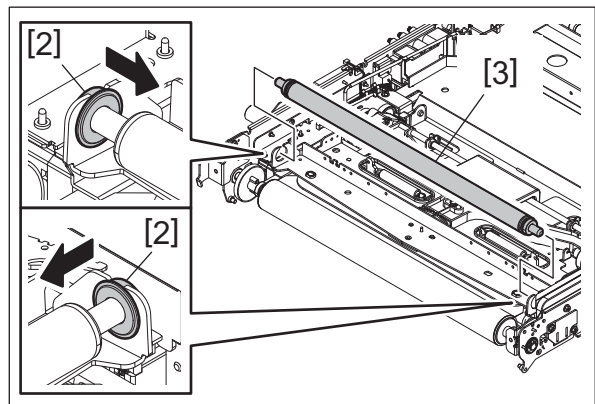


Fig. 4-503

## 4.7.13 2nd transfer facing roller

- (1) Take off the transfer belt.  
📖 P. 4-172 "4.7.7 Transfer belt"
- (2) Disconnect 1 connector [1].

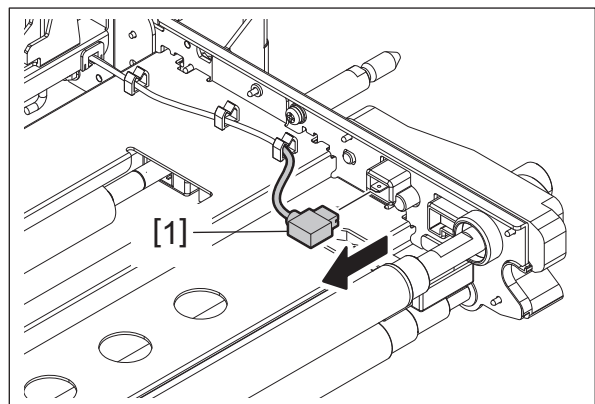


Fig. 4-504

(3) Remove 3 screws and take off the holder [2].

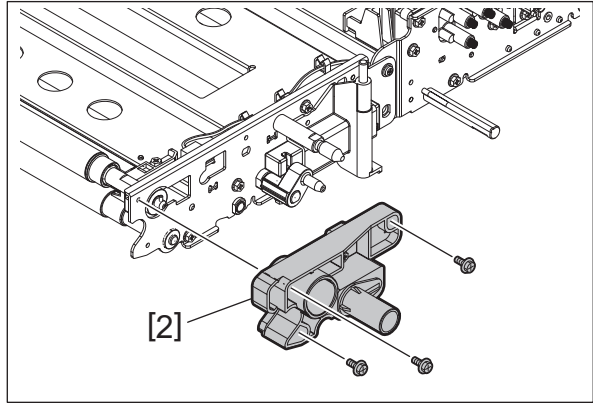


Fig. 4-505

(4) Take off the 2nd transfer facing roller [3].

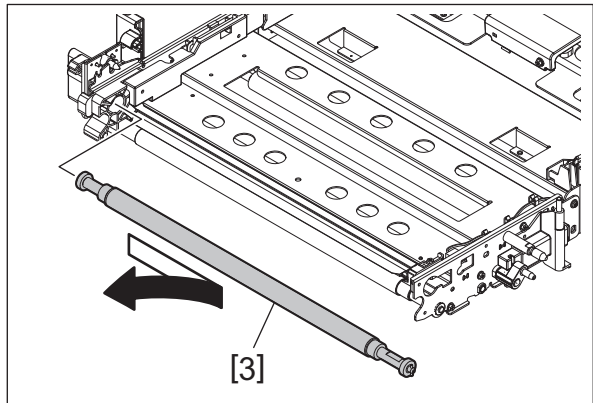


Fig. 4-506

### 4.7.14 2nd transfer unit (TRU)

- (1) Open the duplexing unit.
- (2) Remove 1 screw and take off the cover [1].

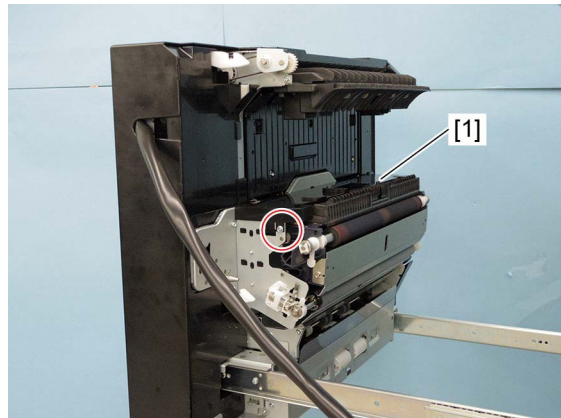


Fig. 4-507

- (3) Disconnect 1 connector and remove the clip [2].

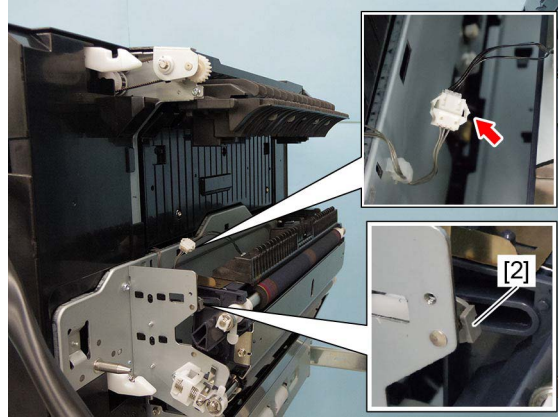


Fig. 4-508

- (4) Remove the 2nd transfer unit [3] not to hit the unit to the registration roller or other parts.

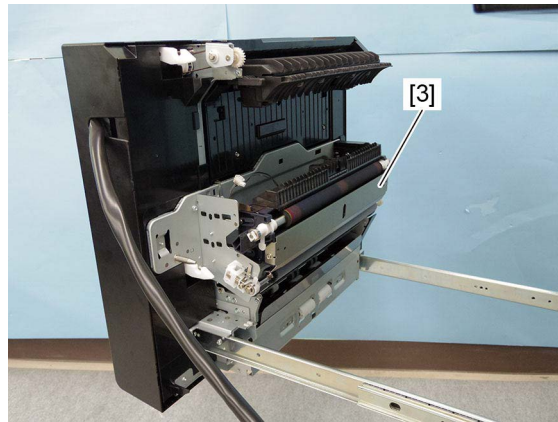


Fig. 4-509

**Notes:**

When installing, make sure that 2 pins [4] on the rear side are inserted to the rectangular holes [5] of the 2nd transfer unit.

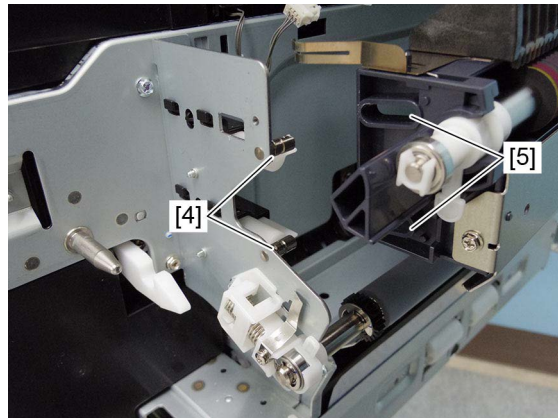


Fig. 4-510

## 4.7.15 2nd transfer roller

- (1) Pull the 2 levers [1] toward you and take off the 2nd transfer roller unit [2].

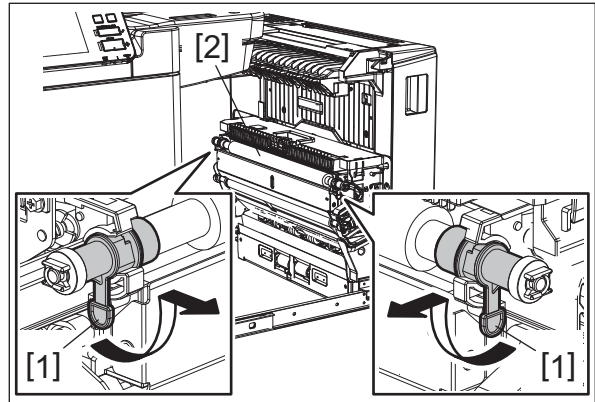


Fig. 4-511

- (2) Remove the clip [3] on the rear side, 1 bearing [4] and 1 bushing [5].
- (3) Remove the clip [6] on the front side, 1 bearing [7] and 1 bushing [8].

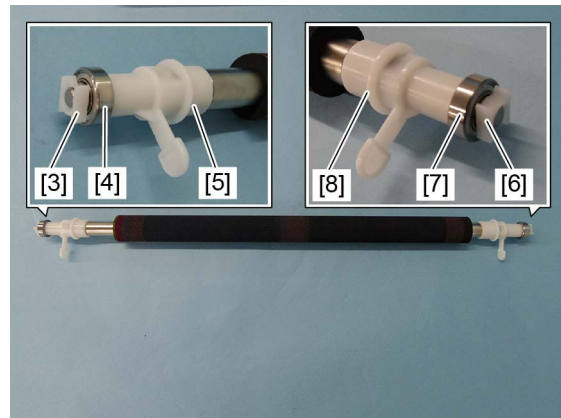


Fig. 4-512

### Notes:

Since the bearing [9] is press-fitted in the bushing [5] [8], be sure to remove it straight so that it does not fall off.

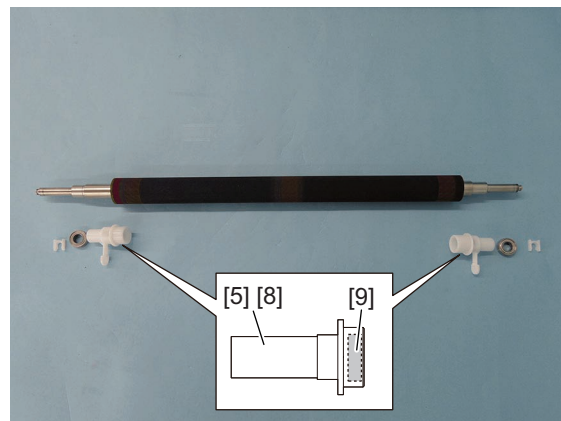


Fig. 4-513

## 4.7.16 2nd transfer unit rear guide

- (1) Remove the 2nd transfer unit.  
 P. 4-179 "4.7.14 2nd transfer unit (TRU)"
- (2) Pull the 2 levers [1] toward you and remove the 2nd transfer roller [2].  
 P. 4-181 "4.7.15 2nd transfer roller"

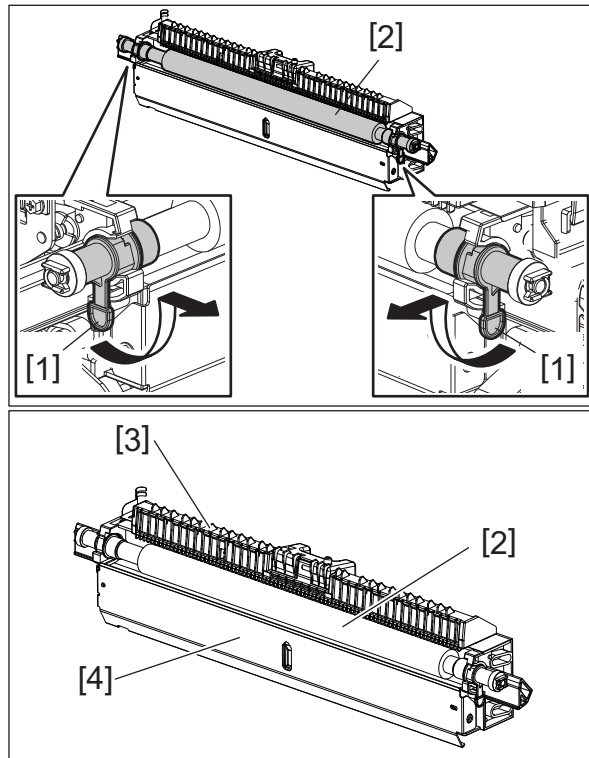


Fig. 4-514

- (3) Remove 2 screws and take off the 2nd transfer unit rear guide [3].

### Notes:

Be sure to take off the 2nd transfer roller [2] before the 2nd transfer unit rear guide [3] is removed. Moreover, be sure to install the 2nd transfer unit rear guide [3] before the 2nd transfer roller [2] is attached. If they are installed in the incorrect order, this will cause an error due to a conduction failure or a defective image.

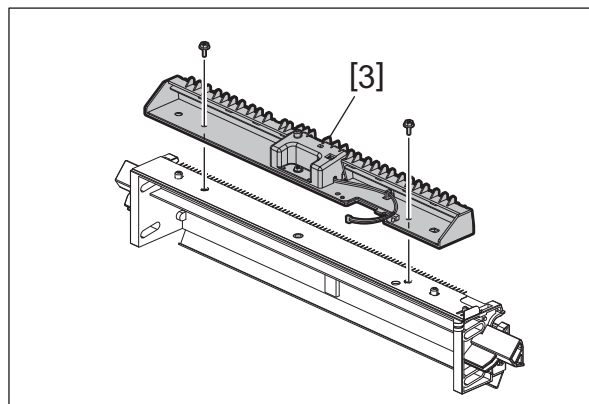


Fig. 4-515

- (4) Release the harness from the hook of the 2nd transfer unit rear guide [3].
- (5) Remove the 2nd transfer unit rear guide [3] from the metal plate [5].

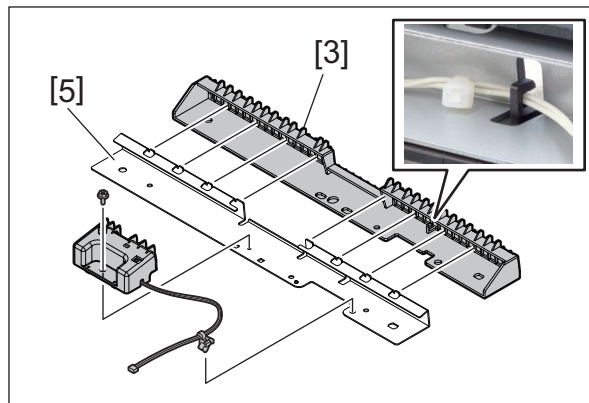



Fig. 4-516

### 4.7.17 Transfer belt motor (M13)

- (1) Remove the SYS board case.  
 P. 9-5 "9.1.5 SYS board case"
- (2) Remove 2 screws and release the bracket [1].

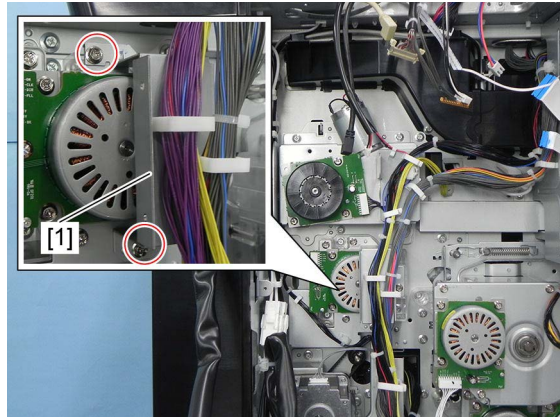


Fig. 4-517

- (3) Disconnect 1 connector and remove 4 screws, and then take off the transfer belt motor [2].

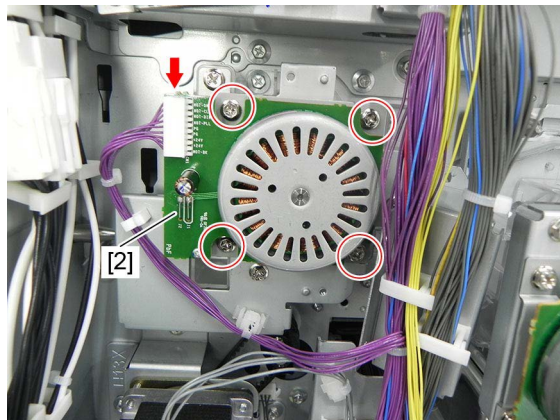



Fig. 4-518

### 4.7.18 Transfer belt motor unit

- (1) Remove the SYS board case.  
 P. 9-5 "9.1.5 SYS board case"
- (2) Release the harness from 2 harness clamps.

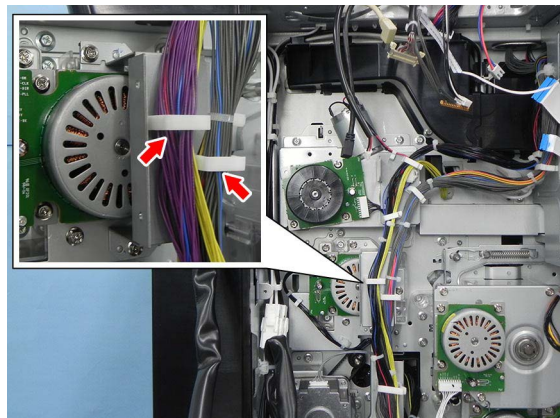


Fig. 4-519

- (3) Remove 2 screws and take off the bracket [1].

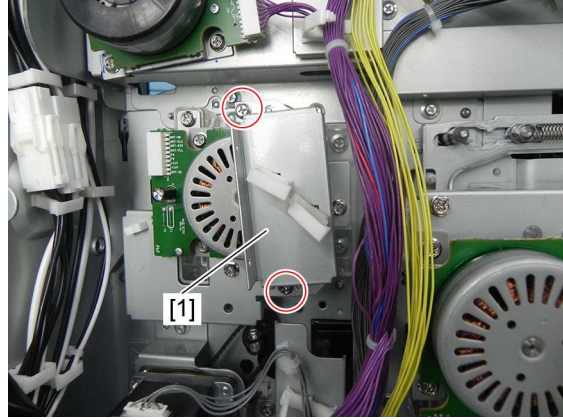


Fig. 4-520

- (4) Disconnect 1 connector and release the harness from 1 harness clamp [2]. Remove 1 harness clamp [3] and take off the transfer belt motor unit [4].

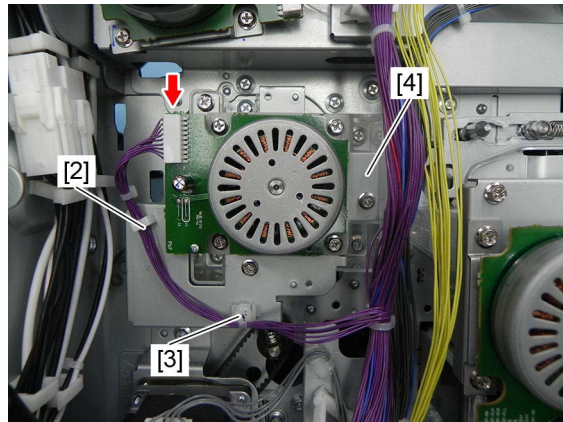


Fig. 4-521

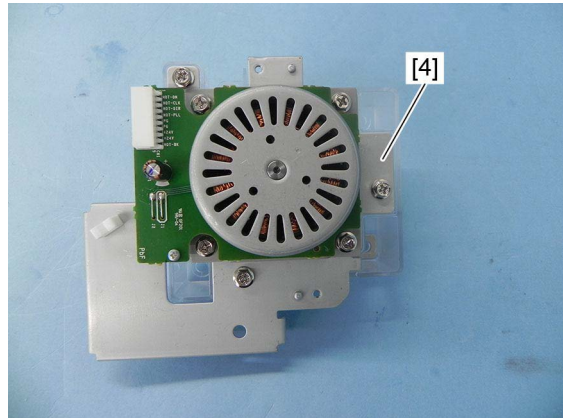



Fig. 4-522



## 4.8 Image Quality Control

### 4.8.1 Image quality control unit

- (1) Remove the middle guide.  
 P. 4-86 "4.5.43 Transfer belt paper clinging detection sensor (S47)"
- (2) Remove 2 shoulder screws.

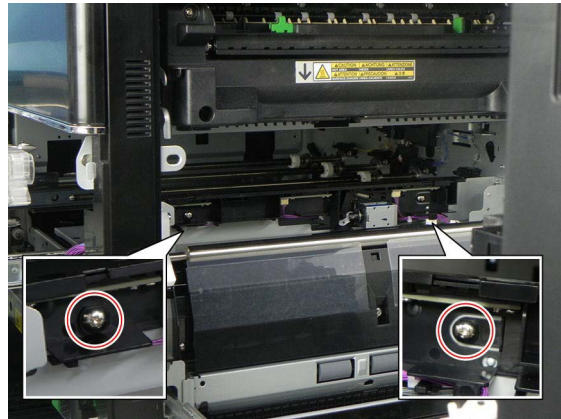


Fig. 4-523

- (3) Disconnect 1 connector and remove the image quality control unit [1].

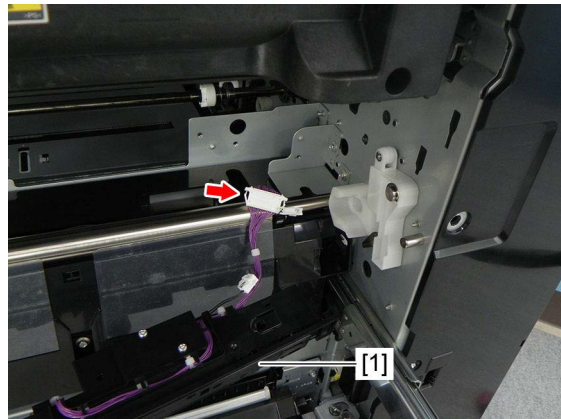


Fig. 4-524



Fig. 4-525

## 4.8.2 Image position aligning sensor (front) (S20)

- (1) Remove the image quality control unit.  
📖 P. 4-185 "4.8.1 Image quality control unit"
- (2) Remove 2 screws and disconnect 1 connector, and then take off the image position aligning sensor (front) [1].

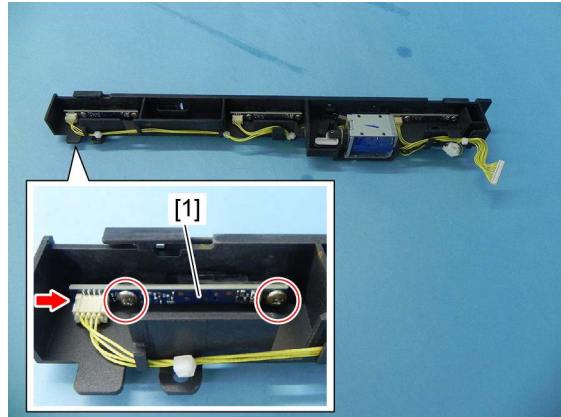


Fig. 4-526

## 4.8.3 Image position aligning sensor (center) (S21)

- (1) Remove the image quality control unit.  
📖 P. 4-185 "4.8.1 Image quality control unit"
- (2) Remove 2 screws and disconnect 1 connector, and then take off the image position aligning sensor (center) [1].

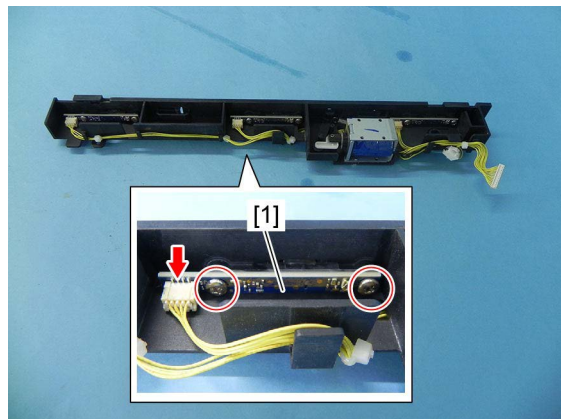


Fig. 4-527

## 4.8.4 Image position aligning sensor (rear) (S22)

- (1) Remove the image quality control unit.  
📖 P. 4-185 "4.8.1 Image quality control unit"
- (2) Remove 2 screws and disconnect 1 connector, and then take off the image position aligning sensor (rear) [1].

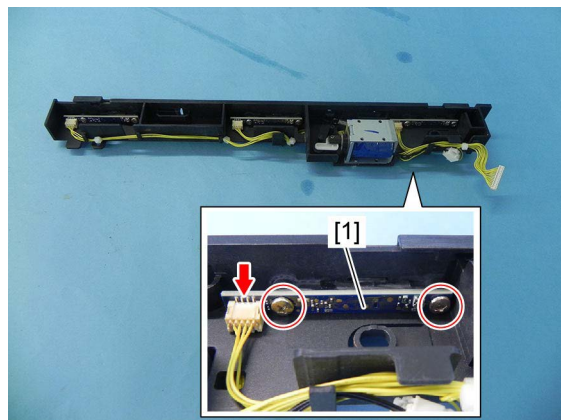


Fig. 4-528

## 4.8.5 Image quality shutter solenoid (SOL3)

- (1) Remove the image quality control unit.  
📖 P. 4-185 "4.8.1 Image quality control unit"
- (2) Remove 2 screws and disconnect 1 connector, and then take off the image quality shutter solenoid [1].

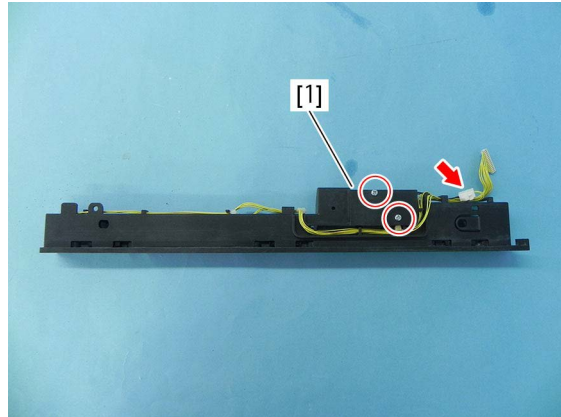


Fig. 4-529

- (3) Remove the link arm [2] of the image quality shutter solenoid [1].

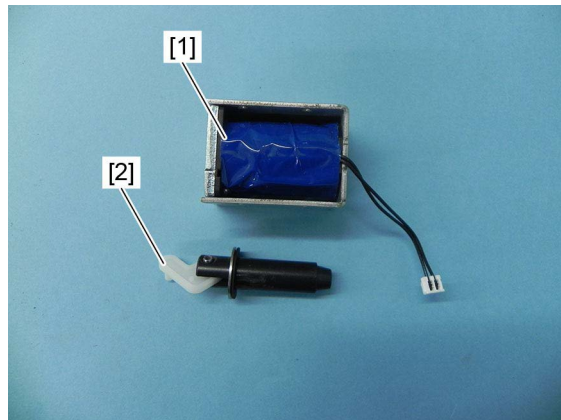
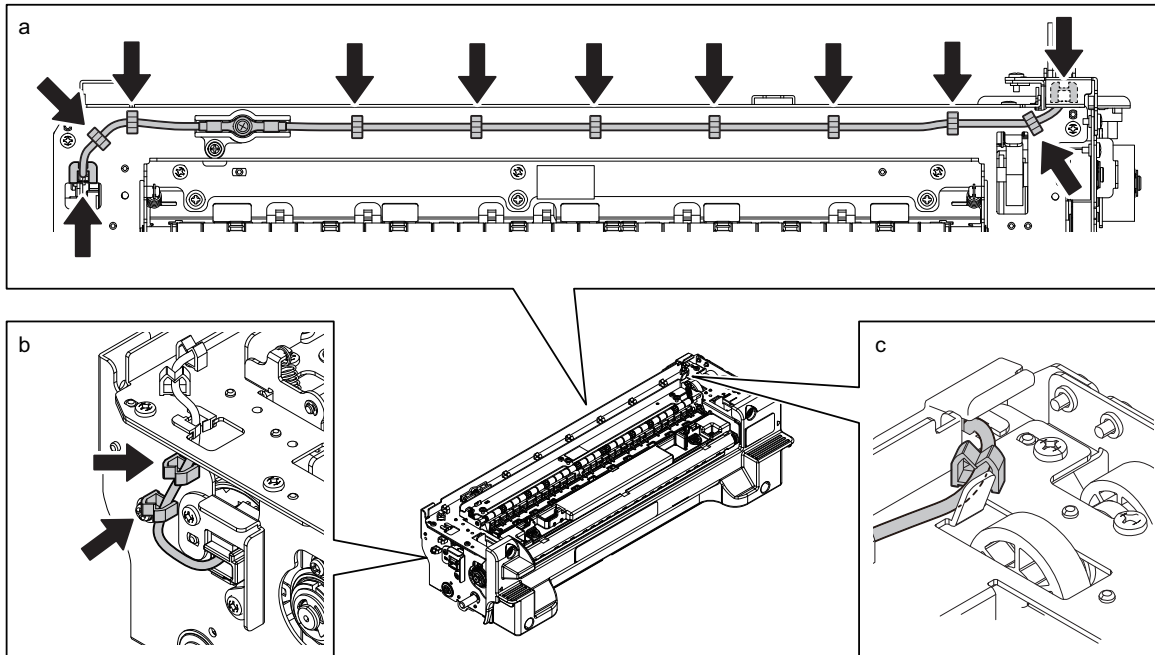


Fig. 4-530

## 4.9 Fuser Unit

### 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 (FS-30), PM support mode (FS-20) or setting mode (FS-08).
- When assembling the fuser unit, wire the following harness through all of the clamps to prevent it from being caught by the cover.



### 4.9.1 Fuser unit

- (1) Open the duplexing unit.
- (2) Lower 2 levers [1] and remove the fuser unit [2].

### Notes:

- When installing the fuser unit, be sure to press it in until the lever is made to go up by the setting of the plates on both sides of the unit onto the guide of the equipment. If the lever goes down, the fuser unit has not been correctly installed.
- The oil inside the fuser unit may leak when it is tilted. Therefore, keep the fuser unit in a horizontal position while it is assembled/disassembled.

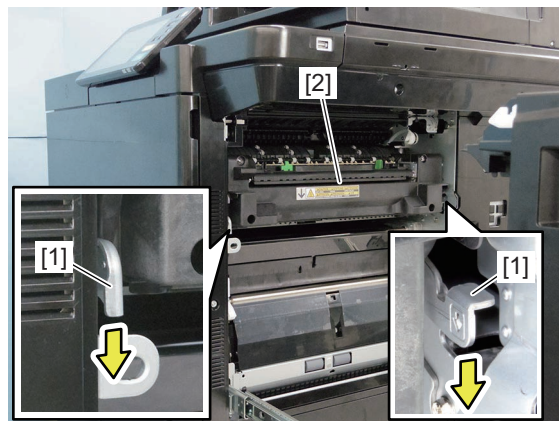


Fig. 4-531

## 4.9.2 Pressure roller cover

- (1) Remove the fuser unit.  
📖 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove 4 screws and then take off the pressure roller cover [1].

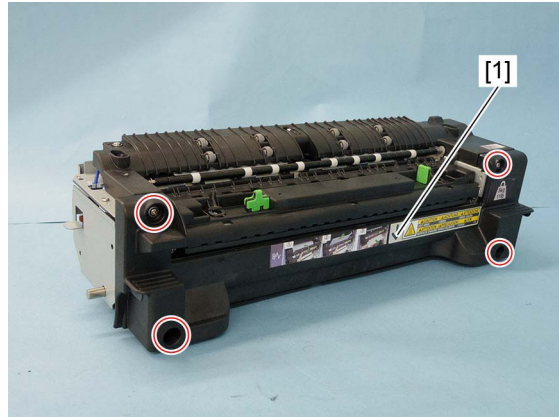


Fig. 4-532

## 4.9.3 Fuser unit transport guide

- (1) Remove the fuser unit.  
📖 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove 2 screws and take off the fuser unit transport guide [1].

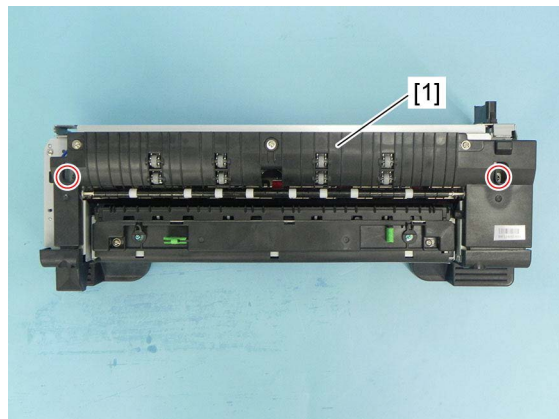




Fig. 4-533

## 4.9.4 Entrance guide cover

- (1) Remove the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove the pressure roller cover.  
 P. 4-189 "4.9.2 Pressure roller cover"
- (3) Remove 2 screws and take off the entrance guide cover [1].

**Notes:**

If toner adheres to the entrance guide cover or the star wheel, wipe it off with dry cloth.

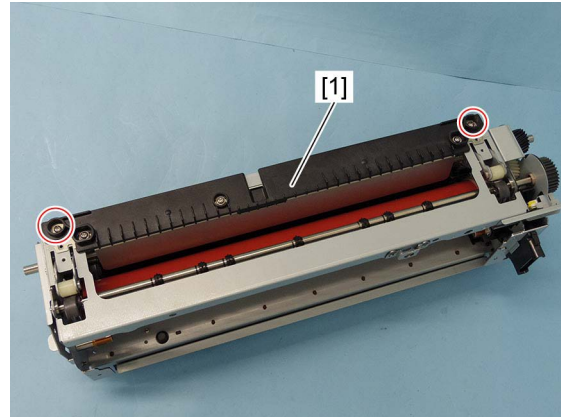


Fig. 4-534

**Notes:**

Fix the screw in the position as shown in the figure unless paper wrinkle or paper jams occur at the entrance of the fuser unit.





Fig. 4-535

## 4.9.5 Separation guide

### Notes:

When the separation guide has been replaced or taken off, adjust the gap between the guide and the fuser belt.

 P. 6-96 "6.11.1 Adjustment of the Separation Plate Gap"

- (1) Remove the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (2) Open the separation guide cover [1].

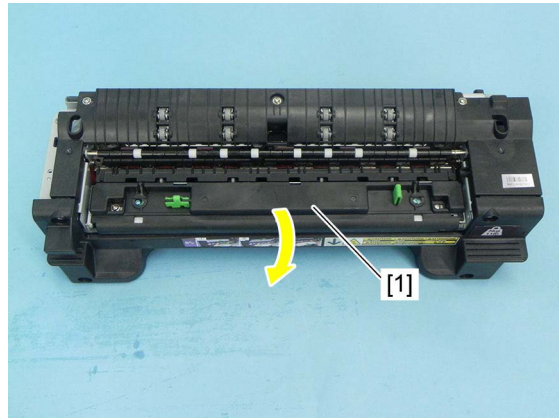


Fig. 4-536

- (3) Remove 3 screws and take off the separation guide [2].

### Notes:

- The shoulder screws are used on the front side and rear side. When installing, pay attention not to confuse them with other kinds of screws.
- Make sure that the pieces of Teflon tapes attached to the separation guide are adhering properly and moreover that they are not dirty.
- If toner adheres to the separation guide, wipe it off with a dry cloth.

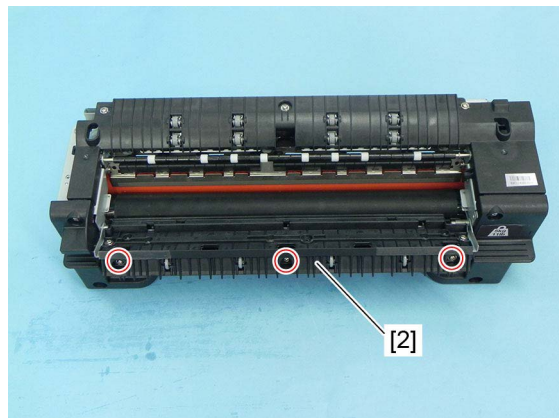


Fig. 4-537

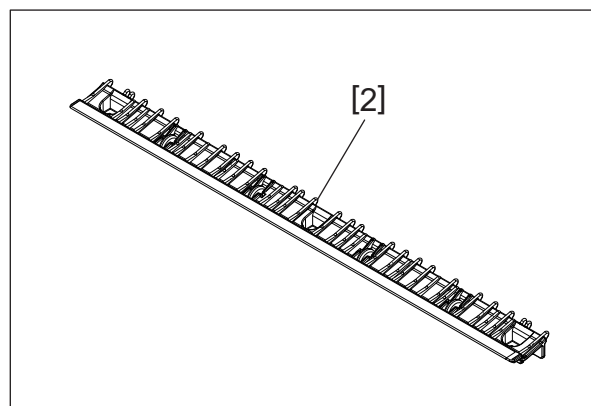




Fig. 4-538

## 4.9.6 Separation plate

### Notes:

When the separation plate has been replaced or taken off, adjust the gap between the plate and the fuser belt.

 P. 6-96 "6.11.1 Adjustment of the Separation Plate Gap"

- (1) Remove the fuser unit transport guide.  
 P. 4-189 "4.9.3 Fuser unit transport guide"
- (2) Remove 3 screws and take off the separation plate unit [1].

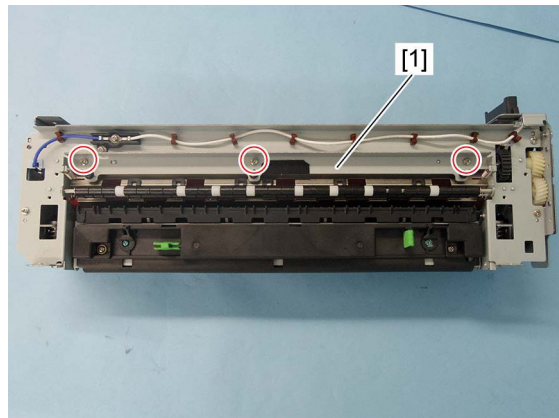


Fig. 4-539

- (3) Remove 2 springs [2] and take off the separation plate [3].

### Notes:

Make sure that the pieces of Teflon tapes [4] attached to the separation plate are adhering properly and moreover that they are not dirty.

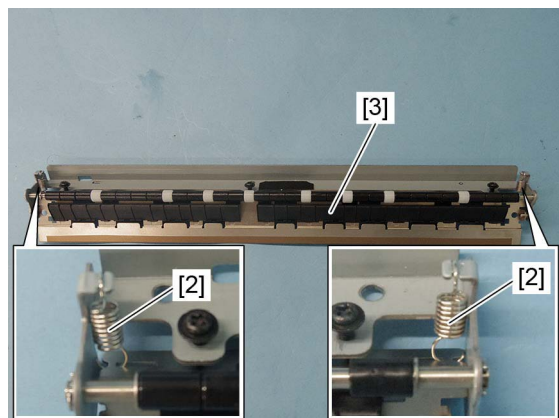


Fig. 4-540

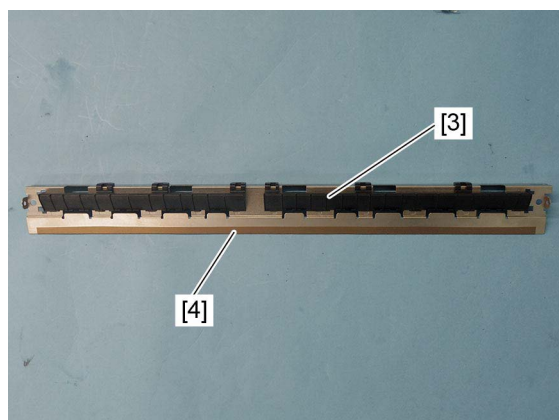



Fig. 4-541



## 4.9.7 Fuser belt

- (1) Remove the fuser unit transport guide.  
 P. 4-189 "4.9.3 Fuser unit transport guide"
- (2) Remove 1 screw. Release the harness from 9 harness clamps.

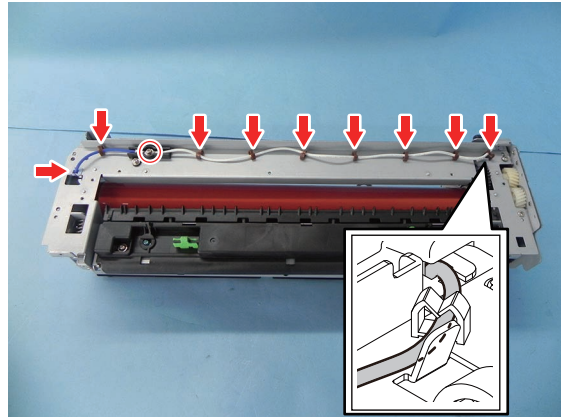


Fig. 4-542

- (3) Remove 4 screws and take off the plate [1].

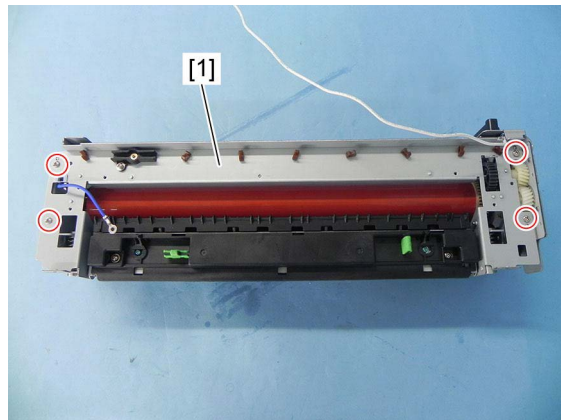


Fig. 4-543

- (4) Remove 2 screws and take off the plate [2].

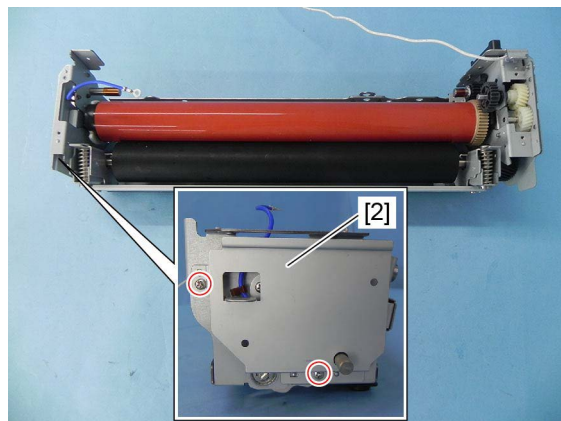


Fig. 4-544

- (5) Release the harness from 2 harness clamps. Remove 2 screws and take off the bracket [3].

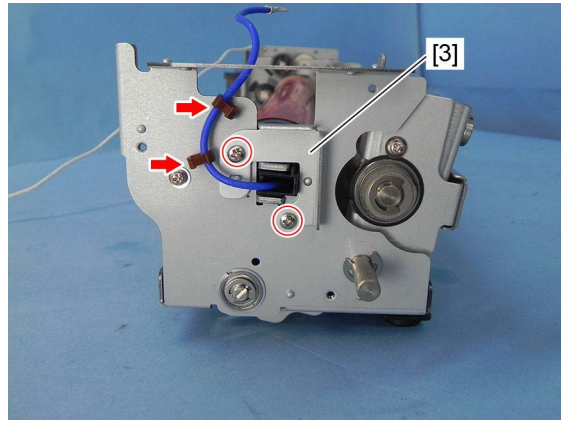


Fig. 4-545

- (6) Remove 1 E-ring, and then take off the pressure roller contact/release cam [4] and 1 pin. Remove 1 E-ring and take off the gear [5].

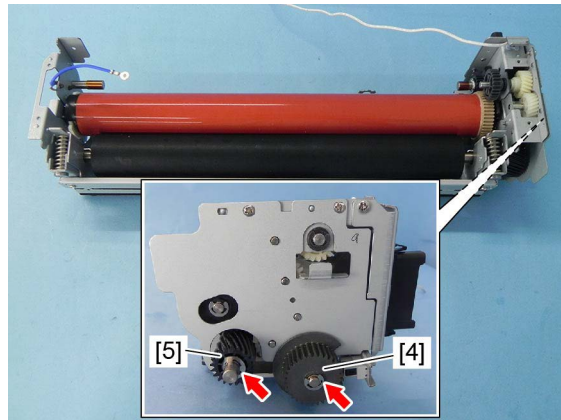


Fig. 4-546

- (7) Remove 3 screw and 1 bushing, and then take off the plate [6].

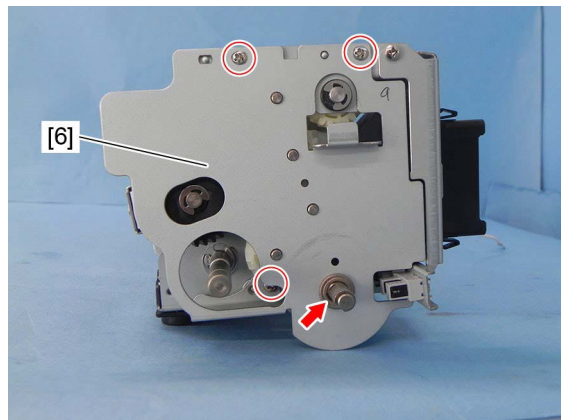


Fig. 4-547

- (8) Remove 1 E-ring and take off the gear [7]. Remove 2 screws and take off the bracket [8]. Remove the harness cover [9].

**Notes:**

- When removing the bracket, be careful not to drop the gears.
- When installing the bracket, check that its holes match with the 2 bosses [10].

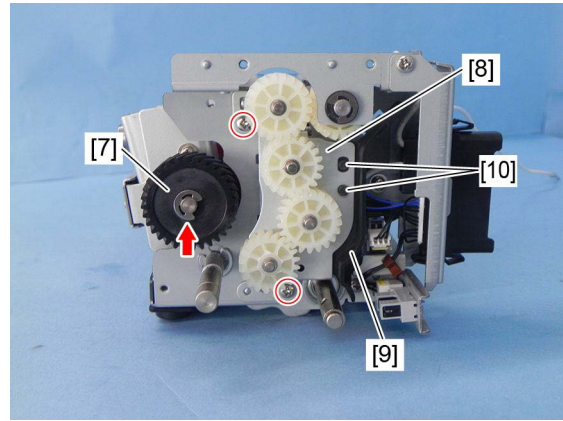


Fig. 4-548

- (9) Remove 1 screw and take off the harness from the harness holder [11].

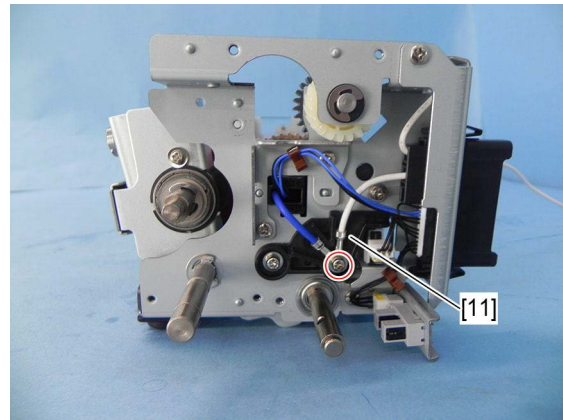


Fig. 4-549

- (10) Remove 1 screw and take off the sensor bracket [12]. Release the harness from 1 harness clamp.

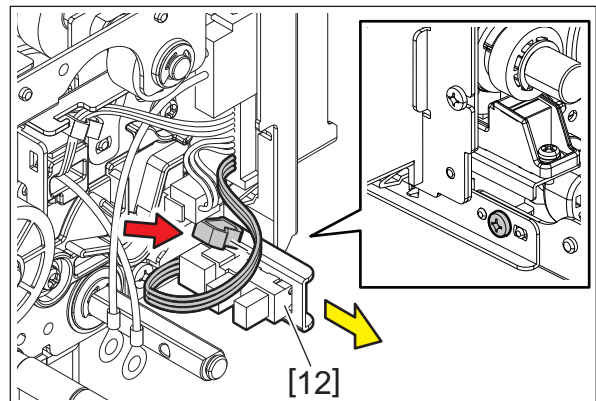
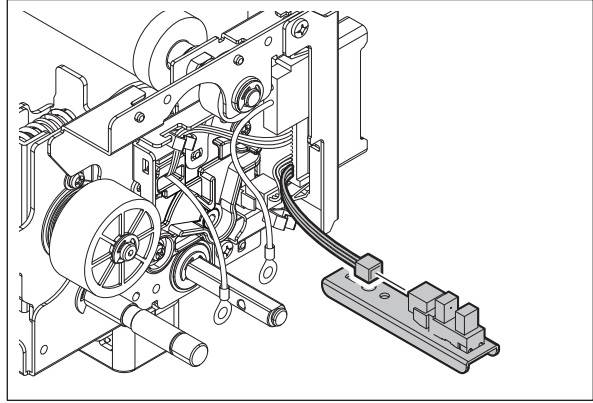


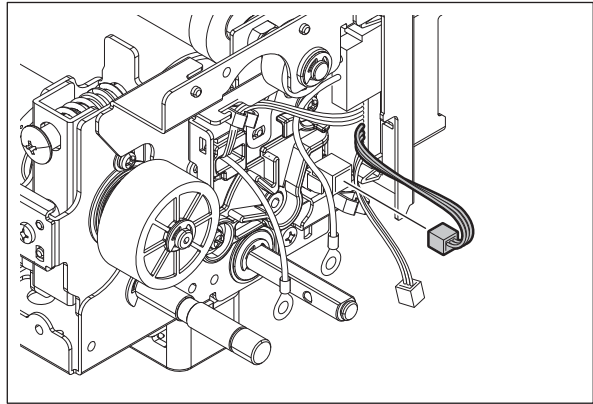
Fig. 4-550

(11) Disconnect 1 connector.



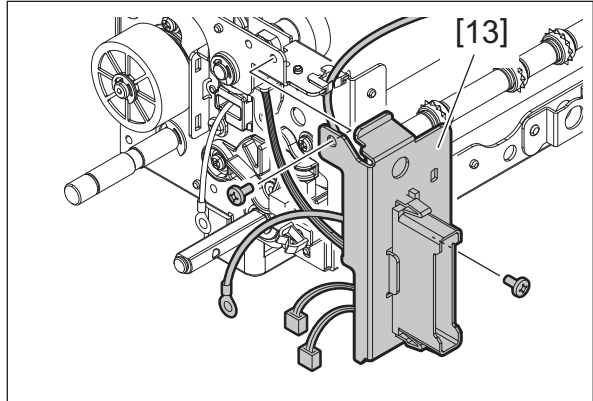
**Fig. 4-551**

(12) Disconnect 1 connector.



**Fig. 4-552**

(13) Remove 2 screws and take off the connector bracket [13].



**Fig. 4-553**

(14) Release the harness from 1 harness clamp.

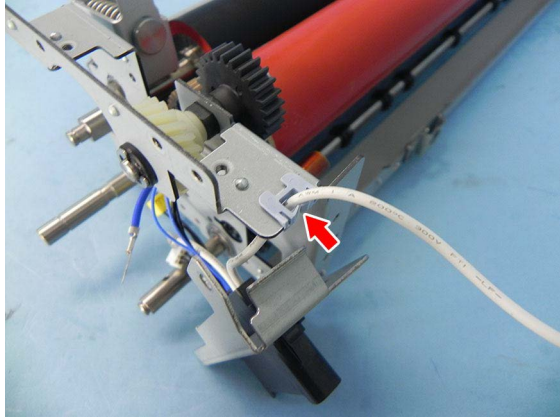


Fig. 4-554

(15) Disconnect 1 connector.

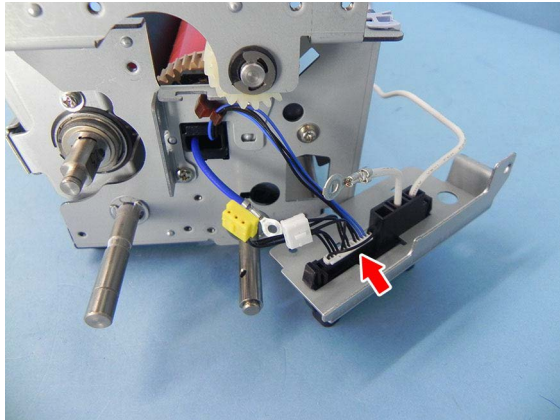


Fig. 4-555

(16) Release the harness from 1 harness clamp. Remove 2 screws and take off the bracket [14].

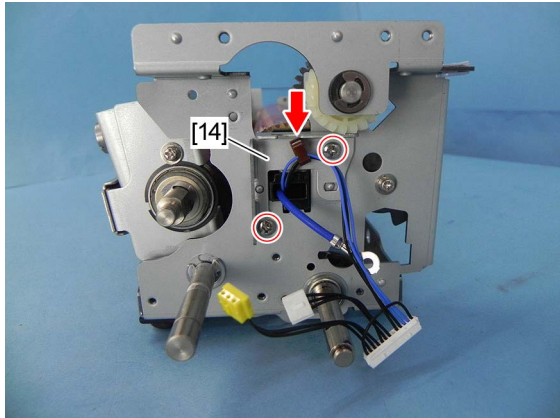
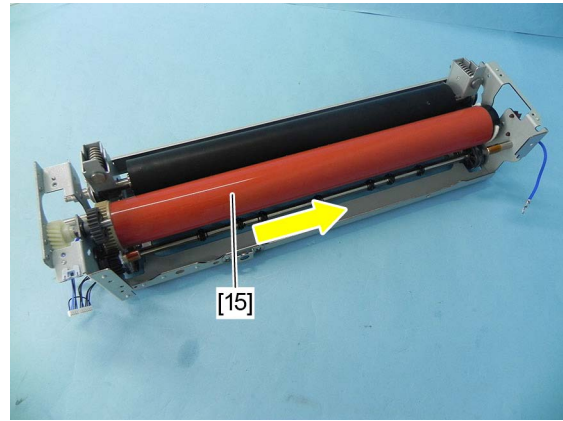


Fig. 4-556

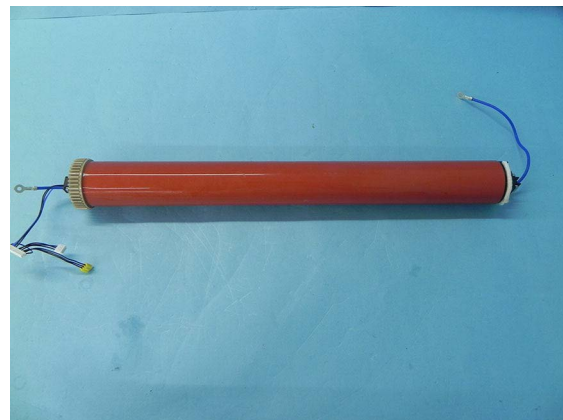
(17) Remove the fuser belt unit [15] by sliding it.

**Notes:**

Take care so that no damage or stains are detected on the fuser belt.



**Fig. 4-557**



**Fig. 4-558**

- (18) Remove the collar [16], and then take off the fuser belt [17] from the front side.

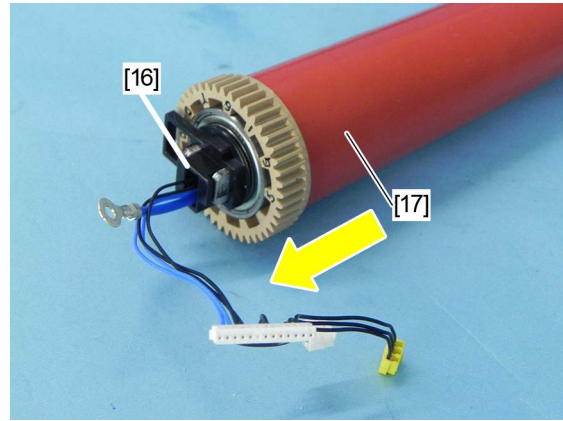


Fig. 4-559

**Notes:**

The fuser belt supplied as a service part consists of the following parts.  
When replacing the fuser belt, exchange them all in a set. An application of silicon oil to the inside of the fuser belt is required.

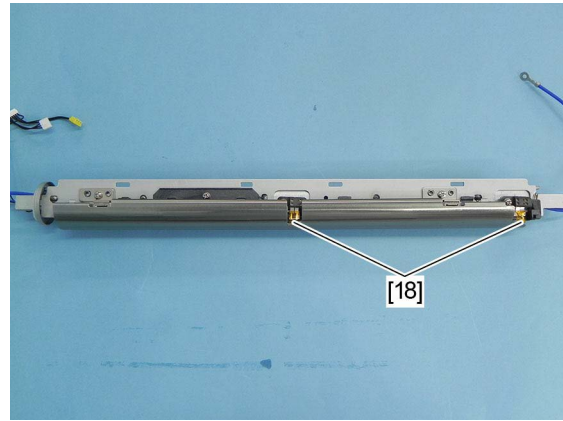
- Fuser belt
- Fuser belt lubricating sheet
- Oil recovery sheets (4 types)
- Silicon oil



Fig. 4-560

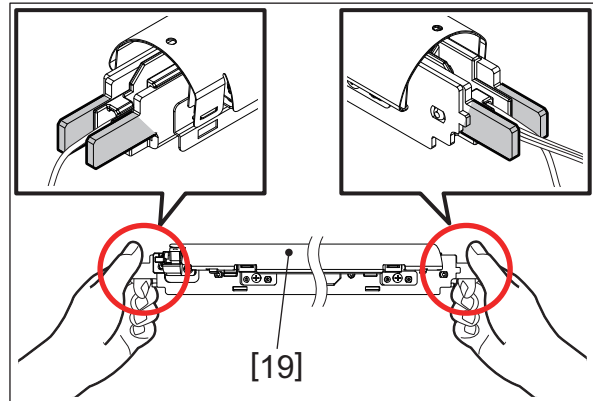
**Notes:**

- Be careful that the thermistor [18] of the fuser unit is not deformed when it is placed after the removal of the fuser belt. The thermistor may be deformed if it is made to come to the lower side by turning the fuser unit.



**Fig. 4-561**

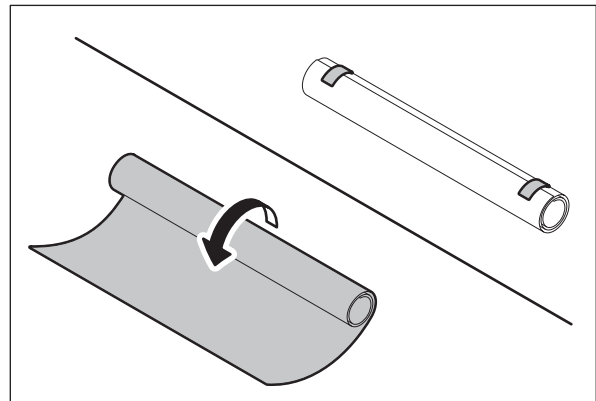
- Be sure to hold the portions shown in the figure when handling the magnetic metal plate [19] to prevent it from deforming.



**Fig. 4-562**

**[ A ] Installing the fuser belt**

- (1) When attaching the fuser belt, prepare some paper so that no silicon oil adheres to the harness and the connector. Make the paper round and create a cylinder with the diameter of your little finger. Then, fix the two places indicated with some tape.



**Fig. 4-563**



- (2) Use the cylinder to cover the harness and the connector [1] of the fuser belt unit.

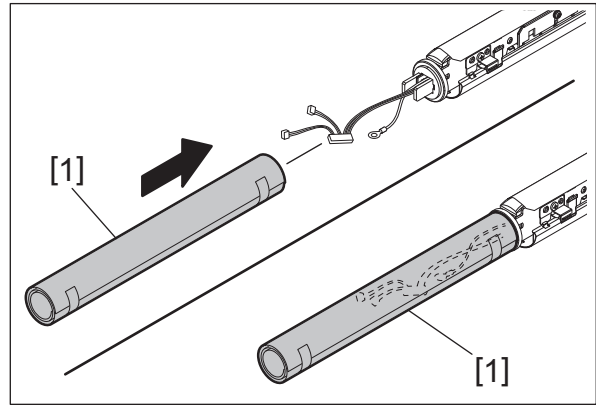


Fig. 4-564

- (3) Tilt the gear side of the fuser belt [3] downward. Pour the entire amount of silicon oil [2] into the fuser belt [3] without spilling. This should be done from the rear side where there is no gear.

**Notes:**

- Be sure to hold the gear portion when handling the fuser belt to avoid damage to its belt.
- Pour the entire amount without leaving any of silicone oil.
- Silicon oil has a low viscosity and is easy to spill. Therefore, do not tilt it downwards at the no-gear side.

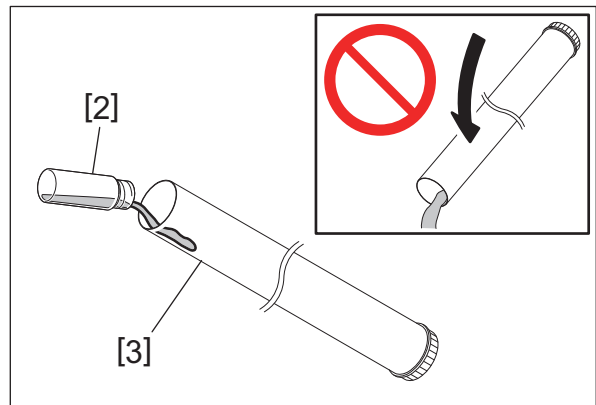


Fig. 4-565

- (4) To spread silicon oil inside the fuser belt [3], rotate it a few times.

**Notes:**

Silicon oil has a low viscosity and is easy to spill. Therefore, do not tilt it downwards at the no-gear side.

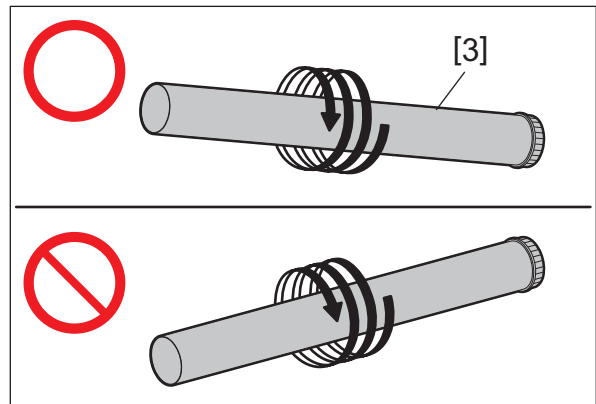


Fig. 4-566

- (5) Gently place a hand on the magnetic metal plate [4] and insert the fuser belt [3] slowly while rotating it clockwise.

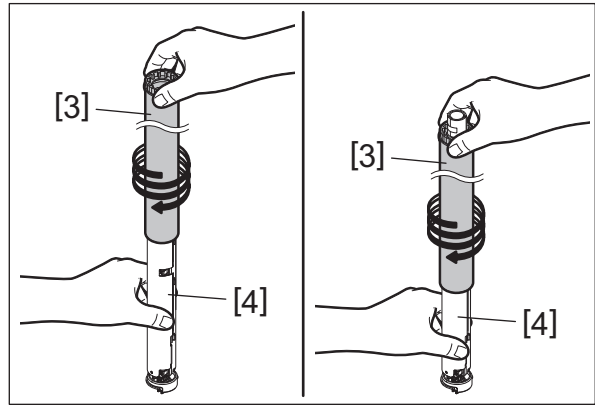


Fig. 4-567

**Notes:**

- Take care so that no damage or stains are detected on the fuser belt.
- When attaching the fuser belt, gently press the fuser belt thermistor [5] with your fingers to prevent its deformation.
- After reassembling the fuser belt, check that there is no scratch on the surface and the edges of the belt, and check that the silicon oil has not adhered on the belt surface.

If silicon oil is running over more than 25 mm from the edge of the fuser belt, wipe it off using alcohol. If 25 mm or less, wipe it off with a dry cloth.

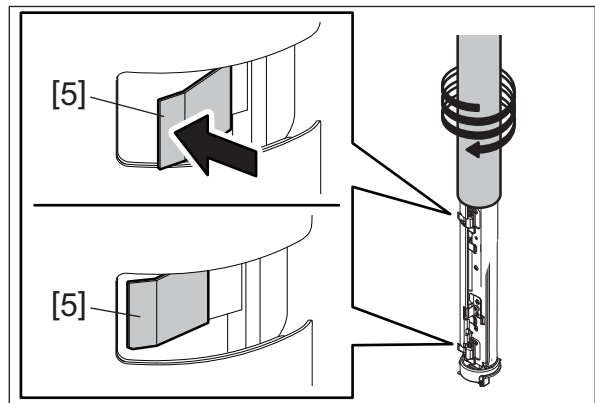



Fig. 4-568

## 4.9.8 Fuser belt lubricating sheet / Fuser belt pad

- (1) Remove the fuser belt.  
 P. 4-193 "4.9.7 Fuser belt"
- (2) Remove 3 screws and take off the plate [1].

**Notes:**

- When handling the inside of the fuser belt unit, position a towel or cushion so that no pressure is applied to the shield [2].
- Be sure to secure the 3 screws, otherwise they come off and this will cause the damage of the fuser belt.

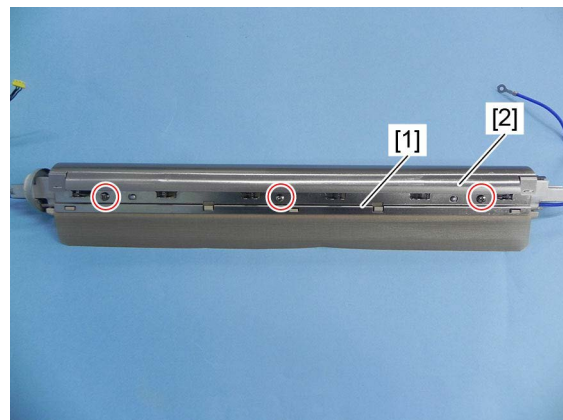


Fig. 4-569

(3) Remove the fuser belt lubricating sheet [3].

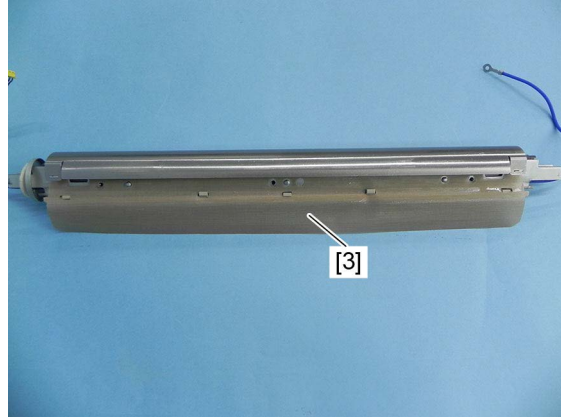


Fig. 4-570

(4) Remove the fuser belt pad [4].

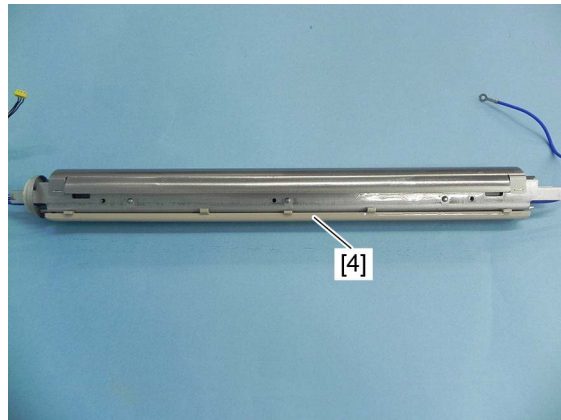


Fig. 4-571

**Notes:**

- When installing the fuser belt pad, align the 5 latches with the holes of fuser belt lubricating sheet.

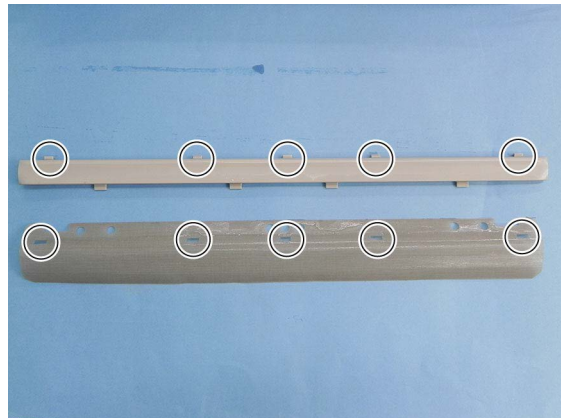
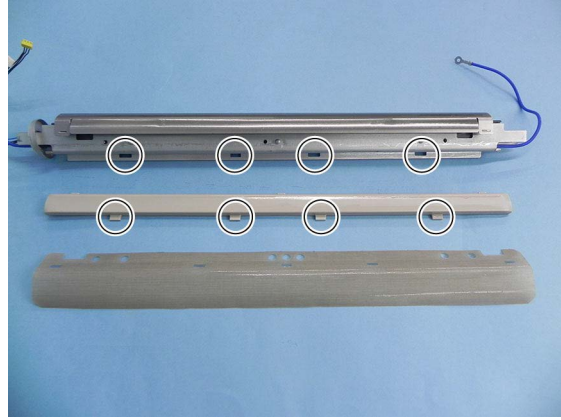


Fig. 4-572


**Notes:**

- When installing the fuser belt lubricating sheet, align 4 latches with the latches of the fuser belt unit.



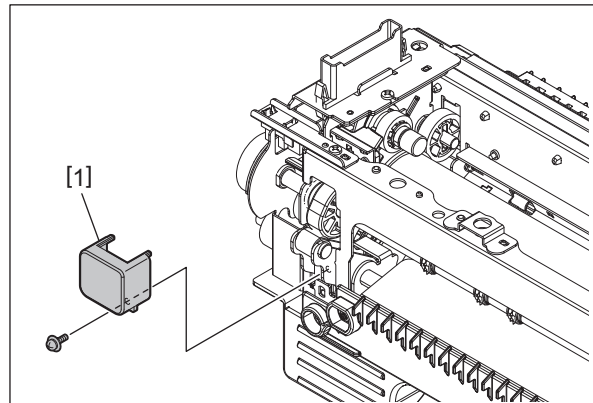
**Fig. 4-573**

### 4.9.9 Rear fuser cover oil recovery sheet

- (1) Take off the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove one screw and take off the cover [1].

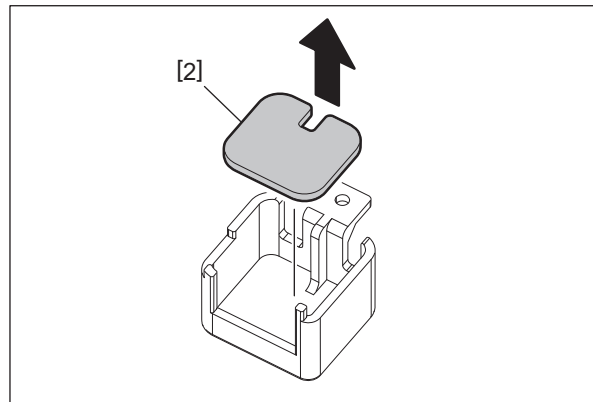
**Notes:**

Do not tilt the cover too much. Otherwise, the accumulated silicon oil will flow out.



**Fig. 4-574**

- (3) Remove the rear fuser cover oil recovery sheet [2] from the cover.



**Fig. 4-575**

**Notes:**

When installing the new rear fuser cover oil recovery sheet, pay attention to the following items.

- Clean the attachment surface of the cover.

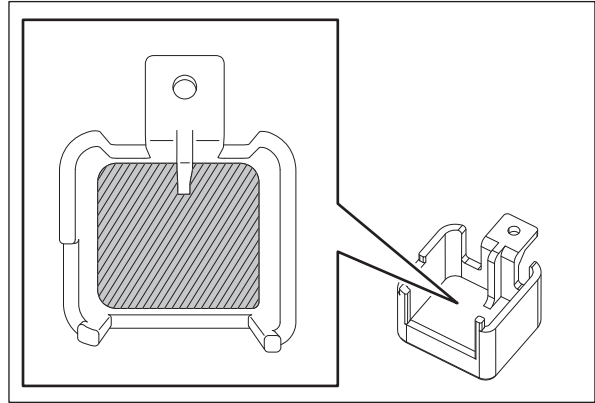


Fig. 4-576

- Remove the protection sheet [3] from the double-sided adhesive tape of the rear fuser cover oil recovery sheet.

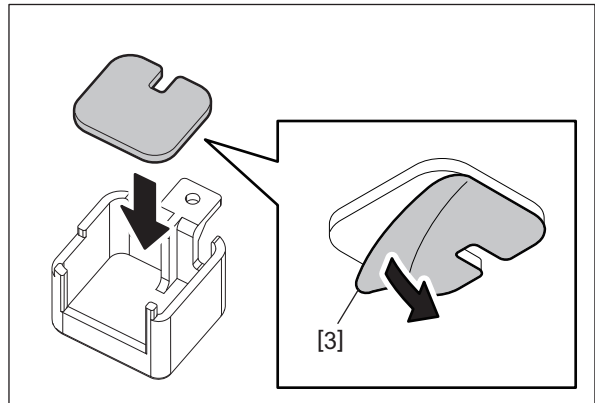


Fig. 4-577

### 4.9.10 Front fuser belt oil recovery sheet

- (1) Take off the fuser belt unit.  
 📖 P. 4-193 "4.9.7 Fuser belt"
- (2) Remove one screw and then take off the bracket [1] and the front fuser belt oil recovery sheet [2].

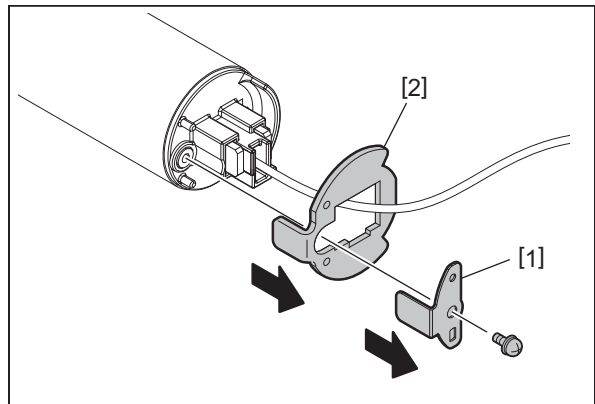
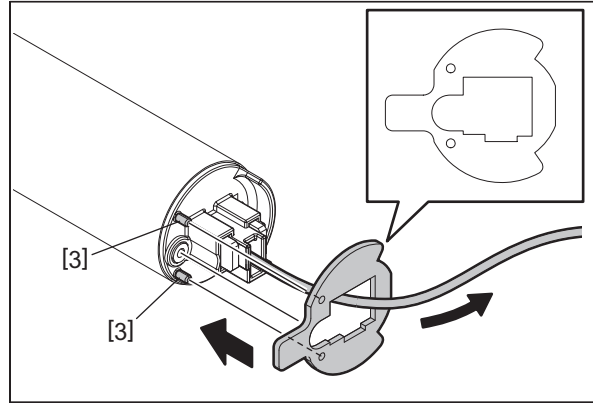


Fig. 4-578

**Notes:**

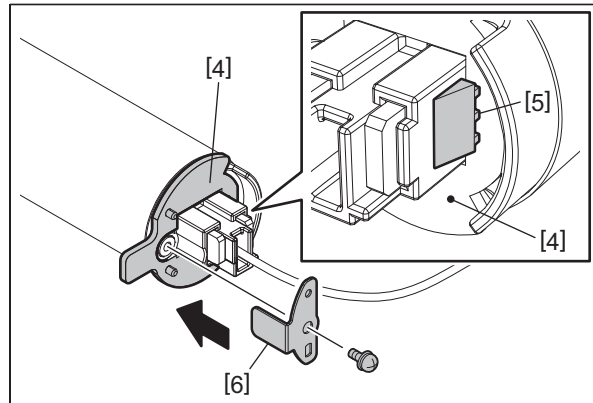
When installing the front fuser belt oil recovery sheet, pay attention to the following items.

- Be sure to align two holes in the front fuser belt oil recovery sheet to the dowels [3].



**Fig. 4-579**

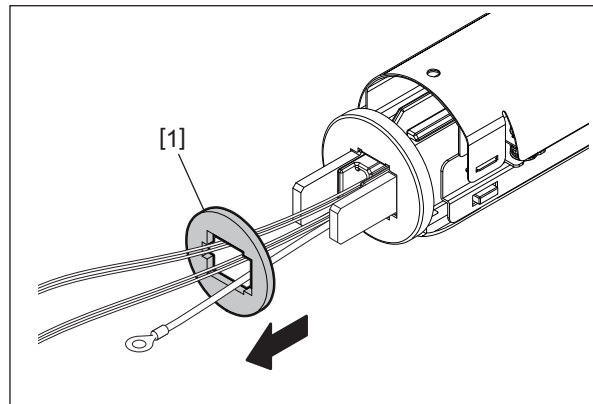
- Fix the front fuser belt oil recovery sheet [4] under the convex portion [5] of the fuser belt unit and then attach the bracket [6] to the unit.



**Fig. 4-580**

### 4.9.11 Rear fuser belt oil recovery sheet

- (1) Take off the fuser belt.  
P. 4-193 "4.9.7 Fuser belt"
- (2) Remove the rear fuser belt oil recovery sheet [1].



**Fig. 4-581**

**Notes:**

When installing the rear fuser belt oil recovery sheet, the positions of its holes must be oriented as shown below.

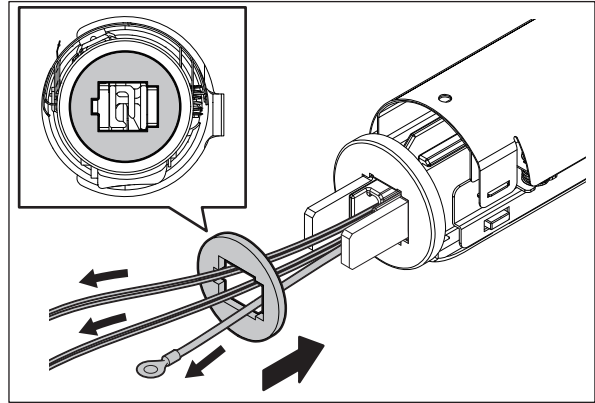


Fig. 4-582

### 4.9.12 Rear fuser gear oil recovery sheet

- (1) Take off the fuser belt.  
P. 4-193 "4.9.7 Fuser belt"
- (2) Remove one screw and then take off the gear [1] and the actuator [2].

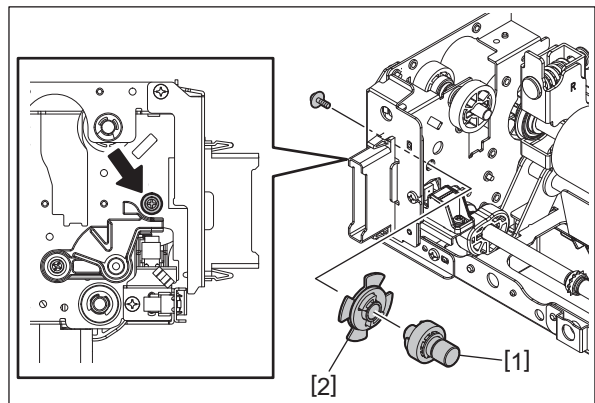


Fig. 4-583

- (3) Remove the rear fuser gear oil recovery sheet [3] from the actuator.

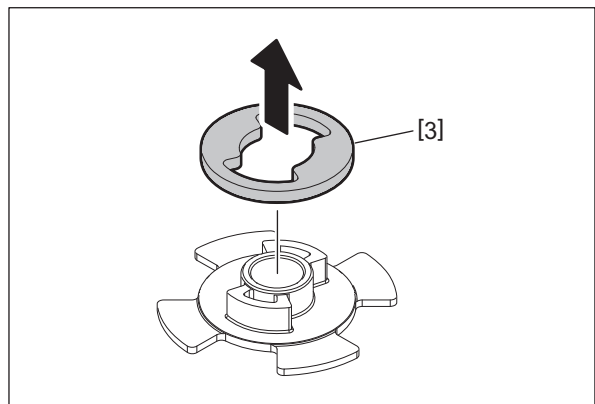


Fig. 4-584

**Notes:**

When installing the new rear fuser gear oil recovery sheet, pay attention to the following items.

- Clean the attachment surface of the actuator.

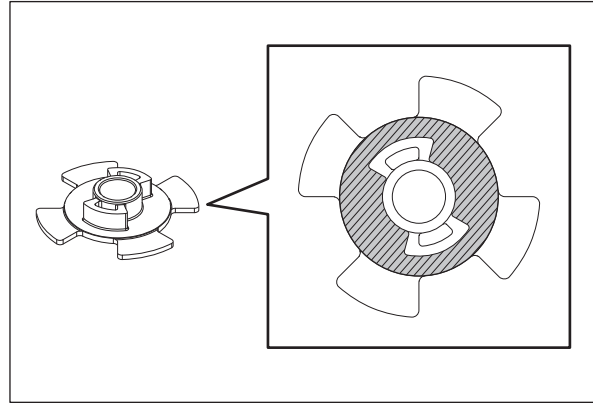


Fig. 4-585

- Remove the protection sheet [4] from the double-sided adhesive tape of the rear fuser gear oil recovery sheet.

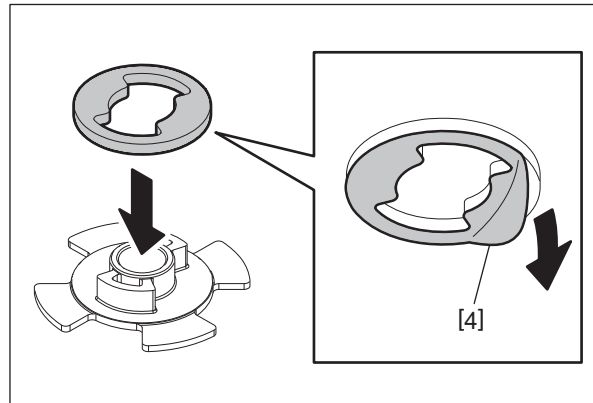



Fig. 4-586

### 4.9.13 Fuser belt center thermistor (THM5) / edge thermistor (THM6) / thermostat (THMO4)

**Notes:**

- Replace the fuser belt unit with a new one for exchanging the fuser belt center thermistor, fuser belt edge thermistor and fuser belt unit thermostat.
- Do not disassemble in the field, since the installing dimensions of safety parts (thermistors/thermostats) cannot be secured.

- (1) Remove the fuser belt pad and fuser belt lubricating sheet.

 P. 4-202 "4.9.8 Fuser belt lubricating sheet / Fuser belt pad"

**Notes:**


Be careful that the thermistor of the fuser unit is not deformed when it is placed after the removal of the fuser belt. The thermistor may be deformed if it is made to come to the lower side by turning the fuser unit.



Fig. 4-587



## 4.9.14 Pressure roller

- (1) Remove the fuser belt unit.  
 P. 4-193 "4.9.7 Fuser belt"
- (2) Remove 2 E-rings [1], 2 washers [2], 2 bushings [3] and 2 screws.

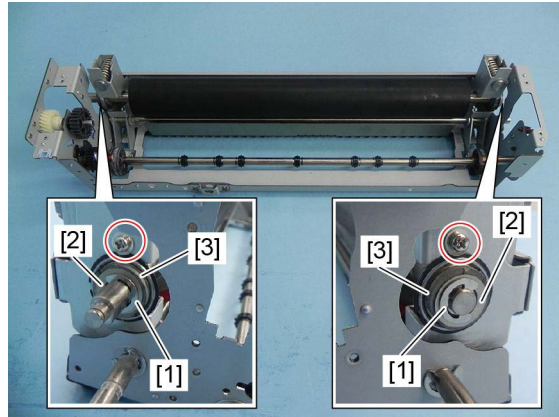


Fig. 4-588

- (3) Remove the pressure roller [4] by sliding it.

**Notes:**

Take care so that no damage or stains are detected on the fuser belt.

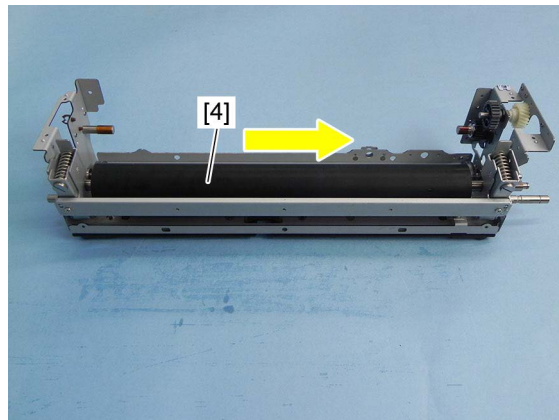


Fig. 4-589



Fig. 4-590

#### 4.9.15 Fuser belt rotation detection sensor (S49)

- (1) Remove the pressure roller contact/release sensor.  
P. 4-210 "4.9.16 Pressure roller contact/release sensor (S48)"
- (2) Remove 1 screw and take off the sensor bracket [1].

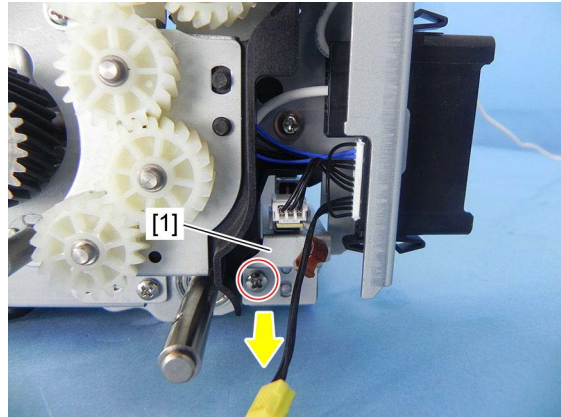


Fig. 4-591

- (3) Disconnect 1 connector. Release 3 latches and remove fuser belt rotation detection sensor [2].

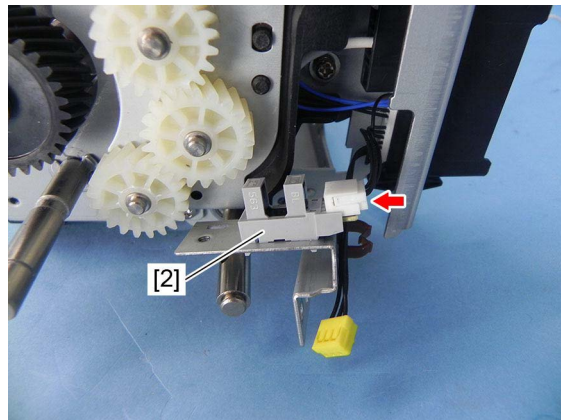


Fig. 4-592

#### 4.9.16 Pressure roller contact/release sensor (S48)

- (1) Remove the fuser unit transport guide.  
P. 4-189 "4.9.3 Fuser unit transport guide"
- (2) Remove 1 E-ring, and then take off the pressure roller contact/release cam [1] and 1 pin. Remove 1 E-ring and take off the gear [2].

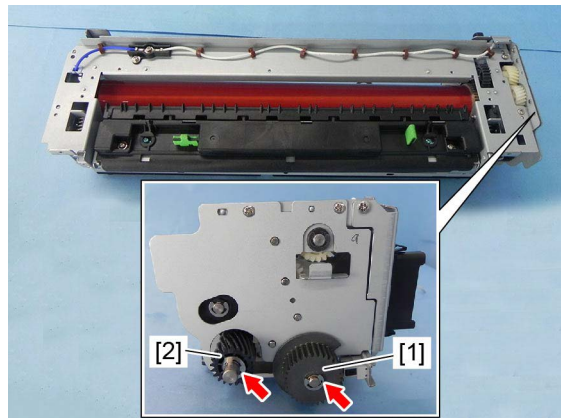


Fig. 4-593

- (3) Remove 3 screws and 1 bushing, and take off the plate [3].

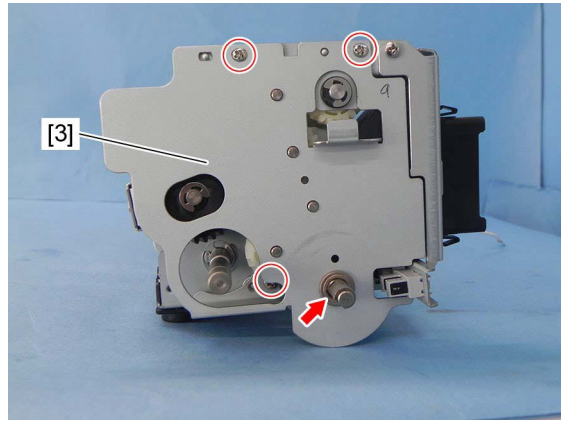


Fig. 4-594

- (4) Remove 1 screw and take off the sensor bracket [4]. Release the harness from 1 harness clamp.

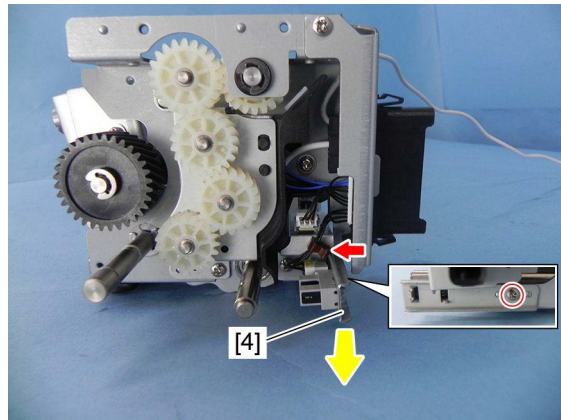


Fig. 4-595

- (5) Disconnect 1 connector. Release 3 latches and take off the pressure roller contact/release sensor [5].

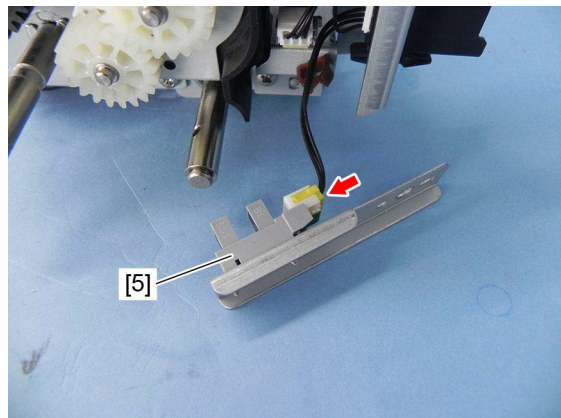





Fig. 4-596

## 4.9.17 IH coil (IH-COIL)

- (1) Remove the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove the SYS board case.  
 P. 9-5 "9.1.5 SYS board case"
- (3) Remove the IH board cover.  
 P. 9-17 "9.1.18 IH board"
- (4) Remove 2 screws and take off the harness [1] of the IH coil.

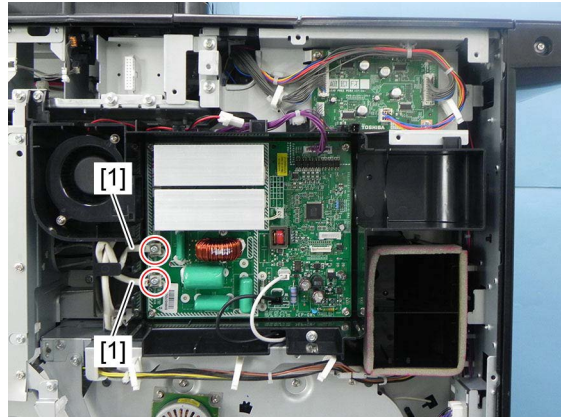


Fig. 4-597

- (5) Remove 2 screws and take off the harness cover [2].

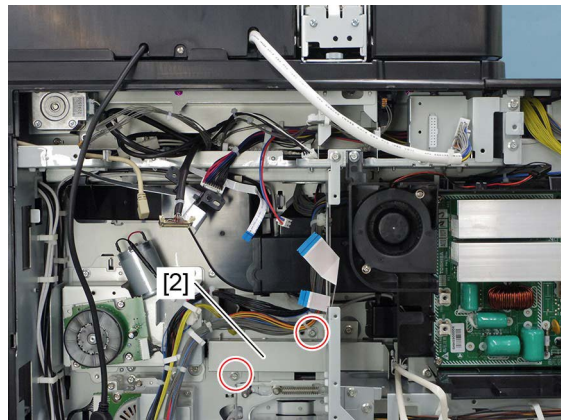


Fig. 4-598

- (6) Release the harness from 3 harness clamps.

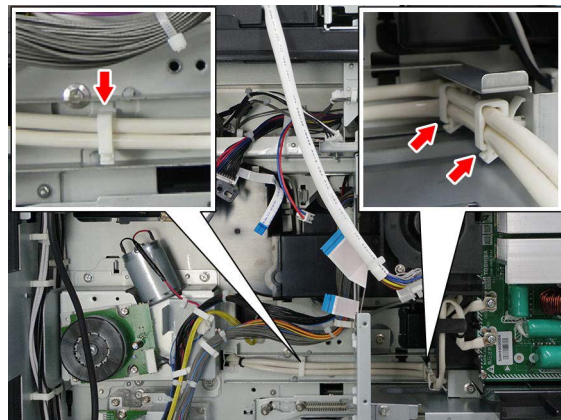


Fig. 4-599

- (7) Remove 1 screw and take off the harness cover [3].

**Notes:**

When installing the harness cover, check that the IH coil can be moved by pushing it with your finger. If not, loosen the tension of the harness in the IH coil.

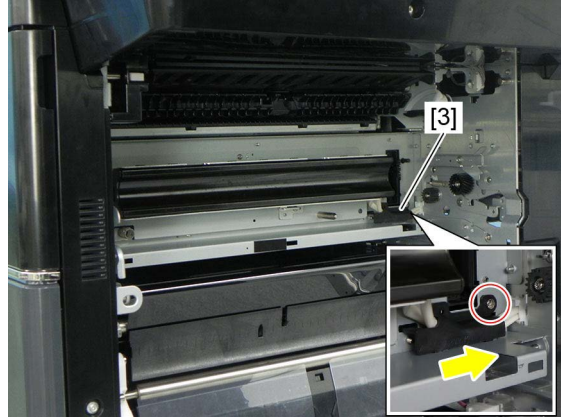


Fig. 4-600

- (8) Remove 3 screws and take off the IH coil [4].

**Notes:**

The gap of the IH coil is adjusted, so be sure not to remove any other 3 screws [5] other than those from the bracket.

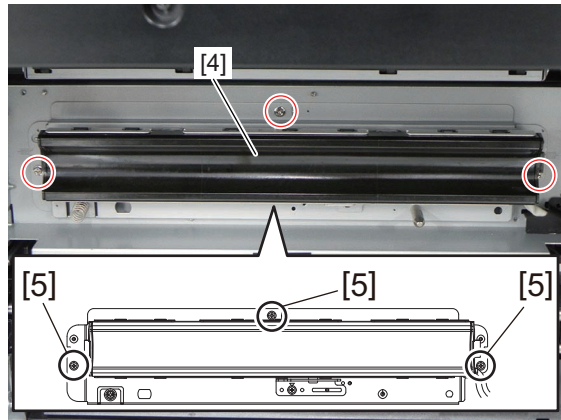


Fig. 4-601

**Notes:**

Count the number of lines [6] and write it down for later reference before removing the IH coil. When installing the IH coil, the same number of lines needs to be visible.

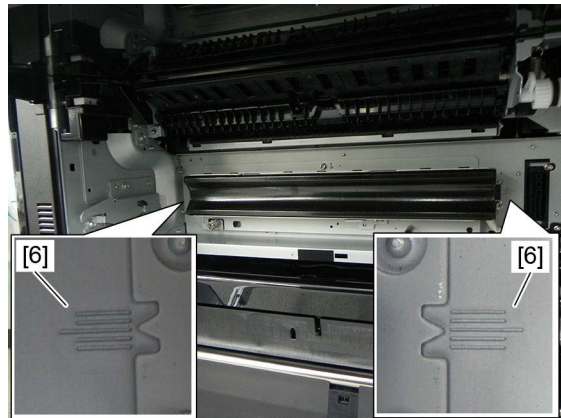



Fig. 4-602

## 4.9.18 Fuser motor (M6)

- (1) Remove the SYS board case.  
 P. 9-5 "9.1.5 SYS board case"
- (2) Remove 3 screws and disconnect 1 connector, and then take off the fuser motor [1].

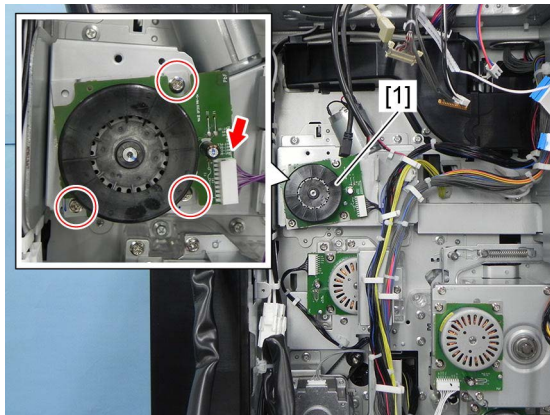




Fig. 4-603

## 4.9.19 Pressure roller contact/release motor (M48)

- (1) Remove the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (2) Remove the SYS board case.  
 P. 9-5 "9.1.5 SYS board case"
- (3) Release the harness from 3 clamps.

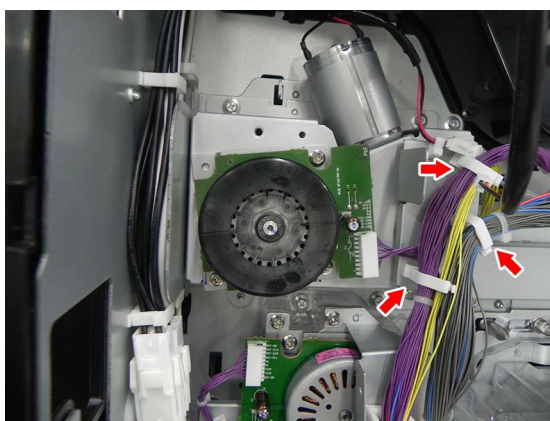


Fig. 4-604

- (4) Remove 4 screws and take off the fuser drive unit [1].

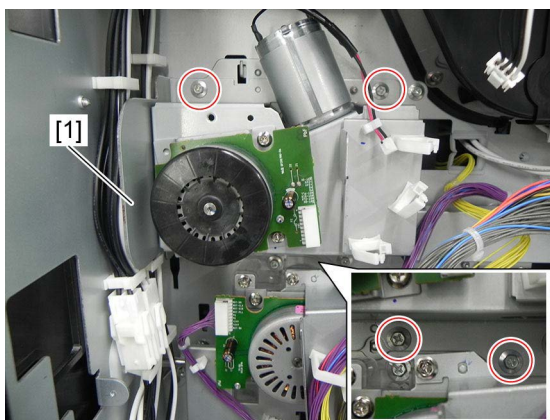


Fig. 4-605

- (5) Remove 1 screw and then take off the gear [2] and pin.  
Remove 1 screw and take off the gear [3].  
Remove 2 screws and take off the bracket [4].

**Notes:**

Pay attention not to drop the pin when removing the gear [2].

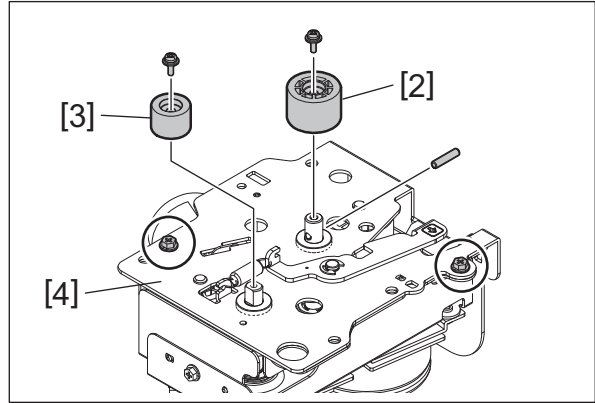


Fig. 4-606

- (6) Remove the bearing [5] and the gears [6], [7], [8] and [9].

**Notes:**

When replacing the parts, apply an appropriate amount of white grease (Molykote EM-30L) to the tooth surface of the gears.

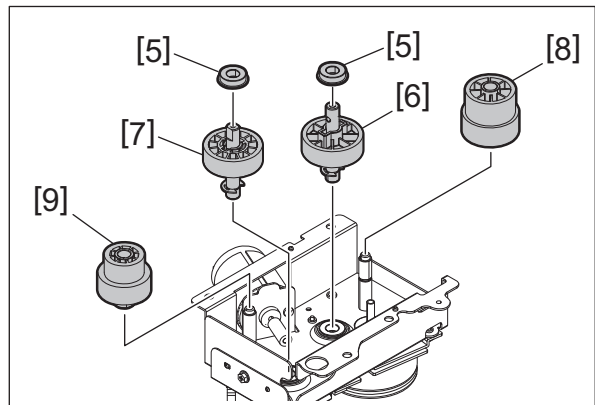


Fig. 4-607

- (7) Remove 2 screws and take off the pressure roller contact/release motor [10].

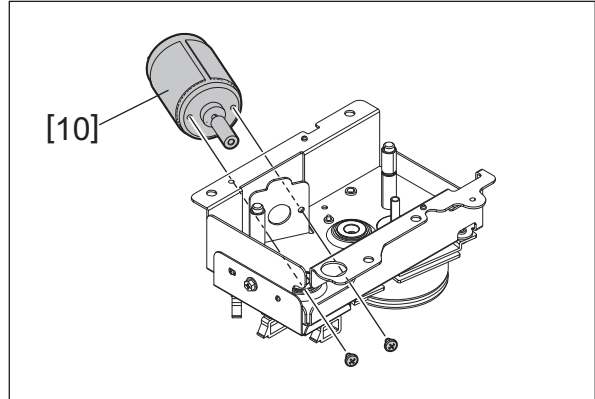


Fig. 4-608

**Notes:**

When disassembling the fuser drive unit, apply white grease (Molykote EM-30L) on the shafts and the tooth surfaces of the gears shown in the right figure.

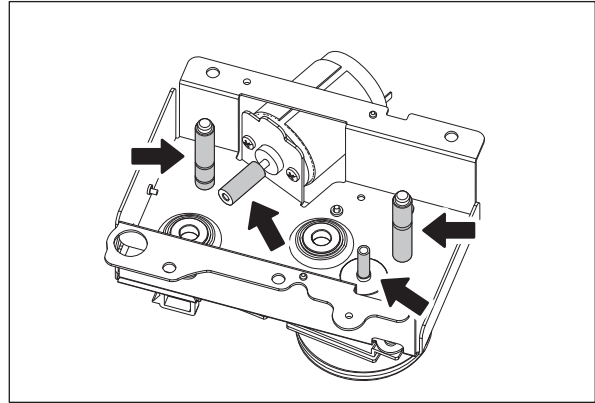



Fig. 4-609

### 4.9.20 IH board cooling fan (exhaust) (F8)

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 4 screws and disconnect 1 connector, and then take off the IH board cover [1].

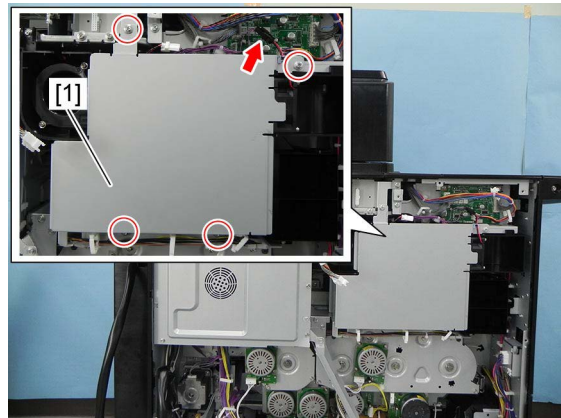


Fig. 4-610

- (3) Disconnect 1 connector and release the harness from the harness guide [2].

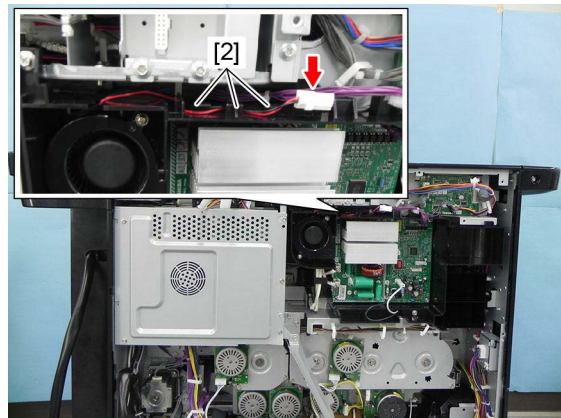


Fig. 4-611



- (4) Remove 2 screws and take off the IH cooling fan-1 [3].

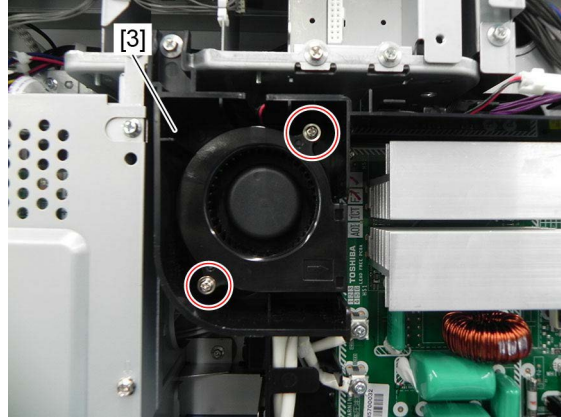


Fig. 4-612

#### 4.9.21 IH board cooling fan (suction) (F9)

- (1) Remove the rear cover.  
P. 4-10 "4.1.22 Rear cover"
- (2) Remove 4 screws and disconnect 1 connector, and then take off the IH board cooling fan cover [1].

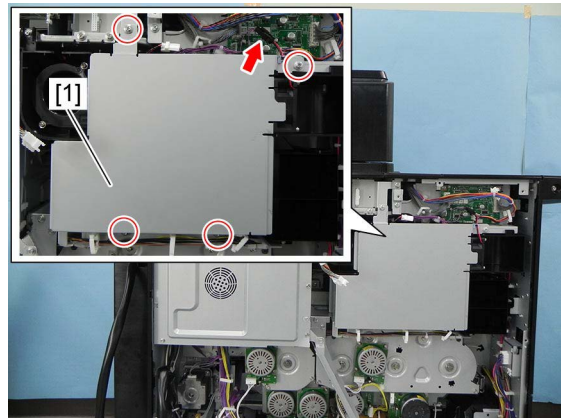


Fig. 4-613

- (3) Release the harness from 1 harness clamp. Remove 2 screws and take off the IH board cooling fan (suction) [2].

**Notes:**

When installing the fan, be sure that the surface with the label [3] is shown at the outside.

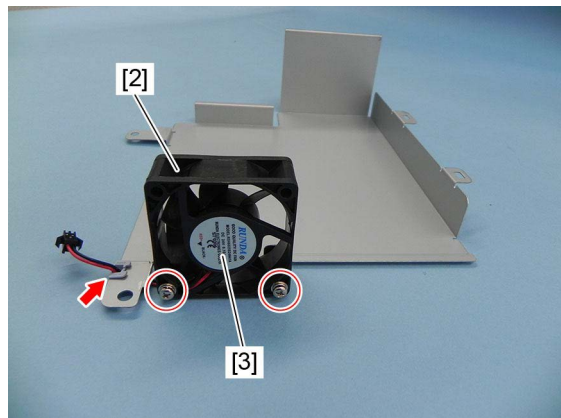




Fig. 4-614

## 4.9.22 Fuser unit jam releasing LED (LED)

- (1) Remove the right inner cover.  
 P. 4-273 "4.10.50 Interlock switch (SW2)"
- (2) Remove the right corner cover.  
 P. 4-11 "4.1.25 Right corner cover"
- (3) Remove 1 screw.

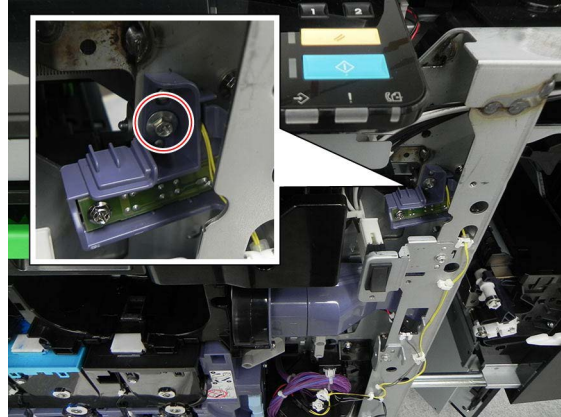


Fig. 4-615

- (4) Disconnect 1 connector.

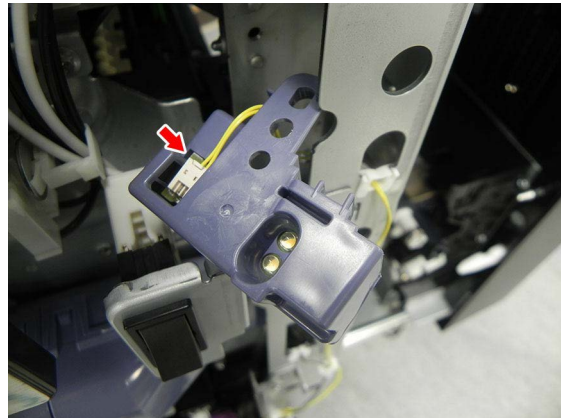


Fig. 4-616

- (5) Remove 1 screw and take off the fuser unit jam releasing LED [1].

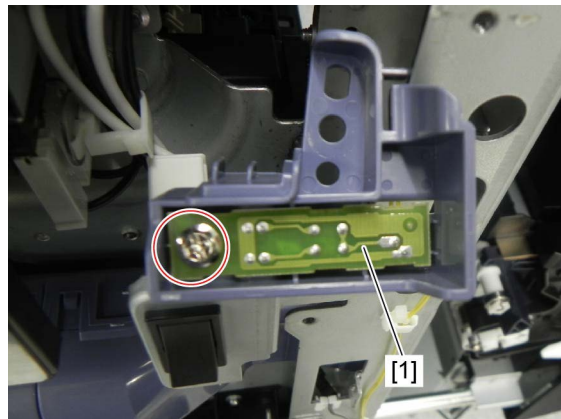


Fig. 4-617

### 4.9.23 VOC filter

The replacement of VOC filter is per 2PM. Ensure replacement is per 2PM.

- (1) Remove 1 screw and take off the filter cover [1].

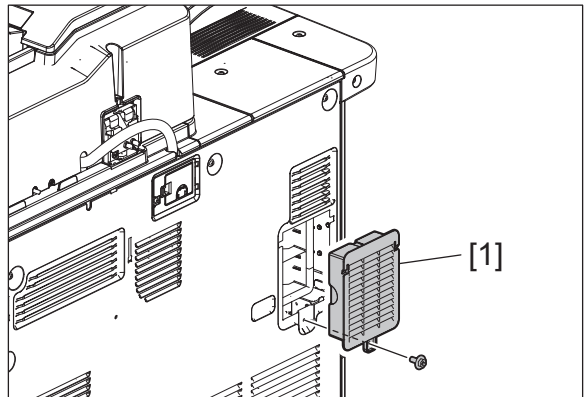


Fig. 4-618

- (2) Remove the VOC filter [2].

**Notes:**

- Do not take out the new filter from the bag until just before replacement.
- Insert the filter between 2 ribs.
- Install without breaking the filter cell.

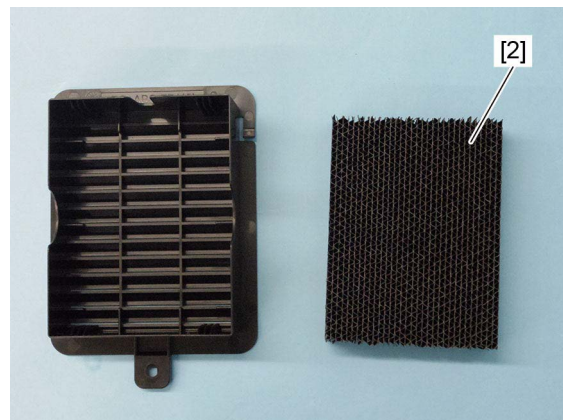


Fig. 4-619

## 4.10 Exit / Reverse / Duplex Section

### 4.10.1 Upper exit section cooling fan (rear) (F32) / Upper exit section cooling fan (front) (F33)

- (1) Remove the receiving tray.  
📖 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove 2 screws and disconnect 1 connector for each fan. Remove the upper exit section cooling fan (rear) [1] and the upper exit section cooling fan (front) [2].

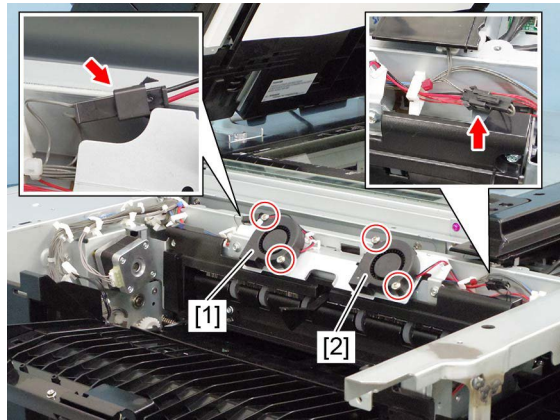


Fig. 4-620

### 4.10.2 Lower exit section cooling fan (rear) (F34) / Lower exit section cooling fan (front) (F35)

- (1) Remove the receiving tray.  
📖 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove the left top cover.  
📖 P. 4-7 "4.1.15 Left top cover"
- (3) Lift up the reverse path cover. Remove 2 screws and disconnect 1 connector for each fan.

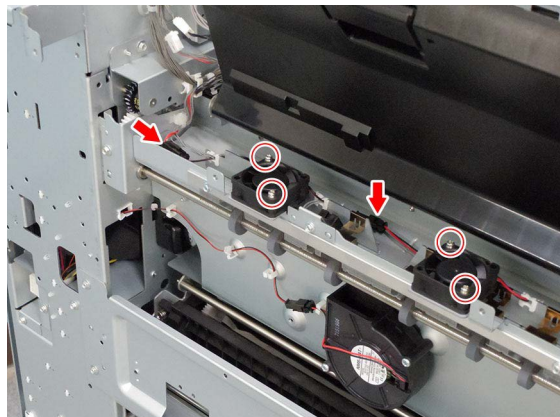


Fig. 4-621

- (4) Release the harness from 5 harness clamps and remove the lower exit section cooling fan (rear) [1] and lower exit section cooling fan (front) [2].

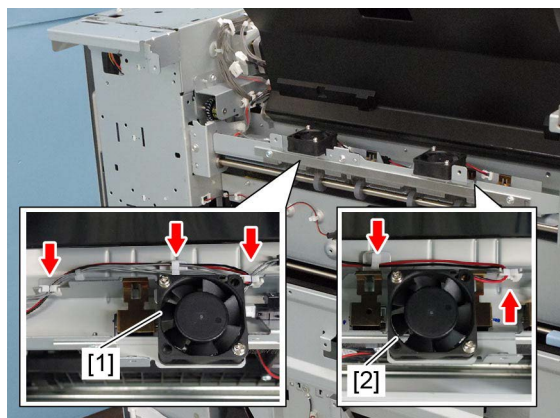


Fig. 4-622

### 4.10.3 Lower exit section cooling fan (under) (F36)

- (1) Remove the left top cover.  
📖 P. 4-7 "4.1.15 Left top cover"
- (2) Release the harness from 1 harness clamp [1] and disconnect 1 connector.
- (3) Remove 2 screws and take off the lower exit section cooling fan (under) [2].

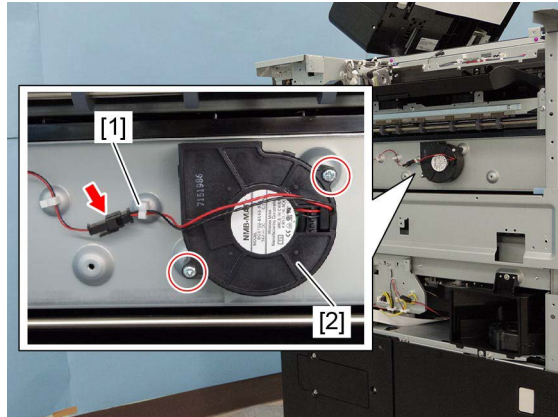


Fig. 4-623

### 4.10.4 Exit motor (M2)

- (1) Remove the receiving tray.  
📖 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove the left top cover.  
📖 P. 4-7 "4.1.15 Left top cover"
- (3) Release the harness from 2 clamps.

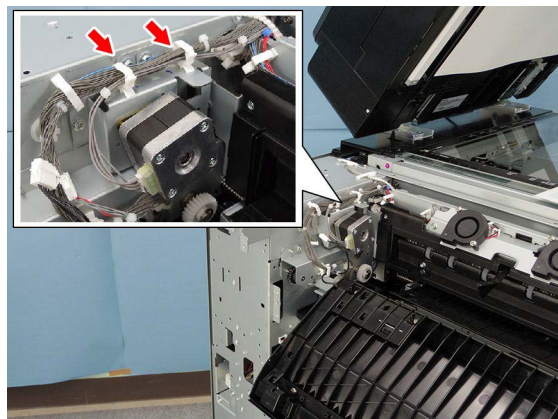


Fig. 4-624

- (4) Remove 2 screws and disconnect 1 connector, and then remove the exit motor [1] with the bracket [2].

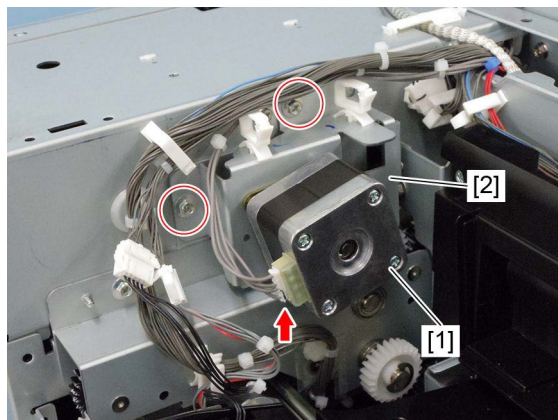


Fig. 4-625

- (5) Remove 2 screws and the belt [3], and then take off the exit motor [1].

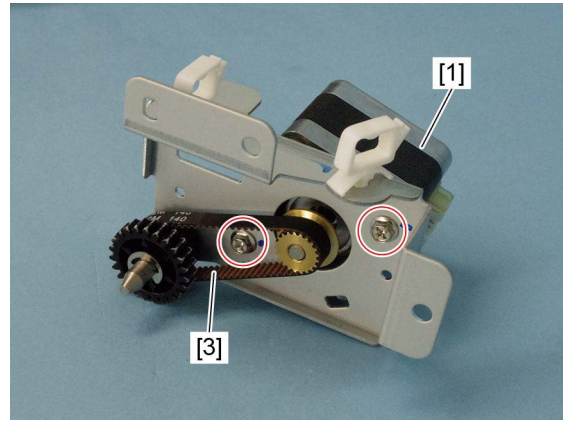


Fig. 4-626

#### 4.10.5 Upper paper exit sensor (S61) / Upper exit tray paper full detection sensor (S62)

- (1) Remove the upper exit section cooling fan (rear) and upper exit section cooling fan (front).  
 P. 4-220 "4.10.1 Upper exit section cooling fan (rear) (F32) / Upper exit section cooling fan (front) (F33)"
- (2) Remove the exit motor.  
 P. 4-221 "4.10.4 Exit motor (M2)"
- (3) Remove 4 screws to take off the upper exit cover [1].

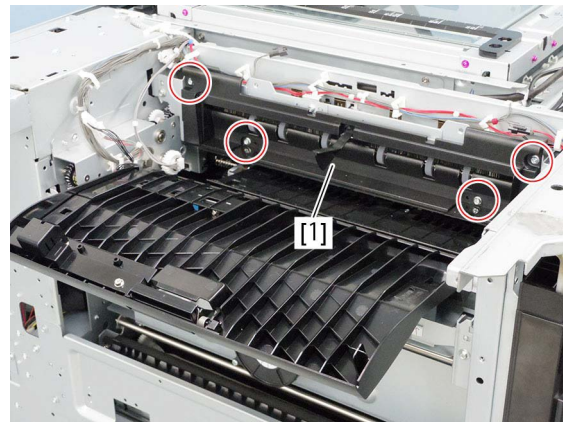


Fig. 4-627

- (4) Remove 2 screws and disconnect 1 connector, and then take off the upper paper exit roller unit [2].

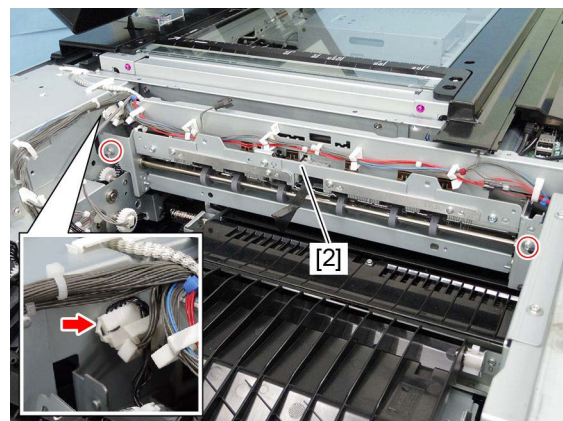


Fig. 4-628

- (5) Release the harness from 1 harness clamp [3]. Disconnect 1 connector [4] and remove the upper exit tray paper full detection sensor [5].
- (6) Remove 1 screw and disconnect 1 connector [6], and then take off the sensor bracket [7].

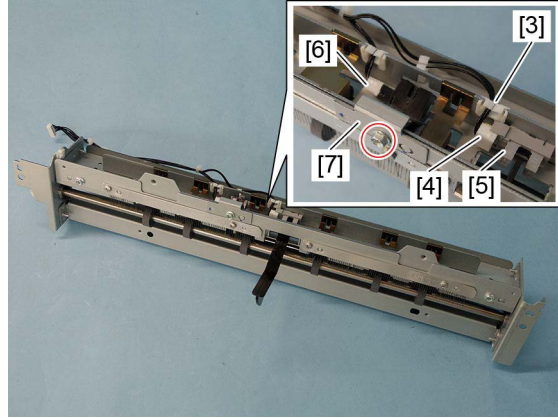


Fig. 4-629

- (7) Remove the upper paper exit sensor [8] from the sensor bracket [7].

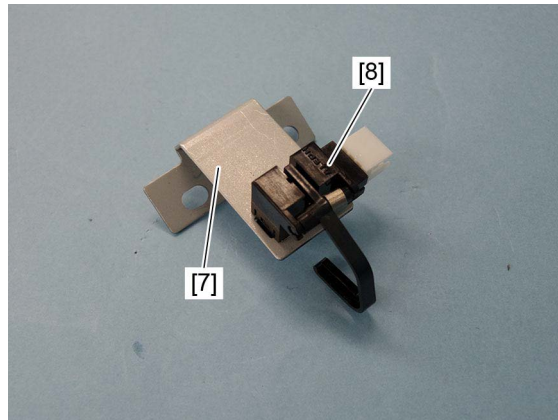



Fig. 4-630

#### 4.10.6 Lower paper exit sensor (S63)

- (1) Remove the left top cover.  
 P. 4-7 "4.1.15 Left top cover"
- (2) Lift up the reverse path cover, and then remove 1 screw and disconnect the connector. Remove the sensor bracket [1].

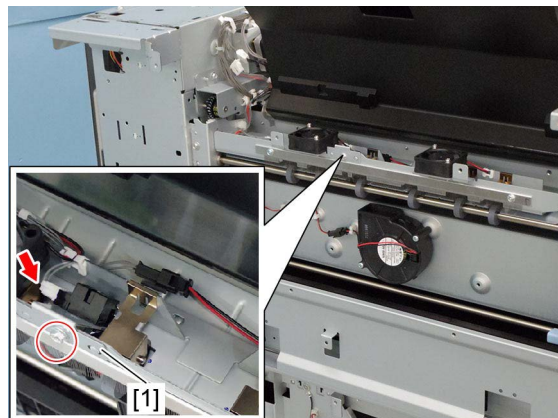


Fig. 4-631

- (3) Remove the lower paper exit sensor [2] from the sensor bracket [1].

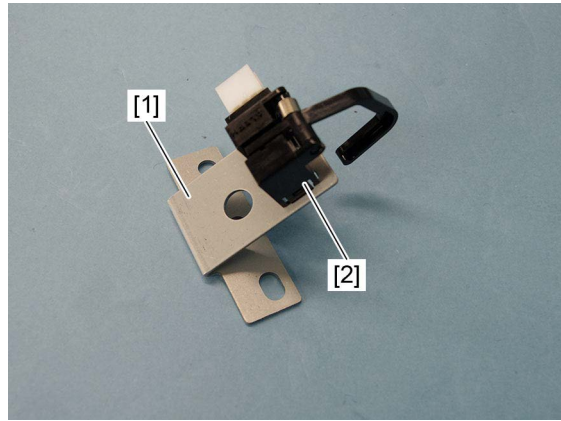



Fig. 4-632

#### 4.10.7 Reverse section stationary jam detection sensor (S60)

- (1) Remove the receiving tray.  
 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove 2 screws and then take off the sensor bracket [1].

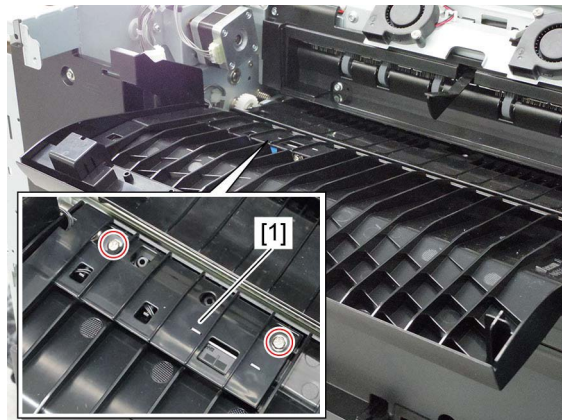


Fig. 4-633

- (3) Release the harness from the 3 hooks [2] and then disconnect the connector.
- (4) Remove 2 screws and take off the reverse section stationary jam detection sensor [4] from the sensor bracket [3].

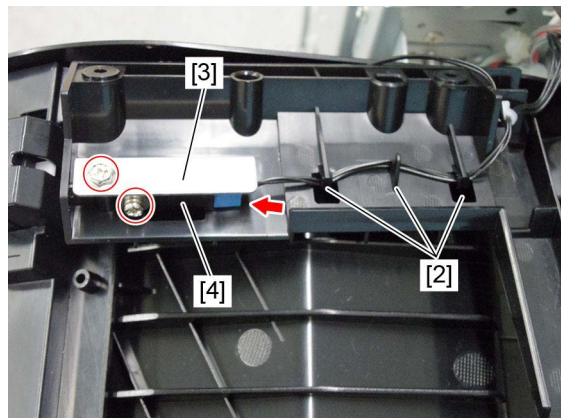



Fig. 4-634



## 4.10.8 Reverse path cover switch (SW5)

- (1) Remove the receiving tray.  
 P. 4-6 "4.1.13 Receiving tray"
- (2) Remove 2 screws and then take off the sensor bracket [1].

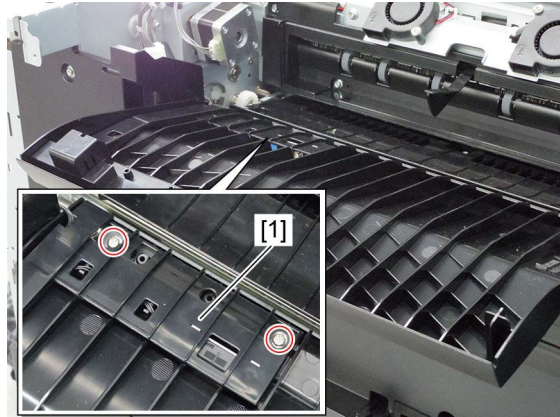


Fig. 4-635

- (3) Remove the sensor cover [2]. Remove 2 screws and take off the sensor bracket [3].

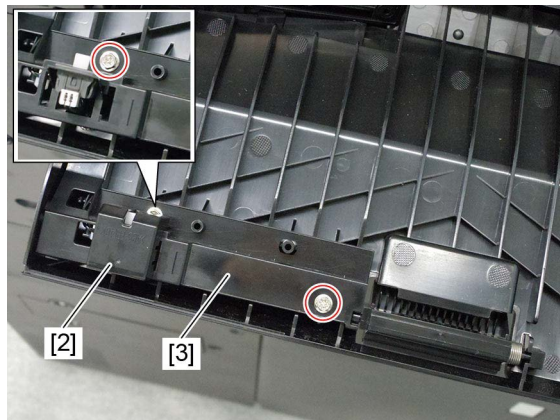


Fig. 4-636

### Notes:

When installing the sensor bracket, be careful not to catch the harness with the bracket.

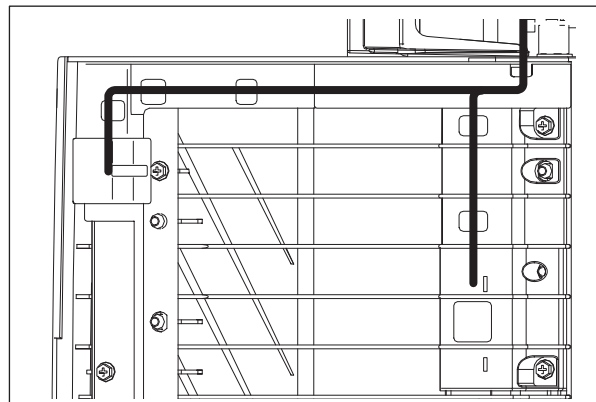


Fig. 4-637

- (4) Release a harness from 3 hooks [4].
- (5) Remove the reverse path cover switch (SW5) [5] from the sensor bracket.
- (6) Disconnect a connector from the reverse path cover switch [5].

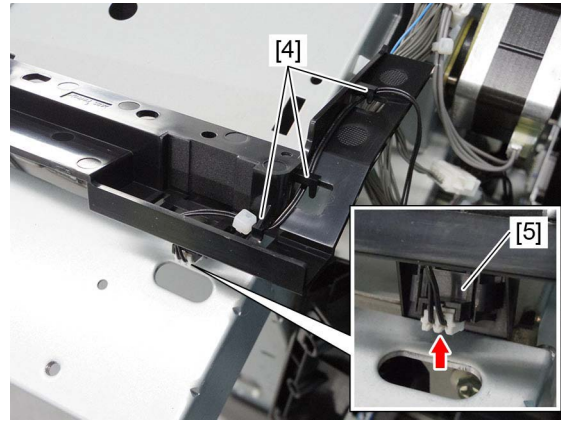


Fig. 4-638

#### 4.10.9 Upper paper exit roller

- (1) Remove the bracket of the upper paper exit roller unit.  
 ⓘ P. 4-222 "4.10.5 Upper paper exit sensor (S61) / Upper exit tray paper full detection sensor (S62)"
- (2) Remove the E-ring from the rear side and take off the gear [1].

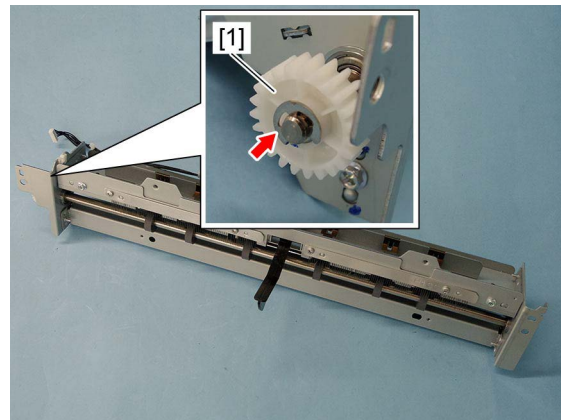


Fig. 4-639

- (3) Remove 2 E-rings from the rear side and the front side.
- (4) Remove 2 bearings [2] from the rear side and the front side, and then take off the upper paper exit roller [3].

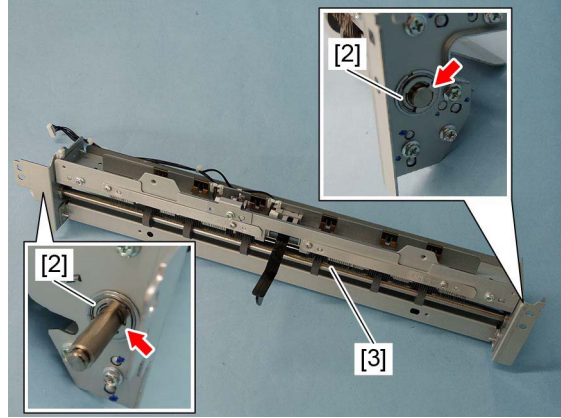



Fig. 4-640



Fig. 4-641

### 4.10.10 Lower paper exit roller

- (1) Remove the left top cover.  
 P. 4-7 "4.1.15 Left top cover"
- (2) Lift up the reverse path cover. Remove 2 screws and disconnect the connector, and then take off the lower paper exit roller unit [1].

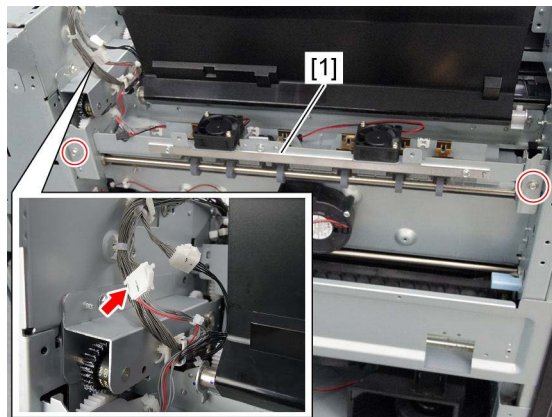


Fig. 4-642

- (3) Remove the E-rings and take off the gears [2].

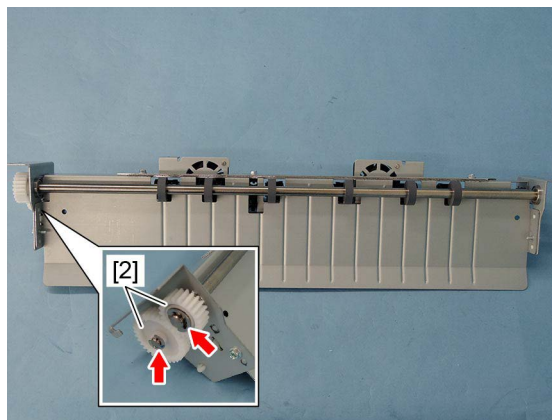


Fig. 4-643

- (4) Remove 1 E-ring and 2 bearings [3], and then take off the lower paper exit roller [4].

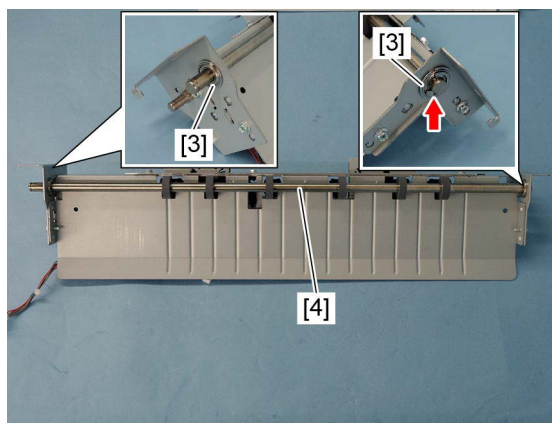


Fig. 4-644

## 4.10.11 Bridge unit

- (1) Open the front cover and pull out the bridge unit [1].

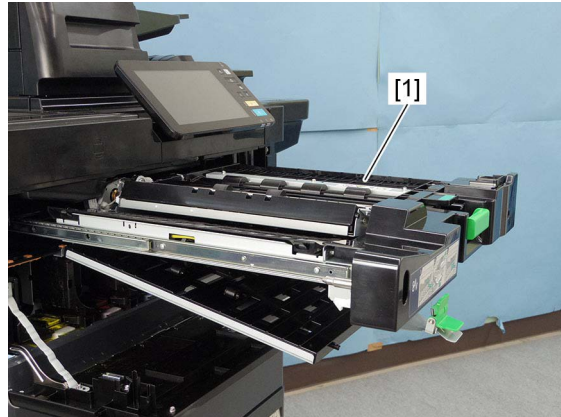


Fig. 4-645

- (2) Remove 4 screws from a rail.
- (3) Remove the bridge unit [1].



Fig. 4-646

### Notes:

When installing the bridge unit, engage the dent of the unit with the 4 bosses of the rail.

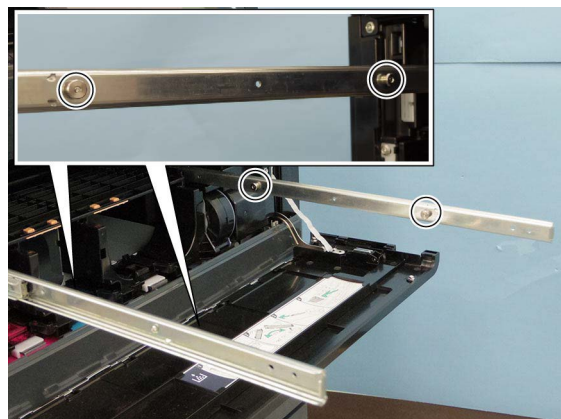


Fig. 4-647

### 4.10.12 Bridge unit front cover

- (1) Open the front cover and then pull out the bridge unit.
- (2) Open the bridge unit lower cover [1] and then remove 3 screws from the bridge unit front cover [2].

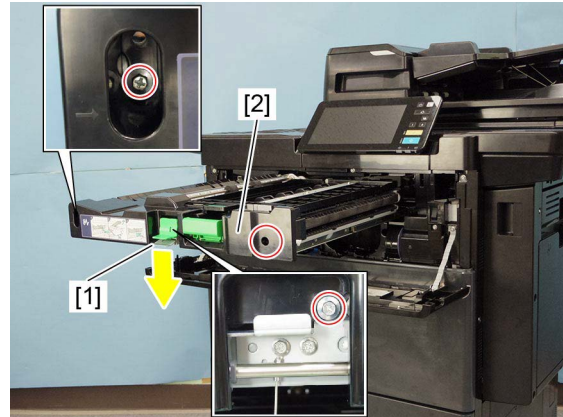


Fig. 4-648

- (3) Open the bridge unit upper cover [3] and then take off the bridge unit front cover [2] while keeping the lever [4] of the bridge unit lowered.

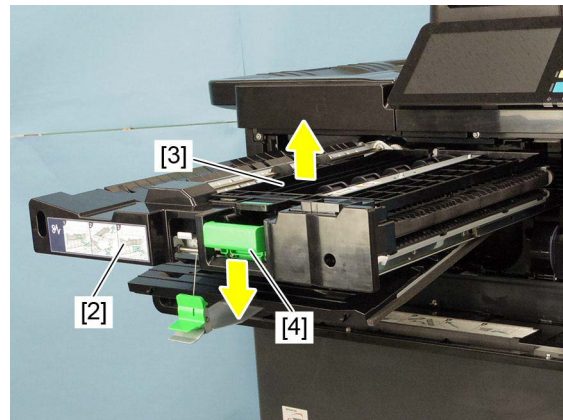


Fig. 4-649

### 4.10.13 Bridge unit lower cover

- (1) Open the front cover and then pull out the bridge unit.
- (2) Open the bridge unit lower cover [1]. Then remove 1 screw and the wire [2].

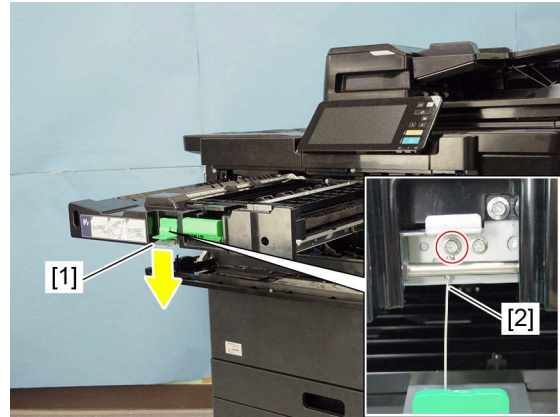


Fig. 4-650

- (3) Remove 1 clip and then take off the bridge unit lower cover [1] by sliding it.

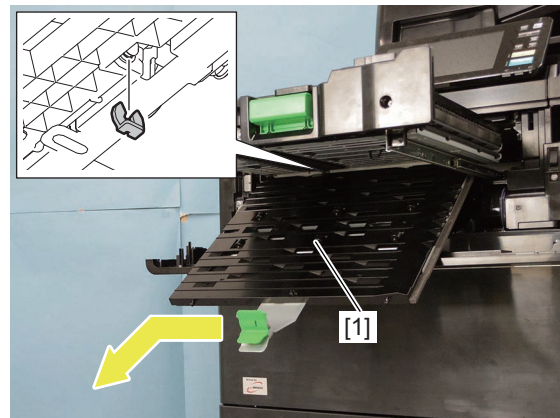


Fig. 4-651

#### Notes:

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.

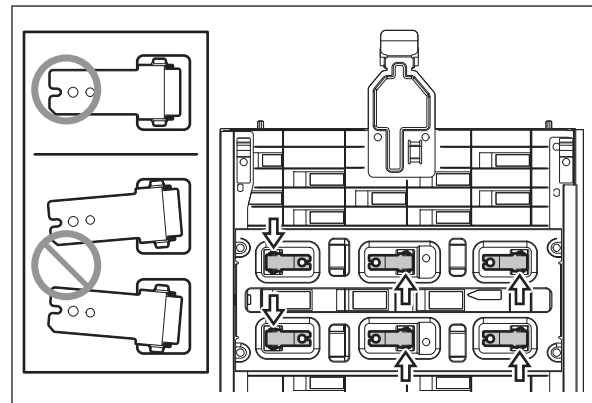



Fig. 4-652

#### 4.10.14 Bridge unit transport entrance motor (M4) / Reverse motor (M3)

- (1) Remove the bridge unit.  
 P. 4-229 "4.10.11 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.

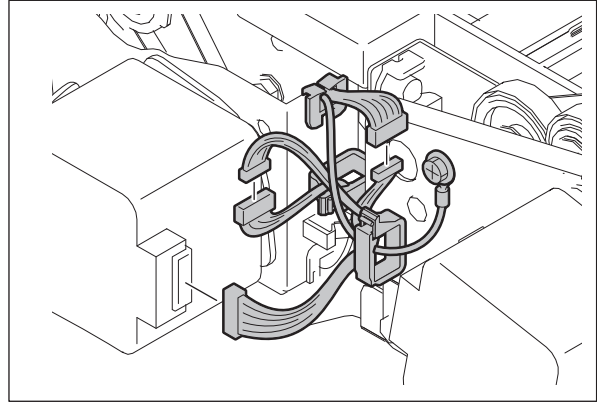


Fig. 4-653

- (5) Remove 3 screws and then take off the motor bracket [1].

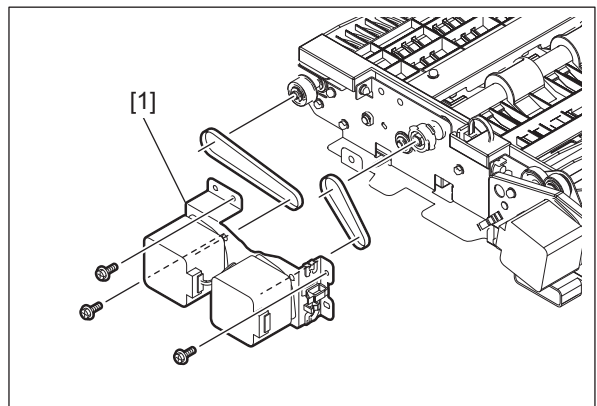


Fig. 4-654

- (6) Release the harness from 3 clamps.

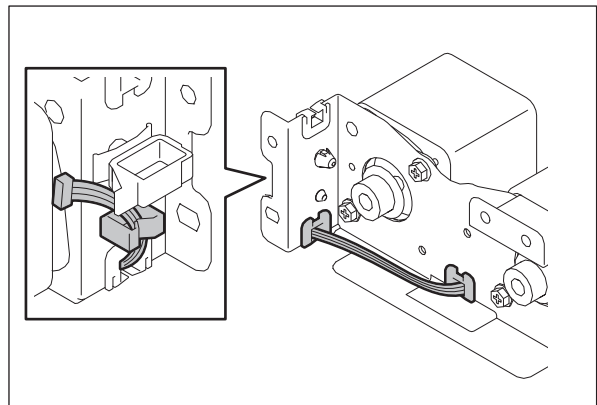


Fig. 4-655



- (7) Take off the bridge unit transport entrance motor [2] by removing 2 screws.
- (8) Disconnect the connector from the bridge unit transport entrance motor [2].

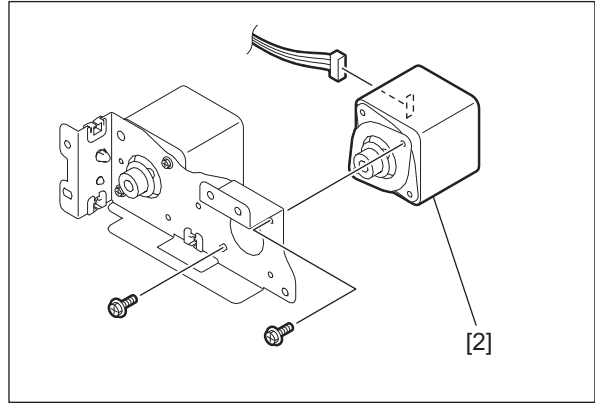


Fig. 4-656

- (9) Take off the reverse motor [3] by removing 2 screws.

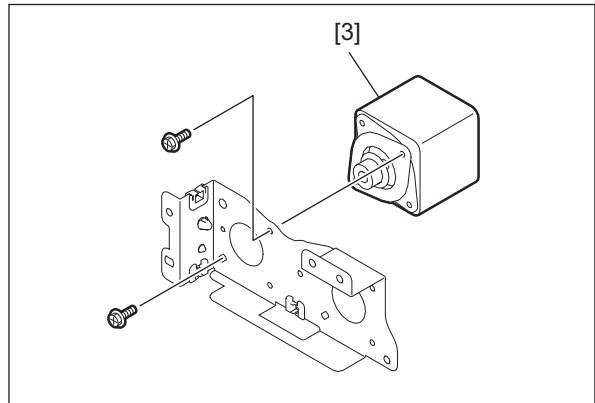


Fig. 4-657

### 4.10.15 Bridge unit transport exit motor (M5)

- (1) Remove the bridge unit.  
 📖 P. 4-229 "4.10.11 Bridge unit"
- (2) Remove the bridge unit transport entrance motor.  
 📖 P. 4-232 "4.10.14 Bridge unit transport entrance motor (M4) / Reverse motor (M3)"
- (3) Disconnect 1 connector.

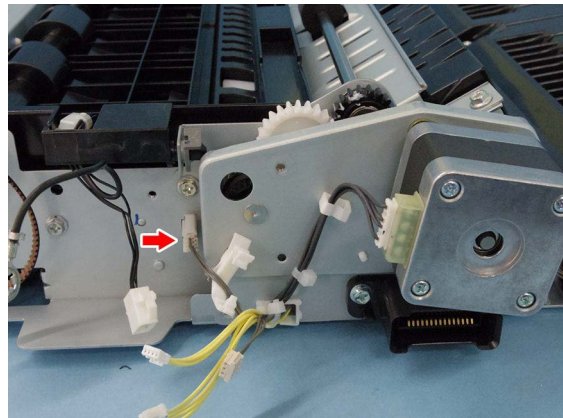


Fig. 4-658

- (4) Disconnect 2 connectors and then release the harness from 2 harness clamps [1].

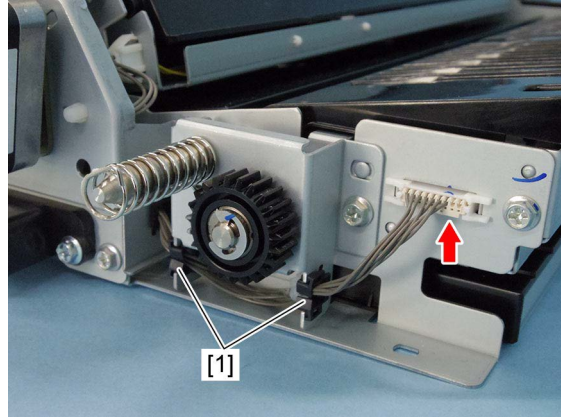


Fig. 4-659

- (5) Remove 4 screws and then take off the motor bracket [2].

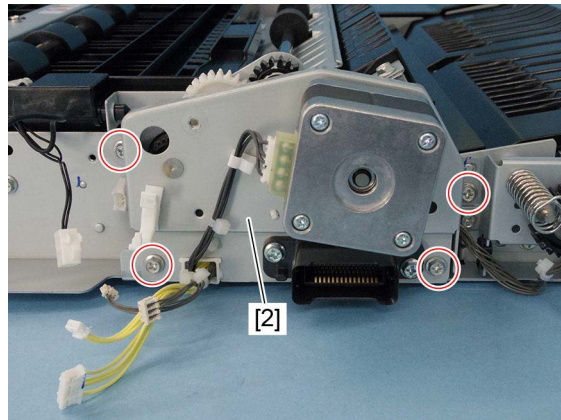


Fig. 4-660

- (6) Disconnect the connector.

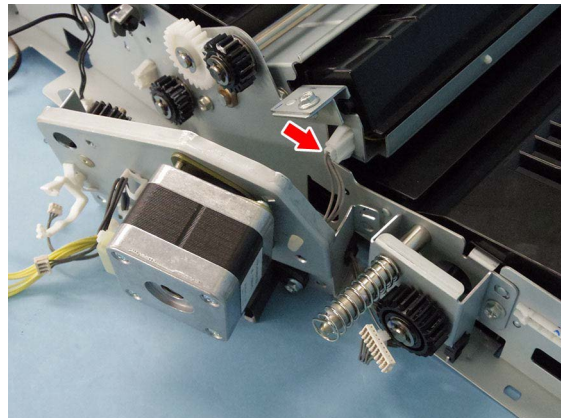


Fig. 4-661

- (7) Remove 2 screws and then take off the bridge unit transport exit motor [3], gear and belt.

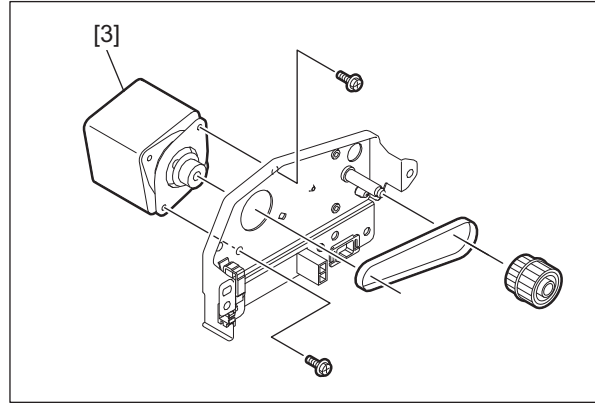



Fig. 4-662

#### 4.10.16 Bridge unit upper cover

- (1) Remove the bridge unit.  
 P. 4-229 "4.10.11 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.

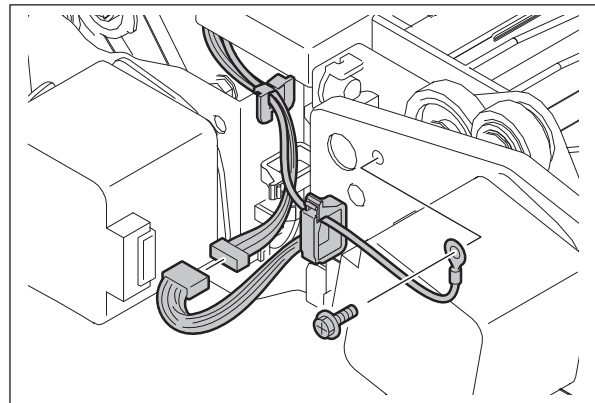


Fig. 4-663

- (4) Remove 1 screw and then release the stopper.

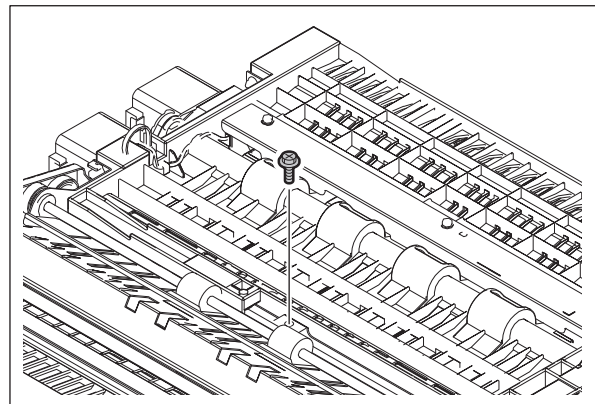


Fig. 4-664

- (5) Remove the clip and then take off the bridge unit upper cover [1] by sliding it.

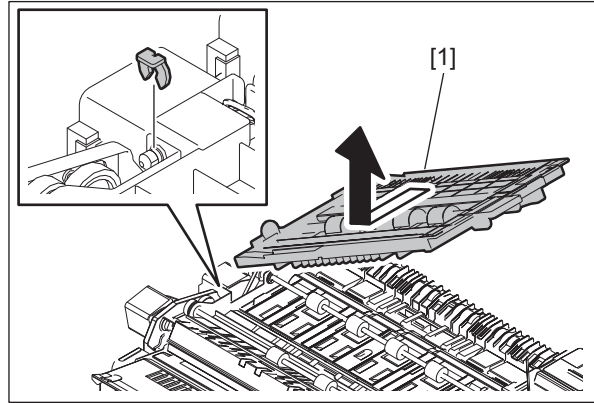


Fig. 4-665

#### 4.10.17 Bridge unit transport roller-1

- (1) Remove the bridge unit.  
 P. 4-229 "4.10.11 Bridge unit"
- (2) Remove the bridge unit front cover.  
 P. 4-230 "4.10.12 Bridge unit front cover"
- (3) Remove the bridge unit upper cover.  
 P. 4-235 "4.10.16 Bridge unit upper cover"
- (4) Remove 3 screws and take off the duct [1].

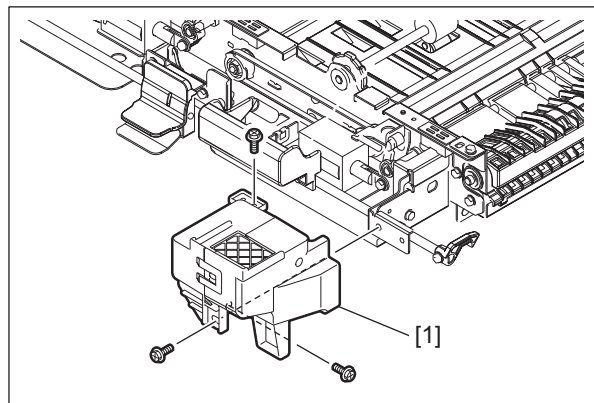


Fig. 4-666

- (5) Remove 2 screws and take off the roller bracket [2].

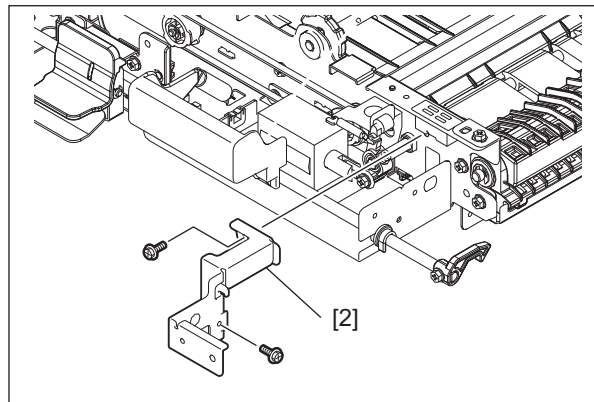


Fig. 4-667

- (6) Remove the belt from the bridge unit transport entrance motor.

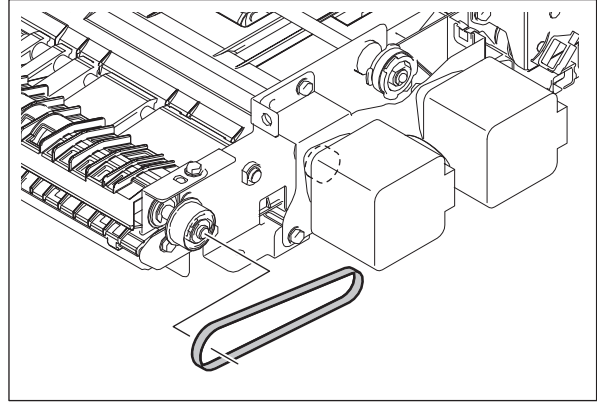


Fig. 4-668

- (7) Remove 1 screw and then take off transport guide-1 [3] by sliding it toward you.  
(8) Remove 4 screws and then take off the transport guide-1 unit.

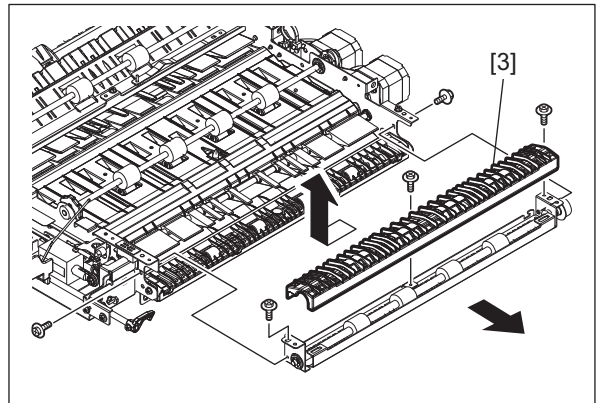


Fig. 4-669

- (9) Remove the E-ring on the rear side and then remove the gear.

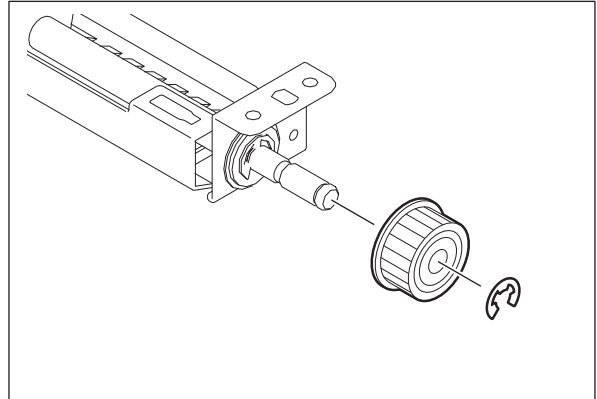


Fig. 4-670

- (10) Remove 2 E-rings and then remove the bearing [4]. Then take off bridge unit transport roller-1 [5].

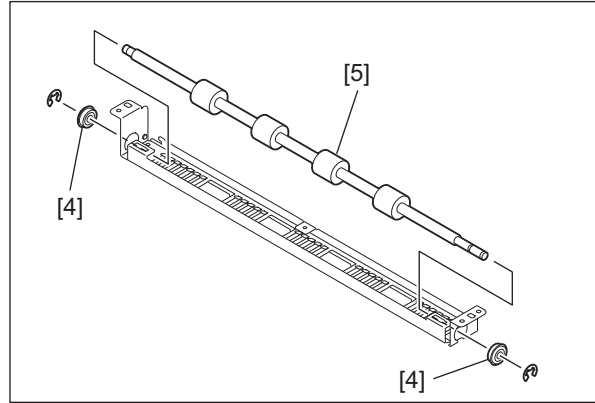


Fig. 4-671

#### 4.10.18 Bridge unit transport roller-2

- (1) Remove the reverse roller.  
 P. 4-241 "4.10.20 Reverse roller"
- (2) Remove transport path switching solenoid (bridge unit/reverse section).  
 P. 4-243 "4.10.23 Transport path switching solenoid (bridge unit/reverse section) (SOL1)"
- (3) Take off transport guide-2 by removing 5 screws.

**Notes:**

The type of the screw differs depending on the installation position. The screws [1] are the shoulder ones.

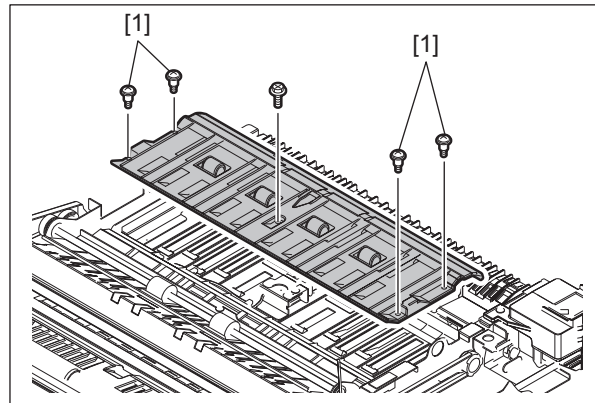


Fig. 4-672

**Notes:**

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.

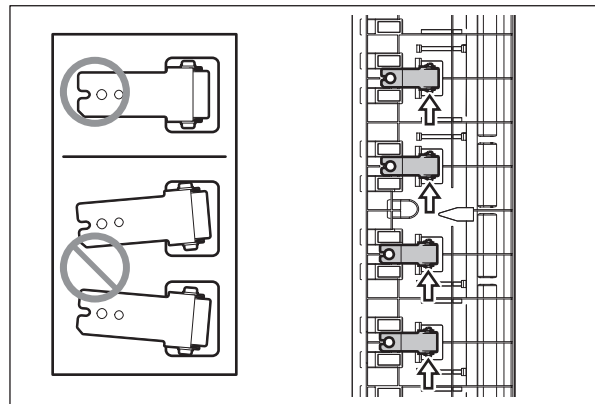


Fig. 4-673

- (4) Remove 1 E-ring, the gear and the belt.

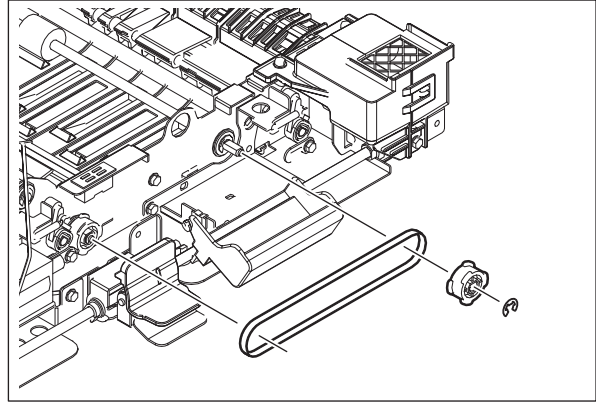


Fig. 4-674

- (5) Take off the bridge unit transport roller-2 [3] by removing 2 E-rings and a bearing [2].

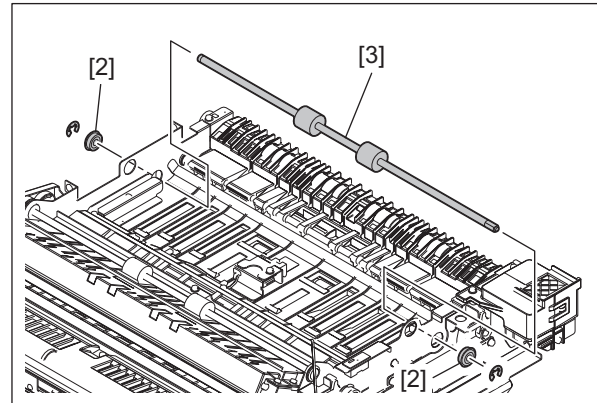


Fig. 4-675

### 4.10.19 Bridge unit transport roller-3

- (1) Remove the reverse roller.  
 📖 P. 4-241 "4.10.20 Reverse roller"
- (2) Remove transport guide-2.  
 📖 P. 4-245 "4.10.25 Bridge unit path entrance sensor (S55)"
- (3) Remove bridge unit exit roller-1.  
 📖 P. 4-242 "4.10.21 Bridge unit exit roller-1"
- (4) Take off the transport guide unit [1] by removing 2 screws and disconnecting the connector.

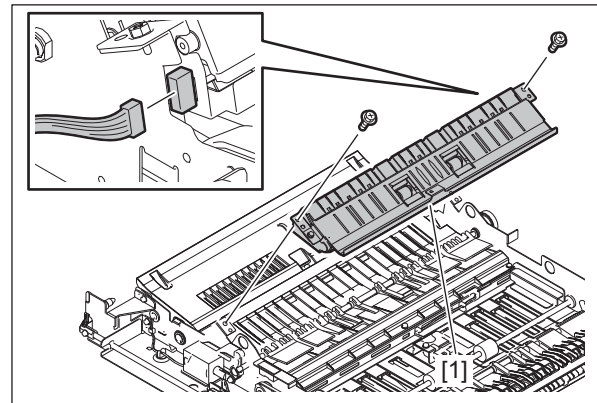


Fig. 4-676

- (5) Remove the spring and 2 screws. Then remove the actuator [2].

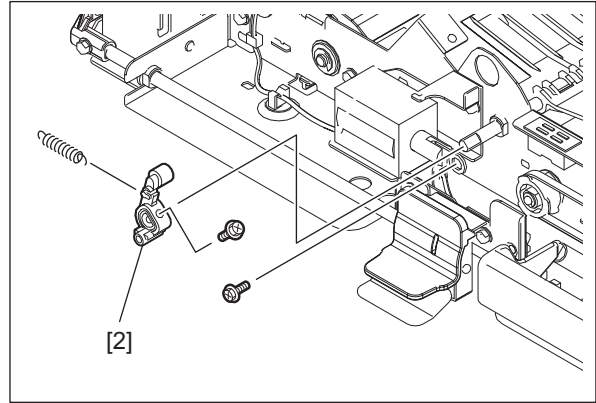


Fig. 4-677

- (6) Remove 2 E-rings and the 2 bushings to remove the flap [3].

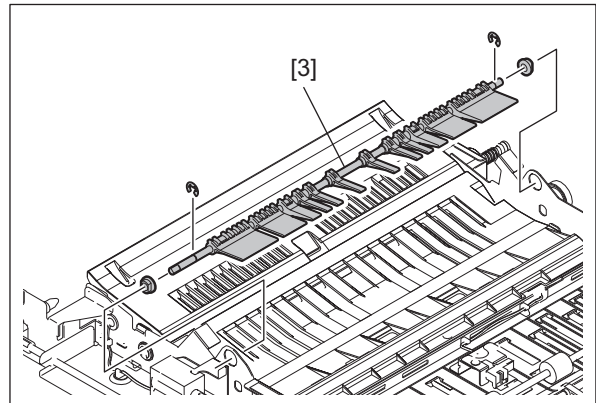


Fig. 4-678

- (7) Remove the E-ring from the front side and then take off the pulley and the belt.

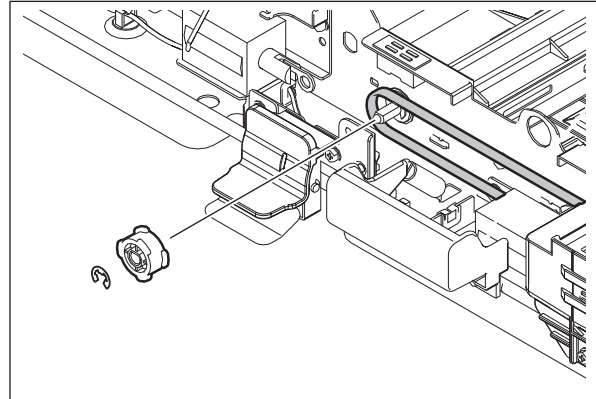


Fig. 4-679



- (8) Take off bridge unit transport guide-3 by removing 5 screws.

**Notes:**

The type of the screw differs depending on the installation position. The screws [4] are the shoulder ones.

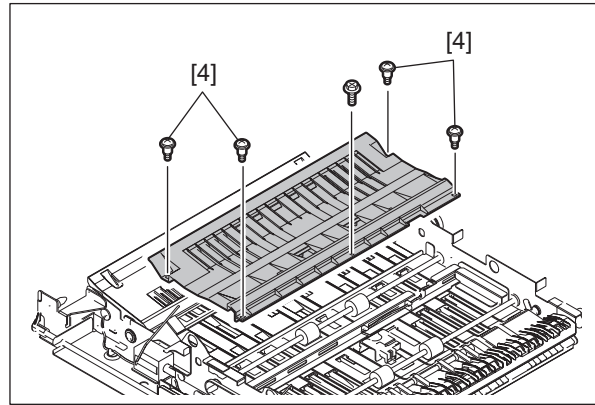


Fig. 4-680

- (9) Remove 1 gear, 2 E-rings and 2 bearings [5]. Then take off bridge unit transport roller-3.

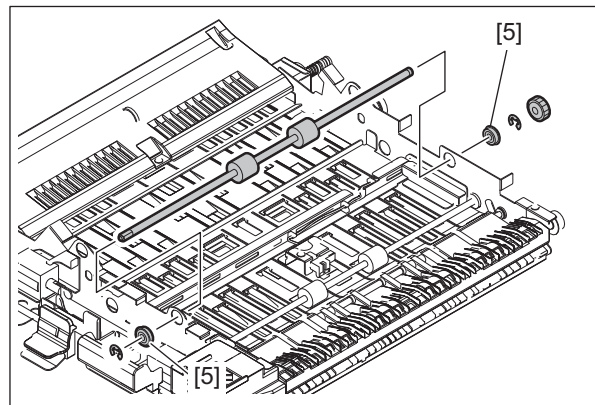


Fig. 4-681

## 4.10.20 Reverse roller

- (1) Remove the bridge unit.  
 📖 P. 4-229 "4.10.11 Bridge unit"
- (2) Remove the bridge unit front cover.  
 📖 P. 4-230 "4.10.12 Bridge unit front cover"
- (3) Remove the bridge unit upper cover.  
 📖 P. 4-235 "4.10.16 Bridge unit upper cover"
- (4) Remove each bracket of the bridge unit transport entrance motor and the reverse motor.  
 📖 P. 4-232 "4.10.14 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 [1] to the inside.

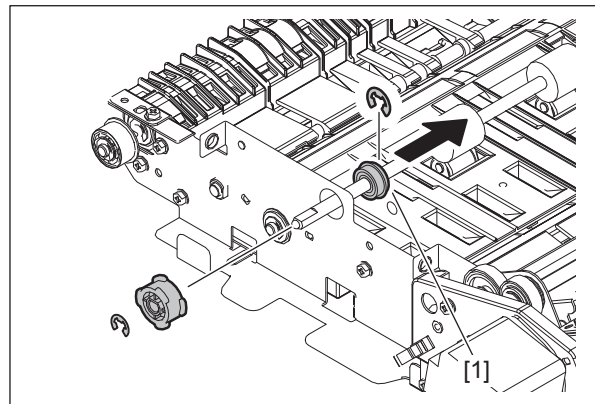


Fig. 4-682

- (7) Remove the reverse roller and 2 bearings [2].
- (8) Remove 1 E-ring and then remove the reverse roller.

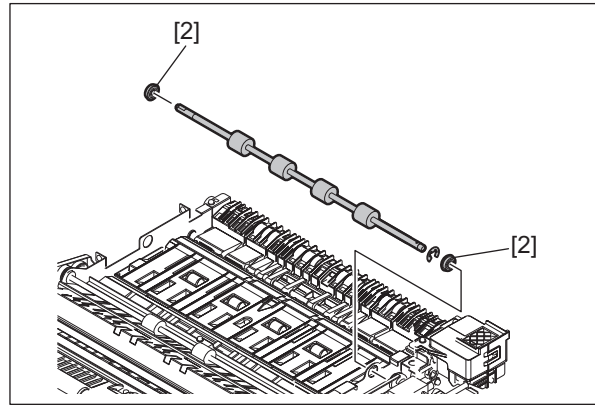


Fig. 4-683

#### 4.10.21 Bridge unit exit roller-1

- (1) Remove the bridge unit.  
 📖 P. 4-229 "4.10.11 Bridge unit"
- (2) Remove the bridge unit front cover.  
 📖 P. 4-230 "4.10.12 Bridge unit front cover"
- (3) Remove the bridge unit upper cover.  
 📖 P. 4-235 "4.10.16 Bridge unit upper cover"
- (4) Remove the motor bracket of the bridge unit transport exit motor.  
 📖 P. 4-233 "4.10.15 Bridge unit transport exit motor (M5)"
- (5) Remove 1 E-ring and then take off the gear and the bearing [1].
- (6) Remove 1 E-ring and the bearing [2]. Then take off bridge unit exit roller-1 [3].

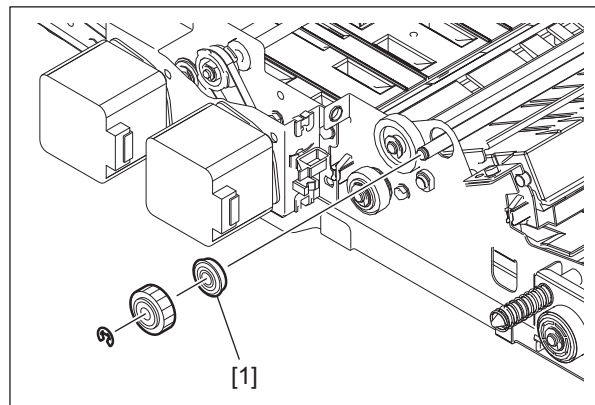


Fig. 4-684

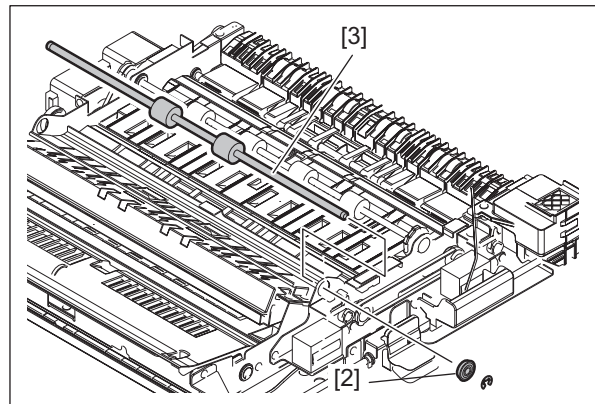


Fig. 4-685

## 4.10.22 Bridge unit exit roller-2

- (1) Remove the bridge unit.  
📖 P. 4-229 "4.10.11 Bridge unit"
- (2) Remove the bridge unit front cover.  
📖 P. 4-230 "4.10.12 Bridge unit front cover"
- (3) Remove 1 screw and take off transport guide-4 [1] by sliding it toward you.

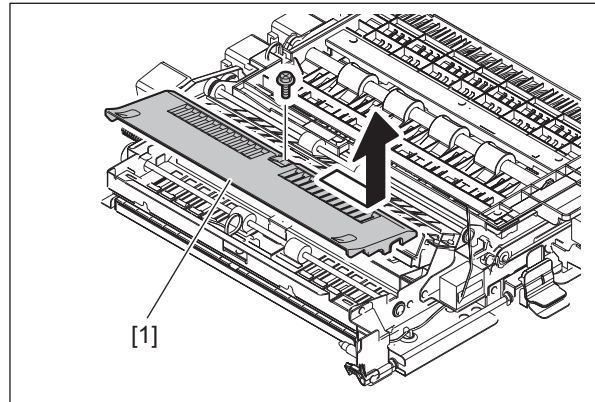


Fig. 4-686

- (4) Remove 2 E-rings, 1 gear and 2 bearings [2]. Then take off bridge unit exit roller-2 [3].

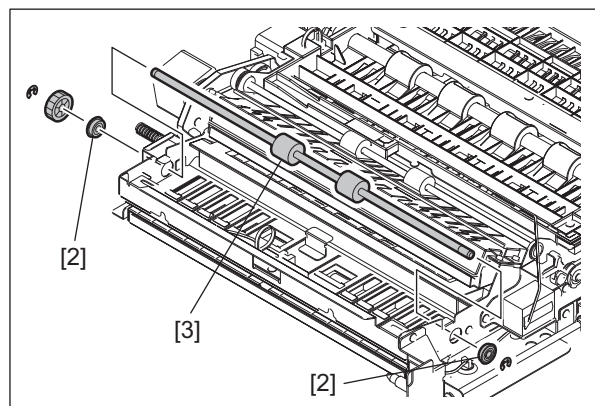


Fig. 4-687

## 4.10.23 Transport path switching solenoid (bridge unit/reverse section) (SOL1)

- (1) Remove the bridge unit front cover.  
📖 P. 4-230 "4.10.12 Bridge unit front cover"
- (2) Remove 1 spring [1].

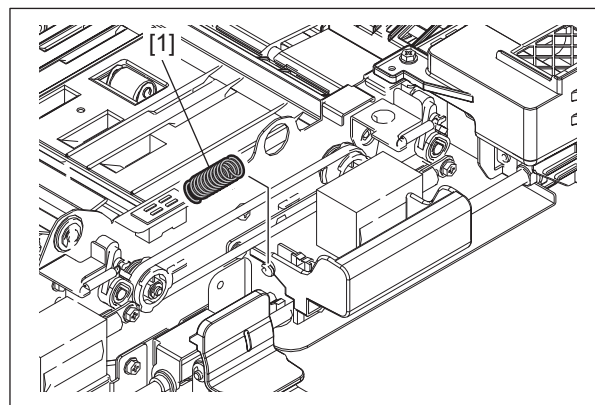


Fig. 4-688

- (3) Release the harness from the clamp and then disconnect the connector.
- (4) Remove 1 screw and 1 link.

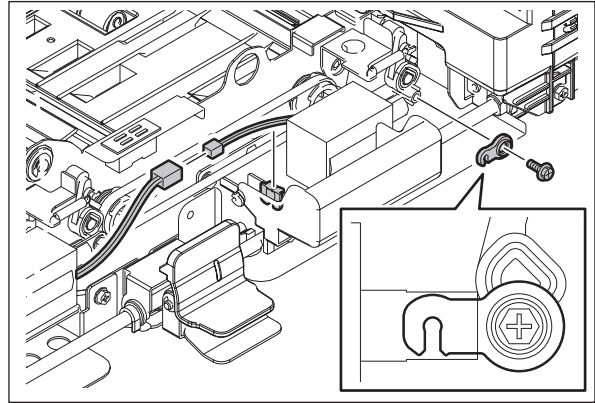


Fig. 4-689

- (5) Take off the transport path switching solenoid (bridge unit/reverse section) [2] by removing 2 screws.

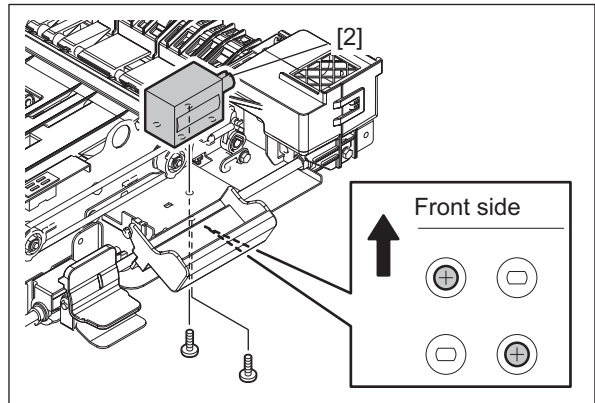


Fig. 4-690

#### 4.10.24 Transport path switching solenoid (upper exit/lower exit) (SOL2)

- (1) Remove the bridge unit front cover.  
 P. 4-230 "4.10.12 Bridge unit front cover"
- (2) Release the harness from the clamp and then disconnect the connector.
- (3) Remove 1 screw and 1 link.

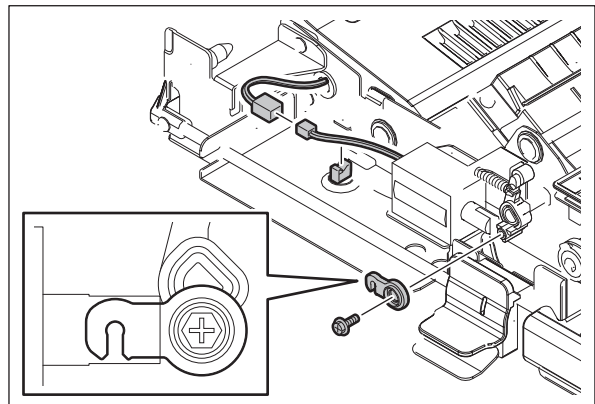


Fig. 4-691

- (4) Take off transport path switching solenoid (upper exit/lower exit) [1] by removing 2 screws.

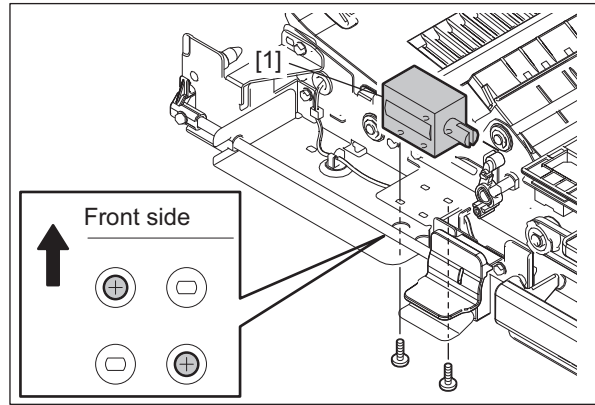


Fig. 4-692

#### 4.10.25 Bridge unit path entrance sensor (S55)

- (1) Remove the reverse roller.  
 ☞ P. 4-241 "4.10.20 Reverse roller"
- (2) Take off transport guide-2 by removing 5 screws.

**Notes:**

The type of the screw differs depending on the installation position. The screws [1] are the shoulder ones.

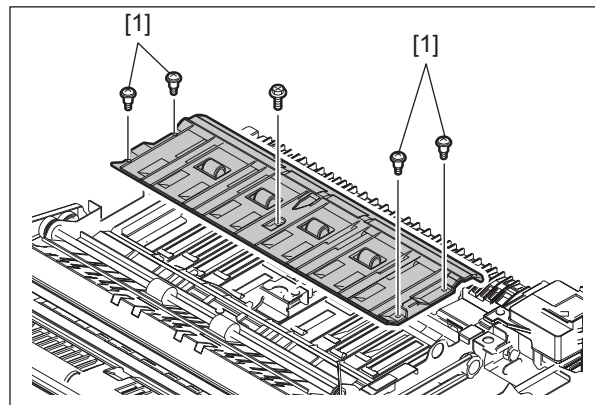


Fig. 4-693

- (3) Remove 1 screw and then take off the sensor bracket [2].
- (4) Release the harness from 1 clamp and then disconnect the connector.

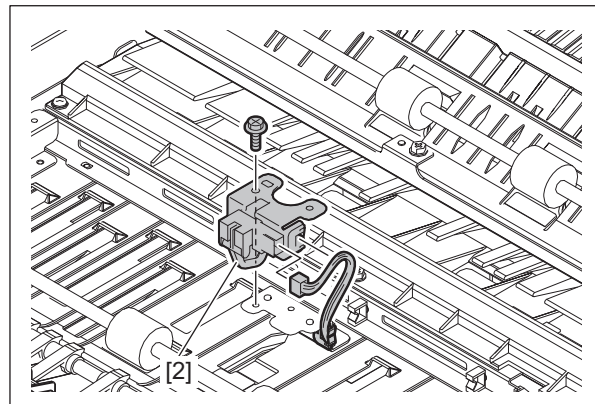


Fig. 4-694

- (5) Remove the bridge unit path entrance sensor [3] from the sensor bracket.

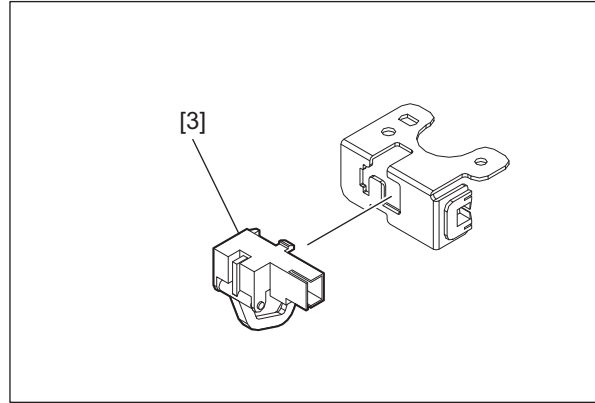


Fig. 4-695

#### 4.10.26 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 [1] by sliding it.

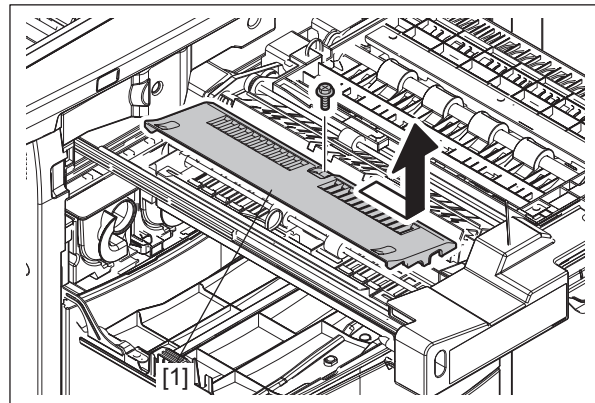


Fig. 4-696

- (3) Release the harness from 1 harness clamp [2]. Remove 1 harness clamp [3].

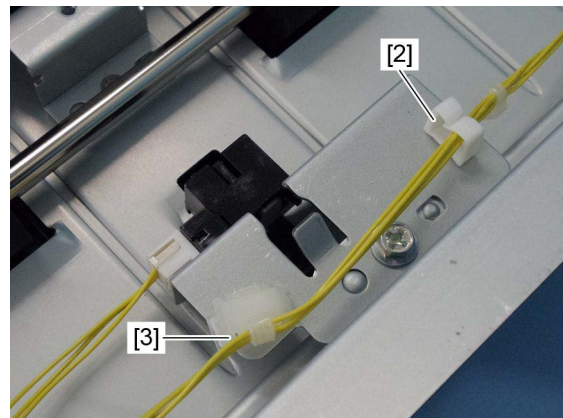


Fig. 4-697

- (4) Disconnect the connector. Take off the sensor bracket [4] by removing 1 screw.

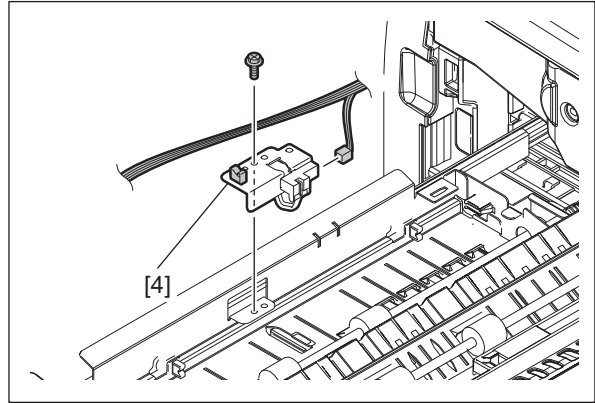


Fig. 4-698

- (5) Remove the bridge unit path exit sensor [5] from the sensor bracket.

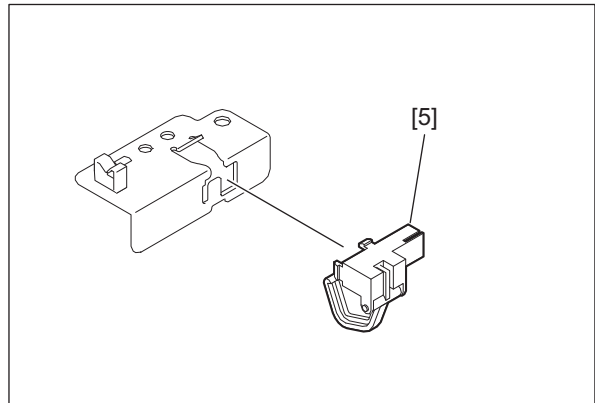


Fig. 4-699

#### 4.10.27 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 [1].

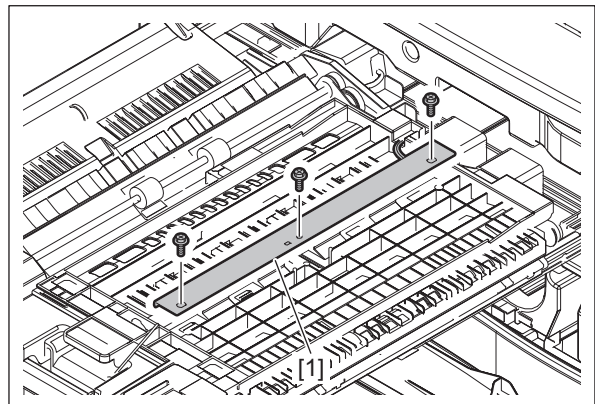


Fig. 4-700

- (3) Remove 1 screw and disconnect 1 connector. Then take off the reverse sensor [2].

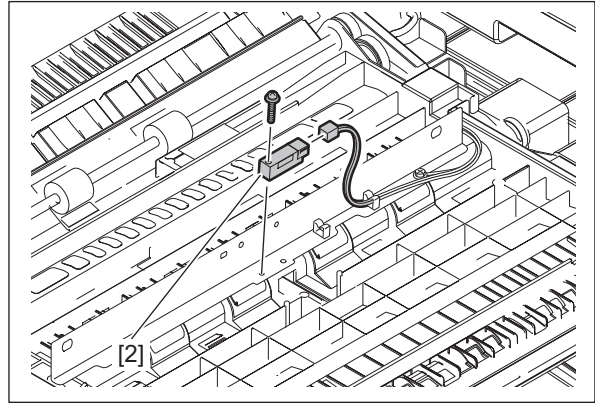



Fig. 4-701

#### 4.10.28 Reverse section stationary jam detection sensor (S58)

- (1) Remove bridge unit exit roller-1.  
 P. 4-242 "4.10.21 Bridge unit exit roller-1"
- (2) Disconnect 1 connector and remove 2 screws. Then take off the transport guide unit [1].

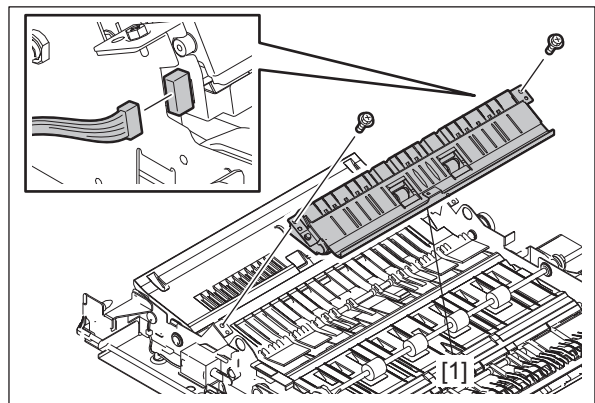


Fig. 4-702

- (3) Remove 2 screws and then take off the roller guide [2].

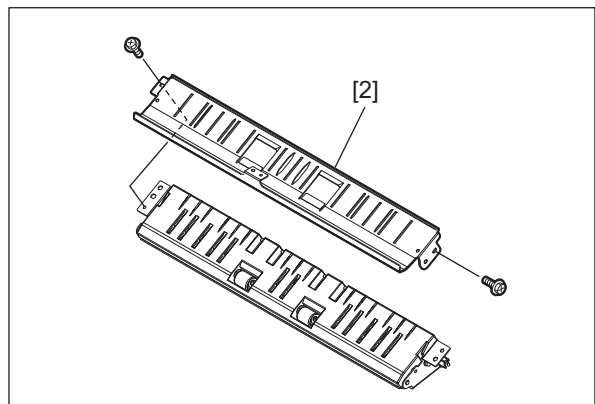


Fig. 4-703



- (4) Remove 1 screw and the shoulder screw [3]. Then take off the bridge unit exit guide [4].

**Notes:**

The type of the screw differs depending on the installation position.

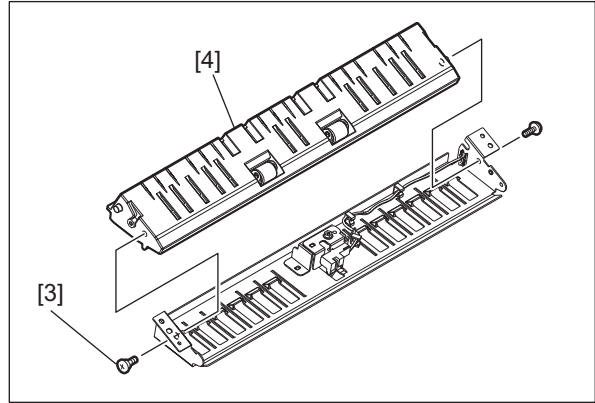


Fig. 4-704

- (5) Remove 1 screw and then take off the sensor bracket [5].
- (6) Release the harness from the clamp and then disconnect the connector.

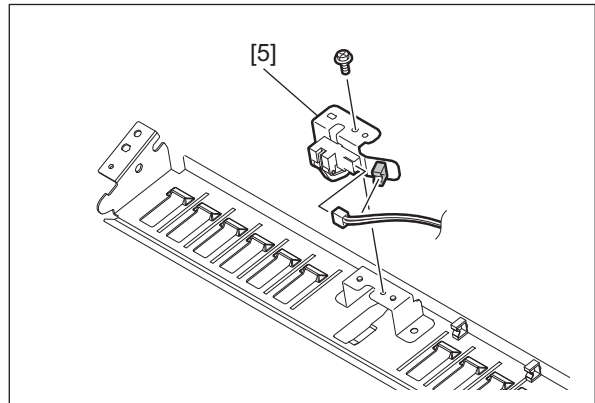


Fig. 4-705

- (7) Take off the reverse section stationary jam detection sensor [6] from the sensor bracket.

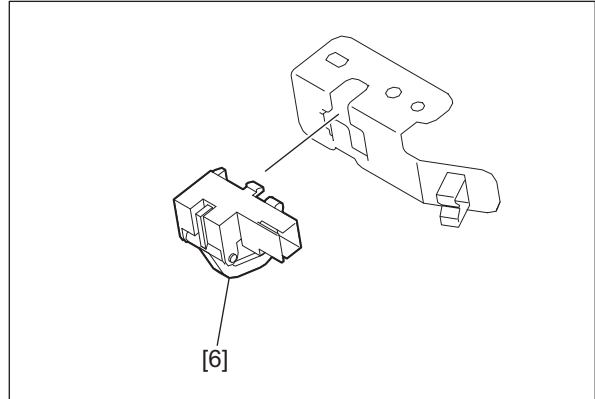


Fig. 4-706

## 4.10.29 Bridge unit cooling fan (F6)

- (1) Take off the top front cover.  
📖 P. 4-5 "4.1.9 Top front cover"
- (2) Remove the right top cover.  
📖 P. 4-2 "4.1.4 Right top cover"
- (3) Remove the front lower cover (control panel lower cover).  
📖 P. 4-4 "4.1.7 Front lower cover (Control panel lower cover)"
- (4) Pull out the bridge unit.
- (5) Remove 3 screws and then take off the right inner cover [1].

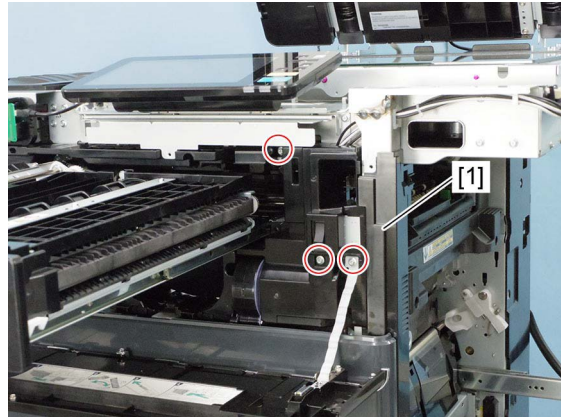


Fig. 4-707

- (6) Remove 3 screws and take off the stay [2] and cover [3].

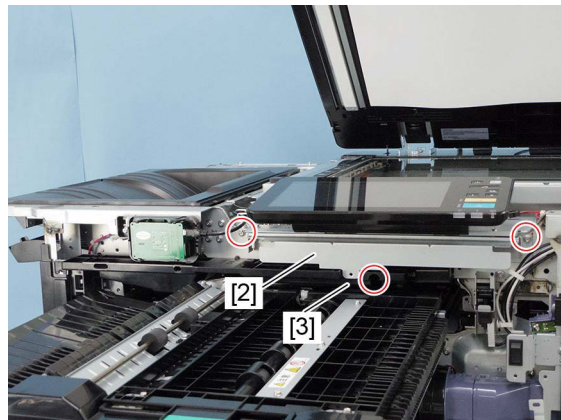


Fig. 4-708

- (7) Release the harness from the clamp and then disconnect the connector [4].
- (8) Remove 1 screw.

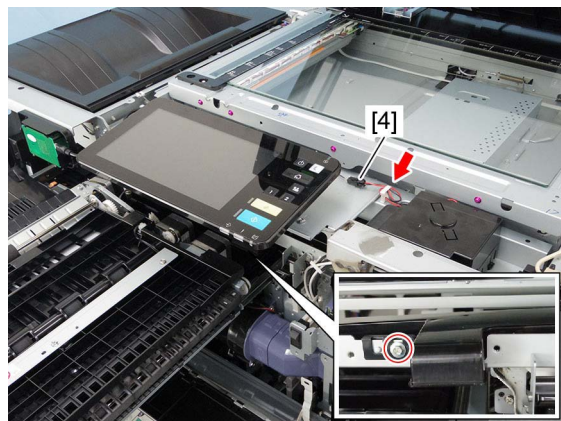


Fig. 4-709

(9) Remove 6 screws and take off the plate [5].

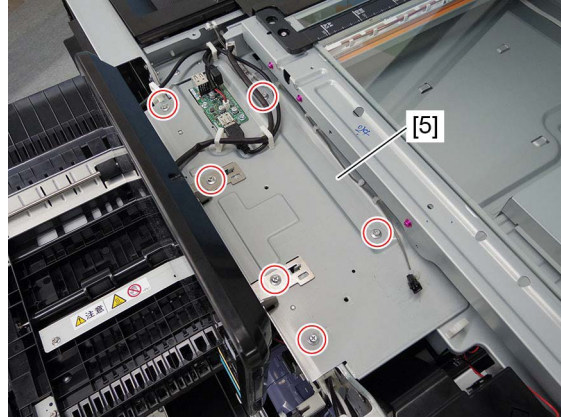


Fig. 4-710

(10) Remove the duct [6].

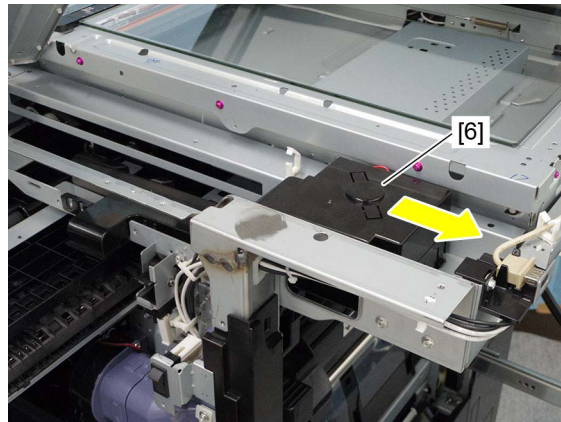


Fig. 4-711

(11) Release 9 latches and take off the duct cover [7].

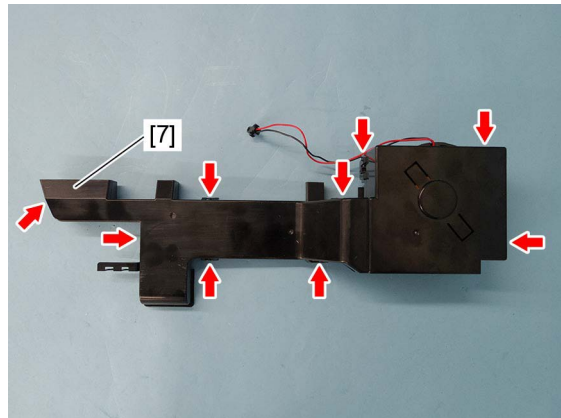


Fig. 4-712

(12) Remove the Bridge unit cooling fan [8].

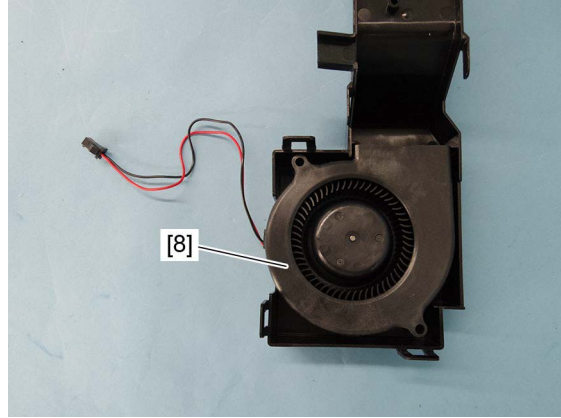



Fig. 4-713

#### 4.10.30 Front cover opening/closing detection switch (SW9) / Bridge unit connecting detection switch (SW8)

**Notes:**

When the front cover opening/closing detection switch (SW9) is replaced or removed, be sure to perform the operation check with the input check (test mode 03). If the installation is insufficient, this switch is not performing properly. In this case, you may touch the rotating portions such as the gear in the toner motor during the drive and could be injured as a result.

- (1) Remove the switch bracket.  
 P. 4-158 "4.6.54 Toner motor interlock switch (SW3)"
- (2) Disconnect the connector and remove the front cover opening/closing detection switch [1] from its bracket.
- (3) Disconnect the connector and remove the bridge unit connecting detection switch [2] from its bracket.

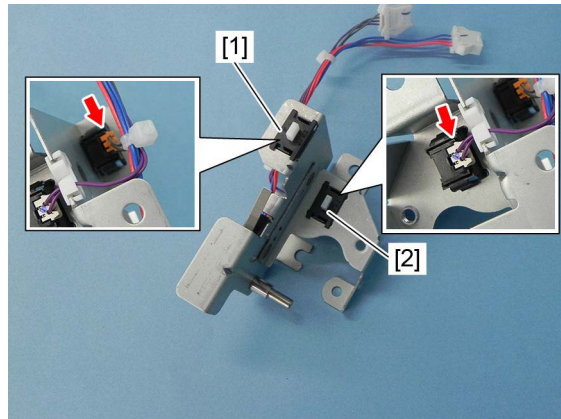




Fig. 4-714

#### 4.10.31 Duplexing bridge unit

- (1) Remove the right top cover.  
 P. 4-2 "4.1.4 Right top cover"
- (2) Remove the fuser unit.  
 P. 4-188 "4.9.1 Fuser unit"
- (3) Remove 1 screw and take off the cover [1].

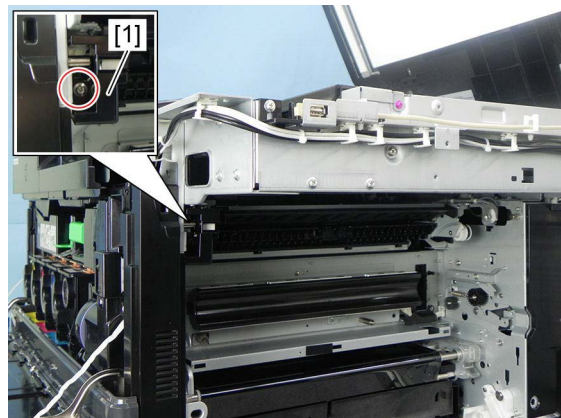


Fig. 4-715

- (4) Remove 2 screws and disconnect 1 connector, and then take off the duplexing bridge unit [2].

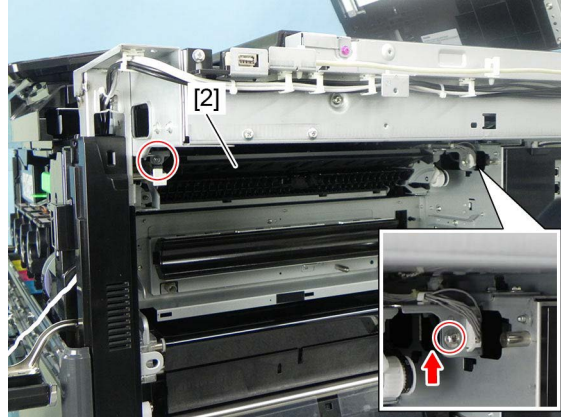


Fig. 4-716

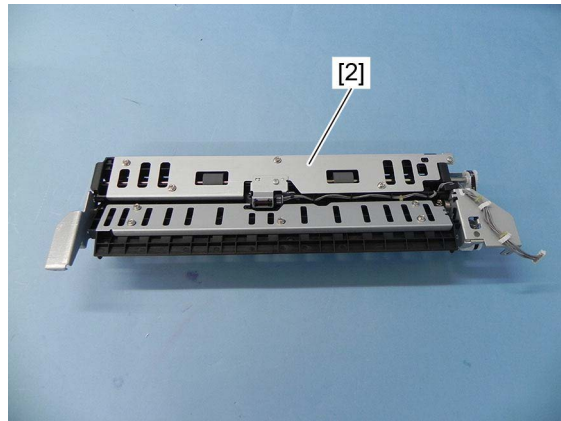


Fig. 4-717

#### 4.10.32 Duplexing unit opening/closing detection sensor (S64)

- (1) Remove the duplexing bridge unit.  
 📖 P. 4-252 "4.10.31 Duplexing bridge unit"
- (2) Remove 2 E-rings, 2 pulleys [1] and 1 belt [2].

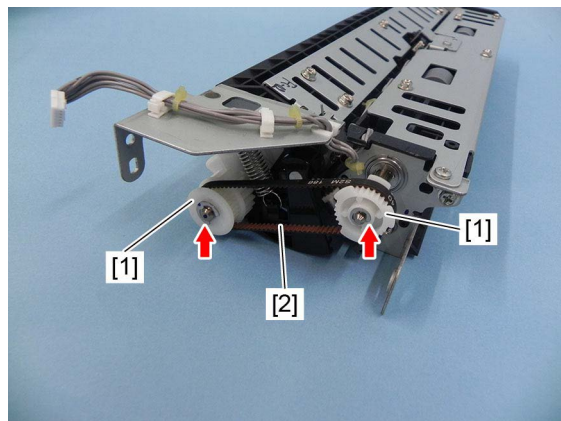


Fig. 4-718

- (3) Release 3 latches and remove the duplexing unit opening/closing detection sensor [3].

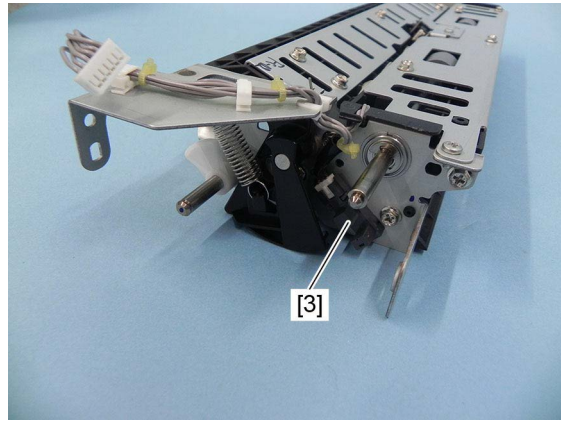


Fig. 4-719

- (4) Disconnect the connector from the duplexing unit opening/closing detection sensor [3].

**Notes:**

When installing the sensor, be careful not to bend the latches of the sensor.

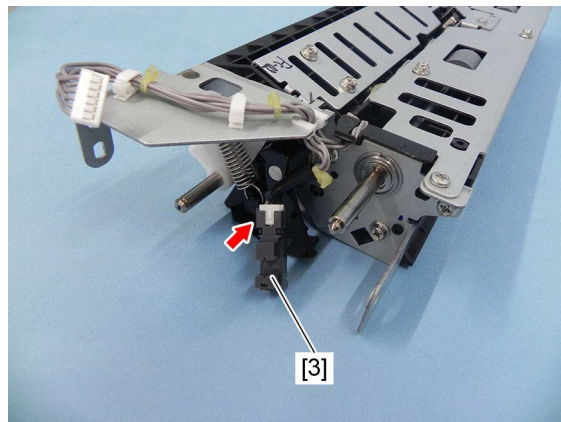


Fig. 4-720

### 4.10.33 Reverse path sensor (S57)

- (1) Remove the duplexing bridge unit.  
P. 4-252 "4.10.31 Duplexing bridge unit"
- (2) Remove 1 screw. Release the harness from 1 harness clamp [1]. Disconnect 1 connector and remove the sensor bracket [2].

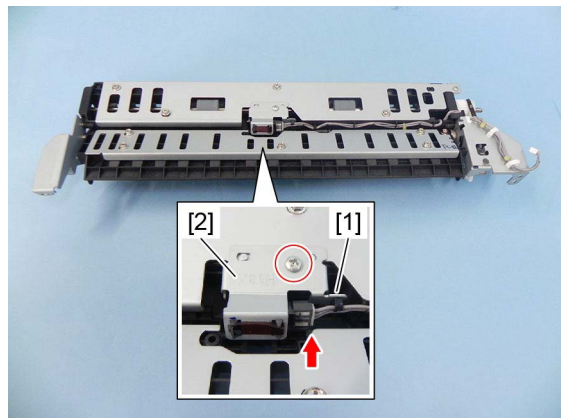


Fig. 4-721

- (3) Remove 1 E-ring.



Fig. 4-722

- (4) Remove the pin [3] and take off the sensor actuator [4].

**Notes:**

When installing the sensor, hook the spring securely and make sure that the actuator returned to its original position by the spring force.

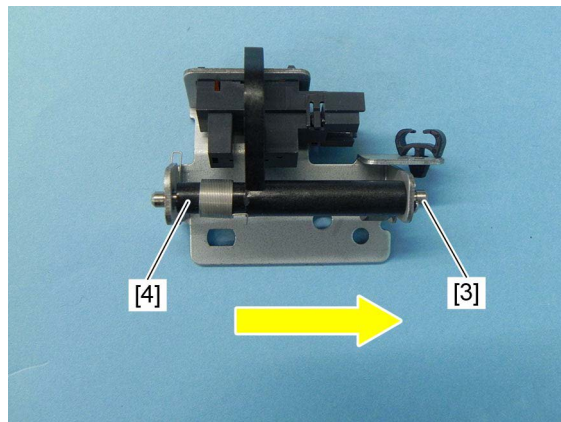


Fig. 4-723

- (5) Remove 1 film [5] and take off the reverse path sensor [6].

**Notes:**

When installing the sensor, be careful not to bend the latches of the sensor.

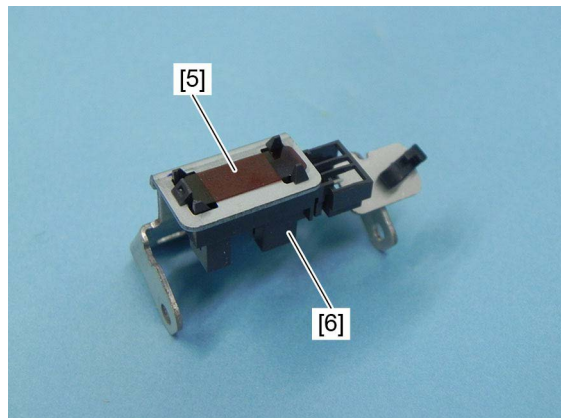


Fig. 4-724

#### 4.10.34 Duplexing bridge unit transport roller

- (1) Remove the duplexing bridge unit.  
📖 P. 4-252 "4.10.31 Duplexing bridge unit"
- (2) Remove 2 pulleys and 1 belt.  
📖 P. 4-253 "4.10.32 Duplexing unit opening/closing detection sensor (S64)"
- (3) Remove the reverse path sensor.  
📖 P. 4-254 "4.10.33 Reverse path sensor (S57)"
- (4) Remove 5 screws and take off the duplexing bridge unit upper plate [1].

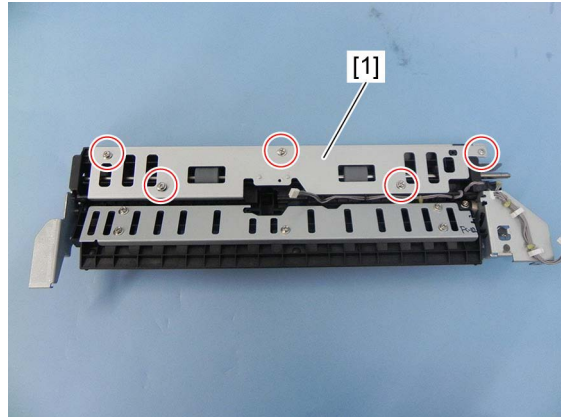


Fig. 4-725

- (5) Remove 2 E-rings, 1 bushing [2] and 1 bearing [3], and then take off the duplexing bridge transport roller [4].

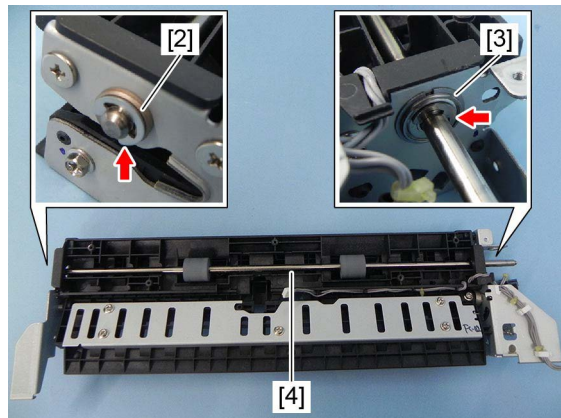


Fig. 4-726



### 4.10.35 Duplexing unit upper cover

- (1) Pull out the duplexing unit and open the receiving tray [1].

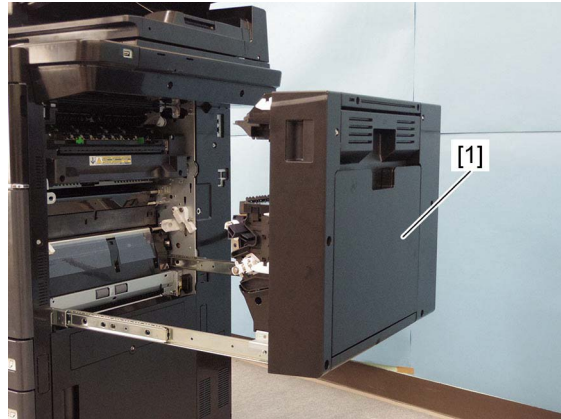


Fig. 4-727

- (2) Open the duplexing unit cover [2].

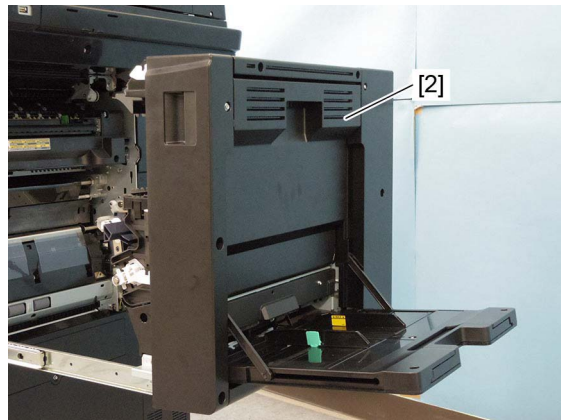


Fig. 4-728

- (3) Remove 2 screws and release 4 hooks, and then take off the duplexing unit upper side cover [3].

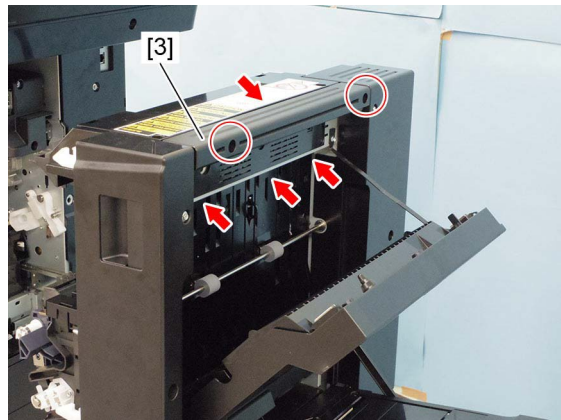


Fig. 4-729

- (4) Remove 2 screws and release 2 hooks, and then take off the duplexing unit upper cover [4].

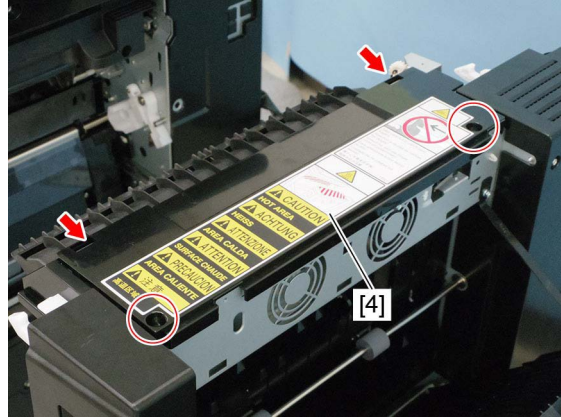


Fig. 4-730

#### 4.10.36 Duplexing unit front side cover

- (1) Remove the duplexing unit front cover.  
 📖 P. 4-9 "4.1.18 Duplexing unit front cover"
- (2) Remove 2 screws.

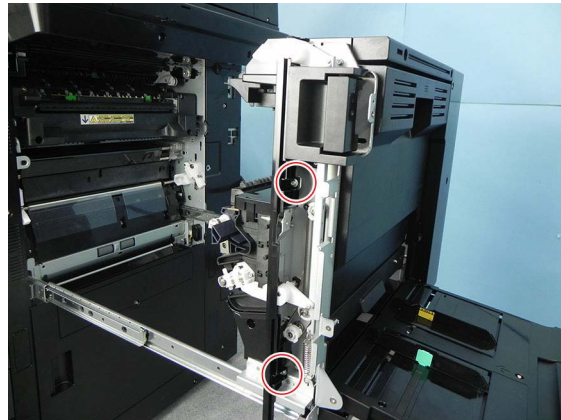


Fig. 4-731

- (3) Release the hook by pushing the upper side of the duplexing unit front side cover [1] to the rear side, and then remove the duplexing unit front side cover [1] by sliding it toward the left side.

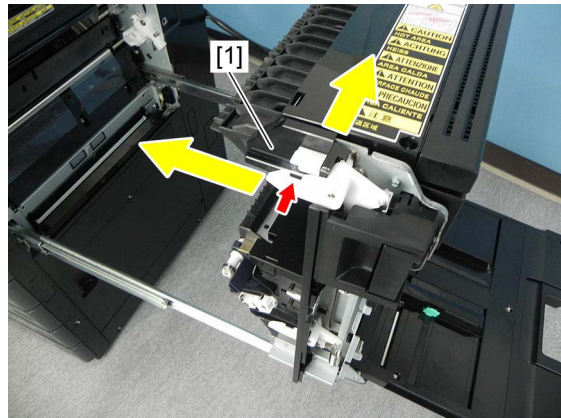


Fig. 4-732

### 4.10.37 Duplexing unit rear side cover

- (1) Remove the duplexing unit rear cover.  
📖 P. 4-9 "4.1.19 Duplexing unit rear cover"
- (2) Remove 2 screws and take off the duplexing unit rear side cover [1] by sliding it in the direction of the arrow.

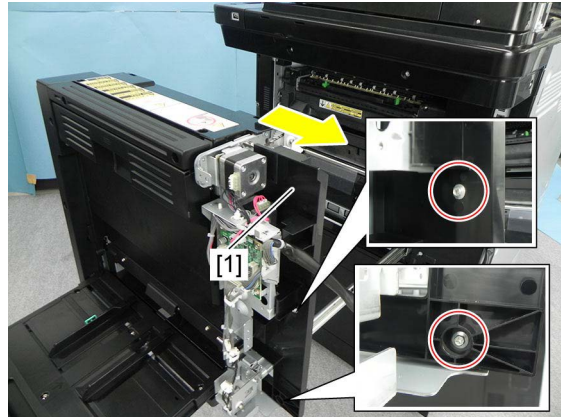


Fig. 4-733

#### Notes:

When installing the cover, insert the 3 hooks of the duplexing unit rear side cover into the frame.

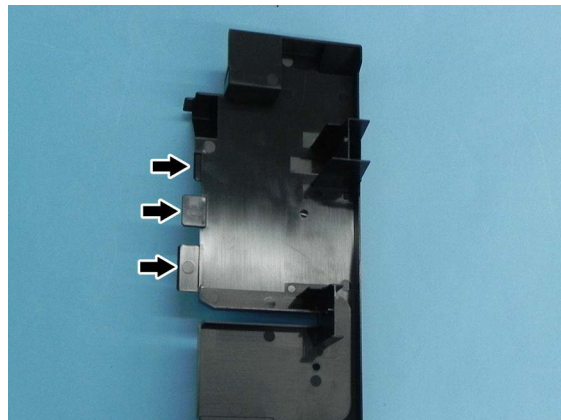


Fig. 4-734

### 4.10.38 Reversed paper cooling fan (F11)

- (1) Remove the duplexing unit upper cover.  
📖 P. 4-257 "4.10.35 Duplexing unit upper cover"
- (2) Remove 1 screw and lift up the fan bracket [1].

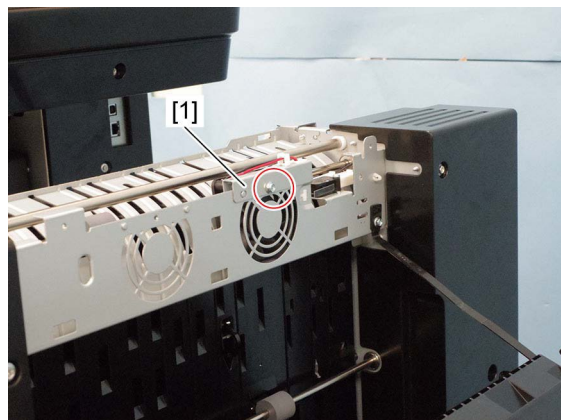


Fig. 4-735

(3) Release the harness from 3 harness clamps.

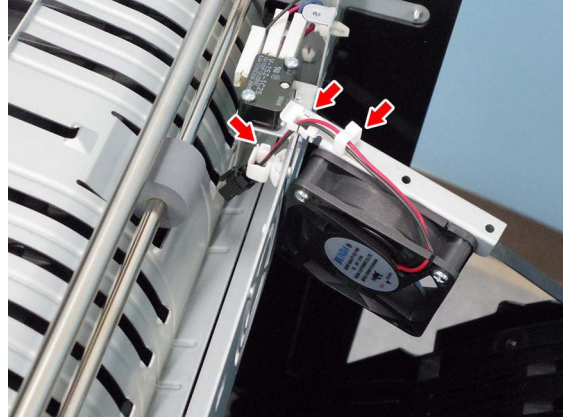


Fig. 4-736

(4) Disconnect 1 connector.

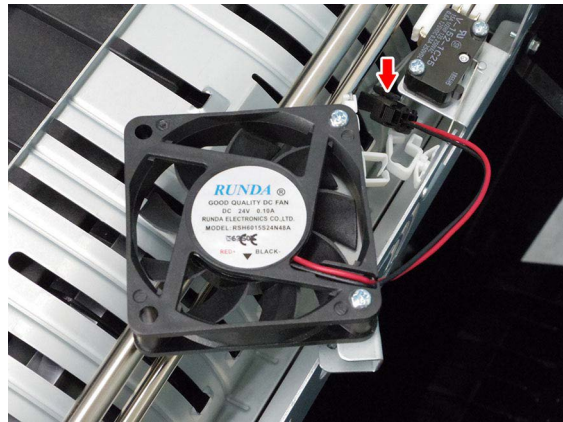


Fig. 4-737

(5) Remove 2 screws and take off the reversed paper cooling fan [2].

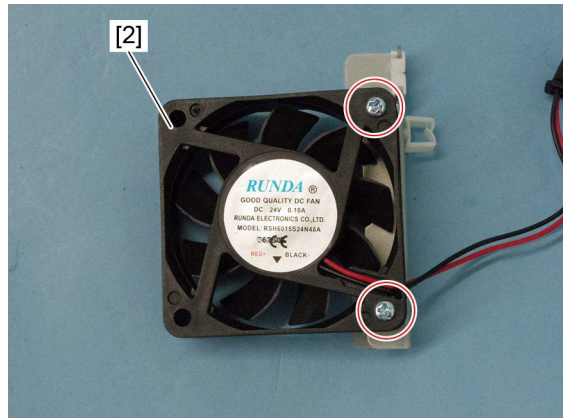


Fig. 4-738

### 4.10.39 ADU transport motor (M7)

- (1) Remove the duplexing unit rear side cover.  
📖 P. 4-259 "4.10.37 Duplexing unit rear side cover"
- (2) Disconnect the connector from the ADU transport motor [1].
- (3) Remove 2 screws and take off the ADU transport motor [1] with its bracket [2].

**Notes:**

When installing the motor, set the belt securely to the gear and the pulley.

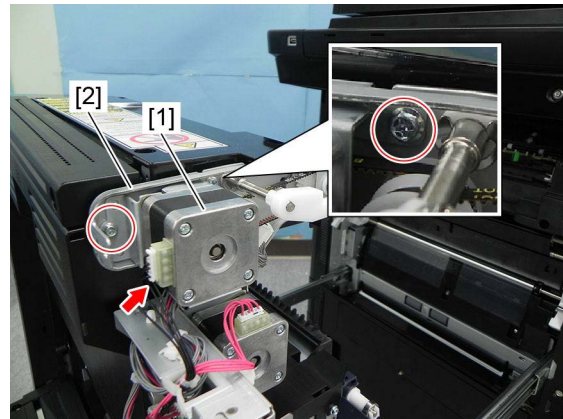


Fig. 4-739

- (4) Remove 2 screws and take off the bracket [2] from ADU transport motor [1].

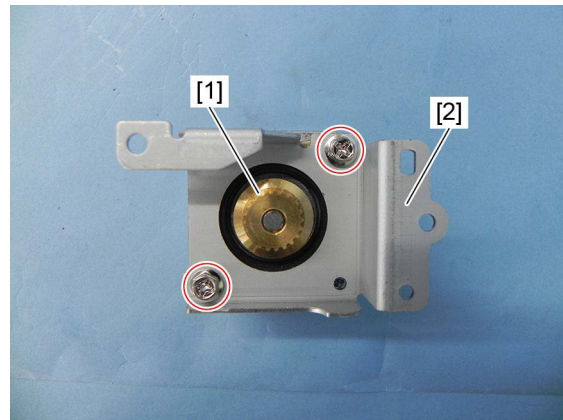


Fig. 4-740

### 4.10.40 ADU feed motor (M8)

- (1) Remove the duplexing unit rear side cover.  
📖 P. 4-259 "4.10.37 Duplexing unit rear side cover"
- (2) Disconnect the connector from the ADU feed motor [1].
- (3) Remove 2 screws, and take off the ADU feed motor [1] and a belt [2].

**Notes:**

When installing the motor, set the belt securely to the ADU feed motor and the pulley.

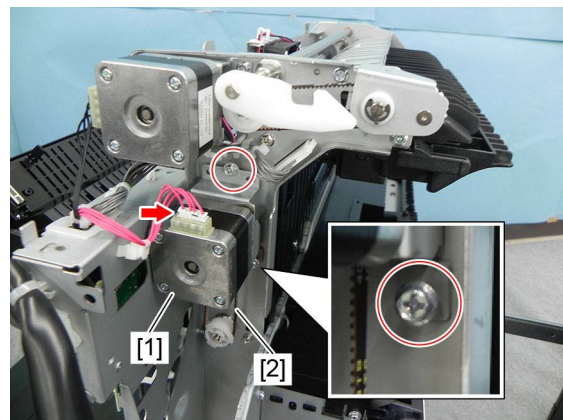


Fig. 4-741

- (4) Remove 2 screws and take off the bracket [3] from ADU feed motor [1].

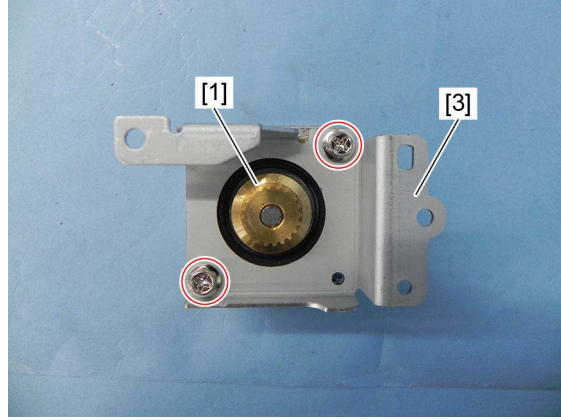


Fig. 4-742

#### 4.10.41 ADU board (ADU)

- (1) Take off the duplexing unit rear cover.  
P. 4-9 "4.1.19 Duplexing unit rear cover"
- (2) Release the harness from 1 harness clamp. Disconnect the connectors that are connected to the ADU board [1].

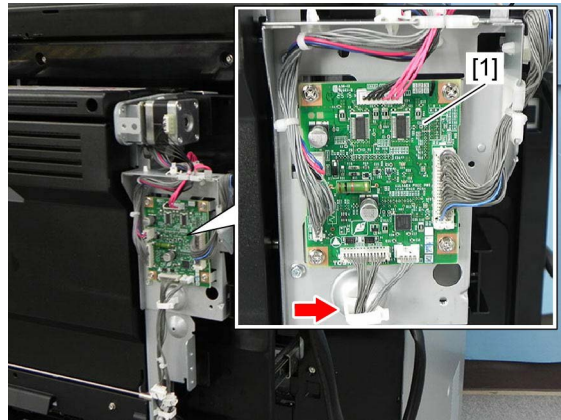


Fig. 4-743

- (3) Remove 4 screws and take off the ADU board [1].

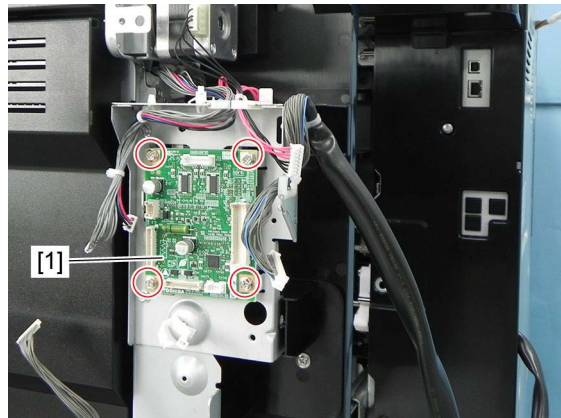


Fig. 4-744

## 4.10.42 ADU transport roller-1

- (1) Remove the duplexing unit front cover.  
📖 P. 4-9 "4.1.18 Duplexing unit front cover"
- (2) Remove the duplexing unit upper cover.  
📖 P. 4-257 "4.10.35 Duplexing unit upper cover"
- (3) Remove the duplexing unit front side cover.  
📖 P. 4-258 "4.10.36 Duplexing unit front side cover"
- (4) Remove the ADU transport motor.  
📖 P. 4-261 "4.10.39 ADU transport motor (M7)"
- (5) Remove 2 screws and release 1 hook, and then take off the front hook cover [1].

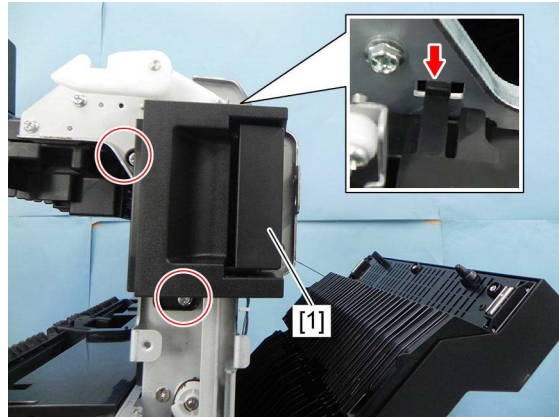


Fig. 4-745

- (6) Remove 1 spring [2].

**Notes:**

Be careful because the spring force is quite strong.

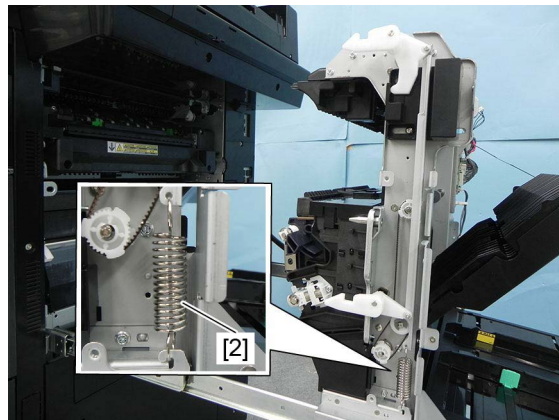


Fig. 4-746

- (7) Remove 1 screw and the shoulder screw [4]. Then take off the front hook [3].

**Notes:**

The type of screw differs depending on its installation position.

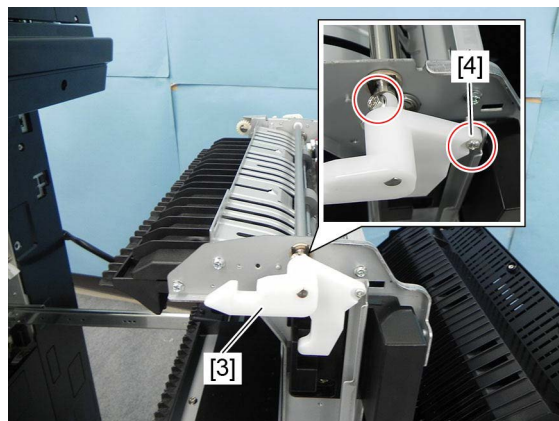


Fig. 4-747

- (8) Remove 2 E-rings, 2 pulleys [5], 2 belts [6], 1 bushing [7] and bracket [8].

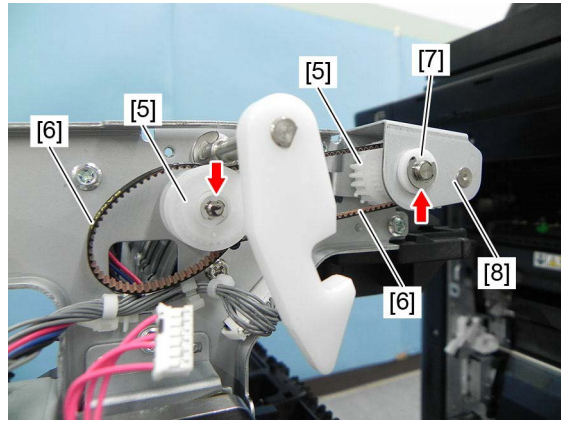


Fig. 4-748

- (9) Remove the clip from the front side of the lever shaft, and then take off the bushing [9].

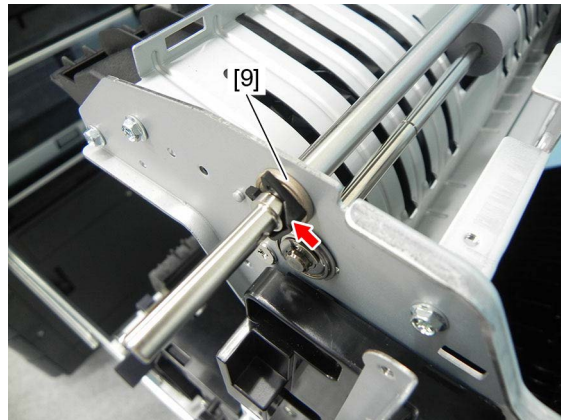


Fig. 4-749

- (10) Remove the lever shaft [10] from the rear side.

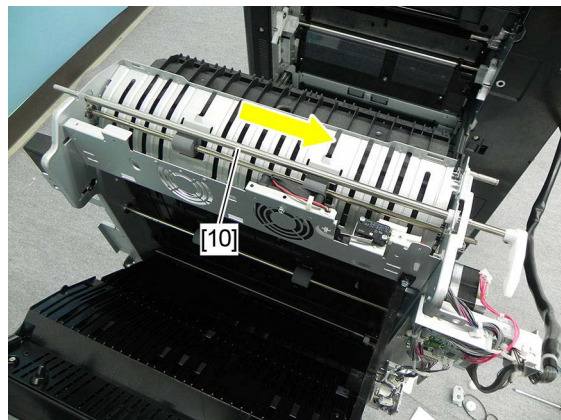


Fig. 4-750



- (11) Remove 2 E-rings and 2 bearings [11], and take off the ADU transport roller-1 [12].

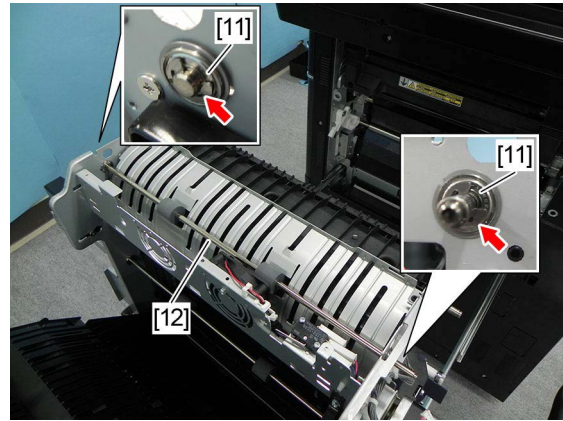


Fig. 4-751

#### 4.10.43 ADU transport roller-2

- (1) Remove the duplexing unit rear cover.  
 ☞ P. 4-9 "4.1.19 Duplexing unit rear cover"
- (2) Remove the duplexing unit front side cover.  
 ☞ P. 4-258 "4.10.36 Duplexing unit front side cover"
- (3) Remove the ADU feed motor.  
 ☞ P. 4-261 "4.10.40 ADU feed motor (M8)"
- (4) Open the duplexing unit cover.
- (5) Remove 2 screws and 1 hook, and take off the front hook cover [1].

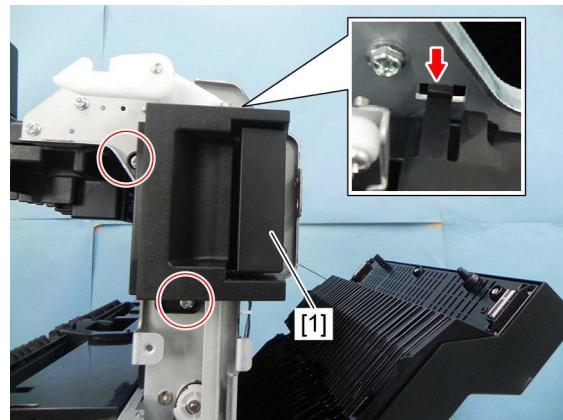


Fig. 4-752

- (6) Remove 1 spring [2].

**Notes:**

Be careful because the spring force is quite strong.

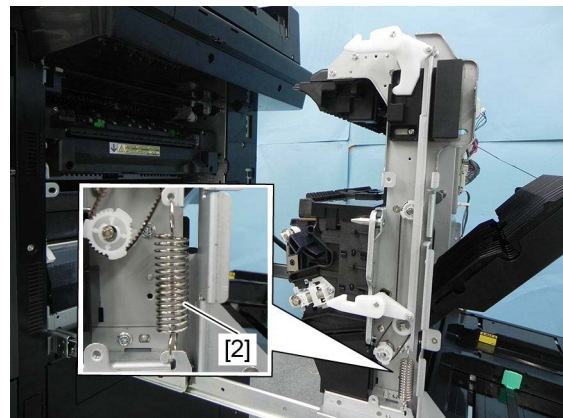


Fig. 4-753

(7) Remove 2 screws and the hook stay [3].

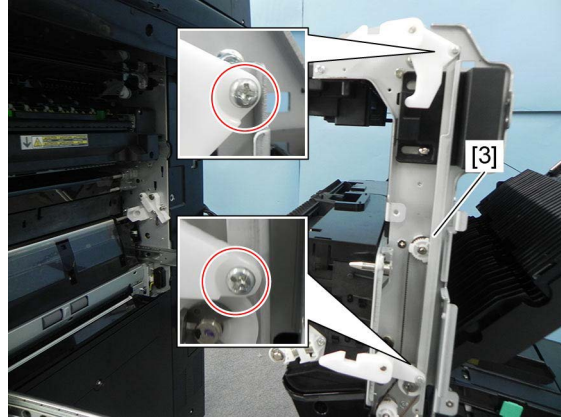


Fig. 4-754

(8) Remove 2 E-rings, 1 clip [4], 3 pulleys [5] and 2 belts [6].

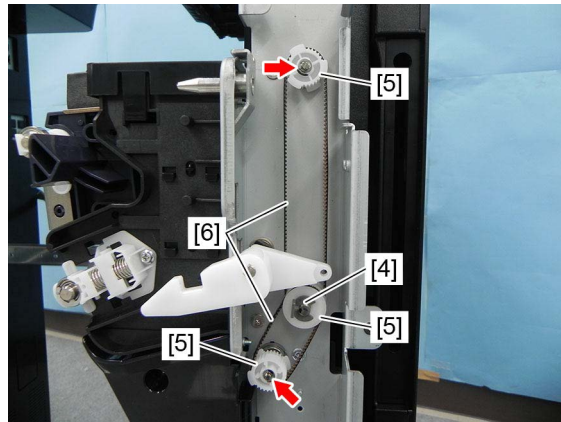


Fig. 4-755

(9) Remove the E-ring and the pulley [7].

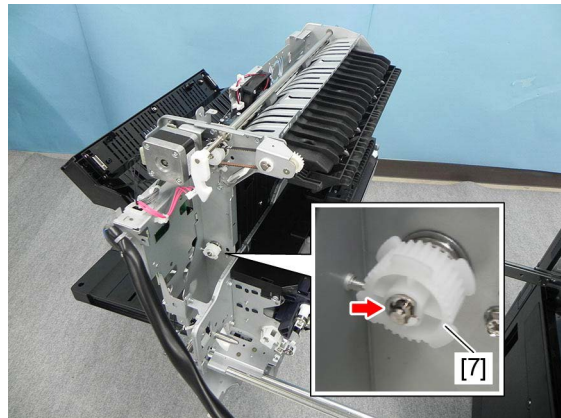


Fig. 4-756

- (10) Remove 2 E-rings and 2 bearings [8], and take off the ADU transport roller-2 [9].

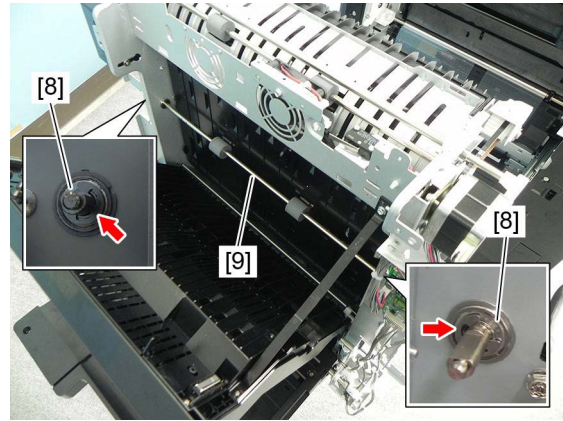


Fig. 4-757

#### 4.10.44 ADU transport roller-3

- (1) Remove the duplexing unit front side cover.  
 P. 4-258 "4.10.36 Duplexing unit front side cover"
- (2) Remove the duplexing unit rear side cover.  
 P. 4-259 "4.10.37 Duplexing unit rear side cover"
- (3) Remove the bypass feed unit.  
 P. 4-47 "4.5.2 Bypass feed unit"
- (4) Remove the hook stay.  
 P. 4-265 "4.10.43 ADU transport roller-2"
- (5) Remove 1 E-ring, 1 clip [1], 1 pulley [2] and 1 belt [3].

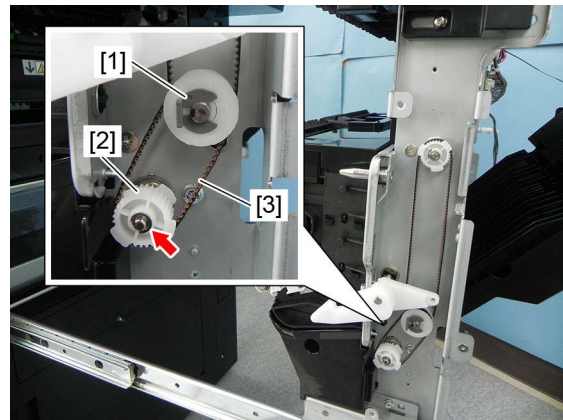


Fig. 4-758

- (6) Remove 2 E-rings and 2 bearings [4], and take off ADU transport roller-3 [5].

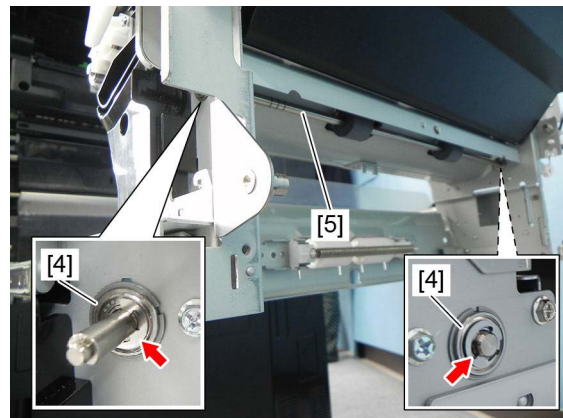



Fig. 4-759

#### 4.10.45 Duplexing unit path exit sensor (S67)

- (1) Remove the 2nd transfer roller.  
 P. 4-181 "4.7.15 2nd transfer roller"
- (2) Remove 1 screw and take off the sensor bracket [1].
- (3) Release the harness from 1 harness clamp [2] and disconnect 1 connector.

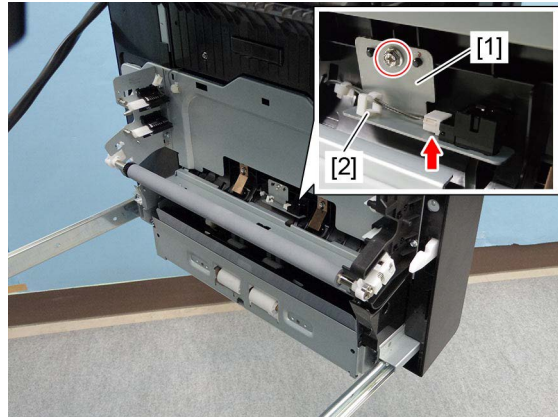


Fig. 4-760

- (4) Remove the duplexing unit path exit sensor [3] from the sensor bracket [1].

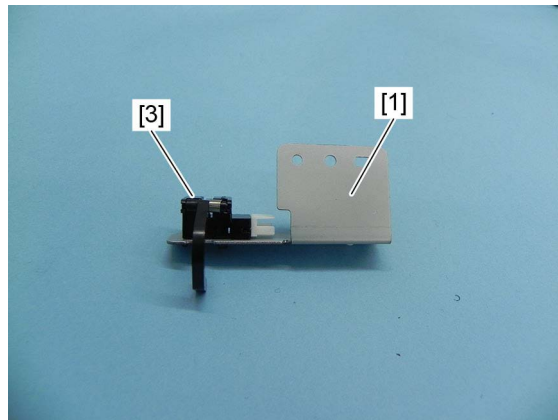


Fig. 4-761

#### 4.10.46 Fuser transport sensor (S65)

- (1) Pull out the duplexing unit.
- (2) Remove 1 screw and 2 shoulder screws [2]. Then take off the transport guide [1].

**Notes:**

The screws on the front side and rear side are shoulder screw. When installing, exercise care not to confuse it with other kinds of screws.

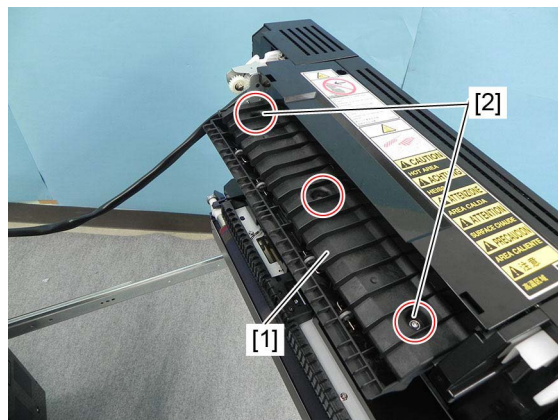


Fig. 4-762

- (3) Remove 1 screw and take off the sensor bracket [3].

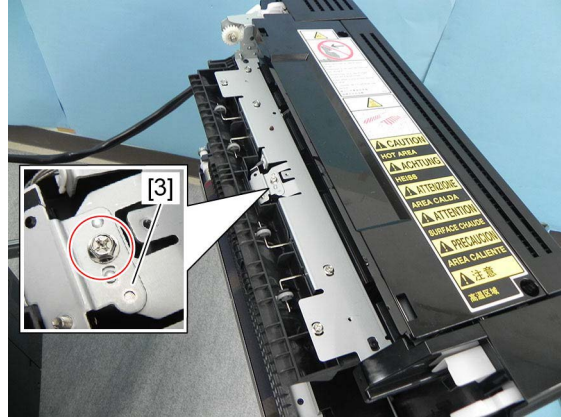


Fig. 4-763

- (4) Disconnect 1 connector from the fuser transport sensor [4].

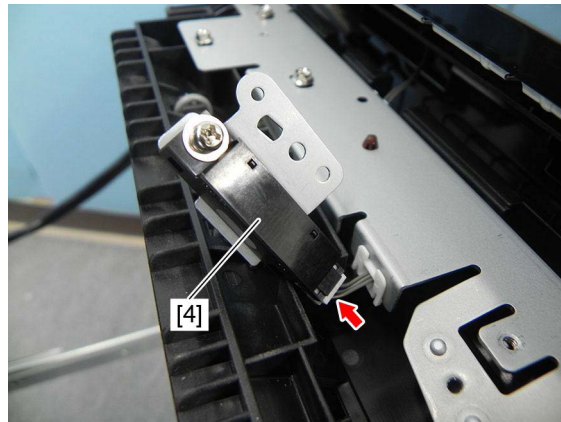


Fig. 4-764

- (5) Remove 1 screw and the film, and take off the fuser transport sensor [4] from its bracket [3].

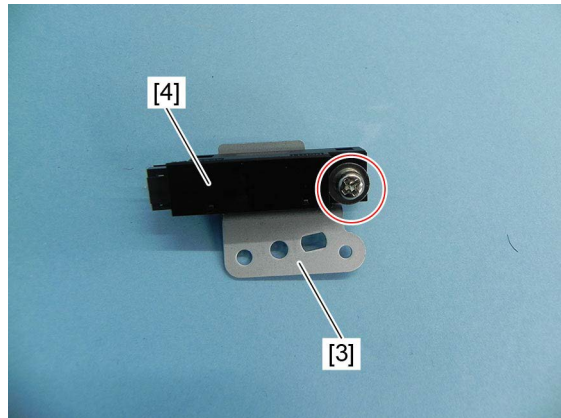


Fig. 4-765

#### 4.10.47 Duplexing unit path entrance sensor (S66)

- (1) Pull out the duplexing unit.
- (2) Remove 3 screws and take off the duplexing unit left side cover [1] from the 2 hooks.

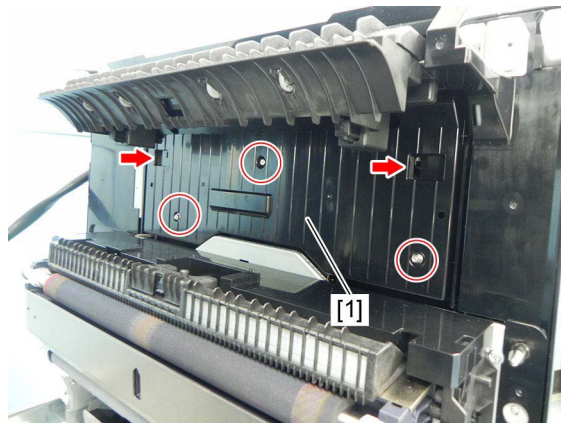


Fig. 4-766

- (3) Remove 1 screw and then take off a sensor bracket [2].
- (4) Disconnect 1 connector from the duplexing unit path entrance sensor [3].

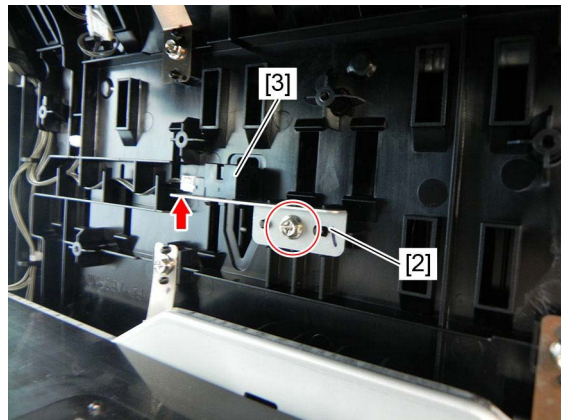


Fig. 4-767

- (5) Remove the duplexing unit path entrance sensor [3] from the sensor bracket [2].

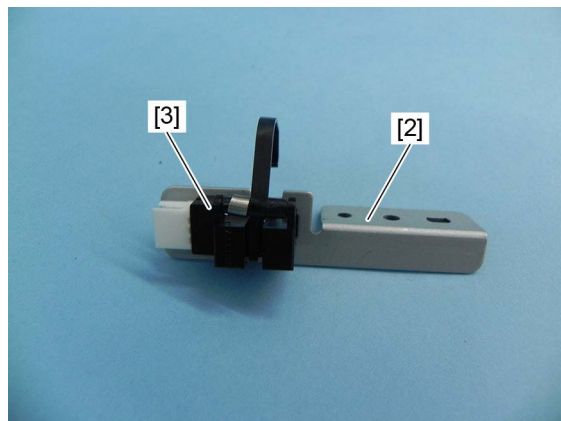


Fig. 4-768

## 4.10.48 Duplexing unit interlock switch / Duplexing unit cover opening/closing detection switch (SW7)

### Notes:

When the duplexing unit interlock switch / duplexing unit cover opening/closing detection switch is replaced or removed, be sure to perform the operation check with the input check (test mode FS-03). If the installation is insufficient, this sensor is not performing properly. In this case, you may touch the rotating portions in the drive motor during the drive and could be injured as a result.

- (1) Remove the duplexing unit upper cover.  
📖 P. 4-257 "4.10.35 Duplexing unit upper cover"
- (2) Remove 2 screws and take off the duplexing unit interlock switch / duplexing unit cover opening/closing detection switch [1].

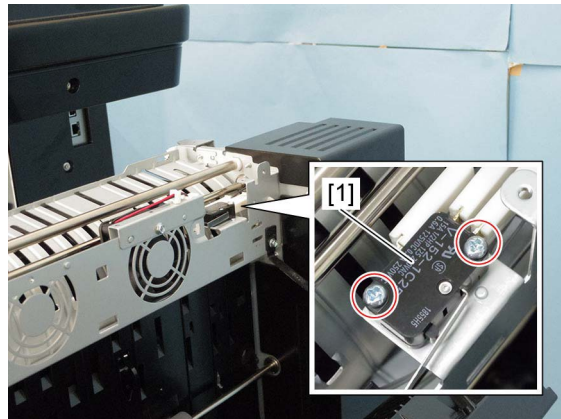


Fig. 4-769

- (3) Release 1 clamp and disconnect 3 connectors [3] from the duplexing unit interlock switch / duplexing unit cover opening/closing detection switch [2].

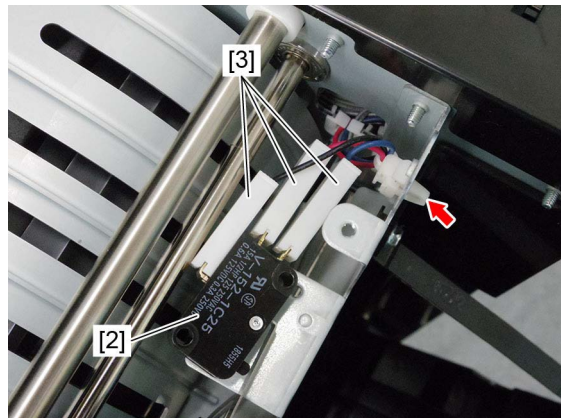


Fig. 4-770



Fig. 4-771

## 4.10.49 IH interlock switch (SW4)

### Notes:

When the IH interlock switch is replaced or removed, be sure to perform the operation check with the input check (test mode FS-03). If the installation is insufficient, this could cause an electric shock, or a burn injury due to overheating of the fuser unit since power continues to be supplied to the IH coil and the IH board while the cover is open.

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove the right rear cover.  
📖 P. 4-10 "4.1.21 Right rear cover"
- (3) Remove 2 screws and the spring [1], and then remove the pusher [2].

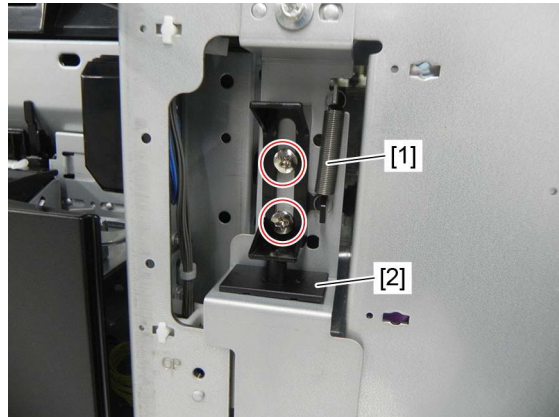


Fig. 4-772

- (4) Disconnect 1 connector.



Fig. 4-773

- (5) Push the latches and remove the IH interlock switch [3] from the bracket [4].

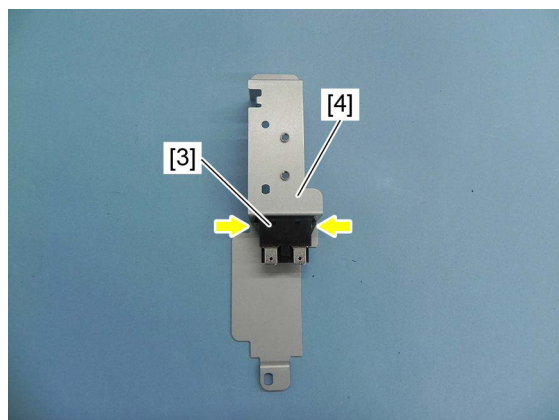


Fig. 4-774



## 4.10.50 Interlock switch (SW2)

### Notes:

When the interlock switch is replaced or removed, be sure to perform the operation check with the input check (test mode FS-03).

If the interlock switch is not installed appropriately when it is replaced or installed, it may not work normally. If you carry out the maintenance of the equipment in such a situation, you could get an electric shock by touching live sections or be injured by touching moving sections. Therefore, to avoid this, be sure to perform correct handling and installation.

- (1) Remove the front cover.  
📖 P. 4-1 "4.1.2 Front cover"
- (2) Remove the front left cover (control panel left cover).  
📖 P. 4-4 "4.1.8 Front left cover (Control panel left cover)"
- (3) Remove the front right cover (control panel right cover).  
📖 P. 4-3 "4.1.5 Front right cover (Control panel right cover)"
- (4) Pull out the bridge unit.  
📖 P. 4-229 "4.10.11 Bridge unit"
- (5) Remove 2 screws and take off the right inner cover [1].
- (6) Disconnect 2 connectors from the interlock switch [2].
- (7) Remove 2 screws and 1 harness clamp, and then remove the switch bracket [3].

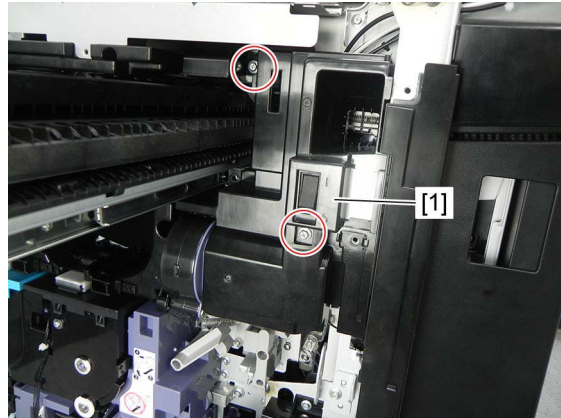


Fig. 4-775

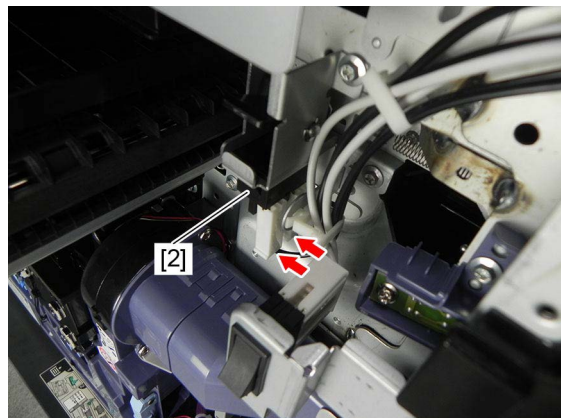


Fig. 4-776

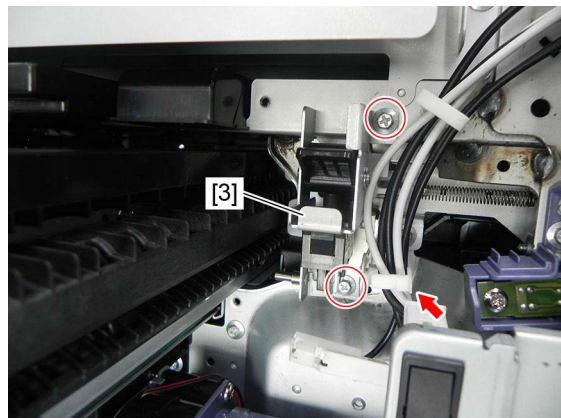


Fig. 4-777

- (8) Remove the E-ring from the switch bracket [3], and take off the shaft [4] and switch guide [5].

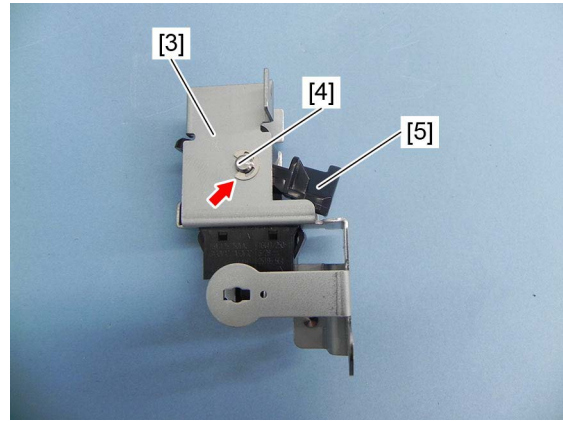


Fig. 4-778

- (9) Push the latches and remove the interlock switch [2] from the switch bracket [3].

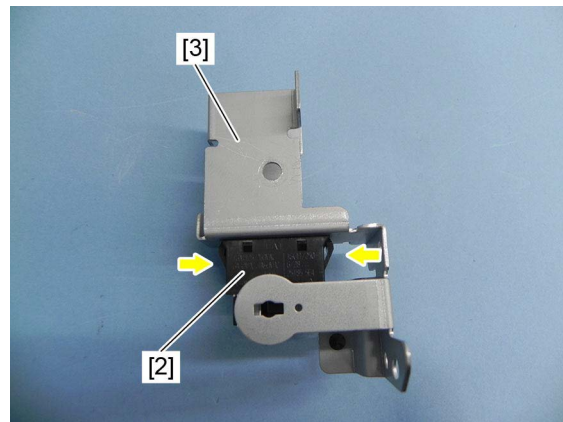



Fig. 4-779

#### 4.10.51 Fuser unit exhaust heat fan / Bridge unit exhaust heat fan (F1/F2)

- (1) Remove the IH board cover.  
 P. 9-17 "9.1.18 IH board"
- (2) Remove 1 harness clamp [1]. Remove 2 screws and disconnect 4 connectors.

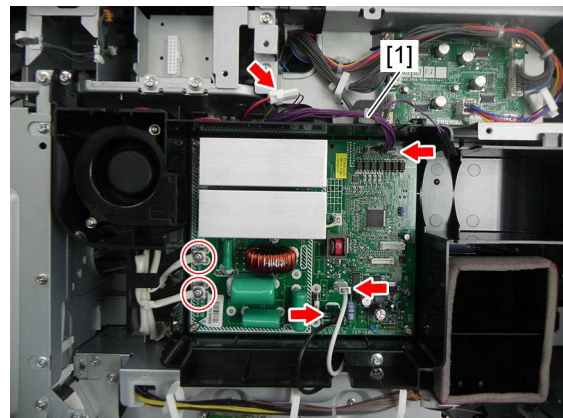


Fig. 4-780

- (3) Remove 2 screws and take off the IH board case [2].

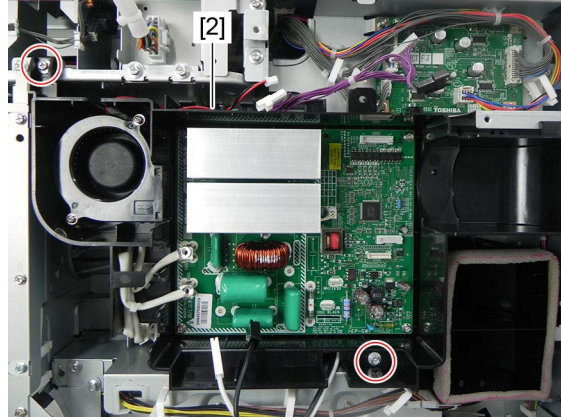


Fig. 4-781

- (4) Disconnect 2 connectors. Release 3 hooks [3] and remove the fan with its duct [4].

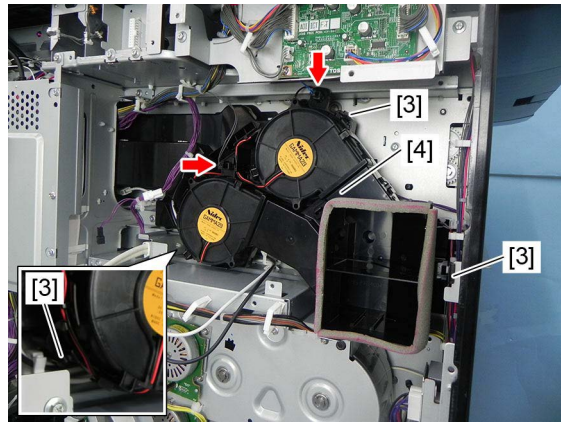


Fig. 4-782

- (5) Disconnect 1 connector [5]. Release 2 hooks [6] and remove the Bridge unit exhaust heat fan [7].
- (6) Disconnect 1 connector [8]. Release 2 hooks [9] and remove the Fuser unit exhaust heat fan [10].

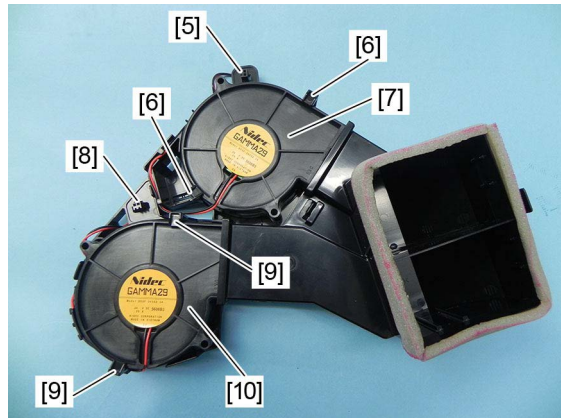



Fig. 4-783

### 4.10.52 Upper discharge brush

- (1) Remove the upper paper exit roller unit.  
 P. 4-7 "4.1.15 Left top cover"
- (2) Remove 4 screws and take off the 2 discharge brushes [1].

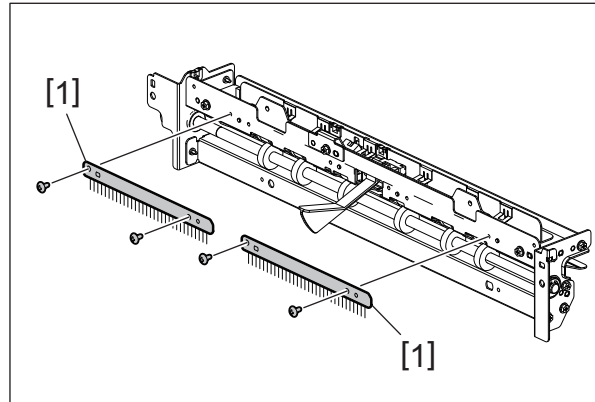



Fig. 4-784

### 4.10.53 Lower discharge brush

- (1) Remove the left top cover.  
 P. 4-7 "4.1.15 Left top cover"
- (2) Lift up the reverse path cover [1]. Remove 2 screws and take off the lower discharge brush [2].

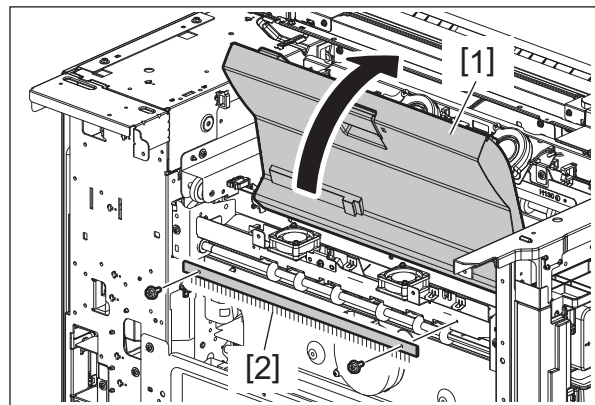


Fig. 4-785

## 4.11 Dual Scan Document Feeder (DSDF)

### Notes:

Be sure to attach the stopper jig or to take off the DSDF from the equipment before starting the procedures 4.11.29 or later. If the unit is taken off from the DSDF while it is installed in the equipment, the DSDF will be pulled up as its weight becomes lighter, resulting in danger.

### 4.11.1 Removing the DSDF

- (1) Remove the SYS board cover.  
P. 9-1 "9.1.1 SYS board cover"
- (2) Disconnect 1 HDMI connector.  
Disconnect the communication connector of the DSDF.

### Notes:

After the power cable is disconnected, an electric charge may remain in the boards of the equipment. Therefore, be sure to disconnect the communication connector when about 1 minute (e.g.: the time for taking off the rear cover) has passed after the power cable is disconnected.

- (3) Remove 4 screws and take off 2 brackets [1].

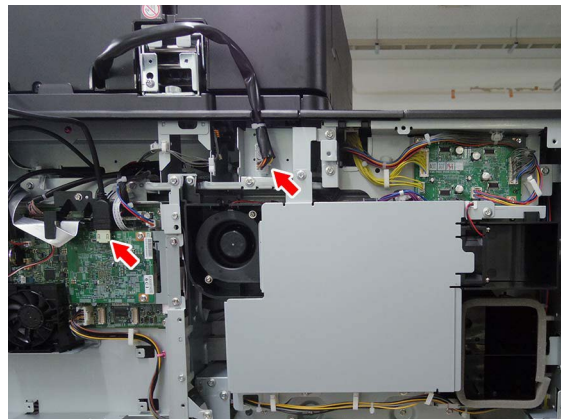


Fig. 4-786

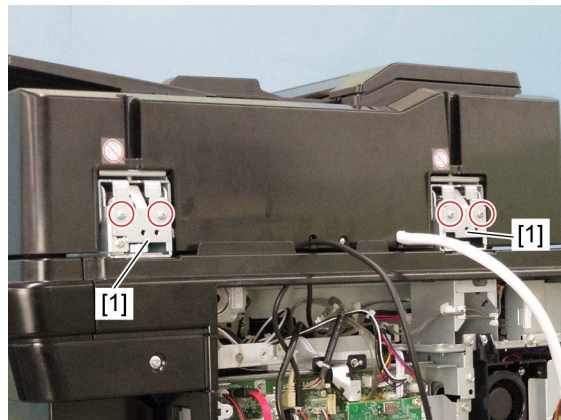


Fig. 4-787

- (4) Remove 2 screws.

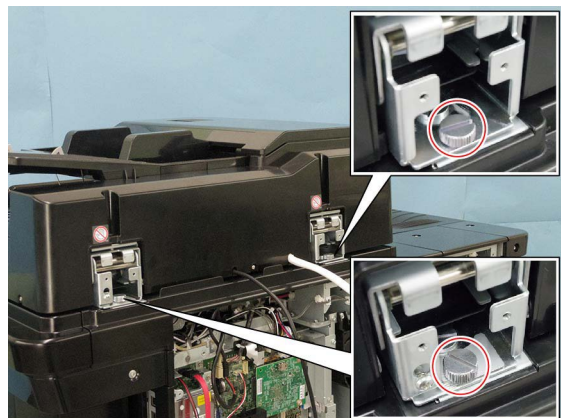


Fig. 4-788

- (5) Remove 1 hinge cover.

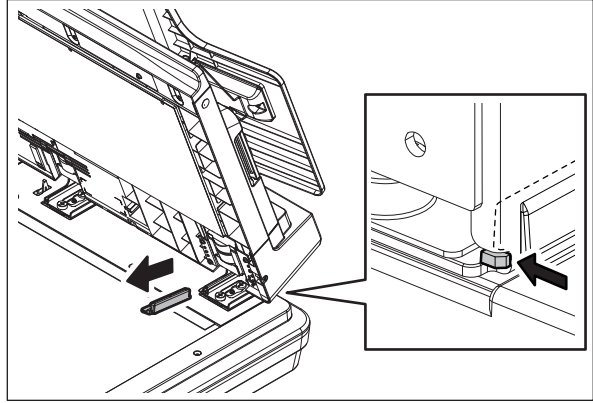


Fig. 4-789

- (6) Open the DSDF [2] and remove 2 screws. Then take off the DSDF [2] by sliding it to the rear side.

**Notes:**

Be sure not to remove the red screws. Otherwise, the adjustment of the position will be required.

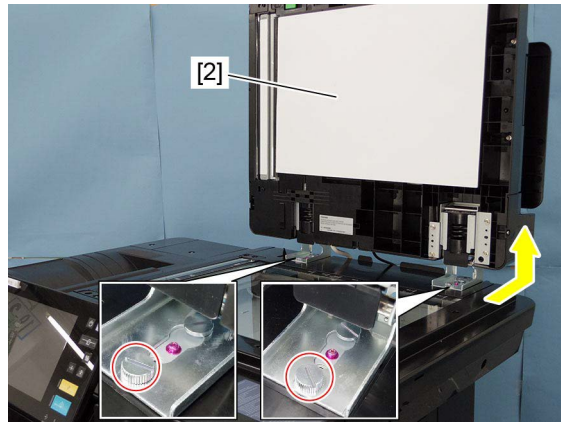


Fig. 4-790

### 4.11.2 Installing the DSDF

- (1) Install the DSDF.

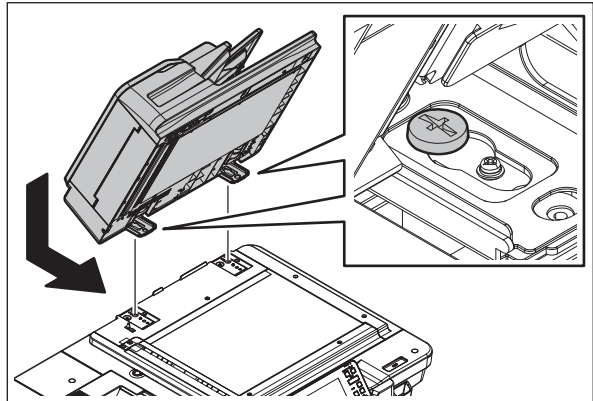


Fig. 4-791

- (2) Tighten 2 screws on the front side temporarily.

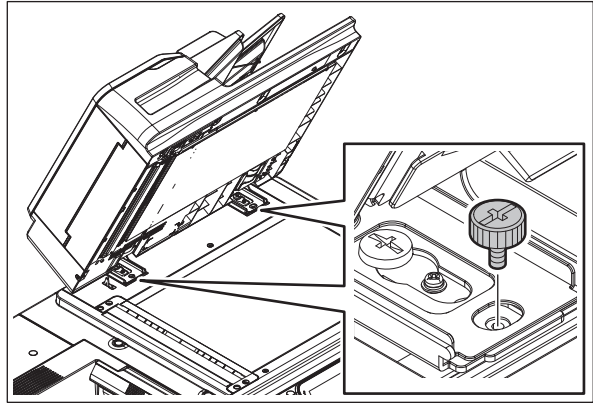


Fig. 4-792

- (3) Tighten 2 screws with 2 washers on the rear side temporarily.

**Notes:**

When the screw is tightened temporarily, make a gap by 1 mm or less between its lower surface and the upper surface of the washer so that the hinge can be slid.

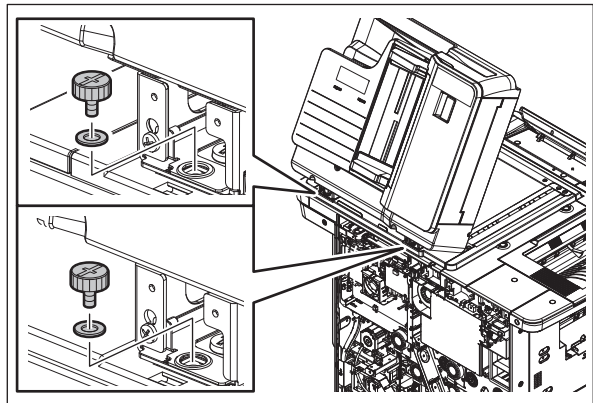


Fig. 4-793

- (4) Adjust the DSDF.  
 P. 6-106 "6.12.1 Adjustment of Position"

**Notes:**

After adjusting the DSDF, tighten 2 screws on the front side and 2 screws with 2 washers on the rear side.

- (5) Install the hinge cover.

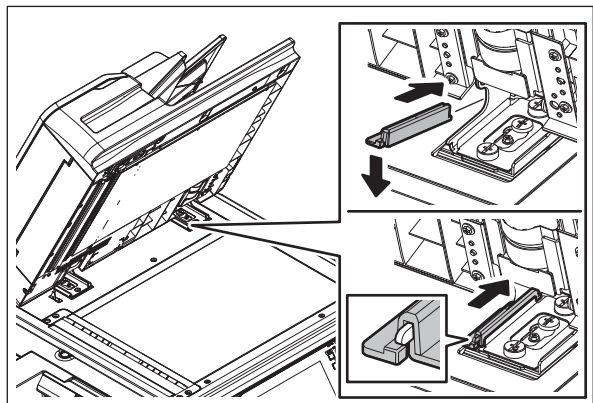


Fig. 4-794

- (6) Connect the HDMI connector.

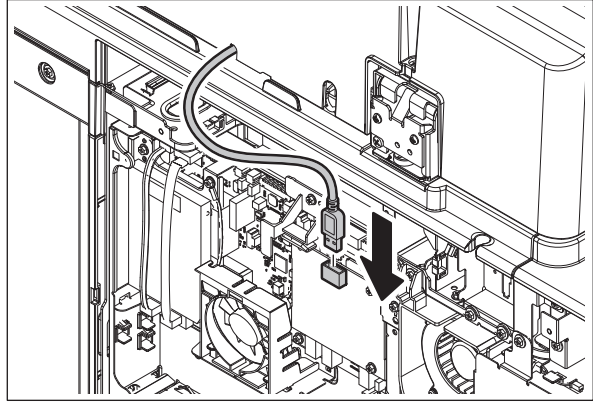


Fig. 4-795

- (7) Connect the communication connector.

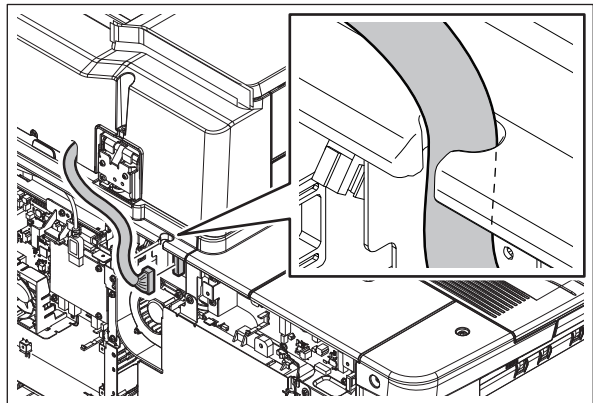



Fig. 4-796

- (8) Install the SYS board cover and rear cover.  
(9) Reset the platen sheet.  
 P. 6-122 "6.12.8 Platen Sheet"

### 4.11.3 DSDF pickup unit

- (1) Open the original jam access cover [1].

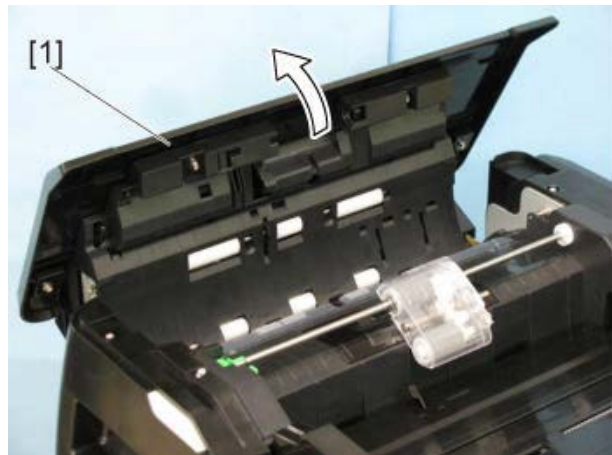


Fig. 4-797



- (2) Turn the lever [2] and take off the DSDF pickup unit [3].

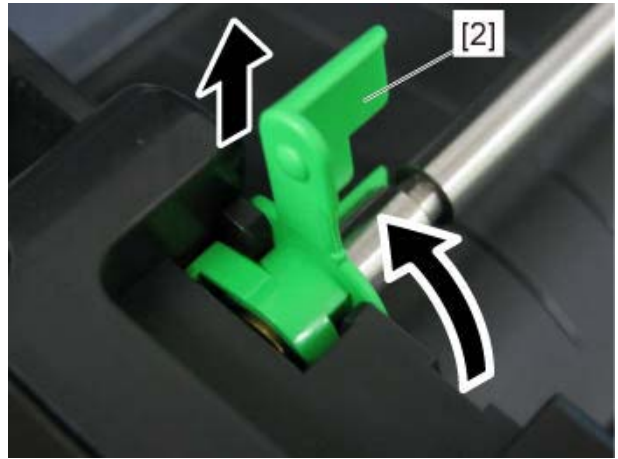


Fig. 4-798

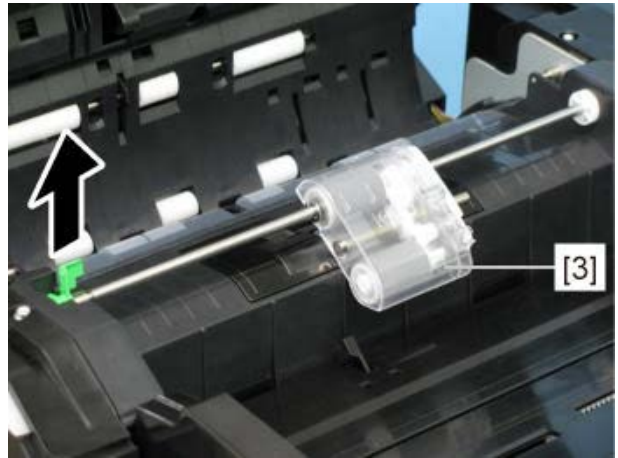


Fig. 4-799

DSDF pickup unit

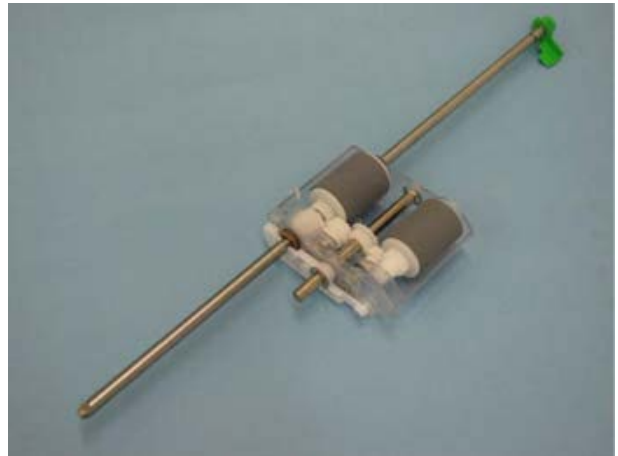


Fig. 4-800

#### 4.11.4 DSDF separation roller


- (1) Take off the DSDF pickup unit.  
 P. 4-280 "4.11.3 DSDF pickup unit"
- (2) Open the DSDF separation roller cover [4].



Fig. 4-801

- (3) Turn the arm [5] to release the lock.



Fig. 4-802



Fig. 4-803

- (4) Turn the lever [6] of the front side to align the protrusion to the groove.



Fig. 4-804

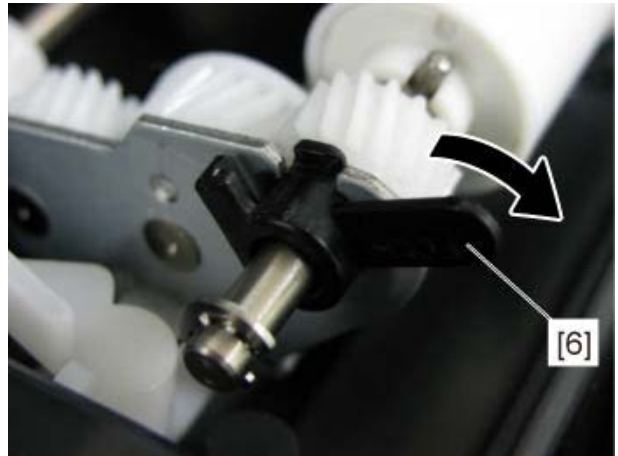


Fig. 4-805

- (5) Turn the lever [7] of the rear side to align the protrusion to the groove.



Fig. 4-806

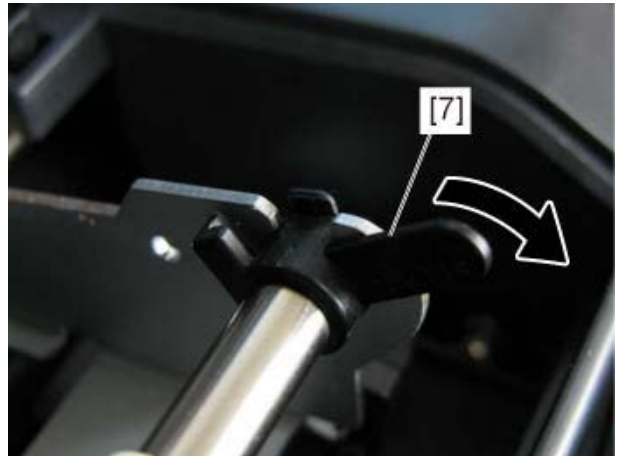


Fig. 4-807

- (6) Slide the DSDF separation roller unit [8] to the front side to take it off.

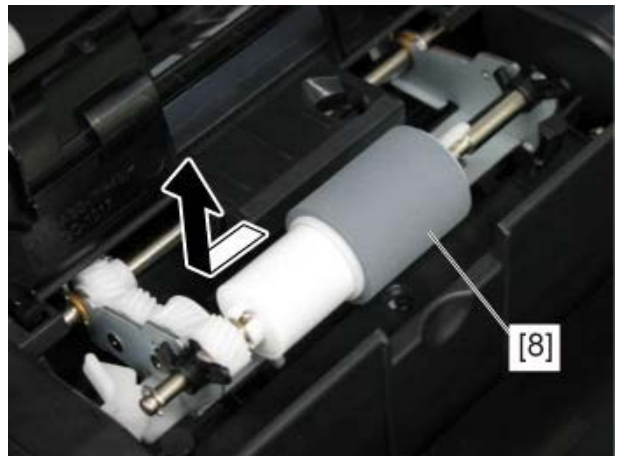


Fig. 4-808

## DSDF separation roller unit



Fig. 4-809

- (7) Take off the lever [7] of the rear side from the DSDF separation roller unit [8].
- (8) Release the latch and take off the DSDF separation roller [9].

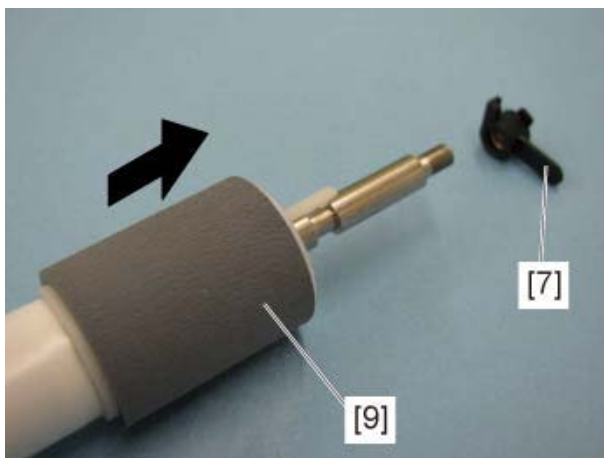



Fig. 4-810

## DSDF separation roller



Fig. 4-811

#### 4.11.5 DSDF pickup roller

- (1) Take off the DSDF pickup unit.  
 P. 4-280 "4.11.3 DSDF pickup unit"
- (2) Take off the DSDF pickup roller [10].

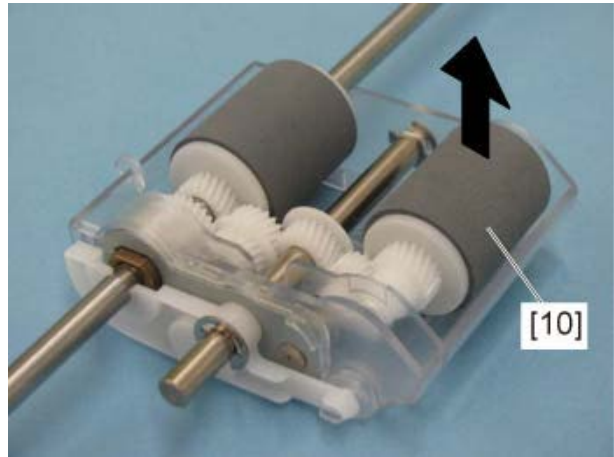



Fig. 4-812

DSDF pickup roller



Fig. 4-813

#### 4.11.6 DSDF feed roller

- (1) Take off the DSDF pickup unit.  
 P. 4-280 "4.11.3 DSDF pickup unit"
- (2) Release the stopper lever [11].
- (3) Pull out the shaft [12].

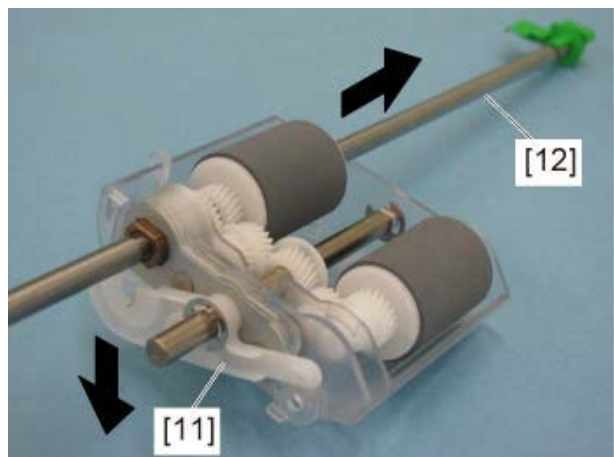


Fig. 4-814

(4) Take off the DSDF feed roller [13].

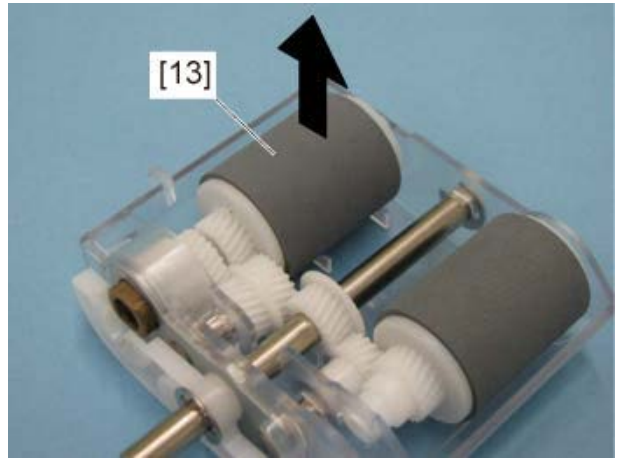


Fig. 4-815

DSDF feed roller



Fig. 4-816

#### 4.11.7 DSDF rear cover

(1) Remove 2 screws.



Fig. 4-817

- (2) Remove 1 screw.



Fig. 4-818

- (3) Open the original jam access cover and remove 2 screws [1][2].

**Remarks:**

- [1] Screw for the metal part (paper feed side)
  - [2] Screw for the plastic part (paper exit side)
- (4) While lifting up the original tray [3], remove the DSDF rear cover [4].

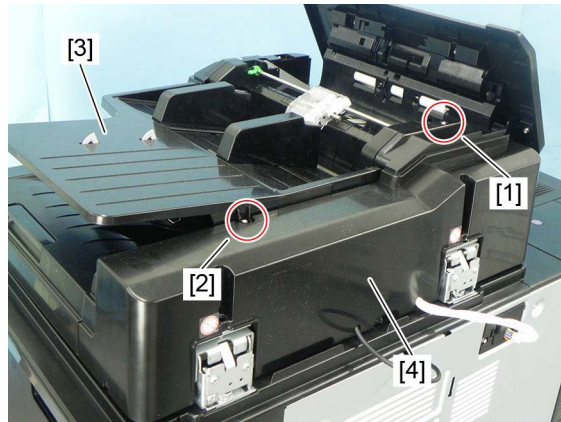


Fig. 4-819

#### 4.11.8 DSDF front cover

- (1) Open the DSDF.
- (2) Remove 2 screws [1] for the plastic part and another 2 screws [2] for the metal part.

**Remarks:**

- [1] Screws for the metal part (paper feed side)
  - [2] Screws for the plastic part (paper exit side)
- (3) Close the DSDF [3].

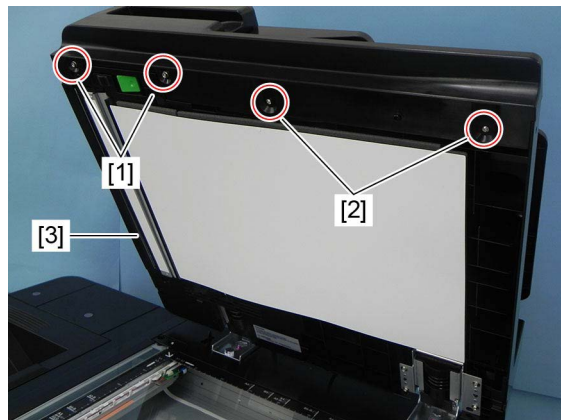


Fig. 4-820



- (4) Open the original jam access cover [4].
- (5) Remove 1 screw and take off the DSDF front cover [5].

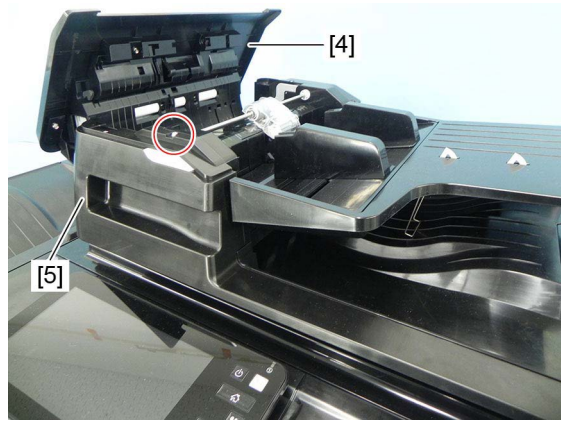




Fig. 4-821

#### 4.11.9 Original jam access cover

- (1) Remove the DSDF rear cover.  
 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Remove the DSDF front cover.  
 P. 4-288 "4.11.8 DSDF front cover"
- (3) Disconnect 1 connector and remove the connector cover [1].

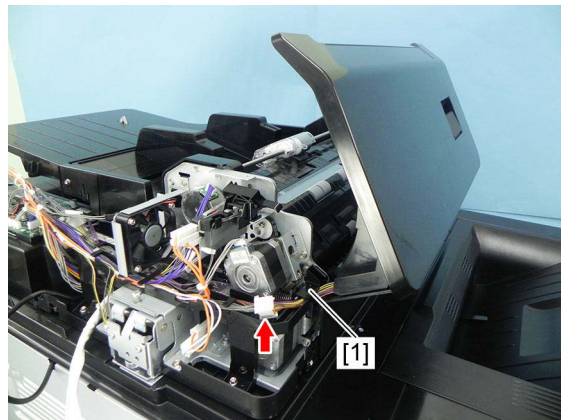


Fig. 4-822

- (4) Remove 1 screw and the hinge pin [2] of the rear side.

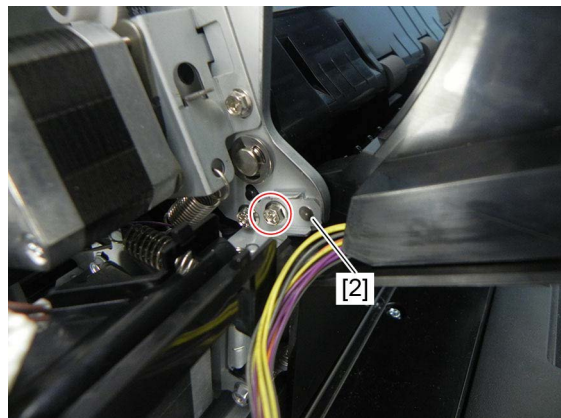


Fig. 4-823

- (5) Remove 1 screw and the hinge pin [3] of the front side.
- (6) Remove 1 screw of the original jam access cover stopper.

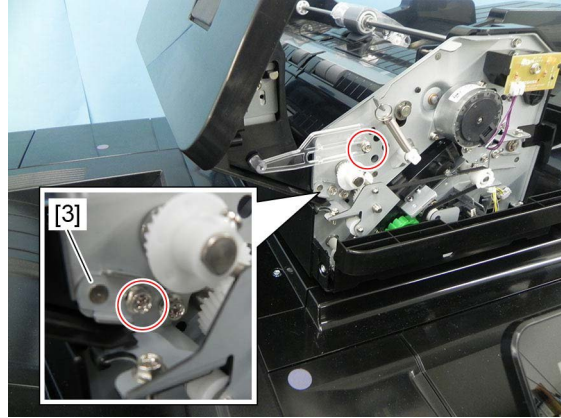


Fig. 4-824

- (7) Turn the original jam access cover [4] to the direction for closing it and lift it up to remove it.

**Notes:**

When installing and taking off the original jam access cover, be careful not to damage it or the transport guide of the DSDF left cover.

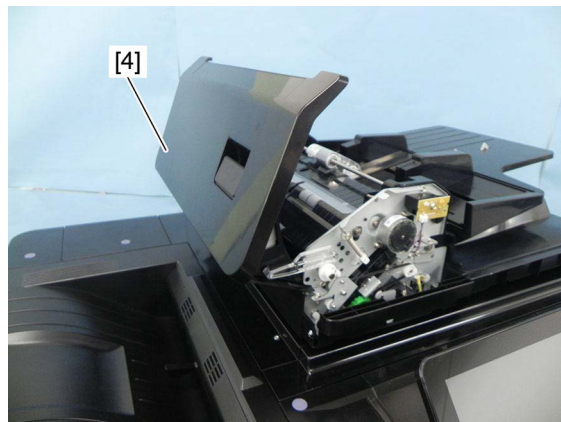



Fig. 4-825

#### 4.11.10 DSDF left cover

- (1) Remove the original jam access cover.  
 P. 4-289 "4.11.9 Original jam access cover"
- (2) Remove 1 screw [1] for the metal part and another 1 screw [2] for the plastic part.

**Remarks:**

- [1] Screw for the metal part (front side)
- [2] Screw for the plastic part (rear side)
- (3) Remove the DSDF left cover [3] upward.

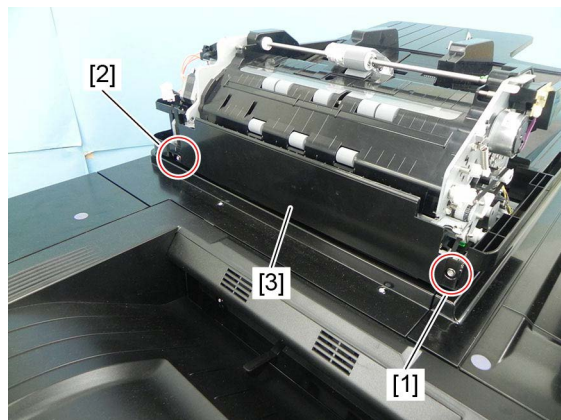


Fig. 4-826

#### 4.11.11 DSDF-LED PC board (LEDD)

- (1) Take off the DSDF front cover.  
P. 4-288 "4.11.8 DSDF front cover"
- (2) Disconnect 1 connector.  
Remove 1 screw and take off the DSDF-LED PC board [12].

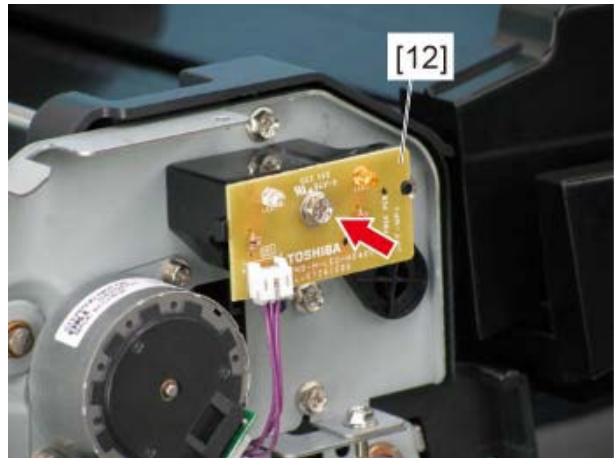


Fig. 4-827

#### 4.11.12 DSDF control PC board cooling fan motor (FD2)

- (1) Take off the DSDF rear cover.  
P. 4-287 "4.11.7 DSDF rear cover"
- (2) Release 1 harness clamp [1] and disconnect 1 connector.
- (3) Remove 2 screws [3] and take off the DSDF control PC board cooling fan motor [4].

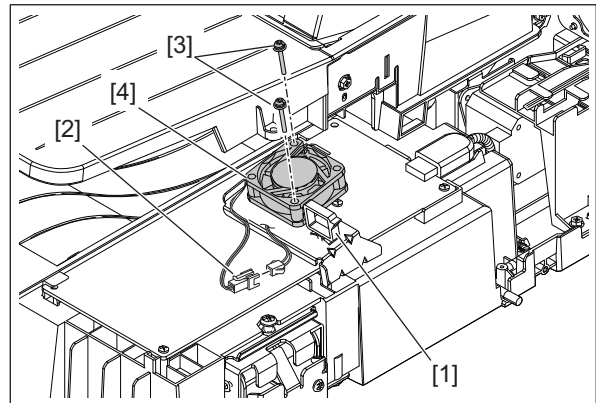


Fig. 4-828

- (4) Remove 1 screw and take off the bracket [5].
- (5) Remove 1 screw and take off the bracket [6].

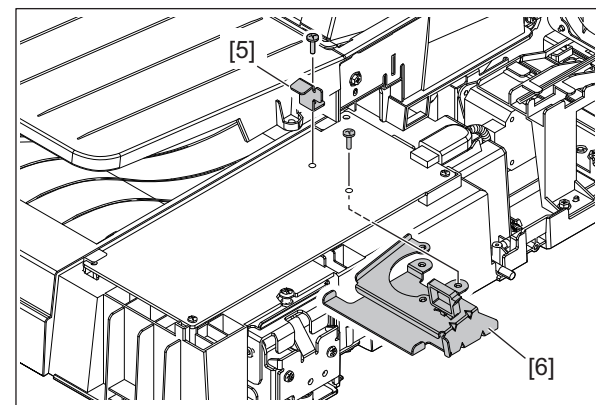


Fig. 4-829

### 4.11.13 DSDF control PC board (DLGD)

- (1) Take off the DSDF rear cover.  
P. 4-287 "4.11.7 DSDF rear cover"
- (2) Take off 2 DSDF control PC board cooling fan motor brackets.  
P. 4-291 "4.11.12 DSDF control PC board cooling fan motor (FD2)"
- (3) Disconnect 13 connectors and 1 HDMI cable. Release the lock and disconnect 1 flat cable.

#### Notes:

- When removing the flat cable [2], change the lever position so that the connector is released, and remove the flat cable by lifting it up slightly (approx. 7 degrees) as shown in the right figure.
- When connecting the flat cable [2] to the connector, insert the flat cable straightly and lock it securely. Confirm that the tabs are in the positions shown in the right figure.



Fig. 4-830

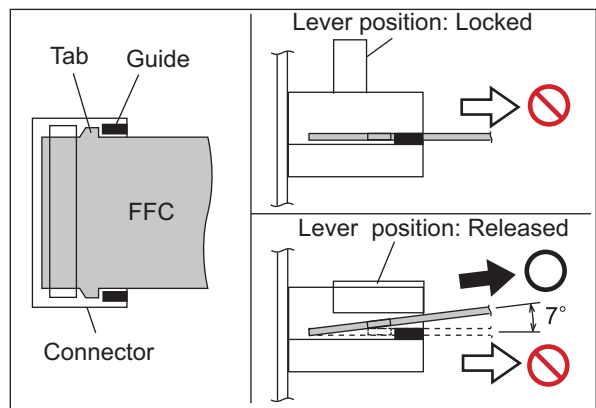


Fig. 4-831

- (4) Remove 2 screws and take off the DSDF control PC board [13].

#### Notes:

- When installing the flat cable, do not push it in strongly.
- When installing the flat cable, be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable.
- When installing a flat cable, make sure that the conductor side will be the upper side.

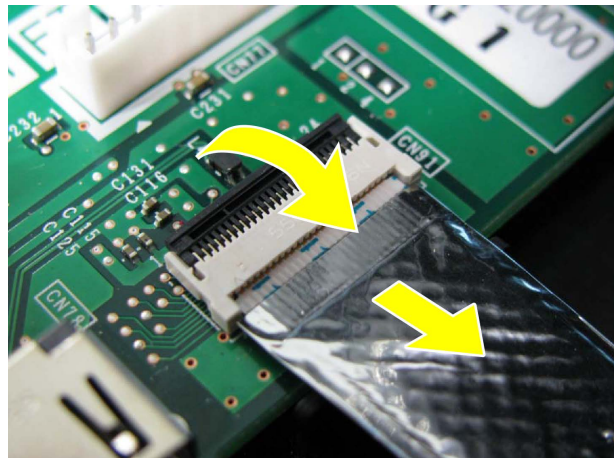


Fig. 4-832

#### 4.11.14 Original tray



- (1) Take off the DSDF rear cover.  
 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Take off the DSDF front cover.  
 P. 4-288 "4.11.8 DSDF front cover"
- (3) Disconnect 2 connectors (CN73 and CN76) from the DSDF control PC board.



Fig. 4-833

- (4) Remove 1 screw and then take off the original tray bracket [23] and the original tray holder [10].

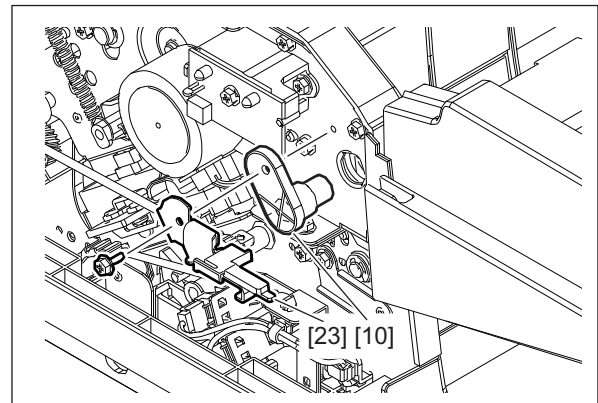


Fig. 4-834

- (5) Take off the original tray [11].

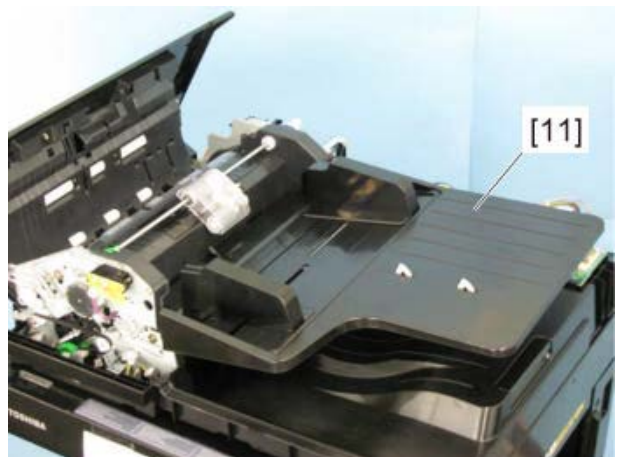


Fig. 4-835

#### 4.11.15 DSDF tray original length sensor-1 (SD1) / DSDF tray original length sensor-2 (SD2)

- (1) Take off the original tray.  
📖 P. 4-293 "4.11.14 Original tray"
- (2) Remove 1 screw and take off the sensor cover [14].



Fig. 4-836

- (3) Disconnect 1 connector respectively from the DSDF tray original length sensor-1 [15] and the DSDF tray original length sensor-2 [16].
- (4) Release the latch from each sensor. Take off the DSDF tray original length sensor-1 [15] and the DSDF tray original length sensor-2 [16].

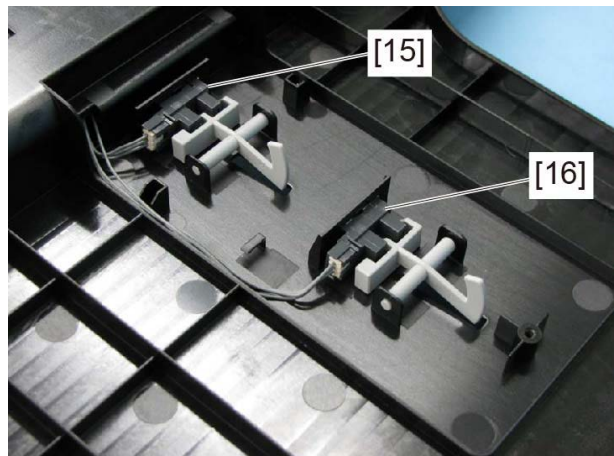


Fig. 4-837

#### 4.11.16 DSDF tray original width sensor (SD3)

- (1) Take off the original tray.  
📖 P. 4-293 "4.11.14 Original tray"
- (2) Remove 1 screw and take off the tray holder [17].  
Take off the movable tray [18].

**Notes:**

When installing the tray holder, be careful not to catch the harness.

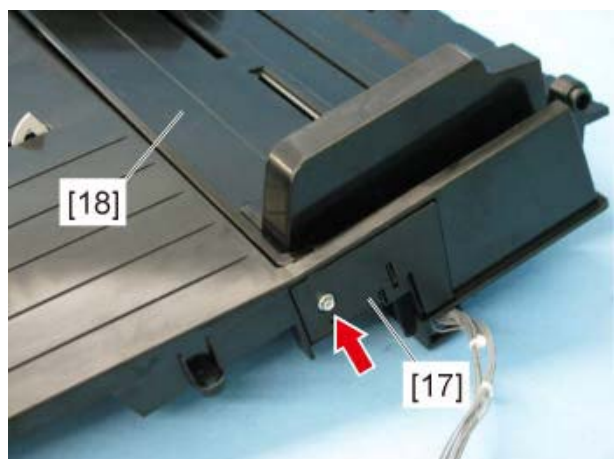


Fig. 4-838

- (3) Remove 1 screw and take off the original width sensor cover [19].

**Notes:**

Pay attention not to remove the washer and the wave washer of the pinion.

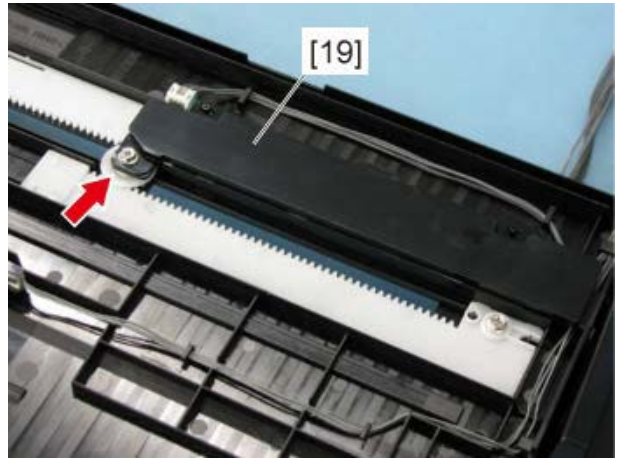


Fig. 4-839



Fig. 4-840

- (4) Disconnect 1 connector and take off the DSDF tray original width sensor [20].

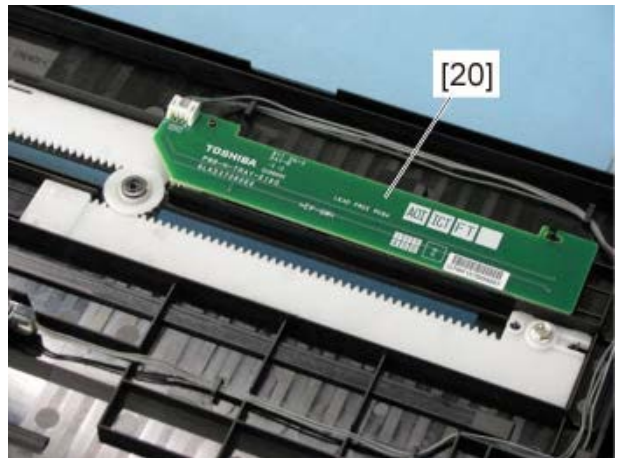


Fig. 4-841

#### 4.11.17 DSDF original empty sensor (SD4)

- (1) Take off the original tray.  
☞ P. 4-293 "4.11.14 Original tray"
- (2) Remove 1 screw and take off the tray holder [17].  
Take off the movable tray [18].

**Notes:**

When installing the tray holder, be careful not to catch the harness.

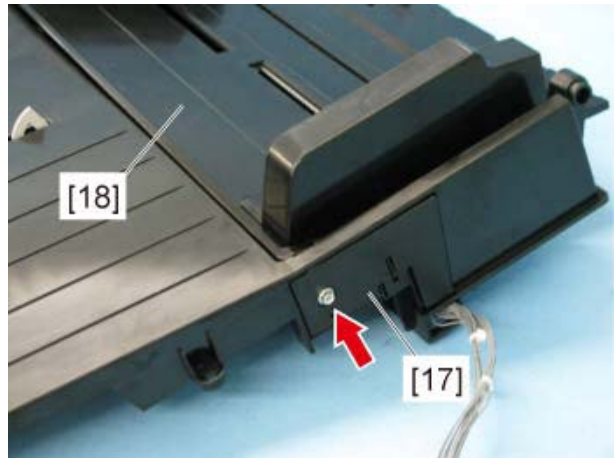


Fig. 4-842

- (3) Disconnect 1 connector. Release the latch and take off the DSDF original empty sensor [21].

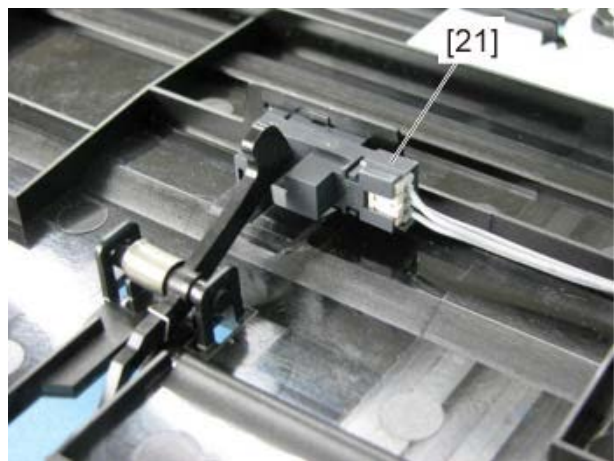


Fig. 4-843

#### 4.11.18 DSDF feed sensor (SD5) / DSDF tray lift upper limit sensor (SD9)

- (1) Take off the original jam access cover.  
☞ P. 4-289 "4.11.9 Original jam access cover"
- (2) Remove 4 screws.

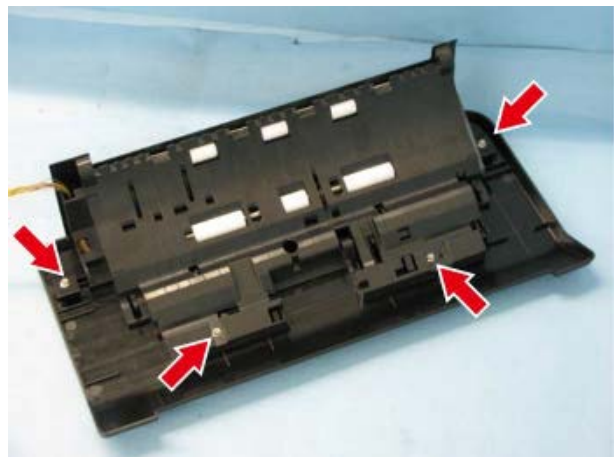


Fig. 4-844



- (3) While pulling the lever, take off the top cover [1].

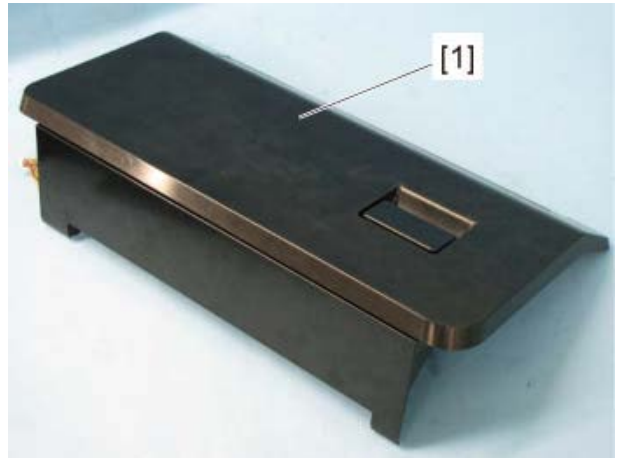


Fig. 4-845

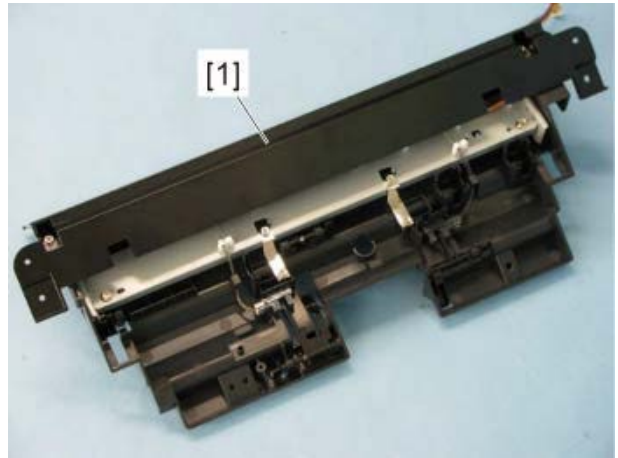


Fig. 4-846

- (4) Disconnect 1 connector. Release the latch and take off the DSDF feed sensor [2].

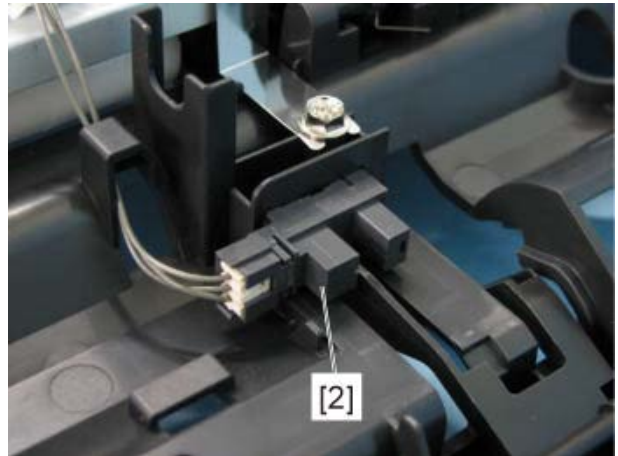


Fig. 4-847

- (5) Disconnect 1 connector. Release the latch and take off the DSDF tray lift upper limit sensor [3].

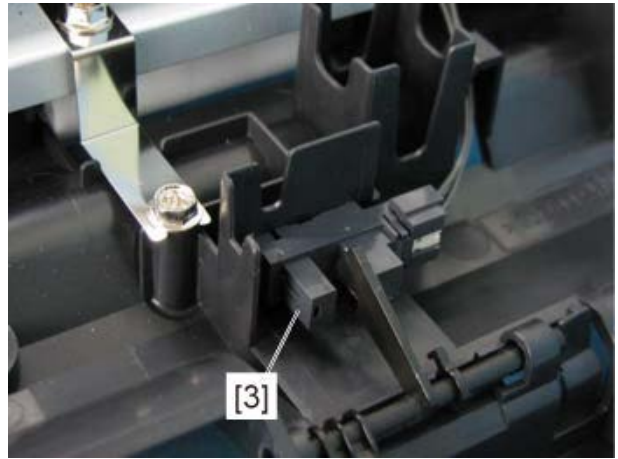



Fig. 4-848

#### 4.11.19 DSDF original width detection sensor-1 (SD7) / DSDF original width detection sensor-2 (SD8)

- (1) Take off the original jam access cover.  
 P. 4-289 "4.11.9 Original jam access cover"
- (2) Remove 4 screws.

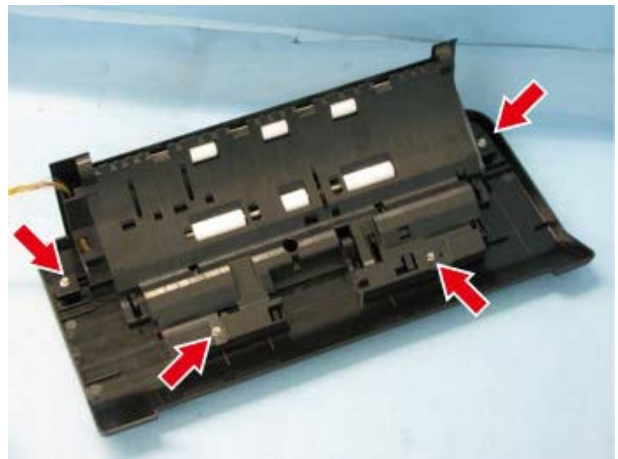


Fig. 4-849

- (3) While pulling the lever, take off the top cover [1].

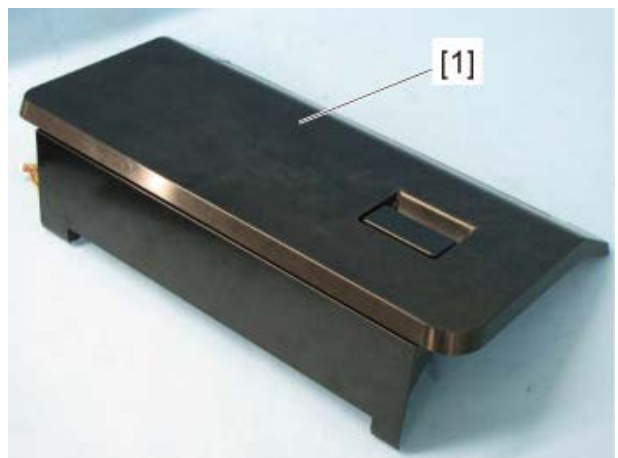


Fig. 4-850

- (4) Remove 2 screws and take off the left top cover [4].

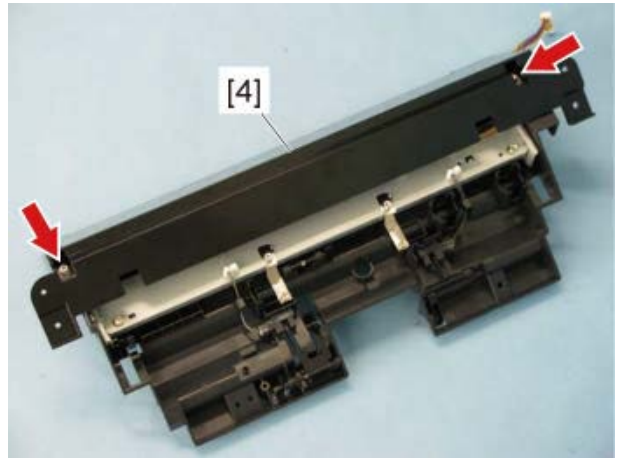


Fig. 4-851

- (5) Disconnect 1 connector. Release the latch and take off the DSDF original width detection sensor-1 [5].
- (6) Disconnect 1 connector. Release the latch and take off the DSDF original width detection sensor-2 [6].

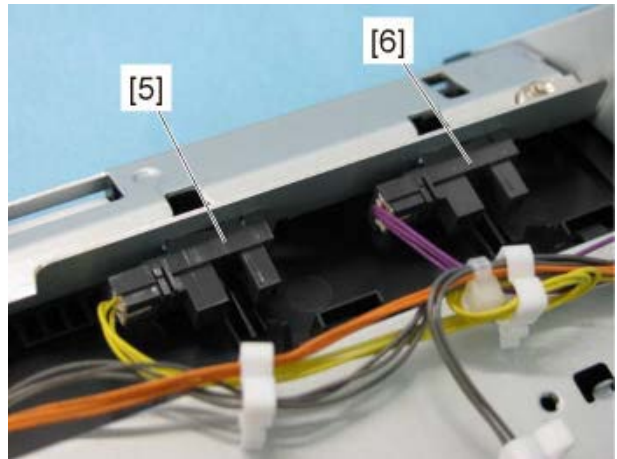


Fig. 4-852

#### 4.11.20 DSDF registration sensor (SD6)

- (1) Take off the original jam access cover.  
P. 4-289 "4.11.9 Original jam access cover"
- (2) Remove 4 screws.

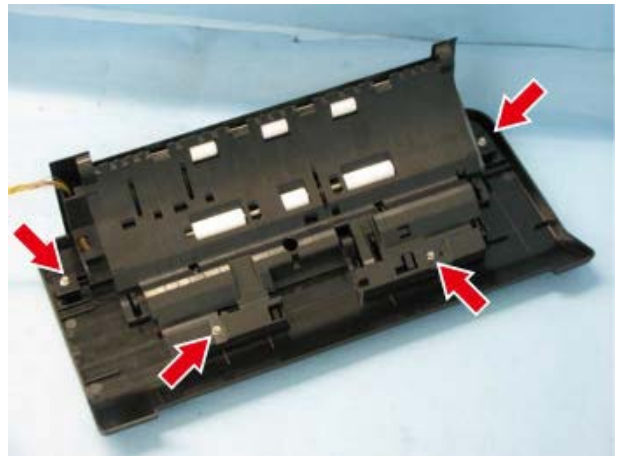


Fig. 4-853

- (3) While pulling the lever, take off the top cover [1].

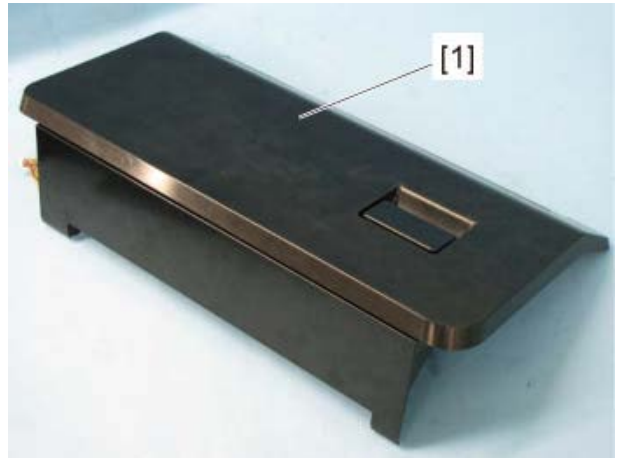


Fig. 4-854

- (4) Remove 2 screws and take off the left top cover [4].

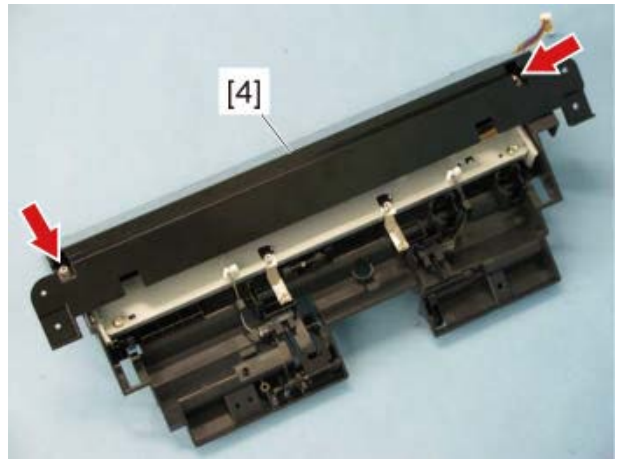


Fig. 4-855

- (5) Disconnect 2 connectors [9].  
(6) Remove 10 screws and take off the stay [7].

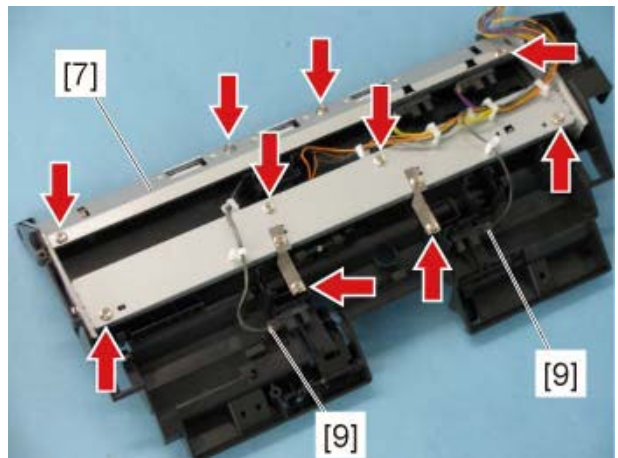


Fig. 4-856

**Notes:**

Be careful not to drop any of the 6 springs.

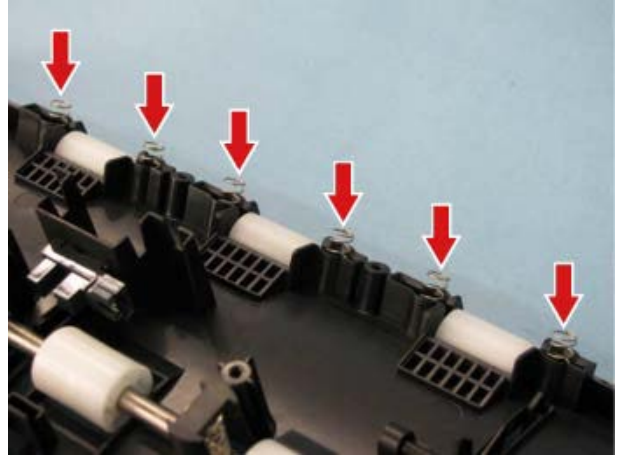


Fig. 4-857

- (7) Disconnect 1 connector and take off the DSDF registration sensor [8].

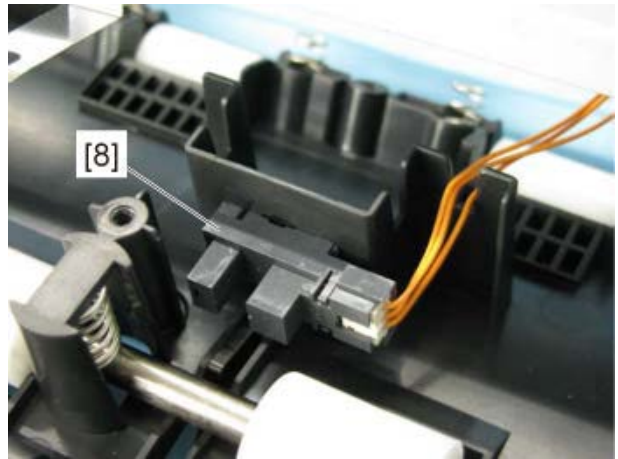



Fig. 4-858

#### 4.11.21 DSDF cooling fan motor (FD1)

- (1) Take off the DSDF rear cover.  
 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Disconnect 1 connector [1]. Remove 2 screws and take off the DSDF cooling fan motor bracket [2].

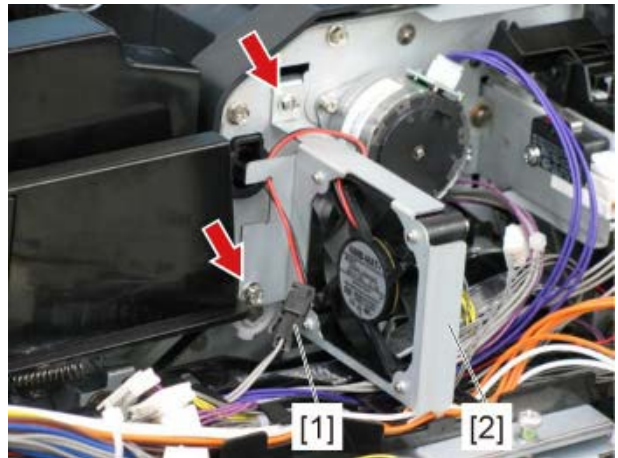


Fig. 4-859

- (3) Remove 4 screws and take off the DSDF cooling fan motor [3] from the bracket.

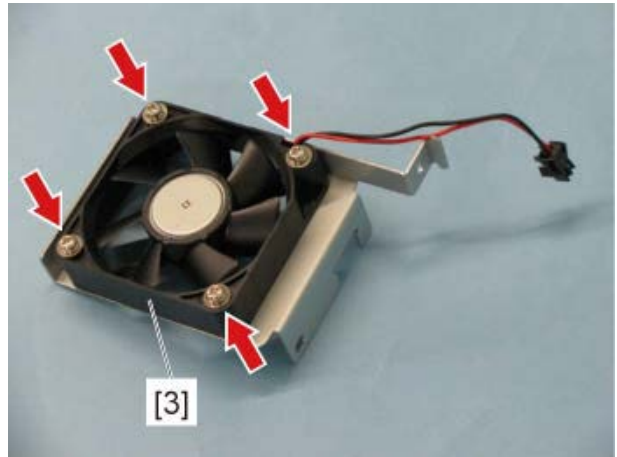



Fig. 4-860

#### 4.11.22 DSDF upper cover interlock switch (SWD2)

**Notes:**

If the interlock switch is not installed appropriately when it is replaced or installed, it may not work normally. If you carry out the maintenance of the equipment in such a situation, you could get an electric shock by touching live sections or be injured by touching moving sections. Therefore, to avoid this, be sure to perform correct handling and installation.

- (1) Take off the DSDF cooling fan motor bracket.  
 P. 4-301 "4.11.21 DSDF cooling fan motor (FD1)"
- (2) Disconnect 3 connectors. Remove 1 screw and take off the DSDF upper cover interlock switch [4].

**Notes:**

The color of all 3 harnesses for the DSDF upper cover interlock switch: Orange

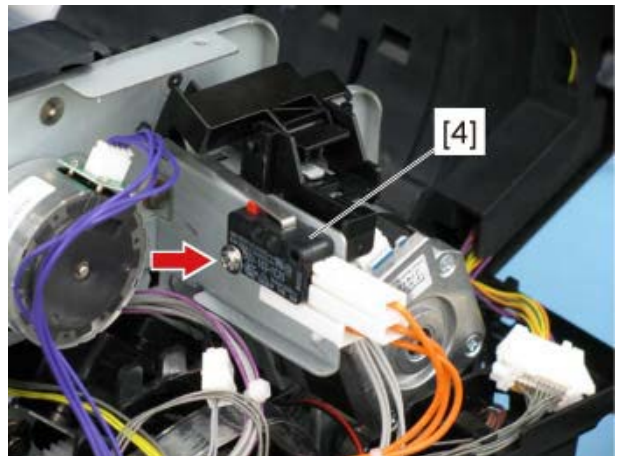


Fig. 4-861

### 4.11.23 DSDF registration motor (MD3)

- (1) Take off the DSDF rear cover.  
P. 4-287 "4.11.7 DSDF rear cover"
- (2) Release the harness [6] from the harness guide [5].  
Disconnect the connectors [7] for the DSDF upper cover interlock switch and the DSDF lower cover interlock switch.  
Remove 2 screws and take off the harness guide [5].

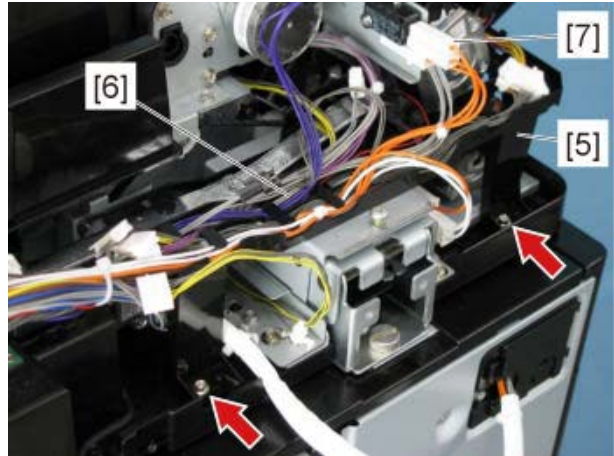


Fig. 4-862

- (3) Disconnect 1 connector [9] from the DSDF registration motor.  
Remove 2 screws and take off the DSDF registration motor bracket [10].

**Notes:**

- When installing the DSDF registration motor bracket, be sure to hook the pulley to the timing belt.
- The harness color of the DSDF registration motor is gray, be sure to check the harness color at installing.

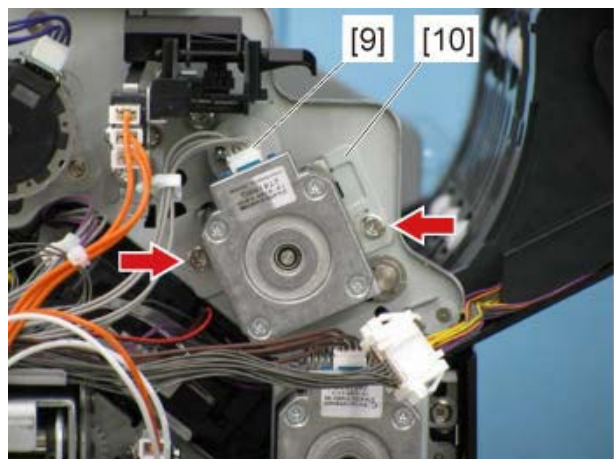


Fig. 4-863

- (4) Remove 2 screws and take off the DSDF registration motor [11] from the DSDF registration motor bracket [10].

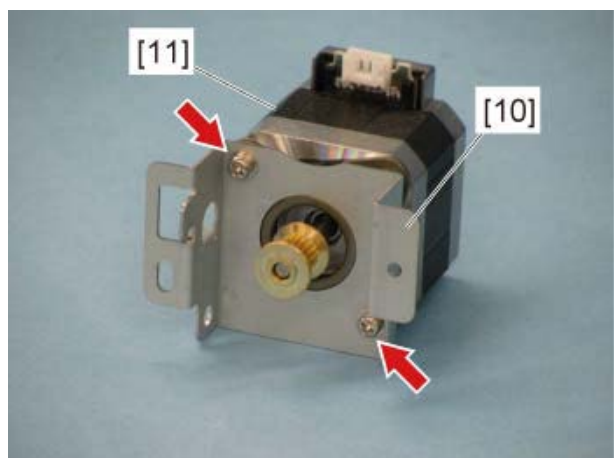


Fig. 4-864

#### 4.11.24 DSDF read motor (MD4)

- (1) Take off the DSDF rear cover.  
📖 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Release the harness [6] from the harness guide [5].  
Disconnect the connectors [7] for the DSDF upper cover interlock switch and the DSDF lower cover interlock switch.  
Remove 2 screws and take off the harness guide [5].

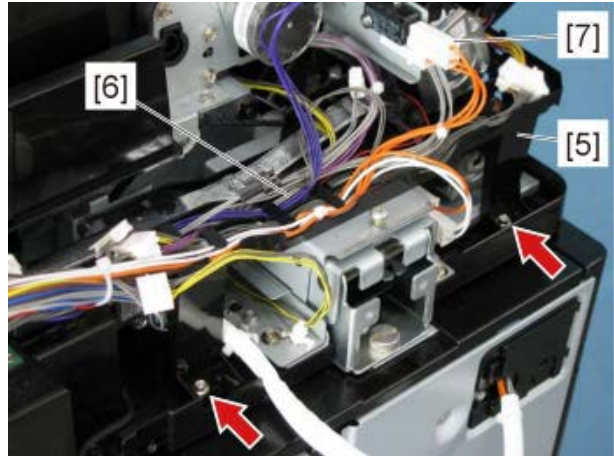


Fig. 4-865

- (3) Disconnect 1 connector [12] from the DSDF read motor.
- (4) Remove the tension spring [13].  
Remove 2 screws and take off the DSDF read motor bracket [14].

**Notes:**

- When installing the DSDF read motor bracket, be sure to hook the pulley to the timing belt.
  - When installing, temporarily tighten 2 screws, hook the tension spring and then securely tighten them.
- (5) Remove 2 screws and take off the DSDF read motor from the DSDF read motor bracket.

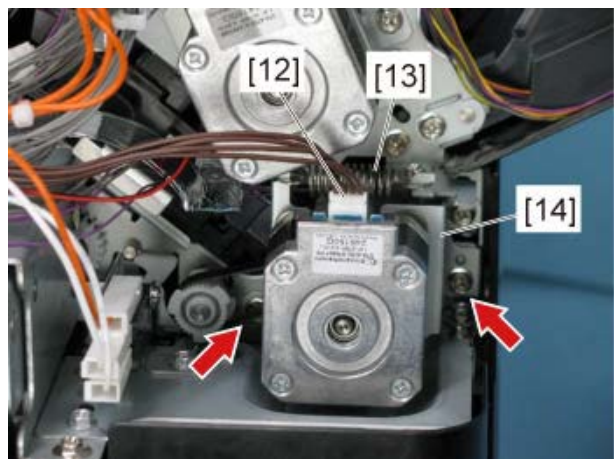


Fig. 4-866

#### 4.11.25 DSDF exit motor (MD5)

- (1) Take off the DSDF rear cover.  
📖 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Release the harness [6] from the harness guide [5].  
Disconnect the connectors [7] for the DSDF upper cover interlock switch and the DSDF lower cover interlock switch.  
Remove 2 screws and take off the harness guide [5].

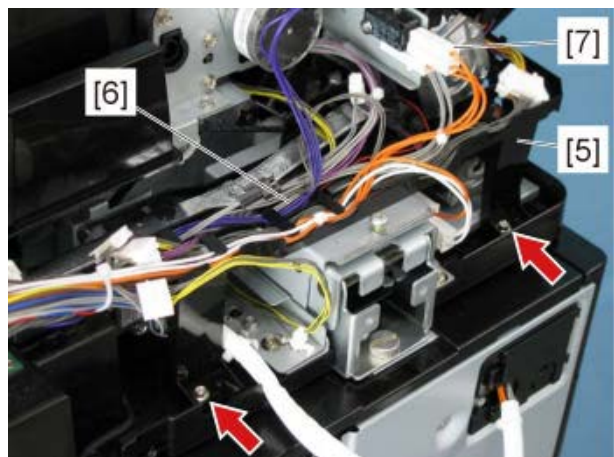


Fig. 4-867



- (3) Disconnect 1 connector [15] from the DSDF exit motor.
- (4) Remove the tension spring [16].  
Remove 2 screws and take off the DSDF exit motor bracket [17].

**Notes:**

- When installing the DSDF exit motor bracket, be sure to hook the pulley to the timing belt.
- When installing, temporarily tighten 2 screws, hook the tension spring and then securely tighten them.

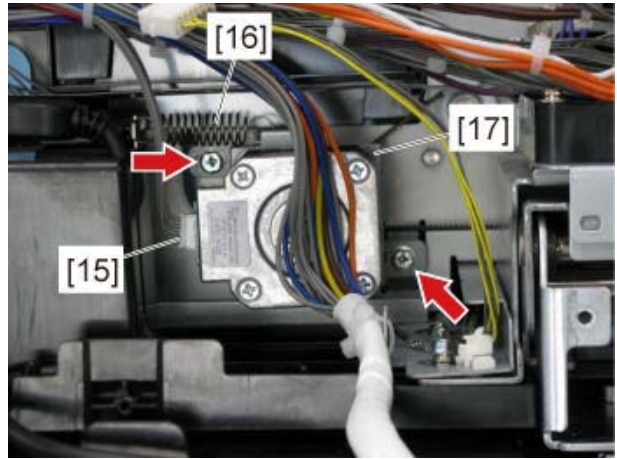


Fig. 4-868

- (5) Remove 2 screws and take off the DSDF exit motor [18] from the DSDF exit motor bracket [17].

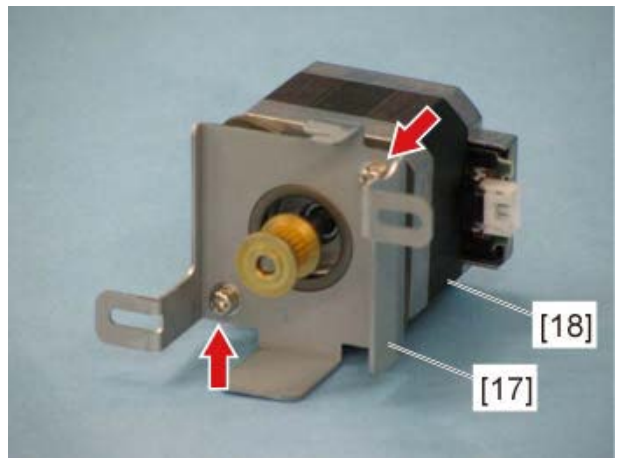


Fig. 4-869

## 4.11.26 DSDF lower cover interlock switch (SWD1)

### Notes:

If the interlock switch is not installed appropriately when it is replaced or installed, it may not work normally. If you carry out the maintenance of the equipment in such a situation, you could get an electric shock by touching live sections or be injured by touching moving sections. Therefore, to avoid this, be sure to perform correct handling and installation.

- (1) Take off the DSDF read motor.  
P. 4-304 "4.11.24 DSDF read motor (MD4)"
- (2) Disconnect 3 connectors.
- (3) Remove 1 screw and take off the DSDF lower cover interlock switch [19].

### Notes:

The color of 3 harnesses for the DSDF lower cover interlock switch: Orange (1) and white (2).

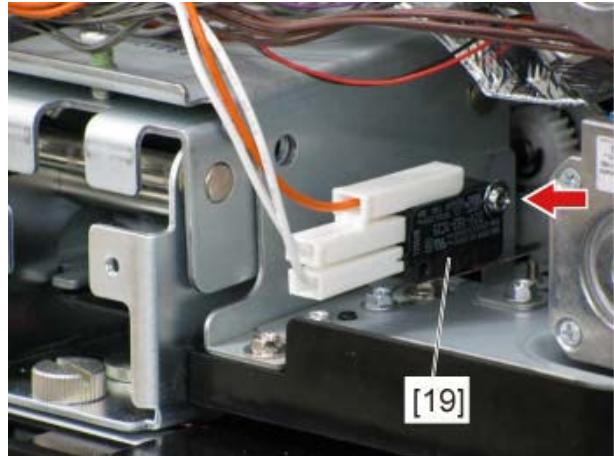


Fig. 4-870

## 4.11.27 DSDF feed motor (MD1)

- (1) Take off the rear cover.  
P. 4-287 "4.11.7 DSDF rear cover"
- (2) Disconnect 1 connector [20]. Remove 2 screws and slide the DSDF feed motor [21] to the upper left to take it off.

### Notes:

The harness color of the DSDF feed motor is purple, be sure to check the harness color at installing.

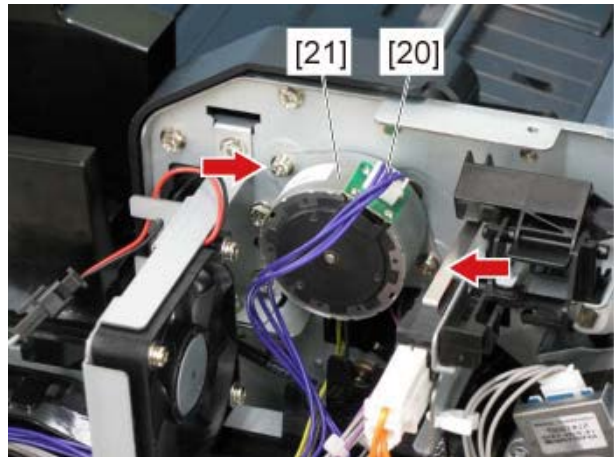


Fig. 4-871

## 4.11.28 DSDF separation motor (MD2)

- (1) Take off the DSDF-LED PC board.  
P. 4-291 "4.11.11 DSDF-LED PC board (LEDD)"
- (2) Disconnect 1 connector [22]. Remove 2 screws. Turn the DSDF separation motor [23] clockwise and slide it to the upper right to take it off.

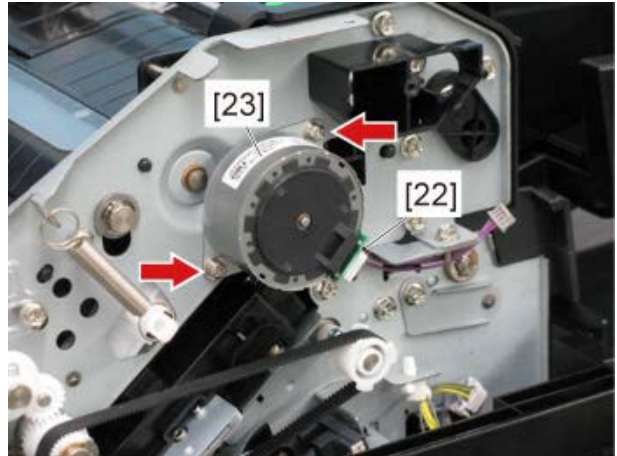


Fig. 4-872

## 4.11.29 Intermediate transport unit

### Notes:

- When taking the DSDF from the equipment to disassemble it, be sure to put it on an even workspace.
- Take off the platen sheet before maintenance to prevent it from being damaged or dirtied.

- (1) Take off the original jam access cover.  
P. 4-289 "4.11.9 Original jam access cover"
- (2) Take off the original tray.  
P. 4-293 "4.11.14 Original tray"
- (3) Disconnect 5 connectors.

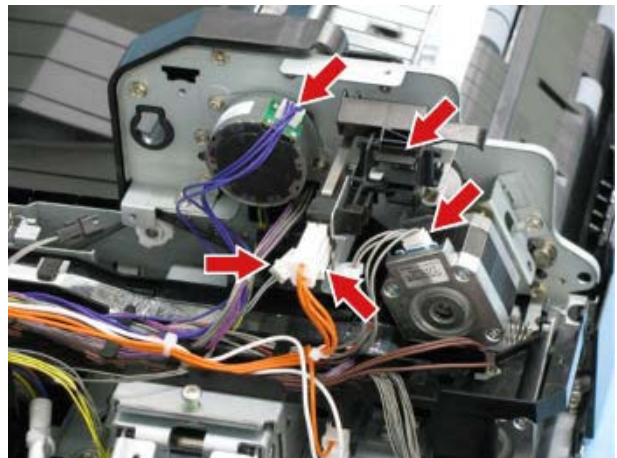


Fig. 4-873

- (4) Disconnect 2 connectors.

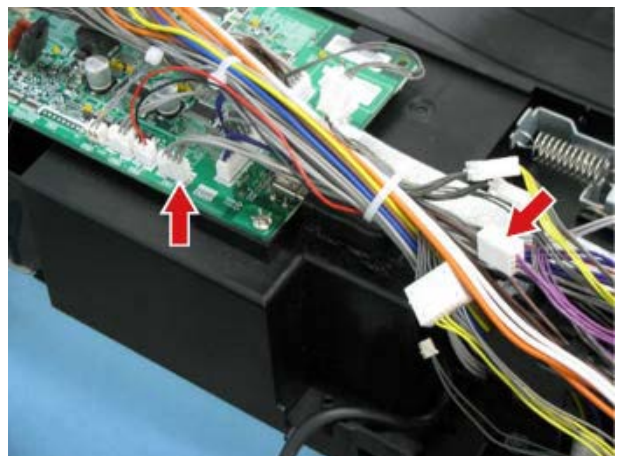


Fig. 4-874

(5) Remove 4 screws.

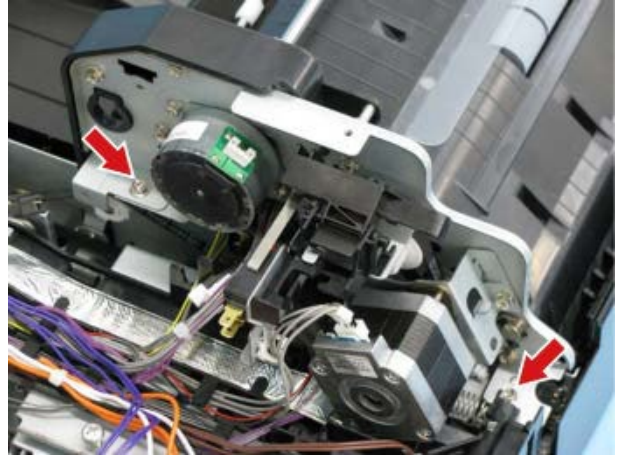


Fig. 4-875

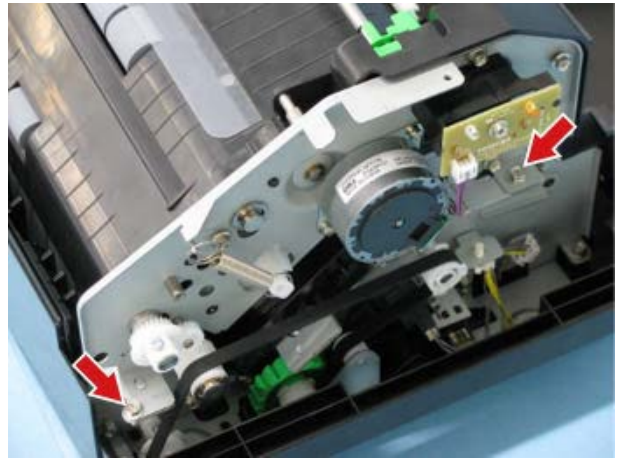


Fig. 4-876

(6) Take off the intermediate transport unit [1].

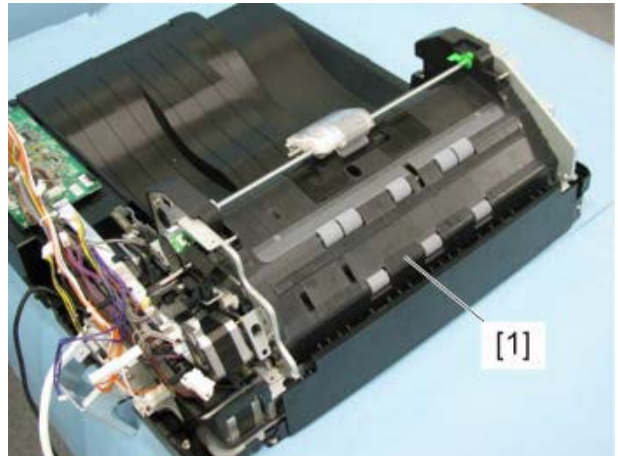


Fig. 4-877

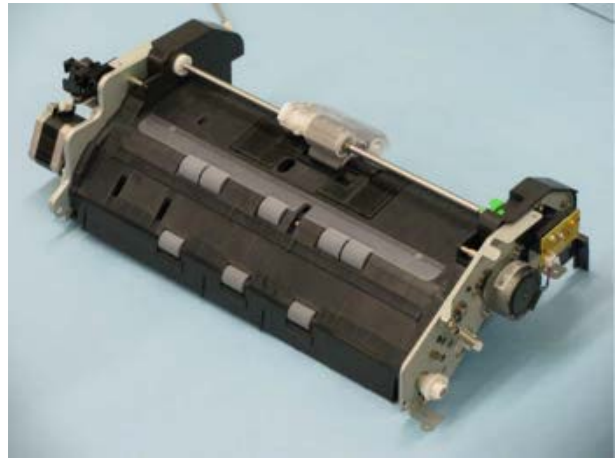



Fig. 4-878

### 4.11.30 DSDF read-in sensor-1 (SD11) / DSDF read-in sensor-2 (SD12)

- (1) Take off the DSDF-CCD module.  
 P. 4-315 "4.11.34 DSDF-CCD module (CCDD)"
- (2) Disconnect 2 connectors and remove 1 screw. Take off the sensor bracket [2].

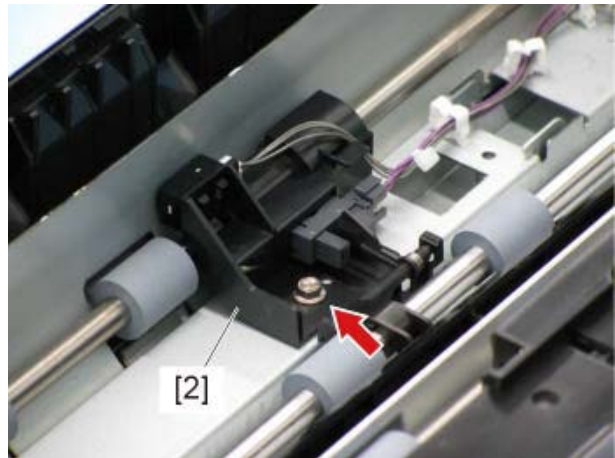


Fig. 4-879

- (3) Release the latch and take off the DSDF read-in sensor-1 [3] from the sensor bracket.
- (4) Release the latch and take off the DSDF read-in sensor-2 [4] from the sensor bracket.

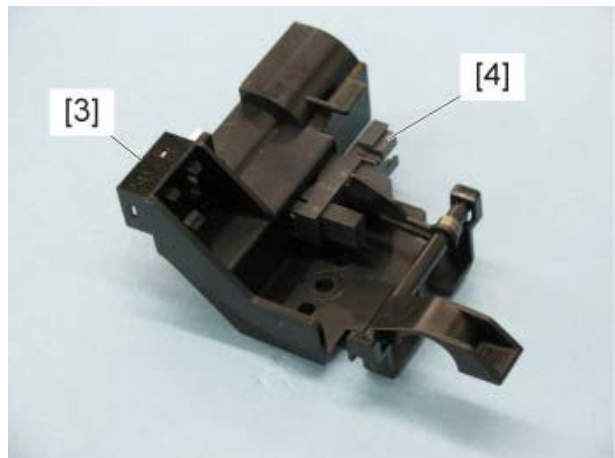


Fig. 4-880

### 4.11.31 DSDF exit sensor (SD13) / DSDF tray lift lower limit sensor (SD10)

- (1) Take off the intermediate transport unit.  
P. 4-307 "4.11.29 Intermediate transport unit"
- (2) Remove 1 screw. Remove the pin [6] at the front of the sensor stay [5] and release the latch [7] at the center. Take off the sensor stay.

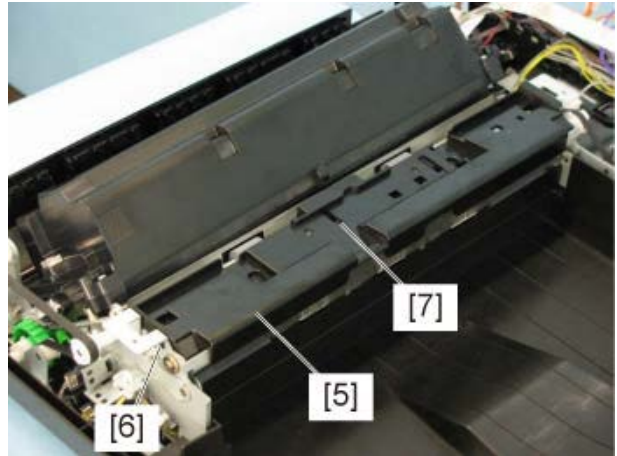


Fig. 4-881



Fig. 4-882

- (3) Disconnect 1 connector. Release the latch and take off the DSDF exit sensor [8].

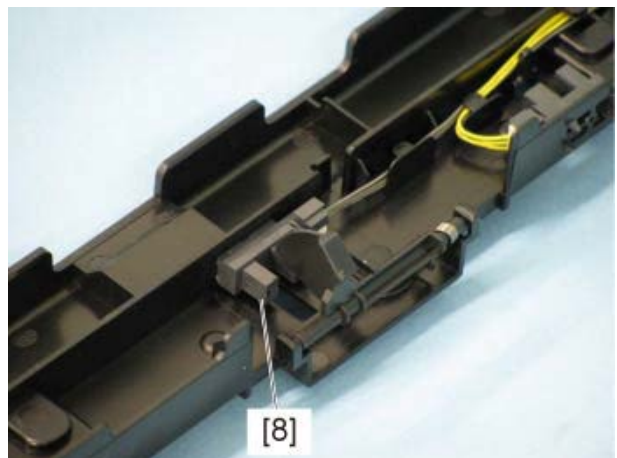


Fig. 4-883

- (4) Disconnect 1 connector. Release the latch and take off the DSDF tray lift lower limit sensor [9].

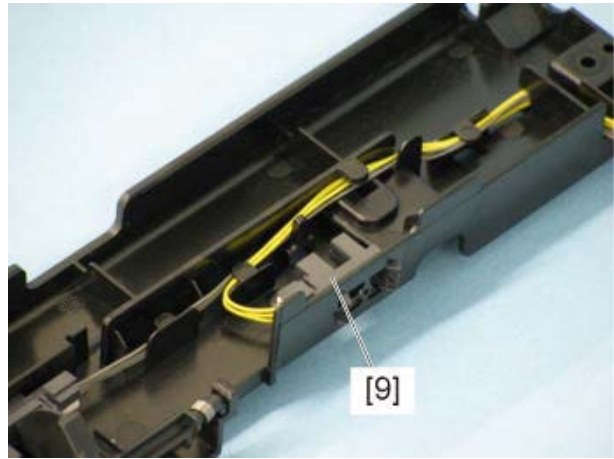


Fig. 4-884

### 4.11.32 Lower transport unit

- (1) Take off the DSDF rear cover.  
📖 P. 4-287 "4.11.7 DSDF rear cover"
- (2) Take off the DSDF front cover.  
📖 P. 4-288 "4.11.8 DSDF front cover"
- (3) Take off the DSDF-CCD module.  
📖 P. 4-315 "4.11.34 DSDF-CCD module (CCDD)"
- (4) Take off the DSDF left cover.  
📖 P. 4-290 "4.11.10 DSDF left cover"
- (5) Release the harness [6] from the harness guide [5].  
Disconnect the connectors [7] for the DSDF upper cover interlock switch and the DSDF lower cover interlock switch.  
Remove 2 screws and take off the harness guide [5].

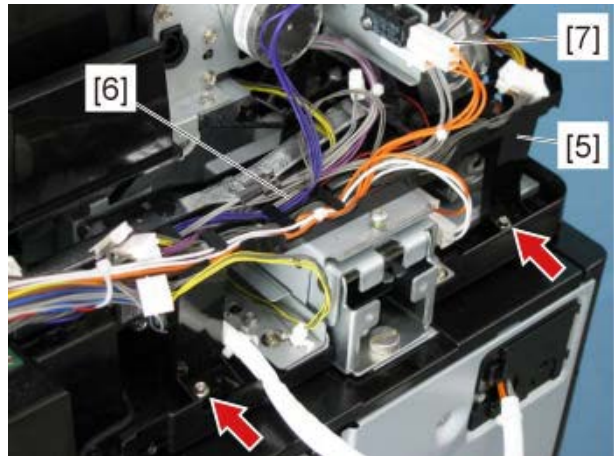


Fig. 4-885

- (6) Remove 9 screws and take off the lower transport unit [10].

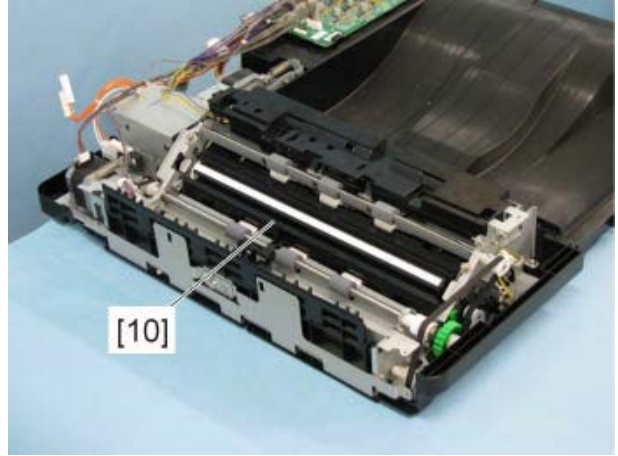


Fig. 4-886

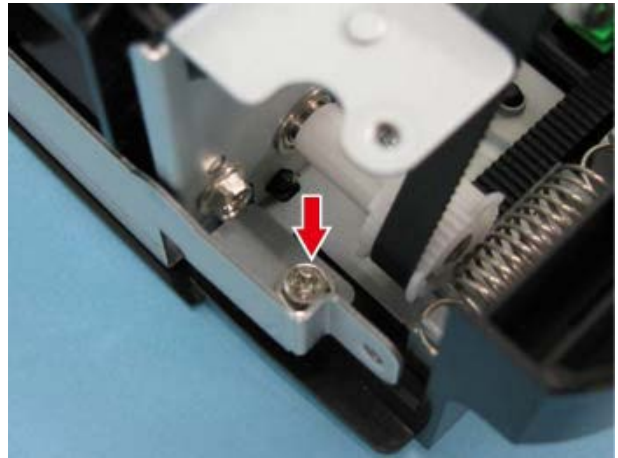


Fig. 4-887

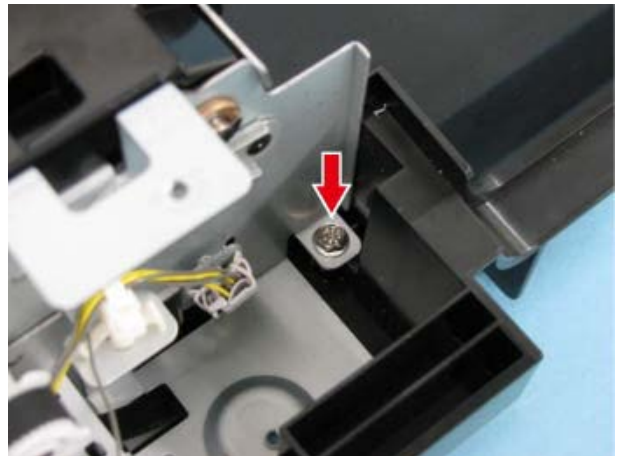


Fig. 4-888



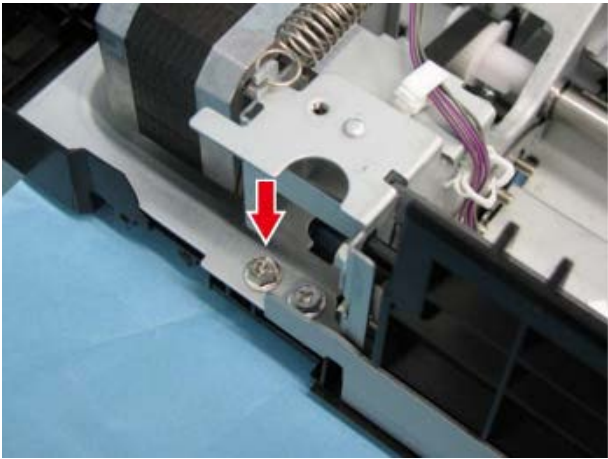


Fig. 4-889

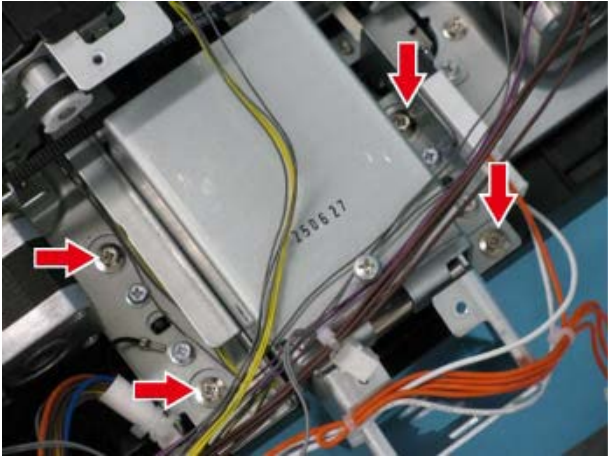


Fig. 4-890



Fig. 4-891

Lower transport unit

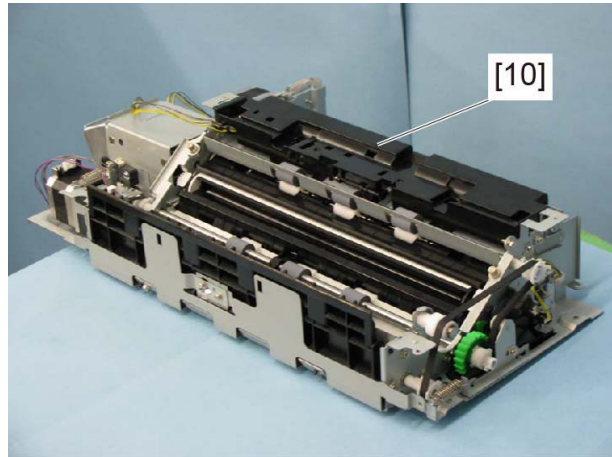


Fig. 4-892

#### 4.11.33 DSDF shading sheet HP sensor (SD14) / DSDF lower cover opening/closing detection sensor (SD15)

- (1) Take off the lower transport unit.  
📖 P. 4-311 "4.11.32 Lower transport unit"
- (2) Remove 1 screw and take off the sensor bracket [11].

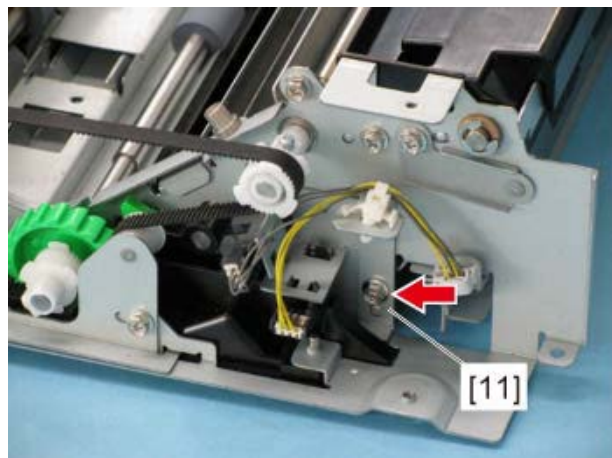


Fig. 4-893

- (3) Disconnect the connector. Release the latch and take off the DSDF shading sheet HP sensor [12] from the sensor bracket.
- (4) Disconnect the connector. Release the latch and take off the DSDF lower cover opening/closing detection sensor [13] from the sensor bracket.

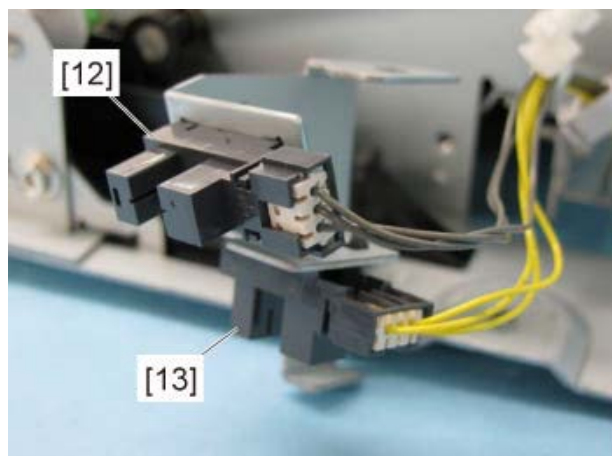


Fig. 4-894

### 4.11.34 DSDF-CCD module (CCDD)

- (1) Take off the intermediate transport unit.  
📖 P. 4-307 "4.11.29 Intermediate transport unit"
- (2) Disconnect 1 flat harness and 1 connector.

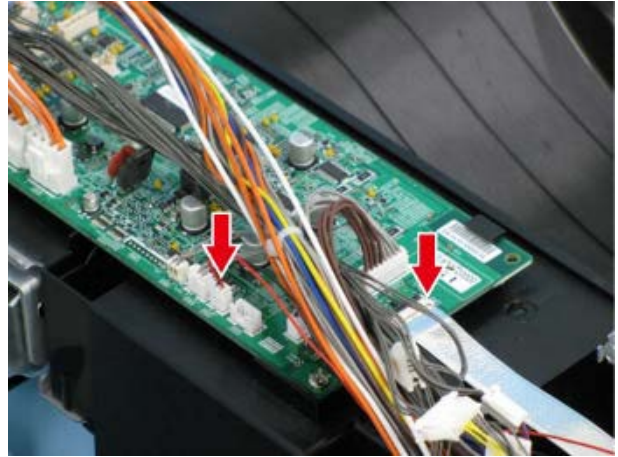


Fig. 4-895

- (3) Take off the DSDF-CCD module [1].

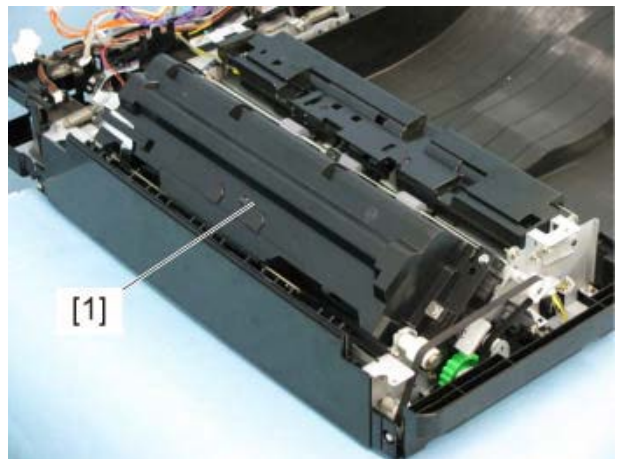


Fig. 4-896

DSDF-CCD module

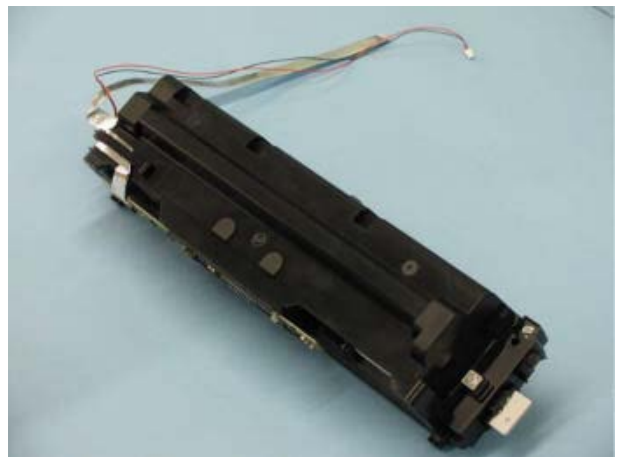
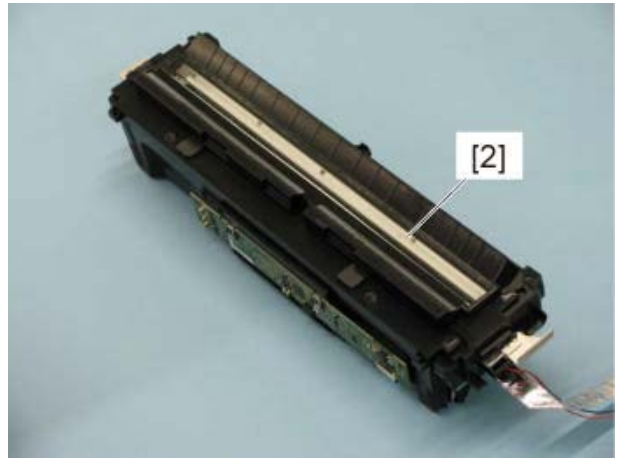


Fig. 4-897

**Notes:**

- Do not leave fingerprints or stains on the slit glass of the DSDF-CCD module [2].
- Pay close attention not to cause any impact or vibration to the DSDF-CCD module because it is a precision apparatus.



**Fig. 4-898**

## 4.12 Removal and Installation of Options

### 4.12.1 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.

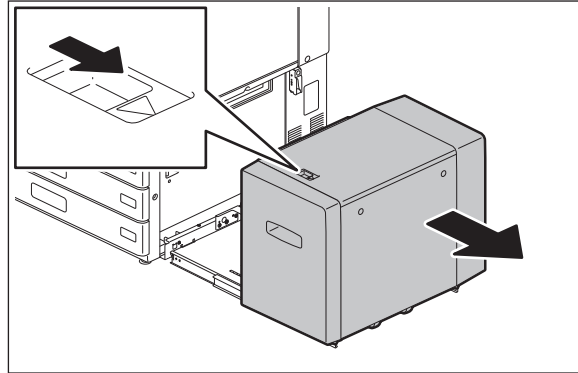


Fig. 4-1

- (3) Remove 1 screw and take off the connector cover [1].

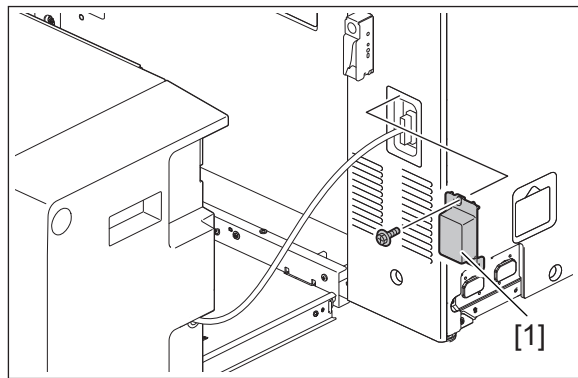


Fig. 4-2

- (4) Disconnect the interface cable [2] of the Large Capacity Feeder (LCF).

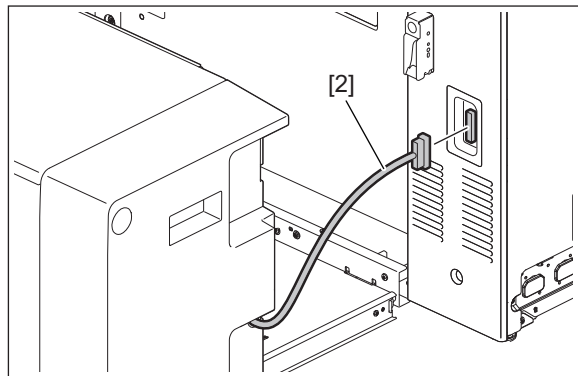


Fig. 4-3

- (5) Remove 2 fixing screws on the rear side.

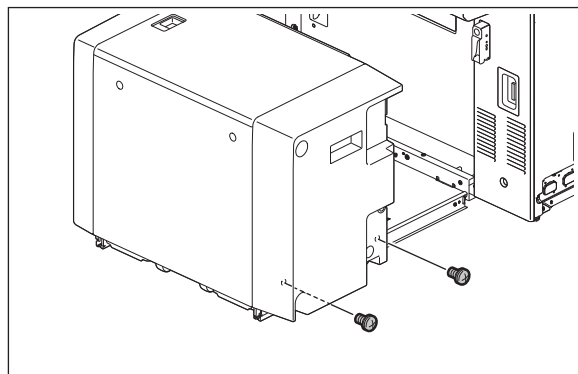
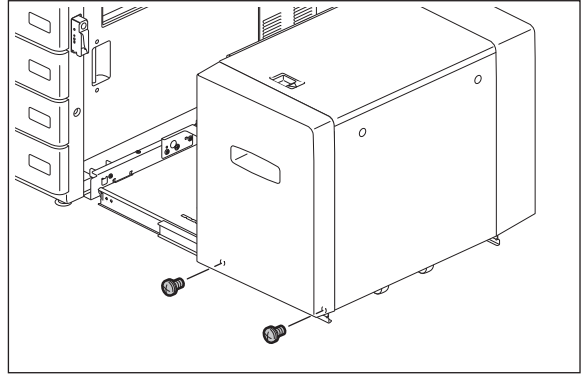


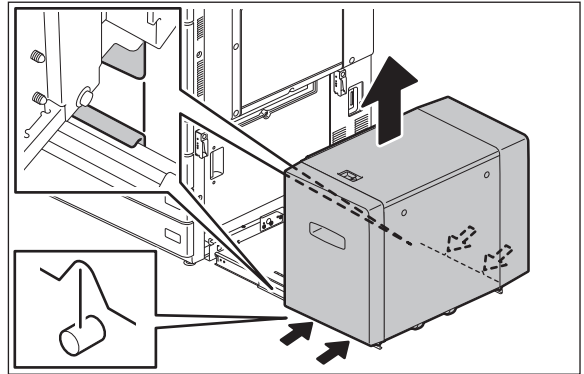
Fig. 4-4

(6) Remove 2 fixing screws on the front side.



**Fig. 4-5**

(7) Lift the Large Capacity Feeder (LCF) and take it off from the slide rail.



**Fig. 4-6**

## 4.12.2 Finisher

- (1) Turn OFF the power and unplug the power cable.
- (2) Take off the connector cover and disconnect the interface cable [1] of the finisher.

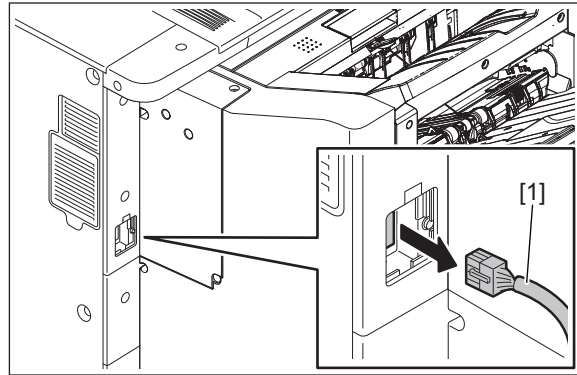


Fig. 4-7

- (3) Separate the finisher from the equipment.

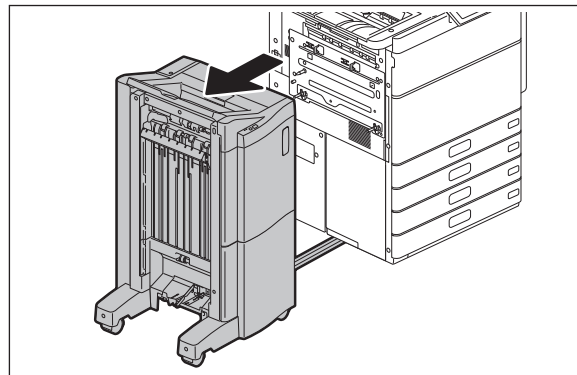


Fig. 4-8

- (4) Remove 3 screws and then take off the guide rail from the finisher.

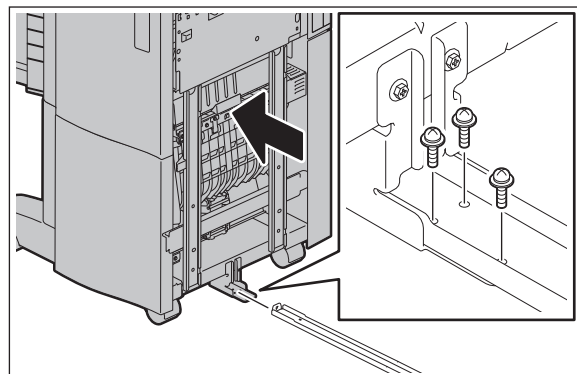


Fig. 4-9

### 4.12.3 Hole Punch Unit

- (1) Turn OFF the power and unplug the power cable.
- (2) Take off the connector cover and disconnect the interface cable [1] of the finisher.

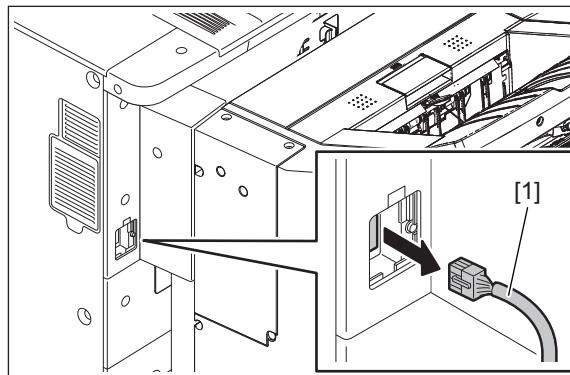


Fig. 4-10

- (3) Separate the finisher from the equipment.

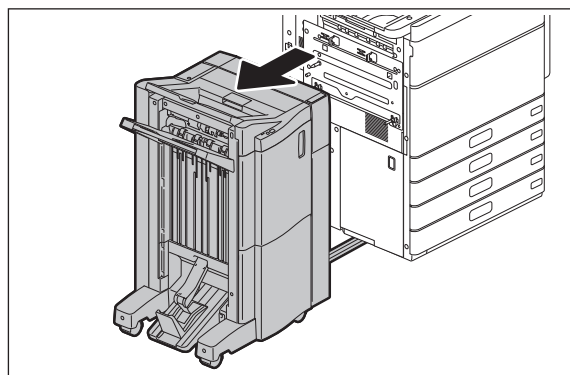


Fig. 4-11

**Notes:**

If MJ-1112 is used, separate the finisher and then pull out the saddle stitch unit.

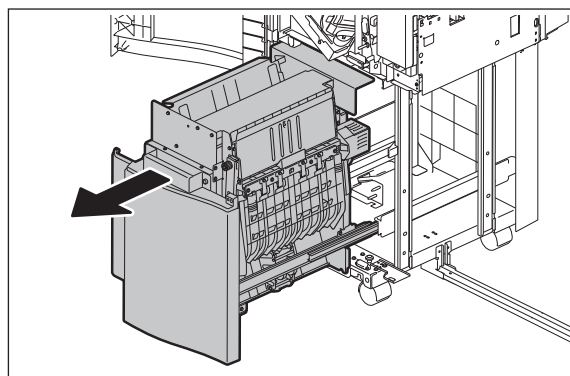


Fig. 4-12

- (4) Take off the cover.

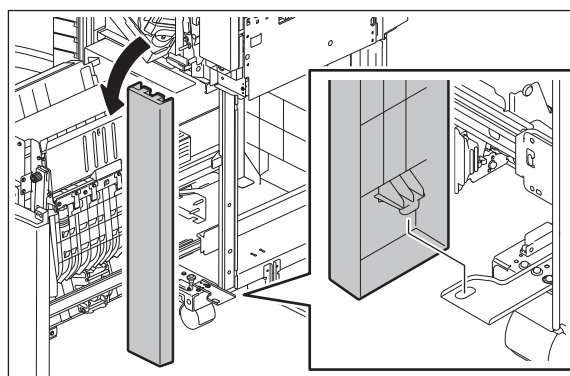


Fig. 4-13



- (5) Remove 2 screws and then take off the cover.

**Notes:**

When installing the cover, do not let the harness be caught.

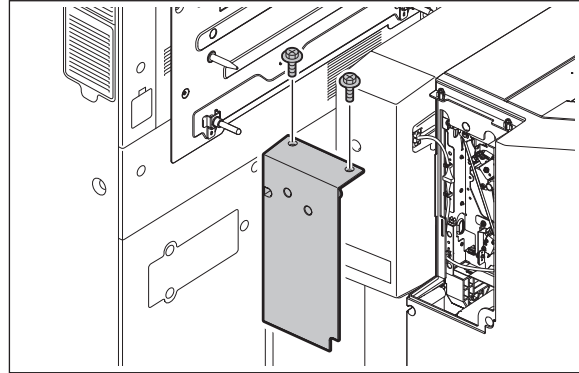


Fig. 4-14

- (6) Remove 1 harness clamp. Release the harness from 4 harness clamps.

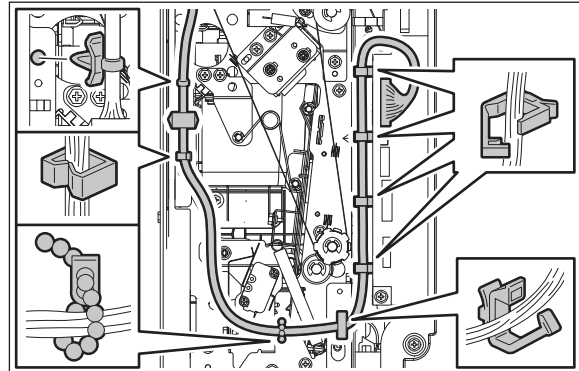


Fig. 4-15

- (7) Disconnect 1 connector.

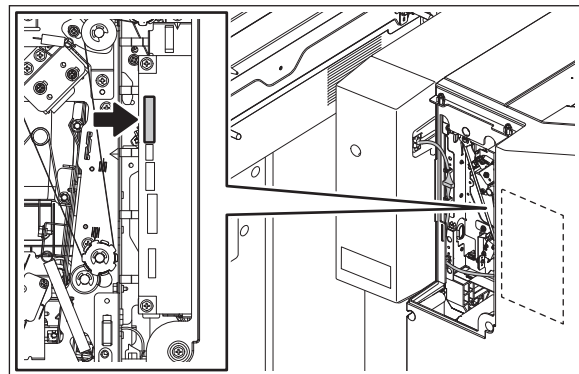


Fig. 4-16

- (8) Disconnect 1 connector.

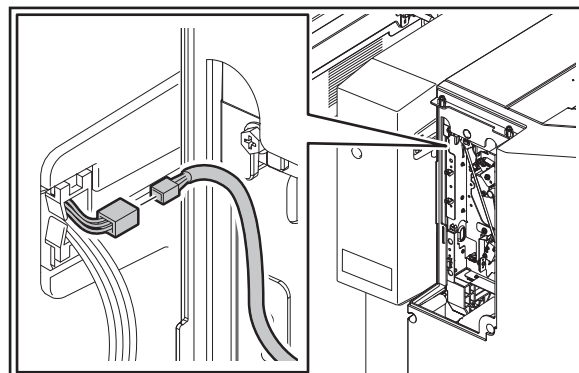
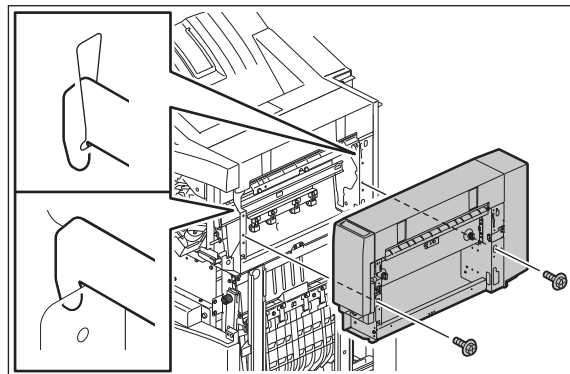


Fig. 4-17

- (9) Open the cover of the finisher.
- (10) Remove 2 screws and then take off the hole punch unit.



**Fig. 4-18**

## 5. SELF-DIAGNOSTIC MODE

### 5.1 Overview

This equipment consists of two servicing menus whose start-up method differs. Setting and adjustment can be performed by entering into a mode such as [05 ADJUSTMENT MODE] or [49 Firmware Update] from each menu.

- **FS Menu**

Mode		Contents
03 TEST MODE		Checks the status of input/output signals.
04 TEST PRINT MODE		Outputs the test patterns.
05 ADJUSTMENT MODE		Adjusts various items.
08 SETTING MODE		Sets various items.
20 PM SUPPORT MODE		Clears each counter.
30 LIST PRINT MODE		Prints various lists or outputs them in a CSV format.
31 CHART PRINT MODE		Prints the charts.
FAX	11 FAX CLEAR MODE	Sets the fax board.
	12 FAX LIST PRINT MODE	Outputs the contents set for the fax functions.
	13 FAX FUNCTION MODE	Sets the fax functions.
	19 RAM EDIT MODE	This is the mode for the special settings. (This is not used generally.)
35 DATA BACKUP/RESTORE MODE		This function backs up or restores the data.

- **HS Menu**

Mode		Contents
01 Control Panel Check		Checks various contents regarding the LCD, LED, hard keys and digital keys on the control panel.
49 Firmware Update		Performs firmware update with a USB storage device.
59 SRAM Data Cloning		Backs up the SRAM data to a USB storage device.
73 Firmware Assist		Clears error flags or safely deletes data in the HDD to support the replacement of the SYS board, SRAM or HDD.
74 HDD Assist		Assists the Security HDD by checking the type of the mounted HDD, reverting the HDD to a factory default or removing keys.
75 File System Recovery		Checks, recovers or initializes the file system (HDD).
76 SRAM Maintenance		Recovers the equipment from particular errors such as F800 or F900.

\* Only the modes which are available for this equipment are displayed on each menu.

## [A] Starting each Menu

Menu			Mode*1		Operation			
FS Menu [FUNCTION CLEAR] + [START] + [POWER ON]	→	Enter a service password and press [OK].	→	03 TEST MODE	→	SELFDIAGN OSIS CODE		
				04 TEST PRINT MODE	→	SELFDIAGN OSIS CODE		
				05 ADJUSTMENT MODE	→	CLASSIC*2	→	SELFDIAGN OSIS CODE
				08 SETTING MODE	→	CLASSIC*2	→	SELFDIAGN OSIS CODE
				20 PM SUPPORT MODE	→			5.8
				30 LIST PRINT MODE	→			5.9
				31 CHART PRINT MODE	→			5.10
				FAX • 11 FAX CLEAR MODE • 12 FAX LIST PRINT MODE • 13 FAX FUNCTION MODE • 19 RAM EDIT MODE*3	→			SELFDIAGN OSIS CODE
				35 DATA BACKUP/RESTORE MODE	→			5.12
HS Menu [HOME] + [START] + [POWER ON]	→	Enter a service password and press [OK].	→	01 Control Panel Check	→	5.13		
				49 Firmware Update	→	11.2.2		
				59 SRAM Data Cloning	→	12.1.4		
				73 Firmware Assist	→	5.14		
				74 HDD Assist	→	5.15		
				75 File System Recovery	→	5.16		
				76 SRAM Maintenance	→	5.17		

\*1 FS menu: Select the mode and press [NEXT].

HS menu: Select the icon of the mode.

\*2 Press [CLASSIC] displayed at the upper right of the menu.

\*3 This is not used generally.

## [B] Cancellation of the self-diagnostic mode

The modes, which can be entered from [FS Menu], can be canceled by the following methods.

- When [FS Menu] is displayed on the screen:  
Press [FS Menu] to return to the menu screen. Press [NORMAL].  
The self-diagnostic mode finishes and the [HOME] screen appears. Rebooting/non-rebooting of the equipment will be performed depending on the mode worked and the code operated.
- When only [Return] is displayed on the screen:  
Press [Return] for several times until [FS Menu] is displayed on the screen. When [FS Menu] appears, press it.
- When neither [Return] nor [FS Menu] are not displayed on the screen:  
Press the [ON/OFF] button and perform the shut-down operation on the screen displayed.

To cancel the modes, which can be entered from [HS Menu], press the [ON/OFF] button for a few seconds to shut down the equipment.

## [C] State transition diagram of self-diagnosis modes

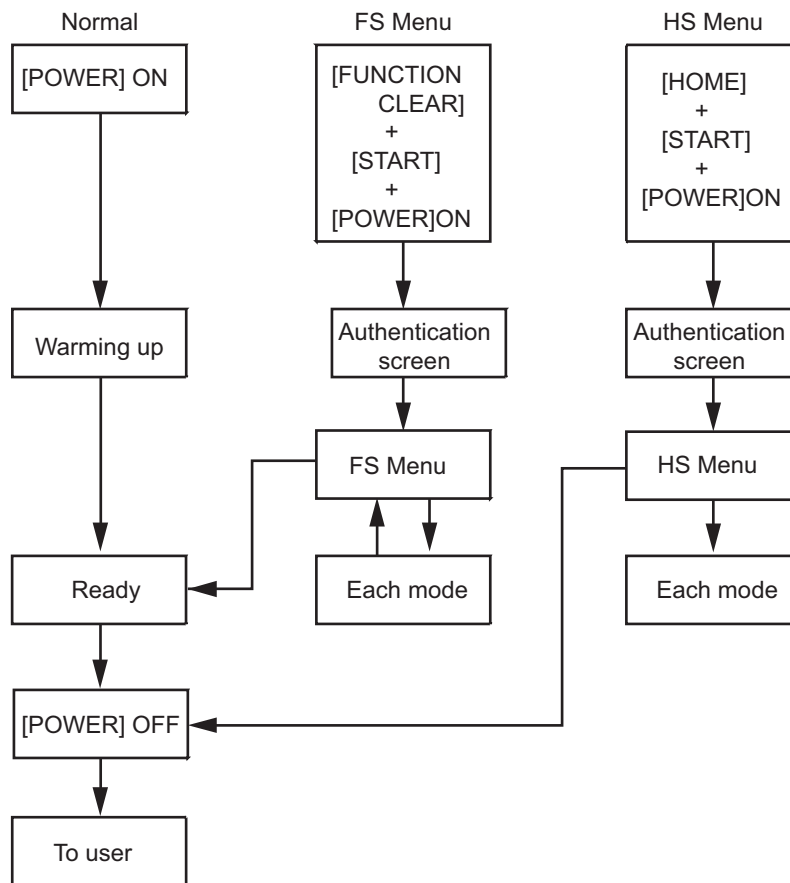


Fig.5-1

\* Be sure to cancel the self-diagnostic mode before customers start using the equipment.

## [D] Changing/setting of the service password

- (1) The [SETTINGS] screen is displayed by press [SETTINGS] on [FS Menu].
- (2) Press [Service Password] to change or reset the service password.

## 5.2 Description Rule for Each Menu and Mode

The description of the self-diagnostic code in this document complies with the rule below.

### Example

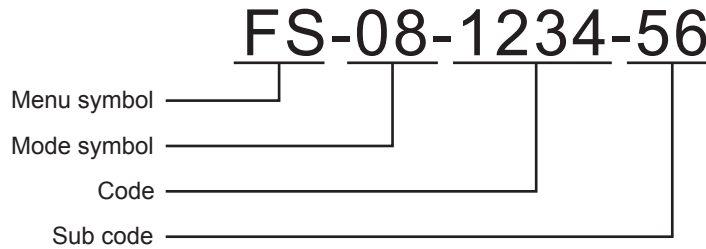


Fig.5-2

1. Symbol for the menu  
FS: FS Menu (Starting by pressing the [ON/OFF] button while pushing the [FUNCTION CLEAR] and [START] buttons simultaneously.)  
HS: HS Menu (Starting by pressing the [ON/OFF] button while pushing the [HOME] and [START] buttons simultaneously.)
2. Symbol for the mode  
The first two digits of each mode
3. Code  
The number of the code
4. Sub code  
This will only be given when a sub code exists.

### [A] FS Menu

#### [05 ADJUSTMENT MODE] or [08 SETTING MODE]:

[FS-05-1234-56] or [Performs FS-05-1234-56] is taken for explanation purposes.

- (1) Start FS Menu by pressing the [ON/OFF] button while pushing the [FUNCTION CLEAR] and [START] buttons simultaneously.

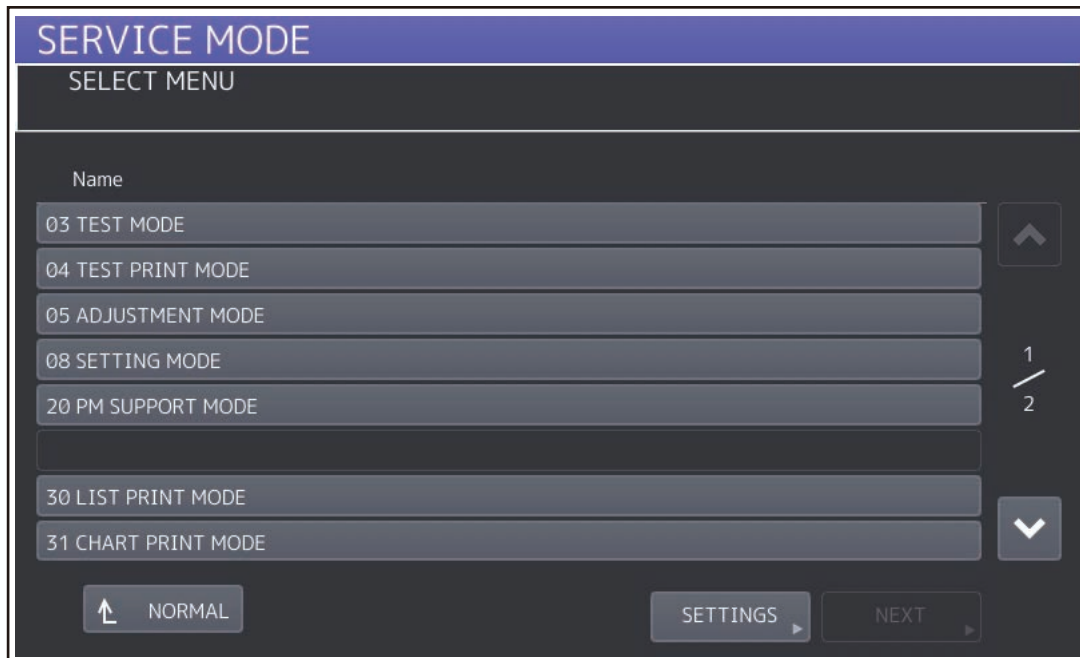


Fig.5-3

- (2) Select [05 ADJUSTMENT MODE] and press [NEXT].

- (3) Press [CLASSIC] on the upper right of the menu to display the adjustment mode menu.

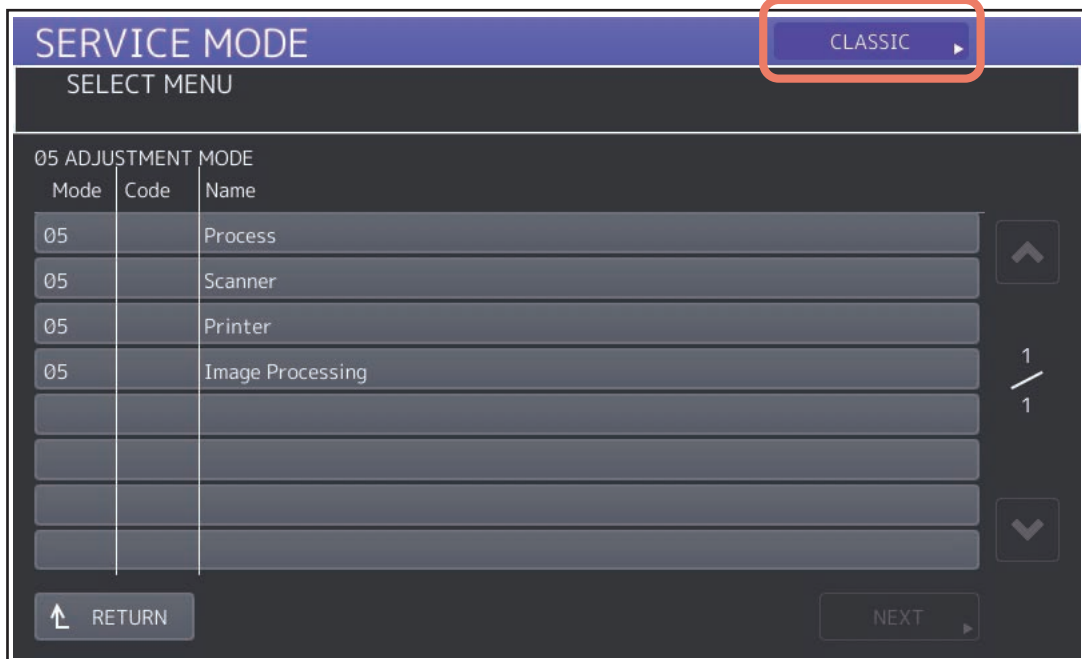


Fig.5-4

- (4) By using the digital keys displayed on the screen, enter [1], [2], [3], [4] and then press the [START] button. Enter the sub codes [5] and [6] and then press the [START] button.
- (5) Carry out the adjustment by following the instructions displayed on the screen or press the [START] button.

**[03 TEST MODE]:**

The key-pressing procedure for the modes, which are set by the combination of the [F1], [F2] and [F3] keys, are described as below.

[F1: ON]: Only F1 is turned ON.

[F1, 2: ON]: F1 and F2 are turned ON.

\* The number of the [F] key, which is turned ON, is depicted by dividing with "," (commas) as above.

[F1, 2, 3: ON]: All of the [F] keys are turned ON.

[F: OFF]: All of the [F] keys are turned OFF.

**Example:**

[FS-03-F:OFF-9-A]: Turn OFF all of the [F] keys in the FS-03 mode, select [9] and then [A].

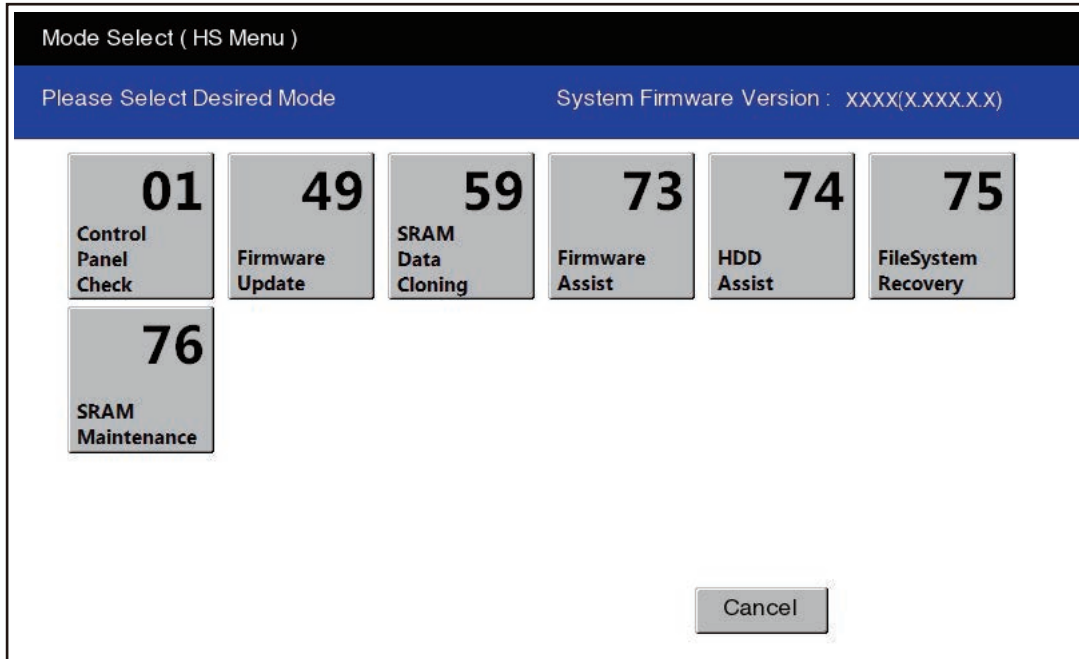
[FS-03-F1:ON-9-A]: Turn ON the [F1] key in the FS-03 mode, select [9] and then [A].

**[FAX]:**

In case of [FS-11], [FS-12] or [FS-13] is given in the explanations, select [FAX] in the [FS Menu] and then press [NEXT] to choose each mode.

**[B] HS Menu**

- (1) Start HS Menu by pressing the [ON/OFF] button while pushing the [HOME] and [START] buttons simultaneously.



**Fig.5-5**

- (2) Press the icon to operate.
- (3) Follow the instructions displayed on the screen.

**[C] When a particular setting condition is applied:**

The setting value is given at the end of the description by dividing with ":" (colons).

**Example:**

[FS-08-8911:3]: "3" is set for FS-08-8911.



## 5.3 Service UI

### 5.3.1 Overview

Each mode of the self-diagnostic codes can be used by selecting the keyword of the screen in the Service UI.

The codes which are used frequently can be selected in the Service UI.

The Service UI can be used in the following modes in the FS Menu.

- 05 ADJUSTMENT MODE
- 08 SETTING MODE

**Notes:**

Not all codes can be used in the Service UI.

For the codes available with the Service UI, refer to the "Self-diagnostic code list" (separate document).

### 5.3.2 Operation procedure

- (1) Start the FS Menu. Select the mode of the above Service UI and press [NEXT].
- (2) Select the item whose setting is to be changed and press [NEXT] until the code number is displayed. Press [OK]. The display shifts to the classic screen of the selected code.

### 5.3.3 Starting the FS Menu from the normal mode

If the [Tool] icon is displayed on the USER FUNCTIONS menu of the normal mode, the FS Menu can be started.

- (1) Turn the power ON.
- (2) Enter the user name and password if necessary. \*
- (3) Press [USER FUNCTIONS] on the HOME screen.
- (4) Press the [Tool] icon on the upper left of the screen for at least 3 seconds.

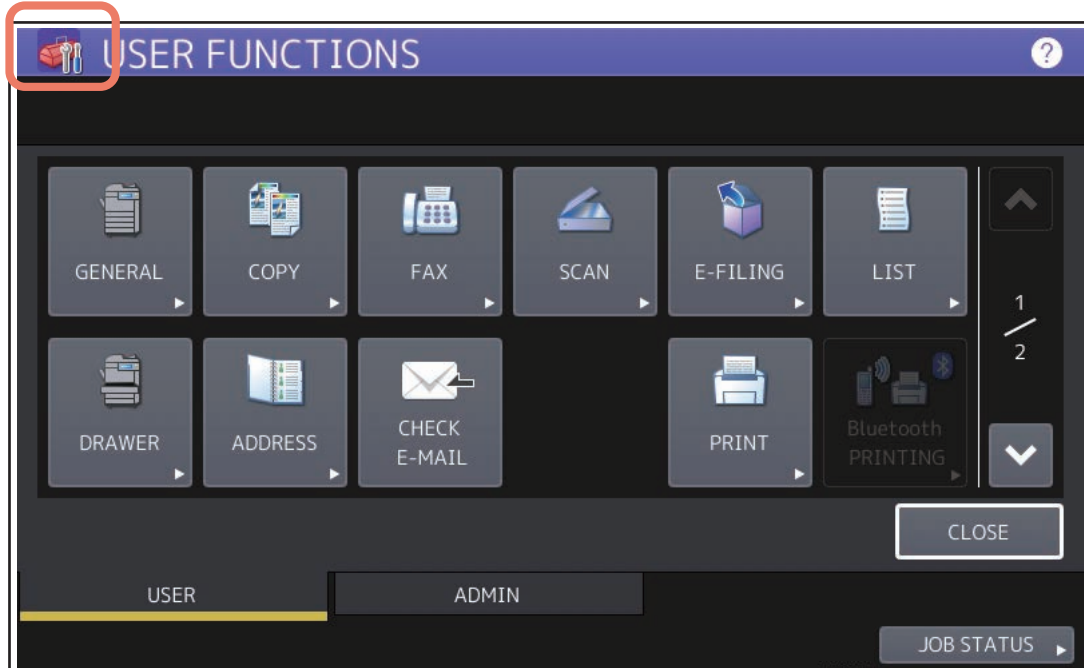


Fig.5-6

(5) Enter the service password and press [OK].  
The FS Menu appears.

\* When "3" is set for FS-08-8911 (security mode), the authentication screen is always displayed.

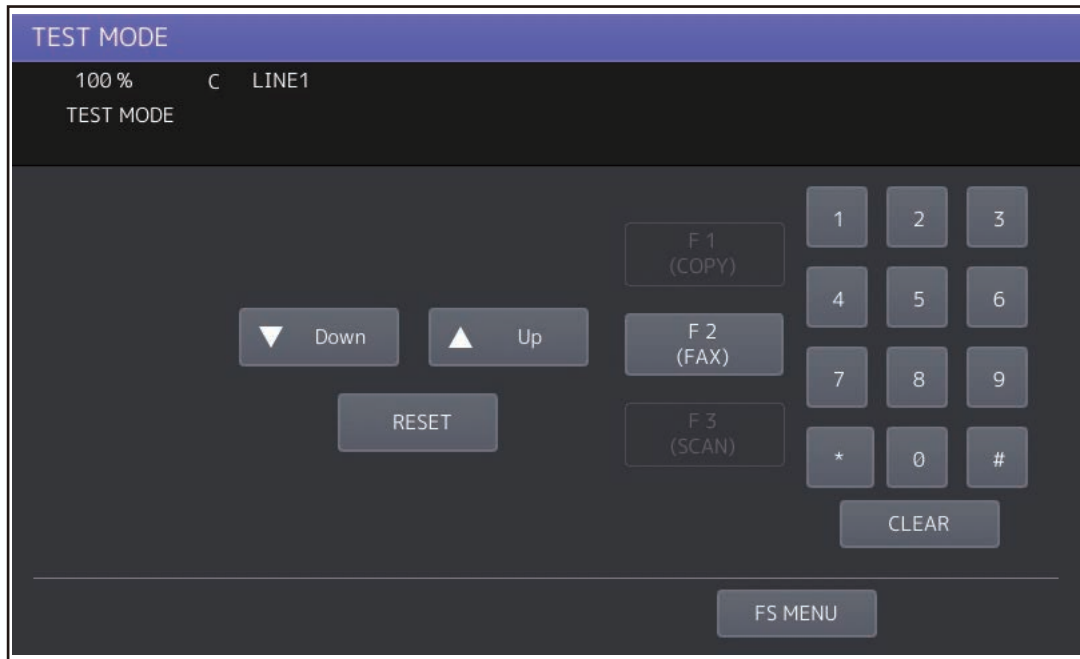
**Notes:**

- The service password needs to be changed to log in for the first time.
- In case the password is forgotten, ask the administrator to reset the service password.
- Note that the user data are deleted at that time.

## 5.4 03 TEST MODE

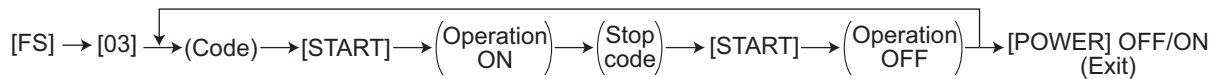
### 5.4.1 Output check

The status of the output signal can be checked.

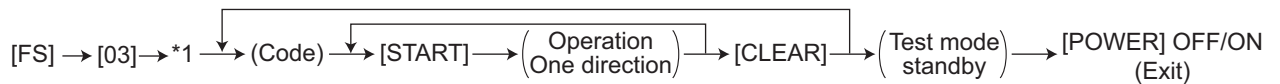


#### <Operation procedure>

##### Procedure 1



##### Procedure 2

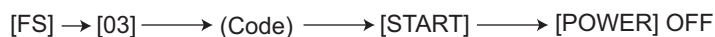


- \* To perform the fax line 2 modem test or CML test, press [F2] to switch the line mode. (By pressing [F2], the line mode is switched between line1 and line 2.)

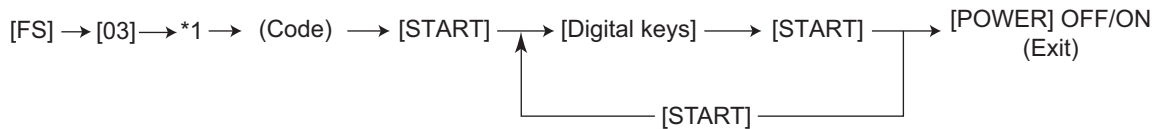
##### Procedure 3



##### Procedure 4



## Procedure 5



\* To perform the fax line 2 modem test or CML test, press [F2] to switch the line mode. (By pressing [F2], the line mode is switched between line1 and line 2.)

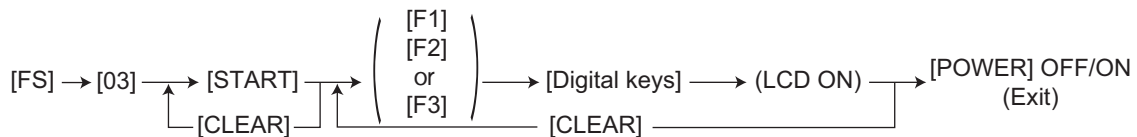
\* Return to the standby screen for code input by pressing [Clear].

Refer to the "Self-diagnostic code list" (separate document) for the codes available in the 03 TEST MODE.

### 5.4.2 Input check

The status of each input signal can be checked by operating the [F1], [F2], [F3] and the digital keys.

#### <Operation procedure>



#### Notes:

- When the [START] button is pressed, the equipment enters the input check mode and the following screen appears.
- "100%" is displayed on the input check mode ready screen. "C%" is displayed when [F1] is turned ON. "F%" is displayed when [F2] is turned ON. "S%" is displayed when [F3] is turned ON.
- The PRINT DATA lamp blinks when the input check is running.

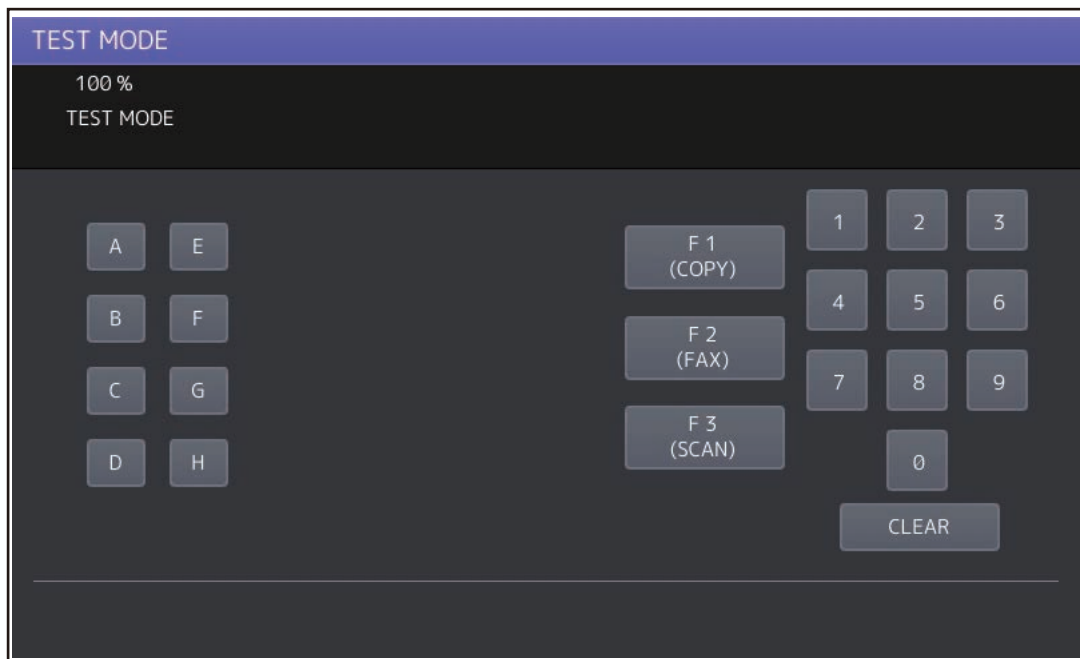


Fig.5-7

Refer to the "Self-diagnostic code list" (separate document) for the items to be checked and the condition of the equipment when [A] through [H] are highlighted.

Refer to the "Self-diagnostic code list" (separate document) for the codes available in the 03 TEST MODE.

## 5.5 04 TEST PRINT MODE

The embedded test pattern can be printed out.

Operation procedure: Refer to SELF-DIAGNOSIS CODE.

## 5.6 05 ADJUSTMENT MODE

Various adjustments and test printing can be performed.

Operation procedure: Refer to SELF-DIAGNOSIS CODE.

### 5.6.1 TEST PRINT

One sheet of the test print for various patterns can be printed out by entering 1 to 3-digit code and pressing [TEST PRINT] in the [CLASSIC] Mode standby screen in the [05 ADJUSTMENT MODE].

Operation procedure: Refer to SELF-DIAGNOSIS CODE.

## 5.7 08 SETTING MODE

Various settings can be set.

Operation procedure: Refer to SELF-DIAGNOSIS CODE.

## 5.8 20 PM SUPPORT MODE

 P. 7-6 "7.4 PM Support Mode"

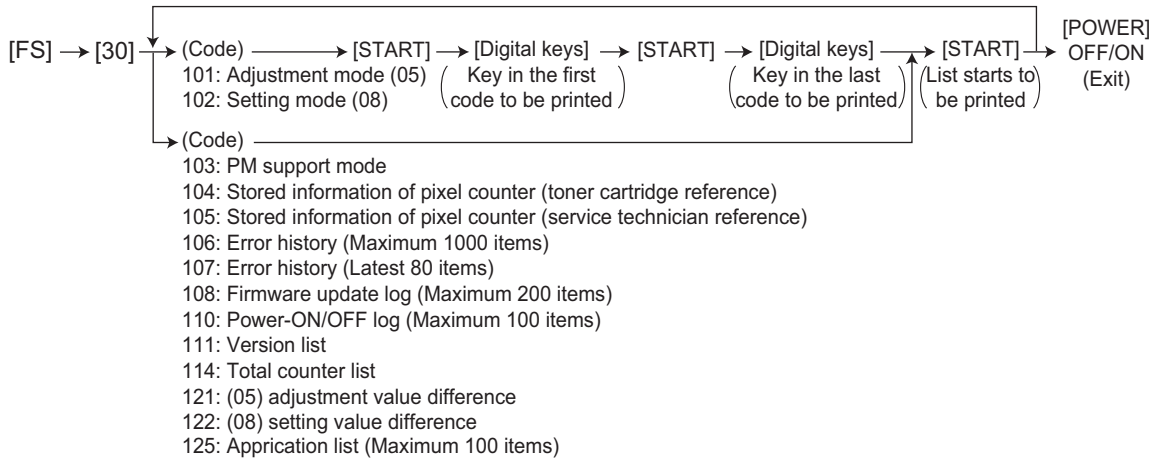
### <Operation procedure>

[FS] → [20] → (Operation started) → Exit

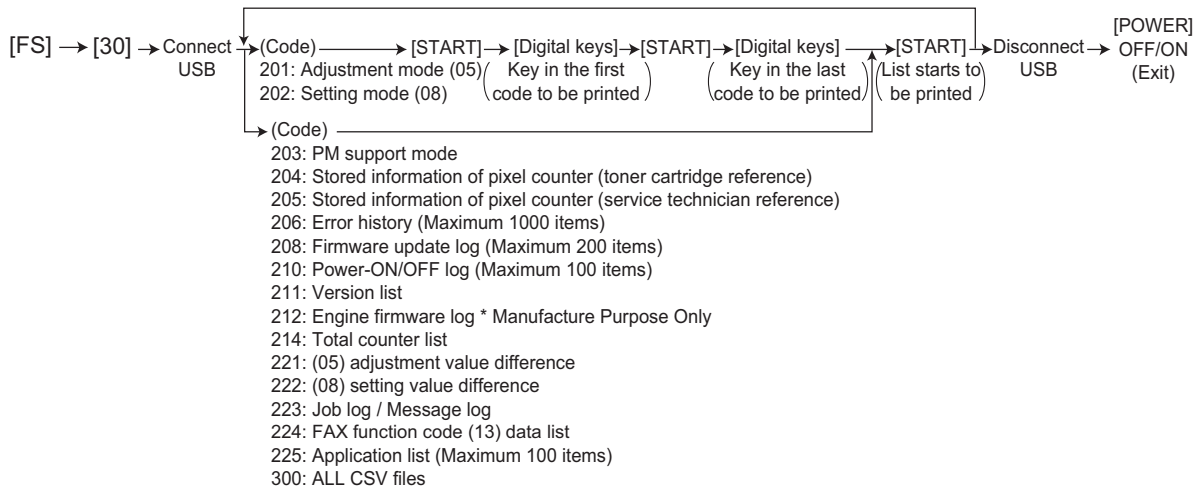
## 5.9 30 LIST PRINT MODE

### 5.9.1 Operation procedure

#### [ 1 ] Print out



#### [ 2 ] CSV output (USB)



#### Notes:

##### Precautions when storing information into USB device

- When storing the setting information of the equipment into a USB device, be sure to obtain permission from a user in advance.
- When storing the setting information of the equipment into a USB device, 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.
- The buttons on the control panel keep blinking while data are being stored in the USB device. Do not disconnect the USB device while data are being stored.

## Tips

In the USB storage procedure above, lists are stored in a CSV format. The names of the CSV files are shown below.

201:ADJUSTMENT\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 202:SETTING\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 203:PM\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 204:PIXEL\_TONER\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 205:PIXEL\_SERVICE\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 206:ERROR\_LOG\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 208:FW\_UPGRADE\_LOG\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 210:POWER\_ONOFF\_LOG\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 211:VERSION\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 212:ENG\_FW\_LOG\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 214:TOTAL\_COUNTER\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 221:05DIFFERENCE\_CODE\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 222:08DIFFERENCE\_CODE\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv  
 223:JOB\_LOG\_serial\_date and time(YYYYMMDDHHMMSS) (encrypted file)/MESSAGE\_LOG\_serial\_date and time(YYYYMMDDHHMMSS) (encrypted file)  
 224:FAX\_FUNCTION\_LIST\_Serial No.\_Date(YYYYMMDDHHMMSS).csv  
 225:APPLICATION\_LIST\_serial\_date and time(YYYYMMDDHHMMSS).csv

## 5.9.2 List Printing

Lists below are output in the list print mode.

List data are printed out or output in a CSV format by storing them in a USB device. Paper sizes available for this printing are A4 or LT or larger. This section introduces a sample of each list.

Perform [FS-30] to start the list print mode.

Lists	List code	
	Printout	CSV 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
Engine firmware log	-	212
Total counter list	114	214
(05) adjustment value difference	121	221
(08) setting value difference	122	222
Application list	125 (Maximum 100 items)	225 (Maximum 100 items)
Job log/Message log	-	223
FAX Function mode (13) data list	-	224
Output all CSV files	-	300 *

\*: (05) adjustment value difference and (08) setting value difference are not output.

- 05 ADJUSTMENT MODE

05 ADJUSTMENT MODE DATA LIST				S/N: xxxxxxxx		TOTAL: 9999999	
20xx-xx-xx xx:xx				TOSHIBA e-STUDIOxxx		DF TOTAL: 9999999	
CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
2000	128	3860-0	88	4830	128	5920	128
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
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.	.	.	.	.	.	.	.

Fig.5-8

The selected adjustment codes and the current adjustment value for each code are output in a list.



- 08 SETTING MODE

08 SETTING MODE		DATA LIST		S/N: xxxxxxxx		TOTAL: 9999999	
20xx-xx-xx xx:xx				TOSHIBA e-STUDIOxxx		DF TOTAL: 9999999	
CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
2010	2	2880	12	3040	0	3070-3	0
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
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.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.

Fig.5-9

The selected setting codes and the current setting value for each code are output in a list.

- 13 FAX FUNCTION MODE

```
13 FAX FUNCTION LIST FOR MAINTENANCE,VERSION x.x.x
20xx/xx/xx xx:xx:xx
TOSHIBA e-STUDIOxxxx
Cxxxxxxxx
FIN S/N-xxxxxxxx
TOTAL, 99999999, 99999999, 99999999, DF TOTAL, 99999999
CODE, SUB, DATA,
100, , 0
101, , 1
102, , 2
103, , 3
104, , 4
105, , 5
106, , 6
107, , 7
108, , 8
109, , 9
110, , 0
111, , 1
112, , 2
. .
. .
. .
. .
. .
. .
```

Fig.5-10

The selected setting codes and the current setting value for each code are output in a list.

- 20 PM SUPPORT MODE

PM SUPPORT CODE LIST				
		S/N: xxxxxxxx	TOTAL:	9999999
20xx-xx-xx xx:xx		TOSHIBA e-STUDIOxxx	DF TOTAL:	9999999
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.5-11

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. 7-1 "7. PREVENTIVE MAINTENANCE (PM)"

- Stored information of pixel counter (toner cartridge reference)

PIXEL COUNTER CODE LIST							
		S/N: xxxxxxxx		TOTAL:	9999999		
		TOSHIBA e-STUDIOxxx		DF TOTAL:	9999999		
20xx-xx-xx xx:xx							
TONERCARTRIDGE							
No	DATE	COLOR		PPC	PRN	FAX	TOTAL
0	20xx-xx-xx	Y	Print Count[LT/A4]	181	45	---	226
1	20xx-xx-xx	Y	Average Pixel Count[%]	2.70	1.74	---	2.51
2	20xx-xx-xx	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
3	20xx-xx-xx	M	Print Count[LT/A4]	181	45	---	226
4	20xx-xx-xx	M	Average Pixel Count[%]	6.11	2	---	5.29
5	20xx-xx-xx	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
6	20xx-xx-xx	C	Print Count[LT/A4]	181	45	---	226
7	20xx-xx-xx	C	Average Pixel Count[%]	5.46	2	---	4.81
8	20xx-xx-xx	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
9	20xx-xx-xx	K	Print Count[LT/A4]	278	145	9	432
10	20xx-xx-xx	K	Average Pixel Count[%]	6.15	3.86	23.25	5.74
11	20xx-xx-xx	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig.5-12

Pixel counter data (toner cartridge reference) are output in a list. See the following page for the pixel counter:


 P. 5-53 "5.18 Pixel Counter"

- Stored information of pixel counter (service technician reference)

PIXEL COUNTER CODE LIST		S/N: xxxxxxxx		TOTAL: 9999999			
		TOSHIBA e-STUDIOxxx		DF TOTAL: 9999999			
20xx-xx-xx xx:xx							
SERVICEMAN							
No	DATE	COLOR	PPC	PRN	FAX	TOTAL	
0	20xx-xx-xx	F	Print Count[LT/A4]	181	45	---	226
1	20xx-xx-xx	F	Average Pixel Count[%]	4.95	2.34	---	4.43
2	20xx-xx-xx	F	Latest Pixel Count[%]	8.36	2.34	---	2.34
3	20xx-xx-xx	Y	Print Count[LT/A4]	181	45	---	226
4	20xx-xx-xx	Y	Average Pixel Count[%]	2.7	1.74	---	2.51
5	20xx-xx-xx	Y	Latest Pixel Count[%]	6.15	0.39	---	0.39
6	20xx-xx-xx	M	Print Count[LT/A4]	181	45	---	226
7	20xx-xx-xx	M	Average Pixel Count[%]	6.11	2	---	5.29
8	20xx-xx-xx	M	Latest Pixel Count[%]	6.82	2.15	---	2.15
9	20xx-xx-xx	C	Print Count[LT/A4]	181	45	---	226
10	20xx-xx-xx	C	Average Pixel Count[%]	5.46	2.18	---	4.81
11	20xx-xx-xx	C	Latest Pixel Count[%]	6.42	2.73	---	2.73
12	20xx-xx-xx	K	Print Count[LT/A4]	181	45	---	226
13	20xx-xx-xx	K	Average Pixel Count[%]	5.51	3.43	---	5.10
14	20xx-xx-xx	K	Latest Pixel Count[%]	14.05	4.10	---	4.10
15	20xx-xx-xx	K	Print Count[LT/A4]	97	100	9	206
16	20xx-xx-xx	K	Average Pixel Count[%]	7.36	4.06	23.25	6.45
17	20xx-xx-xx	K	Latest Pixel Count[%]	7.32	2.19	6.25	2.19

Fig.5-13

Pixel counter data (service call reference) are output in a list. See the following page for the pixel counter:

 P. 5-53 "5.18 Pixel Counter"

- Error history

ERROR HISTORY LIST						
					S/N: xxxxxxxx	TOTAL: 9999999
					TOSHIBA e-STUDIOxxx	DF TOTAL: 9999999
20xx-xx-xx xx:xx						
CODE	COUNTER	DATE	TIME	ZOOM_XY	ABCD_EFH_IJLO_PQ_R	
F110	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
F110	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
F110	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
F110	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
EAD0	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
E860	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
E731	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
E090	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
E870	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	
E724	00000000	xxx-xx-xx	xx:xx:xx	000 000	0000_000_0000_00_0000000000	

Fig.5-14

The error history is output. See the following page for the parameters for each error:

 P. 8-56 "8.2.4 Printer function error"

- Firmware update log

```

FW UPGRADE LOG
S/N: xxxxxxxx          TOTAL:      9999999
TOSHIBA e-STUDIOxxx   DF TOTAL:   9999999

20xx-xx-xx xx:xx

MANUFACTURE DATE  20xx-xx-xx
UNPACKING DATE    20xx-xx-xx

USER  ROM/VERSION  DATE    TOTAL    COPY(B)  COPY(2)  COPY(C)  PRINT(B)  PRINT(2)  PRINT(C)  LIST    FAX    STATUS
Service Txxxxxx-xxxx 20xx-xx-xx 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 OK
Service Txxxxxx-xxxx 20xx-xx-xx 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 OK
Service Txxxxxx-xxxx 20xx-xx-xx 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 99999999 OK
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```

Fig.5-15

Firmware update logs are output.

- MANUFACTURE DATE: the date of manufacture / UNPACKING DATE: the date that the equipment was unpacked.
- Only the versions of ROMs updated with USB device are output.

Item	Content
USER	User who updated firmware
ROM/VERSION	Version of firmware
DATE	Date that firmware was updated
TOTAL	Total counter data when firmware was updated
COPY (B)	Copier counter data (black) when firmware was updated
COPY (2)	Copier counter data (twin color) when firmware was updated
COPY (C)	Copier counter data (full color) when firmware was updated
PRINT (B)	Printer counter data (black) when firmware was updated
PRINT (2)	Printer counter data (twin color) when firmware was updated
PRINT (C)	Printer counter data (full color) when firmware was updated
LIST	List print counter data when firmware was updated
FAX	Fax print counter data when firmware was updated
STATUS	Result of update

- Power-ON/OFF log

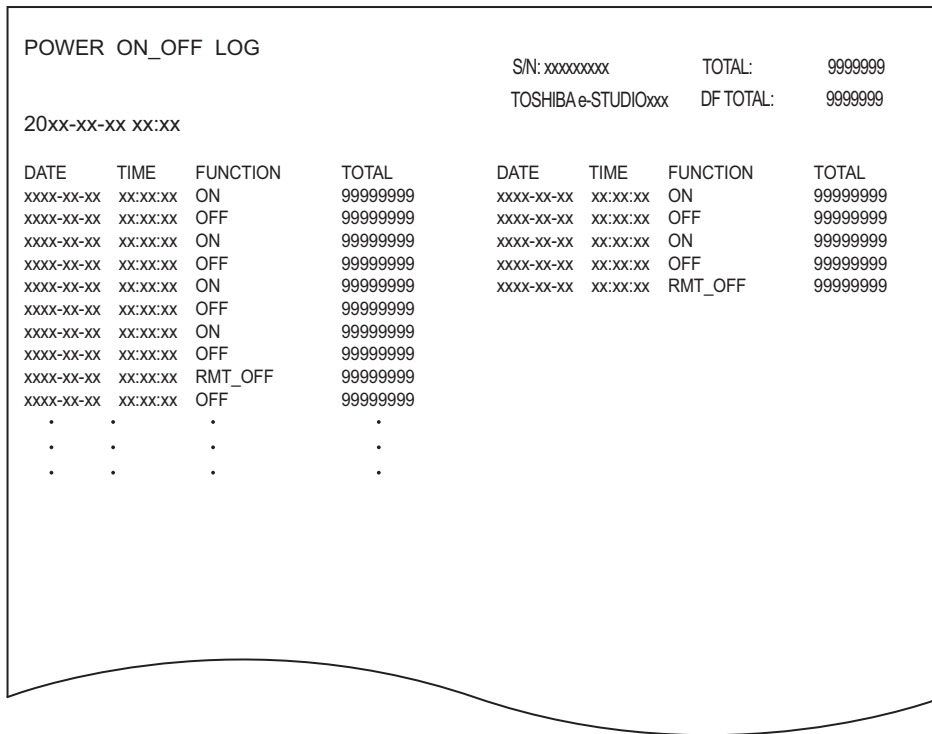


Fig.5-16

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



- Version list

```

VERSION LIST
S/N: xxxxxxxx          TOTAL:      9999999
TOSHIBA e-STUDIOxxx   DF TOTAL:   9999999

20xx-xx-xx xx:xx

SYSTEM FIRMWARE ROM VERSION      : Txxxxxxxxxxxx
SYSTEM FIRMWARE INTERNAL ROM VERSION: Vx.x.x.xx.xx
PRINTER ROM VERSION              : xxxM-xxx
SCANNER ROM VERSION              : xxxS-xxx
PFC ROM VERSION                  : xxxF-xxx
RADF ROM VERSION                 : DF-xxx
FINISHER STACKER ROM VERSION     : FIN-
FINISHER PUNCH ROM VERSION      : PUN-
FAX BOARD FIRMWARE ROM VERSION   : Hxxxxx
SYSTEM FIRMWARE INTERNAL OS VERSION : Vx.xxx.x.x
HDD DATA VERSION                : Txxxxxxxxxxxx
SYSTEM FIRMWARE OS VERSION       : Txxxxxxxxxxxx
NIC FIRMWARE ROM VERSION         : XXXXXXXXXXXX
LANGUAGE VERSION
  English(US)                    : xxx.xxx  xxx xxx xx xx:xx:xx xxxx
  .                               .
  .                               .
  .                               .

CAPACITY OF HDD                  : xx.x GB
DEVICE INFORMATION OF HDD        : xxx xxxxxxx-xxxxxx
SERIAL NUMBER OF HDD            : xx-xxxxxxxxxxxxx
MEMORY SIZE                      : xxxx MB / xxxx MB
INSTALLED ELK NAME              : Data overwrite enabler
                                IPsec enabler
                                Meta scan enabler
                                External interface enabler
                                .
                                .
                                .

```

Fig.5-17

The list of versions is output.

**Notes:**

Some of the characters in the fonts that are used to print the version list are not supported. As a result, the language names under LANGUAGE VERSION may not be printed correctly when printing the version list.

- Engine firmware log

```
ENGINE FW LOG
20xx/xx/xx xx:xx
TOSHIBA e-STUDIOxxxx
Cxxxxxxxx
FIN S/N-xxxxxxxx
TOTAL, 9999999, DF TOTAL, 9999999
```

CODE	SUB	DATA
4624	0	0
4624	1	0
4624	2	58
4624	3	3
4624	4	58
4624	5	3
4624	6	0
4624	7	56
4624	8	3
4624	9	0
4624	10	41
4624	11	1
4624	12	29
4624	13	7
4624	14	0
4624	15	0
4624	16	0
4624	17	0
4624	18	0
4624	19	0
4624	20	0
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.

Fig.5-18

The file of the engine firmware log is output (but it is not printed out).

- Total counter list

TOTAL COUNTER LIST		S/N: xxxxxxxx	TOTAL:	9999999
20xx-xx-xx xx:xx		TOSHIBA e-STUDIOxxx	DFTOTAL:	9999999
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
CALIBRATION COUNTER : 0				
SCAN COUNTER				
TOTAL	FULL COLOR TWIN/MONO COLOR BLACK TOTAL			
COPY	7	0	1	8
FAX	0	0	0	0
NETWOF	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

Fig.5-19

The list of total counter is output.

- (05) adjustment value/(08) setting value difference

05 DIFFERENCE LIST			S/N: xxxxxxxx      TOTAL:      9999999		
xx-xx-xx xx:xx			TOSHIBA e-STUDIOxxxx    DF TOTAL:      9999999		
CODE	BACKUP	CURRENT	CODE	BACKUP	CURRENT
* 2400	128	160			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			
.	.	.			

Fig.5-20

The value differences between the factory default and the current value of [05 Adjustment mode] and [08 Setting mode] in the FS Menu can be printed or output with a CSV file.

The mark "\*" or "+" will be added to the left side of the code in the following cases.

"\*": If there is a difference

"+": If there is no backed up value

**Notes:**

- Back-up data of the factory default are automatically created when the automatic gamma adjustment of the easy set-up mode has been completed during the unpacking and setting up of the equipment. The back-up file will be retained even if the system firmware is upgraded. However, the file will be deleted when the HDD is formatted or replaced.
- When the easy set-up mode is restarted while a specified value such as 4 through 9 is set for FS-08-9022 (Production process management status for easy setup), the back-up file stored during unpacking and setting-up is deleted after the completion of the automatic gamma adjustment and a new one is created while the value as of then is stored.
- When no back-up file exists  
 When FS-30-121 (122) is performed, the equipment returns to the ready state of the 30 LIST PRINT MODE without performing printing.  
 When FS-30-221 (222) is performed, the equipment returns to the ready state of the 30 LIST PRINT MODE and the error message "The file cannot be saved." appears on the panel.

## 5.10 31 CHART OUTPUT MODE

Various charts can be output.

- (1) Select [31 CHART OUTPUT MODE] in the FS Menu and press [NEXT].



Fig.5-21

- (2) Press the type of the chart to be output.
- (3) Specify the output settings and press [PRINT].

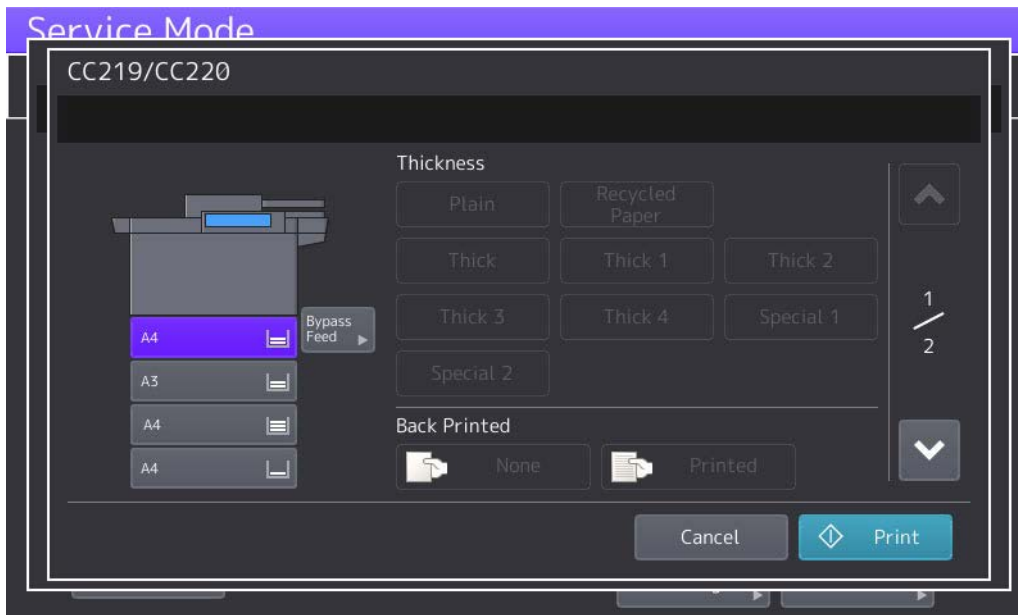


Fig.5-22

## 5.11 FAX

Adjustment and setting of the fax functions can be performed.

Select [FAX] in the FS Menu and press [NEXT]. The following modes are displayed.

11 FAX CLEAR MODE

12 FAX LIST PRINT MODE

13 FAX FUNCTION MODE

19 RAM EDIT MODE

### Notes:

The data automatically received during the self-diagnostic mode are sometimes not printed.

Therefore, be sure to disconnect the modular code from the line connector (LINE1, LINE2) of the equipment before starting the self-diagnostic mode. After the equipment is released from the self-diagnostic mode, reconnect the modular code.

### 5.11.1 11 FAX CLEAR MODE

- (1) Select [FAX] in the FS Menu and press [NEXT]. Select [11 FAX CLEAR MODE] and press [NEXT].

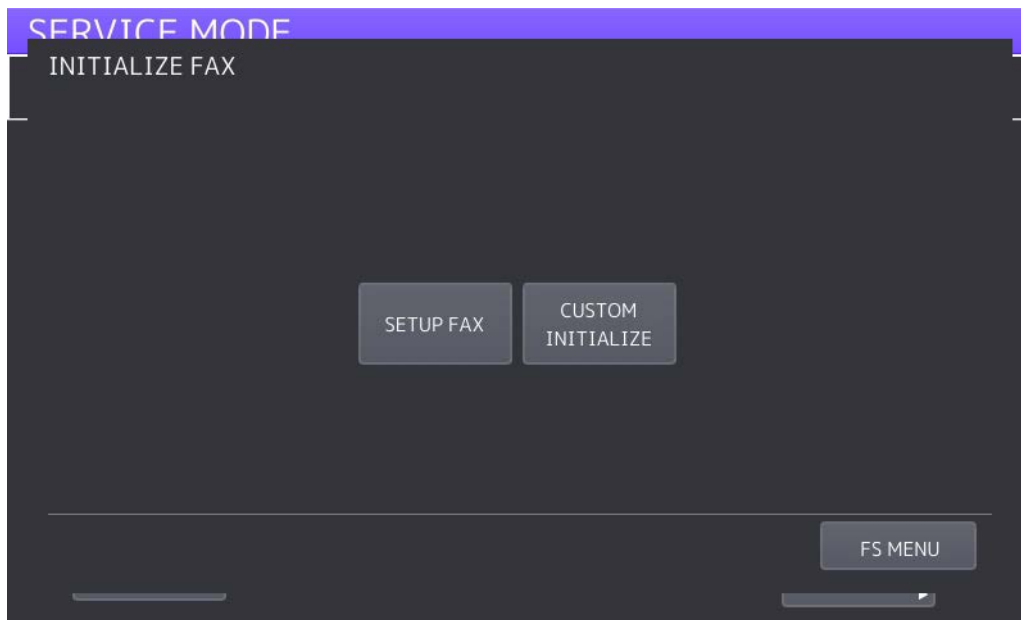


Fig.5-23

[SET UP FAX] and [CUSTOM INITIALZE] are displayed.

## [A] FAX Set-up

The destination of the fax can be set.

- (1) Press [SETUP FAX].
- (2) Select the destination and press [OK].



Fig.5-24

## [B] [CUSTOM INITIALZE]

Various FAX memories are initialized in the FAX clearing mode

- Memory Areas
  - User registration area (SRAM)
    - ID registration area
    - Home position
  - Image data area (HDD, SRAM)
    - Transmission file
    - Reception file
    - Image data file management area
    - F-code box information
  - System setting area (NVRAM)
    - Settings in the [13 FAX FUNCTION MODE] Areas 100 - 999

### <Operation procedure>

- (1) Press [CUSTOM INITIALZE].

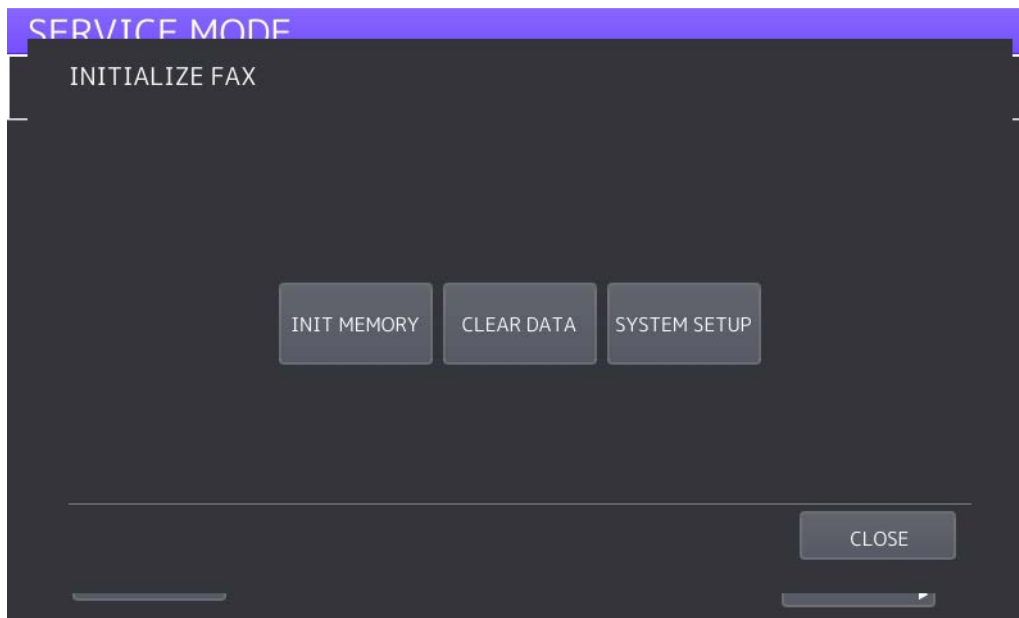


Fig.5-25

- (2) Select the mode.
  - [INIT MEMORY]: Initializes the user registration area (SRAM) so that there are no data stored. Initializes the system setting area (NVRAM) so that its value is reset to the default setting.
  - [CLEAR DATA]: Initializes the image data area (HDD, SRAM) so that there are no data stored.
  - [SYSTEM SETUP]: Initializes the system setting area (NVRAM) so that its value is reset to the default setting.



## 5.11.2 12 FAX LIST PRINT MODE

The setting contents of the fax function can be output.

- (1) Select [FAX] in the FS Menu and press [NEXT]. Select [12 FAX LIST PRINT MODE] and press [NEXT].



Fig.5-26

- (2) Select the list and press [PRINT].  
The names of the lists in [12 FAX LIST PRINT MODE] are shown below.
  - Protocol trace list (Line1)
  - Protocol trace list (Line2)
  - Error count list (transmis./recept.) (Line 1)
  - Error count list (transmis./recept.) (Line 2)
  - ERROR COUNT LIST (IFAX)
  - ERROR COUNT LIST (SCAN)
  - Function List for Maintenance
  - Memory dump list (system)
  - Memory dump list (FAX/LINE1)
  - Memory dump list (FAX/LINE2)
  - SUPPLY ORDER LIST

## 5.11.3 13 FAX FUNCTION MODE

Various fax functions can be set.

Operation procedure: Refer to SELF-DIAGNOSIS CODE.

## 5.11.4 19 RAM EDIT MODE

This is a mode for the special adjustments and settings. (This is not used generally.)

## 5.12 35 DATA BACKUP/RESTORE MODE

This function can save (back up) a back-up file of the MFP setting data in a USB media or external server, or can restore the stored (backed up) file into the equipment.

- (1) Select [35 DATA BACKUP/RESTORE MODE] in the FS Menu and press [NEXT].

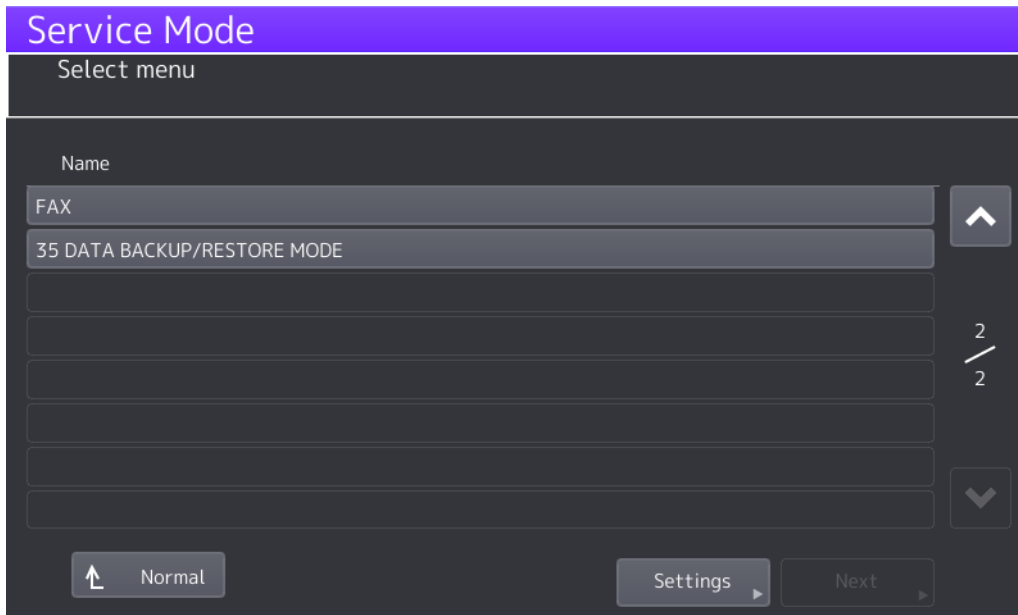


Fig.5-27

- (2) [Data Backup] and [Data Restore] are displayed.

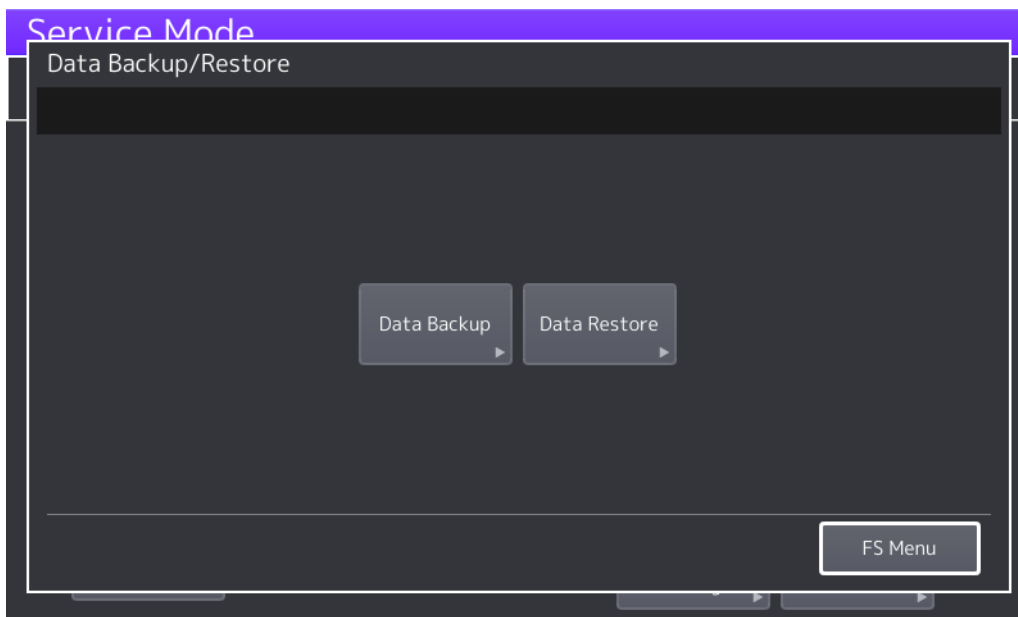


Fig.5-28

- (3) Select [Data Backup] or [Data Restore] and press [Next]. Press [USB Media].
- (4) Insert a USB storage device into the equipment and press [OK]. Backing up or restoring of the data starts.

### Tips

For details, refer to the "HDD Data Back-up/Restore Instruction Manual" (separate document).

## 5.13 01 Control Panel Check Mode

The following items can be checked with this mode.

- LCD back light blinking and brightness
- LCD display
- Confirmation of hard keys (buttons on the control panel) performance
- LEDs blinking
- Performance of digital keys (ten key option)
- LCD touch sensor
- USB storage device connection

### Notes:

- To check the performance of the digital keys, connect the ten key option before starting this mode.
- It is not possible to return to the HS Menu from [01 Control Panel Check]. To quit [01 Control Panel Check], display the LCD backlight check screen (Fig. A) and then press the [ON/OFF] button for a few seconds to shut down.

### 5.13.1 Screen transition

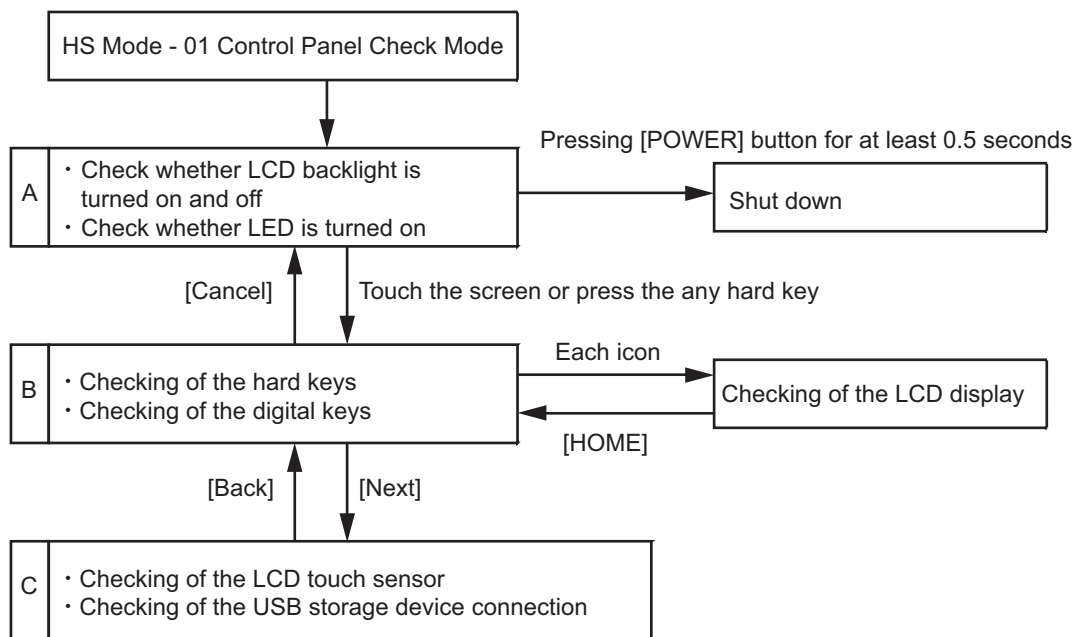


Fig.5-29

### 5.13.2 Checking of the LCD back light and LEDs

By pressing [01 Control Panel Check], the LCD back light blinks in 3-second intervals. Moreover, all LEDs are lit.

### Tips:

- By touching the screen or pressing any hard key, the screen is shifted to the hard key confirmation screen.

### 5.13.3 Checking of the LCD display, hard keys and digital keys

#### [A] Checking of the LCD display

By pressing the icon on the touch panel, the LCD display (Picture 1-15) confirmation screen is displayed.

#### Tips:

- The screen is returned to this one when the [HOME] button is pressed on each screen.

#### [B] Checking of the hard keys

By pressing each hard key, a particular text is displayed and the blinking condition of the LED is changed.

The following table shows each text and performance when the key is pressed.

Hard key	Text	Performance
ON/OFF (Pressing for at least 0.5 seconds)	MAIN POWER	The [MEMORY RX] LED is turned OFF.
ENERGY SAVER	ENERGY SAVER	The [ENERGY SAVER] LED is turned OFF.
ACCESS	ACCESS	The [PRINT DATA] LED is turned OFF.
HOME	HOME	The [!] LED is turned OFF.
Programable key 1	P-1	The LCD back light is made darker by each pressing. (10 levels)
Programable key 2	P-2	The LCD back light is made lighter by each pressing. (10 levels)
FUNCTION CLEAR	FUNCTION CLEAR	The [FUNCTION CLEAR] LED is turned OFF.
START	START	The [START] LED is turned OFF.

The text is displayed only while the key is being pressed. Each LED is turned OFF only while the key is being pressed.

### [C] Checking of the digital keys for Ten Key option

By pressing each digital key, a particular text is displayed. The following table shows each text when the key is pressed.

digital key	Text
1	OP-1
2	OP-2
3	OP-3
4	OP-4
5	OP-5
6	OP-6
7	OP-7
8	OP-8
9	OP-9
0	OP-0
*	OP-*
#	OP-#
C	OP-CLEAR

#### Tips:

- By pressing each icon on screen, the LCD display confirmation screen is displayed.
- The screen is shifted to the LCD touch sensor and USB storage device confirmation screen by your pressing [NEXT].

## 5.13.4 Checking of the LCD touch sensor and USB storage device connection

The screen is shifted to the LCD touch sensor and USB storage device confirmation screen by your pressing [NEXT] in the LCD display confirmation screen.

### [A] Checking of the LCD touch sensor

It can be checked whether the operations of swipe, pinch-out (enlargement) and pinch-in (reduction) are correctly detected on the screen. When the above operation is performed on the screen, an arrow which indicates the one detected by the touch sensor and a message are displayed.

Moreover, when any of [LH], [LL], [RH] or [RL] located on each corner of the screen is pressed, the calibration condition of the touched position can be checked.

### [B] Checking of the USB storage device connection

[USB Connection Failed] is displayed.

It can be checked whether a USB storage device inserted into the USB port is connected properly. Install a USB storage device and press the [START] button.

When a USB storage device is connected properly, [USB Connection Success] is displayed. If not, [USB Connection Failed] is displayed.

#### Tips:

It is not possible to return to the HS Menu from [01 Control Panel Check]. Return to the LCD back light blinking and brightness screen to shut down the equipment by pressing the [POWER] button for a few seconds.

## 5.14 73 Firmware Assist Mode

### 5.14.1 Overview

This mode enables you to operate the HDD partition, formatting SRAM data, delete the HDD/SRAM data and backup/restore the encryption key and license.

The Functions in this mode are below.

Functions	Content
Clear Software Update Error Flag	Clearing update error flag
Format Root Partition	Formatting data storage partition
Format HDD	Creating HDD partition
Key Backup/Restore	Backing up/restoring encryption key and license
Erase HDD Securely	Erasing HDD securely
Clear Service Tech Password	Clearing service password
Disable Fast boot	Disabling faster start
Clear SRAM	Formatting SRAM data
Erase SRAM Securely	Erasing SRAM securely
Format HDD Without Key Generation	Create HDD partition without having upgraded the key

### 5.14.2 Operation procedure

- (1) Perform [HS-73] by pressing [73 Firmware Assist].  
The following screen is displayed.

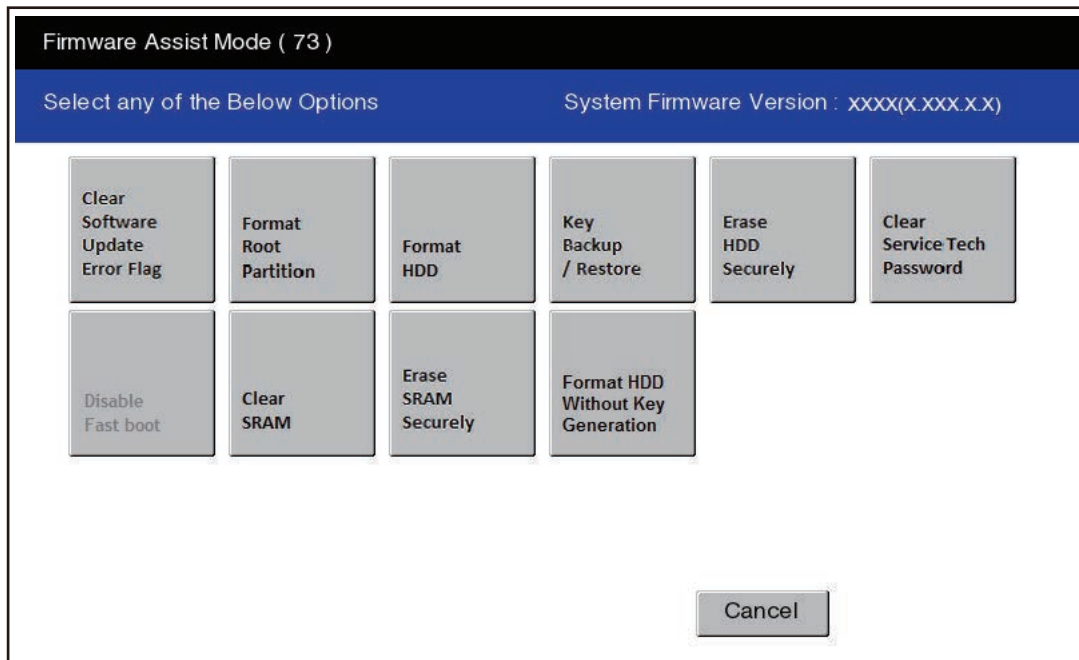


Fig.5-30

- (2) Press the icon to operate.

## 5.14.3 Functions

### [A] Clearing update error flag (Clear Software Update Error Flag)

Even if the firmware downloading has been completed normally, the Recovery Mode may accidentally start up and an F600 error occurs 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, the flags are cleared with this function.

### [B] Formatting data storage partition (Format Root Partition)

When a defect 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. HDD data must be installed after performing this function.

### [C] Creating HDD partition (Format HDD)

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:

- Perform the HDD partition formatting only when a new HDD is installed since all data in the current HDD are erased by this operation.
- When this operation has been done, do not perform SRAM data formatting (Clear SRAM) before the normal start-up.

### [D] Backing up/restoring encryption key and license (Key Backup Restore)

When the SRAM or the SYS board is replaced or initialized, the encryption key and license are erased. Therefore, they need to be backed up or restored with this function.

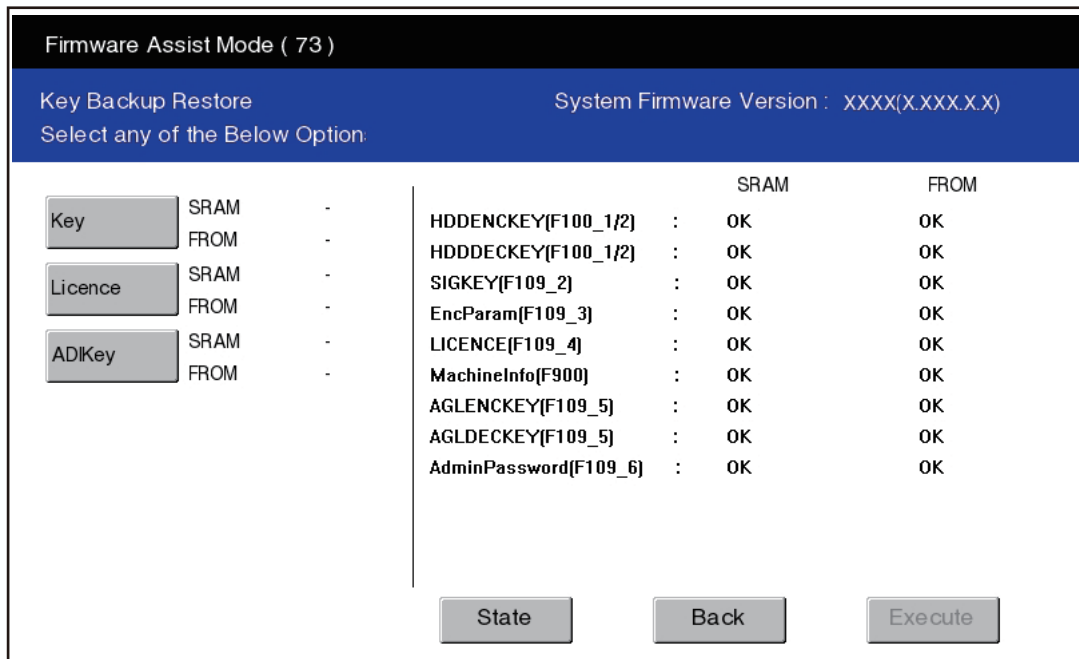


Fig.5-31

The following table shows the relationship between each Key or License and icon.

Key or License name	Icon
HDDENCKEY [F100_1/2]	Key
HDDDECKEY [F100_1/2]	Key
SIGKEY [F109_2]	Key
EncParam [F109_3]	Key
LICENSE [F109_4]	License
MachineInfo [F900]	Key
AGLENCKEY [F109_5]	ADIKey
AGLDECKEY [F109_5]	ADIKey
AdminPassword [F109_6]	ADIKey

- \* When "KeyBroken" or "KeyNull" is displayed on the SRAM row:  
Backs up the encryption Key or License in SRAM when the icon is pressed
- \* When "KeyBroken" or "KeyNull" is displayed on the FROM row:  
Recovers the encryption Key or License in SRAM when the icon is pressed

### [E] Erasing HDD securely (Erase HDD Securely)

This function is used when installing Data Overwrite Enabler (GP-1070) or before discarding the HDD. It overwrites all the used areas on the HDD with the selected data, and makes it unusable.

After selecting this function, specify the level below to be overwritten. This setting is the overwriting method complying with DoD 5220.22-M.

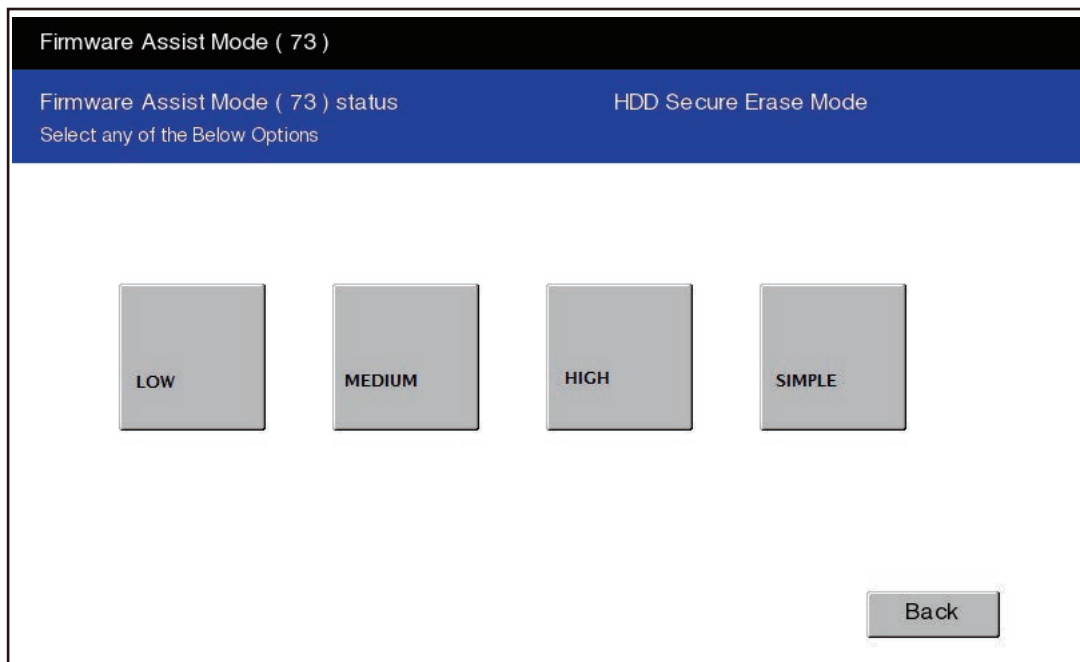


Fig.5-32

**LOW** (Normally use this setting.)  
This is the standard overwriting method.  
"00-FF-Random-Verify" Once

**MEDIUM**  
This overwriting method is more secure than LOW. The erasing time is between LOW and HIGH.  
"00-FF-Random" three times repeatedly -Verify

**HIGH**  
This is the most secure overwriting method. It takes the longest time to erase data.  
"00-FF-Random" five times repeatedly -Verify



## SIMPLE

This is the simple overwriting method. It takes the shortest time to erase data.

Overwrite the Random data once

The reconfirmation screen is displayed when the icon is pressed.

Press [OK]: Processing starts.

Press [Back]: The screen returns to the previous one.

### Notes:

When this operation has been done, do not perform SRAM data formatting (Clear SRAM) before the normal start-up.

## [F] Formatting SRAM data (Clear SRAM)

When SRAM is replaced with a new one, abnormal values may be written in the new SRAM. SRAM data must be formatted with this function for such case.

### Notes:

- This function is required only when a new SRAM is installed.
- Do not perform this function in cases other than the installation of a new SRAM because all data in the SRAM will be deleted with this function.
- When this operation has been done, do not perform HDD partition creation (Format HDD) before the normal start-up.

## [G] Erasing SRAM securely (Erase SRAM Securely)

This function is used before discarding the SRAM.

It overwrites all the used areas on the SRAM with the selected data, and makes it unusable.

Immediately after selecting this function, the processing starts and is completed.

## [H] Clearing service password (Clear Service Tech Password)

This function is needed after the HDD is replaced.

When the HDD is replaced, the service password stored in the new one is set as a blank. Therefore, its service password is copied to the SRAM so that both passwords become the same with this function.

The setting is enabled when the equipment is started up in the normal mode after performing this function.

## [I] Disable Faster Start

This function disables faster start (\*). Therefore, this can be operated while faster start is enabled.

- \* Faster start: The start-up method which can shorten the time for starting by approx. 5 seconds by starting up the equipment in the normal mode or while selecting the menu from the exclusive file.

(There is no effect on the recovery from hibernation.)

Once the power is turned ON while the [HOME], [RESET] and [START] buttons are pressed simultaneously, a file for faster start is created and it becomes available. It will take approx. 3 minutes to create a file for faster start. When the file creation is completed, the equipment will automatically start in the normal mode.

- \* Faster start can also be disabled by the following operations.

- Firmware update
- HS-73-[Format HDD]
- Data Overwrite Enabler (GP-1070) installation or settings change
- Security level change
- HS-75-[Initialize HDD]
- HS-59-[Restore SRAM Data from USB]

## 5.15 74 HDD Assist Mode

### 5.15.1 Overview

This mode is available only when the security HDD (Secure HDD) is mounted in the equipment. It enables you to check the type of the mounted HDD, revert the Secure HDD to the factory default.

Functions of 74 HDD Assist mode

- Checks the type (Secure/Normal) of the mounted HDD.
- Disposes of Secure HDD data safely without any of leakage.
- Deletes image data when reusing a used Secure HDD.

### 5.15.2 Operation procedure

- (1) Perform [HS-74] by pressing [74 HDD Assist].  
Then, the type of the mounted HDD appears on the screen.

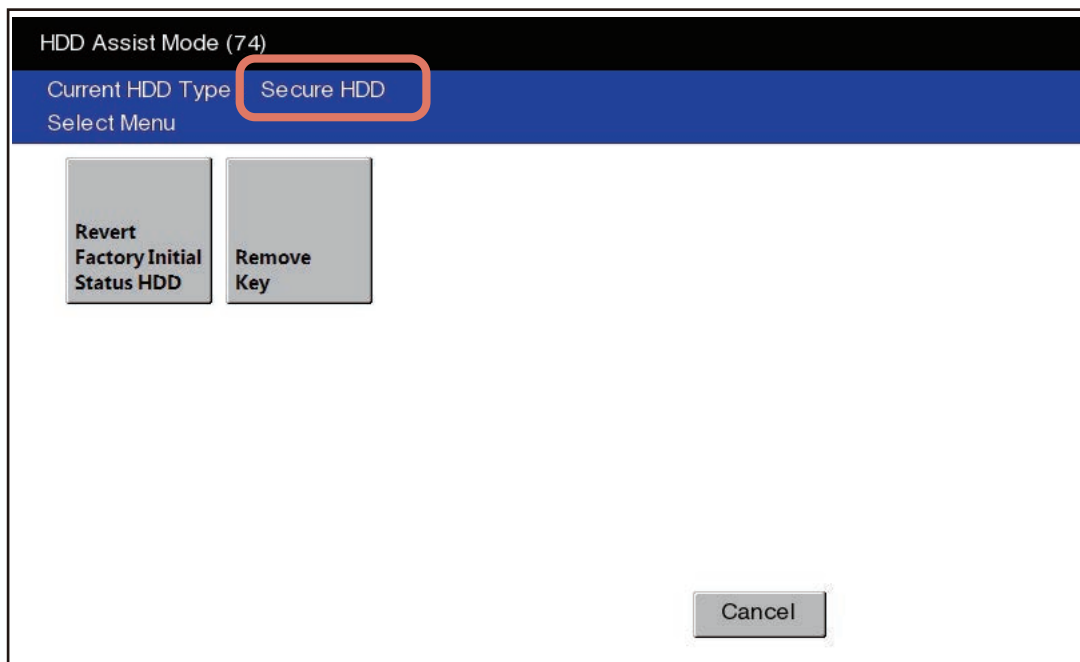


Fig.5-33

When a security HDD is mounted: Secure HDD

When a normal HDD is mounted: Normal HDD

- (2) Press the icon to operate.

#### Tips:

If the HDD type cannot be identified, "Unknown HDD" may appear on the screen.

 P. 8-265 " [F106\_1] Secure HDD error: HDD type detection error"

#### Notes:

When "Normal HDD" is displayed, items 1 and 2 are not selectable.

If you select any of 1 and 2 and press the [START] button, the error message "Operation Failed. Press SoftPower Key to Switch Off." appears.

### 5.15.3 Functions

#### [A] Revert Factory Initial Status HDD

Select this to dispose of the Secure HDD as well as the equipment.

When this item is selected, all data in the HDD are deleted and the HDD is reverted to its initial status at the factory shipment.

The following screen is displayed when [Revert Factory Initial Status HDD] is pressed.

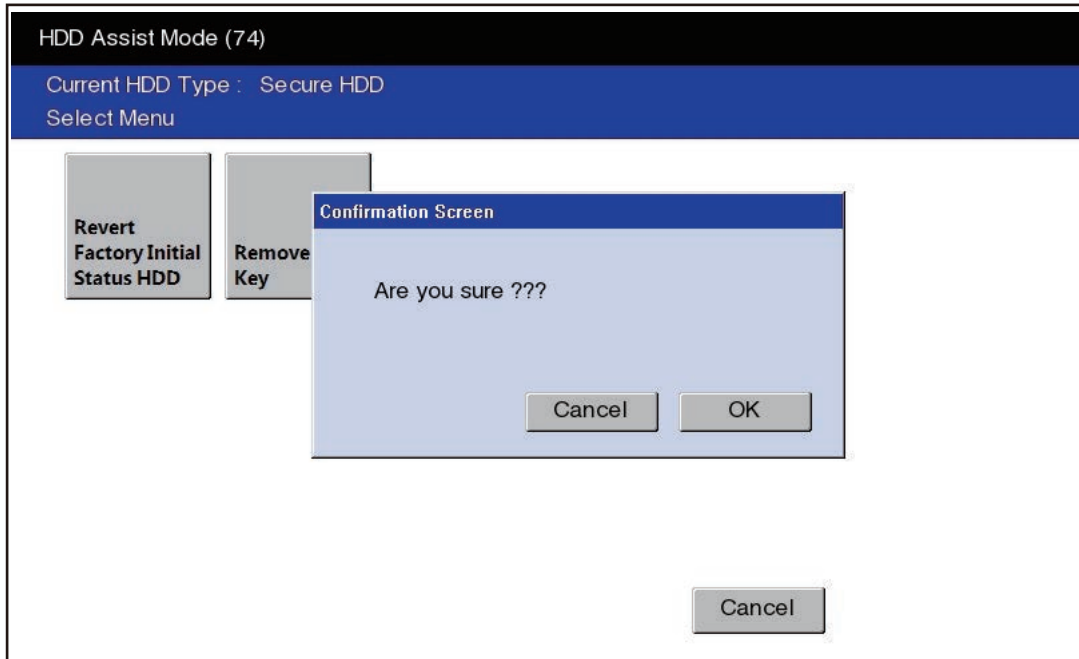


Fig.5-34

Press [OK] to carry out the operation.

When the operation is finished, the result appears on the menu.

**Notes:**

If the equipment is started in the normal mode with this condition, an HDD mounting error occurs.

## [B] Remove Key

Select this to reuse the Secure HDD as well as the equipment.

When this item is selected, image data in the HDD are deleted.

This operation requires approx. 20 minutes since the partition must be rebuilt.

The following screen is displayed when [Remove Key] is pressed.

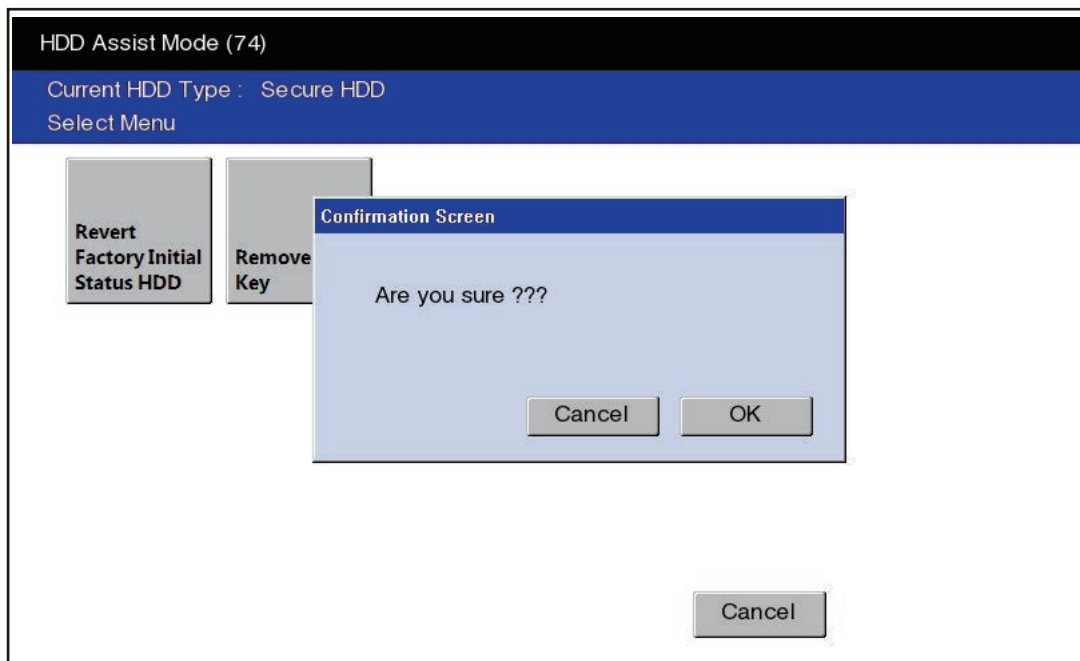


Fig.5-35

Press [OK] to carry out the operation.

When the operation is finished, the result appears on the menu.

### Tips:

After this operation, the equipment becomes reusable without reinstalling the firmware.

## 5.16 75 File System Recovery Mode

### 5.16.1 Overview

This is a mode to check if there is any damage to the file system (HDD) and recover it if necessary. Use this mode only in the following cases.

- There is a possibility of damage to the file system (HDD).
- There is an apparent damage to the file system (HDD), requiring recovery or initialization.

This mode enables you to have the following functions.

Functions	Content
Check F/S	Checks the file system.
Recovery F/S	Recovers the file system.
Initialize HDD	Initializes partitions in the HDD.
Initialize DB	Initializes database (LDAP DB / log DB / language DB / AppMgmt DB / HomeScreen DB / JobHistory DB / AppLicense DB).
SMART Info	Displays the various information in the HDD.
DISK Info	Displays the usage rate of HDD.
HDD Utility	Initializes log files.

### 5.16.2 Operation procedure

- (1) Perform [HS-75] by pressing [75 File System Recovery].  
The following screen appears.

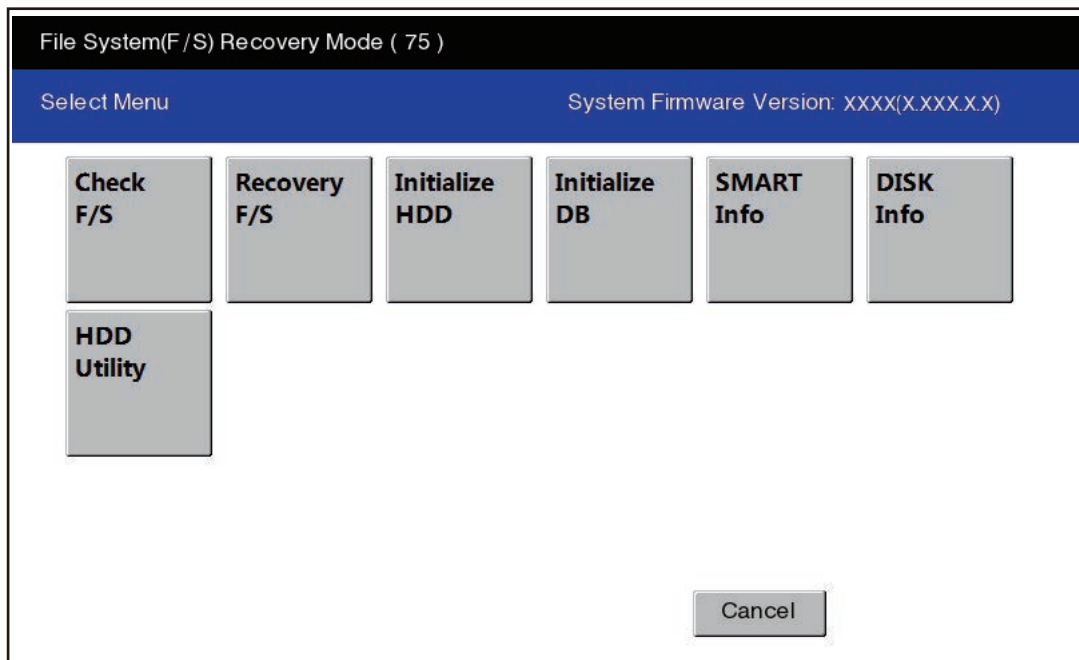


Fig.5-36

- (2) Press the icon to operate.

#### Notes:

- Do not turn the power OFF with the [MAIN POWER] button after the processing has started (while the processing is being performed).

- After the processing is completed, a beep sounds 4 times and either "Completed" or "Failed" appears on the screen.

### 5.16.3 Functions

#### [A] Check of the File System (Check F/S)

In case that particular service calls occur or there is a possibility of damage to the file system, the status of each partition in the HDD can be checked.

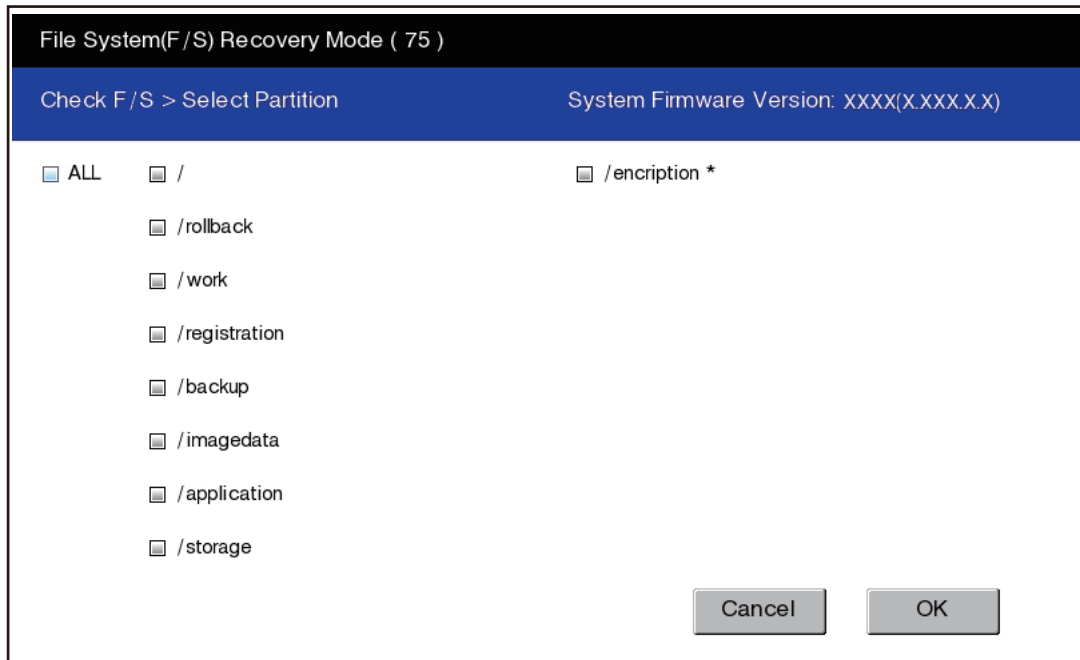


Fig.5-37

Explanation for each item

ALL: Checks all partitions.

/ : Checks root partition only.

Others: Checks each partition shown above.

**Tips:**

More than one partition can be selected. (A check mark is displayed at the selected item.)

\* If damage is discovered, recover or initialize the file system (HDD).

## [B] Recovery of the File System (Recovery F/S)

In case that an error occurs during the file system check, each partition can be recovered.

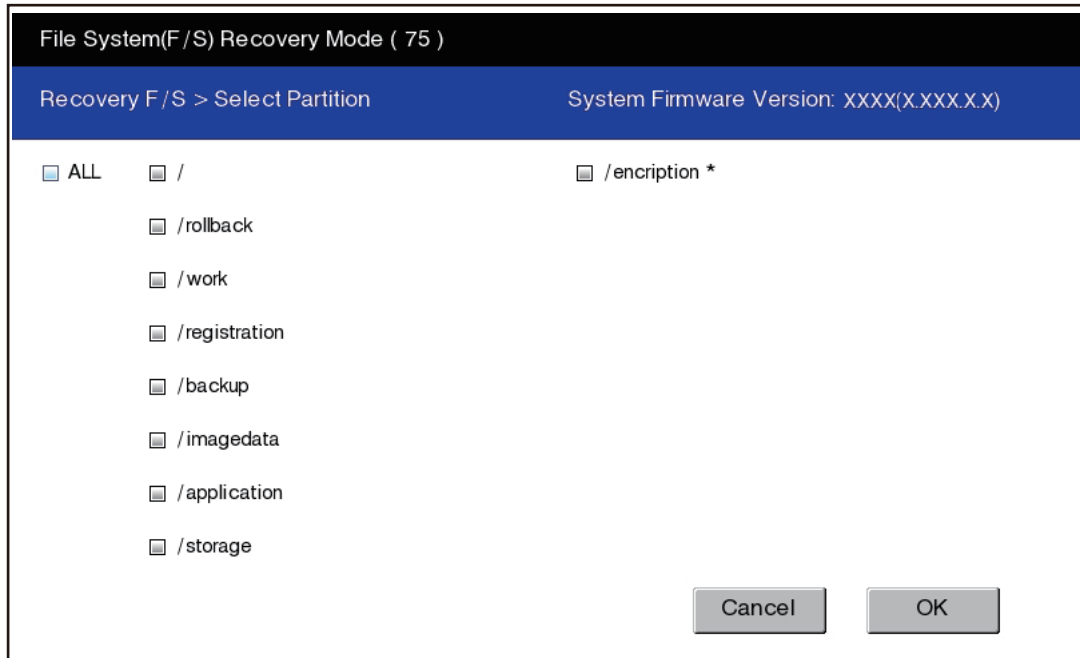


Fig.5-38

Explanation for each item

ALL: Recovers all partitions.

/ : Recovers root partition only.

Others: Recovers each partition shown above.

### Tips:

More than one partition can be selected. (A check mark is displayed at the selected item.)

\* If an error occurs during recovery, initialize the file system (HDD).

### [C] Initialize the File System (Initialize HDD)

In case that an error occurs during the file system check and the partition cannot be recovered with the recovery, each partition can be initialized.

It is recommended to export the user information such as address book before performing this function.

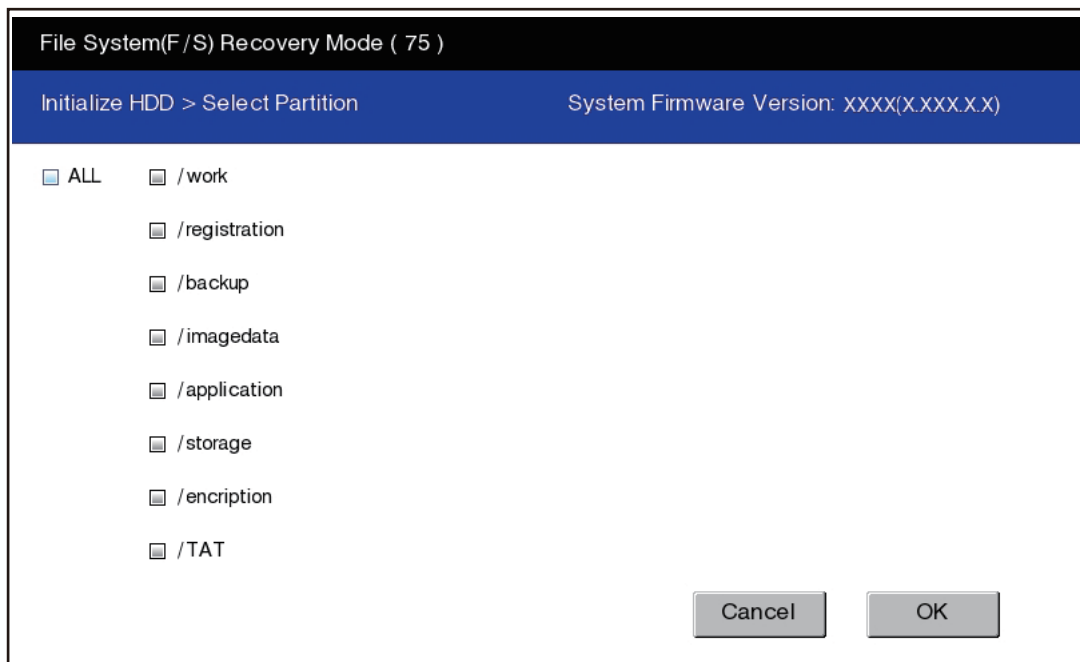


Fig.5-39

Explanation for each item

ALL: Initializes partitions other than root one and creates initial files.

Others: Initializes each partition.

#### Tips:

More than one partition can be selected. (A check mark is displayed at the selected item.)

#### Notes:

- If initialization is carried out by selecting [ALL] or [/encription], applications and OS data in the equipment are also initialized. In this case, the applications and the file system must be reinstalled. Install the system software (HD DATA) by performing [49] → [4] after initialization.
- If [ALL] is selected, minimal data necessary for normal startup are automatically recovered.
- If initialization is carried out by selecting [ALL], the log database is also initialized. Back up the data before initializing if necessary.
- If [ALL] is selected, do not perform SRAM data formatting (Clear SRAM) before the normal start-up.



## [D] Initialize the DB (Initialize DB)

In case that particular service calls occur or there is a possibility of damage to the databases, each one can be initialized.

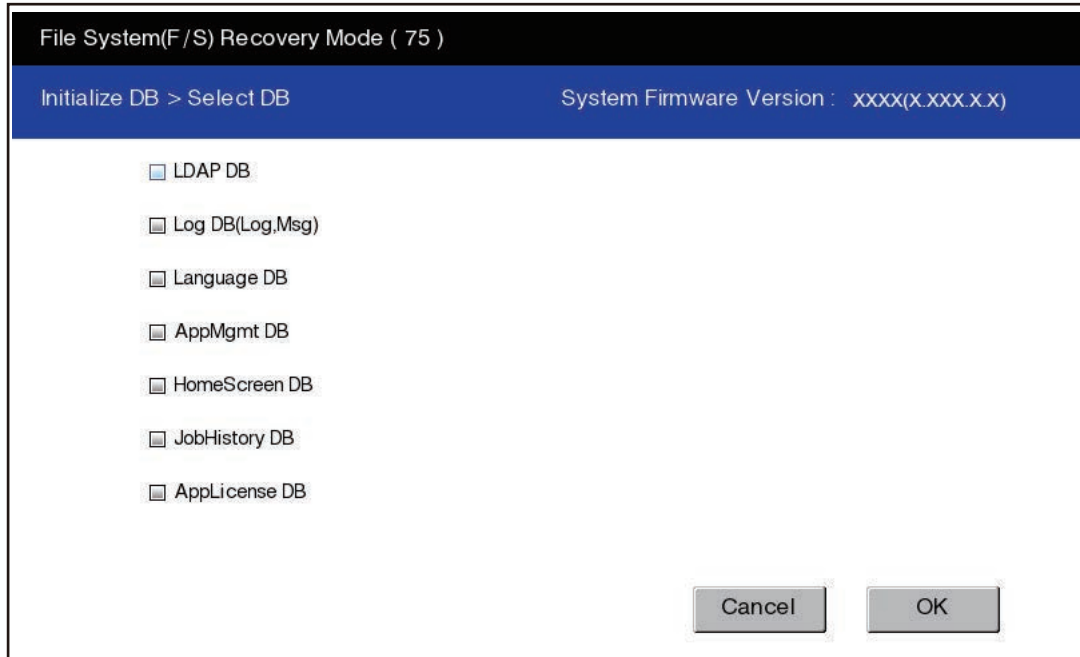


Fig.5-40

### Explanation for each item

LDAP DB: Initializes address book data and the user information database.

Log DB (Log,Msg): Initializes job log data and the message database.

Language DB: Initializes the language database.

AppMgmt DB: Initializes the application database.

HomeScreen DB: Initializes the home screen database.

JobHistory DB: Initializes the job history database.

AppLicense DB: Initializes the application license database.

### Tips

Once the databases are selected, they are initialized.

### [E] Displaying various data in the HDD (SMART Info)

Various data in the HDD can be displayed. (Data equivalent to the setting contents of FS-08-9065 are displayed.)

When this item is selected, data in the HDD embedded in the equipment are displayed. "---" is displayed for the items not supported.

ID	NAME	VALUE	NAV	Worst
01	Read Error Rate	0	100	100
02	Throughput Performance	0	100	100
03	Spin Up Time	1330	100	100
04	Spin Start /Stop Count	2007	100	100
05	Re-allocated Sector Count	0	100	100
06	Read Channel Margin	-----	----	----
07	Seek Error Rate	0	100	100
08	Seek Time Performance	0	100	100
09	Power-On Hours	618	99	99
0a	Spin Retry Count	0	139	100
0b	Calibration Retry Count	-----	----	----
0c	Power Cycle Count	1962	100	100
bf	Shock Sense Count	2	100	100
c0	Power-Off Retract Count	900	99	99
c1	Load Cycle Count	2288	100	100
c2	Temperature	31	100	100
c3	ECC On the Fly Count	-----	----	----
c4	Re-allocation Event Count	0	100	100
c5	Current Pending Sector Count	0	100	100
c6	Off-Line Scan Unc Sector Count	0	100	100

Model : TOSHIBA XXXXXXXXXXXX  
Serial : XXXXXXXXXXXX

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Fig.5-41

#### Tips:

NAV: Normalized Attribute Value

Indicates the value of the specified HDD condition as compared to the manufacturer's optimum value.

Worst: Worst Ever Normalized Attribute Value

Indicates the worst value of NAV permitted by the manufacturer.

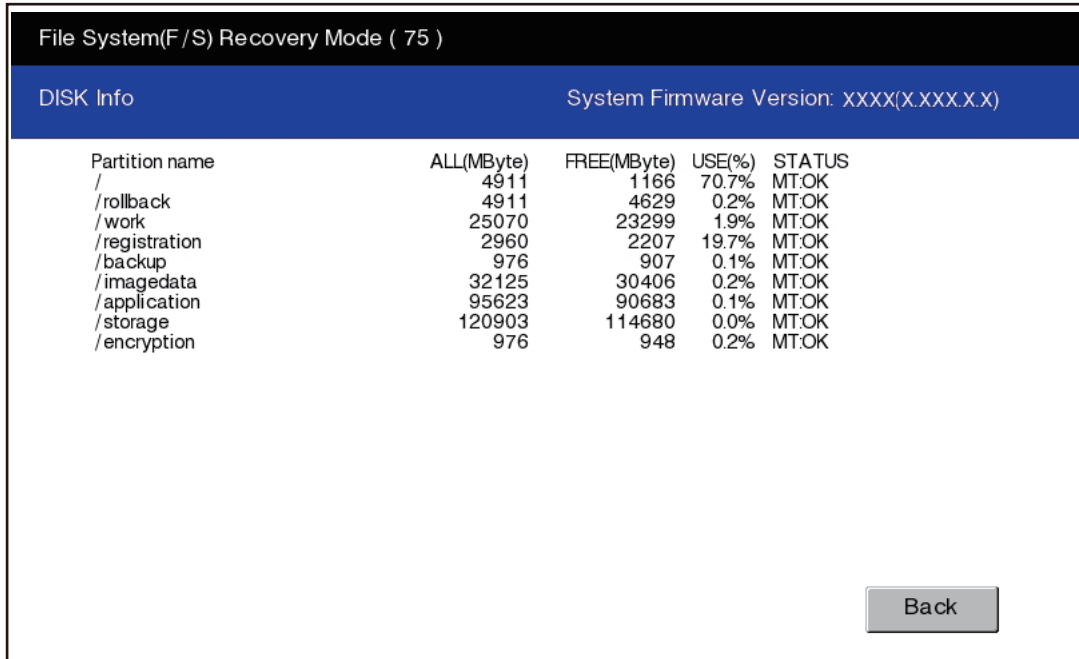
#### Notes:

The values of NAV and Worst should be treated as a rough reference since their basis may differ depending on the specification of HDD manufacturers.

**[F] Displaying usage rate of each partition (DISK Info)**

The usage rate of each partition can be checked.

When this item is selected, the usage rate of each partition is displayed.



File System(F/S) Recovery Mode ( 75 )

DISK Info System Firmware Version: XXXX(X.XXX.X.X)

Partition name	ALL(MByte)	FREE(MByte)	USE(%)	STATUS
/	4911	1166	70.7%	MT:OK
/rollback	4911	4629	0.2%	MT:OK
/work	25070	23299	1.9%	MT:OK
/registration	2960	2207	19.7%	MT:OK
/backup	976	907	0.1%	MT:OK
/imagedata	32125	30406	0.2%	MT:OK
/application	95623	90683	0.1%	MT:OK
/storage	120903	114680	0.0%	MT:OK
/encryption	976	948	0.2%	MT:OK

Fig.5-42

**[G] Initialization of log file (HDD Utility)**

Log files for researching can be deleted. Since only a certain amount of log files for researching is usually stored in the work area of an HDD, the use of this mode is not necessary. In case the performance level of the equipment is lowered (e.g.: the response of the control panel becomes extremely slow), make use of this mode. This phenomenon may be resolved.

## 5.17 76 SRAM Maintenance Mode

### 5.17.1 Overview

This is a mode in which you can clear particular errors such as F800 or F900.  
The processing contents of this mode are the same as those for [Clear SRAM] in [HS-73].

Functions of 76 SRAM Maintenance mode

- Sets the serial number of this equipment.
- Clears F800 error.
- Clears F900 error.

### 5.17.2 Operation procedure

- (1) Perform [HS-76] by pressing [76 SRAM Maintenance].  
Then the following screen is displayed.

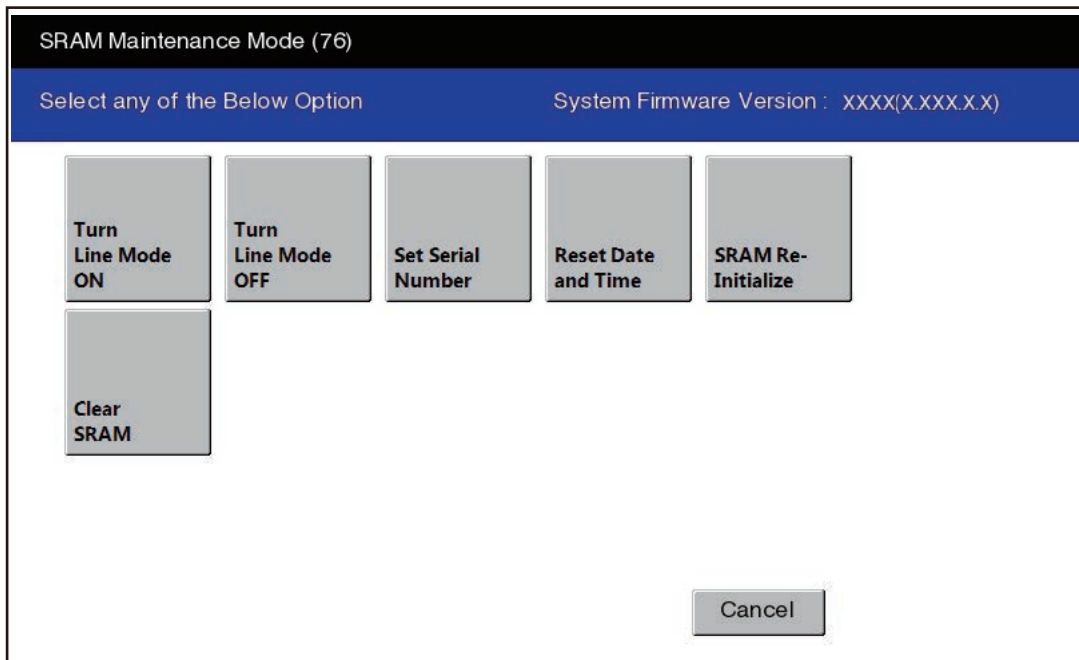


Fig.5-43

- (2) Press the icon to operate.

#### Notes:

- [Turn Line Mode ON] or [Turn Line Mode OFF] starts once each icon is pressed.
- When [Reset Date and Time] or [SRAM Re-Initialize] is pressed, the confirmation screen appears.

### 5.17.3 Functions

#### [A] Turn Line Mode ON (Manufacturing mode ON)


The equipment enters into the manufacturing mode.

#### [B] Turn Line Mode OFF (Manufacturing mode OFF)

The equipment enters into the service mode.

#### [C] Set Serial Number

When replacing SYS-SRAM, select this to set the serial number of the equipment since it must be done in advance of recovery from SRAM backup data.

- Clear SRAM first and then set the serial number in this mode.
- Recover from SRAM backup data after setting the serial number.  
Refer to  P. 12-2 "12.1.4 Cloning procedure"

Key in the serial number of this equipment and press [OK].

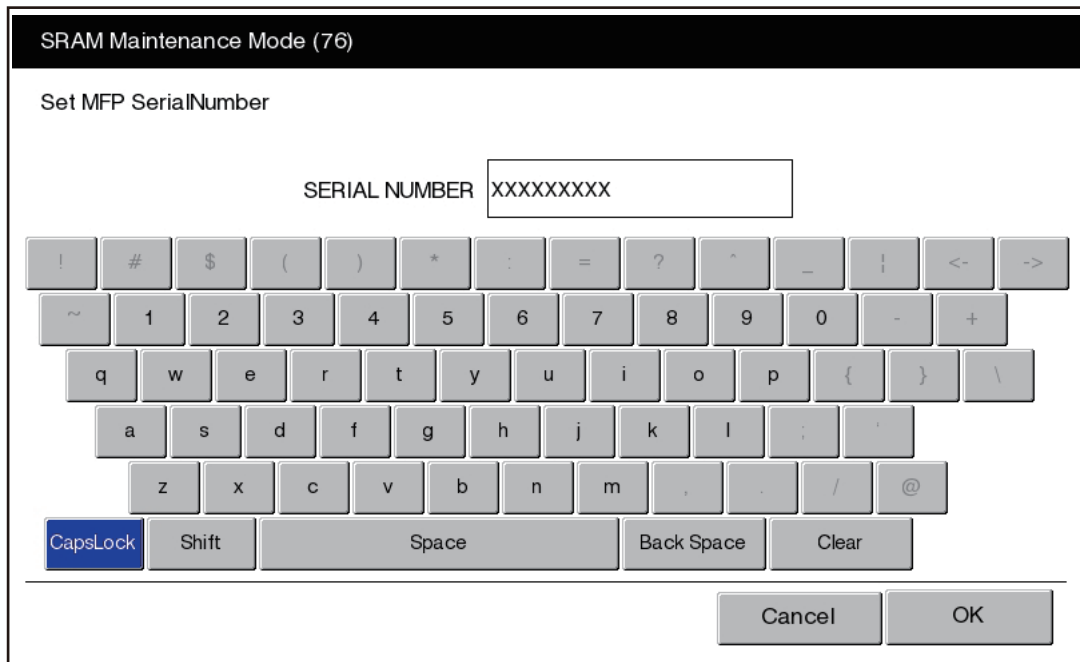


Fig.5-44

#### [D] Reset Date and Time

Select this to clear an F800 error which occurred when the date and time were set as after the end of the year 2037 or when the actual end of the year 2037 has come.

- After selecting this, start the equipment in the normal mode to reset the date and time.

#### [E] SRAM Re-Initialize

Since an F900 error cannot be cleared in the 73 Firmware Assist mode, use this function to clear the error in the following cases:

- When the SRAM and the SYS board are replaced at the same time
- When the SRAM is initialized with wrong destination at the replacement of the SRAM


Refer to  P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM".

**[F] Clear SRAM**

Select this to clear all SRAM data when replacing SYS-SRAM.

Replace the SRAM and then clear the SRAM data.

After clearing the SRAM data, initialize SRAM following its replacement procedure.

Refer to  P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM".

**Notes:**

When this operation has been done, do not perform HDD partition creation (Format HDD) before the normal start-up.

## 5.18 Pixel Counter

### 5.18.1 Outline

#### [ 1 ] Outline

Pixel counter is a function that counts the number of dots emitted by writing light source 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).

However, since some of the factors in "2" below are not taken into account by the pixel counter, its accuracy does sometimes not match the actual toner consumption.

#### [ 2 ] Factors affecting toner consumption

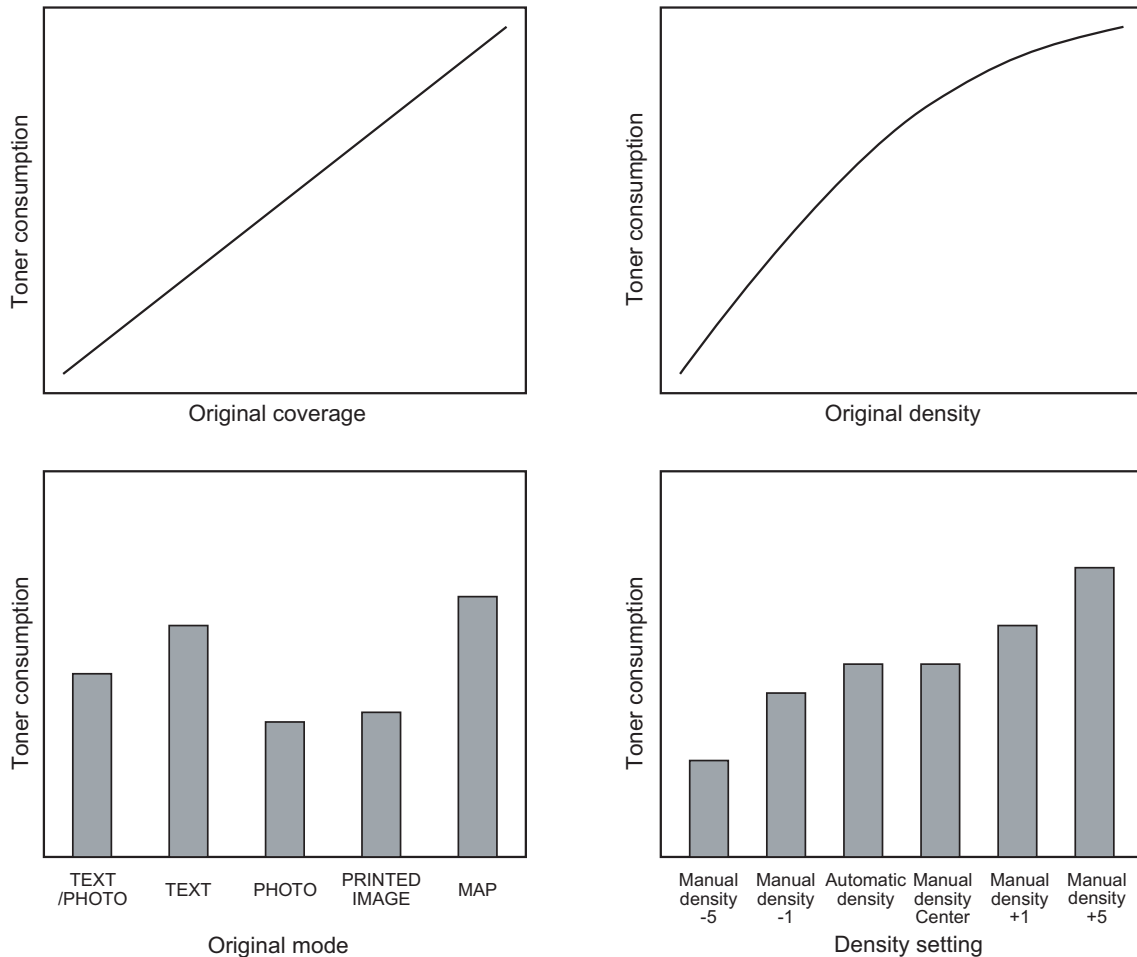
Standard number of output pages per cartridge shows the average number of output pages under the condition that the data of print ratio 5% is printed on the standard paper size (A4/LT) at a normal temperature and humidity.

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
- Print Pattern  
Character images (e.g. Text) consume more toner than solid images even though they may have the same density. This is due to the "edge effect".
- Number of pages per job  
Toner consumption testing is made in the "continuous running mode". More toner is required when printing in the non-continuous running mode.
- Number of image quality control  
Image quality control is performed automatically when the device is switched on, when it returns from sleep mode, and also during continuous running. Toner consumption may vary depending on the number of image quality adjustments performed during operation.
- Paper  
The size, feeding direction and type of paper influence toner consumption.
- Environmental conditions  
Temperature and Humidity affect toner consumption.
- Others  
In addition to the above, there are other factors that may influence toner consumption. These include variations between individual products, life of consumable, bias voltages, Drum surface potential, etc.

The general relations between the above 4 factors and toner consumption per output page in the copy function are as follows:



**Fig.5-45 Factors affecting toner consumption and the tendency**

### [ 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 FS-08-6506 between the pixel count and output pages (0: Output pages 1: Pixel counter). The threshold of pixel count is set in the FS-08-6508 and that of output pages is set in the FS-08-6507. 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 FS-08-6503.

#### **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 FS-08-6502.



- **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 FS-08-6500.  
The examples of conversion are as follows:

**Ex.)**

When printing on A4/LT size:

Counts the number of output pages as the print count.

When printing on A3/LD size:

Counts the number of output pages multiplied by 2 as the print count. (Area ratio to A4/LT: 200%)

When printing on B4 size:

Counts the number of output pages multiplied by 1.49 as the print count. (Area ratio to A4: 149%)

When printing on LG size:

Counts the number of output pages multiplied by 1.27 as the print count. (Area ratio to LT: 127%)

- **Pixel count (%)**  
Pixel count (%) shows the ratio of the emitting pixels of the writing light source to all pixels on standard paper.  
The examples of pixel count are as follows:

**Notes:**

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 (writing light source emit to all pixels.)

→ Pixel count: 100%, Print count: 5

Printing 5 pages on A4/LT size with blank copy (writing light source never emit.)

→ Pixel count: 0%, Print count: 5

Printing 2 pages on A4/LT size with solid copy (writing light source emit to all pixels.)

Printing 2 pages on A4/LT size with blank copy (writing light source never emit.)

→ Pixel count: 50%, Print count: 4

Printing 3 pages on A4/LT size with 6% of writing light source emission

Printing 1 page on A4/LT size with 2% of writing light source emission

→ Pixel count: 5%, Print count: 4

Printing 2 pages on A3/LD size with solid copy (writing light source emit to all pixels.)

→ Pixel count: 100%, Print count: 4

Printing 2 pages on A3/LD size with 6% of writing light source emission

→ Pixel count: 6%, Print count: 4

- **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 FS-08.

**Type of calculated data**

	Toner cartridge reference				Service technician reference					
	Yellow	Magenta	Cyan	Black	Full color/Twin color					Black
					Total	Yellow	Magenta	Cyan	Black	
Copier function	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Printer function	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FAX function	No	No	No	Yes	No	No	No	No	No	Yes
Total	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Yes: With data  
 No: Without 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 (FS-08-6500).

**Pixel counter display setting**

Whether or not to display the pixel counter on the LCD screen is selected (FS-08-6504).

**Display reference setting**

The reference when displaying the pixel counter on the LCD screen (toner cartridge reference or service technician reference) is selected (FS-08-6505).

**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:

FS-08-6501: All information related to the pixel count is cleared.

FS-08-6502: All information related to the service technician reference pixel count is cleared.

FS-08-6503: All information related to the toner cartridge reference pixel count is cleared.

#### [ 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:

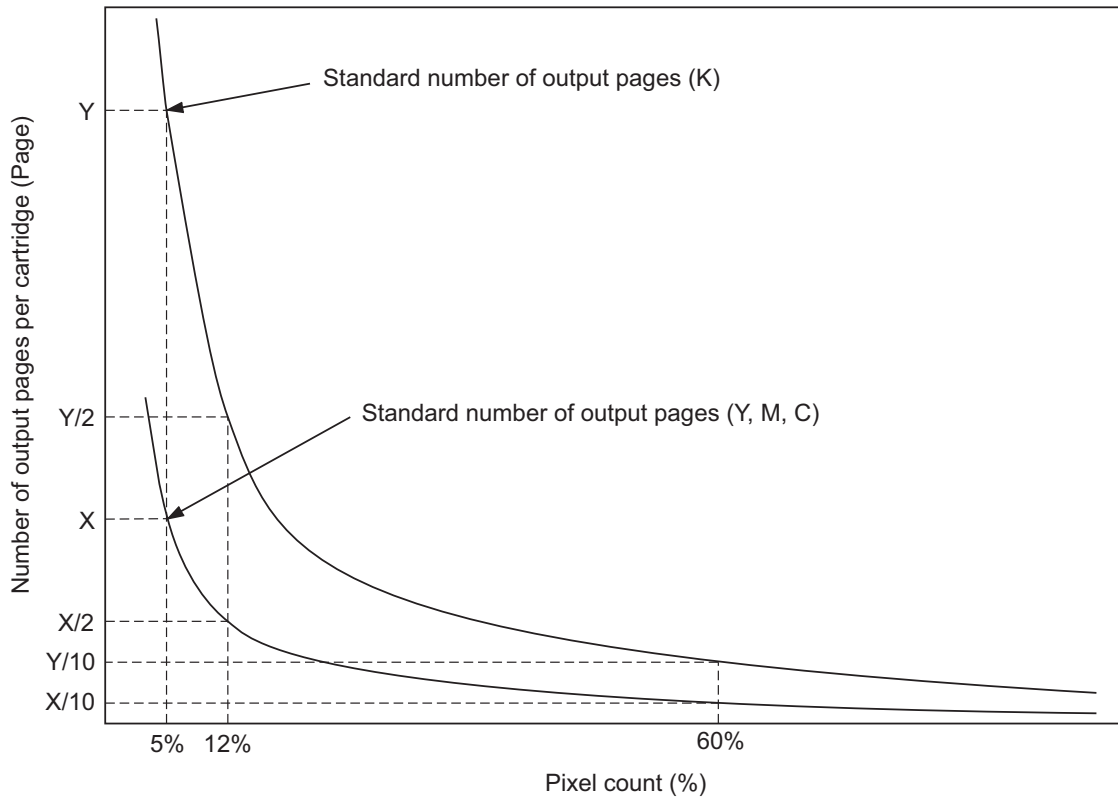


Fig.5-46 Pixel count and number of output pages per cartridge

## [ 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 (FS-08-6504), 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 FS-08-6505.

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 FS-08-6505.)

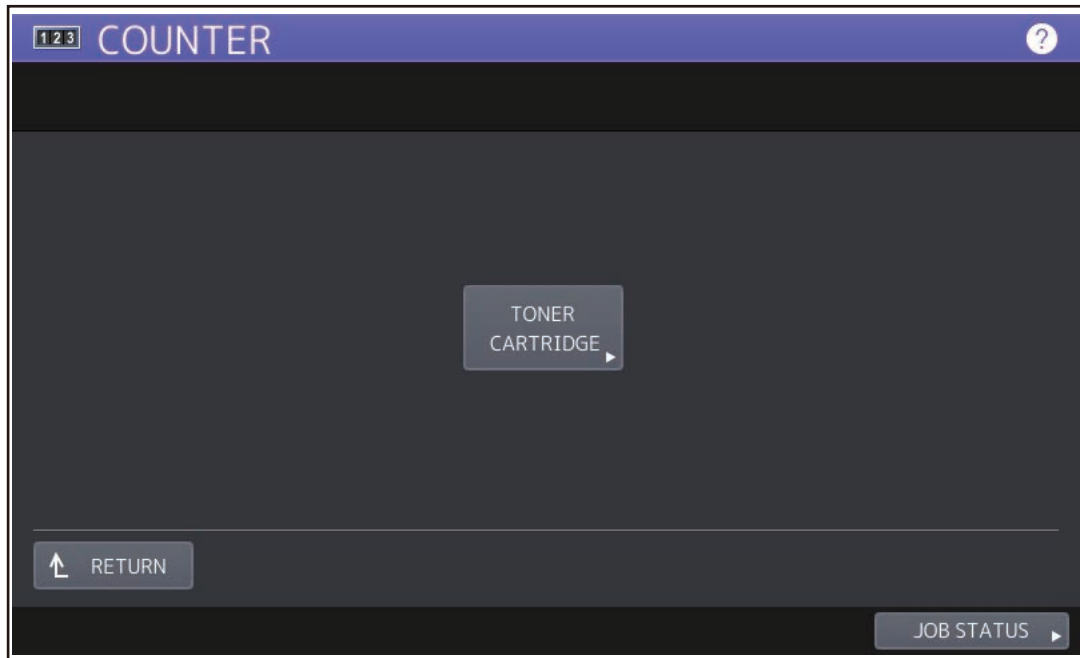


Fig.5-47

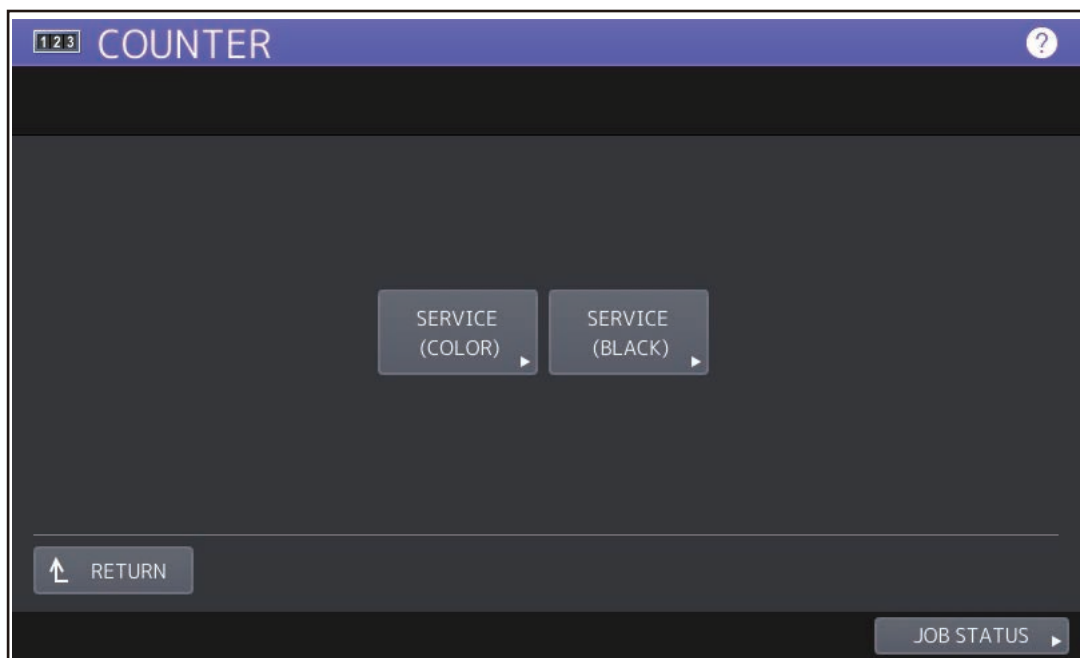


Fig.5-48 Reference selection screen

When selecting and pressing the button in the above screen, each pixel counter screen is displayed.  
 [TONER CARTRIDGE]: Information screen of toner cartridge reference is displayed.  
 [SERVICE (COLOR)]: Information screen of service technician reference (full color) is displayed.  
 [SERVICE (BLACK)]: Information screen of service technician reference (black) is displayed.

The following screen is displayed when pressing [TONER CARTRIDGE].

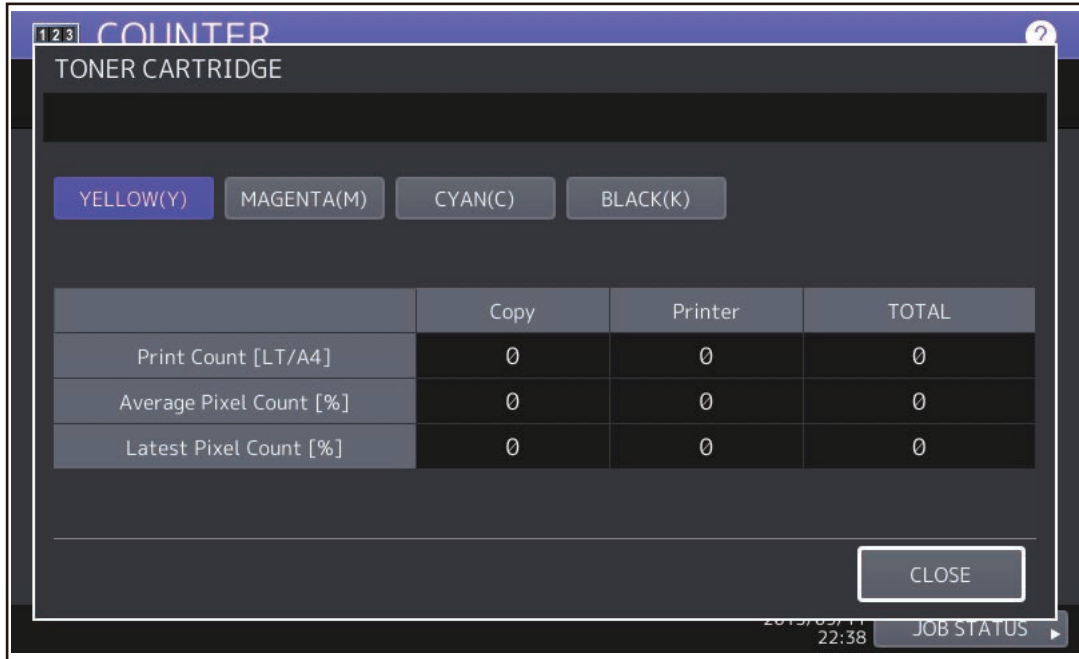


Fig.5-49 Information screen of toner cartridge reference

The following screen is displayed when pressing [SERVICE (COLOR)].

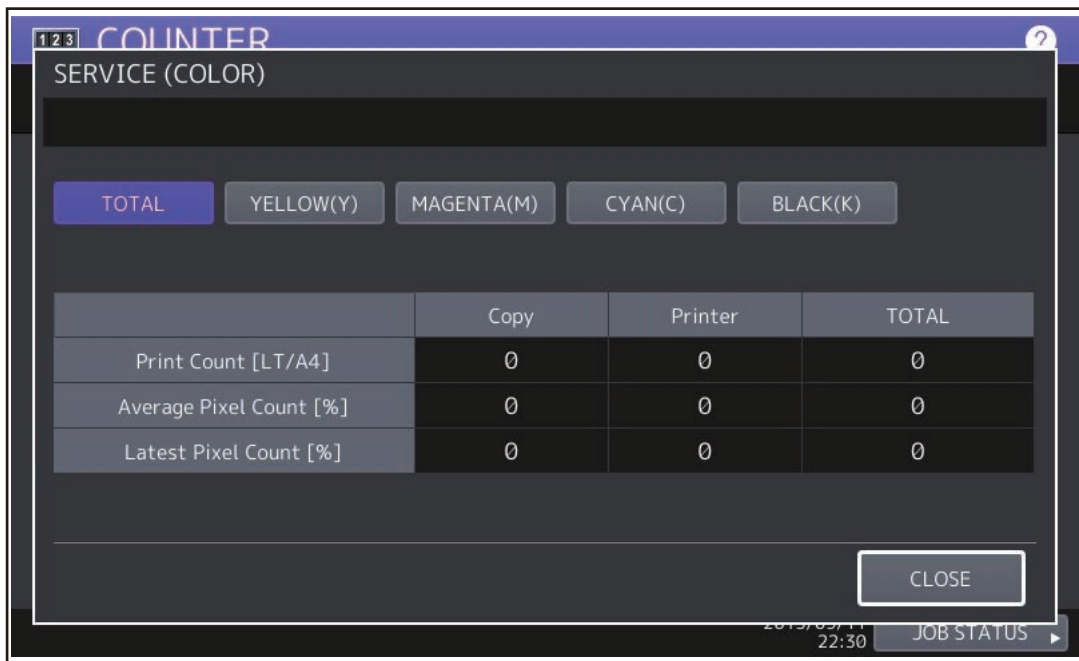


Fig.5-50 Information screen of service technician reference (full color)

The following screen is displayed when pressing [SERVICE (BLACK)].

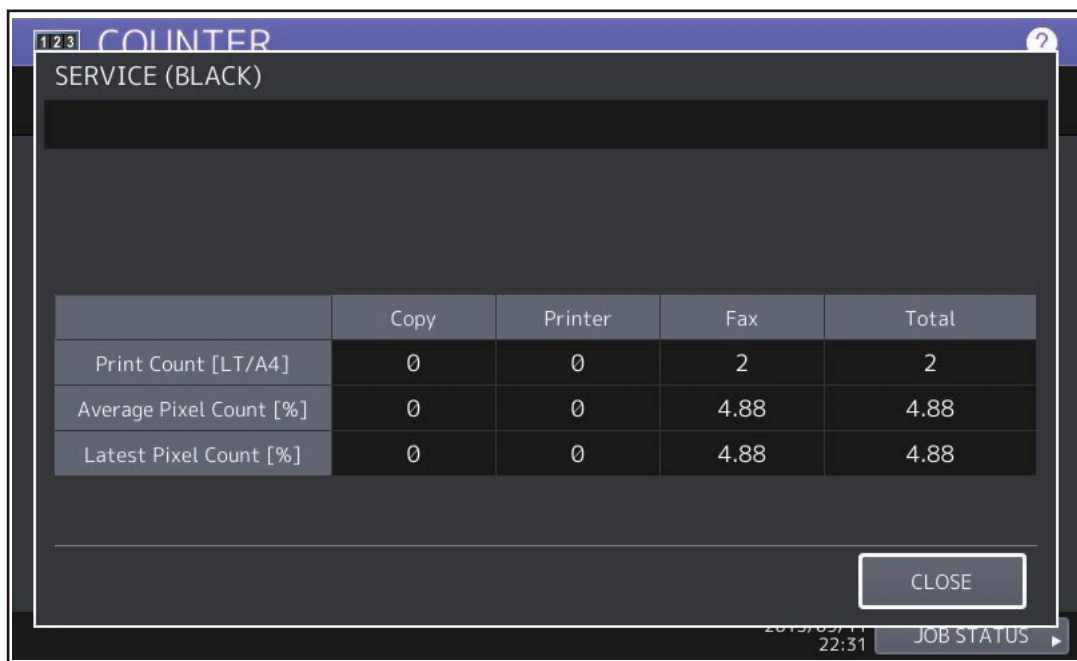


Fig.5-51 Information screen of service technician reference (black)

- Data list printing  
 The data for pixel counter can be printed in FS-30 LIST PRINT MODE.  
 FS-30-104: The data of the toner cartridge reference is printed.  
 FS-30-105: The data of service technician reference is printed.

PIXEL COUNTER CODE LIST				S/N: xxxxxxxx	TOTAL: 9999999		
				TOSHIBA e-STUDIOxxx	DF COUNTER: 9999999		
'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.5-52 Data list of toner cartridge reference

## PIXEL COUNTER CODE LIST

S/N: xxxxxxxx

TOTAL: 9999999

TOSHIBA e-STUDIOxxx

DF COUNTER: 9999999

'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.5-53 Data list of service technician reference

- Display in the FS-08 SETTING MODE  
Information of pixel count can be also checked in the 08 SETTING MODE.

**Print count, pixel count**

**Pixel count code table (toner cartridge reference)**

		Full color/Twin color				Black	Black (at color) + Black
		Yellow	Magenta	Cyan	Black		
Copier function	Print count (page)	6567	6569	6571	6562	6563	-
	Average pixel count (%)	6619	6620	6621	6622	6623	6624
	Latest pixel count (%)	6636	6637	6638	6639	6724	-
Printer function	Print count (page)	6568	6570	6572	6564	6565	-
	Average pixel count (%)	6625	6626	6627	6628	6629	6630
	Latest pixel count (%)	6640	6641	6642	6643	6725	-
FAX function	Print count (page)	-	-	-	-	6566	-
	Average pixel count (%)	-	-	-	-	6635	-
	Latest pixel count (%)	-	-	-	-	6644	-
Total	Average pixel count (%)	6631	6632	6633	-	-	6634



**Pixel count code table (service technician reference)**

		Full color/Twin color					Black
		Total	Yellow	Magenta	Cyan	Black	
Copier function	Print count (page)	6557	-	-	-	-	6558
	Average pixel count (%)	6587	6588	6589	6590	6591	6602
	Latest pixel count (%)	6606	6607	6608	6609	6610	6616
Printer function	Print count (page)	6559	-	-	-	-	6560
	Average pixel count (%)	6592	6593	6594	6595	6596	6603
	Latest pixel count (%)	6611	6612	6613	6614	6615	6617
FAX function	Print count (page)	-	-	-	-	-	6561
	Average pixel count (%)	-	-	-	-	-	6604
	Latest pixel count (%)	-	-	-	-	-	6618
Total	Average pixel count (%)	6597	6598	6599	6600	6601	6605

**Other information**

Toner cartridge replacement counter.

The toner cartridge replacement count is displayed.

- FS-08-6573: Toner cartridge Y
- FS-08-6574: Toner cartridge M
- FS-08-6575: Toner cartridge C
- FS-08-6576: Toner cartridge K

Toner cartridge reference count started date

The toner cartridge reference count started date is displayed.

- FS-08-6519: Toner cartridge Y
- FS-08-6520: Toner cartridge M
- FS-08-6521: Toner cartridge C
- FS-08-6522: Toner cartridge K

Service technician reference cleared date

The service technician reference cleared date (FS-08-6510) is displayed.

The date (FS-08-6502 was performed) is stored.

Toner cartridge reference cleared date

The toner cartridge reference cleared date is displayed.

The date (FS-08-6503 was performed) is stored.

- FS-08-6511: Toner cartridge Y
- FS-08-6512: Toner cartridge M
- FS-08-6513: Toner cartridge C
- FS-08-6514: Toner cartridge K

## 5.19 Batch Setting for Self-Diagnostic Codes

### 5.19.1 General description

The setting files encrypted in which each setting value has been written can be stored in a USB storage device. Installing this USB storage device in the equipment and reading a setting file enables the batch setting for the self-diagnostic codes.

- After the batch setting is performed, a result file is stored in the USB storage device.
- A maximum of 100 codes can be set in one file. If a code has sub codes, each of them is counted as one code.

**Notes:**

This function is not available if an automatic execution script such as a log collection is stored in a USB storage device.

### 5.19.2 Applicable codes

This function is available for the codes, whose values can be set by the service technicians, FS-05/08/13.

**Notes:**

- The codes only displaying the values and the ones acquiring or clearing the values by automatic execution are not included.
- When a value of the code which exchanges another one sequentially is changed, another one is altered in conjunction with it.
- Setting of the codes FS-08-8911 and FS-08-9000 is not possible.

### 5.19.3 Setting files

#### [ 1 ] Setting files

An encrypted file in which the setting values for each code to be changed is written in an XML format. A maximum of 100 codes can be set in one file. If a code has sub codes, each of them is counted as one code.

File name: DIG\_SET.diag

File format: xml format

**Notes:**

- A setting file has to be encrypted by a dedicated encryption tool to be stored in a USB storage device.
- A setting file has to be located in the root folder of a USB storage device.
- No other automatic execution script has to be located in the root folder of a USB storage device.

#### [ 2 ] Example

```
<Policy>
  <Data>
    <Category-05/>
    <Category-08>
      <Code>
        <MainCode>8724</MainCode>
        <Value>1</Value>
      </Code>
      <Code>
        <MainCode>9240</MainCode>
        <Value>2</Value>
      </Code>
      <Code>
        <MainCode>9264</MainCode>
        <SubCode>1</SubCode>
```

```

        <Value>1</Value>
    </Code>
</Category-08>
<Category-13/>
</Data>
</Policy>

```

**Notes:**

- The setting value of the code in step 10 is written by inserting a comma to divide the values. E.g.: 08-4106 <Value>128,128</Value>
- Setting is carried out in order of written.
- The read-only codes and the execution codes are skipped to continue the processing if they are included.
- Even if writing of the setting value has failed, the processing will not stop and writing into the setting file will continue to its end.

After the processing has been completed, the result of writing of all codes is stored in a result file and then a message indicating partial success will be displayed.

- Storing of a result file is not desired, add "<ResultFile>>false</ResultFile>" under "<Policy>".

**Example**

```

<Policy>
  <ResultFile>>false</ResultFile>
  <Data>
    <Category-05/>
    <Category-08>
      <Code>
        <MainCode>8724</MainCode>
        <Value>1</Value>
      </Code>

```

## 5.19.4 Result files

### [ 1 ] Result files

A file in which success or failure of the replacement of the setting values for each code included in the setting files is written. A result file is stored in a USB storage device after this code is performed.

File name: DIG\_RESULT\_XXXX\_yymmddhhmmss.xml (XXXX: Serial No.)

File format: xml format

### [ 2 ] Example

```

<Policy>
  <Data>
    <Category-05/>
    <Category-08>
      <Code>
        <MainCode>8724</MainCode>
        <RESULT>SUCCESS</RESULT>
      </Code>
      <Code>
        <MainCode>9240</MainCode>
        <RESULT>FAILED</RESULT>
      </Code>
      <Code>
        <MainCode>9264</MainCode>
        <SubCode>1</SubCode>
        <RESULT>UNSPECIFIED</RESULT>
      </Code>
    </Category-08>
    <Category-13/>
  </Data>

```

</Policy>

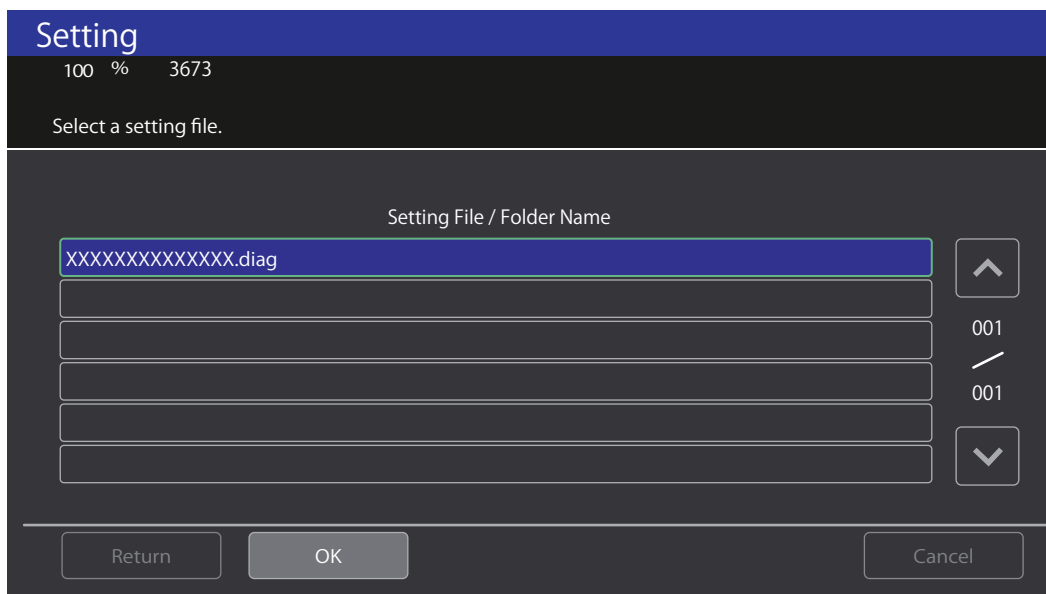
- \* SUCCESS Values are updated successfully.
- \* FAILED Update of values fails.
- \* UNSPECIFIED No codes written exist.  
A value to be set is outside the assignable range.

**Notes:**

- A result file is stored in the root folder of a USB storage device.
- As for the codes whose values have been altered caused by batch setting of another one, their items, such as the code number, value changed and success/failure of the change, are not described in a result file.
- In case an unavailable code for writing is included in the setting file, the processing will continue and then a message indicating partial success will be displayed after the setting of all codes has been completed. Unavailable codes for writing are displayed in the list by pressing [View]. When [OK] is pressed on the screen of the message indicating partial success or the list screen, the display is returned to the BASIC screen.

### 5.19.5 Operation procedure

1. Enter into the Classic mode with [FS-08].
2. Install a USB storage device, in which setting files are stored, in the MFP.
3. Key in [3673] and then press the [START] button.
4. Select a setting file.



**Fig.5-54**

5. Press [OK].
6. Setting for all codes included in the setting file are completed, the BASIC screen of the 08 mode appears.
7. Remove the USB storage device.

# 6. SETTING / ADJUSTMENT

## 6.1 Image Related Adjustment

### 6.1.1 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.

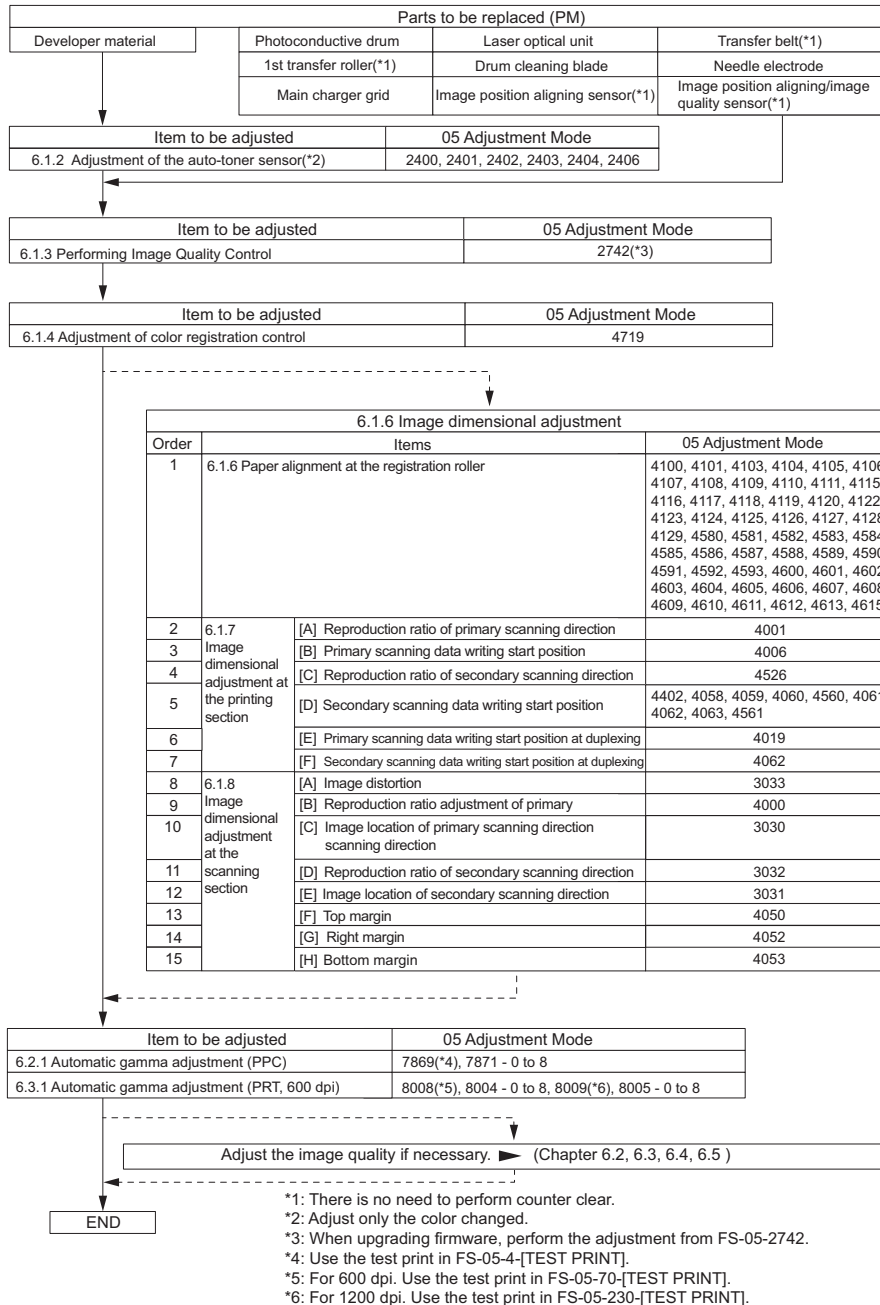


Fig.6-1

## 6.1.2 Adjustment of the Auto-Toner Sensor

When the developer material is replaced, adjust the auto-toner sensor in the following procedure. If the value of FS-08-2707 (toner density ratio manual offset control) of the replacing developer material has been changed from "0" (default), return the sub code value of the corresponding color to "0".

- (1) Install the cleaner unit and developer unit.

### Notes:

Do not install the toner cartridge.

- (2) Perform FS-05. The following message will be displayed.

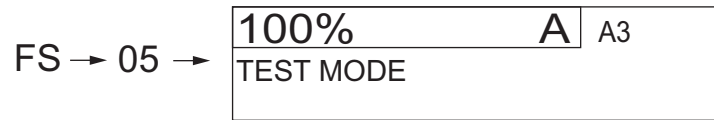


Fig.6-2

- (3) Key in a code and press the [START] button.

Code 2400: All developer materials    2401: Developer material Y    2402: Developer material M  
 2403: Developer material C    2404: Developer material K    2406: Developer material YMC

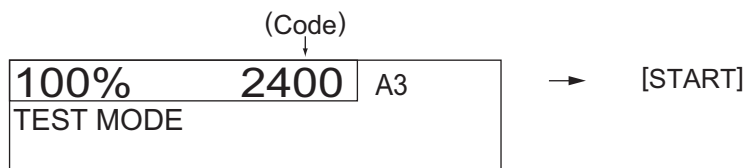
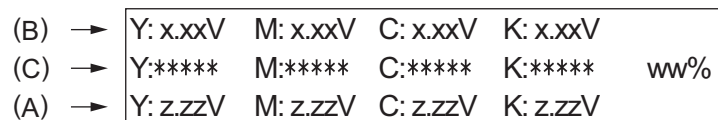


Fig.6-3

- (4) The message below will be displayed approx. 2 minutes later and the adjustment starts:
  - During the adjustment, "Current sensor voltage (V)" shown in (B) automatically changes and gradually approaches to "Target value (V) for adjustment reference voltage" shown in (A).



(B): Current sensor voltage (V)

(C): Adjustment value, Humidity (%)

(A): Target value (V) for adjustment reference voltage

Fig.6-4

- (5) 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, [OK] is displayed on the screen.

(B) →	Y: x.xxV	M: x.xxV	C: x.xxV	K: x.xxV
(C) →	Y: yyy	M: yyy	C: yyy	K: yyy
(A) →	Y: z.zzV	M: z.zzV	C: z.zzV	K: z.zzV

(B): Current sensor voltage (V)

(C): Sensor output control value (bit value)

(A): Target value (V) for adjustment reference voltage

Fig.6-5

**Notes:**


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

- (6) Press [OK] to store the adjustment result in the memory.
- (7) Turn the power OFF and install the toner cartridges.

**Notes:**

When "Waste toner box replacement" is displayed at adjustment, follow the steps below.

<When “Waste toner box replacement” is displayed>

 Basic Manual "[E] Waste toner box replacement"

1. Replace the waste toner box with a new one and close the front cover.
2. Key in [4833] (Recovery from toner empty/waste toner full).
3. Check that “WAIT” is displayed.




### 6.1.3 Performing Image Quality Control

- (1) When unpacking  
Prior to image dimensional adjustment, perform the “Forced performing of image quality closed-loop control (FS-05-2742)” procedure.
- (2) When any of the following parts is replaced, be sure to perform the “Forced performing of image quality closed-loop control (FS-05-2742)” 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 (Front/Rear)
  - Image position aligning/image quality sensor (Center)

**Notes:**

When performing “Automatic gamma adjustment” in addition, “Forced performing of image quality closed-loop control (FS-05-2742)” should be done first.




- (3) When performing “Automatic gamma adjustment” in cases no parts written above are replaced, do the “Forced performing of image quality closed-loop control (FS-05-2742)” procedure before “Automatic gamma adjustment”.

Code	Item to be adjusted	Contents
2742	Forced performing of image quality closed-loop control	<p>&lt;Procedure&gt;</p> <ol style="list-style-type: none"> <li>1. Perform FS-05-2742.</li> <li>2. “WAIT” is displayed.</li> <li>3. When the adjustment finishes normally, the equipment returns to the initial state of Adjustment Mode.</li> </ol> <p>When an error occurs</p> <p>&lt;When “Waste toner box replacement” is displayed&gt;</p> <p> Basic Manual "[E] Waste toner box replacement"</p> <ol style="list-style-type: none"> <li>1. Replace the waste toner box with a new one and close the front cover.</li> <li>2. Key in [4833] (Recovery from toner empty/waste toner full).</li> <li>3. Check that “WAIT” is displayed.</li> </ol> <p>&lt;When toner empty is displayed&gt;</p> <p> Basic Manual "[C] No toner in the cartridge"</p> <ol style="list-style-type: none"> <li>1. Replace the empty toner cartridge with a new one and close the front cover.</li> <li>2. Key in [4833] (Recovery from toner empty/waste toner full).</li> <li>3. Check that “WAIT” is displayed.</li> </ol> <p>&lt;Other abnormalities&gt;</p> <p>Take the appropriate action described in Troubleshooting.</p> <p> P. 8-1 "8. ERROR CODE and TROUBLESHOOTING"</p>



## 6.1.4 Adjustment of Color Registration Control

After having finished the “Forced performing of image quality closed-loop control (FS-05-2742)” procedure, perform the “Forced performing of color registration control adjustment (FS-05-4719)” procedure.

Code	Item to be adjusted	Contents
4719	Forced performing of color registration control	<p>&lt;Procedure&gt;</p> <ol style="list-style-type: none"> <li>1. Perform FS-05-4719.</li> <li>2. When the adjustment finishes normally, the equipment returns to the initial state of Adjustment Mode.</li> </ol> <p>If the following errors are displayed after performing FS-05-4719, clear the error by following the steps below, and then perform FS-05-4719 again.</p> <p>&lt;When “Waste toner box replacement” is displayed&gt;</p> <p> Basic Manual "[E] Waste toner box replacement"</p> <ol style="list-style-type: none"> <li>1. Replace the waste toner box with a new one and close the front cover.</li> <li>2. Key in [4833] (Recovery from toner empty/waste toner full).</li> <li>3. Check that “WAIT” is displayed.</li> </ol> <p>&lt;When toner empty is displayed&gt;</p> <p> Basic Manual "[C] No toner in the cartridge"</p> <ol style="list-style-type: none"> <li>1. Replace the empty toner cartridge with a new one and close the front cover.</li> <li>2. Key in [4833] (Recovery from toner empty/waste toner full).</li> <li>3. Check that “WAIT” is displayed.</li> </ol> <p>&lt;Other abnormalities&gt;</p> <p>Take the appropriate action described in Troubleshooting.</p> <p> P. 8-1 "8. ERROR CODE and TROUBLESHOOTING"</p>

## 6.1.5 Image Dimensional Adjustment

There are several adjustment items in the image dimensional adjustment, as listed below. Prior to this image dimensional adjustment, perform "Forced performing of image quality closed-loop control (FS-05-2742)" and "Forced performing of color registration control (FS-05-4719)".

When adjusting these items, the following adjustment order should strictly be observed.

Item to be adjusted		Code in 05 Adjustment Mode
1. Paper alignment at the registration roller		4100, 4101, 4103, 4104, 4105, 4106, 4107, 4108, 4109, 4110, 4111, 4115, 4116, 4117, 4118, 4120, 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	4001
	Primary scanning data writing start position	4006
	Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed)	4526
	Secondary scanning data writing start position	4402, 4058, 4059, 4060, 4560, 4061, 4062, 4063, 4561
	Primary scanning data writing start position at duplexing	4019
	Secondary scanning data writing start position at duplexing	4062
3. Scanner-related image dimensional adjustment	Image distortion	3033
	Reproduction ratio of the primary scanning direction	4000
	Image location of primary scanning direction	3030
	Reproduction ratio of secondary scanning direction	3032
	Image location of secondary scanning direction	3031
	Top margin	4050
	Right margin	4052
	Bottom margin	4053

**[Procedure to key in adjustment values]**

In accordance with the procedure described below, adjust the value of each item so that the measured values obtained from test copies satisfy the specification.

By pressing [TEST COPY] in the ready state of 05 Adjustment Mode, single sided test copying in the normal copy mode can be performed.

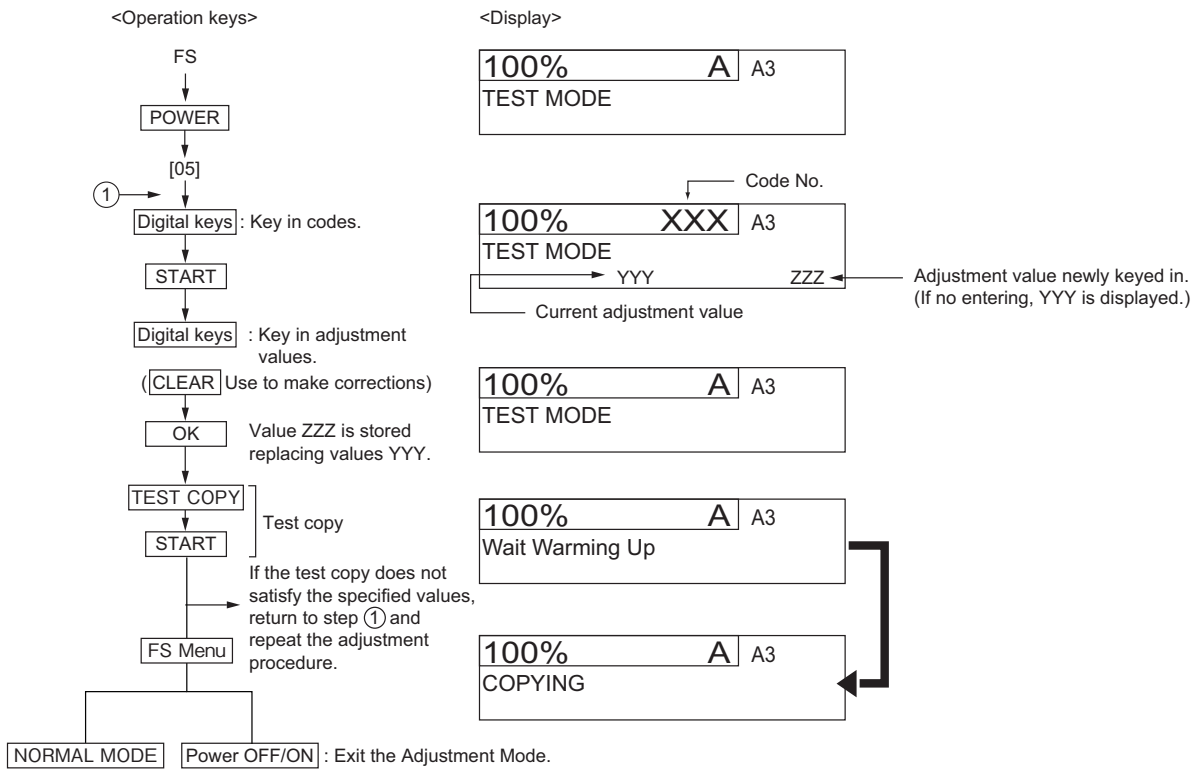


Fig.6-6

# 6.1.6 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 FS-05-4579.

- 1. Select the drawer.

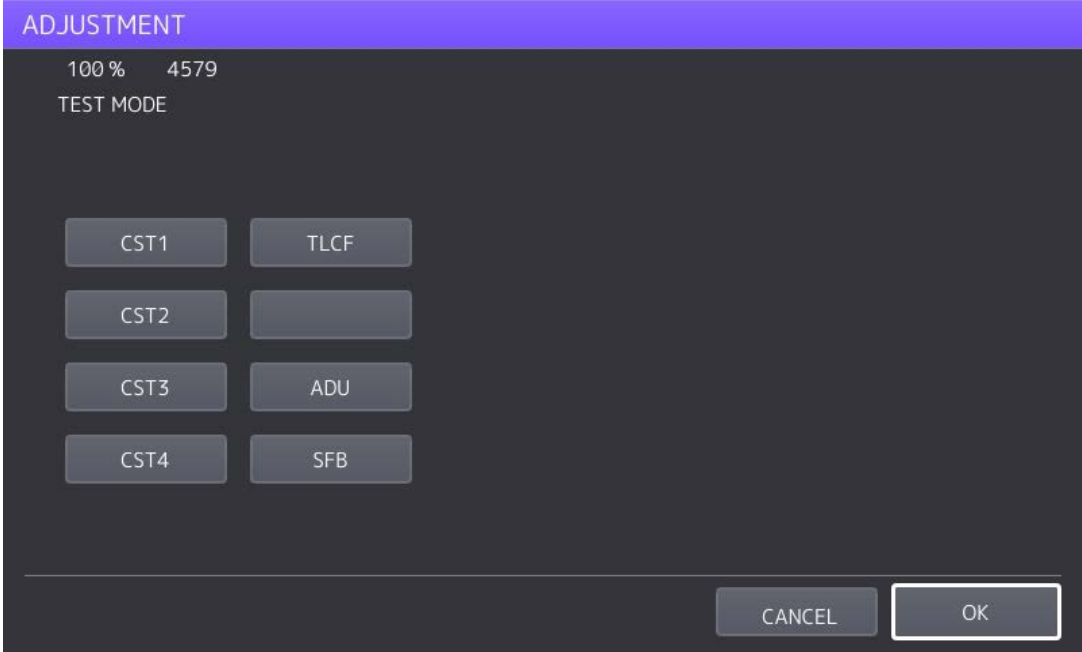


Fig.6-7

- 2. Select the paper size.

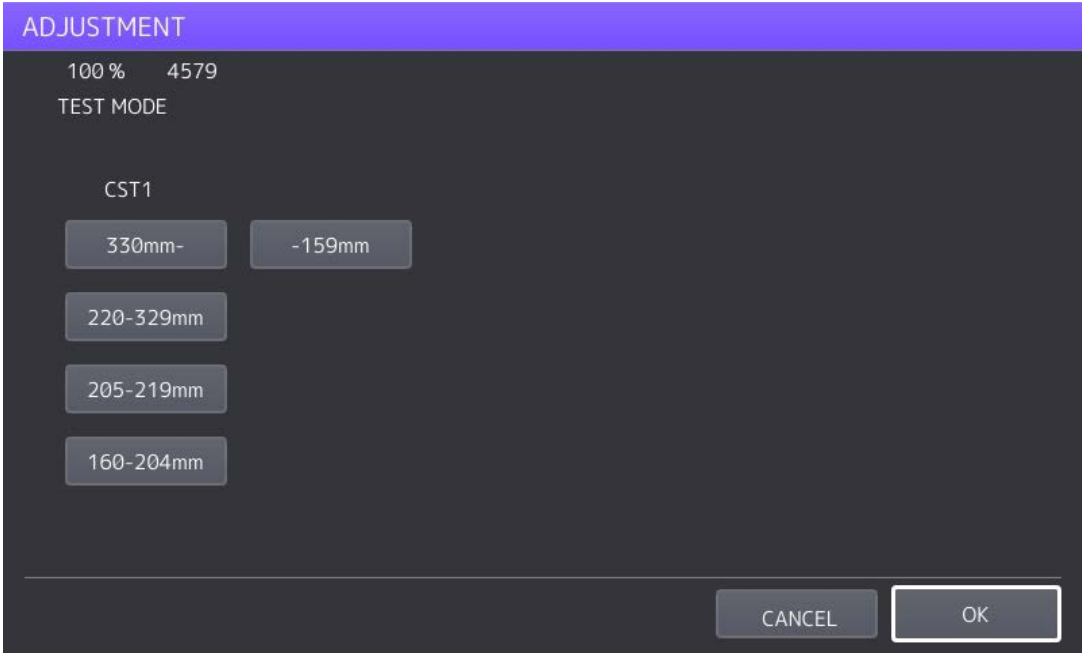


Fig.6-8

3. Select the media type.

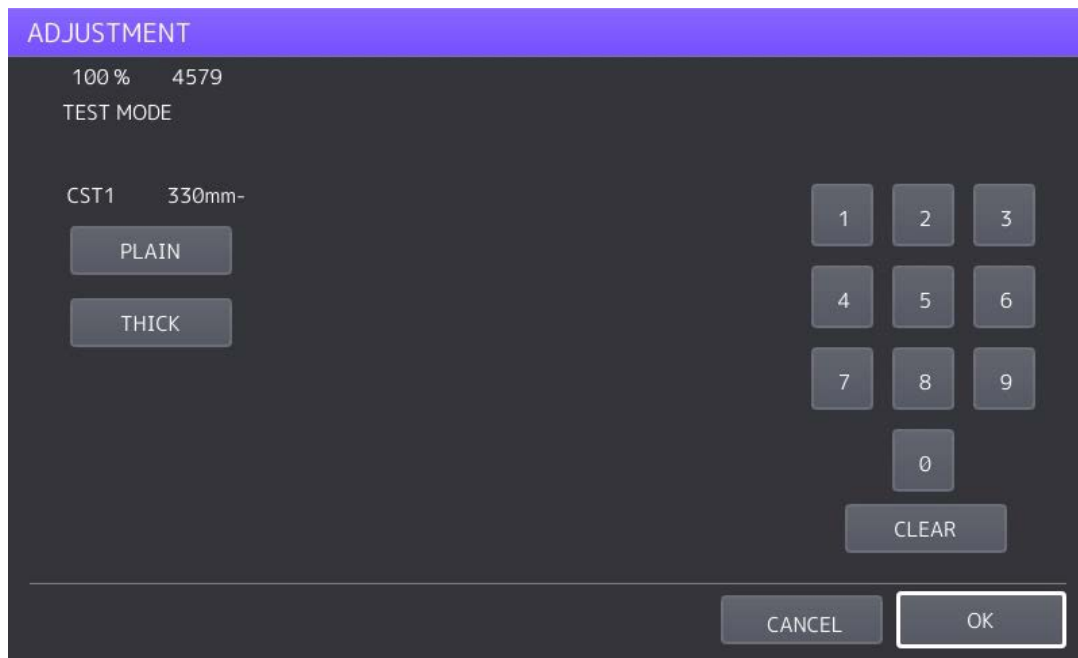


Fig.6-9

4. Key in the adjustment value.

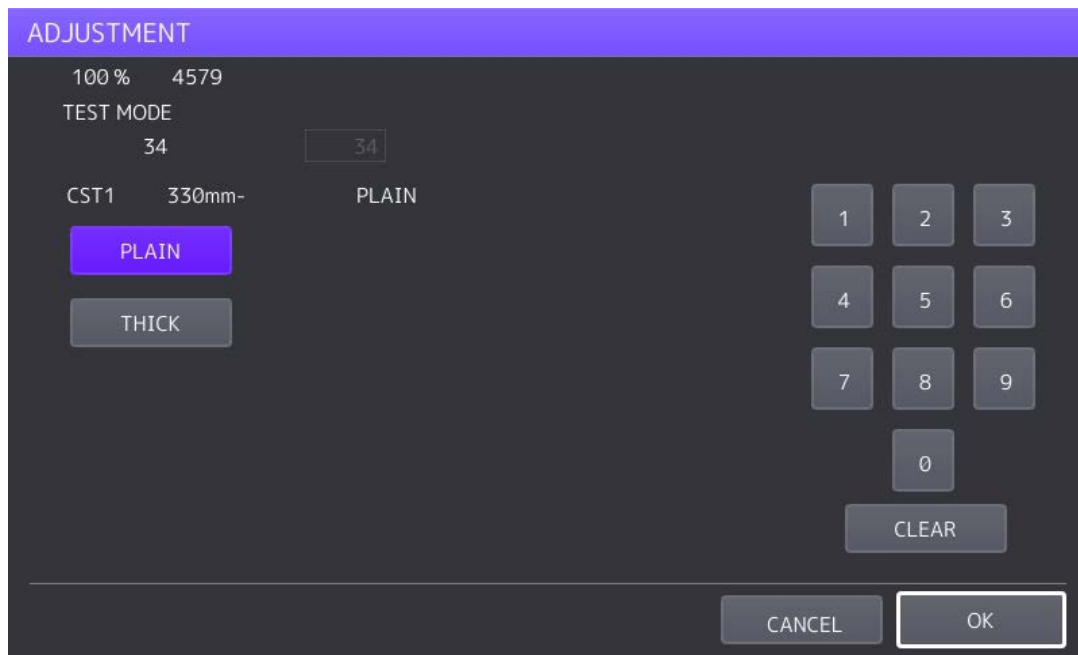


Fig.6-10

5. Press [OK] to finish the adjustment.

\* Press the [FUNCTION CLEAR] button to return to the previous menu.

## [B] Adjustment by direct code entry

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

Drawer	Code	Sub code	Paper size (Select the paper size with the sub code.)	Paper type
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, Thick paper
	4115	0, 1, 2, 3, 4		Thick paper 1
	4122	0, 1, 2, 3, 4		Plain paper, Thick 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, Thick paper	
	4116	0, 1, 2, 3, 4	Thick paper 1	
	4123	0, 1, 2, 3, 4	Plain paper, Thick paper (High speed/black)	
	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, Thick paper	
	4117	0, 1, 2, 3, 4	Thick paper 1	
	4124	0, 1, 2, 3, 4	Plain paper, Thick paper (High speed/black)	
	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, Thick paper	
	4118	0, 1, 2, 3, 4	Thick paper 1	
	4125	0, 1, 2, 3, 4	Plain paper, Thick paper (High speed/black)	
	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, Thick 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, Thick paper (High speed/black)	
	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	4119	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)

Drawer	Code	Sub code	Paper size (Select the paper size with the sub code.)	Paper type
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, Thick 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, Thick paper (High speed/black)
	4609	0, 1, 2, 3, 4		Thick paper 3 (Color)
ADU	4110	0, 1, 2, 3, 4		Plain paper, Thick paper
	4120	0, 1, 2, 3, 4		Thick paper 1
	4587	0, 1, 2, 3, 4		Plain paper, Thick paper (High speed/black)
	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

\*Weight:

Plain: 60 to 80 g/m<sup>2</sup> (16 lb. Bond to 22 lb. Bond)

Thick: 81 to 105 g/m<sup>2</sup> (22 lb. Bond to 28 lb. Bond)

Thick 1: 106 to 163 g/m<sup>2</sup> (28 lb. Bond to 60 lb. Cover (90 lb. Index))

Thick 2: 164 to 209 g/m<sup>2</sup> (61 lb. Cover to 77.3 lb. Cover (115.7 lb. Index))

Thick 3: 210 to 256 g/m<sup>2</sup> (140 lb. Index)

Thick 4: 257 to 280 g/m<sup>2</sup> (150 lb. Index)

<Procedure>

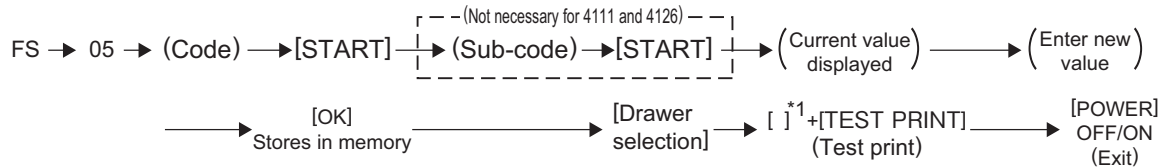


Fig.6-11

- (\*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 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 in Black Mode
- 60: Single-sided grid pattern of OHP film in Black Mode
- 98: Single-sided grid pattern in K(4)<sup>\*</sup> 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.

**Notes:**

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, E010 (Jam not reaching the exit sensor), E011 (Transfer belt paper-clinging jam), or E013 (The paper jam occurred between the registration pass sensor and the paper clinging detection sensor) may occur. Pay attention to the above and select the appropriate value.



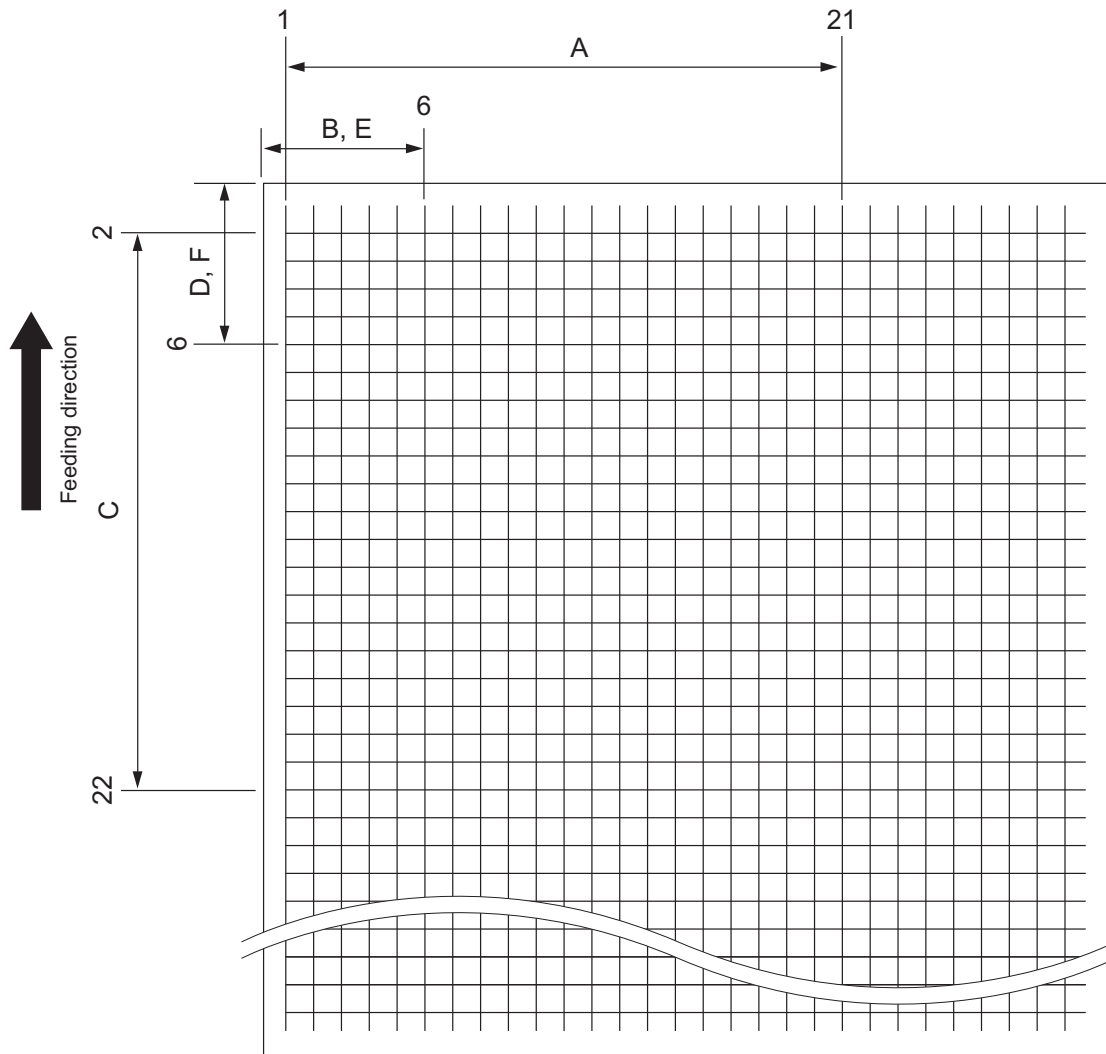
## 6.1.7 Image dimensional adjustment at the printing section

This adjustment is performed by using the chart output from the equipment. Select the appropriate chart in accordance with the adjustment orientation. Moreover, after performing this adjustment, check that no gap has occurred in the following adjustments.

Scanner : P. 6-22 "[D] Reproduction ratio of secondary scanning direction"

DSDF : P. 6-119 "6.12.6 Adjustment of Copy Ratio"

Type 1: Adjustment to make the size of an image match



\* E, F : Measure on the top side of the chart.

Fig.6-12

	Adjustment Tolerance	Detail of adjustment	Chart
A	200 ± 0.5mm	P. 6-15 "[A] Reproduction ratio of the primary scanning direction"	05-98
B	52 ± 0.5mm	P. 6-15 "[B] Primary scanning data writing start position"	
C	200 ± 0.5mm	P. 6-16 "[C] Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed)"	
D	52 ± 0.5mm	P. 6-17 "[D] Secondary scanning data writing start position"	05-3
E	52 ± 0.5mm	P. 6-18 "[E] Primary scanning data writing start position at duplexing"	
F	52 ± 0.5mm	P. 6-19 "[F] Secondary scanning data writing start position at duplexing"	

Type 2: Adjustment to make the void width match

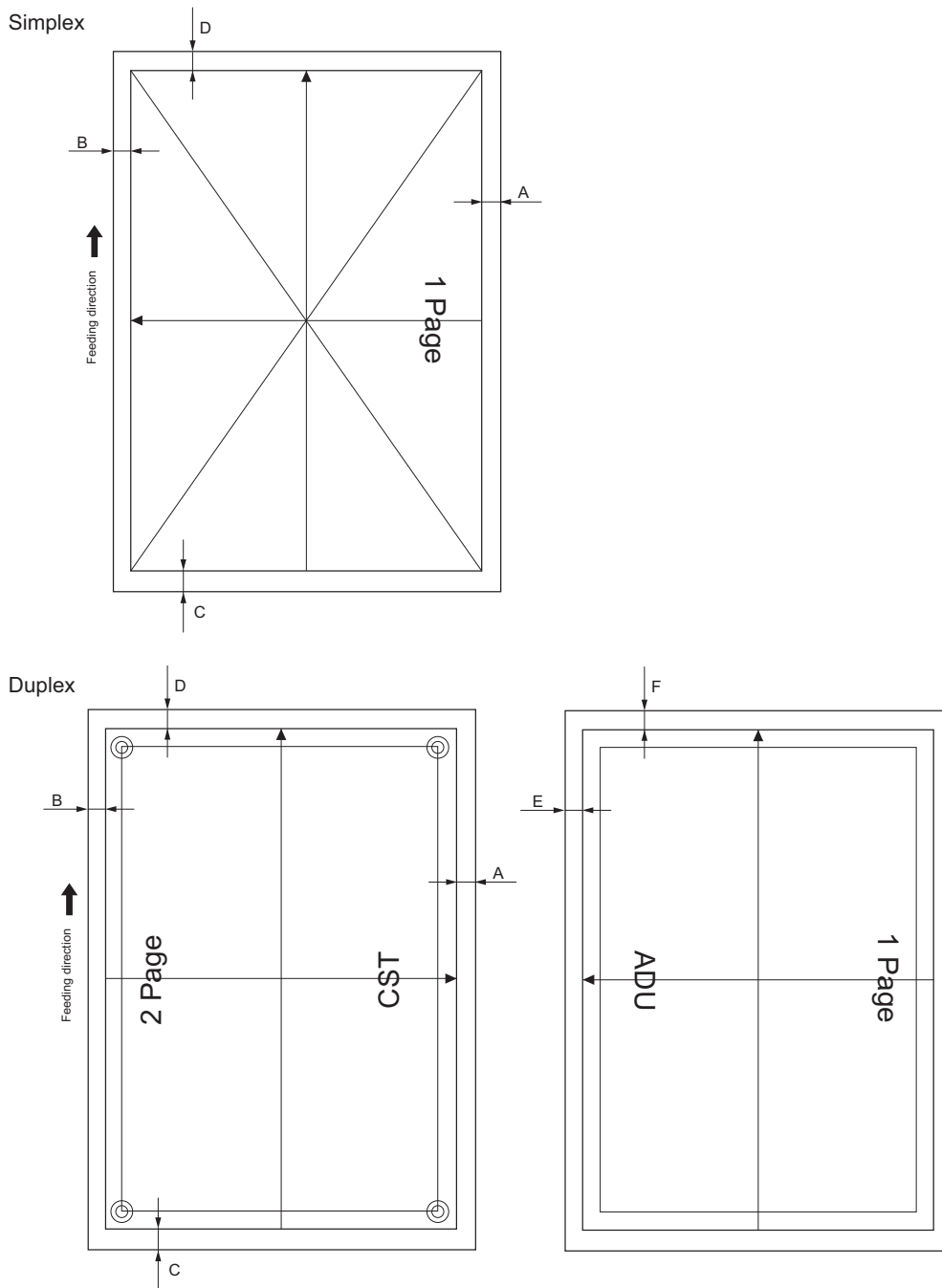


Fig.6-13 Grid pattern

	Adjustment Tolerance	Detail of adjustment	Chart
A	4.2 ± 0.5mm	📖 P. 6-15 "[A] Reproduction ratio of the primary scanning direction"	05-315
B	4.2 ± 0.5mm	📖 P. 6-15 "[B] Primary scanning data writing start position"	
C	4.2 ± 0.5mm	📖 P. 6-16 "[C] Reproduction ratio of secondary scanning direction (Fine adjustment of transfer belt motor rotation speed)"	
D	4.2 ± 0.5mm	📖 P. 6-17 "[D] Secondary scanning data writing start position"	
E	4.2 ± 0.5mm	📖 P. 6-18 "[E] Primary scanning data writing start position at duplexing"	05-316
F	4.2 ± 0.5mm	📖 P. 6-19 "[F] Secondary scanning data writing start position at duplexing"	

**[A] Reproduction ratio of the primary scanning direction**

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-98 or FS-05-315 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance A of each chart is within the acceptable range.  
05-98:  $200 \pm 0.5$  mm  
05-315:  $4.2 \pm 0.5$  mm  
\* For 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.
3. If not, use the following procedure to change the values and measure the distance A again.  
<Procedure>  
FS-05-4001 → [START].  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance A becomes (approx. 0.10 mm/step).

**Notes:**

Make sure the first line of the grid pattern (05-98) is printed properly since it occasionally vanishes.

**[B] Primary scanning data writing start position**

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-98 or FS-05-315 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance B of each chart is within the acceptable range.  
05-98:  $52 \pm 0.5$  mm  
05-315:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance B again.  
<Procedure>  
FS-05-4006 → [START].  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance B becomes (approx. 0.04 mm/step).

**Notes:**

Make sure the first line of the grid pattern (05-98) is printed properly since it occasionally vanishes.

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

Code	Sub code	Function	Remarks	
4526	0	Normal speed (Color)	55ppm/65ppm: approx. 0.04%/step 75ppm: approx. 0.05%/step	When the value increases, the reproduction ratio in the secondary scanning direction becomes larger.
	1	1/2 speed	approx. 0.04%/step	
	2	1/3 speed		
	3	Normal speed (Black) (55ppm, 65ppm)	55ppm: approx. 0.05%/step 65ppm: approx. 0.06%/step	
	4	Normal speed (Color/Low temperature) (75ppm)	approx. 0.04%/step	

When the value of the sub code "0" of FS-05-4526 is adjusted, those for "1" to "4" are also automatically changed in accordance with an appropriate parameter, along with the adjusted value.

**[C-1] Confirmation of FS-05-4526-0**

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-98 or FS-05-315 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance C of each chart is within the acceptable range.  
05-98: 200 ± 0.5 mm\*  
05-315: 4.2 ± 0.5 mm  
\* For 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.
3. If not, perform the procedure in "[C-2] Adjustment of FS-05-4526-0" to change the values and measure the distance C again.
4. Perform the color registration (4719) after the adjustment.

**[C-2] Adjustment of FS-05-4526-0**

FS-05-4526 → [START] → [0] → [START]

→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)

\* When the measured value is not within the acceptable range, 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 lower. To avoid this, perform the adjustment while checking the image.

→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)

\* The larger the adjustment value is, the longer the distance C becomes.

→ Key in the code [4719] → [START] → (Enforced color registration)

**Notes:**

- The setting value specified in FS-05-4526-0 is reflected to the charts printed out by FS-05-98, FS-05-3, FS-05-315 and FS-05-316. The adjustment result of FS-05-4526-4 cannot be confirmed by means of these charts.
- When "FS-05-4526-0" is performed, a proper value is automatically calculated for the size of an image in each function mode (copy/printer/Fax) or at each speed (normal speed/reduced speed). 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.

## [D] Secondary scanning data writing start position

Performing the code FS-05-4402 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
4402	A3/LD	0 to 200	Perform 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	2nd drawer	4059	A3/LD	0 to 100	
2	1st drawer	4058	A4/LT	0 to 100	
3	3rd drawer	4060	A4/LT	0 to 100	
4	4th drawer	4560	A4/LT	0 to 100	
5	Bypass feed	4061	A4/LT	0 to 100	
6	Option LCF	4063	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	2nd drawer	4059	A3/LD	0 to 100	
2	1st drawer	4058	A4/LT	0 to 100	
3	Tandem LCF	4561	A4/LT	0 to 100	
4	Bypass feed	4061	A4/LT	0 to 100	
5	Option LCF	4063	A4/LT	0 to 100	Only when the optional LCF is installed

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-98 or FS-05-315 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance D of each chart is within the acceptable range.  
05-98:  $52 \pm 0.5$  mm  
05-315:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance D again.  
<Procedure>  
FS-05 → (Key in the code shown above) → [START].  
→ Key in a value (Key in an acceptable value shown above) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance D becomes (approx. 0.10 mm/step).

### Notes:

Make sure the first line of the grid pattern(05-98) is printed out since the line is occasionally vanished.

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

### Notes:

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

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-3 or FS-05-316 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance E of each chart is within the acceptable range.  
05-3:  $52 \pm 0.5$  mm  
05-316:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance E again.  
<Procedure>  
FS-05-4019 → [START] → [0] → [START]  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart 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

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-3 or FS-05-316 → [TEST PRINT].  
\* Use A4/LT from the 1st drawer.
2. Check that the distance E of each chart is within the acceptable range.  
05-3:  $52 \pm 0.5$  mm  
05-316:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance E again.  
<Procedure>  
FS-05-4019 → [START] → [1] → [START]  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

### [E-3] Adjustment for medium-sized paper

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-3 or FS-05-316 → [TEST PRINT].  
\* Use A4/LT
2. Check that the distance E of each chart is within the acceptable range.  
05-3:  $52 \pm 0.5$  mm  
05-316:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance E again.  
<Procedure>  
FS-05-4019 → [START] → [2] → [START]  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

## [F] Secondary scanning data writing start position at duplexing

1. Print out the chart in the ready state of FS-05 (Classic mode).  
Press FS-05-3 or FS-05-316 → [TEST PRINT].  
\* Use A3/LD from the 2nd drawer.
2. Check that the distance F of each chart is within the acceptable range.  
05-3:  $52 \pm 0.5$  mm  
05-316:  $4.2 \pm 0.5$  mm
3. If not, use the following procedure to change the values and measure the distance F again.  
<Procedure>  
Press FS-05-4062 → [START].  
→ Key in a value (acceptable values: 0 to 255) → [OK] (Stored in the memory)  
→ "100% A" is displayed → Key in the chart number → [TEST PRINT] → (A chart is printed out.)  
\* The larger the adjustment value is, the longer the distance F becomes (approx. 0.10 mm/step).

### Notes:

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

<Adjustment procedure summarization for A to F>

Type 1: Adjustment to make the size of an image match

FS-05-98 ([3] for duplexing) → [TEST PRINT]

- A: FS-05-4001 (2nd drawer, A3/LD) →  $200 \pm 0.5$  mm (0.1 mm/step)
- B: FS-05-4006 (2nd drawer, A3/LD) →  $52 \pm 0.5$  mm (0.04 mm/step)
- C: FS-05-4526-0 (2nd drawer, A3/LD) →  $200 \pm 0.5$  mm (0.1 mm/step)
- D: FS-05-4402 (2nd drawer, A3/LD) →  $52 \pm 0.5$  mm (0.1 mm/step)  
FS-05-4058 (1st drawer, A4/LT)  
FS-05-4059 (2nd drawer, A3/LD)  
FS-05-4060 (3rd drawer, A4/LT)  
FS-05-4560 (4th drawer, A4/LT)  
FS-05-4061 (Bypass feed, A4/LT)  
FS-05-4063 (Option LCF, A4/LT)  
FS-05-4561 (Tandem LCF, A4/LT)
- E: FS-05-4019-0 (2nd drawer, A3/LD) →  $52 \pm 0.5$  mm (0.04 mm/step)  
FS-05-4019-1 (1st drawer, A4/LT)  
FS-05-4019-2 (A4-R/LT-R)
- F: FS-05-4062 (2nd drawer, A3/LD) →  $52 \pm 0.5$  mm (0.1 mm/step)

Type 2: Adjustment to make the void width match

FS-05 → 315(316 for duplexing) → [TEST PRINT]

- A: FS-05-4001 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.1 mm/step)
- B: FS-05-4006 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.04 mm/step)
- C: FS-05-4526-0 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.1 mm/step)
- D: FS-05-4402 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.1 mm/step)  
FS-05-4058 (1st drawer, A4/LT)  
FS-05-4059 (2nd drawer, A3/LD)  
FS-05-4060 (3rd drawer, A4/LT)  
FS-05-4560 (4th drawer, A4/LT)  
FS-05-4561 (Tandem LCF, A4/LT)  
FS-05-4061 (Bypass feed, A4/LT)  
FS-05-4063 (Option LCF, A4/LT)
- E: FS-05-4019-0 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.04 mm/step)  
FS-05-4019-1 (1st drawer, A4/LT)  
FS-05-4019-2 (A4-R/LT-R)
- F: FS-05-4062 (2nd drawer, A3/LD) →  $4.2 \pm 0.5$  mm (0.1 mm/step)

## 6.1.8 Image dimensional adjustment at the scanning section

### [A] Image distortion

#### Notes:

- The specification of the distortion is 1 mm to 200 mm when a drawer equipped as standard is used, and is 3 mm to 200 mm when an optional drawer (PFP and LCF) is used.
- Do not perform this adjustment when the distortion is within the above value. If the adjustment has failed, fogging or a C260 error will occur.
- This adjustment is for the distortion in the scanning section. Therefore, do not use this to correct paper skew at paper feeding.
- When performing the adjustment, marginally rotate the screw by approximately one quarter while checking the image.

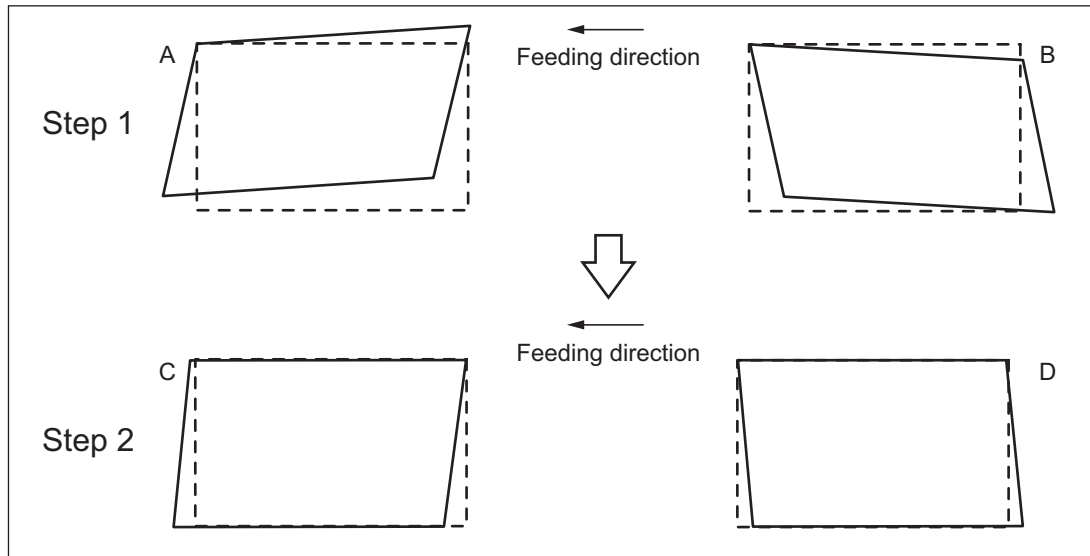


Fig.6-14

- (1) Perform FS-05.
- (2) Press [TEST COPY] → [START] to make a copy of any image on a sheet of A3/LD paper.
- (3) Key in [3033] 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 (Rear) [1] (CW).

In case of B:

Loosen the mirror-3 adjustment screw (Rear) [1] (CCW).

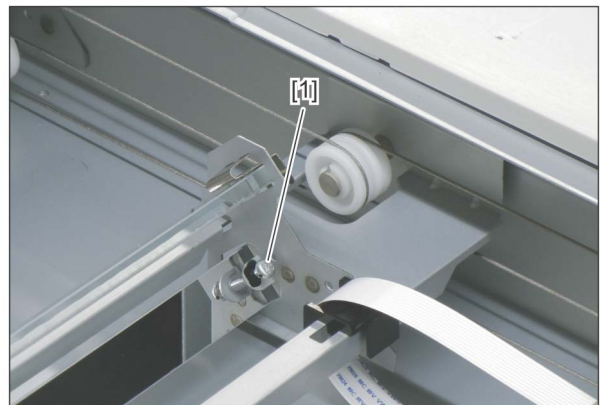


Fig.6-15



## Step 2

In case of C:

Tighten the mirror-1 adjustment screw (Rear) [1] (CW).

In case of D:

Loosen the mirror-1 adjustment screw (Rear) [1] (CCW).

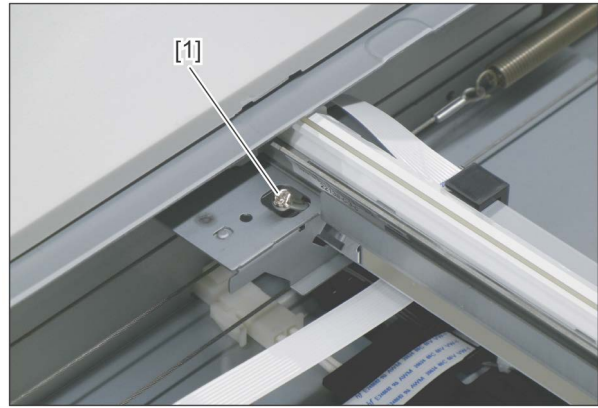



Fig.6-16

- (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 (D) should be performed with Test Chart No. TCC-1/TCC-2.

 P. 6-26 " Adjustments and Checks using Test Chart No. TCC-1/TCC-2"

### [B] Reproduction ratio of the primary scanning direction

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Place Test Chart No. TCC-1/TCC-2 on the original glass (with the arrow positioned at the left rear side).
- (3) Press [TEST COPY] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
- (4) Measure the distance B between M1 and M2 on the copy with a ruler.
- (5) Check if the distance B is within  $200 \pm 0.5$  mm.
- (6) If not, use the following procedure to change values and repeat step (3) to (5) above.  
<Procedure>  
FS-05-4000 → [START]  
→ (Key in a value (acceptable values: 0 to 255) with digital keys)  
→ [OK] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance B becomes (approx. 0.1 mm/step).

### [C] Primary scanning data writing start position

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Place Test Chart No. TCC-1/TCC-2 on the original glass (with the arrow positioned at the left rear side).
- (3) Press [TEST COPY] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
- (4) Measure the distance C 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 C is within  $5 \pm 0.5$  mm.
- (6) If not, use the following procedure to change values and repeat step (3) to (5) above.  
<Procedure>  
FS-05-3030 → [START]  
→ (Key in a value (acceptable values: 0 to 255))  
→ [OK] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance C becomes (approx. 0.04 mm/step).

#### **[D] Reproduction ratio of secondary scanning direction**

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Place Test Chart No. TCC-1/TCC-2 on the original glass (with the arrow positioned at the left rear side).
- (3) Press [TEST COPY] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
- (4) Measure the distance D between M3 and M4 on the copy with a ruler.
- (5) Check if the distance D is within  $150 \pm 0.5$  mm.
- (6) If not, use the following procedure to change values and repeat step (3) to (5) above.  
<Procedure>  
FS-05-3032 → [START]  
→ (Key in a value (acceptable values: 63 to 193))  
→ [OK] (Stored in memory)  
\* The smaller the adjustment value is, the smaller the ratio becomes (approx. 0.018%/step).

#### **[E] Image location of secondary scanning direction**

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Place Test Chart No. TCC-1/TCC-2 on the original glass (with the arrow positioned at the left rear side).
- (3) Press [TEST COPY] → [START] to make a copy at the mode of A4/LT, 100%, Full color and Text/Photo.
- (4) Measure the distance E 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 E is within  $10 \pm 0.5$  mm.
- (6) If not, use the following procedure to change values and repeat step (3) to (5) above.  
<Procedure>  
FS-05-3031 → [START]  
→ (Key in a value (acceptable values: 90 to 148))  
→ [OK] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance E becomes (approx. 0.08 mm/step).

**[F] Top margin**

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Open the DSDF.
- (3) Press [TEST COPY] → [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 leading edge of the copied image.
- (5) Check if the blank area F is within the range.

Function	Black	Color
Copy	4.2 mm + 2.8 mm / -1.2 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>

FS-05-4050 → [START]

→ (Key in a value (acceptable values: 0 to 255))

→ [OK] (Stored in memory)

→ (“100% A” is displayed.)

\* The larger the adjustment value is, the wider the blank area becomes (approx. 0.04 mm/step).

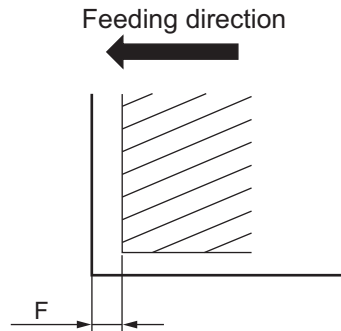


Fig.6-17

**Notes:**

Paper jams tend to occur in equipment in which thin paper such as 64g/m<sup>2</sup> (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	4.2 - 7.0 mm	5.0 - 7.0 mm

## [G] Right margin

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Open the DSDF.
- (3) Press [TEST COPY] → [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 right side of the copied image.
- (5) Check if the blank area G 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>

FS-05-4052 → [START]

→ (Key in a value (acceptable values: 0 to 255))

→ [OK] (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).

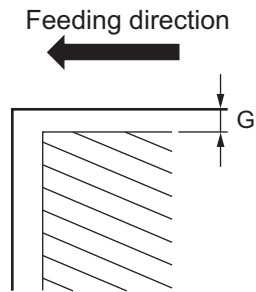


Fig.6-18

## [H] Bottom margin

- (1) Perform FS-05. → (05 Adjustment Mode)
- (2) Open the DSDF.
- (3) Press [TEST COPY] → [START] to make a copy at the mode of A3/LD, 100%, Full color, Text/Photo and 2nd drawer.
- (4) Measure the blank area H at the trailing edge of the copied image.
- (5) Check if the blank area H 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>

FS-05-4053 → [START]

→ (Key in value (acceptable values: 0 to 255))

→ [OK] (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).

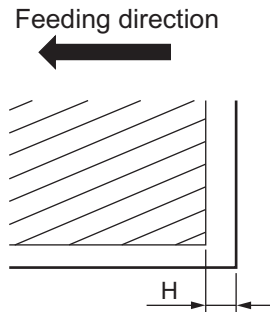


Fig.6-19

## Adjustments and Checks using Test Chart No. TCC-1/TCC-2

Following items can be checked with the Test Chart No. TCC-1/TCC-2.

1. Points to be measured in the chart

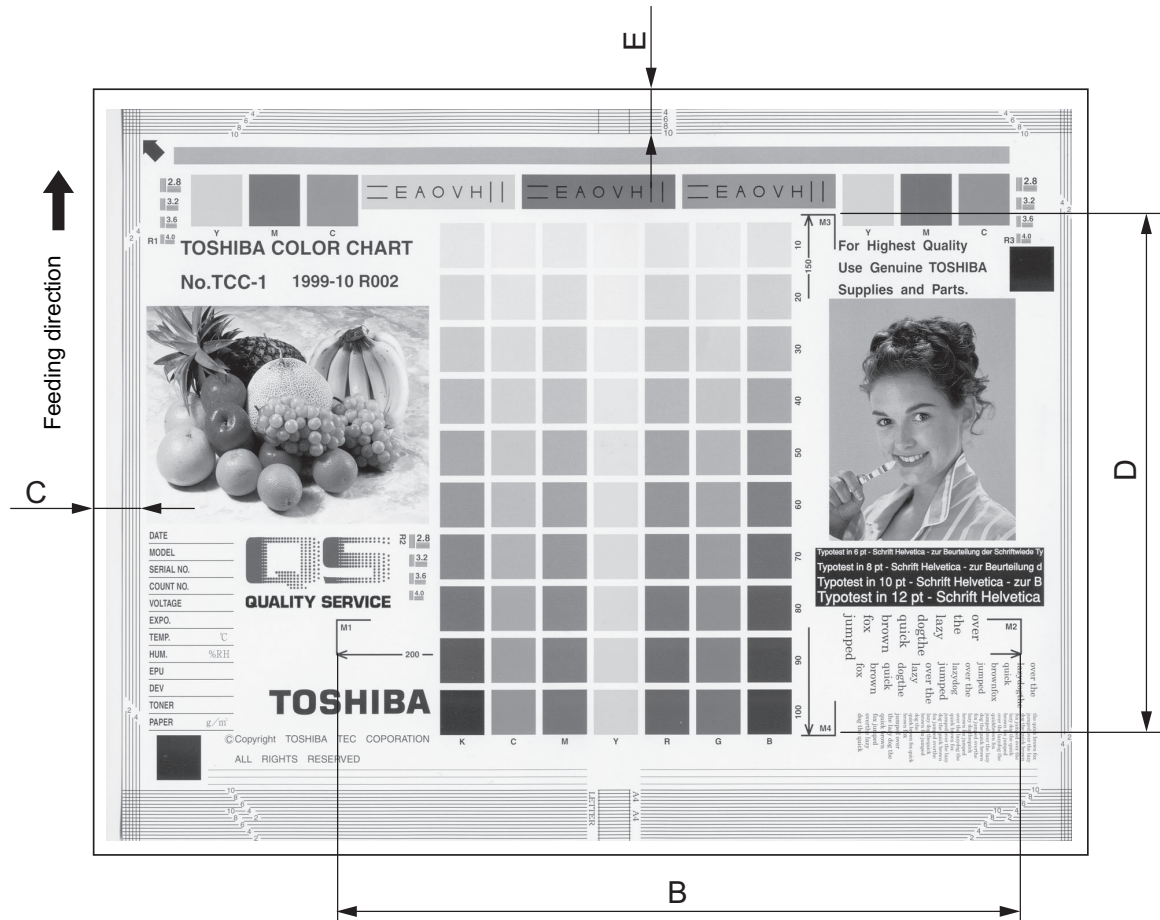


Fig.6-20

<Adjustment order>

FS-05 → (Chart TCC-1/TCC-2) → [TEST COPY] → [START] (A3/LD, 100%, Full color and Text/Photo)

- B: FS-05-4000 → 200±0.5 mm (0.1 mm/step)
- C: FS-05-3030 → 5±0.5 mm (0.04 mm/step)
- D: FS-05-3032 → 150±0.5 mm (0.03 mm/step)
- E: FS-05-3031 → 10±0.5 mm (0.08 mm/step)

## 2. Checking areas of the chart and their descriptions

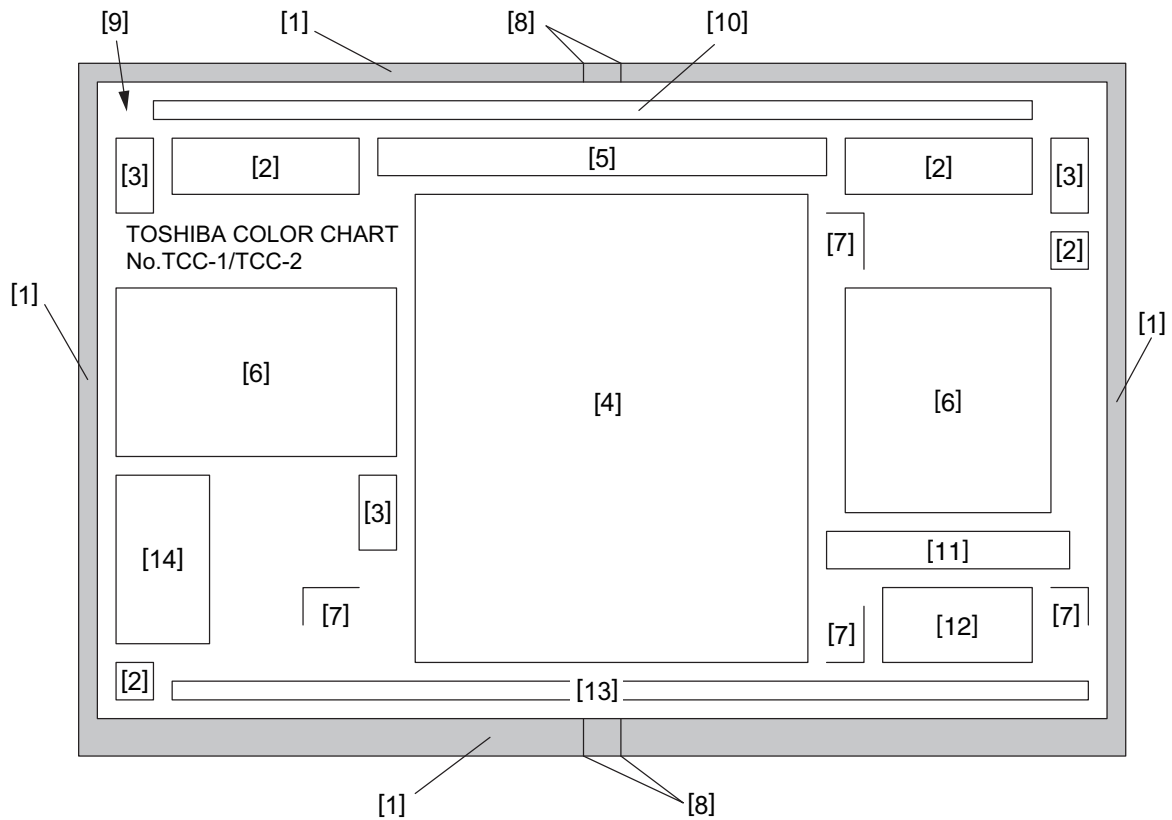


Fig.6-21

- |      |                               |   |
|------|-------------------------------|---|
| [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)<br>Coverage: 10-100%<br>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.  |

## 6.2 Image Quality Adjustment (Copying Function)

### 6.2.1 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 (Front/Rear)
- Image position aligning/image quality sensor (Center)
- SRAM board (SYS board)
- EEPROM (LGC board)
- HDD

(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:

Be sure that this adjustment be made after performing the image adjustment in  P. 6-4 "6.1.3 Performing Image Quality Control" and  P. 6-6 "6.1.5 Image Dimensional Adjustment".

<Procedure>

- (1) Perform FS-05. → 05 Adjustment Mode
- (2) Select the A4/LT/A3/LD drawer. Key in the pattern number and press [TEST PRINT] to output a "Patch chart for gamma adjustment".

<Adjustment Mode (05)>

Pattern No.	Pattern No.	Remark	Paper type
4	Color/black integrated	When performing code FS-05-7869	All paper types
200	Color/black integrated	When performing code FS-05-7871-0	Plain paper
202	Color/black integrated	When performing code FS-05-7871-1	Thick paper
204	Color/black integrated	When performing code FS-05-7871-2	Recycled paper
206	Color/black integrated	When performing code FS-05-7871-3	Thick paper 1
208	Color/black integrated	When performing code FS-05-7871-4	Thick paper 2
210	Color/black integrated	When performing code FS-05-7871-5	Thick paper 3
212	Color/black integrated	When performing code FS-05-7871-6	Thick paper 4
214	Color/black integrated	When performing code FS-05-7871-7	Special paper 1
216	Color/black integrated	When performing code FS-05-7871-8	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.).

<05 Adjustment Mode>

Code	Item to be adjusted	Contents
7869 (7871)	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 of 7869 is applied to all paper types. The result of 7871 is applied to the specified paper type.

- (5) When the adjustment has finished normally, press [OK] to have the adjustment results reflected. (To cancel the reflection of adjustment results, press [CANCEL].)  
In the case of an abnormal ending, "ADJUSTMENT ERROR" is shown.  
Press [CANCEL] 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.

**Tips:**

To select the paper type for the automatic gamma adjustment in user calibration, change the code below to "1". (copy/print)

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

## 6.2.2 Density adjustment

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

<05 Adjustment Mode>


Color mode	Original mode							Item to be adjusted	Remarks
	Text/Photo	Text	Printed Image	Photo	Map	Custom Mode	Red Seal Color Mode		
Full color	7713	7714	7715	7716	7717	7718	7719	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	7720	7721	7722	7723	7724	7725	7726	Automatic density	
Twin color	7733	7734	7735	-	-	-	-	Manual density mode center value	
	7736	7737	7738	-	-	-	-	Automatic density	
Mono color	7727	7728	7729	-	-	-	-	Manual density mode center value	
	7730	7731	7732	-	-	-	-	Automatic density	

<05 Adjustment Mode>

Color mode	Original mode					Item to be adjusted	Remarks
	Text/Photo	Text	Photo	Gray scale	Custom Mode		
Black	7114	7115	7116	7138	7134	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	7123	7124	7125	7141	7137	Automatic density mode	

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. 6-28 "6.2.1 Automatic gamma adjustment".

<Procedure>

- (1) Perform FS-05.
- (2) Key in a code and press the [START] button.
- (3) Key in an adjustment value.  
(To correct the value once keyed in, press [CLEAR].)
- (4) Press [OK] to store the value. → The equipment goes back to the ready state.
- (5) Press [TEST COPY] 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).

### 6.2.3 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.

<05 Adjustment Mode>

Color mode	Original mode					Item to be adjusted	Remarks
	Text/Photo	Text	Photo	Gray scale	Custom mode		
Black	7190-0	7191-0	7192-0	7193-0	7189-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7190-1	7191-1	7192-1	7193-1	7189-1	Medium density	
	7190-2	7191-2	7192-2	7193-2	7189-2	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. 6-28 "6.2.1 Automatic gamma adjustment".

<Procedure>

The procedure is the same as that of  P. 6-32 "6.2.4 Color balance adjustment".

**Notes:**

To check an image of [User Custom], use the one copied in the normal startup.

## 6.2.4 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.

<05 Adjustment Mode>

Color	Original mode							Item to be adjusted	Remarks
	Text/Photo	Text	Printed Image	Photo	Map	Custom mode	Red Seal Color		
Yellow	7960-0	7961-0	7962-0	7963-0	7964-0	7980-0	7984-0	Low density	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128)
	7960-1	7961-1	7962-1	7963-1	7964-1	7980-1	7984-1	Medium density	
	7960-2	7961-2	7962-2	7963-2	7964-2	7980-2	7984-2	High density	
Magenta	7965-0	7966-0	7967-0	7968-0	7969-0	7981-0	7985-0	Low density	
	7965-1	7966-1	7967-1	7968-1	7969-1	7981-1	7985-1	Medium density	
	7965-2	7966-2	7967-2	7968-2	7969-2	7981-2	7985-2	High density	
Cyan	7970-0	7971-0	7972-0	7973-0	7974-0	7982-0	7986-0	Low density	
	7970-1	7971-1	7972-1	7973-1	7974-1	7982-1	7986-1	Medium density	
	7970-2	7971-2	7972-2	7973-2	7974-2	7982-2	7986-2	High density	
Black	7975-0	7976-0	7977-0	7978-0	7979-0	7983-0	7987-0	Low density	
	7975-1	7976-1	7977-1	7978-1	7979-1	7983-1	7987-1	Medium density	
	7975-2	7976-2	7977-2	7978-2	7979-2	7983-2	7987-2	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. 6-28 "6.2.1 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) Perform FS-05.
- (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  
1: Medium density  
2: High density
- (4) Key in an adjustment value. (To correct the value once keyed in, press [CLEAR].)

- (5) Press [OK] 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 [TEST COPY] 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).

**Notes:**

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.  
<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/TCC-2 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.6-22

## 6.2.5 Background adjustment

The density of the background can be adjusted as follows.

<05 Adjustment Mode>

Color mode	Original mode								Remarks
	Text/Photo	Text	Printed Image	Photo	Map	Custom mode	Gray scale	Red Seal Color Mode	
Full color	7656	7657	7658	7659	7660	7661	---	7662	The larger the value is, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)
Mono color	7707	7708	7709	---	---	---	---	---	
Twin color	7710	7711	7712	---	---	---	---	---	
Black (Auto/Manual)	7100	7101	---	7102	---	7106	7105	---	
Black (Manual)	7086	---	---	---	---	---	---	---	

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. 6-30 "6.2.2 Density adjustment".

### Notes:

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.

## 6.2.6 Judgment threshold for ACS (common for copy and scan)

Judgment levels for automatically identifying whether an original is color or black are adjusted. This adjustment is for judgment levels when "Auto Color" is selected as a color mode. The same adjustment value is simultaneously applied to all cases of originals on the original glass for copier functions and network scanning functions, and those placed on the DSDF.

<05 Adjustment Mode>

Code	Item to be adjusted	Contents
7630	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. 6-30 "6.2.2 Density adjustment".

## 6.2.7 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.

<05 Adjustment Mode>

Code	Color mode	Original mode	Contents
7796	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)
7797		Text	
7798		Printed Image	
7799		Photo	
7800		Map	
7795		Custom mode	
7794		Red Seal Color Mode	
7801	Mono color	Text/Photo	
7802		Text	
7803		Printed Image	
7804	Twin color	Text/Photo	
7805		Text	
7806		Printed Image	
7056	Black	Text/Photo	
7057		Text	
7058		Photo	
7249		Custom mode	
7061		Gray scale	

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

**Notes:**

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

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

**Notes:**

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.

## 6.2.8 Setting range correction

The values of the background peak/text 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.

<05 Adjustment Mode>

Original mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	User Custom		
Black	7286	7287	7237	Manual density mode	0: Background peak / fixed 1: Background peak / varied

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. 6-30 "6.2.2 Density adjustment".

**Notes:**

To check an image of [User Custom], use the one copied in the normal startup.

## 6.2.9 Adjustment of smudged/faint text

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

<05 Adjustment Mode>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Custom mode		
Black	7097	7098	7252	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)

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

**Notes:**

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. 6-30 "6.2.2 Density adjustment".

**Notes:**

To check an image of [User Custom], use the one copied in the normal startup.



## 6.2.10 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.

<05 Adjustment Mode>

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
7850-0	Yellow	The smaller the value is, the more reddish the color becomes.	Yellow	The larger the value is, the more greenish the color becomes.
7850-1	Magenta	The smaller the value is, the more bluish the color becomes.	Magenta	The larger the value is, the more reddish the color becomes.
7850-2	Cyan	The smaller the value is, the more greenish the color becomes.	Cyan	The larger the value is, the more bluish the color becomes.
7850-3	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.
7850-4	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.
7850-5	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.

Notes:

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

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (5) Press [OK] 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).

## 6.2.11 Emission level adjustment

The emission level in the black mode can be adjusted as follows. This adjustment adjusts the dot size.

<05 Adjustment Mode>

Text/ Photo	Text	Item to be adjusted	Remarks
7218-0	7219-0	Emission level 0/4	The smaller the value is, the smaller the emission level 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)
7218-1	7219-1	Emission level 1/4	
7218-2	7219-2	Emission level 2/4	
7218-3	7219-3	Emission level 3/4	
7218-4	7219-4	Emission 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) Perform FS-05.
- (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 [CLEAR] button.)
- (5) Press [OK] to store the value. → The equipment goes back to the ready state.
- (6) Press [TEST COPY] 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:

- Change the setting value increment of 8 as a guide.
- Be sure to confirm the image when the setting value is changed.
- The setting value must increase as the emission level number (0 to 4) becomes higher. Do not increase this order when setting the values.
- Usually, emission level 4 / 4 is most effective in the black mode.

## 6.2.12 Maximum toner density adjustment to paper type

The maximum toner adhesion amount can be adjusted for each paper type.  
It is used when offsetting occurs.

<05 Adjustment Mode>

Code	Paper type	Remarks
7913-0	Plain paper	The smaller the value is, the toner amount adhered decreases of the high density area (ex. prevention of fusing offsetting, jam in the fuser unit, etc.). Acceptable values: 0 to 255 <Default value> 128
7913-1	Thick paper	
7913-2	Recycled paper	
7913-3	Thick paper 1	
7913-4	Thick paper 2	
7913-5	Thick paper 3	
7913-6	Thick paper 4	
7913-7	Special paper 1	
7913-8	Special paper 2	
7913-11	Envelop	
7913-12	OHP film	

### Notes:

Even if a large value is set, the image does not drastically appear dark (the amount of toner adhering is not increased).

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.2.13 Maximum text density adjustment


The maximum text density in each color in the full color mode (Text/Photo, Text, Map mode) can be adjusted.

<05 Adjustment Mode>

Color	Code	Item to be adjusted	Remarks
Yellow	7889	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	7890		
Cyan	7891		
Black	7892		

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. 6-28 "6.2.1 Automatic gamma adjustment".

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.2.14 Text/Photo reproduction level adjustment

Text/Photo reproduction level at the Full color mode and Auto color 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.

<05 Adjustment Mode>

Mode			Item to be adjusted	Contents
Text/Photo	Custom mode (Text/Photo base)	Red Seal Color Mode		
7840	7841	7842	Text/Photo reproduction level adjustment	0, 5: Default The smaller the value, the higher the printed image reproduction level becomes (Photo oriented). The larger the value, the higher the text reproduction level becomes (Text oriented).

### Notes:

- The text reproduction level is lower when the mode is switched from the default value to the Photo oriented.
- When you change the setting from the default value to Text oriented, noise occurs in a printed photo with a few lines.
- The codes for the user custom setting are enabled only when the base original mode of the user custom mode is Text/Photo.

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

### Notes:

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.

## 6.2.15 Black header density level adjustment

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

<05 Adjustment Mode>

Mode	Code	Original mode	Remarks
Full Color	7811	Text/Photo	The larger the value is, the darker the black headers become but the dark areas in a photo become easily smudged. The smaller the value is, the lighter the black headers become but the dark areas in a photo do not smudge easily. Acceptable values: 0 to 8 (Default: 0) If the value is set to "0", the settings will become to the equivalent ones to the following setting values. <ul style="list-style-type: none"> <li>• Text/Photo mode: 4</li> <li>• Text mode: 4</li> <li>• User custom setting (in the Text/Photo, Map, or Text mode base): 4</li> <li>• User custom setting (in the Photo or Printed image mode base): 3</li> </ul>
	7812	Text	
	7816	Custom mode	
	7817	Red Seal Color 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. 6-30 "6.2.2 Density adjustment".

### Notes:

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.

## 6.2.16 Black area adjustment in twin color copy mode

<05 Adjustment Mode>

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. 6-32 "6.2.4 Color balance adjustment".

## 6.2.17 Judgment threshold adjustment for blank originals (common for copy and scan)

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 scanning.

<05 Adjustment Mode>

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)

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.2.18 Background offsetting adjustment for DSDF (common for copy, scan and fax)

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

<05 Adjustment Mode>

Color mode	Code	Remarks
Color	7026	The larger the value is, the darker the background density becomes. The adjustment value is applied to both the front and back sides. Acceptable values: 0 to 255 (Default: 128)
Black	7025	

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.2.19 Background offsetting adjustment in back side for DSDF (common for copy, scan and fax)

The background level for scanning the back side of originals with the DSDF can be adjusted when the background fogging level at the scanning of the back and front sides with the DSDF is different. This is to adjust the level of the background image removed when the scanning of the back side of the original with the DSDF is performed.

<05 Adjustment Mode>

Color mode	Code	Remarks
Common	7024	The larger the adjustment value, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.2.20 Twin color copy / mono color copy adjustment

The density of the color specified on the touch panel is adjusted in the monochrome copy or twin color copy mode. This adjustment is reflected to both monochrome and twin color copying.

<05 Adjustment Mode>

Code	Subcode				Remarks
	Y	M	C	K	
Magenta	7644-0	7644-1	7644-2	7644-3	The larger the value is, the darker the density becomes, and the smaller the value is, the lighter the density becomes. When "255" is set, the specified solid color is used for printing. When "0" is set, nothing is printed. For example, in case of "Red", the color when "Red" is specified becomes blue if you set as follows: (Y) 7649-0=0 (M) 7649-1=128 (C) 7649-2=255 Acceptable value: 0 to 255 (Default: 128)  <b>Notes:</b> <ul style="list-style-type: none"> <li>If a large value is set for all of YMCK, offsetting may occur. Make an adjustment while checking the image.</li> <li>If "0" is set for all four colors of YMCK, when a color is specified for the adjustment item, nothing is printed.</li> </ul>
Yellow	7645-0	7645-1	7645-2	7645-3	
YellowGreen	7646-0	7646-1	7646-2	7646-3	
Cyan	7647-0	7647-1	7647-2	7647-3	
Pink	7648-0	7648-1	7648-2	7648-3	
Red	7649-0	7649-1	7649-2	7649-3	
Orange	7650-0	7650-1	7650-2	7650-3	
Green	7651-0	7651-1	7651-2	7651-3	
Blue	7652-0	7652-1	7652-2	7652-3	
Purple	7653-0	7653-1	7653-2	7653-3	

<Procedure>

- (1) Perform FS-05.
- (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, 2 or 3), and press the [START] button.  
 0: Y  
 1: M  
 2: C  
 3: K
- (4) Key in an adjustment value. (To correct the value once keyed in, press [CLEAR].)
- (5) Press [OK] 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) Turn ON the power of the equipment and make a copy.
- (8) If the desired image quality has not been attained, repeat step (1) to (7).

## 6.2.21 Maximum density adjustment for each paper type

The maximum density for each paper type can be adjusted collectively.

<05 Adjustment Mode>

Code	Paper type	Remarks
7902	Plain paper	The smaller the value is, the lower the density of the whole image becomes. Acceptable values: 0 to 255 (Default: Plain paper: 255, Thick 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, Envelope: 255, OHP film: 240, User Media Type1 to 10: 255)
7903	Thick paper	
7904	Recycled paper	
7905	Thick paper 1	
7906	Thick paper 2	
7907	Thick paper 3	
7908	Thick paper 4	
7909	Special paper 1	
7910	Special paper 2	
7901	Envelope	
7911	OHP film	
7912-0	User Media Type1	
7912-1	User Media Type2	
7912-2	User Media Type3	
7912-3	User Media Type4	
7912-4	User Media Type5	
7912-5	User Media Type6	
7912-6	User Media Type7	
7912-7	User Media Type8	
7912-8	User Media Type9	
7912-9	User Media Type10	

### Notes:

Be aware that if too small a value is set, a faint image occurs.

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".





## 6.2.22 Color reproduction selection

When the custom mode is selected, the color reproduction can be adjusted as follows.

<05 Adjustment Mode>

Code	Original mode	Remarks
7690	Custom mode	0: Text/Photo, printed image, text, map 1: Photo 2: Red seal color mode 3: Text/Photo, printed image, text, map 4: Text/Photo, printed image, text, map (Default value: 0)

### Notes:

- Be sure that this adjustment is made after performing  P. 6-28 "6.2.1 Automatic gamma adjustment".
- When fine adjustment of the highlight is carried out while the setting value "4" is selected, perform  P. 6-34 "6.2.5 Background adjustment".

<Procedure>

- (1) Perform FS-05.
- (2) Key in a code and press the [START] button.
- (3) Key in an adjustment value.  
(To correct a value once keyed in, press [CLEAR].)
- (4) Press [OK] to store the value. → The equipment goes back to the ready state.
- (5) Start up the equipment in the normal mode and make a copy.
- (6) If the desired image quality has not been attained, repeat step (2) to (5).

## 6.2.23 Hue adjustment

The hue in the full color mode can be adjusted as follows.


<05 Adjustment Mode>

Code	Original mode	Item to be adjusted	Description	Remarks
7665-0	Text/Photo	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	Acceptable value: 0 to 255 Default value: 128
7665-1	Text/Photo	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7665-2	Text/Photo	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7665-3	Text/Photo	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7665-4	Text/Photo	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7665-5	Text/Photo	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	
7666-0	Text	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	
7666-1	Text	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7666-2	Text	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7666-3	Text	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7666-4	Text	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7666-5	Text	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	
7667-0	Printed image	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	
7667-1	Printed image	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7667-2	Printed image	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7667-3	Printed image	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7667-4	Printed image	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7667-5	Printed image	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	

Code	Original mode	Item to be adjusted	Description	Remarks
7668-0	Photo	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	Acceptable value: 0 to 255 Default value: 128
7668-1	Photo	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7668-2	Photo	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7668-3	Photo	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7668-4	Photo	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7668-5	Photo	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	
7669-0	Map	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	
7669-1	Map	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7669-2	Map	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7669-3	Map	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7669-4	Map	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7669-5	Map	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	
7670-0	Custom	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	
7670-1	Custom	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	
7670-2	Custom	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	
7670-3	Custom	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7670-4	Custom	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7670-5	Custom	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	
7671-0	Red seal color	Red	The larger the value, the darker the yellow becomes. The smaller the value, the darker the magenta becomes.	
7671-1	Red seal color	Yellow	The larger the value, the darker the green becomes. The smaller the value, the darker the red becomes.	

Code	Original mode	Item to be adjusted	Description	Remarks
7671-2	Red seal color	Green	The larger the value, the darker the cyan becomes. The smaller the value, the darker the yellow becomes.	Acceptable value: 0 to 255 Default value: 128
7671-3	Red seal color	Cyan	The larger the value, the darker the blue becomes. The smaller the value, the darker the green becomes.	
7671-4	Red seal color	Blue	The larger the value, the darker the magenta becomes. The smaller the value, the darker the cyan becomes.	
7671-5	Red seal color	Magenta	The larger the value, the darker the red becomes. The smaller the value, the darker the blue becomes.	

**Notes:**

Be sure that this adjustment is made after performing  P. 6-28 "6.2.1 Automatic gamma adjustment".

<Procedure>

- (1) Perform FS-05.
- (2) Key in a code and press the [START] button. (e.g. 7665)
- (3) Key in a value to adjust the color.
  - 0: Red
  - 1: Yellow
  - 2: Green
  - 3: Cyan
  - 4: Blue
  - 5: Magenta
 (To correct a value once keyed in, press [CLEAR].)
- (4) Press [OK] to store the value. → The equipment goes back to the ready state.
- (5) Repeat step (2) to (4) to make the setting again.
- (6) Press [TEST COPY] 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:**

To check an image of [User Custom] and [Red Seal], use the one copied in the normal startup.


## 6.2.24 Saturation adjustment

The saturation of the copied image in the color copying function can be adjusted as follows.

<05 Adjustment Mode>

Code	Original mode	Item to be adjusted	Description	Remarks
7675-0	Text/Photo	Red	Input the larger value to increase the saturation, and input the smaller value to decrease the saturation.	Acceptable value: 0 to 255 Default value: 128
7675-1	Text/Photo	Yellow		
7675-2	Text/Photo	Green		
7675-3	Text/Photo	Cyan		
7675-4	Text/Photo	Blue		
7675-5	Text/Photo	Magenta		
7676-0	Text	Red		
7676-1	Text	Yellow		
7676-2	Text	Green		
7676-3	Text	Cyan		
7676-4	Text	Blue		
7676-5	Text	Magenta		
7677-0	Printed image	Red		
7677-1	Printed image	Yellow		
7677-2	Printed image	Green		
7677-3	Printed image	Cyan		
7677-4	Printed image	Blue		
7677-5	Printed image	Magenta		
7678-0	Photo	Red		
7678-1	Photo	Yellow		
7678-2	Photo	Green		
7678-3	Photo	Cyan		
7678-4	Photo	Blue		
7678-5	Photo	Magenta		
7679-0	Map	Red		
7679-1	Map	Yellow		
7679-2	Map	Green		
7679-3	Map	Cyan		
7679-4	Map	Blue		
7679-5	Map	Magenta		
7680-0	Custom	Red		
7680-1	Custom	Yellow		
7680-2	Custom	Green		
7680-3	Custom	Cyan		
7680-4	Custom	Blue		
7680-5	Custom	Magenta		
7681-0	Red seal color	Red		
7681-1	Red seal color	Yellow		
7681-2	Red seal color	Green		
7681-3	Red seal color	Cyan		
7681-4	Red seal color	Blue		
7681-5	Red seal color	Magenta		

### Notes:

Be sure that this adjustment is made after performing  P. 6-28 "6.2.1 Automatic gamma adjustment".

<Procedure>

- (1) Perform FS-05.
- (2) Key in a code and press the [START] button. (e.g. 7675)
- (3) Key in a value to adjust the color.
  - 0: Red
  - 1: Yellow
  - 2: Green
  - 3: Cyan
  - 4: Blue
  - 5: Magenta(To correct a value once keyed in, press [CLEAR].)
- (4) Press [OK] to store the value. → The equipment goes back to the ready state.
- (5) Repeat step (2) to (4) to make the setting again.
- (6) Press [TEST COPY] 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:**

To check an image of [User Custom], use the one copied in the normal startup.

## 6.2.25 ADF noise reduction

The noise reduction level for streaks can be adjusted with the following codes when a scan job is performed using the ADF.

<05 Adjustment Mode>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Custom mode		
Black	7151	7152	7150	ADF noise reduction level setting	When the value decreases, the effect of reducing streaks (set with FS-08-7617) becomes larger. When the value increases, the effect of reducing streaks (set with FS-08-7617) becomes smaller. When "0" is set, this function is disabled. Acceptable values: 0 to 200 (Default: 100)

When [FULL COLOR] or [AUTO COLOR] is selected for the color mode, the ADF noise reduction function for streaks can be set to enable or disable with the following codes.

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Custom mode		
Color	7694	-	7693	ADF noise reduction	Enable/Disable setting 0: Disabled 1: Enabled (Default: 1) FS-05-7693 is available only when "1" (TEXT/PHOTO base) is set for FS-08-7614.

**Notes:**

- 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.
- If too small a value is set, the text may not be printed clearly.

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

**Notes:**

To check an image of [User Custom], use the one copied in the normal startup.


## 6.3 Image Quality Adjustment (Printing Function)

### 6.3.1 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 (Front/Rear)
  - Image position aligning/image quality sensor (Center)
  - SRAM board (SYS board)
  - EEPROM (LGC board)
  - HDD
  
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
  - Screen switchover (for color: FS-08-8110, for black: FS-08-7310)

**Notes:**

Be sure to perform this adjustment after performing  P. 6-4 "6.1.3 Performing Image Quality Control".



<Procedure>

- (1) Perform FS-05. → 05 Adjustment Mode
- (2) Select the A4/LT/A3/LD drawer. Key in the pattern number and press [TEST PRINT] to output a "Patch chart for adjustment".

#### 600dpi

Pattern No.	Paper type	Remarks
70	Plain paper	Used when the code 8004-0 is performed
72	Thick paper	Used when the code 8004-1 is performed
74	Recycled paper	Used when the code 8004-2 is performed
76	Thick paper 1	Used when the code 8004-3 is performed
78	Thick paper 2	Used when the code 8004-4 is performed
80	Thick paper 3	Used when the code 8004-5 is performed
82	Thick paper 4	Used when the code 8004-6 is performed
84	Special paper 1	Used when the code 8004-7 is performed
86	Special paper 2	Used when the code 8004-8 is performed

#### 1200dpi

Pattern No.	Paper type	Remarks
230	Plain paper	Used when the code 8005-0 is performed
232	Thick paper	Used when the code 8005-1 is performed
234	Recycled paper	Used when the code 8005-2 is performed
236	Thick paper 1	Used when the code 8005-3 is performed
238	Thick paper 2	Used when the code 8005-4 is performed
240	Thick paper 3	Used when the code 8005-5 is performed
242	Thick paper 4	Used when the code 8005-6 is performed
244	Special paper 1	Used when the code 8005-7 is performed
246	Special paper 2	Used when the code 8005-8 is performed

- (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 perform automatic gamma adjustment calculation (approx. 30 sec.).

#### 600dpi

Code	Paper type	Remarks
8004-0	Plain paper	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.
8004-1	Thick paper	
8004-2	Recycled paper	
8004-3	Thick paper 1	
8004-4	Thick paper 2	
8004-5	Thick paper 3	
8004-6	Thick paper 4	
8004-7	Special paper 1	
8004-8	Special paper 2	
8008	All paper types	

\* If the code FS-05-8008 is performed, the adjustment will be applied to all paper types.

**1200dpi**

Code	Paper type	Remarks
8005-0	Plain paper	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.
8005-1	Thick paper	
8005-2	Recycled paper	
8005-3	Thick paper 1	
8005-4	Thick paper 2	
8005-5	Thick paper 3	
8005-6	Thick paper 4	
8005-7	Special paper 1	
8005-8	Special paper 2	
8009	All paper types	

\* If the code FS-05-8009 is performed, the adjustment will be applied to all paper types.

(5) When the adjustment has finished normally, press [OK] to have the adjustment results reflected. (To cancel the reflection of adjustment results, press [CANCEL].)

In the case of an abnormal ending, "ADJUSTMENT ERROR" is shown. Press [CANCEL] 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.

To select the paper type for the automatic gamma adjustment in user calibration, change the code below to "1". (copy/print)

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

### 6.3.2 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.

When "Black" (600 dpi) is set for the color mode and "Auto" is selected for the halftone setting, the gamma balance can be adjusted in each area of Text, Graphics and Image.


<05 Adjustment Mode>

Color mode	Smooth	Detail	Smooth	Detail	Smooth	Detail	Remarks
	(PS)	(PS)	(PCL)	(PCL)	(XPS)	(XPS)	
Black (600dpi)	7315-0	7316-0	7317-0	7318-0	7319-0	7320-0	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	
	7315-2	7316-2	7317-2	7318-2	7319-2	7320-2	
Black (1200dpi)	7309-0	7310-0	---	---	---	---	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	---	---	---	---	
	7309-2	7310-2	---	---	---	---	

Color mode	Auto (PS)			Auto (PCL)			Remarks
	Smooth (PS)	Detail (PS)	Smooth (PCL)	Detail (PCL)	Smooth (XPS)	Detail (XPS)	
Black (600dpi)	7360-0	7361-0	7362-0	7363-0	7364-0	7365-0	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7360-1	7361-1	7362-1	7363-1	7364-1	7365-1	
	7360-2	7361-2	7362-2	7363-2	7364-2	7365-2	

Color mode	Auto (XPS)			Remarks
	Smooth (PS)	Detail (PS)	Smooth (PCL)	
Black (600dpi)	7366-0	7367-0	7368-0	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7366-1	7367-1	7368-1	
	7366-2	7367-2	7368-2	

**Notes:**


- Be sure that this adjustment be made after performing  P. 6-52 "6.3.1 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) Perform FS-05.
- (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 1: Medium density 2: High density/Highest density
- (4) Key in the adjustment value. (To correct the value once keyed in, press [CLEAR].)
- (5) Press [OK] 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)

<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] [TEST PRINT])" output as a confirmation in  P. 6-52 "6.3.1 Automatic gamma adjustment" can be used as a guide for the range of the density area (low density, medium density, high density) influenced by the change of the adjustment value.

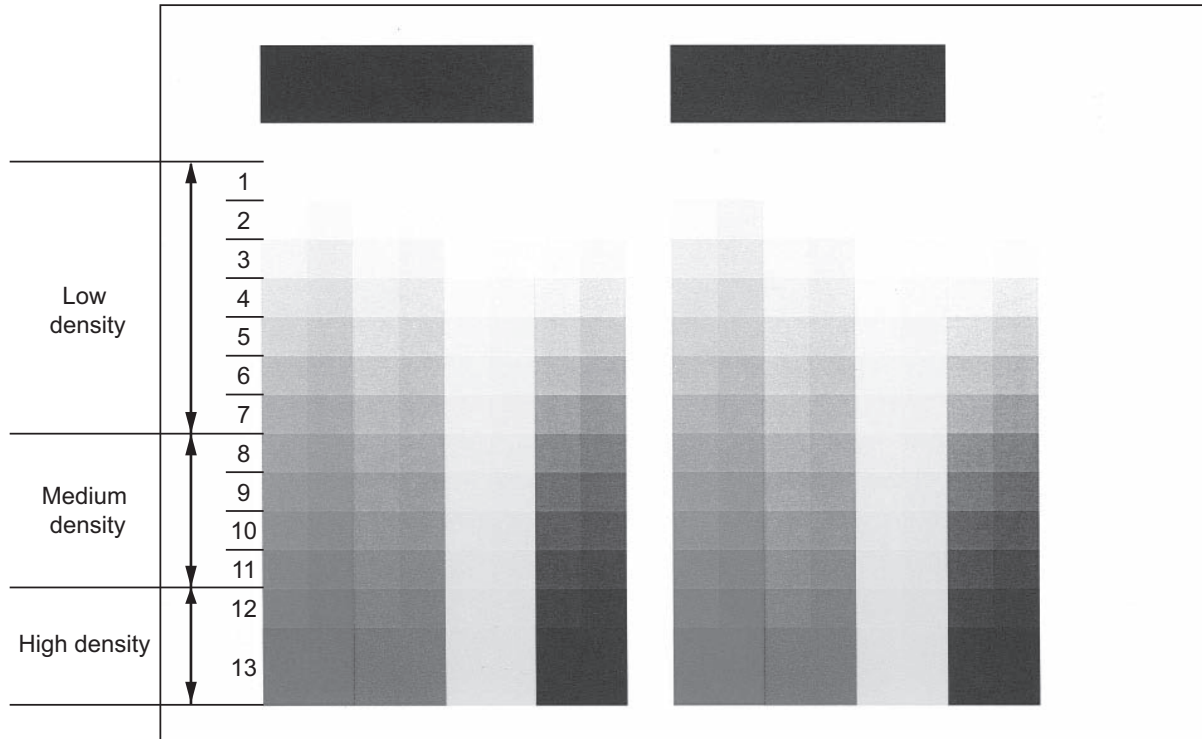


Fig.6-23

### 6.3.3 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.


<05 Adjustment Mode>

For color printing


Color	PS		PCL		XPS		Remarks
	Smooth	Detail	Smooth	Detail	Smooth	Detail	
Yellow (600dpi)	8050-0	8054-0	8058-0	8062-0	8042-0	8046-0	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128) Sub code 0: low density Sub code 1: medium density Sub code 2: high density
	8050-1	8054-1	8058-1	8062-1	8042-1	8046-1	
	8050-2	8054-2	8058-2	8062-2	8042-2	8046-2	
Magenta (600dpi)	8051-0	8055-0	8059-0	8063-0	8043-0	8047-0	
	8051-1	8055-1	8059-1	8063-1	8043-1	8047-1	
	8051-2	8055-2	8059-2	8063-2	8043-2	8047-2	
Cyan (600dpi)	8052-0	8056-0	8060-0	8064-0	8044-0	8048-0	
	8052-1	8056-1	8060-1	8064-1	8044-1	8048-1	
	8052-2	8056-2	8060-2	8064-2	8044-2	8048-2	
Black (600dpi)	8053-0	8057-0	8061-0	8065-0	8045-0	8049-0	
	8053-1	8057-1	8061-1	8065-1	8045-1	8049-1	
	8053-2	8057-2	8061-2	8065-2	8045-2	8049-2	
Yellow (1200dpi)	8268-0	8272-0	---	---	---	---	
	8268-1	8272-1	---	---	---	---	
	8268-2	8272-2	---	---	---	---	
Magenta (1200dpi)	8269-0	8273-0	---	---	---	---	
	8269-1	8273-1	---	---	---	---	
	8269-2	8273-2	---	---	---	---	
Cyan (1200dpi)	8270-0	8274-0	---	---	---	---	
	8270-1	8274-1	---	---	---	---	
	8270-2	8274-2	---	---	---	---	
Black (1200dpi)	8271-0	8275-0	---	---	---	---	
	8271-1	8275-1	---	---	---	---	
	8271-2	8275-2	---	---	---	---	

Color specified for twin color print	Item to be adjusted				Remarks
	Black	Yellow	Magenta	Cyan	
Black	8023-0	-	-	-	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255 (Default: 128) Sub code 0: low density Sub code 1: medium density Sub code 2: high density
	8023-1	-	-	-	
	8023-2	-	-	-	
Cyan	-	8024-0	8025-0	8026-0	
	-	8024-1	8025-1	8026-1	
	-	8024-2	8025-2	8026-2	
Magenta	-	8027-0	8028-0	8029-0	
	-	8027-1	8028-1	8029-1	
	-	8027-2	8028-2	8029-2	
Yellow	-	8030-0	8031-0	8032-0	
	-	8030-1	8031-1	8032-1	
	-	8030-2	8031-2	8032-2	
Red	-	8033-0	8034-0	8035-0	
	-	8033-1	8034-1	8035-1	
	-	8033-2	8034-2	8035-2	
Green	-	8036-0	8037-0	8038-0	
	-	8036-1	8037-1	8038-1	
	-	8036-2	8037-2	8038-2	
Blue	-	8039-0	8040-0	8041-0	
	-	8039-1	8040-1	8041-1	
	-	8039-2	8040-2	8041-2	



**Notes:**

- Be sure that this adjustment be made after performing  P. 6-52 "6.3.1 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.

## &lt;Procedure&gt;

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

## &lt;Range of the density area (low density, medium density, high density)&gt;

The color from the 1st to the 7th stage (low density), from the 8th to the 11th stage (medium density), from the 12th to the 13th stage (high density) in "Patch chart for gamma adjustment ([71] [TEST PRINT])" output in  P. 6-52 "6.3.1 Automatic 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, and high density) (Refer to  P. 6-56 "Fig.6-23").

### 6.3.4 Fine line/text density adjustment

The density of fine lines and small characters can be adjusted in the following codes.

<05 Adjustment Mode>

Printer Driver	General	Photographic	Presentation	Line art	Twin color	Monochrome	Remarks
PS	8130-0	8130-1	8130-2	8130-3	8133	7340	The larger the value is, the darker the density of the fine lines and small characters becomes. The smaller the value is, the lighter the density of the fine lines and small characters becomes. Acceptable values: 0 to 8 (Default: 0)
PCL	8131-0	8131-1	8131-2	8131-3	8134	7341	
XPS	8132-0	8132-1	8132-2	8132-3	8135	7342	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).


### 6.3.5 Upper limit value in the Toner Saving Mode

The upper limit value of the density when "Toner save" is selected in the Custom tab of the printer driver can be adjusted.

<05 Adjustment Mode>

Color	PS	PCL	XPS	1200dpi	Remarks
Black	7307-0	7307-1	7307-2	7302	The smaller the value is, the lighter the density of image becomes. Acceptable values: 0 to 255 (Default: 176)
Full color Twin color	8160-0	8160-1	8160-2	8161	

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".


### 6.3.6 Maximum toner density adjustment

The maximum toner amount adhering to the OHP and the User Media Type1 to 10 can be controlled.

<05 Adjustment Mode>

Color	Code	Media Type	Remarks
Color (600dpi)	8144-0	User Media Type1	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 OHP: 200, Others: 255)
	8144-1	User Media Type2	
	8144-2	User Media Type3	
	8144-3	User Media Type4	
	8144-4	User Media Type5	
	8144-5	User Media Type6	
	8144-6	User Media Type7	
	8144-7	User Media Type8	
	8144-8	User Media Type9	
	8144-9	User Media Type10	
	8145	OHP	
Color (1200dpi)	8148-0	User Media Type1	
	8148-1	User Media Type2	
	8148-2	User Media Type3	
	8148-3	User Media Type4	
	8148-4	User Media Type5	
	8148-5	User Media Type6	
	8148-6	User Media Type7	
	8148-7	User Media Type8	
	8148-8	User Media Type9	
	8148-9	User Media Type10	
	8149	OHP	

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".

**Notes:**

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


### 6.3.7 Fine line enhancement switchover

The setting of the thin line enhancement is changed.

<05 Adjustment Mode>

Printer Driver	Monochrome	Full Color	Twin color	Remarks
PS	7322-0	8102-0	8101-0	Whether fine lines are enhanced or not can be switched. 0: OFF 1: ON Acceptable values: 0 to 1 (Default: 1)
PCL	7322-1	8102-1	8101-1	
XPS	7322-2	8102-2	8101-2	

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".




### 6.3.8 “PureBlack/PureGray” threshold adjustment (PCL)

<05 Adjustment Mode>

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. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

### 6.3.9 “PureBlack/PureGray” threshold adjustment (Twin color mode)

<05 Adjustment Mode>

Code	Item to be adjusted	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. 6-59 "6.3.4 Fine line/text density adjustment".

### 6.3.10 “PureBlack/PureGray” threshold adjustment (PS)

<05 Adjustment Mode>

Original mode					Item to be adjusted	Remarks
General	Photographic	Presentation	Line art	Color profile		
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. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

### 6.3.11 “PureBlack/PureGray” threshold adjustment (XPS)

<05 Adjustment Mode>

Original mode					Item to be adjusted	Remarks
General	Photographic	Presentation	Line art	Color profile		
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. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

### 6.3.12 Toner limit threshold adjustment

<05 Adjustment Mode>

Smooth/Auto (PS/PCL/XPS)	Detail (PS/PCL/XPS)	Smooth (1200dpi)	Detail (1200dpi)	Paper type	Remarks
8071-0	8070-0	8090-0	8089-0	Plain paper	When you set a larger value, the density becomes high in some parts of the high density area since the maximum amount of toner adhering increases. When you set a smaller value, the reproduction of the gradation tends to be reduced since the maximum amount of toner adhering decreases and the maximum density becomes low. Note that if the value is too large, offsetting or jam in the fuser unit might occur.  Acceptable values: 0 to 255 <Default value> 128
8071-1	8070-1	8090-1	8089-1	Thick paper	
8071-2	8070-2	8090-2	8089-2	Recycled paper	
8071-3	8070-3	8090-3	8089-3	Thick paper 1	
8071-4	8070-4	8090-4	8089-4	Thick paper 2	
8071-5	8070-5	8090-5	8089-5	Thick paper 3	
8071-6	8070-6	8090-6	8089-6	Thick paper 4	
8071-7	8070-7	8090-7	8089-7	Special paper 1	
8071-8	8070-8	8090-8	8089-8	Special paper 2	
8071-11	8070-11	8090-11	8089-11	Envelope	
8071-12	8070-12	8090-12	8089-12	OHP film	

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

### 6.3.13 Sharpness adjustment

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

<05 Adjustment Mode>

Item to be adjusted	Monochrome*1	Color					Twin color	Remarks
		General*2	Photo	Presentation	Line art*2	Red Seal Color*2		
Text	8118-0	8110-0	8111-0	8112-0	8113-0	8109-0	8108-0	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: * : 0 Others : 128)
Graphics	8118-1	8110-1	8111-1*	8112-1*	8113-1	8109-1	8108-1*	
Image	8118-2	8110-2	8111-2	8112-2	8113-2	8109-2	8108-2	

\*1: Items which are adjusted when the value of FS-05-7322 is "0"  
The items which are adjusted when the value of FS-05-7322 is "1" are as below.

Item to be adjusted	Monochrome
Text/Others	8118-0
Thin text	8118-1
Image	8118-2


\*2: Items which are adjusted when the value of FS-05-8102 is "0"  
The items which are adjusted when the value of FS-05-8102 is "1" are as below.

Item to be adjusted	General	Line art	Red Seal Color
Text/Others	8110-0	8113-0	8109-0
Thin text	8110-1	8113-1	8109-1
Image	8110-2	8113-2	8109-2

When the value of 8102 is "1"

Item to be adjusted	Color					Twin color	Black	Remarks
	General	Photo	Present ation	Line art	Red Seal Color			
Text/ Others	8110-0	8111-0	8112-0	8113-0	8109-0	8108-0	8118-0	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: * : 0 Others : 128)
Thin text	8110-1	8111-1*	8112-1*	8113-1	8109-1	8108-1*	8118-1	
Image	8110-2	8111-2	8112-2	8113-2	8109-2	8108-2	8118-2	

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".

**Notes:**


To check an image of [Red Seal], use the one copied in the normal startup.

### 6.3.14 Thin line width lower limit adjustment

<05 Adjustment Mode>

Mode	Code	Remarks
600dpi	8240	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)
1200dpi	8241	

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".


### 6.3.15 Offsetting adjustment for background processing

The density of background can be adjusted as follows.

<05 Adjustment Mode>

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

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".


### 6.3.16 Color/black judgment setting for twin color printing images

The color reproduction of the image object is specified in the twin color mode.

<05 Adjustment Mode>

Code	Remarks
8218	0 : Reproduced with black and the specified color 1 : Reproduced with black only Acceptable values: 0 to 1 (Default: 0)

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".

### 6.3.17 Emission level adjustment

The emission level in the e-Filing printing (Monochrome/binary), the Network FAX and the Internet FAX can be adjusted as follows. This adjustment adjusts the dot size.

<05 Adjustment Mode>

Code	Item to be adjusted	Function	Remarks
7350-0	Emission level 0/4	Network FAX, Internet FAX	The smaller the value is, the smaller the emission level 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)
7350-1	Emission level 1/4		
7350-2	Emission level 2/4		
7350-3	Emission level 3/4		
7350-4	Emission level 4/4		
7356-0	Emission level 0/4	e-Filing printing (Monochrome/binary)	
7356-1	Emission level 1/4		
7356-2	Emission level 2/4		
7356-3	Emission level 3/4		
7356-4	Emission level 4/4		

<Procedure>

The procedure is the same as that of  P. 6-38 "6.2.11 Emission level adjustment".

#### Notes:

- Change the setting value increment of 8 as a guide.
- Be sure to confirm the image when the setting value is changed.
- The setting value must increase as the emission level number (0 to 4) becomes higher. Do not increase this order when setting the values.
- Usually, emission level 4/4 is most effective in the black mode.
- It is not applied to the images printed in the black mode by the printer driver.

### 6.3.18 Density adjustment of graphic lines (1200 dpi)

This adjustment is available regardless of whether "Distinguish Thin Lines" of the printer driver is selected or not.

<05 Adjustment Mode>


Color mode	Code	Remarks
Color/Black	8242-0	The density of the line in Black in the line density range specified by "FS-05-8243-0" or "FS-05-8243-1" can be adjusted.  The larger the value is, the darker the line density becomes. Acceptable value: 0 to 5 (Default: 3)
	8242-1	The density of the line in Yellow, Magenta, Cyan, and Black in the line density range specified by "FS-05-8243-2" or "FS-05-8243-3" can be adjusted.  The larger the value is, the darker the line density becomes. Acceptable value: 0 to 5 (Default: 1)

Color mode	Code	Remarks
Color/Black	8243-0	The effective range (lower limit) of the density adjustment for the line in Black can be set.  Acceptable value: 0 to 255 (Default: 1)
	8243-1	The effective range (upper limit) of the density adjustment for the line in Black can be set.  Acceptable value: 0 to 255 (Default: 200)
	8243-2	The effective range (lower limit) of the density adjustment for the line in Yellow, Magenta, Cyan, and Black can be set.  Acceptable value: 0 to 255 (Default: 1)
	8243-3	The effective range (upper limit) of the density adjustment for the line in Yellow, Magenta, Cyan, and Black can be set.  Acceptable value: 0 to 255 (Default: 255)
		The density range selected in the upper and lower limit is adjusted with FS-05-8242-0.
		The density range selected in the upper and lower limit is adjusted with FS-05-8242-1.

**Notes:**

Be sure to set the values of the upper and lower limit properly so that they are not set in reverse. The line density adjustment codes with black (8242-0, 8243-0 and 8243-1) are in common for both the color and black modes.

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".


### 6.3.19 Gradation switching for black mode printing text

The gradation level of the TEXT object in black mode printing can be switched.

<05 Adjustment Mode>

Mode	PS	PCL	XPS	Remarks
Monochrome (600dpi)	7386-0	7386-1	7386-2	0: Text reproduction priority (Text with medium density will be reproduced darker.)
Monochrome (1200dpi)	7387	-	-	1: Gradation reproduction priority (Text with medium density will be reproduced lighter.) Acceptable values: 0 to 1 (Default: 0)

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".


### 6.3.20 Color reproduction switching (Twin color printing)

The color reproduction level in twin color printing can be switched.

<05 Adjustment Mode>

Code	Item to be adjusted	Remarks
8002	Color reproduction switching (Twin color printing)	0: Gradation priority Printing is performed in a natural gradation. This setting is suitable for printing an original such as a leaflet including photos. 1: Text reproduction priority Colored lines and text are printed in a clear shape. This setting is suitable for printing an original such as a form. Acceptable values: 0 to 1 (Default: 0)

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".

### 6.3.21 Auto Trapping adjustment

White voids in the background caused by an off registration of text or graphics can be reduced.

<05 Adjustment Mode>


Code	Item to be adjusted	Remarks
8244-0	Number of pixels to perform trapping (dot)	When a larger value is set, it will get stronger against a wider gap (off registration); however, overlapped areas will become more conspicuous. Acceptable values: 1 to 3 (Default: 2)
8244-1	Color brightness of trapped areas (%)	The smaller the value is, the darker the color becomes. In this case, gaps will not become conspicuous; however, overlapped areas will become more conspicuous. Acceptable values: 0 to 255 (Default: 128)
8245	Enable/disable switching of trapping process at direct printing	Acceptable values: 0 to 1 (Default: 0)



**Notes:**

- This is available only in full color printing.
- The settings of 05-8244 are reflected when AutoTrapping is enabled in a printer driver.
- The settings of 05-8244 are common for PCL, PS and XPS (excluding 1200dpi printing at PS).
- Direct printing: Printing process which does not use (pass through) a printer driver.

<Procedure>

The procedure is the same as that of  P. 6-55 "6.3.2 Gamma balance adjustment (Black Mode)".


### 6.3.22 Adjustment of smudged text in black (600dpi)

Smudged text in black can be adjusted.

<05 Adjustment Mode>

Mode	PS	PCL	XPS	Remarks
Color	8121	8122	8123	When a larger value is set, black text becomes thinner. When a smaller value is set, it becomes thicker. Acceptable values: 0 to 9 (Default PS: 2 PCL/XPS: 5)
Twin Color	8124	8125	8126	
Monochrome	7325	7326	7327	

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".


### 6.3.23 Adjustment of smudged text in black (1200dpi)

Smudged text in black can be adjusted.

<05 Adjustment Mode>

Mode	Code	Remarks
Monochrome	7305	When a larger value is set, black text becomes thinner. When a smaller value is set, it becomes thicker. Acceptable values: 0 to 9 (Default: 6)

<Procedure>

The procedure is the same as that of  P. 6-59 "6.3.4 Fine line/text density adjustment".

## 6.4 Image Quality Adjustment (Scanning Function)

### 6.4.1 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.

<05 Adjustment Mode>

Black			Gray Scale	Item to be adjusted	Remarks
Original mode					
Text/Photo	Photo	Custom mode			
7485-0	7487-0	7480-0	7488-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
7485-1	7487-1	7480-1	7488-1	Medium density	
7485-2	7487-2	7480-2	7488-2	High density	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (5) Press [OK] 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).

### 6.4.2 RGB Color balance adjustment

The color balance of the images scanned in the color mode can be adjusted.

<05 Adjustment Mode>

Original mode	Item to be adjusted			Remarks
	Red	Green	Blue	
Text/Photo	8425-0	8425-1	8425-2	When a larger value is set, red becomes darker. When a smaller value is set, it becomes lighter. Acceptable values: 0 to 255 (Default: 128)
Text	8426-0	8426-1	8426-2	
Photo	8427-0	8427-1	8427-2	
Custom	8428-0	8428-1	8428-2	

<Procedure>

- (1) Perform FS-05.
- (2) Key in the code corresponding to the desired original mode and press the [START] button.
- (3) Key in the value corresponding to the sub code to be adjusted (0, 1 or 2) and press the [START] button.  
0: Red, 1: Green, 2: Blue
- (4) Key in the adjustment value. (Acceptable values: 0 to 255)  
(To correct the value once keyed in, press [CLEAR].)
- (5) Press the [OK] button to store the value in a memory.  
→ The equipment goes back to the ready state.
- (6) Turn the power ON again. Scan an original and check the images.
- (7) If the desired image has not been attained, repeat step (1) to (6).

### 6.4.3 Density adjustment

Adjusts the center density.

<05 Adjustment Mode>

Color Mode	Original mode				Item to be adjusted	Remarks
	Text/Photo	Text	Photo	Custom mode		
Color	8339	8340	8341	8380	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

<05 Adjustment Mode>

Mode	Original mode				Gray Scale	Item to be adjusted	Remarks
	Text/Photo	Text	Photo	Custom mode			
Black	7444	7445	7446	7475	7447	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	7456	7457	7458	7478	7459	Automatic density	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).

### 6.4.4 Background adjustment (Color Mode)

The adjustment level of background center value is adjusted.

<05 Adjustment Mode>

Code	Original mode	Remarks
8309	Text/Photo	The smaller the value is, the background becomes lighter. Acceptable values: 0 to 255 (Default: 128)
8310	Text	
8311	Photo	
8370	Custom mode	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).

## 6.4.5 Background adjustment (Black/Grayscale)

The density of background can be adjusted as follows.

<05 Adjustment Mode>

Code	Color mode	Original mode	Remarks
7436	Black	Text/Photo	The smaller the value is, the background becomes lighter. Acceptable values: 0 to 255 (Default: 128)
7437		Text	
7438		Photo	
7441		Custom mode	
7439	Grayscale	-	

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.4.6 Judgment threshold for ACS (common for copy and 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 is simultaneously applied to all cases of originals on the original glass for copier functions and network scanning functions, and those placed on the DSDF.

<05 Adjustment Mode>

Code	Item to be adjusted	Contents
7630	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. 6-71 "6.4.3 Density adjustment".

## 6.4.7 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.

<05 Adjustment Mode>

Code	Color mode	Original mode	Contents
8354	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.
8335		Text	
8336		Photo	
8375		Custom mode	
7430	Black	Text/Photo	The acceptable values are 0 to 255. The center value is 128.
7431		Text	
7432		Photo	
7470		Custom mode	
7433	Gray Scale	-	

### Notes:

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

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.4.8 Contrast adjustment

The contrast of the images scanned in the color mode can be adjusted.

<05 Adjustment Mode>

Original mode	Code	Remarks
Text/Photo	8419	When a larger value is set, the contrast becomes higher. When a smaller value is set, it becomes lower. Acceptable values: 0 to 255 (Default: 128)
Text	8420	
Photo	8421	
Custom	8422	

<Procedure>

- (1) Perform FS-05.
- (2) Key in the code corresponding to the desired original mode and press the [START] button.
- (3) Key in the adjustment value. (Acceptable values: 0 to 255)  
(To correct the value once keyed in, press [CLEAR].)
- (4) Press the [OK] button to store the value in a memory.  
→ The equipment goes back to the ready state.
- (5) Turn the power ON again. Scan an original and check the images.
- (6) If the desired image has not been attained, repeat step (1) to (5).

## 6.4.9 Fine adjustment of black density

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

<05 Adjustment Mode>

Code	Original mode	Remarks
8314	Text/Photo	The larger the value is, the black side of the image becomes darker. Acceptable values: 0 to 4 (Default: 1)
8315	Text	
8316	Photo	
8371	Custom mode	

### Notes:

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

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).

## 6.4.10 RGB conversion method selection

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

<05 Adjustment Mode>

Code	Original mode	Remarks
8319	Text/Photo	0: sRGB, 1: AppleRGB, 2: ROMMRGB, 3: AdobeRGB (Default: 0)
8320	Text	
8321	Photo	
8372	Custom mode	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).

## 6.4.11 Adjustment of saturation

The saturation of the scanned image is adjusted for color-scanning.

<05 Adjustment Mode>

Code	Original mode	Remarks
8324	Text/Photo	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)
8325	Text	
8326	Photo	
8373	Custom mode	

<Procedure>

- (1) Perform FS-05.
- (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 [CLEAR].)
- (4) Press [OK] 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).

## 6.4.12 Background offsetting adjustment for DSDF (common for copy, scan and fax)

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

<05 Adjustment Mode>

Color mode	Code	Remarks
Color	7026	The larger the value is, the darker the background density becomes. The adjustment value is applied to both the front and back sides. Acceptable values: 0 to 255 (Default: 128)
Black	7025	

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

### 6.4.13 Background offsetting adjustment in back side for DSDF (common for copy, scan and fax)

The background level for scanning the back side of originals with the DSDF can be adjusted when the background fogging level at the scanning of the back and front sides with the DSDF is different. This is to adjust the level of the background image removed when the scanning of the back side of the original with the DSDF is performed.

<05 Adjustment Mode>

Color mode	Code	Remarks
Common	7024	The larger the adjustment value, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

### 6.4.14 Adjustment of the capacity and image quality of SlimPDF

The compression quality or the resolution is adjusted to reduce the file capacity of a SlimPDF or improve its quality.

<05 Adjustment Mode>

Code	Item to be adjusted	Remarks
9104	Compression quality of SlimPDF background processing	The smaller the value, the less the file capacity and the lower the image quality becomes. The larger the value, the greater the file capacity and the higher the image quality becomes. Acceptable values: 0 to 10 (Default: 5)
9107	Resolution of SlimPDF background processing	The smaller the value, the less the file capacity and the lower the image quality becomes. The larger the value, the greater the file capacity and the higher the image quality becomes. 0: 75dpi 1: 100dpi 2: 150dpi 3: 200dpi Acceptable values: 0 to 3 (Default: 1)

<Procedure>

- (1) Perform FS-05.
- (2) Key in the codes to be adjusted and press the [START] button.
- (3) Key in the adjustment value. (To correct a value once keyed in, press [CLEAR].)
- (4) Press [OK] to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart. Acquire the SlimPDF file and check it.
- (6) If the desired image quality has not been attained, repeat step (1) to (5).



## 6.4.15 Surrounding void amount adjustment

The void amount around the network scanned image is adjusted.

In network scanning, since the void amount is very small in stored images, a shadow may appear around the scanned image due to the subtle difference in the original sizes. This shadow can be eliminated by adjusting the setting value.

The setting value is applied to all resolutions and color modes.

<05 Adjustment Mode>

Code	Item to be adjusted	Remarks
7489	Surrounding void amount adjustment	When the value increases, the blank area around the scanned image becomes wider, and the data on the image decrease. Acceptable values: 0 to 255 (Default: 0) The setting value "1" is equal to 1 dot with 600 dpi. (The value "24" is equal to approx. 1 mm.)

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.4.16 Judgment threshold adjustment for blank originals (common for copy and scan)

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 scanning.

<05 Adjustment Mode>

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 blank sheet. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.4.17 JPEG compression level adjustment

The compression level for saving the scanned data in the JPEG format can be adjusted as follows.

<05 Adjustment Mode>

Code	Item to be adjusted	Remarks
8304-0	High quality	The larger the value is, the better the quality becomes, and the larger the size of file becomes. Acceptable values: 0 to 255 (Default: 128)
8304-1	Standard	
8304-2	Low quality	

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.4.18 ADF noise reduction

The noise reduction level for streaks can be adjusted with the following codes when a scan job is performed using the ADF while its scan noise reduction function is set to enable (\*).

\* When [LOW], [MIDDLE] or [HIGH] is selected in the [ADMIN] tab of the [USER FUNCTIONS] menu, or when "0", "1" or "2" is selected in FS-08-8300.

<05 Adjustment Mode>

Color				Item to be adjusted	Remarks
Original mode					
Text/ Photo	Text	Photo	Custom mode		
8413	8414	8415	8412	ADF noise reduction level setting	When the value decreases, the effect of reducing streaks becomes larger. When the value increases, the effect of reducing streaks becomes smaller. When "0" is set, this function is disabled. Acceptable values: 0 to 200 (Default: 100)

Black					Item to be adjusted	Remarks
Original mode				Gray scale		
Text/ Photo	Text	Photo	Custom mode			
7401	7402	7403	7400	7404	ADF noise reduction level setting	When the value decreases, the effect of reducing streaks becomes larger. When the value increases, the effect of reducing streaks becomes smaller. When "0" is set, this function is disabled. Acceptable values: 0 to 200 (Default: 100)

### Notes:

- 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.
- If too small a value is set, the text may not be printed clearly.

<Procedure>

The procedure is the same as that of  P. 6-71 "6.4.3 Density adjustment".

## 6.5 Image Quality Adjustment (FAX Function)

### 6.5.1 Density adjustment

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

<05 Adjustment Mode>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text *	Photo		
Black	7533	7534	7535	Manual density center value	[TEXT/PHOTO], [PHOTO]: The larger the value is, the darker the image becomes. [Text]: The larger the value is, the lighter the image becomes. Acceptable values: 0 to 255 (Default: 128)
	7542	-	7543	Automatic density mode	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

\* 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) Perform FS-05.
- (2) Key in a code and press the [START] button.
- (3) Key in an adjustment value.  
(To correct the value once keyed in, press [CLEAR].)
- (4) Press [OK] 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.

## 6.5.2 Emission level adjustment

The emission level in the fax function can be set. In this setting the size of dots is adjusted.

<05 Adjustment Mode>

Code	Item to be adjusted	Remarks
7595-0	Emission level 0/4	The smaller the value is, the smaller the emission level 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)
7595-1	Emission level 1/4	
7595-2	Emission level 2/4	
7595-3	Emission level 3/4	
7595-4	Emission level 4/4	

<Procedure>

The procedure is the same as that of  P. 6-38 "6.2.11 Emission level adjustment".

<Confirmation>

Check the emission level setting with the actual fax data received, if possible.

### Notes:

- Change the setting value increment of 8 as a guide.
- Be sure to confirm the image when the setting value is changed.
- The setting value must increase as the emission level number (0 to 4) becomes higher. Do not increase this order when setting the values.
- Usually, emission level 4 / 4 is the most effective in the black mode.

## 6.5.3 Background offsetting adjustment for DSDF (common for copy, scan and fax)

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

<05 Adjustment Mode>

Color mode	Code	Remarks
Black	7025	The larger the value is, the darker the background density becomes. The adjustment value is applied to both the front and back sides. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.5.4 Background offsetting adjustment for DSDF (common for copy, scan and fax)

The background level for scanning the back side of originals with the DSDF can be adjusted when the background fogging level at the scanning of the back and front sides with the DSDF is different. This is to adjust the level of the background image removed when the scanning of the back side of the original with the DSDF is performed.

<05 Adjustment Mode>

Color mode	Code	Remarks
Common	7024	The larger the adjustment value, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of  P. 6-30 "6.2.2 Density adjustment".

## 6.6 Scanner

### 6.6.1 Adjustment carriages-1 positions

- (1) Take off the DSDF.  
📖 P. 4-277 "4.11.1 Removing the DSDF"
- (2) Take off the right top cover.  
📖 P. 4-2 "4.1.4 Right top cover"
- (3) Take off the original glass.  
📖 P. 4-20 "4.3.1 Original glass"
- (4) Take off the left top cover.  
📖 P. 4-7 "4.1.15 Left top cover"
- (5) Move the carriage-1[1] toward the exit side.

**Notes:**

Rotate the drive pulley to move the carriage.

- (6) Loosen the 2 fixing screws of the wire.  
Tighten the screws by aligning the sections [5] and [6] of the carriage-1 with the inside of the exit side frame [2].

**Notes:**

Confirm that they are aligned properly through the windows [3] and [4] of the exit side frame [2].

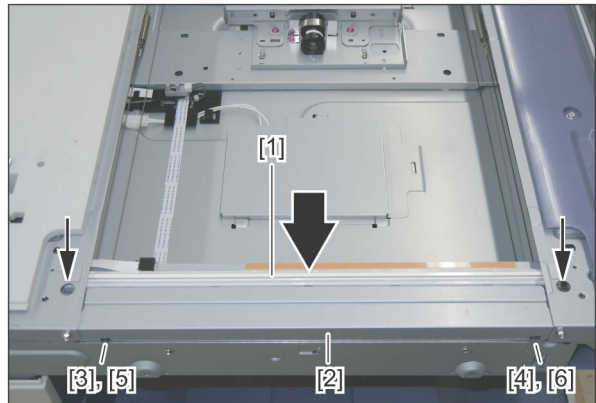


Fig.6-24

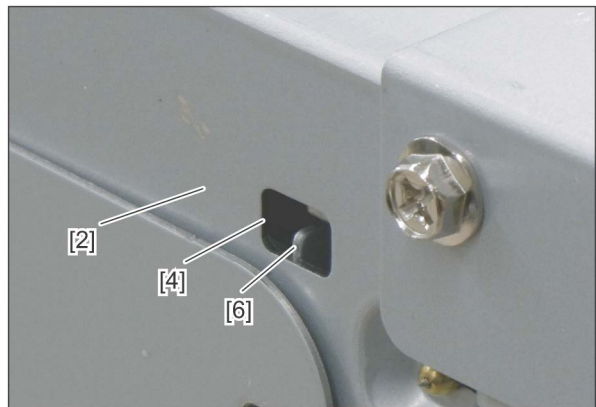


Fig.6-25

## 6.6.2 Position adjustment of CCD lens unit

Count the number of lines and write it down for later reference before removing the CCD lens unit. When installing the CCD lens unit, the same number of lines needs to be visible.

📖 P. 4-21 "4.3.4 Lens unit/CCD driving PC board (CCD)"

## 6.6.3 Belt tension adjustment of the Scan motor

- (1) Take off the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Hook the belt tension jig [1] to the motor bracket [2] and hook section of the frame [3].
- (3) Loosen the screws [4] and [5].
- (4) The scan motor [6] is pulled by the belt tension jig [1]. When it is stopped, tighten the screws in order of [4] and [5].
- (5) Remove the belt tension jig [1].

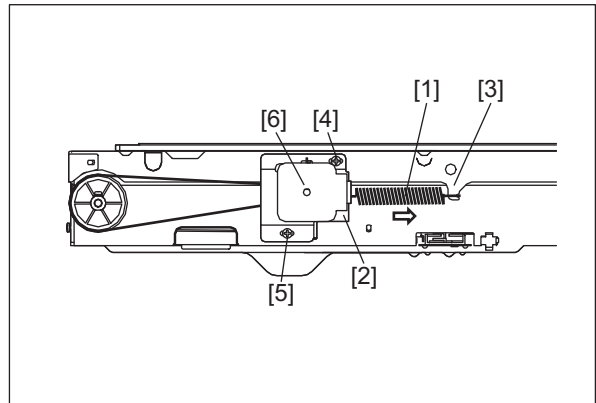


Fig.6-26

## 6.7 Paper Feeding System

### 6.7.1 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.

#### [ 1 ] Adjustment procedure of the drawer feeding unit

- (1) Take off the drawer feeding unit.

 P. 4-61 "4.5.13 Drawer feeding unit"

- (2) Remove 1 screw, and then screw it temporarily to an oblong hole located next to it.

**Notes:**

Make a mark for the installation position of the bracket in advance.

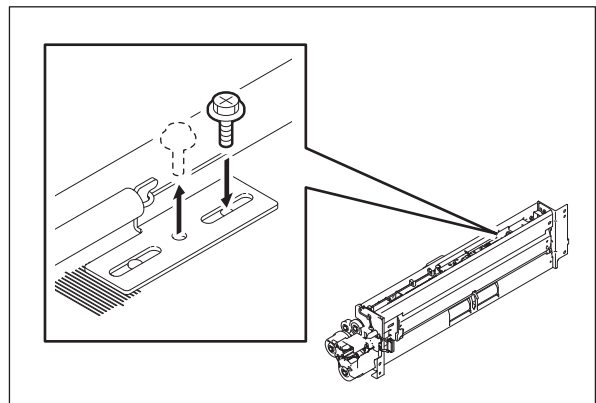


Fig.6-27

- (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).

**Notes:**

The recommended moving distance of the bracket is within 2 or 3 scale marks.

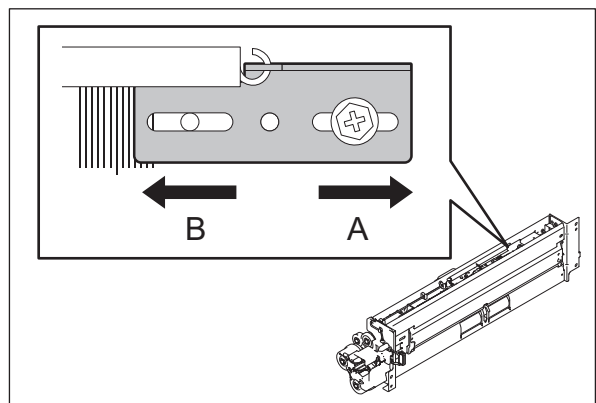


Fig.6-28



- (4) Tighten the screw that was temporarily screwed.

**Notes:**

In this step check the film attached before the separation roller because the roller life may become shorter if this film is scraped and worn.

Reference value of distance C (from the edge of the plate to that of the film):  $7.0 \pm 0.2$  mm

\* If the distance C is 6.5 mm or shorter, the film must be replaced.

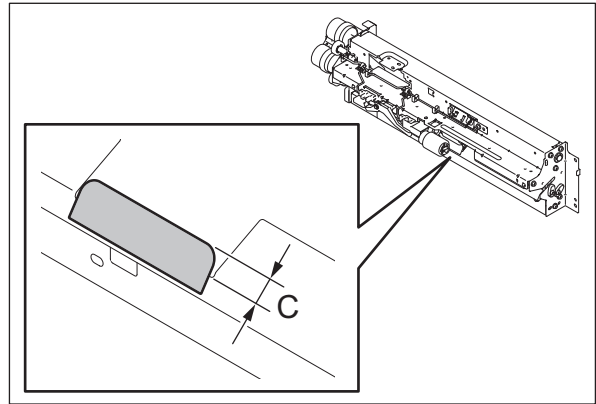


Fig.6-29

## [ 2 ] Adjustment procedure of the bypass feed unit

- (1) Take off the bypass feed tray.  
 P. 4-47 "4.5.1 Bypass feed tray"
- (2) Remove 1 screw and take off the bracket [1].

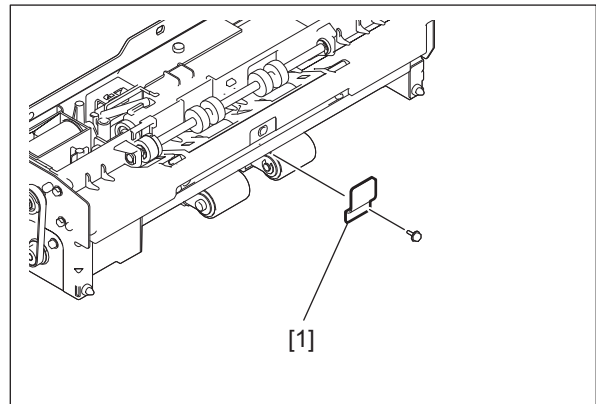


Fig.6-30

- (3) Remove 4 screws and take off the SFB lower unit [1].

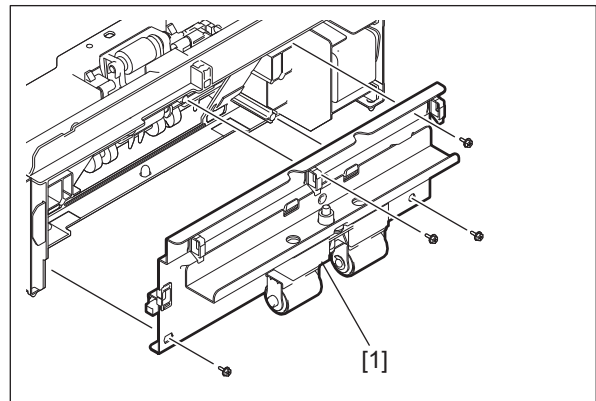


Fig.6-31

- (4) Disconnect 1 connector, remove 2 screws and take off the SFB lower guide [1].

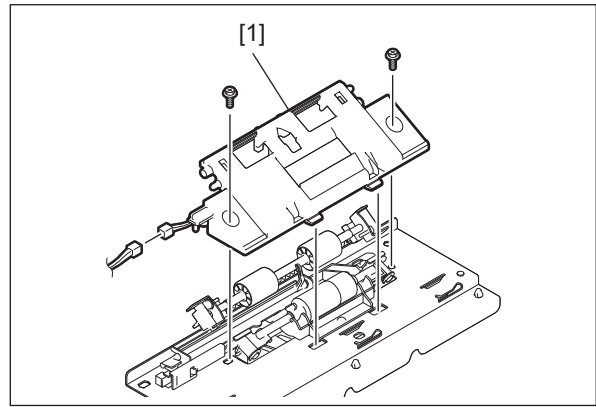


Fig.6-32

- (5) Remove 1 screw from the round hole of the front side bracket [1], and screw it temporarily to an oblong hole.

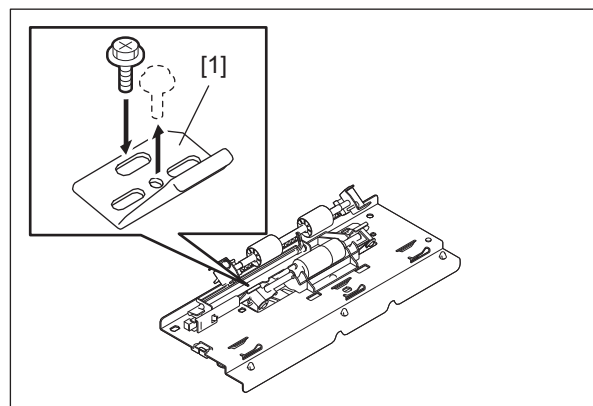


Fig.6-33

- (6) Move the front side bracket [1].  
 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).

**Notes:**

The recommended moving distance of the bracket is within 1 or 2 scale marks.

- (7) Tighten the screw that was temporarily screwed.

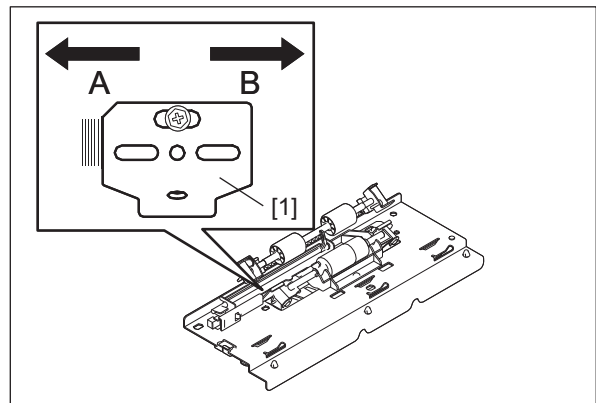


Fig.6-34

\* If the roller life is not improved or the multiple feeding is not suppressed with the adjustment in step (6), perform the following procedure in steps (8) through (10).

- (8) Remove 1 screw from the round hole of the rear side bracket [1], and screw it temporarily to an oblong hole.

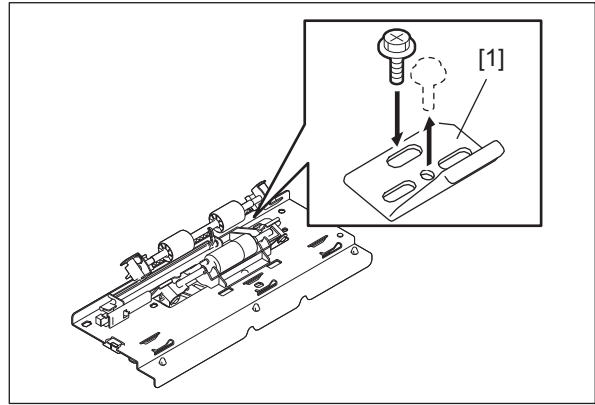


Fig.6-35

- (9) Move the rear side bracket [1].  
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).

**Notes:**

The recommended moving distance of the bracket is within 1 or 2 scale marks.

- (10) Tighten the screw that was temporarily screwed.

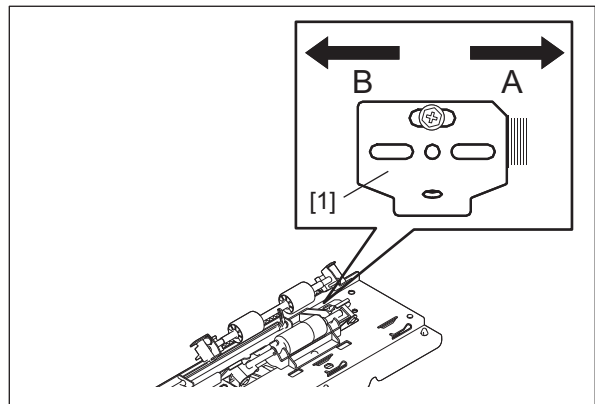


Fig.6-36

## 6.7.2 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:

- When the paper transport position has been adjusted, perform adjustment of the laser writing start position.
- 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.

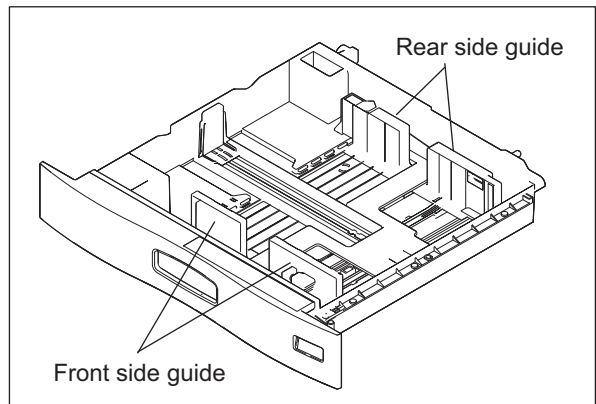


Fig.6-37

- (3) Lift up the drawer paper tray.
- (4) Take off the drawer paper tray upward by releasing it from a stopper on the front side.

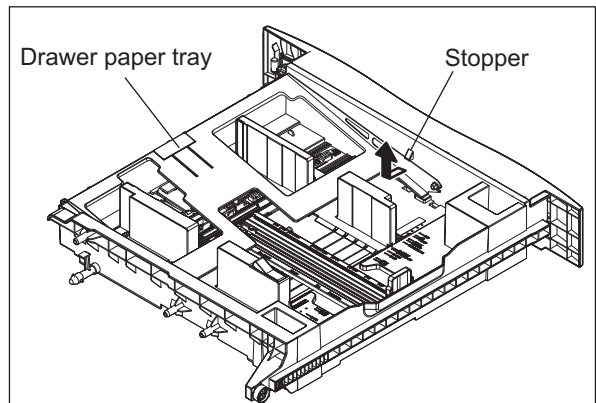


Fig.6-38

## [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.

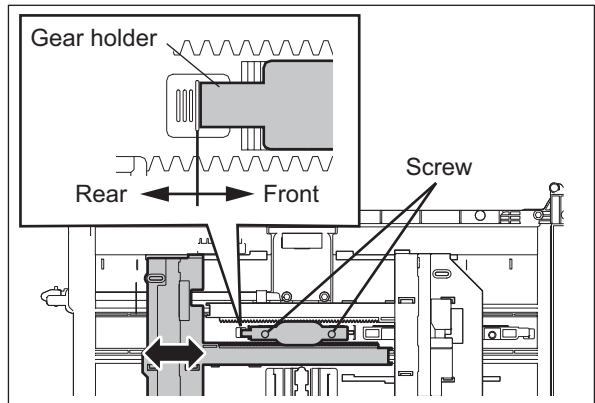


Fig.6-39

## [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.

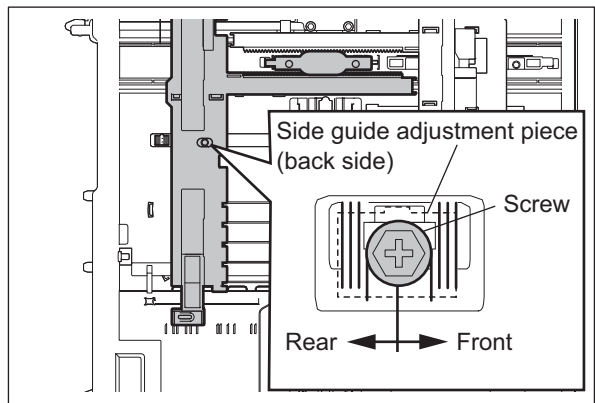


Fig.6-40

### 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.

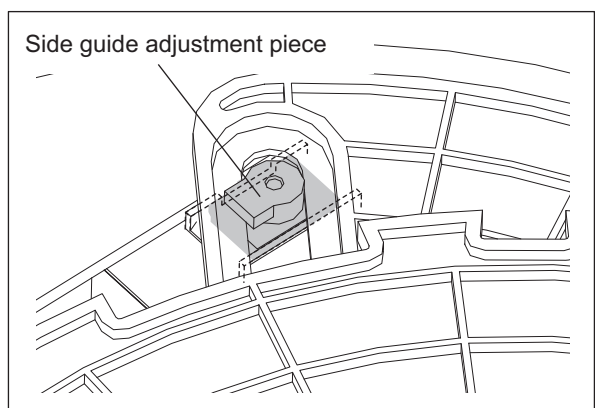


Fig.6-41

- \* Table of the adjustment combination of the gear holder and the side guide adjustment piece

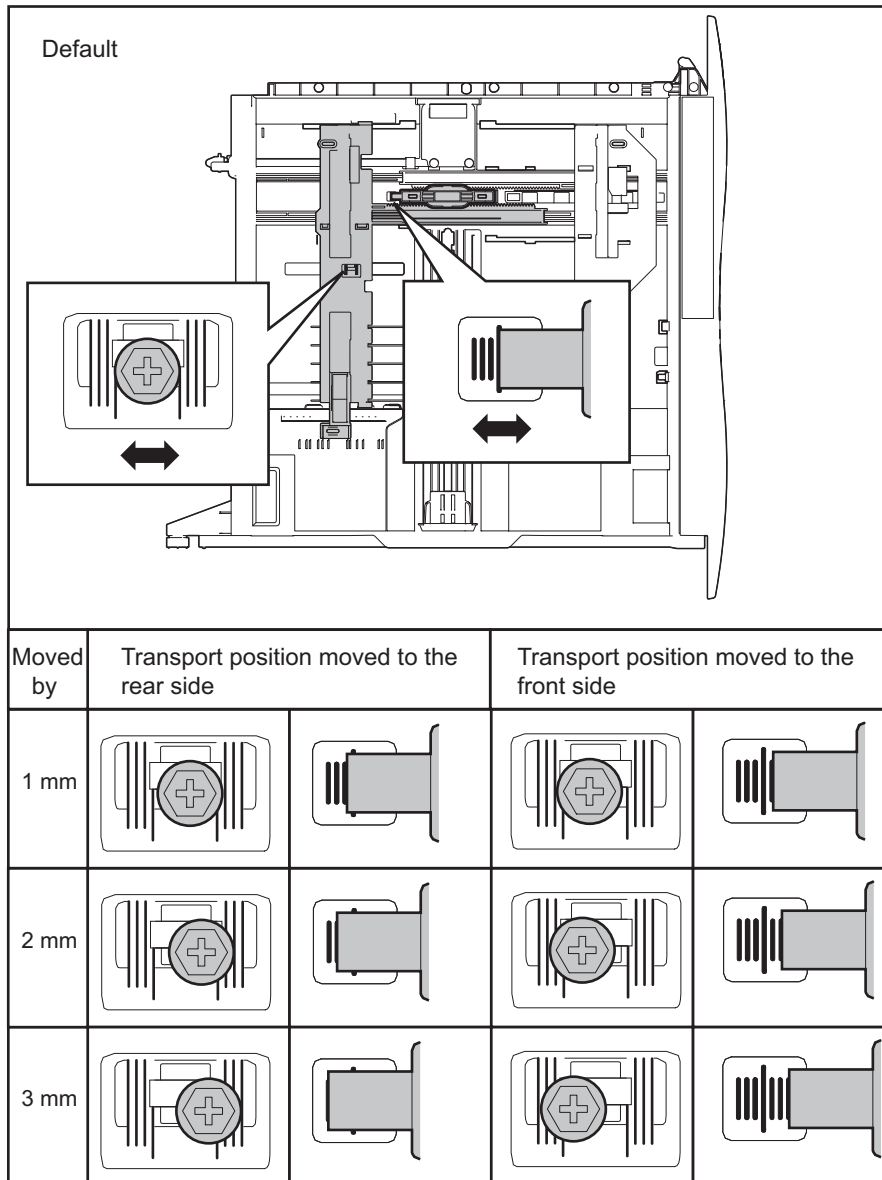


Fig.6-42

<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.

**Notes:**

The paper transport position is moved the same amount and direction as the side guide.

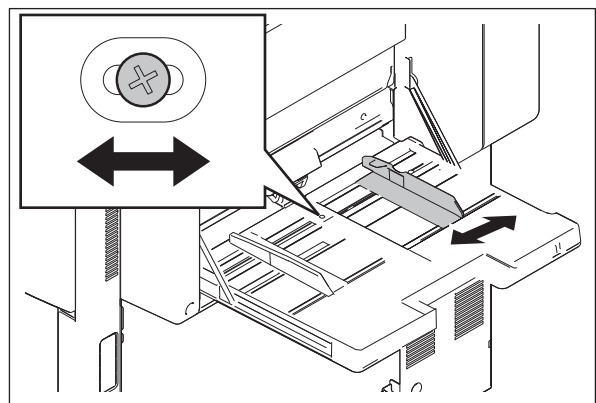


Fig.6-43

### 6.7.3 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.

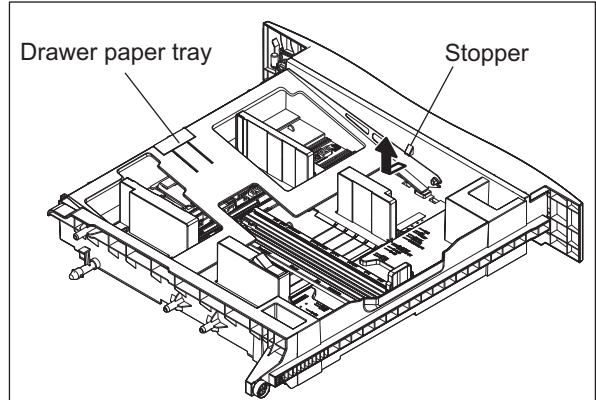


Fig.6-44

- (3) Set the side guide to the 12 inch mark.

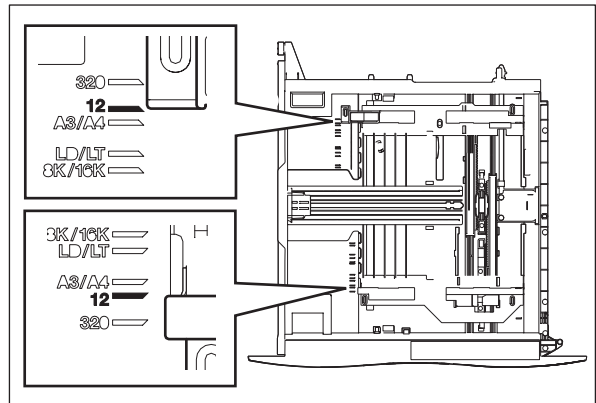


Fig.6-45

- (4) Loosen 2 screws.
- (5) Move the side guide adjustment piece to the rear and tighten the screws (by 0.5 mm).

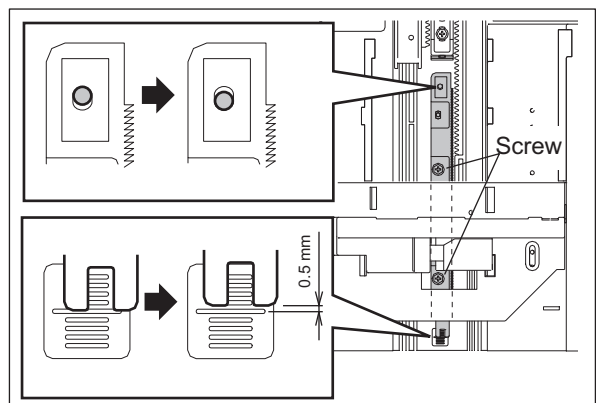


Fig.6-46

## 6.8 Process Unit Related Section

### 6.8.1 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

**Notes:**

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.

### 6.8.2 Adjustment of the Auto-Toner Sensor

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

📖 P. 6-2 "6.1.2 Adjustment of the Auto-Toner Sensor"



### 6.8.3 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

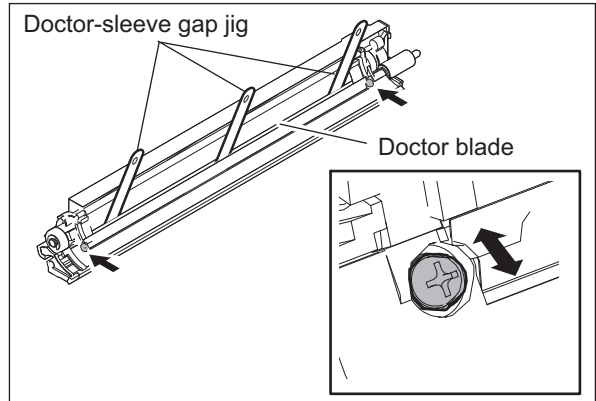


Fig.6-47

#### 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.

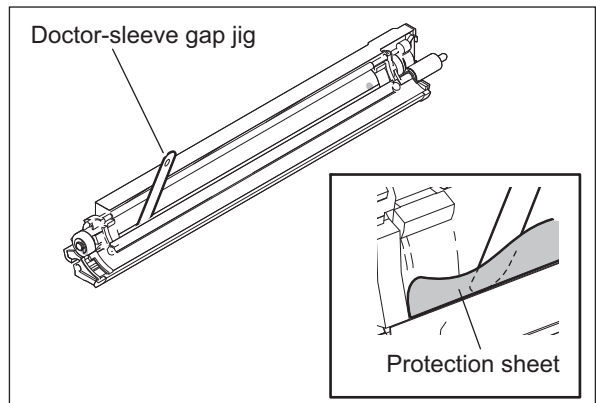


Fig.6-48

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.

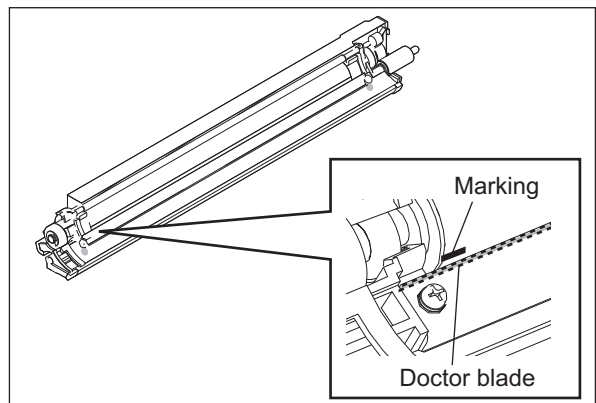
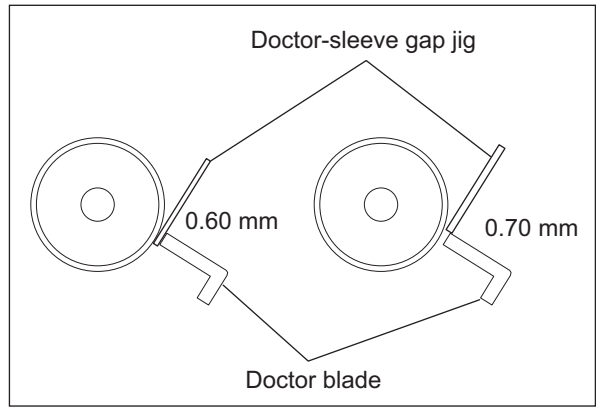


Fig.6-49

- (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.6-50**

## 6.9 Transfer Unit

### 6.9.1 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.)

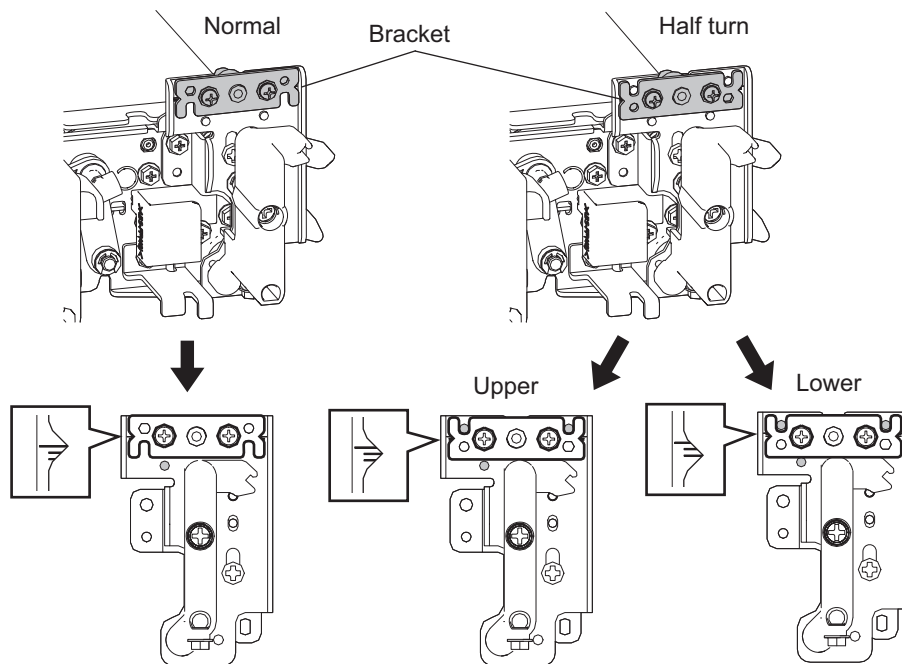


Fig.6-51

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.

## 6.10 Image Quality Control

### 6.10.1 Performing Image Quality Control

When the image position aligning sensor (front) or image position aligning sensor (rear)/image quality sensor is replaced, perform the image quality control and adjustment of color registration control.

 P. 6-4 "6.1.3 Performing Image Quality Control"

 P. 6-5 "6.1.4 Adjustment of Color Registration Control"

## 6.11 Fuser Unit

### 6.11.1 Adjustment of the Separation Plate Gap

Perform this adjustment when the following parts are replaced or disassembled.

- Separation plate

Confirm the gap when the following parts is replaced or disassembled.

- Fuser belt
- Fuser belt lubricating sheet
- Fuser belt pad
- Pressure roller

#### Notes:

- Wait until the fuser unit is completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface.
- Be sure not to damage the fuser belt with the gap adjustment jig.
- Adjust the gap while the pressure roller is contacted to 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.

<Gap to be confirmed>

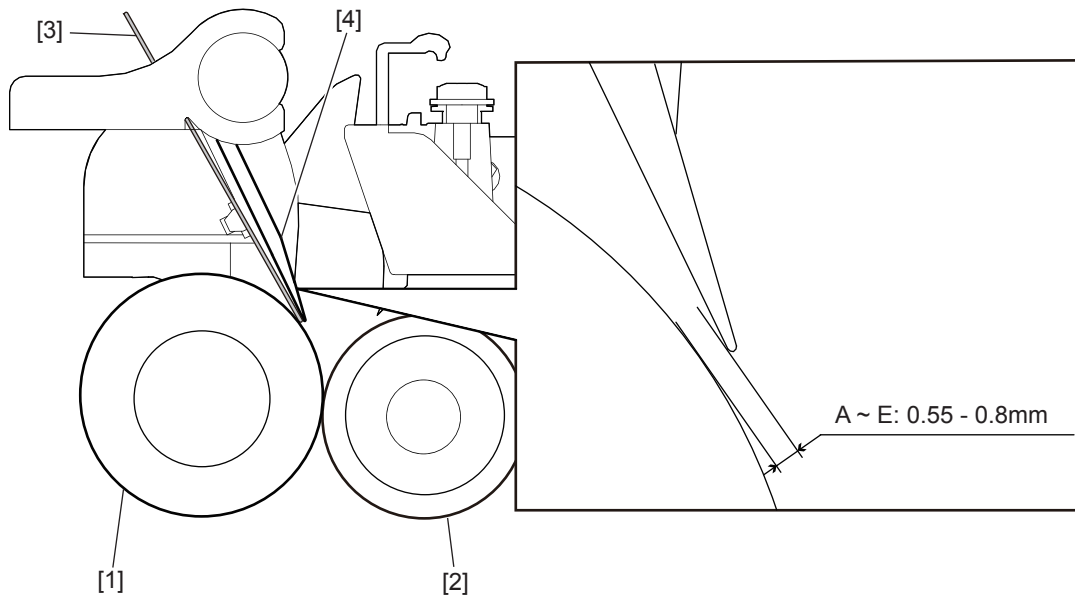


Fig.6-52

- [1] Fuser belt
- [2] Pressure roller
- [3] Separation plate gap adjustment jig
- [4] Separation plate

<Jig to be used>

Separation plate gap adjustment jig

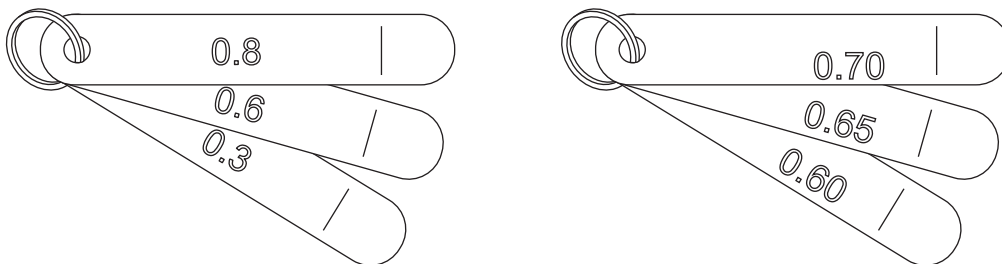


Fig.6-53

<Adjustment procedure>

- (1) Remove the fuser unit transport guide.  
📖 P. 4-189 "4.9.3 Fuser unit transport guide"
- (2) Rotate the contacting/releasing cam [1] in the direction of the arrow with a flathead screwdriver. Fix the pressure roller and the fuser belt to a contacted state.

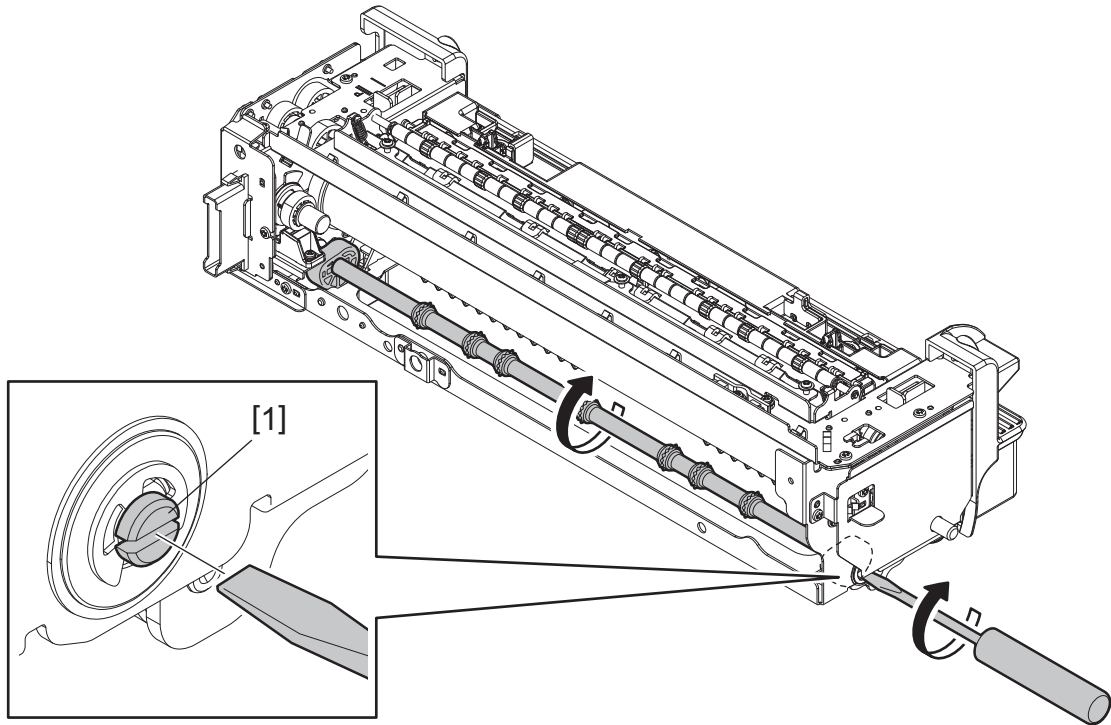


Fig.6-54

**Notes:**

Confirm that the position of the plate [2] indicates "contact".

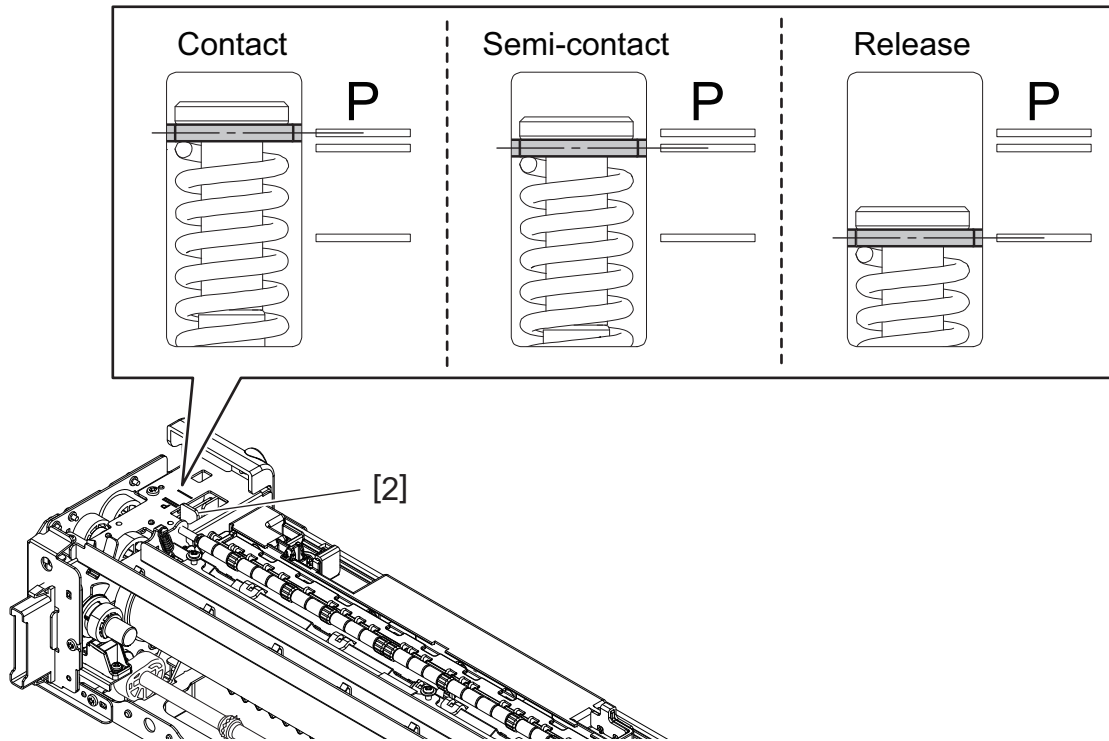


Fig.6-55

- (3) Adapt the fuser belt to the roller by rotating the gear [3] a few times in the direction of the arrow.

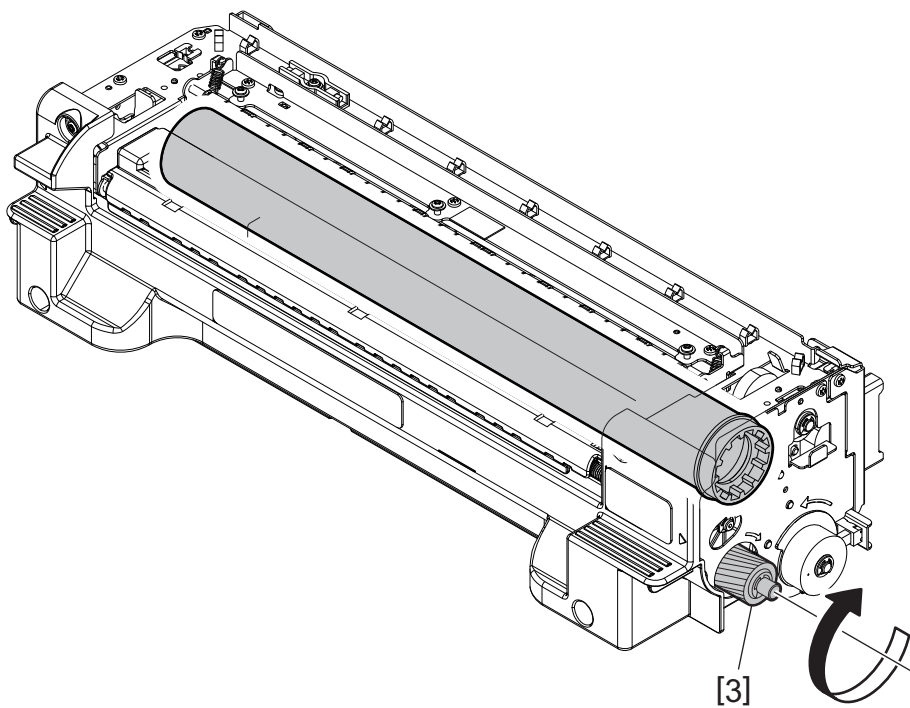


Fig.6-56

- (4) Insert the jig into the windows [A] and [E] and adjust the gap so that it becomes within the range of 0.55 mm to 0.8 mm.
  - (5) Check the gap from the windows [B], [C] and [D]. If the gap is within the range of 0.55 mm to 0.8 mm, the adjustment is completed.
  - (6) If the gap of [B], [C] and [D] is narrower than 0.55 mm, tighten the center screw.
- If the gap of [B], [C] and [D] is wider than 0.8 mm, loosen the front, center and rear screws and reattempt the adjustment from step (4).

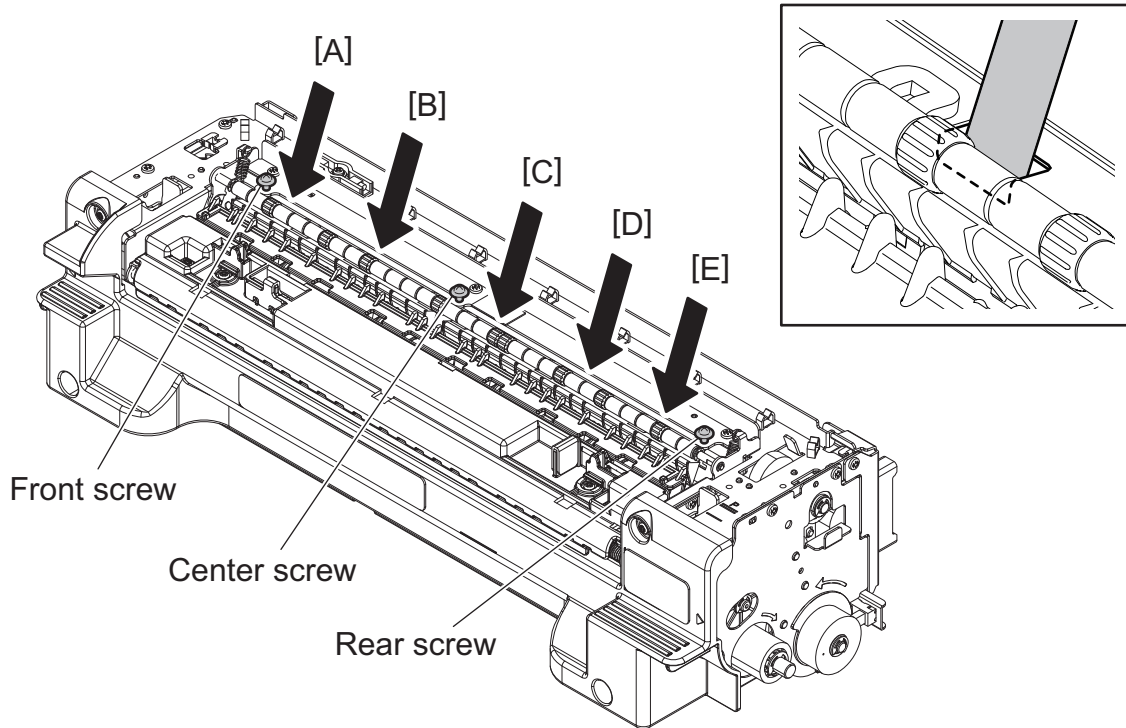


Fig.6-57

### 6.11.2 Adjustment of the Separation Guide Gap

Perform this adjustment when the following parts are replaced or disassembled.

- Separation guide
- Fixing plate of the separation guide

Confirm the gap when the following parts is replaced or disassembled.

- Fuser belt
- Fuser belt lubricating sheet
- Fuser belt pad
- Pressure roller

#### Notes:

- Wait until the fuser unit has completely cooled down, and then start the adjustment.
- Place the fuser unit on a flat surface.
- Be sure not to damage the fuser belt with the gap adjustment jig.
- Adjust the gap while the pressure roller is contacted to the fuser belt.
- If the fuser unit is not installed in the equipment after replacement or adjustment and has to be stored as a unit for a long time, be sure to leave the pressure roller released from the fuser belt.



<Gap to be confirmed>

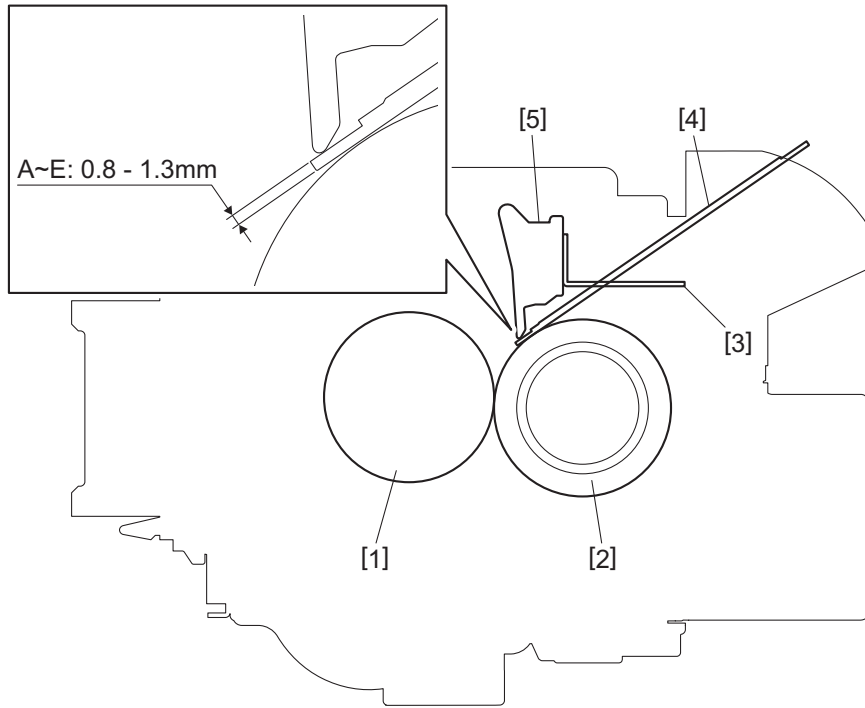


Fig.6-58

- [1] Fuser belt
- [2] Pressure roller
- [3] Fixing plate of separation guide
- [4] Separation guide gap adjustment jig
- [5] Separation guide

<Jig to be used>

Separation guide gap adjustment jig

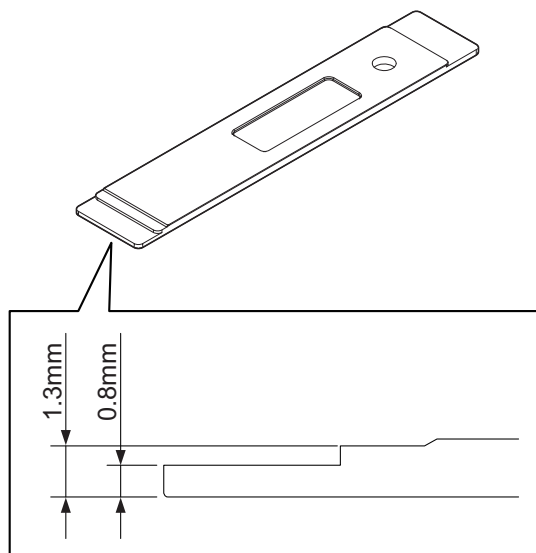


Fig.6-59

<Adjustment procedure>

- (1) Remove the fuser unit transport guide.  
📖 P. 4-189 "4.9.3 Fuser unit transport guide"
- (2) Rotate the contacting/releasing cam [1] in the direction of the arrow with a flathead screwdriver. Fix the pressure roller and the fuser belt so that they contact.

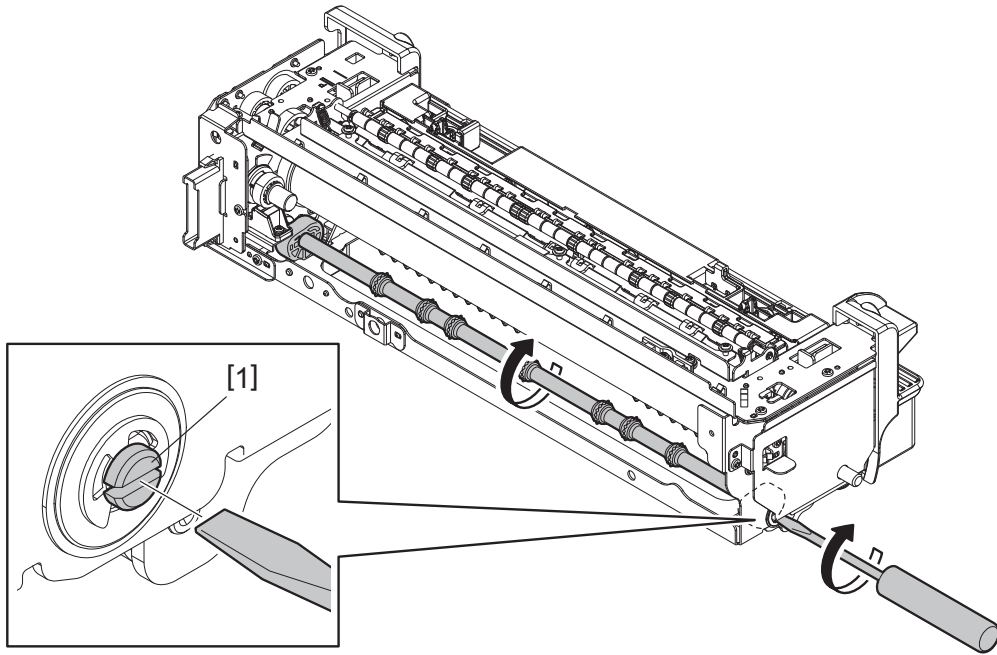


Fig.6-60

**Notes:**

Confirm that the position of the plate [2] indicates "contact".

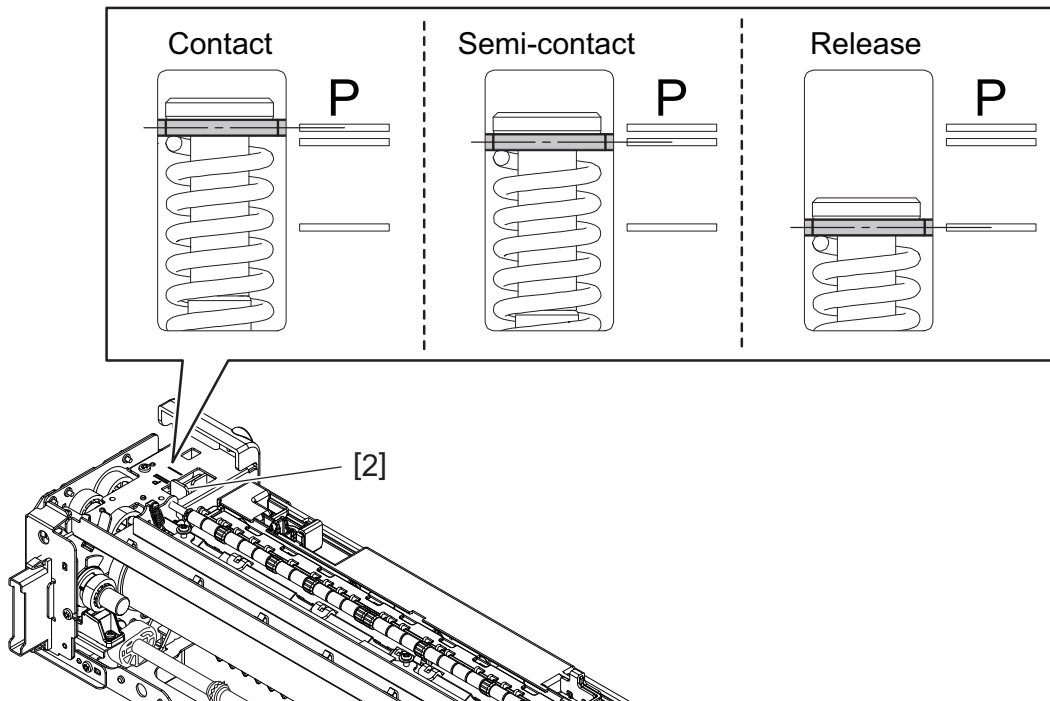


Fig.6-61

- (3) Adapt the fuser belt to the roller by rotating the gear [3] a few times in the direction of the arrow.

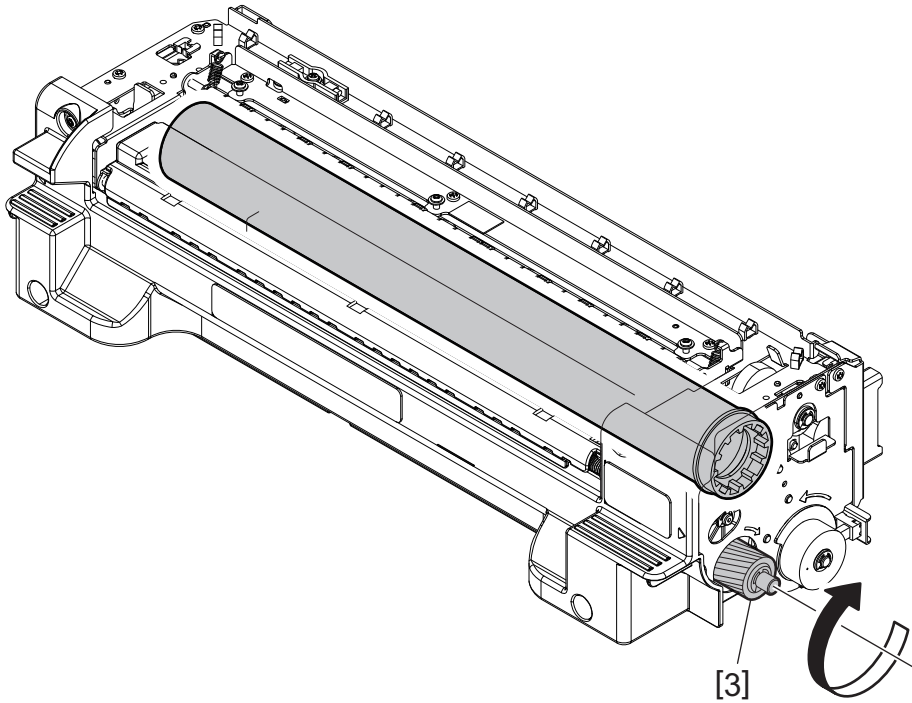


Fig.6-62

- (4) Remove 2 screws and take off the separation guide cover [4].

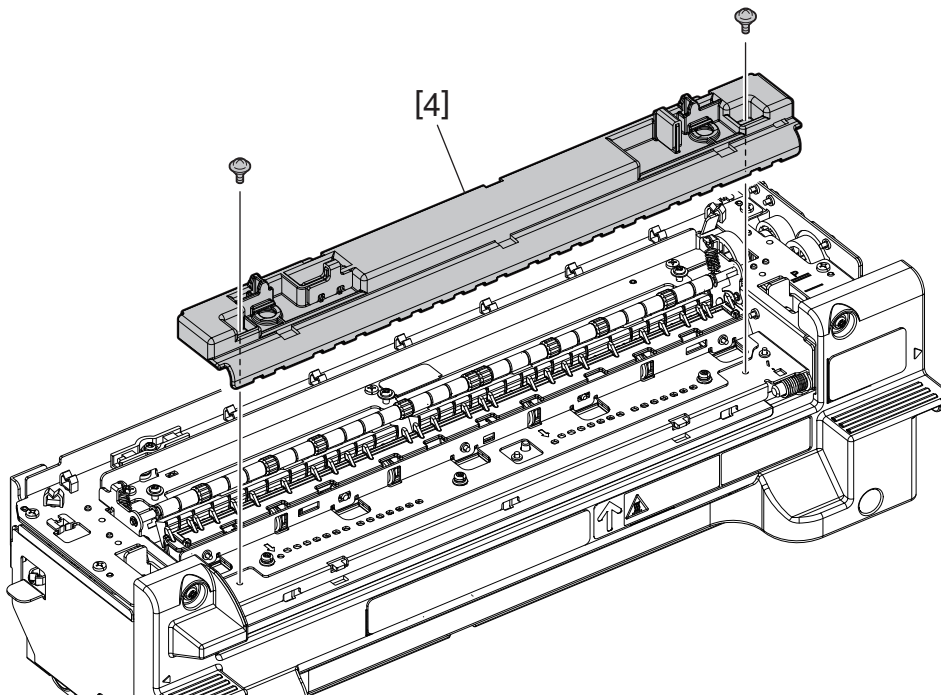


Fig.6-63

- (5) Loosen the 3 screws of the fixing plate of the separation guide.

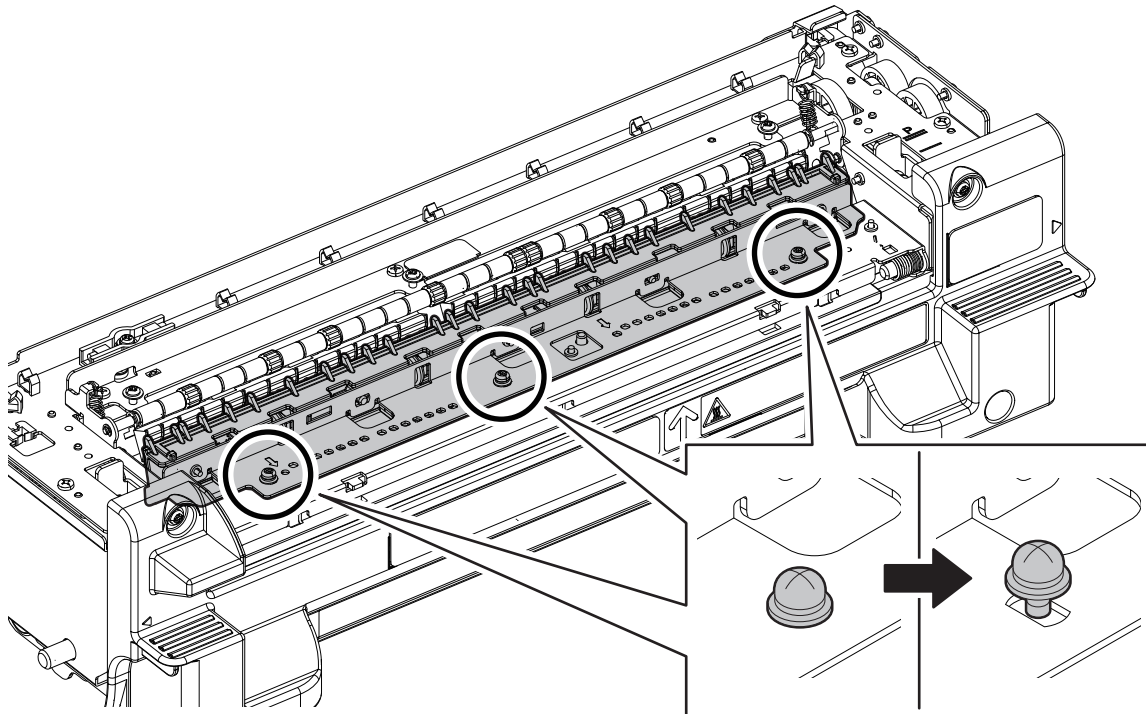


Fig.6-64

- (6) Insert the jig into the windows [A] and [E]. Adjust the gap between the pressure roller and the fixing plate of the separation guide by moving it so that the jig thickness 0.8 mm level can be put in smoothly but that for the 1.3 mm one is not. After the adjustment, tighten the screws of the fixing plate of the separation guide.

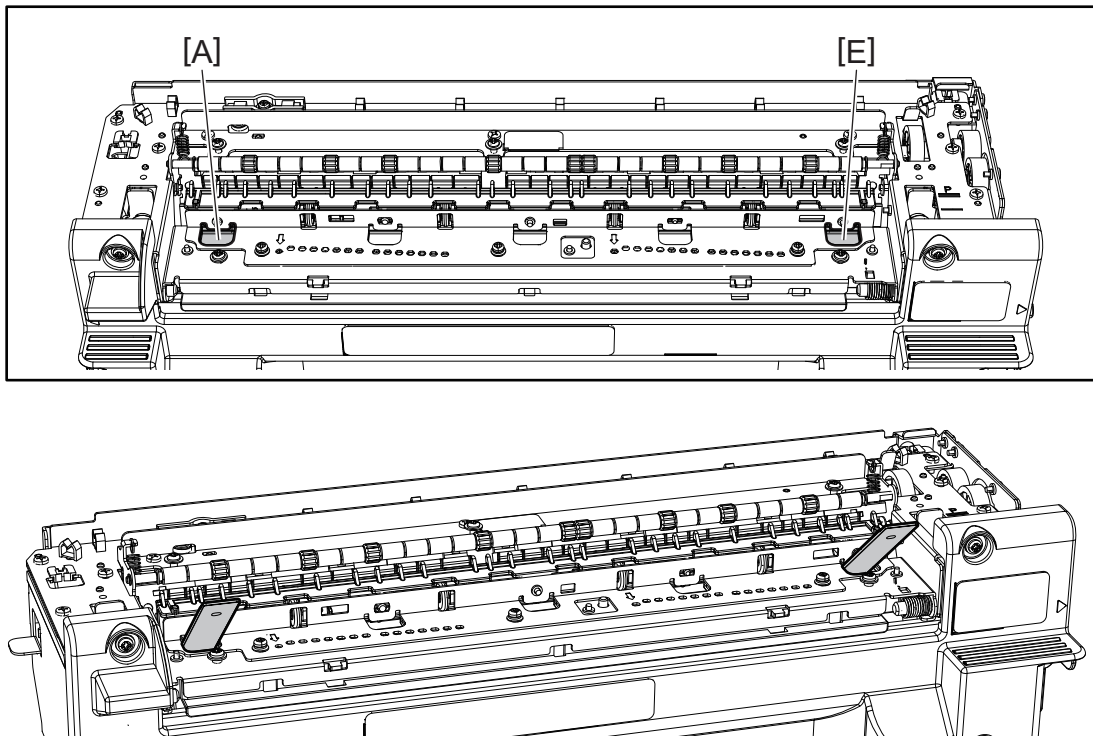


Fig.6-65

- (7) To confirm the gap, insert the jig into the windows [B], [C] and [E], so that the jig thickness 0.8 mm level can be put in smoothly but that for the 1.3 mm one is not. When this can be confirmed for all windows, the adjustment is completed. If any of the gaps does not meet this condition, return to step (5).

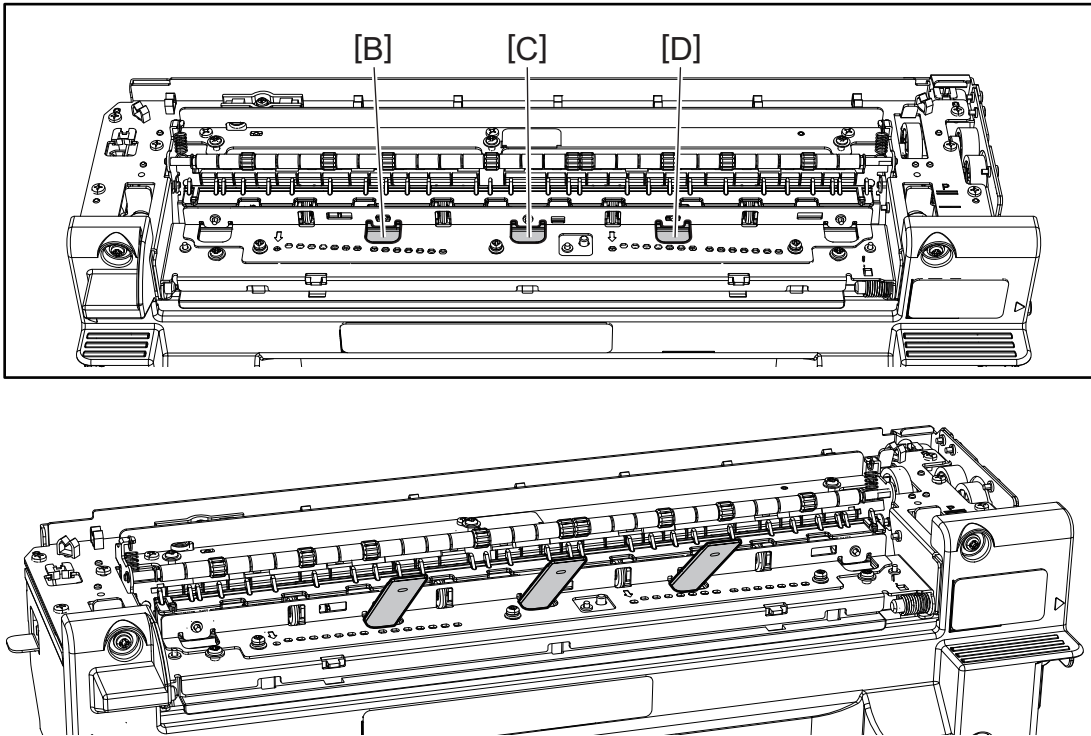


Fig.6-66

## 6.12 Adjustment of the Dual Scan Document Feeder (DSDF)

### 6.12.1 Adjustment of Position

Perform this adjustment when the DSDF is not installed in the correct position.

**Notes:**

Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF. (See the Service Manual of the applicable equipment.)

#### [A] Checking

- (1) Open the DSDF and install 2 positioning pins.

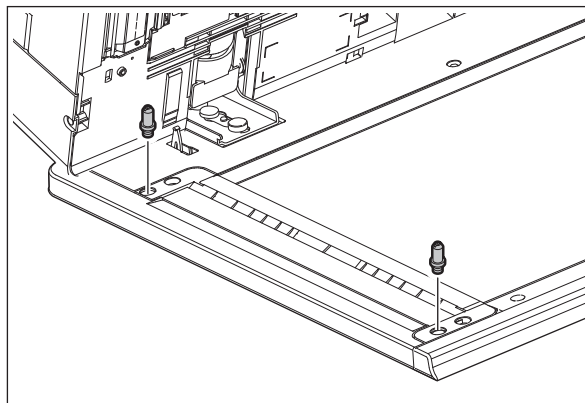


Fig.6-67

- (2) Remove the platen sheet.

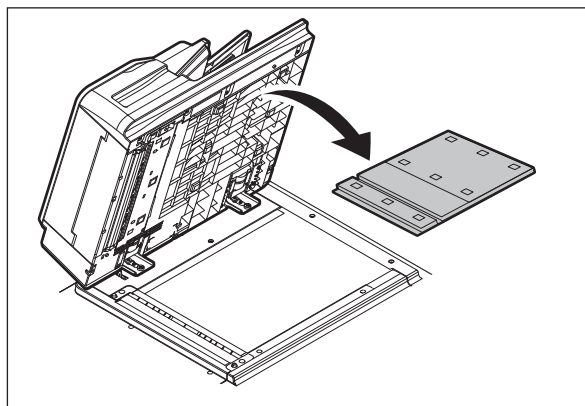



Fig.6-68

- (3) Close the DSDF and check if the positioning pins fit the holes on the DSDF.

**Notes:**

If the positioning pins cannot be fitted into the holes on the DSDF properly, go to  P. 6-108 "[B] Adjustment" to adjust the position of the DSDF and then install it.

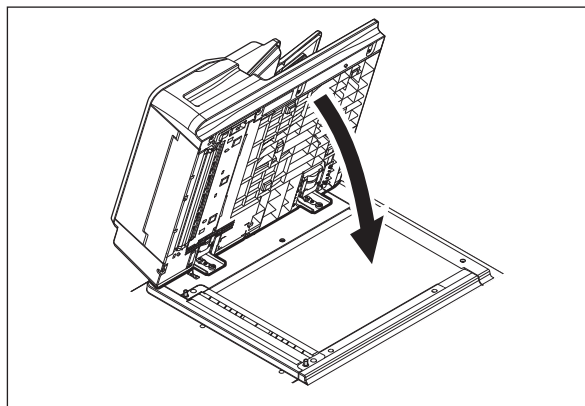


Fig.6-69

- (4) Place the platen sheet on the original glass and align it to the top left corner.  
Close the DSDF gently and open it to check if the platen sheet is attached properly.

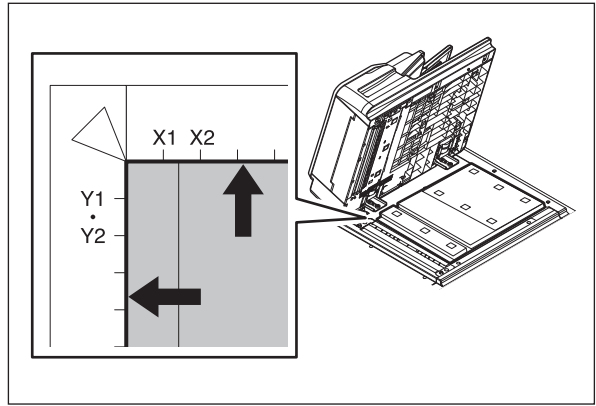


Fig.6-70

## [B] Adjustment

If the pins cannot be fitted into the holes, perform the adjustment according to the following procedure.

- (1) Remove the brackets on the hinges.

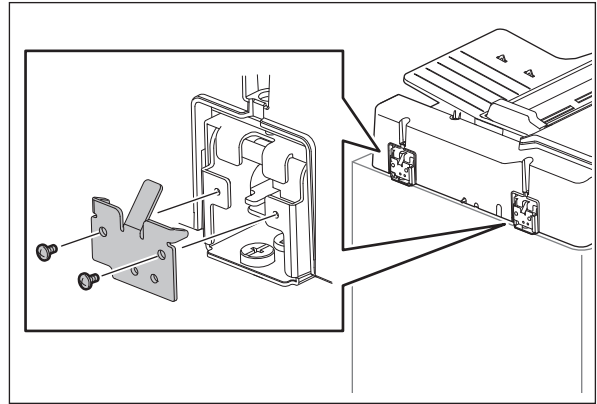


Fig.6-71

- (2) Loosen fixing screws.

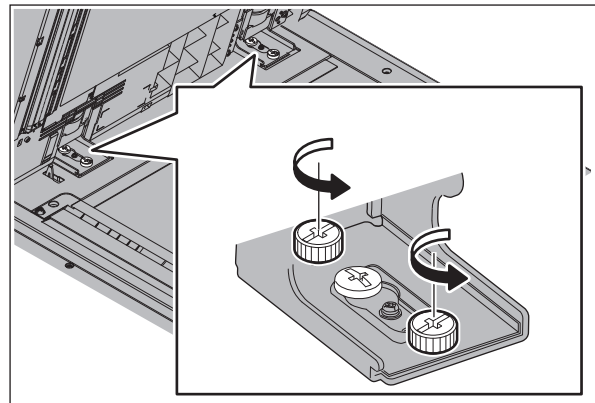


Fig.6-72

- (3) Position the pins with the holes on the DSDF by moving it so that the pins fit into the holes when the DSDF is closed.

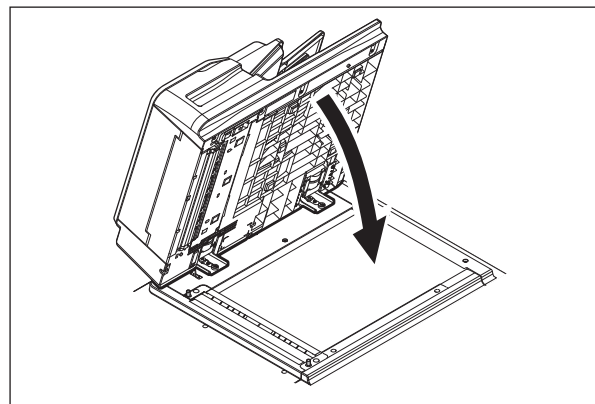


Fig.6-73



- (4) Tighten the fixing screws of the rear side.

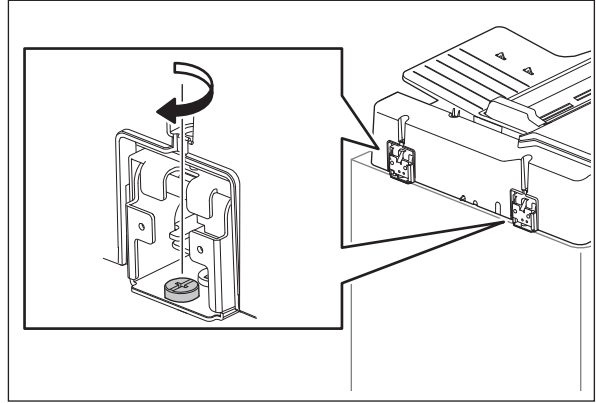


Fig.6-74

- (5) Tighten the fixing screws of the front side.

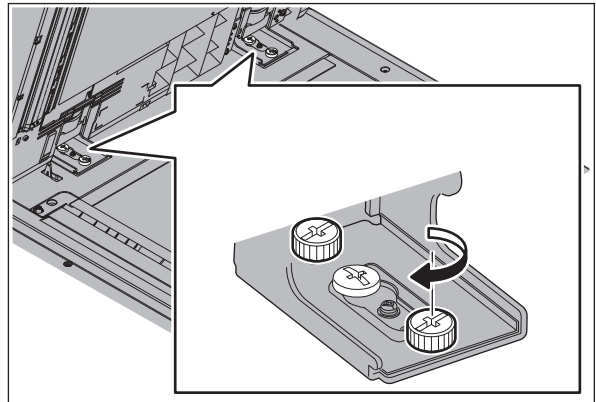


Fig.6-75

- (6) Install the brackets on the hinges.

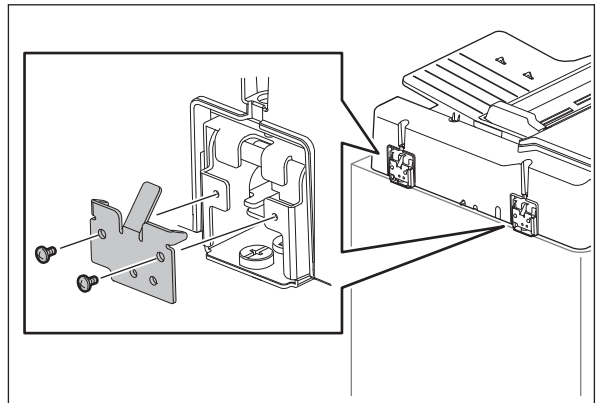


Fig.6-76

- (7) Place the platen sheet on the original glass and align it to the top left corner. Close the DSDF gently and open it to check if the platen sheet is attached properly.

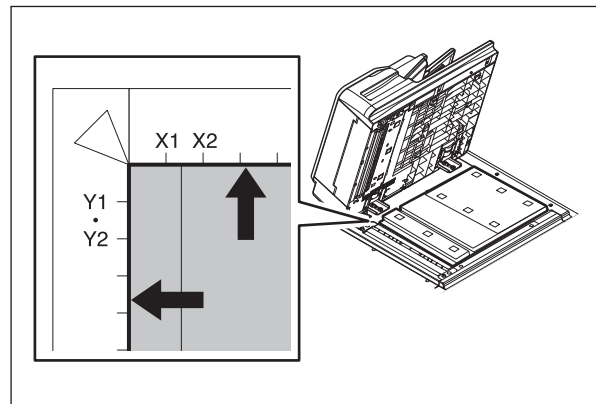


Fig.6-77

## 6.12.2 Adjustment of Height

### Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF.

### [A] Checking

- (1) Close the DSDF.
- (2) Light the exposure lamp.
  - Perform FS-03-267.
- (3) Visually check the gap between platen guide holder "A" and upper surface of the cover "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 - 0.5 mm

Front side: 0 mm

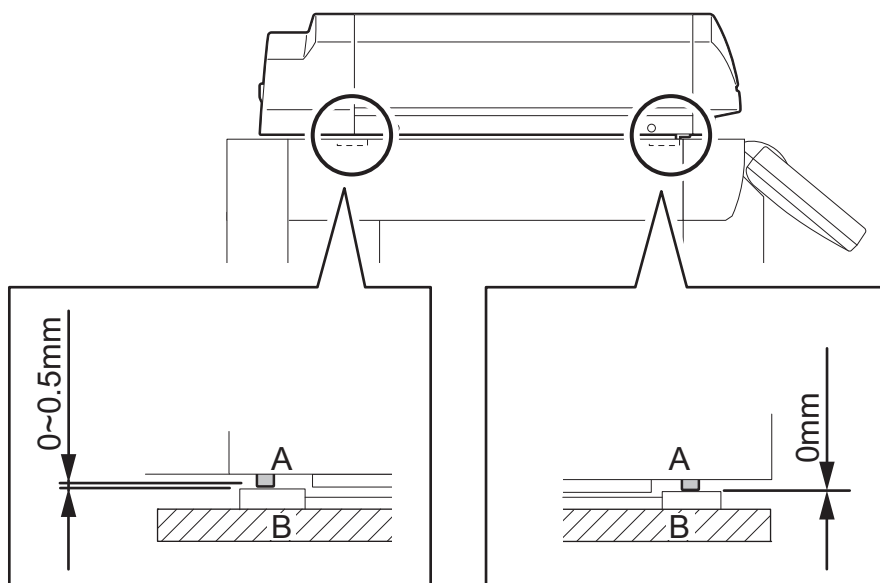


Fig.6-78

## [B] Adjustment

- (1) Close the DSDF.
- (2) Adjust it by turning the adjustment screws on the hinges.
  - Adjust the height on the rear side by means of the screw on the hinge on the feed side of the DSDF.  
Turn it clockwise: Heightened  
Turn it counterclockwise: Lowered

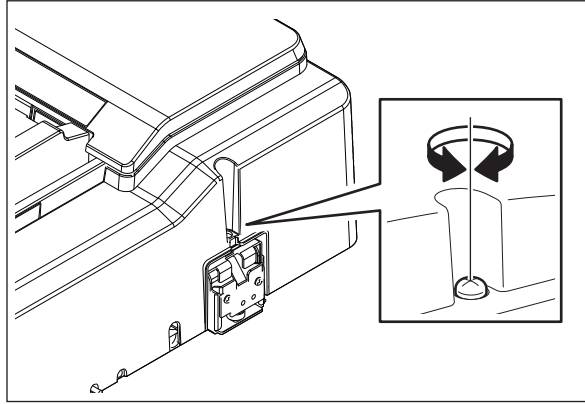


Fig.6-79

- Adjust the gap on the front side by means of the screw on the hinge on the exit side of the DSDF.  
Turn it clockwise: Lowered  
Turn it counterclockwise: Heightened

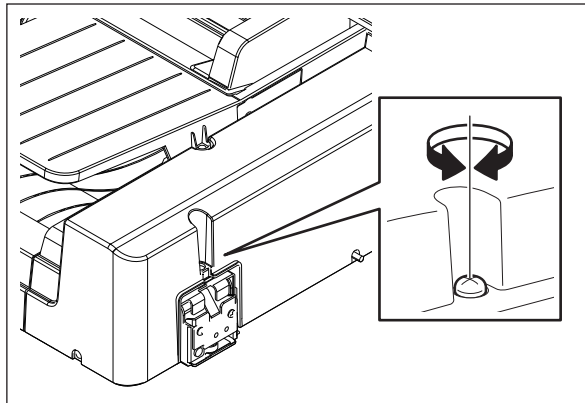


Fig.6-80

### 6.12.3 Adjustment of Skew

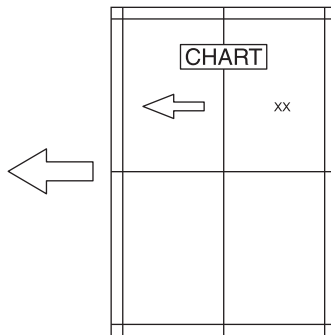
**Notes:**

- Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF.
- The DSDF position adjustment shall be adjusted properly.

**[A] Checking**

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

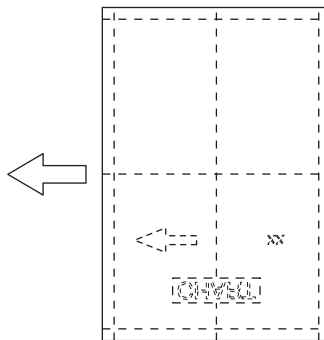
**Simplex (front side) copying:**



**Fig.6-81**

- (1) Place the chart provided as an original with its face up on the original tray of the DSDF, select [Sort mode] and [1 Sided → 1 Sided] and then press the [START] button.
- (2) Superimpose the chart on the copy and check the inclination of the copy image.

**Duplex (back side) copying:**



**Fig.6-82**

- (1) Place the chart provided as an original with its face down on the original tray of the DSDF, select [Sort mode] and [2 Sided → 2 Sided] and then press the [START] button.
- (2) Superimpose the chart on the copy and check the inclination of the copy image.

## [B] Adjustment

### Simplex (front side) copying:

- (1) Change the fixing screws of the front side to the shoulder head screw (service parts).

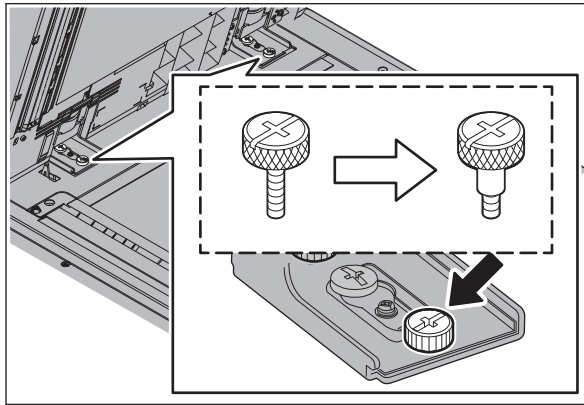


Fig.6-83

- (2) Turn the adjustment screw while checking the scale of the hinge.

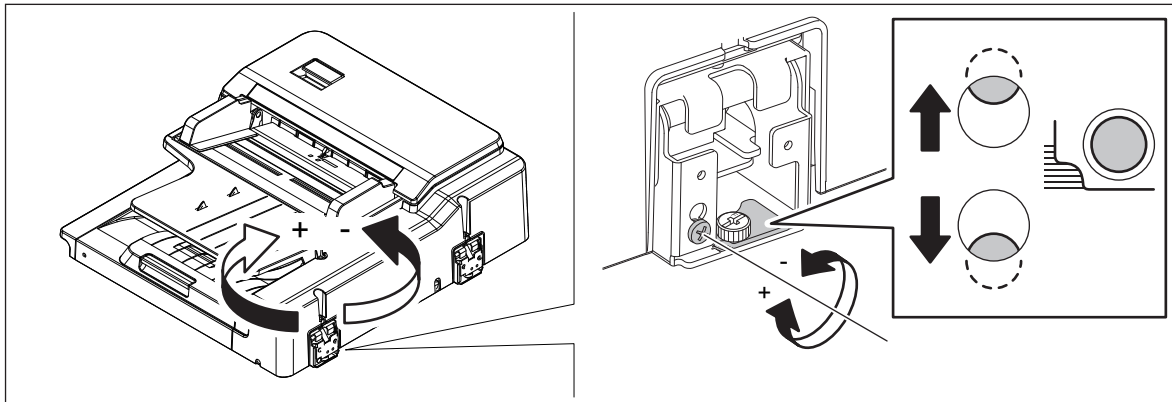


Fig.6-84

- (3) If the image skew is "C" as shown in the figure below, shift the aligning plate in the direction of "-", and if "D", shift it to "+".

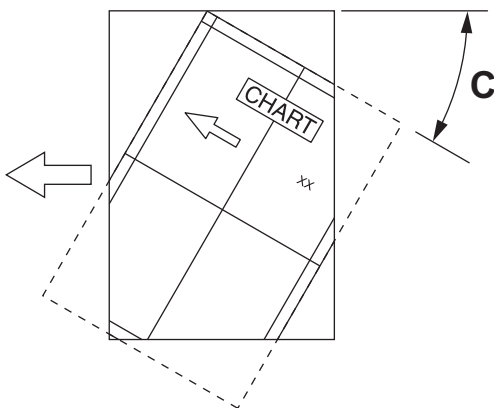


Fig.6-85

Shift the aligning plate in the direction of "-".

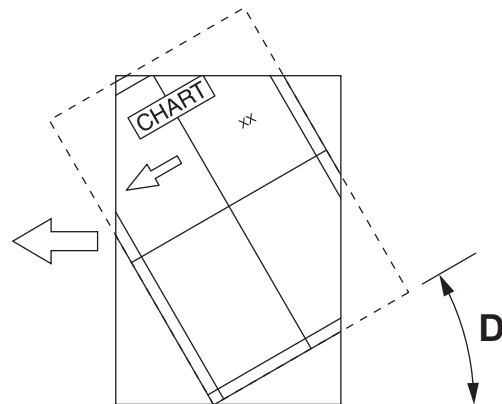



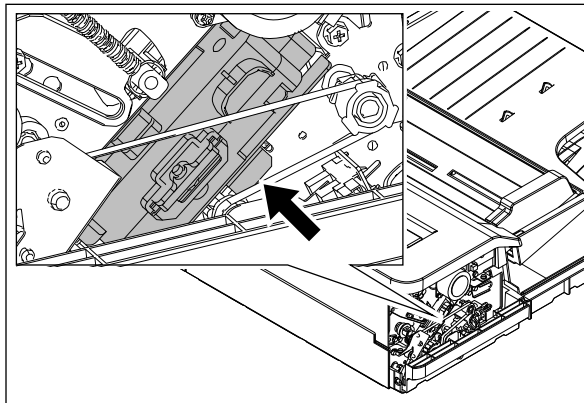
Fig.6-86

Shift the aligning plate in the direction of "+".

- (4) Check the skew of the copy image by using a chart.

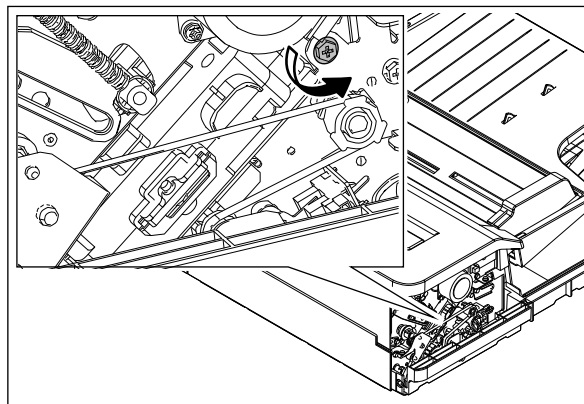
**Duplex (back side) copying:**

- (1) Remove the DSDF front side cover.  P. 4-288 "4.11.8 DSDF front cover"
- (2) Clarify the attachment position of the plate by drawing a marking-off line.



**Fig.6-87**

- (3) Loosen 1 screw.



**Fig.6-88**

- (4) If the image skew is "C" as shown in the figure below, shift the aligning plate in the direction of "-", and if "D", shift it to "+".

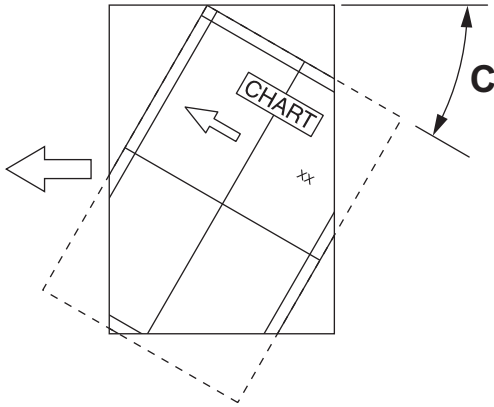


Fig.6-89

Shift the aligning plate in the direction of "-".

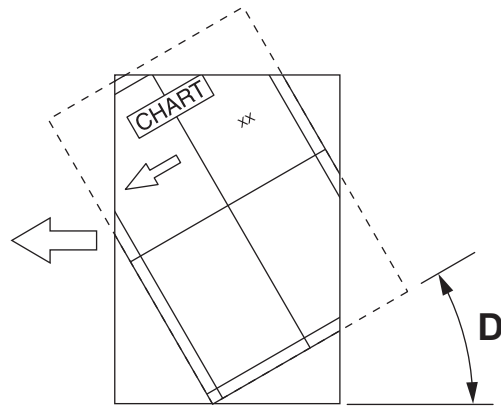


Fig.6-90

Shift the aligning plate in the direction of "+".

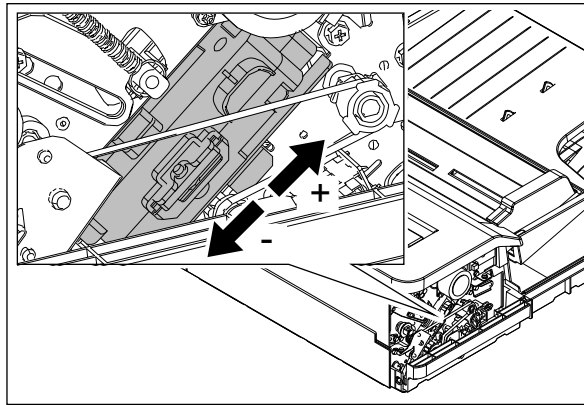


Fig.6-91

- (5) Tighten the screw loosened in step (3). Check the skew of the copy image by using a chart.  
(6) Install the DSDF front side cover.

## 6.12.4 Adjustment of the Leading Edge Position

### Notes:

- Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF.
- Also, the DSDF position and height shall be adjusted properly.

### [A] Checking

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

#### Simplex (front side) copying:

- Place the chart provided as an original with its face up on the original tray of the DSDF, select [Sort mode] and [1 Sided → 1 Sided] and then press the [START] button.
- Superimpose the chart on the copy and check the leading edge E of the chart and F of the copy.

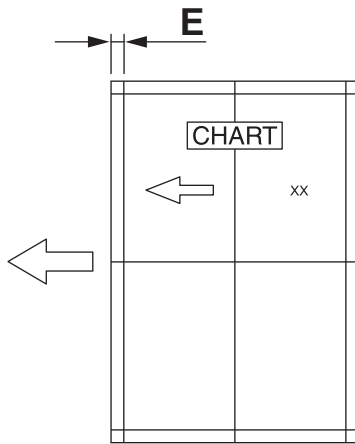


Fig.6-92 Chart (Original)

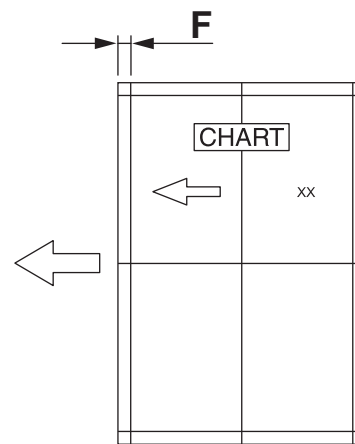


Fig.6-93 Copy

#### Duplex (back side) copying:

- Place the chart provided as an original with its face down on the original tray of the DSDF, select [Sort mode] and [2 Sided → 2 Sided] and then press the [START] button.
- Superimpose the chart on the copy and check the leading edge E of the chart and F of the copy.

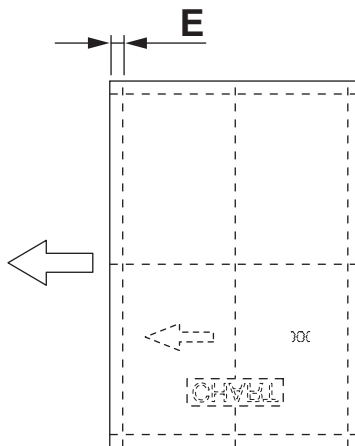


Fig.6-94 Chart (Original)

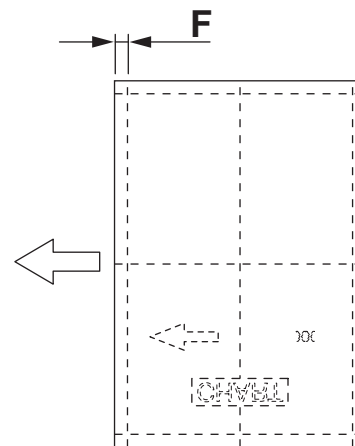


Fig.6-95 Copy



## [B] Adjustment

### **Simplex (front side) copying:**

- (1) Perform FS-05-3044.
- (2) Enter the value.

#### **Notes:**

Changing one value shifts the copy image by 0.1 mm.

- 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.

- (3) Press [OK].

### **Duplex (back side) copying:**

- (1) Perform FS-05-3045.

- (2) 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.

#### **Notes:**

Changing one value shifts the copy image by 0.1 mm.

- (3) Press [OK].

## 6.12.5 Adjustment of Horizontal Position

### Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF.

Also, the DSDF position and height shall be adjusted properly.

### [A] Checking

Check the image using the chart (original) with a center line in the following procedure.

- (1) Place the chart provided as an original with its face up on the original tray of the DSDF.
- (2) Select the [Sort mode] and press the [START] button.
- (3) Fold the copy in half and check if the center line is misaligned.

### [B] Adjustment

- (1) Perform FS-05-3043.
  - If the center line of the copy image is shifted to the front side of the equipment, enter a value larger than the current one.

### Notes:

Changing one value shifts the copy image by 0.0423 mm.

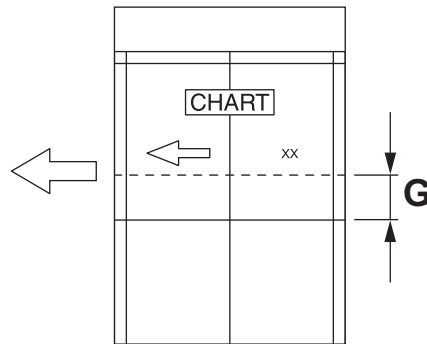


Fig.6-96

- If the center line of the copy image is shifted to the rear side of the equipment, enter a value smaller than the current one.

### Notes:

Changing one value shifts the copy image by 0.0423 mm.

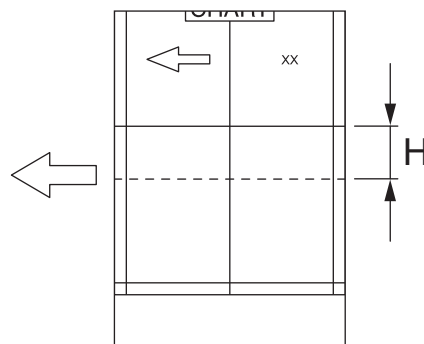


Fig.6-97

- (2) Press [OK].

## 6.12.6 Adjustment of Copy Ratio

### Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the DSDF.

Also, the DSDF position and height shall be adjusted properly.

### [A] Checking

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

- (1) Place the chart provided as an original with its face up on the original tray of the DSDF.
- (2) Select the [Sort mode] and press the [START] button.
- (3) Superimpose the chart on the copy and check the image dimension "l".

### [B] Adjustment

- (1) Perform FS-05-3042.
  - If the copy image dimension "l" is larger than the chart dimension, enter a value smaller than the current one.
  - If the copy image dimension "l" is smaller than the chart dimension, enter a value larger than the current one.

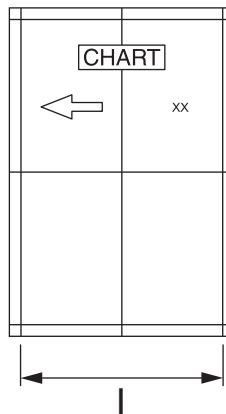


Fig.6-98

- (2) Press [OK].

## 6.12.7 DSDF read-in sensor-1 adjustment

### [A] DSDF read-in sensor-1 automatic adjustment

**Notes:**

When the DSDF control PC board or the DSDF read-in sensor-1 is replaced, be sure to perform this adjustment.

- (1) Perform FS-05-3210.


**Notes:**

- Be sure to close all of the DSDF cover before the adjustment is performed.
- Check that there is no paper on the DSDF read-in sensor-1 so that the light is not shielded.

### [B] DSDF read-in sensor-1 manual adjustment

**Notes:**

When the DSDF read-in sensor-1 is replaced or re-installed, perform this manual adjustment.

- (1) Take off the DSDF left cover.  P. 4-290 "4.11.10 DSDF left cover"
- (2) Close the original jam access cover and the DSDF.
- (3) Perform FS-05-3221.

**Notes:**

Be sure not to close or open the original jam access cover and the DSDF until step (5) is finished. If you do so, the adjustment value will be reset. In this case, repeat the adjustment from step (2).

- (4) Loosen 1 prism adjustment screw.

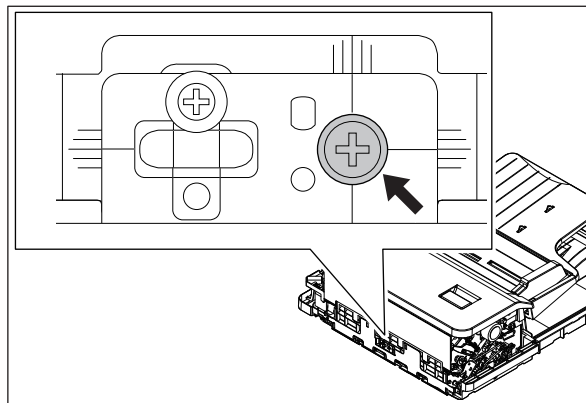


Fig.6-99

- (5) Slide the prism vertically. When the prism comes to the proper adjustment position, LED1 on the DSDF control PC board lights. At this position, tighten 1 prism adjustment screw.

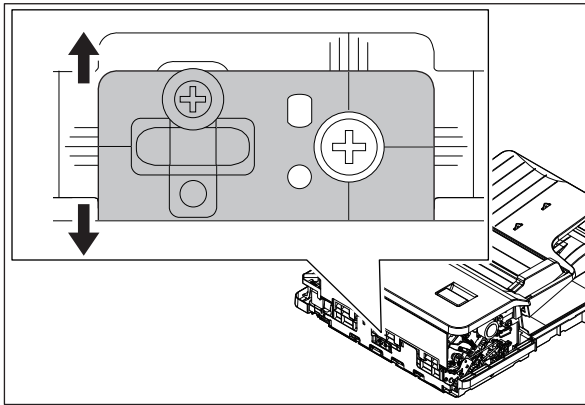


Fig.6-100

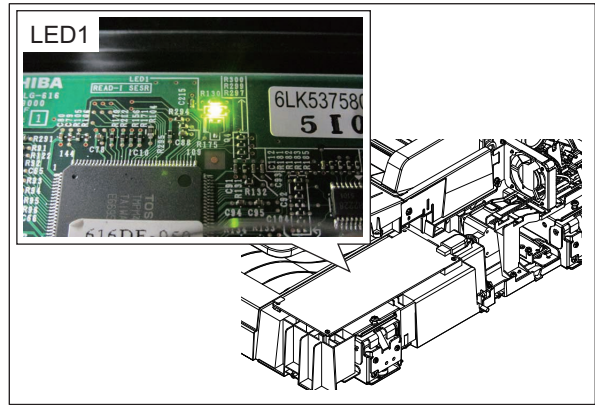


Fig.6-101

- (6) Perform automatic adjustment (FS-05-3210).

**Notes:**

After the manual adjustment is performed, be sure to do the automatic one.

- (7) Turn the power OFF and install the cover.

## 6.12.8 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.

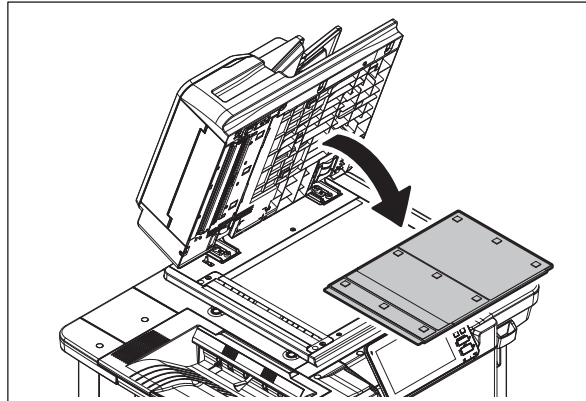


Fig.6-102

- (2) Place the platen sheet on the original glass and align it to the top left corner. Close the DSDF gently and open it to check if the platen sheet is attached properly.

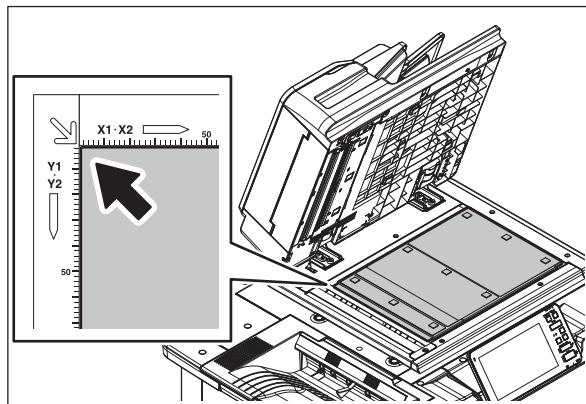


Fig.6-103

## 6.13 Adjustment of the Finisher (MJ-1111/1112)

### Notes:

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.

### 6.13.1 Adjusting the Aligning Position for the Finishing Tray

Perform this adjustment after replacing the Finisher control board or when the alignment position must be changed for some reason.

#### [A] Reading/writing of the adjustment value with the self-diagnostic mode

Item to be adjusted		Code	Remarks
Horizontal position of the paper	A-series paper	FS-05-4838-1	0: Finisher not installed 1: -2.10mm 2: -1.68mm 3: -1.26mm 4: -0.84mm
	LT-series paper	FS-05-4838-2	5: -0.42mm 6: 0.00mm 7: +0.42mm 8: +0.84mm 9: +1.26mm 10: +1.68mm 11: +2.10mm

If the adjustment values can be confirmed from the pre-change board during its replacement, read them from the connected equipment and then enter them into the post-change one.

A4-size adjustment value check: Perform FS-05-4838-1.

LT-size adjustment value check: Perform FS-05-4838-2.

If the adjustment values cannot be confirmed, perform "[B] Adjustment with DIP-SW".

#### [B] Adjustment with DIP-SW

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 screws and take off the board access cover.

- (3) Set the SW1 on the Finisher control board as shown in the figures below.

Adjusting for A4 size paper:  
Turn ON pin 2 and 4.

Adjusting for LT size paper:  
Turn ON pin 1, 2, and 4.

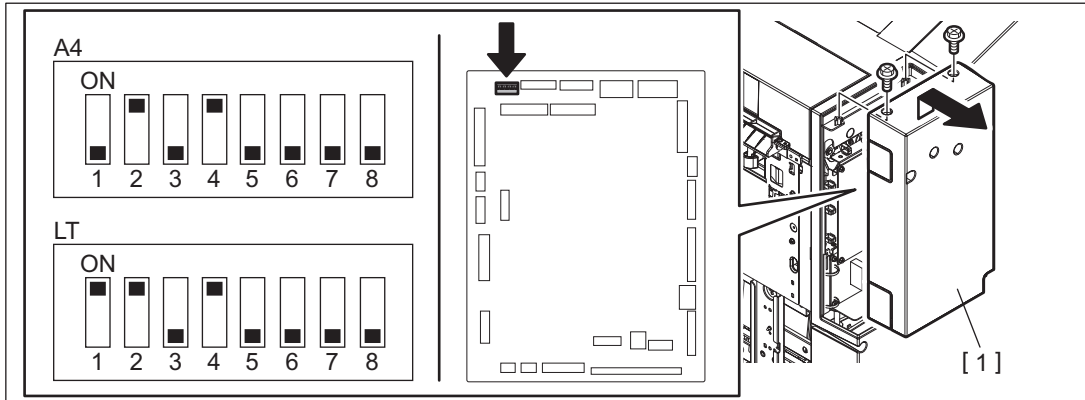


Fig.6-104

- (4) Start the equipment in the HS mode.  
The alignment plate moves to the SW1 set position and then stops.
- (5) Press the [Button1] to adjust the alignment position.  
Every time [Button1] is pressed, the alignment plate shifts by 0.42 mm.  
(The gap between the alignment plates becomes narrower.)

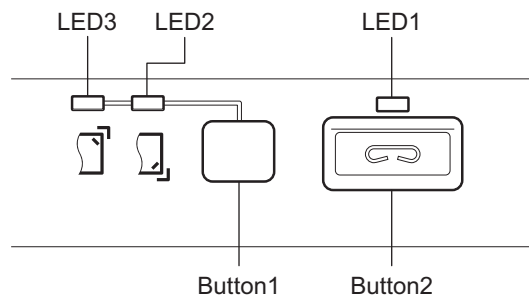


Fig.6-105



- (6) Place the adjustment sheet [1] on the process tray and adjust the position to make the gap between paper and the alignment plate [2] "0".  
Then setting is performed at a value that is one smaller than the adjustment value.

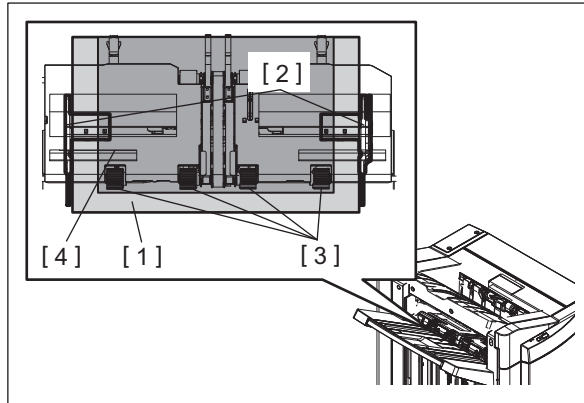


Fig.6-106

**Tips:**

- Use an adjustment sheet [1] made of plastic resin which is light and accurate in measurement (e.g. OHP film).
  - To reduce frictional resistance with the vertical alignment roller [3] on the process tray, place a sheet of B5 paper [4] beneath the adjustment sheet [1] on the vertical alignment roller [3].
  - Confirm the gap between paper and the alignment plate [2] by moving the adjustment sheet [1] forward and backward.
- (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 the number of times that corresponds to the adjustment value set for the equipment.  
See the following table for the number of times the [LED1] lamp blinks and its corresponding moved amount (mm).

Number of Blinking	Distance from the center value (mm)
1	-2.10
2	-1.68
3	-1.26
4	-0.84
5	-0.42
6	Center value (0.00)
7	+0.42
8	+0.84
9	+1.26
10	+1.68
11	+2.10

- (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.

## 6.13.2 Adjusting the Stapling Position

Perform this adjustment after replacing the Finisher control board or when the stapling position must be changed for some reason.

### [A] Reading/writing of the adjustment value with the self-diagnostic mode

Item to be adjusted	Code	Remarks
Stapling position	FS-05-4838-3	0: Finisher not installed 1: -2.16mm 2: -1.89mm 3: -1.62mm 4: -1.35mm 5: -1.08mm 6: -0.81mm 7: -0.54mm 8: -0.27mm 9: ±0.00mm 10: +0.27mm 11: +0.54mm 12: +0.81mm 13: +1.08mm 14: +1.35mm 15: +1.62mm 16: +1.89mm 17: +2.16mm

If the adjustment values can be confirmed from the pre-change board, check them from the connected equipment and then set them into the post-change board.

Adjustment value check (common for A4-size and LT-size): Perform FS-05-4838-3.

If the adjustment values cannot be confirmed, perform the adjustment in the following procedure.

### [B] Adjustment with DIP-SW

- (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.

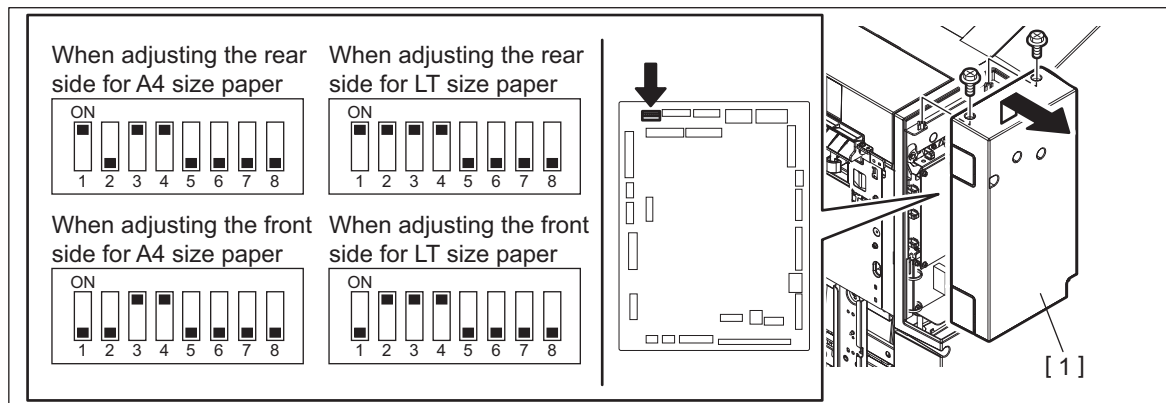


Fig.6-107

- **When adjusting the rear side for A4 size paper:**  
Turn ON pin 1, 3, and 4.
- **When adjusting the rear side for LT size paper:**  
Turn ON pin 1, 2, 3, and 4.
- **When adjusting the front side for A4 size paper:**  
Turn ON pin 1, 3, and 4.
- **When adjusting the front side for LT size paper:**  
Turn ON pin 2, 3, and 4.

#### Tips:

Although there are four setting types for the SW1 as shown above, perform only one of them since the adjustment values are used in common.

- (4) Start the equipment in the HS mode.  
The staple unit moves to the rear or front side stapling position and stops. (It stops at the position of -2.16 mm (at the front side) from the center value of the adjustment range.)
- (5) Press [Button 1] to adjust the stapling position.  
Every time [Button 1] is pressed, the staple unit shifts by +0.27 mm (toward the rear side).  
Adjustment range is from -2.16 to +2.16 mm. If [Button 1] is pressed when the alignment position is at +2.16 mm, the unit will return to -2.16 mm.

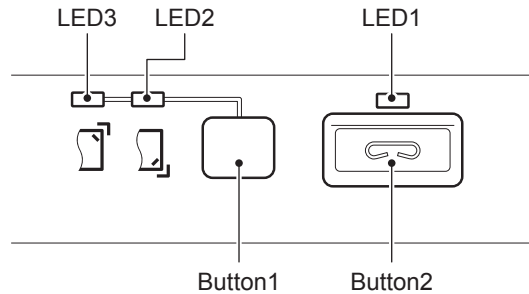


Fig.6-108

- (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	Distance from the center value (mm)
1	-2.16
2	-1.89
3	-1.62
4	-1.35
5	-1.08
6	-0.81
7	-0.54
8	-0.27
9	Center value
10	+0.27
11	+0.54
12	+0.81
13	+1.08
14	+1.35
15	+1.62
16	+1.89
17	+2.16

- (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.

### 6.13.3 Stapling/folding position adjustment in saddle stitch unit (MJ-1112)

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 plain paper	Recommended plain 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.

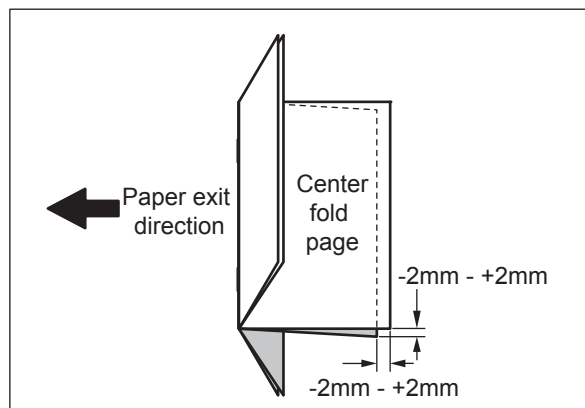


Fig.6-109

- \* Check the stapling position at the centerfold page of the sample.

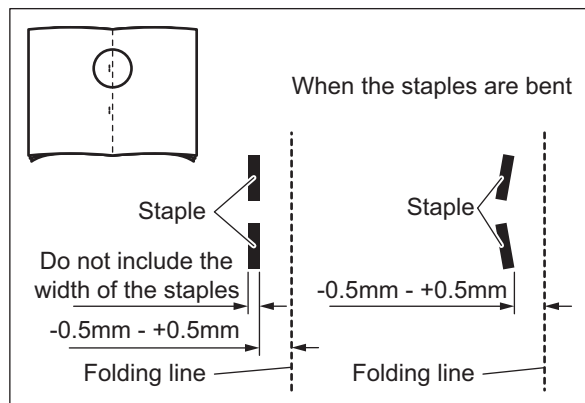
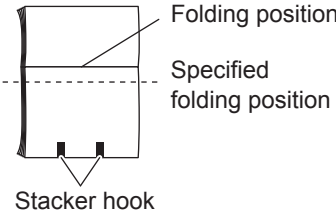

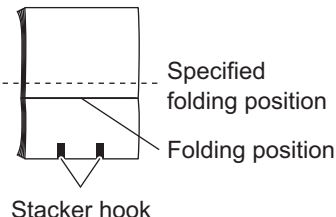

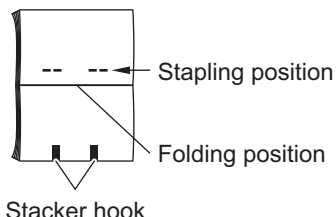

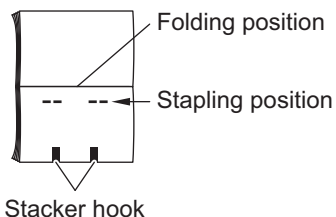



Fig.6-110

**Notes:**

Perform adjustment for the folding position first because the stapling position must be adjusted referring to the folding line.

Phenomenon	Contents	Adjustment
 <p>Fig.6-111</p>	<p>When the folding position is deviates from the specified one by more than -2.0 mm</p>	<p>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.   P. 6-130 "6.13.4 Folding position adjustment"</p>
 <p>Fig.6-112</p>	<p>When the folding position is deviates from the specified one by more than 2.0 mm</p>	<p>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.   P. 6-130 "6.13.4 Folding position adjustment"</p>
 <p>Fig.6-113</p>	<p>When the stapling position is deviated from the specified one more than -0.50 mm</p>	<p>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.   P. 6-130 "6.13.5 Stapling position adjustment"</p>
 <p>Fig.6-114</p>	<p>When the stapling position is deviated from the specified one more than 0.50 mm</p>	<p>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.   P. 6-130 "6.13.5 Stapling position adjustment"</p>

## 6.13.4 Folding position adjustment

### [A] Adjustment with self-diagnostic mode

Perform the adjustment from the connected equipment.

If the adjustment values can be confirmed from the pre-change board, check them from the connected equipment and then set them into the post-change board.

LD-size and A3-size adjustment value check: Perform FS-05-4838-6.

LG-size, B4-size, A4R-size, and 8K-size adjustment value check: Perform FS-05-4838-7.

Horizontal position of the paper		Code	Remarks
Saddle stitch folding position	A3, LD	FS-05-4838-6	Adjusts the saddle stitch folding position in the paper feeding direction. When a positive value is set, it shifts toward the trailing edge of the paper (stacker hook side). When a negative value is set, it shifts toward the leading edge of the paper. 0: Finisher not installed 1: -1.4mm 2: -1.2mm 3: -1.0mm 4: -0.8mm 5: -0.6mm 6: -0.4mm 7: -0.2mm 8: 0.0mm 9: +0.2mm 10: +0.4mm 11: +0.6mm 12: +0.8mm 13: +1.0mm 14: +1.2mm 15: +1.4mm
	Other than A3 and LD	FS-05-4838-7	

## 6.13.5 Stapling position adjustment

### [A] Adjustment with self-diagnostic mode

Perform the adjustment from the connected equipment.

If the adjustment values can be confirmed from the pre-change board, check them from the connected equipment and then set them into the post-change board.

LD-size and A3-size adjustment value check: Perform FS-05-4838-4.

LG-size, B4-size, A4R-size, and 8K-size adjustment value check: Perform FS-05-4838-5.

Horizontal position of the paper		Code	Remarks
Saddle stitch Stapling position	A3, LD	FS-05-4838-4	Adjusts the saddle stitch folding position in the paper feeding direction. When a positive value is set, it shifts toward the trailing edge of the paper (stacker hook side). When a negative value is set, it shifts toward the leading edge of the paper. 0: Finisher not installed 1: -2.8mm 2: -2.4mm 3: -2.0mm 4: -1.8mm 5: -1.2mm 6: -0.8mm 7: -0.4mm 8: 0.0mm 9: +0.4mm 10: +0.8mm 11: +1.2mm 12: +1.6mm 13: +2.0mm 14: +2.4mm 15: +2.8mm
	Other than A3 and LD	FS-05-4838-5	

### 6.13.6 Saddle Stitch Skew Adjustment (MJ-1112)

Perform this adjustment when the folding position for saddle stitching is tilted.

- (1) Turn OFF the power of the equipment.
- (2) Open the cover, pull out the saddle stitch section, and then loosen the 2 screws.

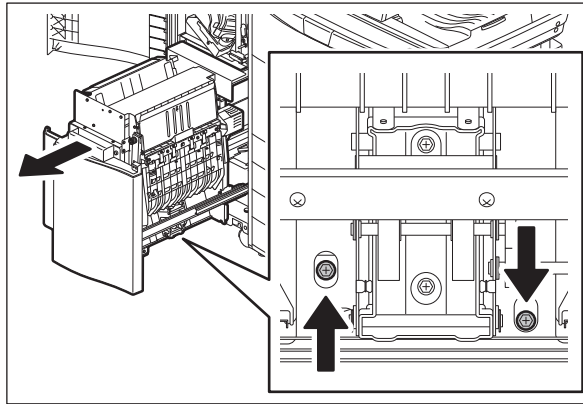


Fig.6-115

- (3) Rotate the adjustment screw slightly.

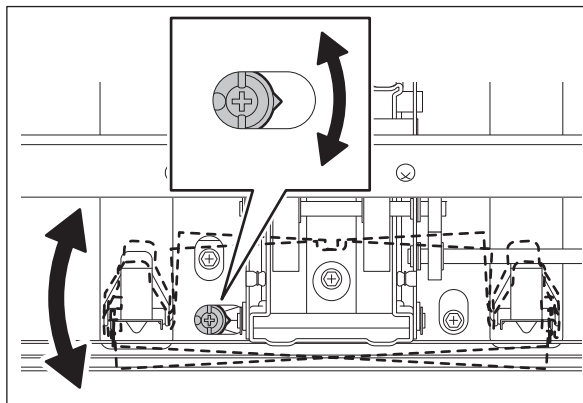


Fig.6-116

- (4) Tighten the 2 screws, return the saddle stitch section, and then close the cover.

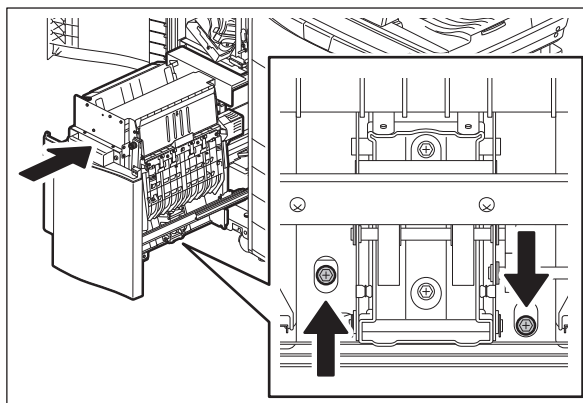


Fig.6-117

## 6.14 Adjustment of Hole punch unit (MJ-6106)

### 6.14.1 Stopping Position Adjustment

This adjustment can change the position where paper transport stops during the punching operation. Perform this adjustment when you adjust the punching position on the paper in the transporting direction.

#### [A] Adjustment with self-diagnostic mode

Item to be adjusted	Code	Remarks
Hole punch position	FS-05-4838-0	Adjusts the hole punch position in the paper feeding direction. When a positive value is set, it shifts toward the feeding side. When a negative value is set, it shifts toward the exit side. 0: Finisher not installed 1: -1.10mm 2: -0.88mm 3: -0.66mm 4: -0.44mm 5: -0.22mm 6: 0.00mm 7: +0.22mm 8: +0.44mm 9: +0.66mm 10: +0.88mm 11: +1.10mm

#### [B] Adjustment with DIP-SW

If the adjustment values can be confirmed from the pre-change board, check them from the connected equipment and then set them into the post-change board.

Adjustment value check: Perform FS-05-4838-0.

If the adjustment values cannot be confirmed, perform the adjustment in the following procedure.

- (1) Turn the power of the equipment OFF.
- (2) Take off the board access cover [1] of the Finisher. Then set SW1 (DIP-SW) [2] on the finisher control PC board as shown below.

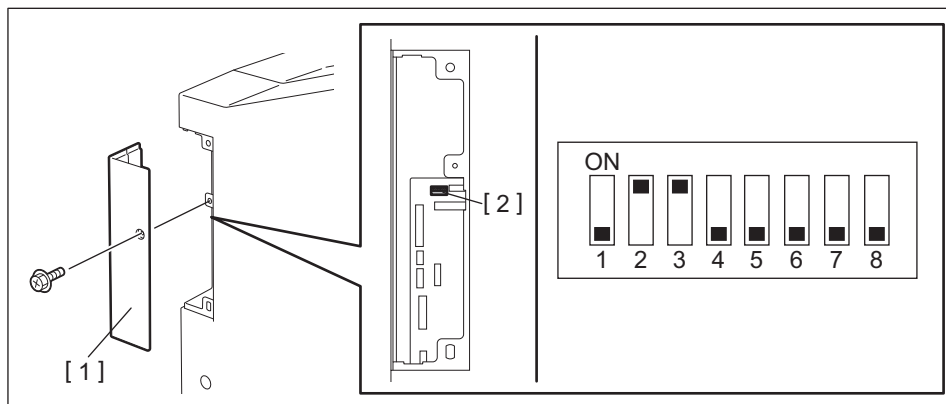


Fig.6-118

- (3) Turn the power of the equipment ON. The finisher enters into the stopping position adjustment mode.
- (4) [LED1] on the finisher control panel blinks. The number of times it blinks indicates the current adjustment value.

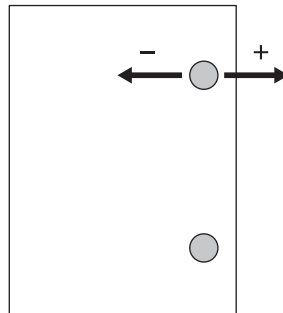


- (5) Press [Button1] on the finisher control panel to change the adjustment value. The number of times [LED1] blinks changes in ascending order (e.g. 1, 2, 3... 11) each time you press [Button1].

Number of LED1's blinking	Adjustment Value (Steps from the center value)	Distance from the center value
1	-5	1.10 mm
2	-4	0.88 mm
3	-3	0.66 mm
4	-2	0.44 mm
5	-1	0.22 mm
6	0	0 mm (Center value)
7	+1	0.22 mm
8	+2	0.44 mm
9	+3	0.66 mm
10	+4	0.88 mm
11	+5	1.10 mm

**Notes:**

When the adjustment value goes further in minus numbers in the table above, the distance between the paper edge and the holes becomes wider. When it goes further in plus numbers, this distance becomes narrower.



- (6) When the value change is completed, press [Button2] on the finisher control panel to determine the adjustment value. (The adjustment value is written into the flash ROM.)
- (7) Turn the power of the equipment OFF.
- (8) Turn all the bits of SW1 (DIP-SW) on the finisher control PC board OFF.
- (9) Install the board access cover of the Finisher.



## 7. PREVENTIVE MAINTENANCE (PM)

### 7.1 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.

### 7.2 PM Display

#### 7.2.1 General Description

The maintenance timing for the PM parts of the process unit, such as the drum and developer material, and the PM parts of the units other than the process unit, such as the 2nd transfer roller 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.

#### 7.2.2 PM Display Conditions

The conditions of the PM display consist of the codes of the 08 SETTING MODE 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

**Notes:**

When “0” is entered as the setting value, PM timing is not displayed.

FS-08-6190: Setting value of PM counter [process unit (K)]

FS-08-6191: Setting value of PM time counter [process unit (K)]

FS-08-6192: Setting value of PM counter [process unit (Y)]

FS-08-6193: Setting value of PM time counter [process unit (Y)]

FS-08-5550: Setting value of PM counter [process unit (M)]

FS-08-5551: Setting value of PM time counter [process unit (M)]

FS-08-5552: Setting value of PM counter [process unit (C)]

FS-08-5553: Setting value of PM time counter [process unit (C)]

FS-08-5562: Setting value of PM counter [parts other than the PM parts of the process unit]

FS-08-5563: Setting value of PM time counter [parts other than the PM parts of the process unit]

- Counter indicating the current number of prints and driving time

FS-08-6194: Current value of PM counter [process unit (K)]

FS-08-6195: Current value of PM time counter [process unit (K)]

FS-08-6196: Current value of PM counter [process unit (Y)]

FS-08-6197: Current value of PM time counter [process unit (Y)]

FS-08-5564: Current value of PM counter [process unit (M)]

FS-08-5565: Current value of PM time counter [process unit (M)]

FS-08-5566: Current value of PM counter [process unit (C)]

FS-08-5567: Current value of PM time counter [process unit (C)]

FS-08-5576: Current value of PM counter [parts other than the PM parts of the process unit]

FS-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
  - FS-08-6198: Switching of output pages/driving counts at PM [process unit (K)]
  - FS-08-5578: Switching of output pages/driving counts at PM [process unit (Y)]
  - FS-08-5579: Switching of output pages/driving counts at PM [process unit (M)]
  - FS-08-5580: Switching of output pages/driving counts at PM [process unit (C)]
  - FS-08-5585: Switching of output pages/driving counts at PM [parts other than the PM parts of the process unit]

## 7.2.3 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
Developer material (K)	: 0080
Developer material (Y)	: 0010
Developer material (M)	: 0020
Developer material (C)	: 0040
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.

For example, if the PM parts of the process units (K) and (C) and the developer materials (K) and (C) reach the maintenance time, the 4-digit hexadecimal number code will be “00CC” in hexadecimal numbers: 0008+0004+0080+0040=00CC.

4th digit	3rd digit		2nd digit		1st digit	
	None	Part (2nd 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	

## 7.2.4 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.

### Notes:

Even if “0” is entered in the PM management setting value of the 08 SETTING MODE, 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:

- FS-08-6194: Current value of PM counter [process unit (K)]
- FS-08-6195: 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 20 PM support mode is cleared, the counter is reset.  
In addition, when the cleaner unit is recognized as a new one by the old/new detection switch of “CLEANER/DRUM/CHARGER (K)”, the counter is also reset.
- FS-08-6196: Current value of PM counter [process unit (Y)]
- FS-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 20 PM support mode is cleared, the counter is reset.  
In addition, when the cleaner unit is recognized as a new one by the old/new detection switch of “CLEANER/DRUM/CHARGER (Y)”, the counter is also reset.
- FS-08-5564: Current value of PM counter [process unit (M)]
- FS-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 20 PM support mode is cleared, the counter is reset.  
In addition, when the cleaner unit is recognized as a new one by the old/new detection switch of “CLEANER/DRUM/CHARGER (M)”, the counter is also reset.
- FS-08-5566: Current value of PM counter [process unit (C)]
- FS-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 20 PM support mode is cleared, the counter is reset.  
In addition, when the cleaner unit is recognized as a new one by the old/new detection switch of “CLEANER/DRUM/CHARGER (C)”, the counter is also reset.
- FS-08-5568: Current value of PM counter [developer material (K)]
- FS-08-5569: Current value of PM time counter [developer material (K)]  
When the current value of “DEVELOPMENT UNIT” on the main screen or “BLACK DEVELOPER (K)” on the sub-screen in the 20 PM support mode is cleared, the counter is reset.  
In addition, when the developer unit is recognized as a new one by the K developer unit old/new detection switch, or the auto-toner sensor adjustment is performed, the counter is also reset.
- FS-08-5570: Current value of PM counter [developer material (Y)]
- FS-08-5571: Current value of PM time counter [developer material (Y)]  
When the current value of “DEVELOPMENT UNIT” on the main screen or “YELLOW DEVELOPER (Y)” on the sub-screen in the 20 PM support mode is cleared, the counter is reset.  
In addition, when the developer unit is recognized as a new one by the Y developer unit old/new detection switch, or the auto-toner sensor adjustment is performed, the counter is also reset.
- FS-08-5572: Current value of PM counter [developer material (M)]
- FS-08-5573: Current value of PM time counter [developer material (M)]  
When the current value of “DEVELOPMENT UNIT (M)” on the main screen or “MAGENTA DEVELOPER (M)” on the sub-screen in the 20 PM support mode is cleared, the counter is reset.

In addition, when the developer unit is recognized as a new one by the M developer unit old/new detection switch, or the auto-toner sensor adjustment is performed, the counter is also reset.

- FS-08-5574: Current value of PM counter [developer material (C)]
- FS-08-5575: Current value of PM time counter [developer material (C)]  
When the current value of “DEVELOPMENT UNIT” on the main screen or “CYAN DEVELOPER (C)” on the sub-screen in the 20 PM support mode is cleared, the counter is reset.  
In addition, when the developer unit is recognized as a new one by the C developer unit old/new detection switch, or the auto-toner sensor adjustment is performed, the counter is also reset.
- FS-08-5576: Current value of PM counter [parts other than the PM parts of the process unit]
- FS-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 20 PM support mode is cleared, the counter is reset.

### 7.3 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 20 PM SUPPORT MODE or 30 LIST PRINT MODE.
  - 20 PM SUPPORT MODE (FS-20)
  - 30 LIST PRINT MODE (FS-30-103)

UNIT	OUTPUT PAGES DEVELOP COUNTS	PM OUTPUT PAGES DEVELOP COUNTS	DRIVE COUNTS	PM DRIVE COUNTS
DRUM(K)	1957	1957	3940	170000
DRUM BLADE(K)	1957	1957	10870	170000
GRID(K)	1957	1957	10870	170000
MAIN CHARGER NEEDLE(K)	1957	1957	10870	170000
CHARGER CLEANING PAD(K)	1957	1957	10870	170000
DRUM(Y)	1077	1077	3766	170000
DRUM BLADE(Y)	1077	1077	3766	170000
GRID(Y)	1077	1077	3766	170000
MAIN CHARGER NEEDLE(Y)	1077	1077	3766	170000
CHARGER CLEANING PAD(Y)	1077	1077	3766	170000
DRUM(M)	1077	1077	9547	170000
DRUM BLADE(M)	1077	1077	9547	170000
GRID(M)	1077	1077	9547	170000
MAIN CHARGER NEEDLE(M)	1077	1077	9547	170000
CHARGER CLEANING PAD(M)	1077	1077	9547	170000
DRUM(C)	1077	1077	9547	170000
DRUM BLADE(C)	1077	1077	9547	170000
GRID(C)	1077	1077	9547	170000
MAIN CHARGER	1077	1077	9547	170000
		1077	9547	170000

Fig. 7-1

- 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.

## 7.4 PM Support Mode

### 7.4.1 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.

### 7.4.2 Operational flow

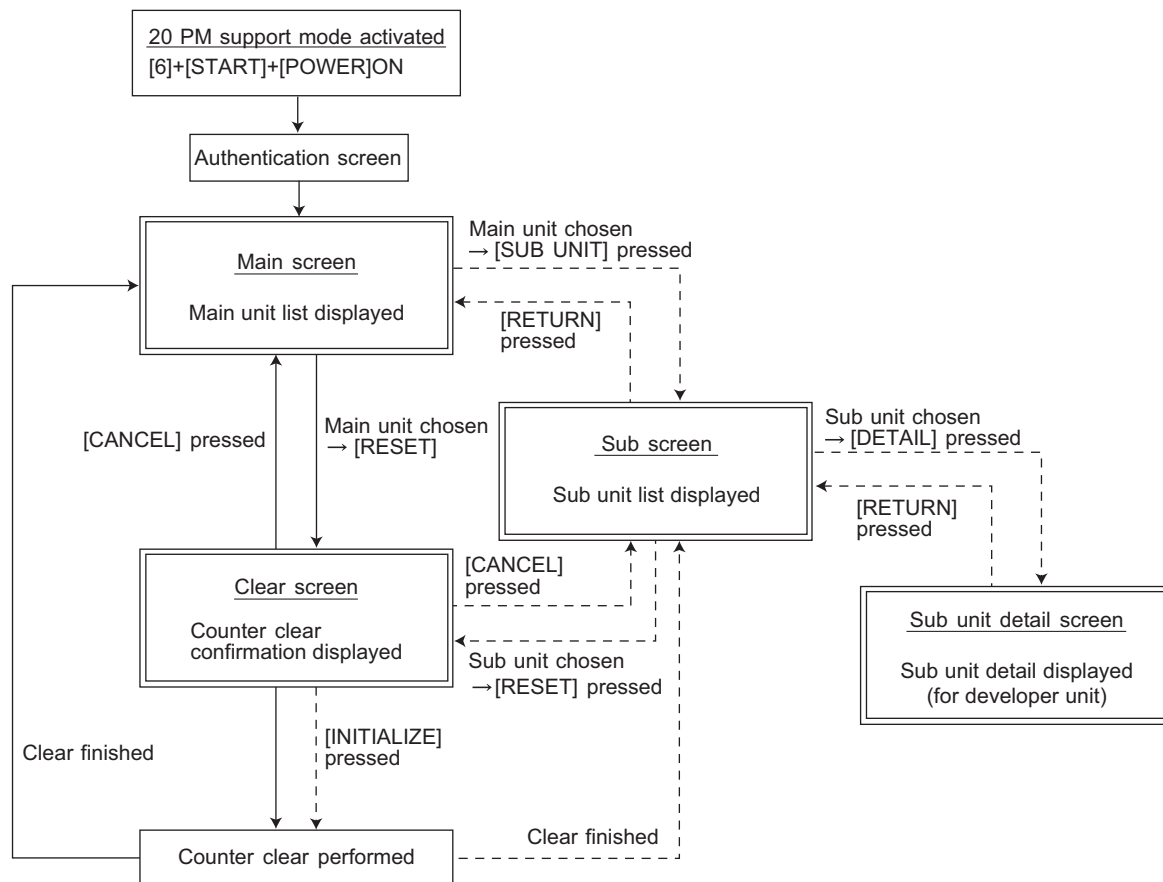


Fig. 7-2

- \* When the authentication screen appears, press [OK]. (Enter the password, if one has been set.)
- \* To finish the PM support mode, shut down the equipment by pressing and holding [ON/OFF] on the main screen for a few seconds.
- \* 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.



## 7.4.3 Operational screen

The description of the display (including the function of each button) on the LCD screen is shown below.

### 1. Main screen

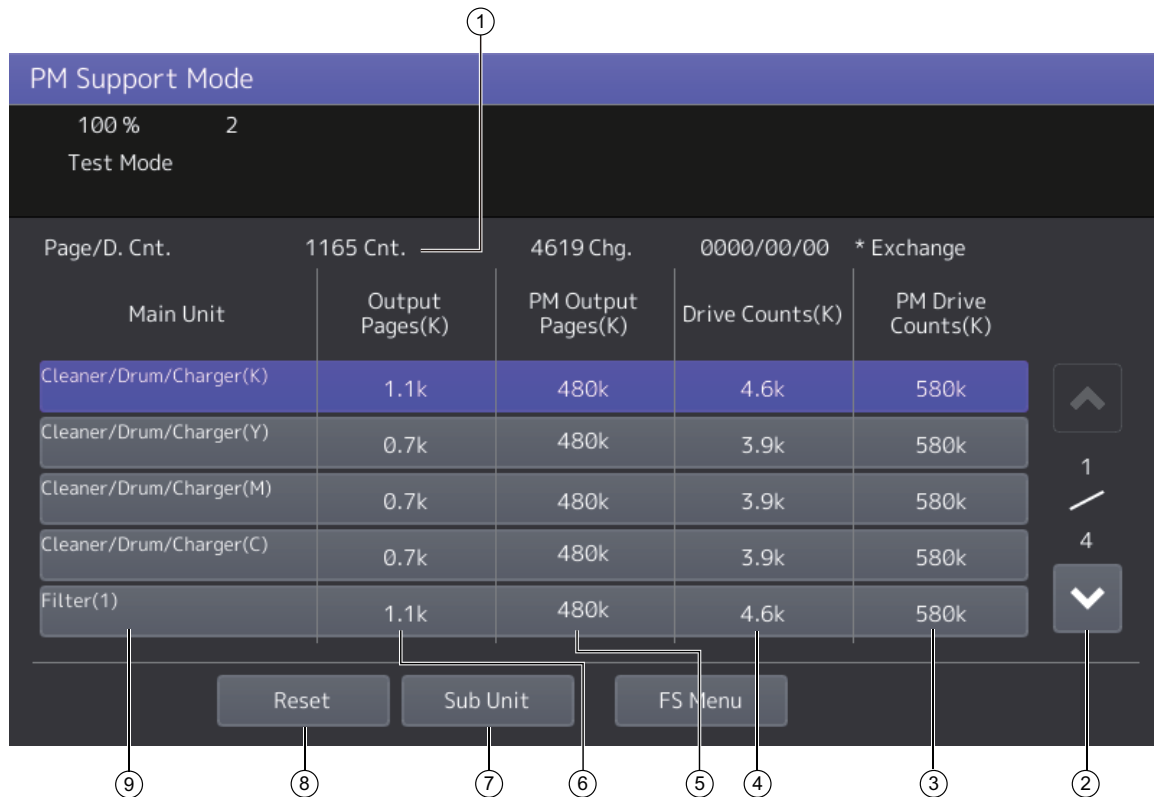


Fig. 7-3

- ① 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
- ② Moving to the next/previous page
- ③ Displaying of the standard number of drive counts to replace the unit parts
- ④ 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.
- ⑤ Displaying of the standard number of printed / developed pages to replace the unit parts
- 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 Moving to the sub screen of the selected unit
- ⑧ Moving to the clear screen to clear the selected unit counters ④ and ⑥, including all sub unit (parts) counters belonging to that unit When the unit is not selected, all counters are cleared.
- ⑨ Displaying of the main unit name

**Notes:**

- “—” is always displayed at the drive counts section for the dual scan document feeder (DSDF) and feed unit.
- “0” 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.

## 2. Sub screen (for other than the developer unit)

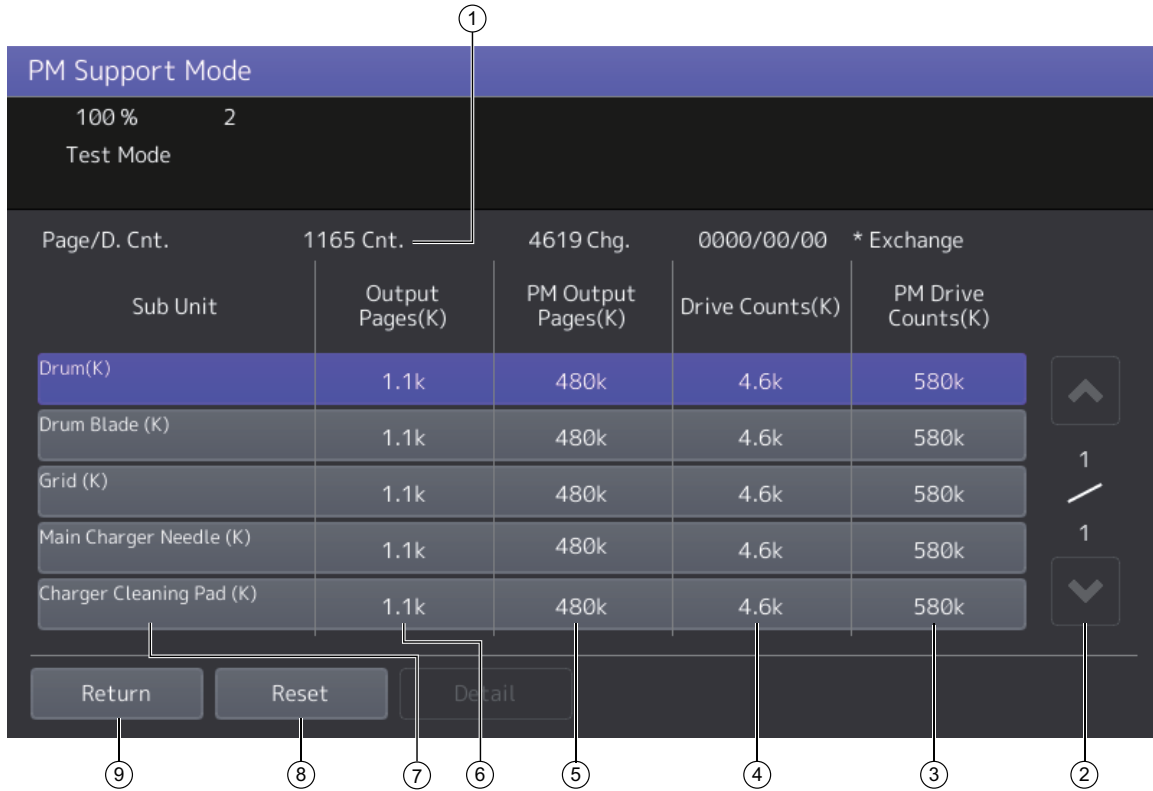


Fig. 7-4

- ① Displaying of the number of printed / developed pages and drive counts and previous replacement date for a chosen sub unit
- ② Moving to the next/previous page
- ③ Displaying of the standard number of drive counts to replace the sub unit (parts)
- ④ 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.
- ⑤ Displaying of the standard number of printed / developed pages to replace the sub unit (parts)
- ⑥ 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.
- ⑦ Displaying of the sub unit (parts) name
- ⑧ Moving to the clear screen to clear the selected unit (parts) counters
- ⑨ Back to the main screen

### 3. Sub screen (for the developer unit)



Fig. 7-5

- ① Moving to the next/previous page
- ② Displaying of the present drive counts
- ③ Displaying of the present number of print / developer pages
- ④ Displaying of the sub unit (parts) name
- ⑤ Moving to the sub unit detail screen of the developer unit
- ⑥ 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.
- ⑦ Back to the main screen

**Notes:**

“—” is displayed since there is no standard number in the number of printed / developed pages and drive count.

#### 4. Sub unit detail screen (for the developer material)

PM Support Mode

100 % 2  
Test Mode

\* Exchange

Sub Unit	SUPPLY RATIO	DRIVE RATIO	PERFORMANCE INDEX	THRESHOLD
Black Developer	541	299	2	100
Yellow Developer	496	404	2	100
Magenta Developer	491	404	2	100
Cyan Developer	473	404	2	100

Return

⑦ ⑥ ⑤ ④ ③ ② ①

Fig. 7-6

- ① Moving to the next/previous page
- ② Displaying of the threshold number of performance index
- ③ 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.
- ④ Displaying of the present number of drive ratio
- ⑤ Displaying of the present number of supply ratio
- ⑥ Displaying of the sub unit (parts) name
- ⑦ Back to the sub unit screen

## 5. Clear screen

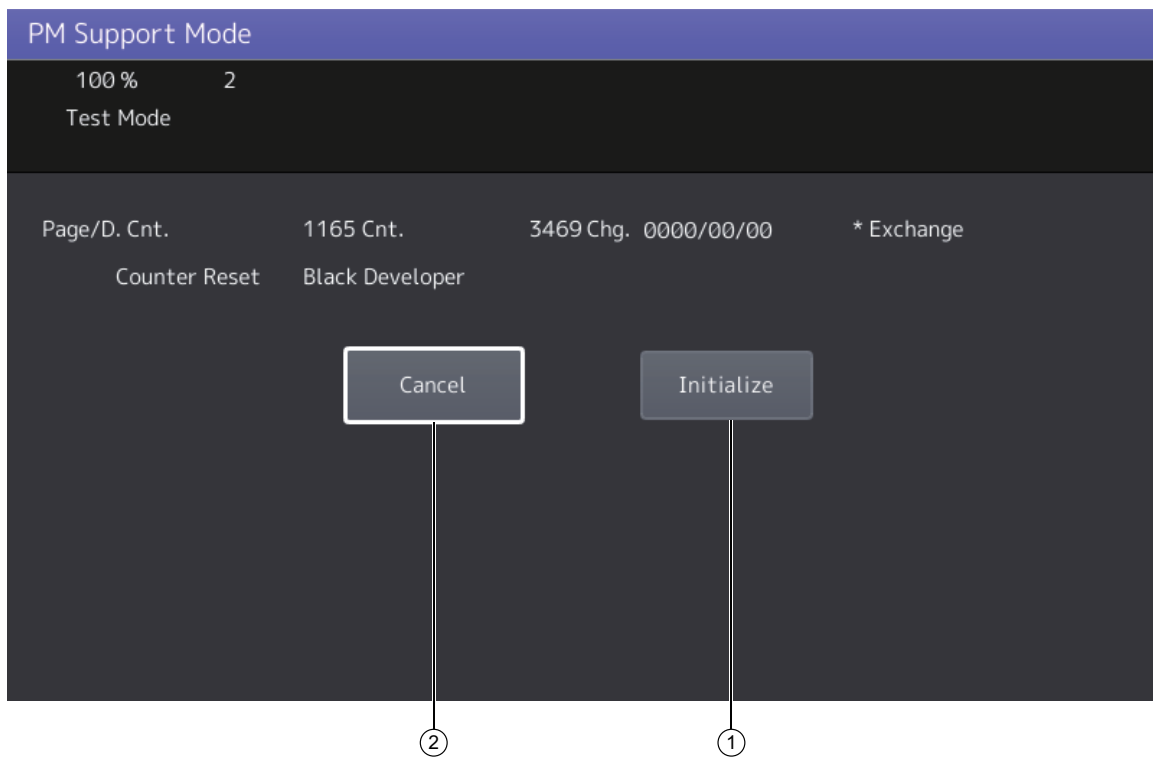


Fig. 7-7

- ① When the [INITIALIZE] button is pressed, "Present number of printed / developed pages" and Present driving counts" are cleared and "Previous replacement date" is updated.
- ② When the [CANCEL] button is pressed, the counter is not cleared and the display returns to the main or sub screen.

## 7.4.4 Access tree

The relation between the main unit and the sub unit is shown below.

### Notes:

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 (C) 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
FILTER (3)	VOC FILTER
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
FUSER	FUSER BELT PRESS ROLLER [PRESSURE ROLLER] FUSER PAD [FUSER BELT PAD] SLIDE SHEET [FUSER BELT LUBRICATING SHEET] OIL RECOVERY SHEET
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]
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]

Main screen	Sub-screen
O-LCF [Option LCF]	PICK UP ROLLER (O-LCF) FEED ROLLER (O-LCF) SEP ROLLER (O-LCF) [Separation roller]
DSDF	PICK UP ROLLER (DSDF) FEED ROLLER (DSDF) SEP ROLLER (DSDF) [Separation roller]

**Notes:**

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 (FS-08-6230)
- 2nd drawer         Reset the feeding retry counter (FS-08-6231)
- 3rd drawer         Reset the feeding retry counter (FS-08-6232)
- 4th drawer         Reset the feeding retry counter (FS-08-6233)
- Bypass unit        Reset the feeding retry counter (FS-08-6234)
- T-LCF               Reset the feeding retry counter (FS-08-6235)
- O-LCF               Reset the feeding retry counter (FS-08-6242)

## 7.5 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

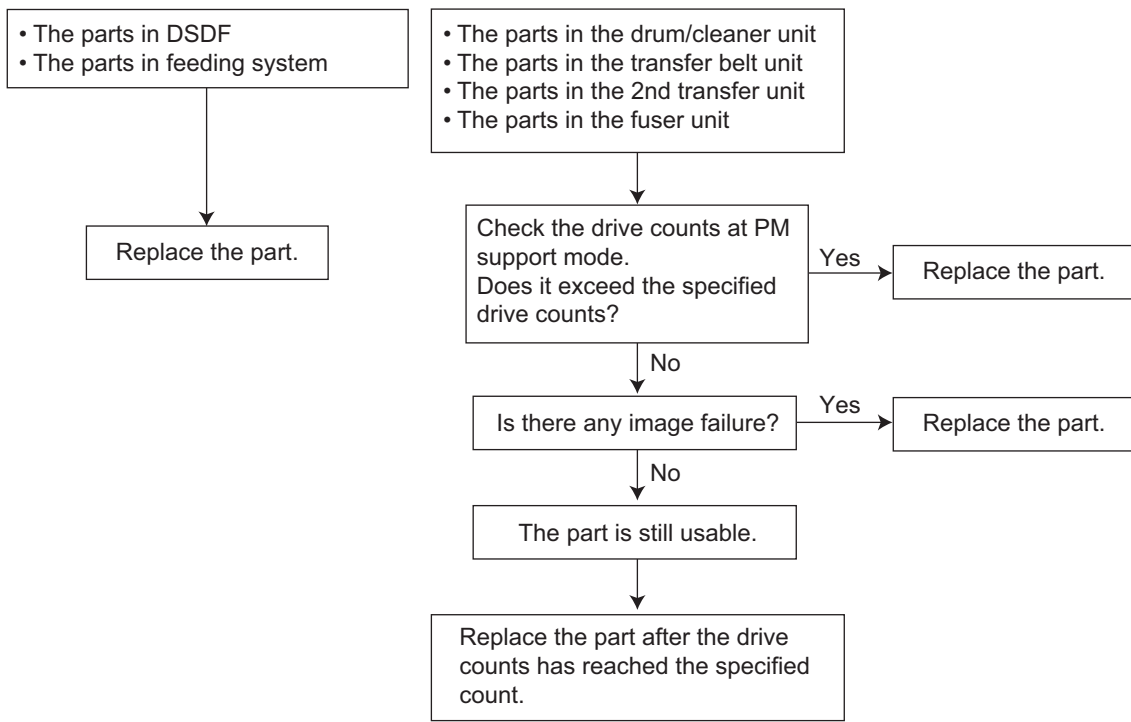


Fig. 7-8

### Example 2:

When the image failure occurred before the number of printed / developed pages has reached the specified level

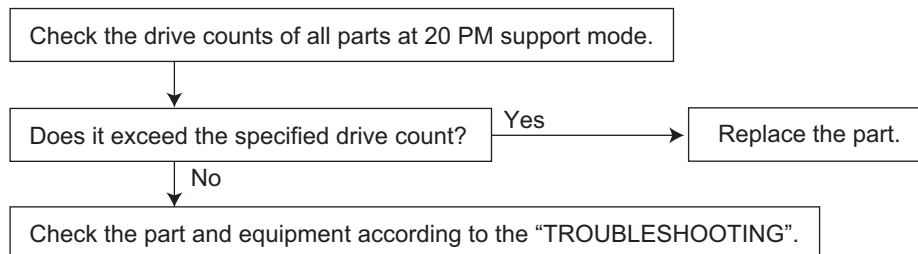


Fig. 7-9



**Example 3:**

When the performance index of the developer exceeds its threshold number

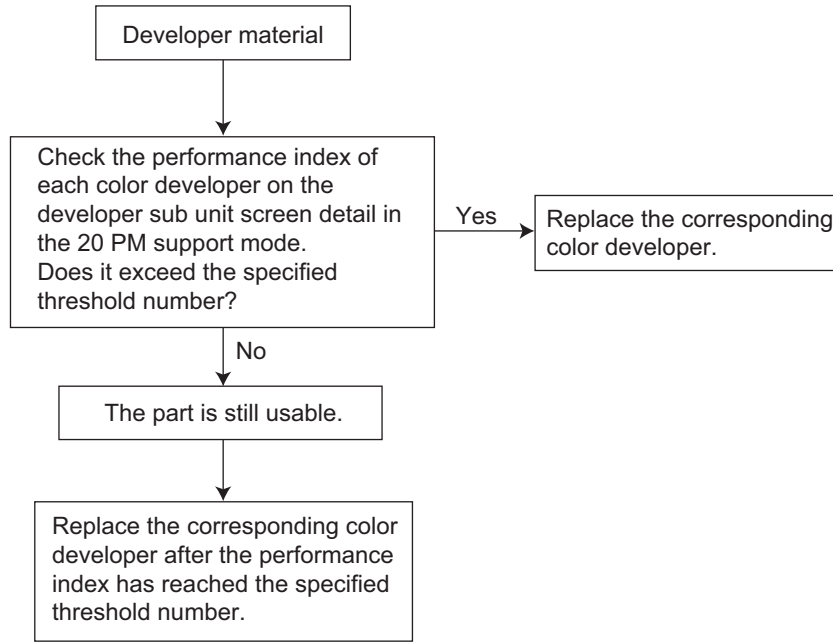


Fig. 7-10

**Example 4:**

When an image failure occurs though the performance index does not exceed the threshold number

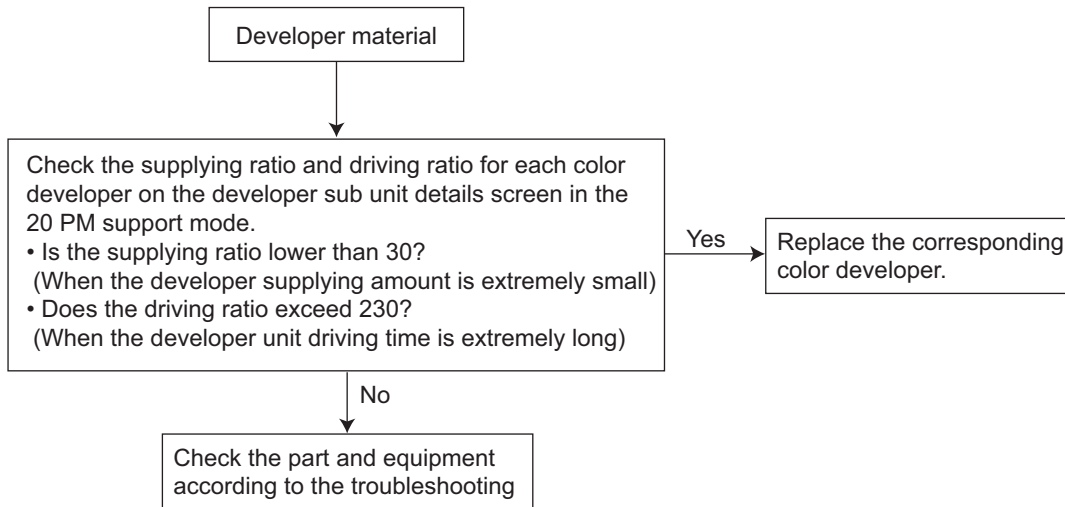


Fig. 7-11

## 7.6 Preventive Maintenance Checklist

Symbols/value used in the checklist

Item	Description
Cleaning	<b>A:</b> Clean with alcohol <b>B:</b> Clean with soft pad, cloth or vacuum cleaner
Lubrication/ Coating	<b>L:</b> Launa 40 <b>SI:</b> Silicon oil <b>W1:</b> White grease (Molykote EM-30L) <b>W2:</b> White grease (Molykote HP-300) <b>AV:</b> Alvania No.2 <b>FL:</b> Floil (GE-334C) <b>C:</b> Coating material (SANKOL CFD-409M)
Replacement	<b>Value:</b> Replacement cycle <b>R1:</b> Replacement <b>R3:</b> Replace if deformed or damaged.
Operation check	<b>O:</b> 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
55ppm	every 480,000 sheets	every 480,000 sheets
65ppm	every 540,000 sheets	every 540,000 sheets
75ppm	every 600,000 sheets	every 600,000 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 55ppm, 65ppm, and 75ppm.
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-STUDIO5506AC/6506AC/7506AC 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.

## 7.6.1 Scanner

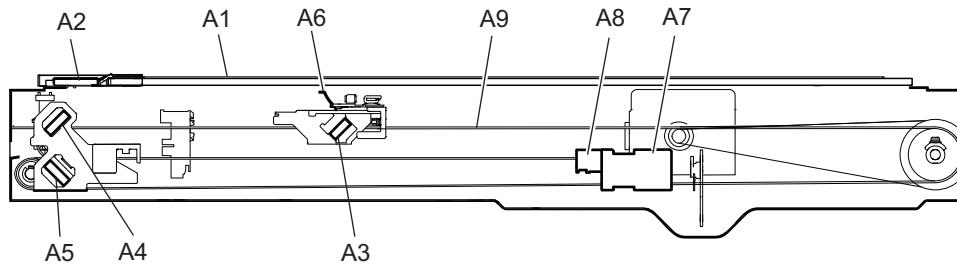


Fig. 7-12

Items to check		Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
A1	Original glass	B or A					54-2
A2	DF original glass	B					54-3
A3	Mirror-1	B					-
A4	Mirror-2	B					-
A5	Mirror-3	B					-
A6	Reflector	B					-
A7	Lens	B					50-9
A8	Automatic original detection sensor	B					50-12
A9	Slide sheet (front and rear)	B		R3	R3		-

\* A1: Original glass, A2: DF original glass

Clean both sides of the original glass and DF original glass. Make sure that there is no dust on the mirrors-1, -2, -3 and lens after cleaning. Also clean the film attached to the DF original glass in order to wipe off any dirt or paper dust. Then install the original glass and DF original glass.

### Notes:

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.

When cleaning the glass with alcohol, do so only for the stained areas because fog may appear.

7.6.2 Feed unit

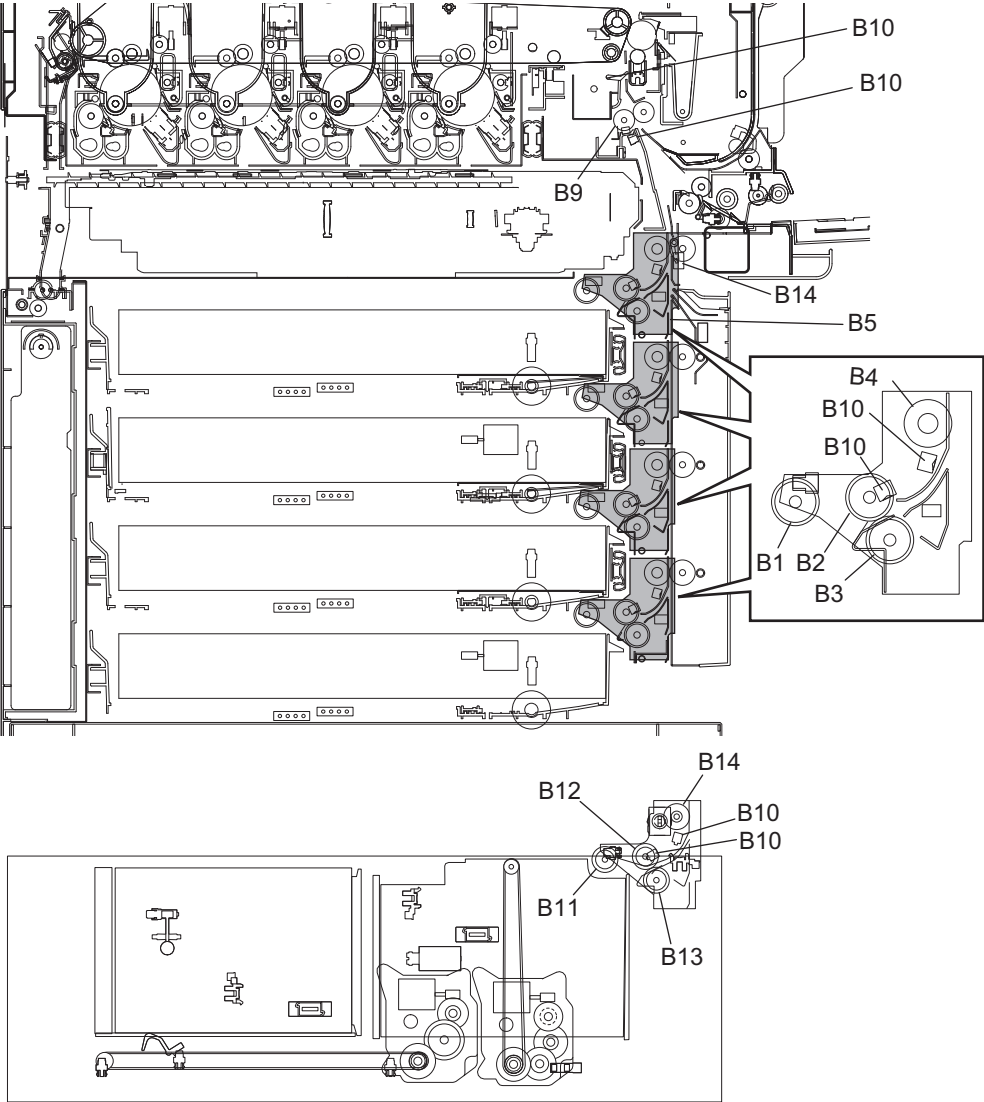


Fig. 7-13

Items to check		Cleaning	Lubrica tion/ 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		R3	R3		11-22
B5	Paper guide	B					11-28
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		R3	R3		10-1
B10	Sensor section	A					11-45
B11	Pickup roller (Tandem LCF)			400	-		11-36
B12	Feed roller (Tandem LCF)			400	-		11-36
B13	Separation roller (Tandem LCF)			400	-		11-35
B14	Transport roller (Tandem LCF)	A		R3	R3		11-22

\* B6: Drive gear  
Apply some white grease (Molykote EM-30L) to the teeth of gears and shafts of the drive gears.

**Notes:**

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.

### 7.6.3 Duplexing unit

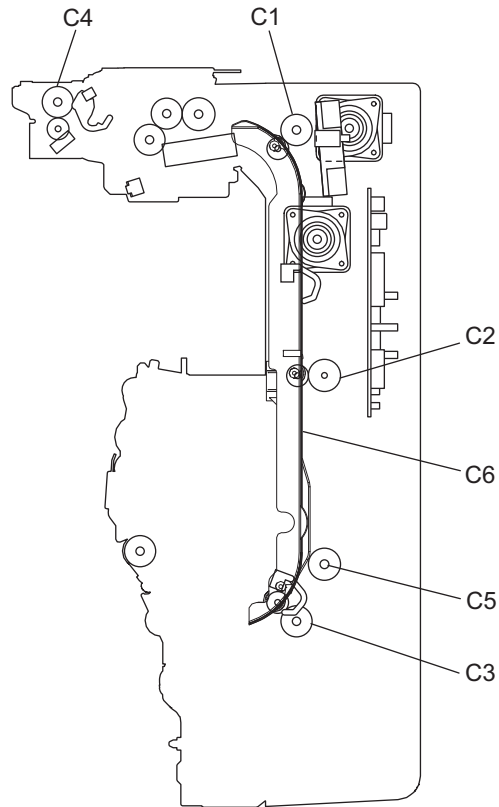


Fig. 7-14

Items to check		Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
C1	ADU transport roller 1	A		R3	R3		18-6
C2	ADU transport roller 2	A		R3	R3		18-5
C3	ADU transport roller 3	A		R3	R3		18-7
C4	Duplexing bridge transport roller	A		R3	R3		20-12
C5	Pulley stud		W1				-
C6	Paper guide	B					19-2

## 7.6.4 Bypass feed unit

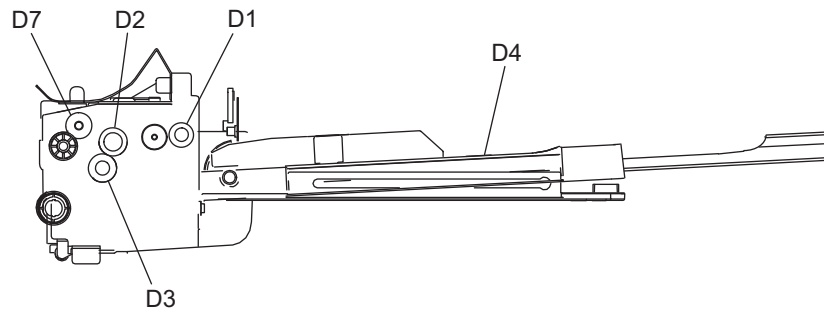


Fig. 7-15

Items to check		Cleaning	Lubrica- tion/ 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		R3	R3		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).

### Notes:

Make sure that the grease does not adhere to the roller surface. Wipe it off with alcohol if adhered.

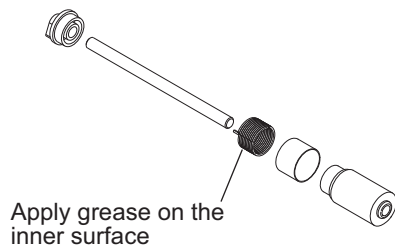
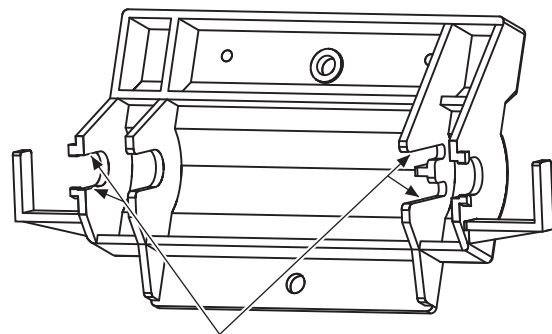


Fig. 7-16



Apply white grease  
Fig. 7-17

## 7.6.5 Main charger

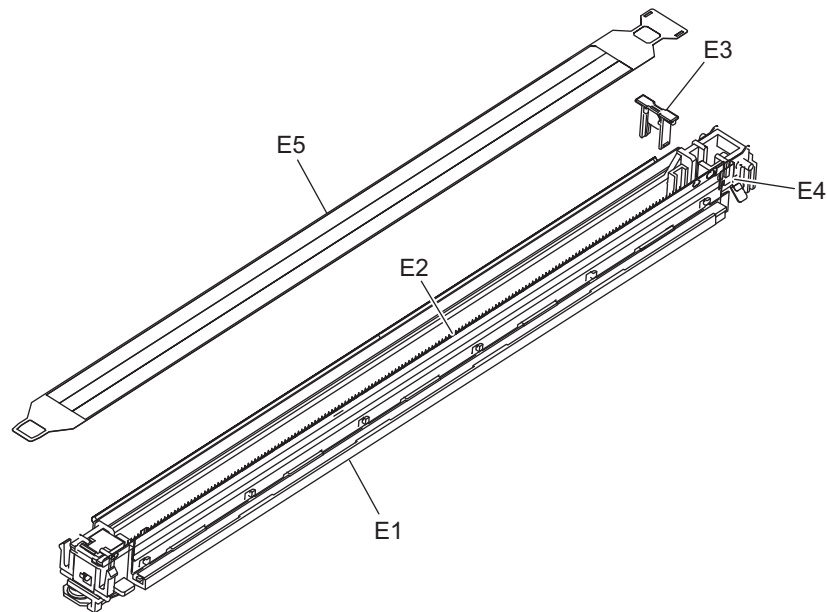


Fig. 7-18

Items to check	Cleaning	Lubrica- tion/ 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			480/540/600	580/580/520	O	64-13
E3 Needle electrode cleaner			480/540/600	580/580/520	O	64-16
E4 Contact point of terminals	B					64-2
E5 Main charger grid			480/540/600	580/580/520	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.



### 7.6.6 Drum / Cleaner unit / Filter

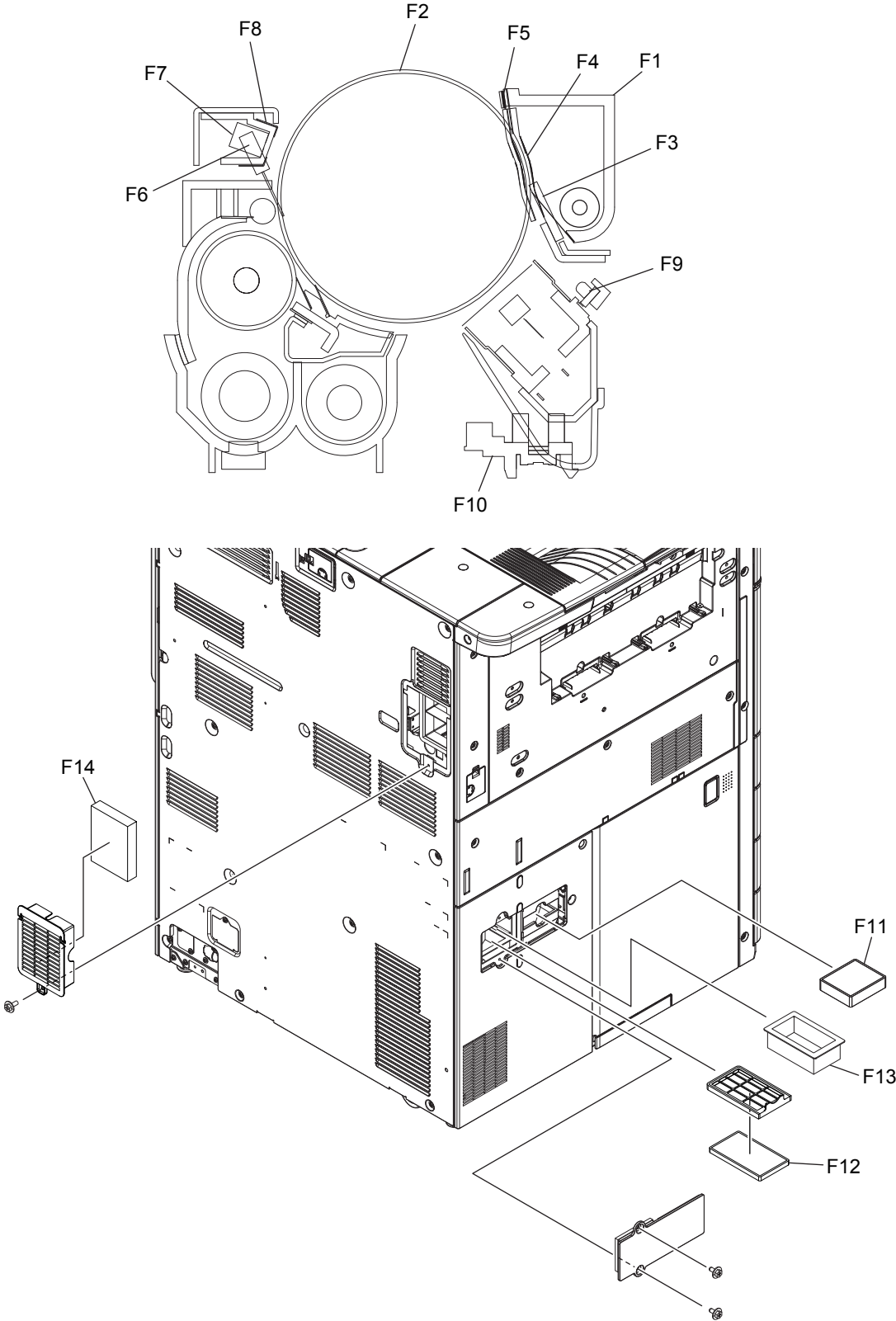


Fig. 7-19

Items to check		Cleaning	Lubrica- tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
F1	Whole cleaner unit	B					-
F2	Drum			480/540/600	580/580/520		202-1
F3	Drum cleaning blade			480/540/600	580/580/520		63-21
F4	Blade side seal			R3	R3		63-23 63-24
F5	Recovery blade	B		R3	R3		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			480/540/600	580/580/520		49-34
F12	Ozone filter-2			480/540/600	454/454/405		49-3
F13	Toner filter			480/540/600	454/454/405		49-25
F14	VOC filter			480/540/600	580/580/520		49-4

\* 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.

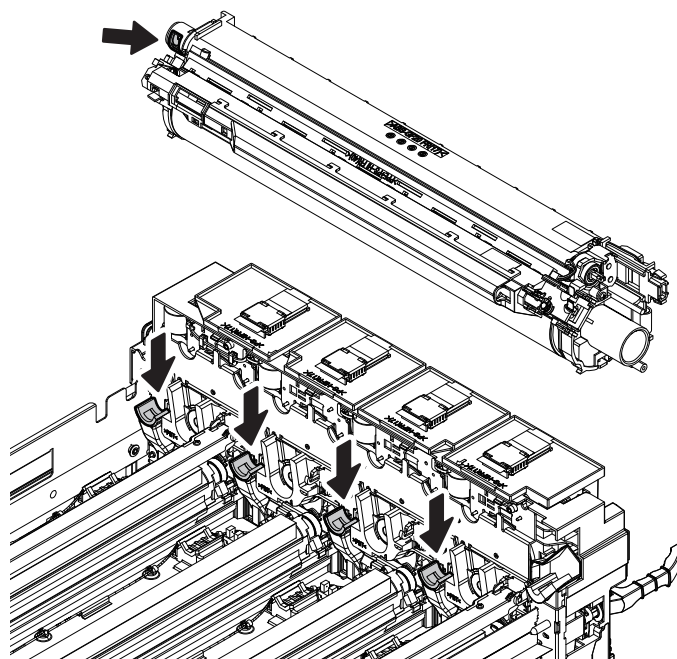


Fig. 7-20

\* F2: Drum

1. 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.

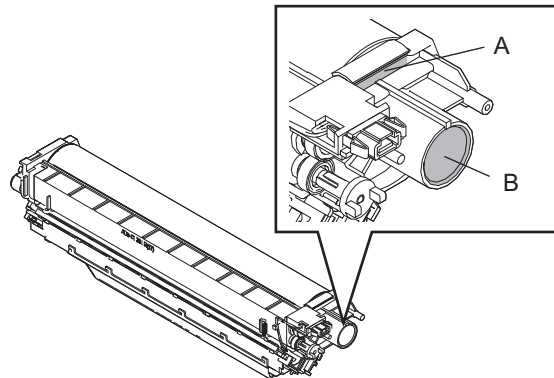


Fig. 7-21

2. 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): FS-08-6250-0, 3, 6, 7

Drum (Y): FS-08-6252-0, 3, 6, 7

Drum (M): FS-08-6254-0, 3, 6, 7

Drum (C): FS-08-6256-0, 3, 6, 7

3. 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.

4. 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.

5. 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.

6. 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

1. 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.

2. 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.

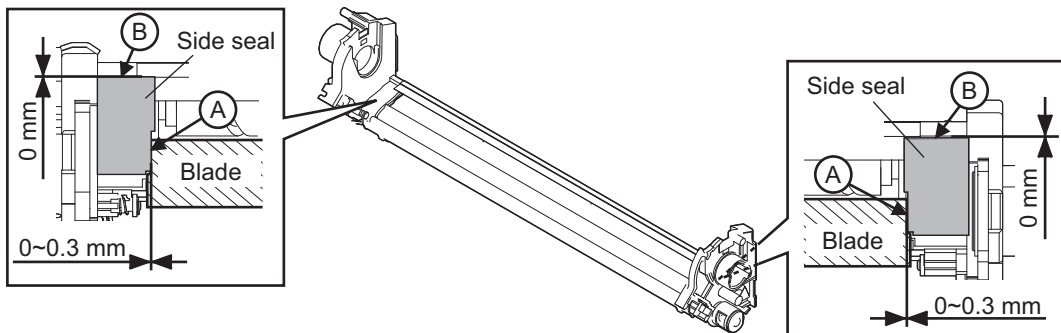


Fig. 7-22

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.

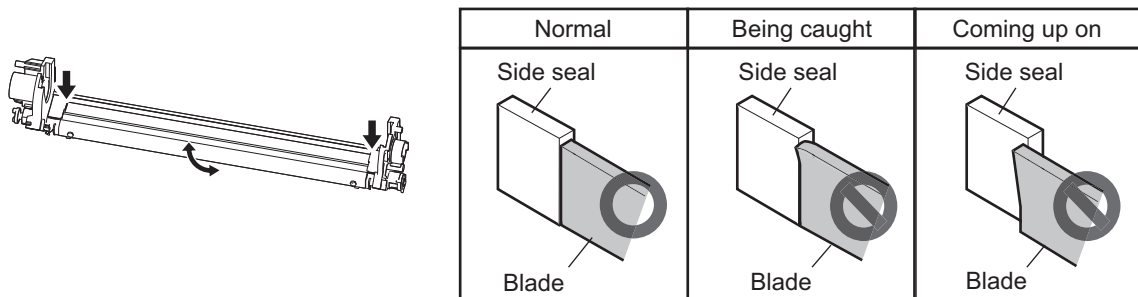


Fig. 7-23

- \* 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.

**Notes:**

Never use water or alcohol for cleaning the transfer belt recovery blade.

- \* F7: Drum surface potential (V0) sensor / G8: Drum surface potential (V0) sensor shutter  
Clean them with a vacuum cleaner.

**Notes:**

When cleaning them, be careful not to let any toner or developer material enter into the detecting section of each drum surface potential (V0) 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.

## 7.6.7 Developer unit (K, Y, M, and C)

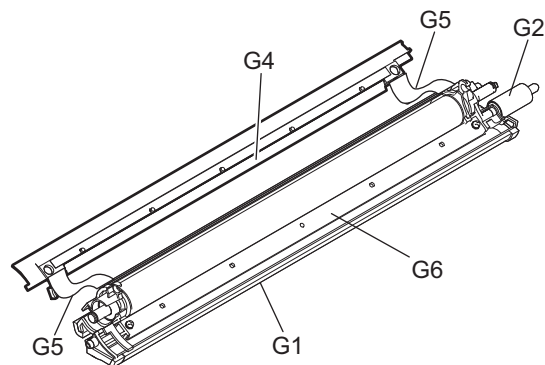


Fig. 7-24

Items to check		Cleaning	Lubrica- tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
G1	Developer unit	B					203-6
G2	Developer unit drive gear		W1				62-14
G3	Developer material			R3	R3		202-2
G4	Front shield	B		R3	R3		63-32
G5	Side shield	B		R3	R3		62-16
G6	Doctor blade	B		R3	R3		62-18

\* G1: Developer unit

### 1. 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.

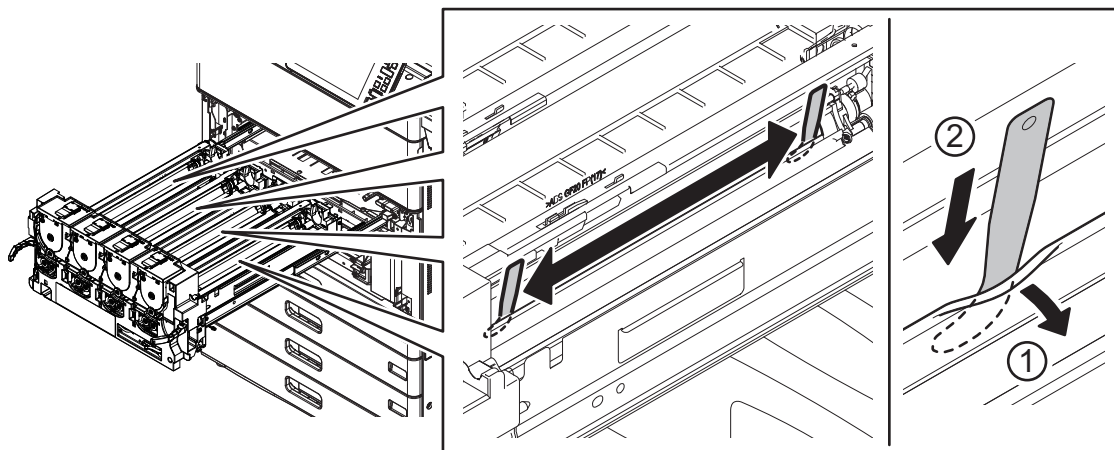


Fig. 7-25

## 2. 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.

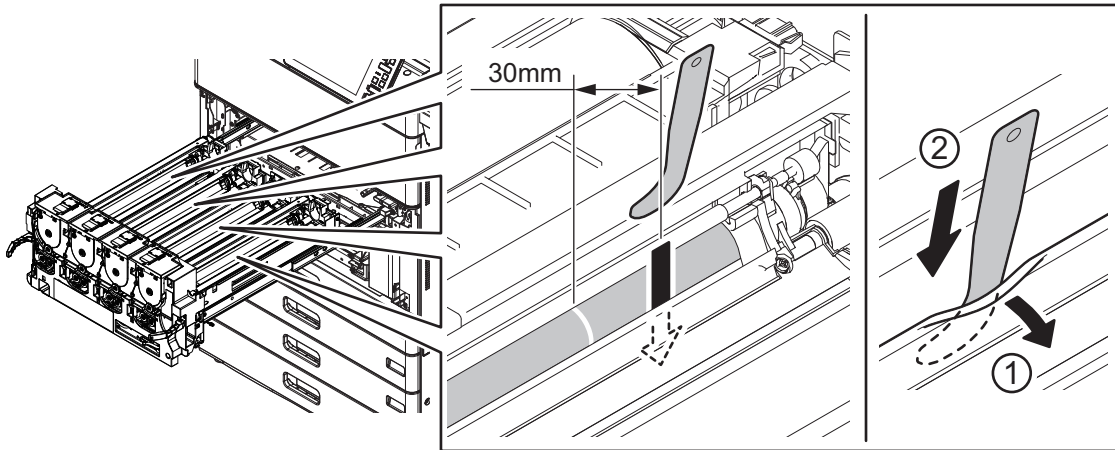


Fig. 7-26

(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.

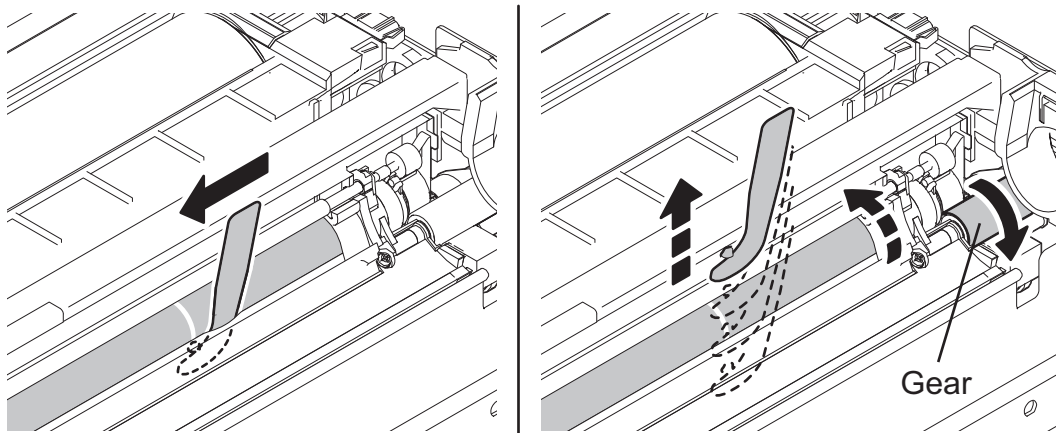


Fig. 7-27

### Tips:

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.

3. 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.

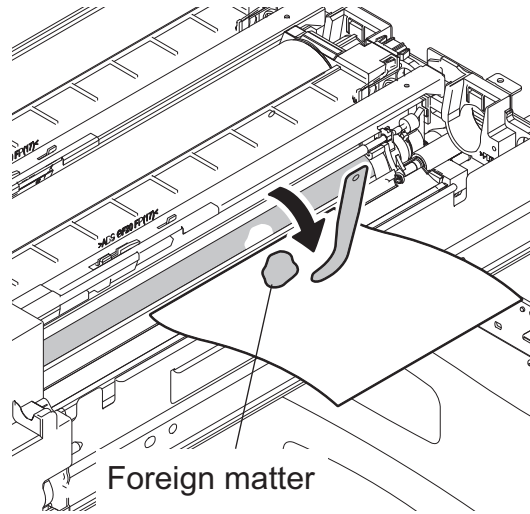


Fig. 7-28

4. 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.

**Notes:**

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. 6-2 "6.1.2 Adjustment of the Auto-Toner Sensor"

📖 P. 6-4 "6.1.3 Performing Image Quality Control"



## 7.6.8 Waste toner box

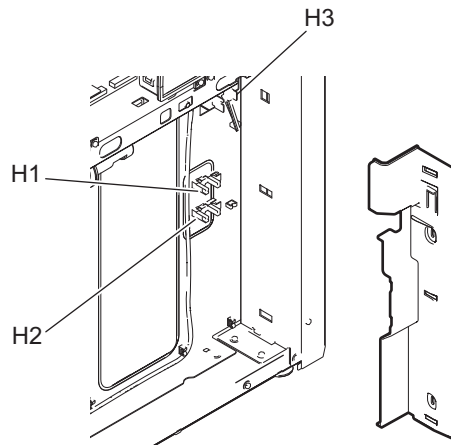


Fig. 7-29

Items to check		Cleaning	Lubrica tion/ 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

## 7.6.9 Transfer belt unit / Transfer belt cleaning unit

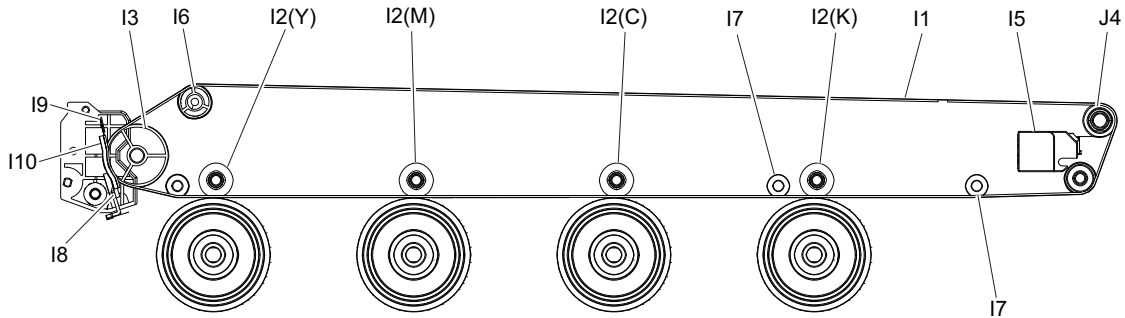


Fig. 7-30

Items to check	Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>
			(x 1,000 sheets)	(x 1,000 drive counts)		
I1	Transfer belt		R3	R3		31-33
I2	1st transfer roller		R3	R3		30-58 31-23
I3	Cleaning facing roller	A	R3	R3		31-16
I4	2nd transfer facing roller	A	R3	R3		30-34
I5	2nd transfer facing roller cleaning mylar		480/540/600	580/580/520		30-51
I6	Tension roller	A	R3	R3		33-11
I7	Idling roller	A	R3	R3		30-55
I8	Transfer belt cleaning blade		480/540/600	580/580/520		34-1
I9	Recovery blade	B	R3	R3		34-17
I10	Transfer belt cleaner side seal		480/540/600	580/580/520		34-18 34-22

\* I1: Transfer belt

1. 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 cleaning facing 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.

2. 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.

3. 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 (FS-08-6328-0) after the transfer belt has been replaced.

- \* I2: 1st transfer roller
  1. When the 1st transfer roller is replaced, apply FLOIL (GE-334C) all around the shaft on the rear edge of the roller contacting with the bushing inside the roller holder
  2. 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.
    - FS-08-6314-0: 1st transfer roller (K)
    - FS-08-6316-0: 1st transfer roller (Y)
    - FS-08-6318-0: 1st transfer roller (M)
    - FS-08-6320-0: 1st transfer roller (C)
  
- \* I3: Cleaning facing 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
  1. 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.
  2. Cleaning procedure
 

Clean the blade edge with a cloth moistened with water and squeezed lightly.
  
- \* 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.

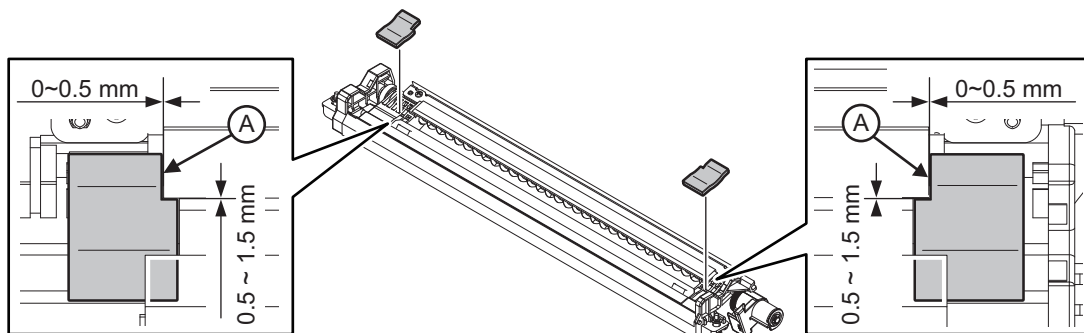


Fig. 7-31

## 7.6.10 Image quality control unit

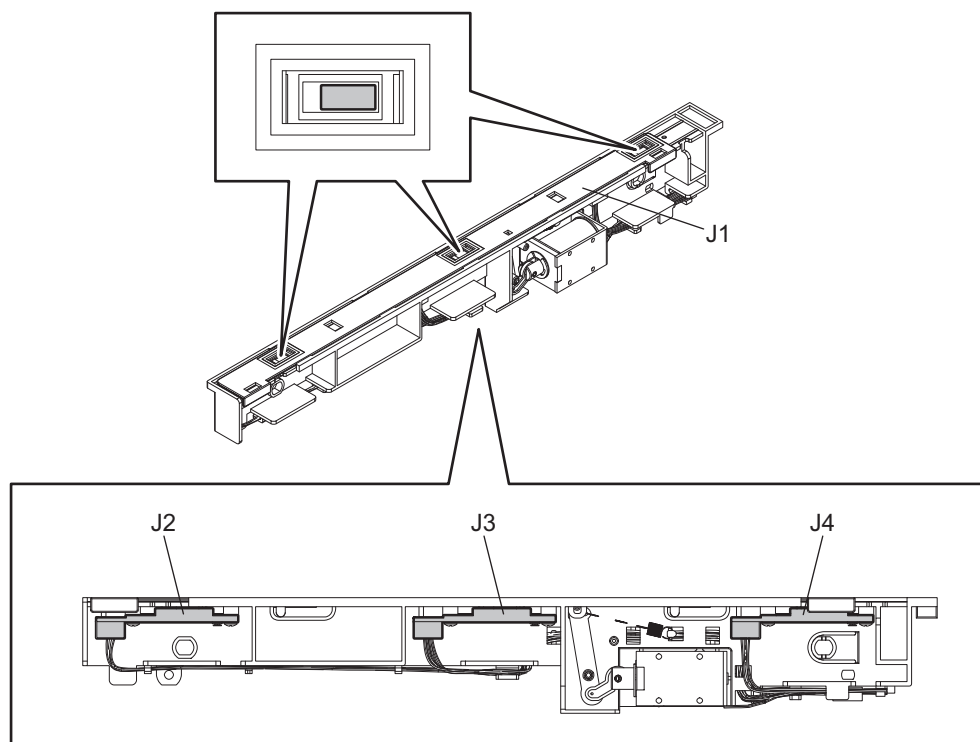


Fig. 7-32

Items to check	Cleaning	Lubrica- tion/ Coating	Replacement		Operation check	Parts list <P-I>
			(x 1,000 sheets)	(x 1,000 drive counts)		
J1 Sensor shutter	B		R3	R3		6-28
J2 Image position aligning sensor (front)	A		R3	R3		6-5
J3 Image position aligning/ image quality sensor (center)	A		R3	R3		6-5
J4 Image position aligning sensor (rear)	A		R3	R3		6-5

- \* J1: Sensor shutter, J2: Image position aligning sensor (front), J3: Image position aligning/image quality sensor (center), J4: Image position aligning sensor (rear)  
Clean the image position aligning sensor (Front/Rear), Image position aligning/image quality sensor (center) and the sensor shutter when replacing the transfer belt cleaning blade and the blade seal, or the transfer belt itself.

## 7.6.11 2nd transfer roller unit

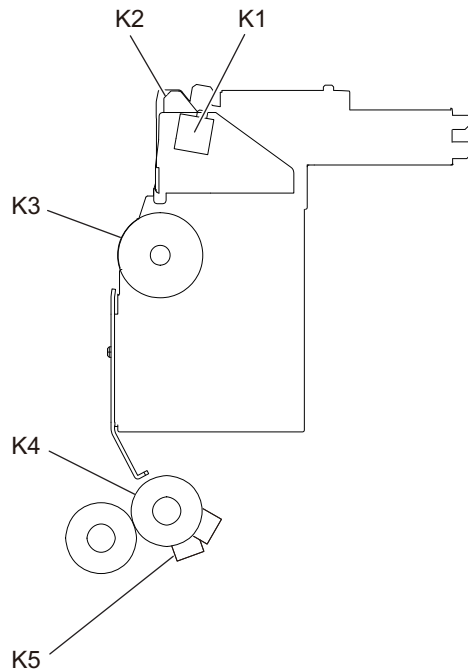


Fig. 7-33

Items to check		Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
K1	2nd transfer side paper clinging detection sensor	B					29-4
K2	2nd transfer roller paper guide	A					29-11
K3	2nd transfer roller			480/540/600	580/580/520		29-6
K4	Registration roller (rubber)	A		R3	R3		21-28
K5	Paper dust cleaning brush	B					22-45

\* K1: 2nd transfer side paper clinging detection sensor

A black Mylar [1] is affixed to the sheet metal of the IH coil in order to prevent the erroneous detection of the sensor.

If any toner adheres to this Mylar, erroneous detection may result. To prevent this, take off the fuser and wipe off the toner on the Mylar with a cloth.

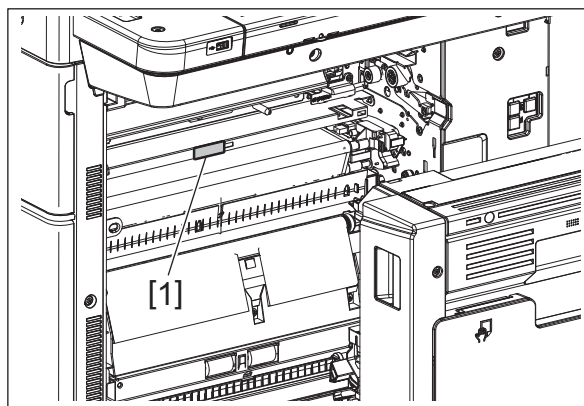


Fig. 7-34

- \* K3: 2nd transfer roller  
Since the bearing [3] is press-fitted in the bushing [1] and [2], be sure to remove it straight so that it does not fall off.

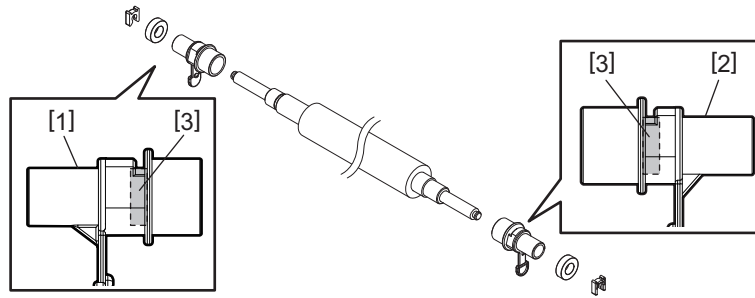


Fig. 7-35

- \* K5: 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.

## 7.6.12 Fuser unit

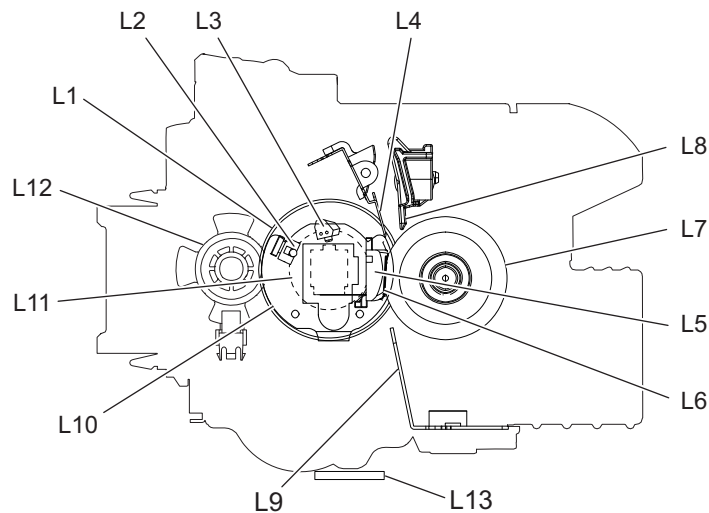


Fig. 7-36

Items to check		Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>
				(x 1,000 sheets)	(x 1,000 drive counts)		
L1	Fuser belt			480/540/600	580/580/569		42-22
L2	Fuser belt thermostat			R3	R3		42-21
L3	Fuser belt center thermistor (center/edge)			R3	R3		42-21
L4	Separation plate	A		R3	R3		41-14
L5	Fuser belt pad			480/540/600	580/580/569		42-44
L6	Fuser belt lubricating sheet			480/540/600	580/580/569		42-21
L7	Pressure roller			480/540/600	580/580/569		42-17
L8	Separation guide	A		R3	R3		41-25
L9	Fuser entry guide	A		R3	R3		43-34
L10	Front fuser belt oil recovery sheet			480/540/600	580/580/569		42-21
L11	Rear fuser belt oil recovery sheet			480/540/600	580/580/569		42-21
L12	Rear fuser gear oil recovery sheet			480/540/600	580/580/569		42-21
L13	Rear fuser cover oil recovery sheet			480/540/600	580/580/569		42-21
L14	Fuser gear shaft		W2	480/540/600	580/580/569		42-2 42-17 43-4
L15	Fuser gear		W2	R3	R3		42-1 42-18 43-1 43-2
L16	Fuser drive gear (on the equipment side)			R3	R3		39-21
L17	Pressure roller contact/ release cam		W2	R3	R3		43-11

\* L1: Fuser belt

When replacing the fuser belt, apply the silicon oil into the fuser belt. For lubrication, refer to P. 4-193 "4.9.7 Fuser belt".

- \* L2: Fuser belt thermostat, L3: Fuser belt thermistor (center/edge)  
Replace the fuser belt unit in its entirety with a new one if a fuser belt thermostat or a fuser belt thermistor has been damaged or deformed.
- \* L4: Separation plate, L8: Separation guide  
If toner adheres to the separation plate or the separation guide, wipe it off with dry cloth.  
Do not take off the separation guide unless otherwise required.
- \* L9: Fuser entry guide  
If toner has adhered, wipe it off with alcohol.
- \* L14: Fuser gear shaft  
When performing preventive maintenance, apply an appropriate amount of white grease (HP-300) to the 6 shafts.

**Notes:**

Do not apply white grease to the shaft [1].

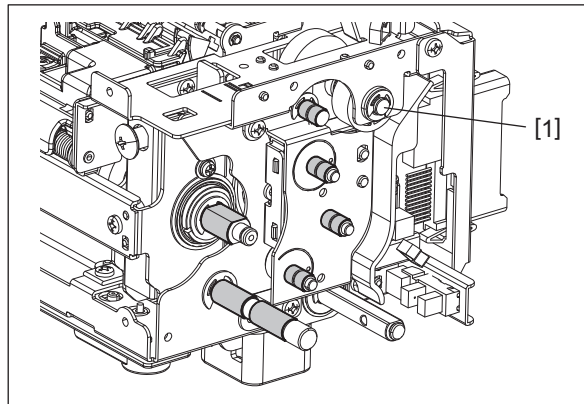


Fig. 7-37

- \* L15: Fuser gear  
When performing preventive maintenance, apply an appropriate amount of white grease (HP-300) to the 6 gears. Moreover, apply grease in the same manner as well as when replacing them with new ones.

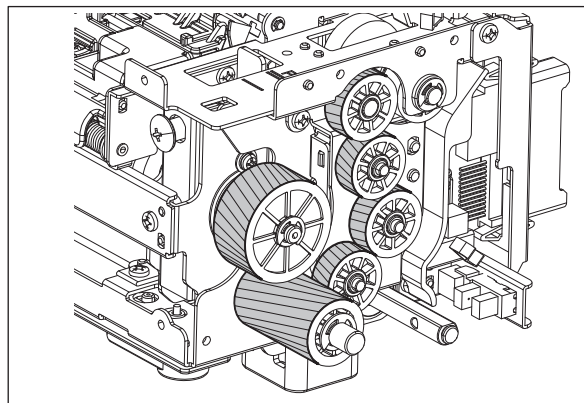


Fig. 7-38



- \* L16: Fuser drive gear (on the equipment side)  
Pay attention not to drop the pin [1] when removing the gear.

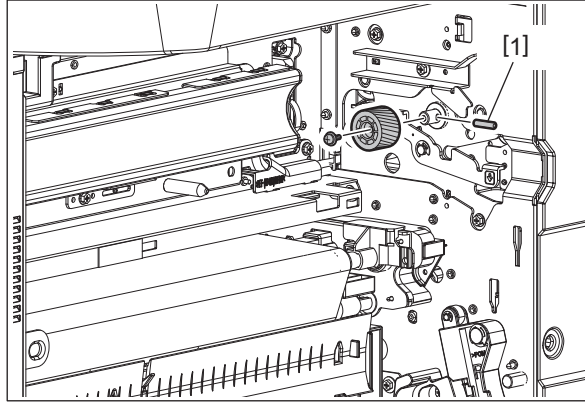


Fig. 7-39

- \* L17: Pressure roller contact/release cam  
When performing preventive maintenance, apply an appropriate amount of white grease (Molykote HP-300) to the 2 cams. Moreover, apply grease in the same manner as well as when replacing them with new ones.

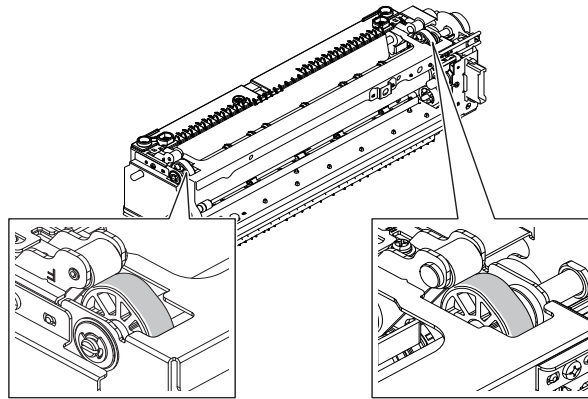


Fig. 7-40

## 7.6.13 Bridge unit

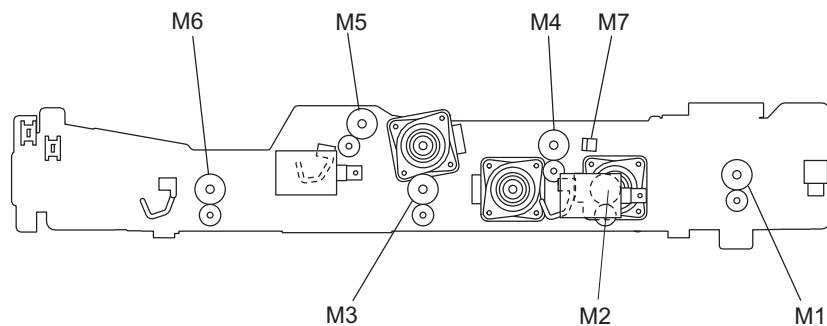


Fig. 7-41

Items to check	Cleaning	Lubrica tion/ 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
M7	Reverse sensor	A				26-25

## 7.6.14 Paper exit unit

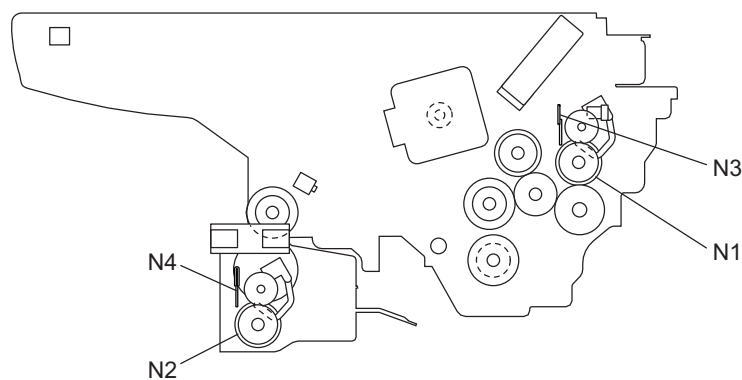


Fig. 7-42

Items to check	Cleaning	Lubrica tion/ 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
N3	Upper discharge brush	A	R3	R3		36-17
N4	Lower discharge brush	A	R3	R3		35-29

\* N3: Upper discharge brush, N4: Lower discharge brush  
Replace the discharge brush with a new one if its bristles do not touch the output paper.

## 7.6.15 DSDF

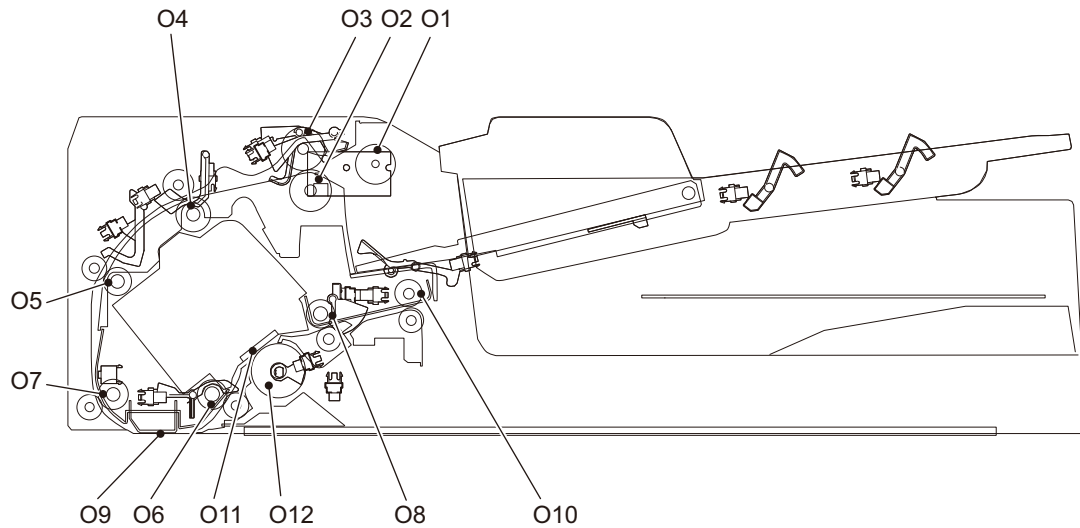


Fig. 7-43

Items to check		Cleaning	Lubrica tion/ Coating	Replacement		Operation check	Parts list <P-I>*1
				(x 1,000 sheets)	(x 1,000 drive counts)		
O1	DSDF pickup roller	A		120	-		81-18
O2	DSDF separation roller	A		120	-		85-21
O3	DSDF feed roller	A		120	-		81-14
O4	DSDF registration roller	A					87-14
O5	Pre-read roller-1	A					87-13
O6	Pre-read roller-2	A					94-21
O7	Post-read roller-1	A					94-12
O8	Post-read roller-2	A					91-15
O9	Reading guide	A					95-3
O10	DSDF exit roller	A					91-12
O11	DSDF-CCD original glass	B					85-22
O12	Shading plate	A		R3	R3		92-14

## 7.6.16 LCF (MP-2502)

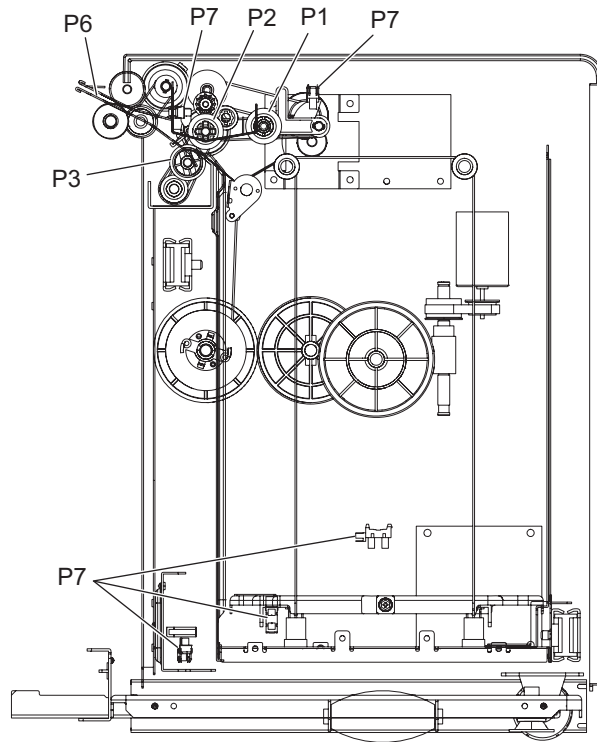


Fig. 7-44

Items to check		Cleaning	Lubrica- tion/ Coating	Replacement		Operation check	Parts list <P-I>*1
				(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				
P6	Paper path section	B					-
P7	Sensor section	B					2-3

\*1: Parts list <P-I> represents the page item in "MP-2502 Service Parts List".

## 7.6.17 Finisher (MJ-1111/1112)

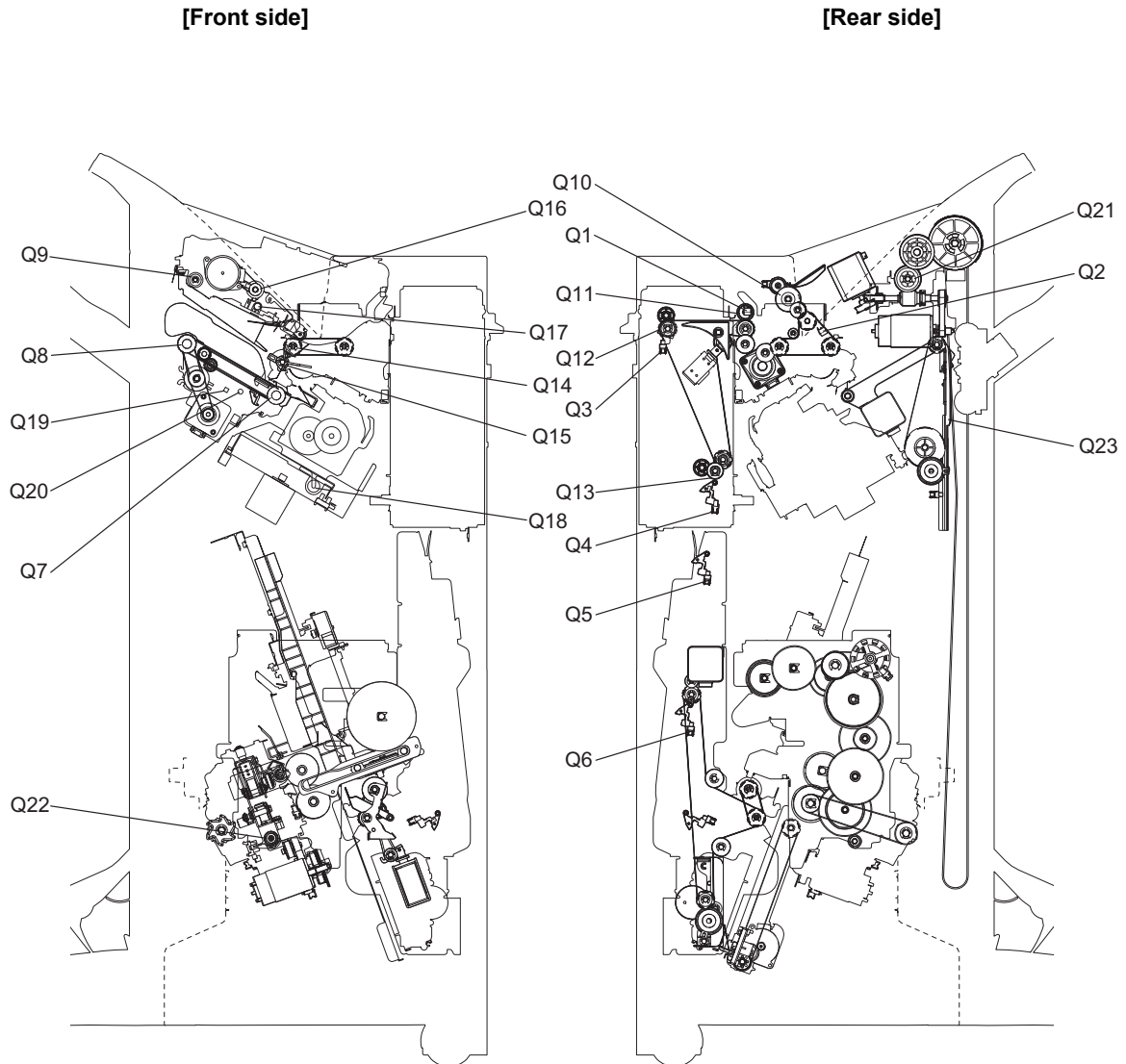


Fig. 7-45

Items to check		Cleaning	Lubrication	Replacement (x1,000)	Operation check	Parts list (P-I) <sup>*1</sup>
Q1	Entrance sensor (S1)	A				7-39
Q2	Transport sensor (S2)	A				7-39
Q3	Feeding sensor (S22)	A				16-8
Q4	Junction box paper detection sensor (S26)	A				16-8
Q5	Transport path-2 sensor (S27)	A				28-2
Q6	Transport path-3 sensor (S28)	A				28-2
Q7	Stack transport roller-1	A				10-18
Q8	Stack transport roller-2	A				10-16
Q9	Buffer roller	A				9-43
Q10	Exit roller	A				7-46
Q11	Entrance roller and idle roller	A				5-7 7-24
Q12	Feed roller and idle roller	A				16-14 16-12
Q13	Junction roller and idle roller	A				16-60 16-12
Q14	Transport roller	A				6-5
Q15	Paddle			R1 1,000		6-12 6-15 6-17
Q16	Front assist guide cam/ Rear assist guide cam		C			9-28 9-29
Q17	Buffer roller link		W1			9-46
Q18	Shaft		W1			11-10
Q19	Buffer tray shaft		W1			9-44
Q20	Pinch roller shaft		W1			9-11
Q21	Buffer roller shaft		W1			9-42
Q22	Stapler carrier shaft		W1			11-10
Q23	Rack gear (Aligning plate)		W1			10-8 10-13
Q24	Finishing tray shaft		W1			10-7
Q25	Movable tray drive gear		W1			12-59
Q26	Additional folding unit carrier shaft [MJ-1112]		W1			-
Q27	Grate-shaped guide	A	C			4-21 4-36

\*1: Parts list <P-I> represents the page item in "MJ-1111/1112 Service Parts List".

- \* Q16: Front assist guide cam/Rear assist guide cam  
Apply coating material (SANKOL CFD-409M) by using a cleaning brush to the portion on the guide with which the all around the assist guide cam [1].
  - \* Use a cleaning brush (4407915710 BRUSH-33) because cloth contaminated with the coating material shall be treated as industrial waste.
  - \* Do not apply coating material (Molykote PD-910) to the rubber section of the grate-shaped tray.
  - \* When coating material adheres to the skin, rinse it well with water.
  - \* The brush with which the coating agent (SANKOL CFD-409M) was applied must be exclusive for coating. Do not use it to clean other areas.
  
- \* Q17: Buffer roller link  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire buffer roller link [2].
  
- \* Q18: Shaft  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire shaft [3].

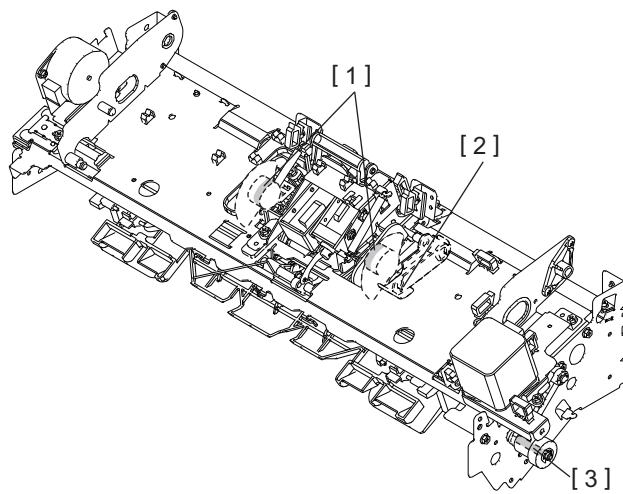


Fig. 7-46

- \* Q19: Buffer tray shaft  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire buffer tray shaft [1].
- \* Q20: Pinch roller shaft  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire pinch roller shaft [2].
- \* Q21: Buffer roller shaft  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire buffer roller shaft [3].

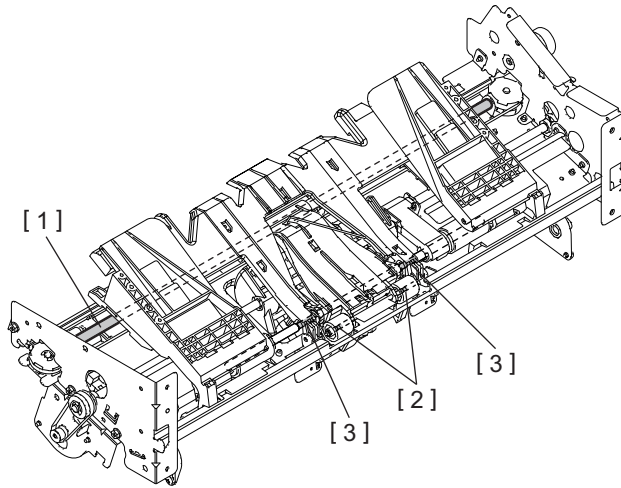


Fig. 7-47

- \* Q22: Stapler carrier shaft  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire stapler carrier shaft [1].

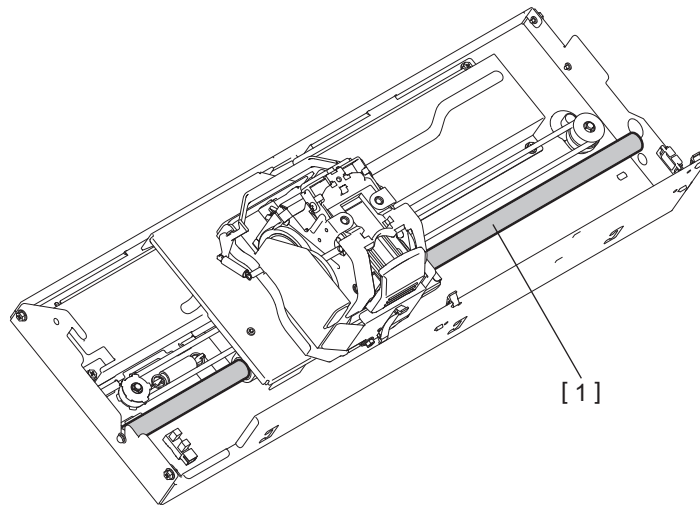


Fig. 7-48



- \* Q23: Rack gear (Aligning plate), \*Q24: Finishing tray shaft
  1. Take off the junction box unit.
    - \* If the hole punch unit is installed, take it off beforehand.
  2. Apply oil as follows through the opening which shows up when the junction box unit has been removed.
 

Apply an adequate amount of white grease (Molykote EM-30L) to the gear teeth of the rack gear [1] which drive the aligning plate, and the entire finishing tray shaft [2].

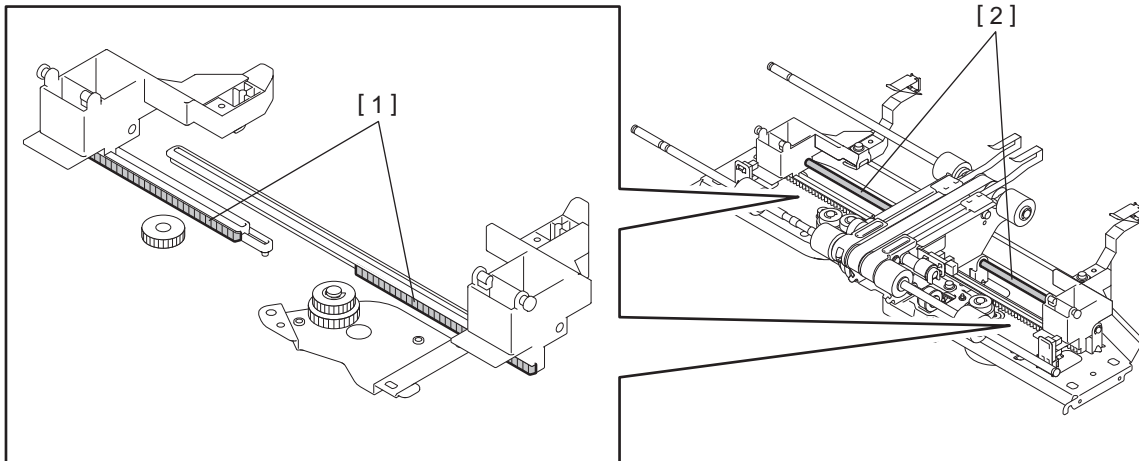


Fig. 7-49

- \* Q25: Movable tray drive gear
 

Apply an adequate amount of white grease (Molykote HP-300) to the gear teeth of the movable tray drive gear [1].

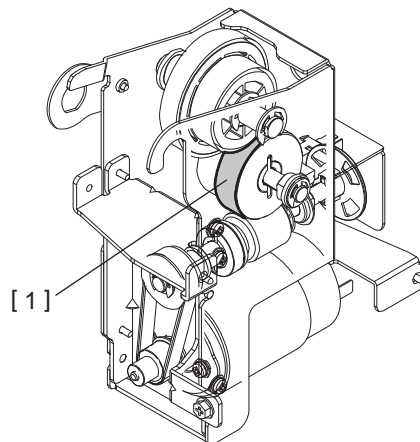


Fig. 7-50

- \* Q26: Additional folding unit carrier shaft (MJ-1112)  
Apply an adequate amount of white grease (Molykote EM-30L) to the entire Additional folding unit carrier shaft [1].

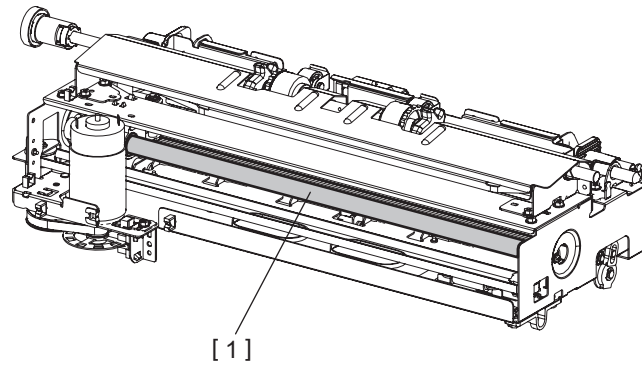


Fig. 7-51

\* Q27: Grate-shaped guide

When an abnormal noise occurs in the grate-shaped guide or the trailing edge of the paper stacked on the tray is dirty, apply coating material (SANKOL CFD-409M) by using a cleaning brush to the portion on the guide with which the paper edge is in contact.

- \* Use a cleaning brush (4407915710 BRUSH-33) because cloth contaminated with the coating material shall be treated as industrial waste.
- \* Do not apply coating material (Molykote PD-910) to the rubber section of the grate-shaped tray.
- \* When coating material adheres to the skin, rinse it well with water.
- \* The brush with which the coating agent (SANKOL CFD-409M) was applied must be exclusive for coating. Do not use it to clean other areas.

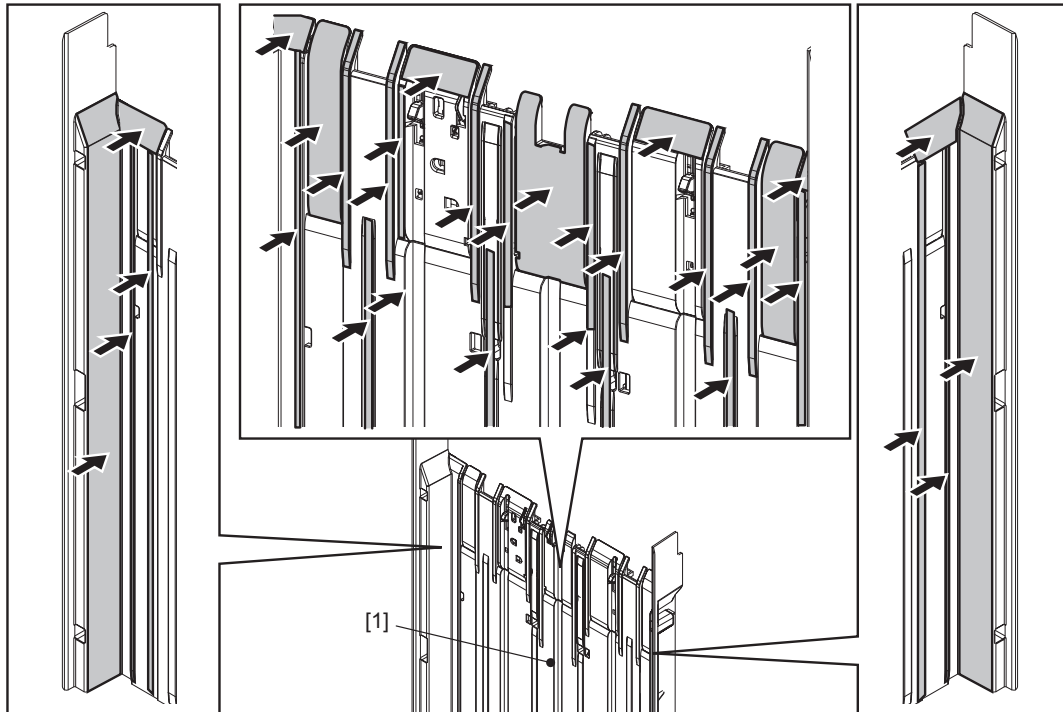


Fig. 7-52

## 7.6.18 Hole punch unit (MJ-6106)

Items to check*1		Cleaning	Lubrication*2	Replacement (x1,000)	Operation check	Parts list (P-I)*3
1	Transport roller	A			O	1-29
2	Sensors	B				1-13 1-16
3	Drive gears		W1		O	
4	Punched scrap container	Dispose of the punched paper bits.				2-7
5	Punching unit*4			R3 1000		3-1

\*1: Perform maintenance in the timing of preventive maintenance of the equipment.

\*2: Be careful not to put oil on the rollers, belts and belt pulleys when lubricating.

\*3: Parts list <P-I> represents the page item in "MJ-6106 Service Parts List".

\*4: This unit may require replacement once or more over the period of machine warranty because of deterioration or damage. Replace them as needed.

## 7.7 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. Fuser belt  
The oil co-packed with the fuser belt and PM kits should be stored in a special container to keep it in a stable condition. Do not transfer it into another container.
6. Fuser unit  
The oil inside the fuser unit may leak when it is tilted. Therefore, keep the fuser unit in a horizontal position when it is being stored or during transportation.
7. Paper/Envelope  
Avoid storing copy paper and envelope 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.

## 7.8 PM KIT

A PM kit is a package for each unit of replacement parts requiring PM

KIT name	Component	Qty.	Parts list <P-I>*1
EPU-KIT-FC556-G	Needle electrode	1	64-13
	Main charger grid	1	64-17
	Needle electrode cleaner	1	64-16
	Drum cleaning blade	1	63-21
EPU-KIT-FC556-S (75ppm: K)	Needle electrode	1	64-13
	Main charger grid	1	64-17
	Needle electrode cleaner	1	64-16
	Drum cleaning blade	1	63-21
TBU-KIT-FC556	2nd transfer facing roller cleaning pad	1	30-51
	Transfer belt cleaning blade	1	34-1
	Transfer belt cleaner side seal (front)	1	34-18
	Transfer belt cleaner side seal (rear)	1	34-22
FLTR-KIT-FC556	Toner filter	1	49-25
	Ozone filter 1	1	49-34
	Ozone filter 2	1	49-3
	VOC filter	1	49-4
FR-KIT-FC556-FU	Fuser belt	1	42-22
	Pressure roller	1	42-17
	Fuser belt pad	1	42-44
	Fuser belt lubricating sheet	1	42-21
	Front fuser belt oil recovery sheet	1	42-21
	Rear fuser belt oil recovery sheet	1	42-21
	Rear fuser gear oil recovery sheet	1	42-21
	Rear fuser cover oil recovery sheet	1	42-21
	Silicon oil	1	-
ROL-KIT-FC75	Pickup roller	1	11-36
	Feed roller	1	11-36
	Separation roller	1	11-35
KIT-ROL-DSDf	Pickup roller	1	81-18
	Feed roller	1	81-14
	Separation roller	1	85-21
ROL-KIT-FC75-U (for Tandem LCF)	Pickup roller	1	11-36
	Feed roller	1	11-101
	Separation roller	1	11-35
ROL-KIT-MP2502-U (for MP-2502)	Pickup roller	2	5-46
	Feed roller	1	4-2
	Separation roller	1	4-3

\*1: Part list <P-I> represents the page item in "e-STUDIO5506AC/6506AC/7506AC Service Parts List".

## 7.9 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	Cleaning the doctor blade	201-2
3	Wire holder jig	Fixing the wire at the assembly of the carriage wire	201-3
4	DSDF positioning pin	Determining the position of the DSDF	201-4
5	Doctor-sleeve jig	Measuring the gap between the development sleeve and the doctor blade	201-5
6	Belt tension jig	Adjusting the belt tension at the installation of the scan motor	201-6
7	Separation plate gap adjustment jig	For adjusting the gap between the fuser belt and separation plate (gauge 0.50, 0.55, 0.60)	201-7
8	Separation plate gap adjustment jig	For adjusting the gap between the fuser belt and separation plate (gauge 0.30, 0.60, 0.80)	201-8
9	Drum bag	Storing the drum	201-9
10	Toner seal plate	Preventing foreign matter from entering into the toner supply opening (for transporting the unpacked equipment)	201-10
11	Patting powder	For transfer belt	201-11
12	Color test chart (TCC-2)	For test print (A4/LT)	201-12
13	Color test chart	For test print (A3/LD)	201-13
14	DSDF stopper jig	Pressing the DSDF to prevent it from becoming open	201-14
15	Separation guide gap adjustment jig	For adjusting the gap between the pressure roller and separation guide	201-15

\*1: Part list <P-I> represents the page item in "e-STUDIO5506AC/6506AC/7506AC Service Parts List".

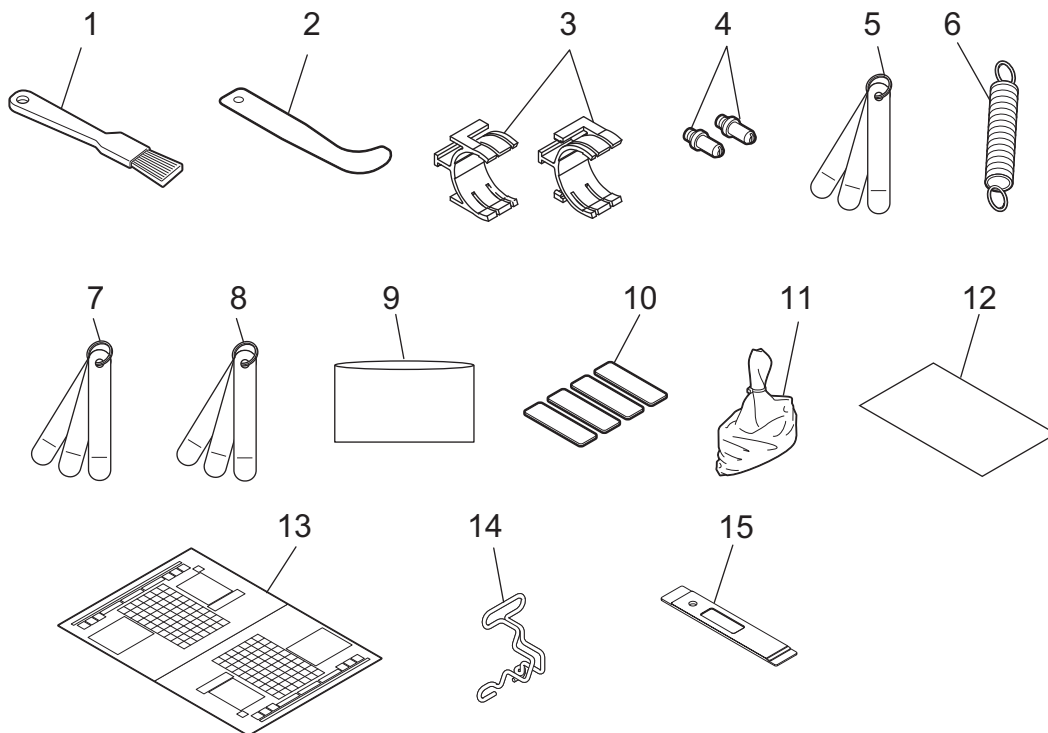


Fig. 7-53

## 7.9.1 How to attach the DSDF stopper jig

- (1) Take off the DSDF front cover.  
P. 4-288 "4.11.8 DSDF front cover"
- (2) Take off the front top cover.  
P. 4-3 "4.1.6 Front top cover (Control panel top cover)"
- (3) Install the stopper jig.

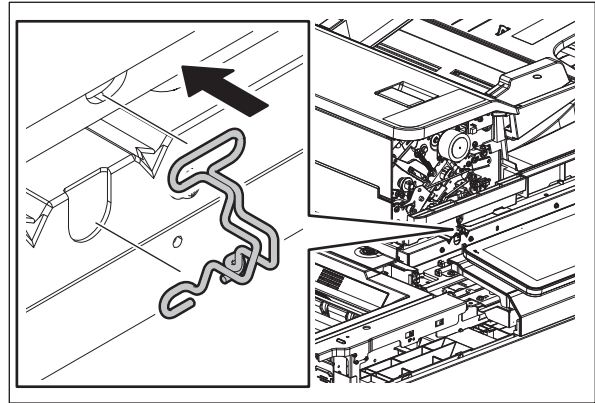


Fig. 7-54

### Tips:

1. Insert the upper side of the stopper jig into the hole of the DSDF.

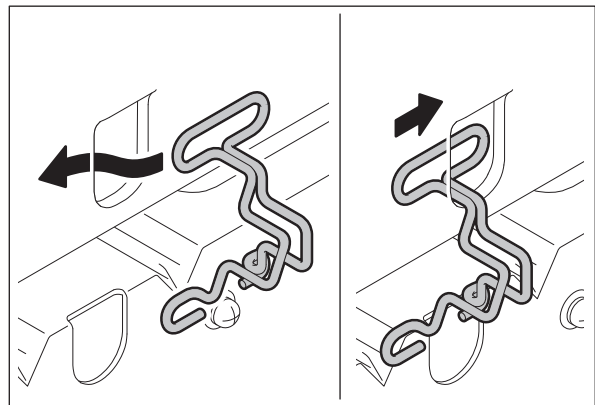


Fig. 7-55

2. Hold the stopper jig and insert its lower side into the hole on the frame of the equipment.

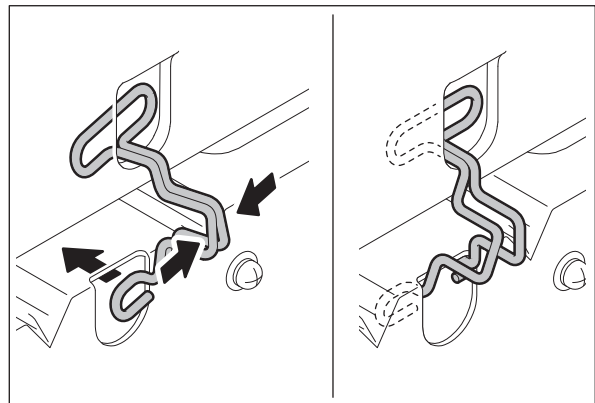


Fig. 7-56



## 7.10 Grease List

The parts used for the maintenance of this equipment are as follows.

Symbol	Grease name	Type	Color	Volume	Container	Parts list <P-I>*
L	Launa 40	Lubricating oil	Yellow or transparent	100 cc	Oiler	201-101
W1	White grease (Molykote EM-30L)	Grease	White	100 g	Tube	201-102
W2	White grease (Molykote HP-300)	Heat-resisting grease	White	10 g	Bottle	201-103
AV	Alvania No.2	Grease	Amber	100 g	Tube	201-104
FL	Floil (GE-334C)	Conductive grease	Black	20 g	Bottle	201-105
C	SANKOL CFD-409M	Coating material	Transparent	90 g	Bottle	51-11 (MJ-1111/1112)

\* Part list <P-I> represents the page item in "e-STUDIO5506AC/6506AC/7506AC Service Parts List" and "MJ-1111/1112 Service Parts List".

## 7.11 Machine Refreshing Checklist

Symbols/value used in the checklist

Item	Description
Cleaning	<b>A:</b> Clean with alcohol <b>B:</b> Clean with soft pad, cloth or vacuum cleaner
Lubrication/ Coating	<b>W1:</b> White grease (Molykote EM-30L) <b>W2:</b> White grease (Molykote HP-300)
Replacement	<b>Value:</b> Replacement cycle <b>R1:</b> Replacement <b>R2:</b> For preventive maintenance, check if the parts are damaged and replace them as required. If the parts are not replaced at the machine refreshing interval, inspect them at the subsequent PM. <b>R3:</b> Replace if deformed or damaged. If the parts are not replaced at the machine refreshing interval, inspect them at the subsequent PM. <b>R4:</b> Lubrication recommended: If the parts are not lubricated at the machine refreshing interval, inspect their lubrication status at the subsequent PM.
Operation check	<b>O:</b> After cleaning or replacement, confirm there is no problem.

### Notes:

- When performing machine refreshment, check the items in the preventive maintenance checklist in addition to the items in the machine refreshing checklist.
- Perform cleaning and lubricating in the following timing. Lubricate the replacement parts according to the replacement cycle.

Model	Replacement cycle
55ppm	960,000 sheets
65ppm	1,080,000 sheets
75ppm	1,200,000 sheets

- 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.
- The replacement cycle of the parts in the feeding section equals to the number of sheets fed from each paper source.
- Be careful not to put oil on the rollers, belts and belt pulleys when lubricating.
- Parts list <P-I> represents the page item in “e-STUDIO5506AC/6506AC/7506AC Service Parts List”.

Items to check	Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P-I>
			(x 1,000 sheets)	(x 1,000 drive counts)		
1 K-Drum and developer drive unit (K)		W1	R4	R4		
2 Color Drum and developer drive unit (YMC)		W1	R4	R4		
3 Transfer belt drive unit		W1	R4	R4		
4 Fuser drive unit		W1	R4	R4		
5 Felt (fuser unit)			R3	R3		41-3
B4 Transport roller			R3	R3		11-22
B9 Registration roller			R3	R3		10-1
B14 Transport roller (Tandem LCF)			R3	R3		11-22

Items to check		Cleaning	Lubrication/ Coating	Replacement		Operation check	Parts list <P->
				(x 1,000 sheets)	(x 1,000 drive counts)		
C1	ADU transport roller 1			R3	R3		18-6
C2	ADU transport roller 2			R3	R3		18-5
C3	ADU transport roller 3			R3	R3		18-7
C4	Duplexing bridge transport roller			R3	R3		20-12
D7	Transport roller			R3	R3		15-8
I1	Transfer belt	A		R2	R2		31-33
I2	1st transfer roller	B		R2	R2		30-58 31-23
I3	Cleaning facing roller	A		R3	R3		31-16
I4	2nd transfer facing roller	A		R2	R2		30-34
I6	Tension roller	A		R3	R3		33-11
I7	Idling roller	A		R3	R3		30-55
I9	Recovery blade			R3	R3		34-17
J1	Sensor shutter			R3	R3		6-28
J2	Image position aligning sensor (front)			R3	R3		6-5
J3	Image position aligning/ image quality sensor (center)			R3	R3		6-5
J4	Image position aligning sensor (rear)			R3	R3		6-5
K4	Registration roller			R3	R3		21-28
L2	Fuser belt thermostat			R3	R3		42-21
L3	Fuser belt thermistor (edge/center)			R3	R3		42-21
L14	Fuser gear shaft		W2				42-2 42-17 43-4
L15	Fuser gear		W2	R3	R3		42-1 42-18 43-1 43-2
L16	Fuser drive gear (on the equipment side)			R3	R3		39-21
L17	Pressure roller contact/ release cam		W2	R3	R3		43-11

\*4: Fuser drive unit

For lubrication, refer to  P. 4-214 "4.9.19 Pressure roller contact/release motor (M48)".



## 8. ERROR CODE and TROUBLESHOOTING

### 8.1 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 "8.2 Error Code List" to figure out the classification and contents of the error, and then refer to "8.3 Diagnosis 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 "8.4 Other errors" or "8.5 Troubleshooting for the Image" to remove its cause.

The cause of a trouble in the equipment may be a minor failure. Check the items below first.

1. Is there any problem with the power cable?

\* Check if the power cable is inserted securely. When it is almost removed or not inserted securely, power voltage may become unstable, causing a trouble in the equipment.


2. Are the connectors connected securely?

\* Reconnect them securely. Even if they are apparently inserted, there may be a contact failure. Carefully check if the connection is secured especially after the disassembly or replacement of parts.

#### Notes:

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. 9-20 "9.2 Precautions, Procedures and Settings for Replacing PC Boards and HDD".

#### 8.1.1 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.

FS-30-300: All CSV files

B. Enter the value given below to obtain a List Print by printing it out.

FS-30-101: 05 code

FS-30-102: 08 code

FS-30-104: Pixel counter data (Toner cartridge standard)

FS-30-106: Error history (1000 cases max)

FS-30-108: Firmware update log (200 cases max)

FS-30-110: 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.

## 8.1.2 Collection of debug logs with a USB device

### [ 1 ] General description

The purpose of collecting the debug logs is to acquire the information for analyzing problems which occurred during the MFP's operation. In such a case, you can collect the debug logs by inserting a USB device into the MFP. Even if the power has to be turned OFF with the main power switch after a problem occurs, the debug logs will be saved in the MFP (up to 3 logs). If the debug logs have already been saved in the MFP, they also can be collected.

The following information is included in the USB debug logs.

Internal operation, Job history, HDD/memory usage status, etc. (Personal/Corporate information (address book) not included)

When the debug logs are collected, also do so for the following information since it may be difficult to investigate only using the debug log.

- List print mode [FS-30-300: All CSV files]
- Job logs below in TopAccess → [Logs] → [Export Logs]
  - Print Job Log Export
  - Fax Transmission Journal Export
  - Fax Reception Journal Export
  - Scan Log Export
  - Messages Log Export
- Problem occurrence time
  - Or the time when the customer called if it is difficult to work out when it occurred.
- Status of when you collected the debug log
  - As in the example below, check the status to know if the problem occurred at the debug log collection or how the customer recovered it.
  - E.g.
    - You checked the problem and connected a USB device to the equipment.
    - No problem occurred when an attempt to collect the debug log was made; however the customer did turn the main power switch OFF when the problem occurred, so the log can be collected.

### [ 2 ] Collection procedure

1. Note
  - When collecting a log, be sure to obtain consent from the user in advance and get the dedicated script file from the service center.
2. About USB devices
  - Be sure to format the USB device with FAT16/32 beforehand. (Recommend size: 2GB or more)
3. Advance preparation of collection
  - Store the dedicated script file to the root directory of the USB device.
4. Procedure for collecting debug logs
  - (1) Insert the USB device, in which the dedicated script file is stored, into the MFP while the power is ON.
    - After the USB device is inserted into the MFP, the screen will change.
  - (2) Select [Basic Debug Logs], [All Debug Logs] or [9S-300CSV Print Job List] and then press the [START] button.
    - [9S-300CSV Print Job List] can be selected together with [Basic Debug Logs] or [All Debug Logs].
    - The log collection of [All Debug Logs] will start automatically if no operation is made for 30 seconds after the screen has been changed.
    - The LED of the MFP starts blinking when the log collection has begun.
    - The panel display will be changed during the log collection depending on the conditions of the MFP. However, the log collection will continue as long as the LED is blinking.
  - (3) When the log collection is finished, the beeping is heard. After the beeping has stopped, remove the USB device.
    - The MFP will reboot automatically in 10 seconds after a beeping sound.

- If this has not been done automatically after 30 seconds have passed, reboot the MFP manually.

**Notes:**

- Do not remove the USB device while the LED in the MFP is blinking.
- If the LED does not start blinking after the USB device is inserted and a few minutes have passed, try the procedure from step (1) again.
- If there is no beeping after the LED starts blinking (about 20 minutes), try procedure from step (1) again.
- If the USB device is inserted when the MFP is not ready, the debug logs cannot be collected.

5. Collected debug logs

- When the collection of the debug logs is completed, the compressed file of the collected logs is stored in the root directory of the USB device.

File name:

XXXX.YYYYMMDDHHmmSS	(for basic version and all version)
XXXX.YYYYMMDDHHmmSS.Defunct	(for all version)
XXXX.YYYYMMDDHHmmSS.PowerOff	(for all version)
XXXX.YYYYMMDDHHmmSS_9S300	(for "3. 9S300 csv files, Print job list")
XXXX.YYYYMMDDHHmmSS_JobLis	(for "3. 9S300 csv files, Print job list")
XXXX.YYYYMMDDHHmmSS.USBLog	(for basic version, all version and "3. 9S300 csv files, Print job list")
md5sum.txt	(for basic version, all version and "3. 9S300 csv files, Print job list")

(XXXX= Serial number of the equipment, YYYY= year, MM= month, DD= day, HH= hour, mm= minute, SS= second)

- After the debug logs have been collected, be sure to send them to the service center together with a report.

### 8.1.3 Traceability label

A traceability label on which a management No. at the manufacturing has been printed is attached to some units. If a problem occurs in a unit, report it to the appropriate Toshiba service center along with the traceability label information to help them to understand it.

#### [ 1 ] Management No.

A management No. consists of 13 digits with letters of the alphabet and numbers. The following shows the meaning of each block.

From the 1st to 4th digits: Classification

From the 5th to 10th digits: Production date

From the 11th to 13th digits: Sequential numbers

Classification				Production date						Sequential numbers			
1	2	3	4	5	6	7	8	9	10	11	12	13	(digits)
1	2	2	4	1	2	3	4	5	6	1	2	3	

#### [ 2 ] Applicable units

A traceability label is attached to the following units.

No.	Unit	Remarks
1	Reversing Automatic Document Feeder (DSDF)	
2	Fuser Unit	
3	Transfer belt unit (TBU)	
4	Laser optical unit	
5	EPU tray	
6	Drum cleaner unit	
7	Main charger unit	
8	Developer unit	
9	Switching regulator	



### [ 3 ] Label attachment position

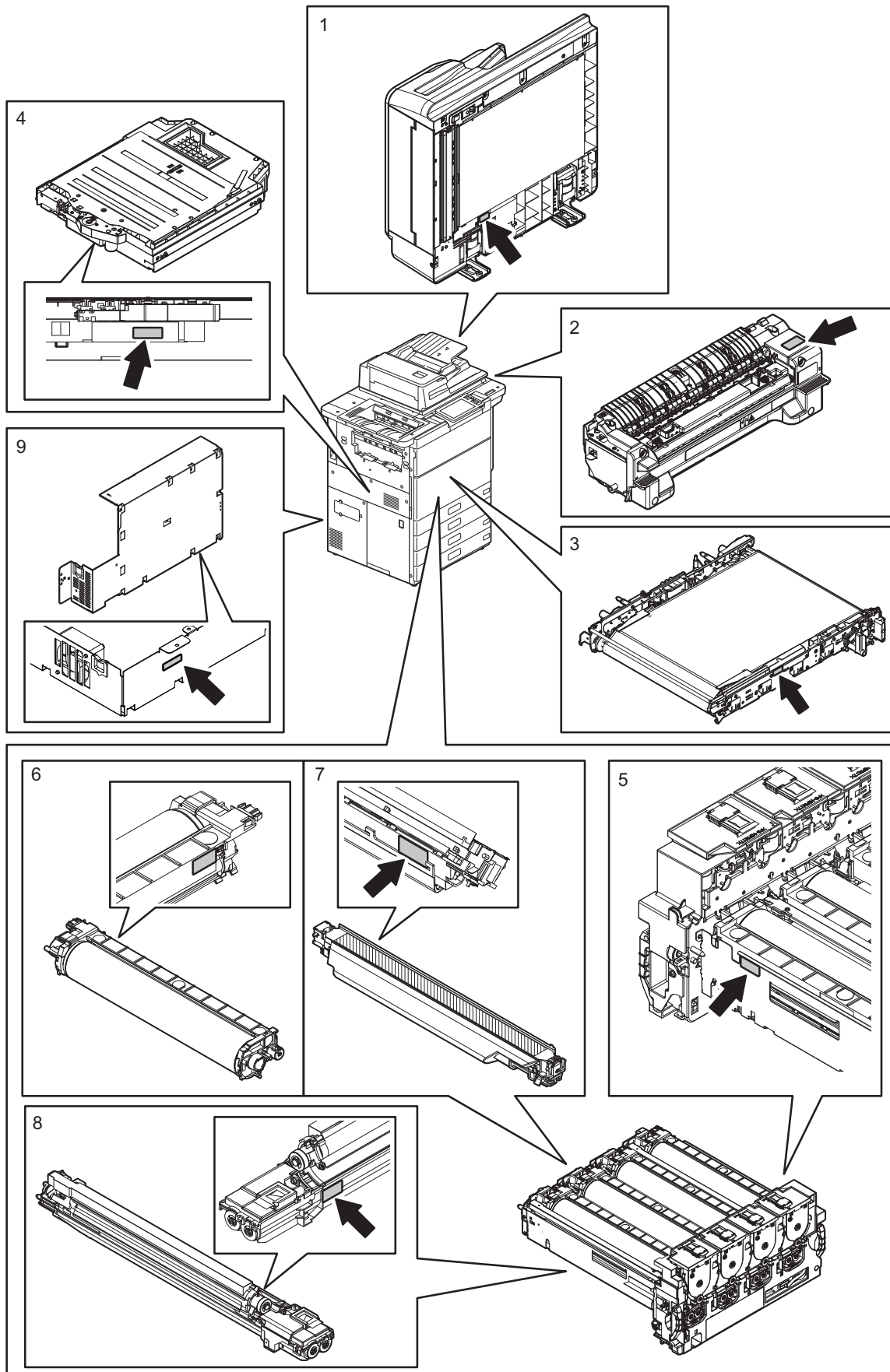


Fig.8-1

## 8.2 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.

### Remarks:

Elision character of the “Error code display media”

Panel: Operation panel

JLog: Job Log (TopAccess Print Log - Scan Log)

ML: Message Log (TopAccess Message Log)

Noti: Notification

CSV: CSV output (List print)

Y: Yes

2nd: An error status has been detected twice (= error code has been determined)

### 8.2.1 Jam

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panel	JL	ML	Noti	CSV	
E010	Paper exit jam	Paper Ejection Jam - Please Clear Paper Path.	Jam not reaching the fuser transport sensor The paper which has passed through the fuser unit does not reach the fuser transport sensor.	-	-	Y	Y	-	P. 8-101
E011	Other paper jam	Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-117
E020	Paper transport jam	Paper Ejection Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-102
E030	Other paper jam	Paper Jam in Printer - Please Clear Paper Path.	Power-ON jam: The paper is remaining on the paper transport path when power is turned ON.	-	-	Y	Y	-	P. 8-118

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				PanI	JL	ML	Noti	CSV	
E061	Other paper jam	Paper Jam in Printer - Please Clear Paper Path.	Incorrect paper size setting for 1st drawer: The size of paper in the 1st drawer differs from size setting of the equipment.	-	-	Y	Y	-	P. 8-119
E062		Paper Jam in Printer - Please Clear Paper Path.	Incorrect paper size setting for 2nd drawer: The size of paper in the 2nd drawer differs from size setting of the equipment.	-	-	Y	Y	-	P. 8-119
E063		Paper Jam in Printer - Please Clear Paper Path.	Incorrect paper size setting for 3rd drawer: The size of paper in the 3rd drawer differs from size setting of the equipment.	-	-	Y	Y	-	P. 8-119
E064		Paper Jam in Printer - Please Clear Paper Path.	Incorrect paper size setting for 4th drawer: The size of paper in the 4th drawer differs from size setting of the equipment.	-	-	Y	Y	-	P. 8-119
E065		Paper Jam in Printer - Please Clear Paper Path.	Incorrect paper size setting for bypass tray: The size of paper in the bypass tray differs from size setting of the equipment.	-	-	Y	Y	-	P. 8-119
E090		Paper Jam in Printer - Please Clear Paper Path.	Image data delay jam: Image data to be printed cannot be prepared.	-	-	Y	Y	-	P. 8-120
E091		Paper Jam in Printer - Please Clear Paper Path.	Motor-ON time-out jam: The equipment does not operate normally because abnormality occurred on an interface between the SYS board and engine firmware.	-	-	Y	Y	-	P. 8-120
E0A0		Paper Jam in Printer - Please Clear Paper Path.	Image transport ready time-out jam: Image data to be printed cannot be sent.	-	-	Y	Y	-	P. 8-121

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
E110	Paper misfeeding	Paper Insertion Jam - Please Clear Paper Path.	ADU misfeeding (Paper not reaching the registration sensor): The paper which has passed through ADU does not reach the registration sensor during duplex printing.	-	-	Y	Y	-	P. 8-96
E120		Paper Insertion Jam - Please Clear Paper Path.	Bypass misfeeding (Paper not reaching the bypass feed sensor): Paper fed from the bypass tray does not reach the bypass feed sensor.	-	-	Y	Y	-	P. 8-96
E130		Paper Insertion Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-97
E140		Paper Insertion Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-98
E150		Paper Insertion Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-98

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E160	Paper misfeeding	Paper Insertion Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-99
E180		Paper Insertion Jam - Please Clear Paper Path.	Option LCF misfeeding (Paper not reaching the LCF feed sensor): Paper fed from the LCF does not reach the LCF feed sensor.	-	-	Y	Y	-	P. 8-99
E190		Paper Insertion Jam - Please Clear Paper Path.	Tandem LCF misfeeding (Paper not reaching the LCF feed sensor): The paper fed from the LCF does not reach the LCF feed sensor.	-	-	Y	Y	-	P. 8-100
E200	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103
E210		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E220	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	2nd drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.	-	-	Y	Y	-	P. 8-104
E230		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-104
E240		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-105
E260		Paper Jam in Printer - Please Clear Paper Path.	Option LCF transport jam (Paper not reaching the registration sensor):	-	-	Y	Y	-	P. 8-106
E270		Paper Insertion Jam - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103
E290		Paper Jam in Printer - Please Clear Paper Path.	Option LCF transport jam: Paper fed from the Option LCF does not reach the 1st drawer transport sensor.	-	-	Y	Y	-	P. 8-106
E2B0		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (1st drawer)	-	-	Y	Y	-	P. 8-114

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
E2B1	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (2nd drawer)	-	-	Y	Y	-	P. 8-114
E2B2		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (3rd drawer)	-	-	Y	Y	-	P. 8-114
E2B3		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (4th drawer)	-	-	Y	Y	-	P. 8-114
E2B4		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (Bypass tray)	-	-	Y	Y	-	P. 8-114
E2B5		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (Tandem LCF)	-	-	Y	Y	-	P. 8-114
E2B6		Paper Jam in Automatic Duplexing Unit - Please Clear Paper Path.	Stop jam at the registration sensor (ADU)	-	-	Y	Y	-	P. 8-114
E2B7		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the registration sensor (Option LCF)	-	-	Y	Y	-	P. 8-114
E300	Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103	
E310			3rd drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.	-	-	Y	Y	-	P. 8-104
E320				3rd drawer transport jam (Paper not reaching the 2nd drawer feed sensor): The paper does not reach the 2nd drawer transport sensor after it has passed the 3rd drawer feed sensor.	-	-	Y	Y	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
E330	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103
E340		Paper Jam in Printer - Please Clear Paper Path.	4th drawer transport jam (Paper not reaching the 1st drawer feed sensor): The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.	-	-	Y	Y	-	P. 8-104
E350		Paper Jam in Printer - Please Clear Paper Path.	4th drawer transport jam (Paper not reaching the 2nd drawer feed sensor): The paper does not reach the 2nd drawer transport sensor after it has passed the 3rd drawer feed sensor.	-	-	Y	Y	-	P. 8-107
E360		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-108
E370		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-108



Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E380	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-109
E3C0		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-103
E3D0		Paper Jam in Printer - Please Clear Paper Path.	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 transport sensor.	-	-	Y	Y	-	P. 8-104
E3E0		Paper Jam in Printer - Please Clear Paper Path.	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 transport sensor.	-	-	Y	Y	-	P. 8-107
E3F0		Paper Jam in Printer - Please Clear Paper Path.	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.	-	-	Y	Y	-	P. 8-110
E400	Cover open jam	Paper Jam in Printer - Please Clear Paper Path.	Duplexing unit open jam	-	-	Y	Y	-	P. 8-125

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E430	Cover open jam	Paper Jam in Printer - Please Clear Paper Path.	ADU open jam: The ADU has opened during printing.	-	-	Y	Y	-	P. 8-125
E440		Paper Jam in Printer - Please Clear Paper Path.	Paper feed cover open jam: The paper feed cover has opened during printing.	-	-	Y	Y	-	P. 8-126
E450		Paper Jam in Printer - Please Clear Paper Path.	Optional LCF open jam: The optional LCF has been disconnected from the equipment during printing.	-	-	Y	Y	-	P. 8-126
E480		Paper Jam in Printer - Please Clear Paper Path.	Bridge unit open jam: The bridge unit has opened during printing.	-	-	Y	Y	-	P. 8-127
E4A0		Paper Jam in Printer - Please Clear Paper Path.	Waste toner cover open jam (printing)	-	-	Y	Y	-	P. 8-127
E4B0		Paper Jam in Printer - Please Clear Paper Path.	Reverse path cover open jam (printing): The reverse path cover has opened during printing.	-	-	Y	Y	-	P. 8-127
E510	Paper transport jam (ADU section)	Paper Jam in Automatic Duplexing Unit - Please Clear Paper Path.	ADU transport jam: The paper does not reach the reverse path sensor after it is switchbacked in the reverse section.	-	-	Y	Y	-	P. 8-111
E511		Paper Jam in Automatic Duplexing Unit - Please Clear Paper Path.	ADU misfeeding (Paper not reaching the duplexing unit path entrance sensor)	-	-	Y	Y	-	P. 8-111
E540		Paper Jam in Printer - Please Clear Paper Path.	ADU transport jam: Paper does not reach the duplexing unit path exit sensor after it has passed the duplexing unit path entrance sensor.	-	-	Y	Y	-	P. 8-112
E550	Other paper jam	Paper Jam in Printer - Please Clear Paper Path.	Paper remaining jam on the transport path: The paper is remaining on the transport path when printing is finished.	-	-	Y	Y	-	P. 8-121

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E551	Other paper jam	Paper Jam in Printer - Please Clear Paper Path.	Paper remaining jam on the transport path: (when a service call occurs)	-	-	Y	Y	-	P. 8-123
E552		Paper Jam in Printer - Please Clear Paper Path.	Paper remaining jam on the transport path: (when the cover is closed)	-	-	Y	Y	-	P. 8-123
E570	Paper transport jam (Reverse section)	Paper Jam in Printer - Please Clear Paper Path.	Jam not reaching the bridge unit.	-	-	Y	Y	-	P. 8-113
E580		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the bridge unit	-	-	Y	Y	-	P. 8-113
E590		Paper Jam in Printer - Please Clear Paper Path.	Jam not reaching the upper paper exit sensor	-	-	Y	Y	-	P. 8-93
E5A0		Paper Jam in Printer - Please Clear Paper Path.	Stop jam at the upper paper exit sensor	-	-	Y	Y	-	P. 8-94
E712	DSDF jam	Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Jam not reaching the DSDF registration sensor	-	-	Y	Y	-	P. 8-129
E714		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	DSDF feed signal reception jam	-	-	Y	Y	-	P. 8-129
E717		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original not reaching the DSDF original feed sensor jam	-	-	Y	Y	-	P. 8-129
E718		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original tray lift abnormality	-	-	Y	Y	-	P. 8-130
E721		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original not reaching the DSDF read-in sensor-1 jam	-	-	Y	Y	-	P. 8-131
E722		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original not reaching the DSDF exit sensor jam	-	-	Y	Y	-	P. 8-132
E724		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original stopping at the DSDF registration sensor jam	-	-	Y	Y	-	P. 8-132

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
E725	DSDF jam	Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original stopping at the DSDF read-in sensor-1 jam	-	-	Y	Y	-	P. 8-133
E726		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	DSDF Transport/ exit signal reception jam	-	-	Y	Y	-	P. 8-133
E727		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original not reaching the DSDF read-in sensor-2 jam	-	-	Y	Y	-	P. 8-134
E729		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original stopping at the DSDF read-in sensor-2 jam	-	-	Y	Y	-	P. 8-135
E72A		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	DSDF original scanning start time-out jam	-	-	Y	Y	-	P. 8-135
E731		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original stopping at the DSDF exit sensor jam	-	-	Y	Y	-	P. 8-136
E762		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF registration sensor jam	-	-	Y	Y	-	P. 8-136
E769		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF feed sensor jam	-	-	Y	Y	-	P. 8-137
E770		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF original width sensor-1 jam	-	-	Y	Y	-	P. 8-137
E771		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF original width detection sensor-2 jam	-	-	Y	Y	-	P. 8-138
E774	Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF read-in sensor-1 jam	-	-	Y	Y	-	P. 8-138	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E775	DSDF jam	Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF read-in sensor-2 jam	-	-	Y	Y	-	P. 8-139
E777		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	Original remaining at the DSDF exit sensor jam	-	-	Y	Y	-	P. 8-139
E860		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	DSDF original jam access cover open jam	-	-	Y	Y	-	P. 8-139
E870		Paper Jam in Automatic Document Feeder - Please Clear Paper Path.	DSDF open jam	-	-	Y	Y	-	P. 8-141
E910	Finisher jam (Bridge unit section)	Paper Jam in Printer - Please Clear Paper Path.	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.	Y	-	Y	Y	-	P. 8-142
E920		Paper Jam in Printer - Please Clear Paper Path.	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.	Y	-	Y	Y	-	P. 8-142
E930		Paper Jam in Printer - Please Clear Paper Path.	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.	Y	-	Y	Y	-	P. 8-143

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
E940	Finisher jam (Bridge unit section)	Paper Jam in Printer - Please Clear Paper Path.	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	Y	-	Y	Y	-	P. 8-143
E970	Paper transport jam (Exit section)	Paper Jam in the Finisher	Jam not reaching the lower paper exit sensor: Paper transported from the bridge unit does not reach the lower paper exit sensor.	Y	-	Y	Y	-	P. 8-94
E980		Paper Jam in the Finisher	Stop jam at the lower paper exit sensor: Paper transported from the bridge unit does not pass the lower paper exit sensor.	Y	-	Y	Y	-	P. 8-95
E9F0	Finisher jam (Punch unit)	Hole Punch Unit Jam in Finisher - Please Clear Hole Punch.	Punching jam: Punching is not performed properly. [MJ-1111/1112 (when MJ-6106 is installed)]	Y	-	Y	Y	-	P. 8-157
EA10	Finisher jam (Finisher section)	Paper Jam in Finisher - Please Clear Paper Path.	Transport delay jam (paper not inserted)	Y	-	Y	Y	-	P. 8-144
EA20		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam in Finisher (entrance sensor)	Y	-	Y	Y	-	P. 8-144
EA21		Paper Jam in Finisher - Please Clear Paper Path.	Paper size error jam: Paper does not reach the sensor because the paper is shorter than spec. [MJ-1111/1112]	Y	-	Y	Y	-	P. 8-145
EA22		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (Finisher paper punching edge detection sensor): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-145
EA23		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (exit sensor): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-146

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
EA24	Finisher jam (Finisher section)	Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (between entrance and exit sensors): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-146
EA25		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (after paper stack exit): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-147
EA26		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (stop command request): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-148
EA27		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (paper not inserted): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-148
EA28		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (assisting arm operation delay): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-149
EA29		Paper Jam in Finisher - Please Clear Paper Path.	Paper transport jam (stack transport delay): [MJ-1111/1112]	-	-	Y	Y	-	P. 8-149
EA31		Paper Jam in Finisher - Please Clear Paper Path.	Transport path paper remaining jam: [MJ-1111/1112]	-	-	Y	Y	-	P. 8-149
EA32		Paper Jam in Finisher - Please Clear Paper Path.	Exit paper remaining jam: [MJ-1111/1112]	-	-	Y	Y	-	P. 8-150
EA40		Paper Jam in Finisher - Please Clear Paper Path.	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-1111/1112] Cover open error: The front cover or stationary tray cover is opened during paper transport. [MJ-1111/1112]	-	-	Y	Y	-	P. 8-151
EA50		Paper Jam in Finisher - Please Clear Paper Path.	Stapling jam: Stapling is not performed properly. [MJ-1111/1112]	-	-	Y	Y	-	P. 8-151
EA60	Paper Jam in Finisher - Please Clear Paper Path.	Early arrival jam: [MJ-1111/1112]	-	-	Y	Y	-	P. 8-152	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
EA70	Finisher jam (Finisher section)	Paper Jam in Finisher - Please Clear Paper Path.	Stack exit belt home position error: The stack exit belt is not at the home position. [MJ-1111/1112]	-	-	Y	Y	-	P. 8-152
EA90	Finisher jam (Saddle stitcher section)	Paper Jam in Finisher - Please Clear Paper Path.	Door open jam: [MJ-1112].	Y	-	Y	Y	-	P. 8-153
EAA0		Paper Jam in Finisher - Please Clear Paper Path.	Power-ON jam: [MJ-1112]	Y	-	Y	Y	-	P. 8-153
EAB0		Paper Jam in Finisher - Please Clear Paper Path.	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-1112]	Y	-	Y	Y	-	P. 8-154
EAB1		Paper Jam in Finisher - Please Clear Paper Path.	Short paper jam (Saddle Stitch Finisher). [MJ-1112]	Y	-	Y	Y	-	P. 8-155
EAD0	Other paper jam	Paper Jam in Finisher - Please Clear Paper Path.	Print end command time-out jam: The printing has not finished normally because of an error occurring on the interface between the SYS board and the engine firmware at the end of printing.	-	-	Y	Y	-	P. 8-158
EAE0	Finisher jam	Paper Jam in Finisher - Please Clear Paper Path.	Receiving time-out jam	-	-	Y	Y	-	P. 8-158
EAF0		Paper Jam in Finisher - Please Clear Paper Path.	Catching motor home position detection error (paper jam)	-	-	-	-	-	P. 8-159
EAFB		Paper Jam in Finisher - Please Clear Paper Path.	[MJ-1111/1112] Stapler movement error (paper jam)	-	-	-	-	-	P. 8-159
EAFD		Paper Jam in Finisher - Please Clear Paper Path.	[MJ-1111/1112] Movable tray height error (paper jam)	-	-	-	-	-	P. 8-160
EAFD		Paper Jam in Finisher - Please Clear Paper Path.	[MJ-1111/1112] Movable tray movement error (paper jam)	-	-	-	-	-	P. 8-160



Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				Panl	JL	ML	Noti	CSV	
EAFE	Finisher jam	Paper Jam in Finisher - Please Clear Paper Path.	[MJ-1111/1112] Paper holding cam position error (paper jam)	-	-	-	-	-	P. 8-161
EB30	Other paper jams	Paper Jam in Printer - Please Clear Paper Path.	Ready time-out jam	-	-	Y	Y	-	P. 8-158
EB50	Paper transport jam	Paper Jam in Printer - Please Clear Paper Path.	Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper.	-	-	Y	Y	-	P. 8-115
EB60		Paper Jam in Printer - Please Clear Paper Path.	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]).	-	-	Y	Y	-	P. 8-116
ED10	Finisher jam	Paper Jam in Finisher - Please Clear Paper Path.	Skew adjustment motor (M1) home position detection abnormality	Y	-	Y	Y	-	P. 8-161
ED11		Paper Jam in Finisher - Please Clear Paper Path.	Sideways adjustment motor (M2) home position detection error	Y	-	Y	Y	-	P. 8-162
ED12		Paper Jam in Finisher - Please Clear Paper Path.	Shutter home position error	Y	-	Y	Y	-	P. 8-162
ED13		Paper Jam in Finisher - Please Clear Paper Path.	Front alignment plate home position error	Y	-	Y	Y	-	P. 8-163
ED14		Paper Jam in Finisher - Please Clear Paper Path.	Rear alignment plate home position error: The rear alignment plate is not at the home position. [MJ-1111/1112]	Y	-	Y	Y	-	P. 8-163
ED15		Paper Jam in Finisher - Please Clear Paper Path.	Paddle home position error	Y	-	Y	Y	-	P. 8-164
ED16		Paper Jam in Finisher - Please Clear Paper Path.	Buffer tray home position error	Y	-	Y	Y	-	P. 8-164

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
EF10	Finisher jam (Saddle Stitcher section)	Paper Jam in Finisher - Please Clear Paper Path.	Paper not supported for Saddle Stitch Finisher: Unsupported paper size, type and an excess number of pages for stapling are selected.	Y	-	Y	Y	-	P. 8-165
EF11		Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher stapling error (front): Front stapling is not correctly done.	Y	-	Y	Y	-	P. 8-165
EF12		Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher stapling error (rear): Rear stapling is not correctly done.	Y	-	Y	Y	-	P. 8-165
EF13		Paper Jam in Finisher - Please Clear Paper Path.	Saddle paper holder home position detection abnormality: The paper holder home position cannot be detected.	Y	-	Y	Y	-	P. 8-166
EF14		Paper Jam in Finisher - Please Clear Paper Path.	Saddle paper exit jam: Outputting paper is not completed within a fixed time.	Y	-	Y	Y	-	P. 8-167
EF15		Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher side alignment motor home position detection abnormality: The side alignment motor home position cannot be detected.	Y	-	Y	Y	-	P. 8-172
EF16		Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher stacker motor home position detection abnormality: The stacker motor home position cannot be detected.	Y	-	Y	Y	-	P. 8-173
EF17		Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher folding blade home position detection abnormality: The folding blade home position cannot be detected.	Y	-	Y	Y	-	P. 8-173

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
EF18	Finisher jam (Saddle Stitcher section)	Paper Jam in Finisher - Please Clear Paper Path.	Saddle Stitch Finisher additional folding roller home position detection abnormality: The additional folding roller home position cannot be detected.	Y	-	Y	Y	-	P. 8-174
EF19		Paper Jam in Finisher - Please Clear Paper Path.	Saddle paper folding jam: Fold processed paper cannot be transported to the additional folding roller.	-	-	Y	Y	-	P. 8-174
EF20		Paper Jam in Finisher - Please Clear Paper Path.	Saddle stacker jam: Transported paper cannot be detected in the stacker.	-	-	Y	Y	-	P. 8-175
EF21	Finisher jam (Punch unit)	Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper leading edge skew detection abnormality: One of the 2 skew sensors cannot detect the paper within a fixed time.	-	-	Y	Y	-	P. 8-175
EF22		Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper leading edge detection abnormality: The paper leading edge cannot be detected within a fixed time after its skew is found.	-	-	Y	Y	-	P. 8-176
EF23		Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper alignment abnormality: The paper position cannot be detected due to the sideway registration mechanism.	-	-	Y	Y	-	P. 8-176
EF24		Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper trailing edge skew detection abnormality: One of the 2 skew sensors cannot detect the paper within a fixed time.	-	-	Y	Y	-	P. 8-177

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
EF25	Finisher jam (Punch unit)	Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper trailing edge detection abnormality: The paper trailing edge cannot be detected within a fixed time after its skew is found.	-	-	Y	Y	-	P. 8-177
EF27		Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper edge detection order abnormality-1: The paper leading edge is detected before its skew is detected.	-	-	Y	Y	-	P. 8-178
EF28		Paper Jam in Finisher - Please Clear Paper Path.	Hole Punch Unit paper edge detection order abnormality-2: The paper trailing edge is detected before its skew is detected.	-	-	Y	Y	-	P. 8-178

## 8.2.2 Service call

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
C010	Drive system related service call	Fatal Error - Please Contact Service Technician.	The drum motor-K/ YMC is not rotating normally.	2nd	-	Y	Y	-	P. 8-238
C021		Fatal Error - Please Contact Service Technician.	Developer unit motor-YMC locking error: The developer unit motor-YMC is not rotating normally.	2nd	-	Y	Y	-	P. 8-241
C022		Fatal Error - Please Contact Service Technician.	Developer unit mixer motor-YMC locking error: The developer unit mixer motor-YMC is not rotating normally.	2nd	-	Y	Y	-	P. 8-241
C023		Fatal Error - Please Contact Service Technician.	Developer unit motor-K locking error: The developer unit motor-K is not rotating normally.	2nd	-	Y	Y	-	P. 8-243

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
C024	Paper feeding system related service call	Fatal Error - Please Contact Service Technician.	Developer unit mixer motor-K locking error: The developer unit mixer motor-K is not rotating normally.	2nd	-	Y	Y	-	P. 8-243
C130		Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-179
C140		Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-179
C150		Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-179
C160		Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-179

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
C180	Paper feeding system related service call	Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-180
C1A0		Printer Input Error.	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)	Y	-	Y	Y	-	P. 8-180
C1C0		Printer Input Error.	Option LCF tray-up motor abnormality: The option LCF tray-up motor is not moving normally	Y	-	Y	Y	-	P. 8-181
C260	Scanning system related service call	Fatal Error - Please Contact Service Technician.	Peak detection error: Lighting of the exposure lamp (white reference) is not detected when power is turned ON.	2nd	-	Y	Y	-	P. 8-183
C262		Fatal Error - Please Contact Service Technician.	communication error	2nd	-	Y	Y	-	P. 8-184
C270		Fatal Error - Please Contact Service Technician.	(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.	Y	-	Y	Y	-	P. 8-185
C280		Fatal Error - Please Contact Service Technician.	Carriage home position sensor not turning ON within a specified period of time:	Y	-	Y	Y	-	P. 8-186

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
C290	Scanning system related service call	Fatal Error - Please Contact Service Technician.	Scanner fuse blowout: 24V power for the scanning system is not supplied at the scanner warming-up after power-ON.	2nd	-	Y	Y	-	P. 8-187
C360	Copy process related service call	Fatal Error - Please Contact Service Technician.	Needle electrode cleaner operation abnormality	2nd	-	Y	Y	-	P. 8-245
C380		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-K abnormality (upper limit)	2nd	-	Y	Y	-	P. 8-246
C381	Copy process related service call	Fatal Error - Please Contact Service Technician.	Auto-toner sensor-K abnormality (lower limit)	2nd	-	Y	Y	-	P. 8-246
C382		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-K connection error	2nd	-	Y	Y	-	P. 8-246
C390		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-C abnormality (upper limit)	2nd	-	Y	Y	-	P. 8-246
C391		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-C abnormality (lower limit)	2nd	-	Y	Y	-	P. 8-246
C392		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-C connection error	2nd	-	Y	Y	-	P. 8-246
C3A0		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-M abnormality (upper limit)	2nd	-	Y	Y	-	P. 8-246
C3A1		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-M abnormality (lower limit)	2nd	-	Y	Y	-	P. 8-246
C3A2		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-M connection error	2nd	-	Y	Y	-	P. 8-246
C3B0		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-Y abnormality (upper limit)	2nd	-	Y	Y	-	P. 8-246
C3B1		Fatal Error - Please Contact Service Technician.	Auto-toner sensor-Y abnormality (lower limit)	2nd	-	Y	Y	-	P. 8-246
C3B2	Fatal Error - Please Contact Service Technician.	Auto-toner sensor-Y connection error	2nd	-	Y	Y	-	P. 8-246	
C3C0		Fatal Error - Please Contact Service Technician.	Process unit connection error	2nd	-	Y	Y	-	P. 8-247
C445	Fuser unit related service call	Fatal Error - Please Contact Service Technician.	Heater temperature abnormality after abnormality judgment (prerunning end temperature abnormality)	Y	-	Y	Y	-	P. 8-188

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
C446	Fuser unit related service call	Fatal Error - Please Contact Service Technician.	Heater temperature abnormality after abnormality judgment (prerunning end temperature abnormality)	Y	-	Y	Y	-	P. 8-188
C447		Fatal Error - Please Contact Service Technician.	Heater temperature abnormality after abnormality judgment (temperature abnormality at ready status)	Y	-	Y	Y	-	P. 8-188
C449		Fatal Error - Please Contact Service Technician.	Heater temperature abnormality after abnormality judgment (high temperature abnormality)	Y	-	Y	Y	-	P. 8-188
C471		Fatal Error - Please Contact Service Technician.	IH board initialization abnormality	2nd	-	Y	Y	-	P. 8-189
C472		Fatal Error - Please Contact Service Technician.	Power supply abnormality	2nd	-	Y	Y	-	P. 8-189
C473		Fatal Error - Please Contact Service Technician.	Surge pressure detection / power and voltage upper limit abnormality	2nd	-	Y	Y	-	P. 8-190
C474		Fatal Error - Please Contact Service Technician.	Power and voltage lower limit abnormality	2nd	-	Y	Y	-	P. 8-190
C480		Fatal Error - Please Contact Service Technician.	IGBT high temperature abnormality	2nd	-	Y	Y	-	P. 8-190
C4B0		Fatal Error - Please Contact Service Technician.	Fuser unit counter abnormality	Y	-	Y	Y	-	P. 8-191
C4B1		Fatal Error - Please Contact Service Technician.	IH board/LGC board judgment error	2nd	-	Y	Y	-	P. 8-191
C4B2	Fatal Error - Please Contact Service Technician.	IH firmware combination error	2nd	-	Y	Y	-	P. 8-191	
C4E0	Fatal Error - Please Contact Service Technician.	Fuser pressure release abnormality - Though the pressure roller is released, its position cannot be detected.	2nd	-	Y	Y	-	P. 8-192	



Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
C4E1	Fuser unit related service call	Fatal Error - Please Contact Service Technician.	Fuser pressure contact abnormality - Though the pressure roller is contacted, its position cannot be detected.	2nd	-	Y	Y	-	P. 8-192
C4E2		Fatal Error - Please Contact Service Technician.	Fuser belt rotation detection sensor abnormality - The fuser belt does not rotate or incorrectly rotates.	Y	-	Y	Y	-	P. 8-192
C550	DSDF communication related service call	Fatal Error - Please Contact Service Technician.	Communication error has occurred between the DSDF and the scanner.	2nd	-	Y	Y	-	P. 8-194
C551		Fatal Error - Please Contact Service Technician.	Reversing automatic document feeder (DSDF) model detection error	Y	-	Y	Y	-	P. 8-194
C552		Fatal Error - Please Contact Service Technician.	DSDF abnormality	2nd	-	Y	Y	-	P. 8-195
C553		Fatal Error - Please Contact Service Technician.	DSDF CCD-module Peak detection error	2nd	-	Y	Y	-	P. 8-195
C554		Fatal Error - Please Contact Service Technician.	AFE communication error	2nd	-	Y	Y	-	P. 8-196
C560	Optional communication related service call	Fatal Error - Please Contact Service Technician.	Communication error between Engine-CPU and PFC board	2nd	-	Y	Y	-	P. 8-197
C580		Fatal Error - Please Contact Service Technician.	Communication error between the LGC board and the finisher	2nd	-	Y	Y	-	P. 8-197
C5A0	Circuit related service call	Fatal Error - Please Contact Service Technician.	EEPROM not connected (LGC board)	Y	-	Y	Y	-	P. 8-202
C5A1		Fatal Error - Please Contact Service Technician.	EEPROM data abnormality (LGC board)	Y	-	Y	Y	-	P. 8-202
C730	DSDF related service call	Automatic Document Feeder Error - Please Contact Service Technician.	An abnormality occurs while the data are being written in the EEPROM of the DSDF.	2nd	-	Y	Y	-	P. 8-200
C7B0		Automatic Document Feeder Error - Please Contact Service Technician.	Initial time-out error	2nd	-	Y	Y	-	P. 8-200

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
C8C0	DSDF related service call	Automatic Document Feeder Error - Please Contact Service Technician.	DSDF original reading start sensor abnormality: The automatic adjustment for the original reading start sensor has been performed, but is ended unsuccessfully.	2nd	-	Y	Y	-	P. 8-200
C8E0		Automatic Document Feeder Error - Please Contact Service Technician.	DSDF communication protocol abnormality: The system has to be stopped because the control abnormality occurred.	2nd	-	Y	Y	-	P. 8-201
C900	Circuit related service call	Fatal Error - Please Contact Service Technician.	Connection error between the SYS board and the LGC board	2nd	-	Y	Y	-	P. 8-202
C901		Fatal Error - Please Contact Service Technician.	System format error for scanner	2nd	-	Y	Y	-	P. 8-203
C911		Failed to access to the toner IC chip	Toner cartridge IC chip access board abnormality	-	-	Y	Y	-	P. 8-203
C940		Fatal Error - Please Contact Service Technician.	Engine-CPU abnormality	2nd	-	Y	Y	-	P. 8-204
C962		Fatal Error - Please Contact Service Technician.	LGC board ID abnormality	Y	-	Y	Y	-	P. 8-204
C963		Fatal Error - Please Contact Service Technician.	Connection detection error between the SYS board and the LGC board	2nd	-	Y	Y	-	P. 8-205
C970	Process related service call	Fatal Error - Please Contact Service Technician.	High-voltage transformer abnormality: Leakage of the main charger is detected.	Y	-	Y	Y	-	P. 8-247
C9E0	Circuit related service call	Fatal Error - Please Contact Service Technician.	Connection error between the scanner CPU and the system CPU	Y	-	Y	Y	-	P. 8-205
CA10	Laser optical unit related service call	Fatal Error - Please Contact Service Technician.	Polygonal motor abnormality: The polygonal motor is not rotating normally.	2nd	-	Y	Y	-	P. 8-208

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
CA20	Laser optical unit related service call	Fatal Error - Please Contact Service Technician.	H-Sync detection error: H-Sync signal detection PC board cannot detect laser beams.	2nd	-	Y	Y	-	P. 8-208
CB00	Finisher related service call	Fatal Error - Please Contact Service Technician.	Finisher not connected: Communication error has occurred between the equipment and finisher. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-210
CB01		Fatal Error - Please Contact Service Technician.	Finisher communication error: Communication error has occurred between the equipment and finisher. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-210
CB10		Fatal Error - Please Contact Service Technician.	Entrance motor abnormality: The entrance motor is not rotating normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-210
CB11		Fatal Error - Please Contact Service Technician.	Buffer tray guide motor abnormality: The buffer tray guide motor is not rotating or the buffer tray guide is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-211
CB13		Fatal Error - Please Contact Service Technician.	Finisher exit motor abnormality	2nd	-	Y	Y	-	P. 8-211
CB14		Fatal Error - Please Contact Service Technician.	Paper holding arm motor abnormality	2nd	-	Y	Y	-	P. 8-161
CB15		Fatal Error - Please Contact Service Technician.	Catching motor abnormality	2nd	-	Y	Y	-	-
CB30		Fatal Error - Please Contact Service Technician.	Movable tray shift motor abnormality [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-160
CB31		Fatal Error - Please Contact Service Technician.	Movable tray paper-full detection error [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-160

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
CB40	Finisher related service call	Fatal Error - Please Contact Service Technician.	Front alignment motor abnormality: The front alignment motor is not rotating or the front alignment plate is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-212
CB50		Fatal Error - Please Contact Service Technician.	Stapler home position error: The stapler home position sensor does not work. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-212
CB51		Fatal Error - Please Contact Service Technician.	Stapler shift home position error: The stapler is not at the home position. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-159
CB60		Fatal Error - Please Contact Service Technician.	Stapler shift motor abnormality: Stapler shift motor is not rotating or staple unit is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-212
CB80		Fatal Error - Please Contact Service Technician.	Backup RAM data abnormality: Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON	2nd	-	Y	Y	-	P. 8-213
CB81		Fatal Error - Please Contact Service Technician.	Flash ROM abnormality: Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-213
CB82		Fatal Error - Please Contact Service Technician.	Finisher - Main CPU program error	2nd	-	Y	Y	-	P. 8-213
CB83		Fatal Error - Please Contact Service Technician.	Saddle Stitch Finisher - Main CPU program error	2nd	-	Y	Y	-	P. 8-214
CB84		Fatal Error - Please Contact Service Technician.	Hole Punch Unit - Main CPU program error	2nd	-	Y	Y	-	P. 8-214
CB91		Fatal Error - Please Contact Service Technician.	Saddle Stitch Finisher flash ROM abnormality	2nd	-	Y	Y	-	P. 8-214

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
CB92	Finisher related service call	Fatal Error - Please Contact Service Technician.	Saddle Stitch Finisher RAM abnormality	2nd	-	Y	Y	-	P. 8-214
CB93		Fatal Error - Please Contact Service Technician.	Additional folding motor abnormality	2nd	-	Y	Y	-	P. 8-215
CB94		Fatal Error - Please Contact Service Technician.	Saddle transport motor abnormality	2nd	-	Y	Y	-	P. 8-215
CB95		Fatal Error - Please Contact Service Technician.	Stacker motor abnormality	2nd	-	Y	Y	-	P. 8-216
CBA0		Fatal Error - Please Contact Service Technician.	Stitch motor (front) abnormality: Stitch motor (front) is not rotating or rotary cam is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-216
CBB0		Fatal Error - Please Contact Service Technician.	Stitch motor (rear) abnormality: Stitch motor (rear) is not rotating or rotary cam is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-216
CBC0		Fatal Error - Please Contact Service Technician.	Alignment motor abnormality: Alignment motor is not rotating or aligning plate is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-217
CBE0		Fatal Error - Please Contact Service Technician.	Paper folding motor abnormality: Paper folding motor or paper folding roller is not rotating normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-217
CC20	Fatal Error - Please Contact Service Technician.	Communication error between finisher and saddle stitcher: Communication error between finisher controller PC board and saddle stitcher controller board [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-218	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
CC30	Finisher related service call	Fatal Error - Please Contact Service Technician.	Stack transport motor abnormality: The stack transport motor is not rotating or the stack transport belt is not moving normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-218
CC31		Fatal Error - Please Contact Service Technician.	Transport motor abnormality: The transport motor is not rotating or the stack transport roller -1 and -2 is not rotating normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-219
CC41		Fatal Error - Please Contact Service Technician.	Paper holder cam home position abnormality: The paper holder cam is not at the home position. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-219
CC51		Fatal Error - Please Contact Service Technician.	Sideways adjustment motor (M2) abnormality: Sideways adjustment motor is not rotating or puncher is not shifting normally. [MJ-1111/1112 (when MJ-6106 is installed)]	2nd	-	Y	Y	-	P. 8-219
CC52		Fatal Error - Please Contact Service Technician.	Skew adjustment motor (M1) abnormality: Skew adjustment motor is not rotating or puncher is not shifting normally. [MJ-1111/1112 (when MJ-6106 is installed)]	2nd	-	Y	Y	-	P. 8-220
CC60		Fatal Error - Please Contact Service Technician.	Punch motor abnormality: Punch motor is not rotating or puncher is not shifting normally. [MJ-1111/1112 (when MJ-6106 is installed)]	2nd	-	Y	Y	-	P. 8-220

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
CC61	Finisher related service call	Fatal Error - Please Contact Service Technician.	Punch motor (M3) home position detection error: Punch motor is not rotating or puncher is not shifting normally. [MJ-1111/1112 (when MJ-6106 is installed)]	2nd	-	Y	Y	-	P. 8-221
CC71		Fatal Error - Please Contact Service Technician.	Punch ROM checksum error [MJ-6106]	Y	-	Y	Y	-	P. 8-222
CC72		Fatal Error - Please Contact Service Technician.	Punch RAM read/write error [MJ-6106]	Y	-	Y	Y	-	P. 8-222
CC73		Fatal Error - Please Contact Service Technician.	Punching device power supply abnormality	2nd	-	Y	Y	-	P. 8-222
CC74		Fatal Error - Please Contact Service Technician.	Punch unit transport pulse abnormality	2nd	-	Y	Y	-	P. 8-222
CC80		Fatal Error - Please Contact Service Technician.	Rear alignment motor abnormality [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-222
CD60	Copy process related service call	Fatal Error - Please Contact Service Technician.	Sub-hopper toner sensors abnormality.	2nd	-	Y	Y	-	P. 8-248
CD61		Fatal Error - Please Contact Service Technician.	Sub-hopper toner motor-Y abnormality.	2nd	-	Y	Y	-	P. 8-248
CD62		Fatal Error - Please Contact Service Technician.	Sub-hopper toner motor-M abnormality.	2nd	-	Y	Y	-	P. 8-248
CD63		Fatal Error - Please Contact Service Technician.	Sub-hopper toner motor-C abnormality.	2nd	-	Y	Y	-	P. 8-248
CD64		Fatal Error - Please Contact Service Technician.	Sub-hopper toner motor-K abnormality.	2nd	-	Y	Y	-	P. 8-248
CD71		Fatal Error - Please Contact Service Technician.	Waste toner transport motor locking error: The auger in the waste toner transport path does not rotate.	2nd	-	Y	Y	-	P. 8-250
CDE0	Finisher related service call	Fatal Error - Please Contact Service Technician.	Paddle motor abnormality: The paddle motor is not rotating or the paddle is not rotating normally. [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-222

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
CE00	Finisher related service call	Fatal Error - Please Contact Service Technician.	Communication error between finisher and punch unit: Communication error between finisher controller PC board and punch controller PC board [MJ-1111/1112 (when MJ-6106 is installed)]	2nd	-	Y	Y	-	P. 8-223
CE10	Image control related service call	Fatal Error - Please Contact Service Technician.	Image quality sensor abnormality (OFF level): The output value of this sensor is out of a specified range when sensor light source is OFF.	2nd	-	Y	Y	-	P. 8-230
CE20		Fatal Error - Please Contact Service Technician.	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.	2nd	-	Y	Y	-	P. 8-230
CE40		Fatal Error - Please Contact Service Technician.	Image quality control test pattern abnormality: The test pattern is not formed normally.	2nd	-	Y	Y	-	P. 8-233
CE41		Fatal Error - Please Contact Service Technician.	Image quality TRC control test pattern abnormality: The image quality TRC control test pattern is not printed normally.	2nd	-	Y	Y	-	P. 8-235
CE50		Fatal Error - Please Contact Service Technician.	Temperature/humidity sensor abnormality: The output value of this sensor is out of a specified range.	2nd	-	Y	Y	-	P. 8-236
CE60	Copy process related service call	Fatal Error - Please Contact Service Technician.	Drum thermistor-Y abnormality: The output value of the drum thermistor-Y is out of a specified range.	2nd	-	Y	Y	-	P. 8-237



Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
CE90	Copy process related service call	Fatal Error - Please Contact Service Technician.	Drum thermistor-K abnormality: The output value of the drum thermistor-K is out of a specified range.	2nd	-	Y	Y	-	P. 8-237
CF10	Finisher related service call	Fatal Error - Please Contact Service Technician.	Communication module writing failure [MJ-1111/1112]	2nd	-	Y	Y	-	P. 8-223
CF90	Laser optical unit related service call	Fatal Error - Please Contact Service Technician.	Laser optical unit shutter abnormality.	2nd	-	Y	Y	-	P. 8-209
F070	Communication related service call	Fatal Error - Please Contact Service Technician.	Communication error between the system-CPU and the engine-CPU	2nd	-	Y	Y	-	P. 8-197
F071		Fatal Error - Please Contact Service Technician.	Communication error between the system-CPU and the engine-CPU (Initialization error)	2nd	-	Y	Y	-	P. 8-197
F074		Fatal Error - Please Contact Service Technician.	Communication error between the system-CPU and the engine-CPU	2nd	-	Y	Y	-	P. 8-197
F090	Circuit related service call	Fatal Error - Please Contact Service Technician.	SRAM abnormality on the SYS board	Y	-	Y	Y	-	P. 8-206
F100_0	Other service call	Fatal Error - Please Contact Service Technician.	HDD format error: Operation of HDD key data fails.	Y	-	Y	Y	-	P. 8-252
F100_1		Fatal Error - Please Contact Service Technician.	HDD format error: Encryption key data of either the SYS board or the EEPROM for the SYS board are damaged.	Y	-	Y	Y	-	P. 8-252
F100_2		Fatal Error - Please Contact Service Technician.	HDD format error: Encryption key data of both the SYS board and the EEPROM for the SYS board are damaged.	Y	-	Y	Y	-	P. 8-253
F101_0		Fatal Error - Please Contact Service Technician.	HDD connection error (HDD connection cannot be detected.)	2nd	-	Y	Y	-	P. 8-255

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
F101_1	Other service call	Fatal Error - Please Contact Service Technician.	Root partition mount error (HDD formatting fails.): The HDD cannot be connected (mounted) caused by damage to the areas in which the program is mainly stored.	2nd	-	Y	Y	-	P. 8-255
F101_2		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to areas other than those described in the F101_1 and F101_4 to F101_9 errors.	2nd	-	Y	Y	-	P. 8-255
F101_3		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to areas other than those described in the F101_1 and F101_4 to F101_9 errors.	2nd	-	Y	Y	-	P. 8-255
F101_4		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/work” partition.	2nd	-	Y	Y	-	P. 8-256
F101_5		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/registration” partition.	2nd	-	Y	Y	-	P. 8-257
F101_6		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/backup” partition.	2nd	-	Y	Y	-	P. 8-258

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
F101_7	Other service call	Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/ imagedata” partition.	2nd	-	Y	Y	-	P. 8-259
F101_8		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/ storage” partition.	2nd	-	Y	Y	-	P. 8-260
F101_9		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/ encryption” partition.	2nd	-	Y	Y	-	P. 8-261
F101_10		Fatal Error - Please Contact Service Technician.	Partition mount error: The HDD cannot be connected (mounted) caused by damage to the “/ application” partition.	2nd	-	Y	Y	-	P. 8-262
F101_13		Fatal Error - Please Contact Service Technician.	Error due to damage to file	-	-	-	-	-	P. 8-263
F102		Fatal Error - Please Contact Service Technician.	HDD start error: HDD cannot become 'Ready' state.	2nd	-	Y	Y	-	P. 8-264
F103		Fatal Error - Please Contact Service Technician.	HDD transfer time-out: Reading/ writing cannot be performed in the specified period of time.	2nd	-	Y	Y	-	P. 8-264
F104		Fatal Error - Please Contact Service Technician.	HDD data error: Abnormality is detected in the data of HDD.	2nd	-	Y	Y	-	P. 8-264
F105		Fatal Error - Please Contact Service Technician.	HDD other error	2nd	-	Y	Y	-	P. 8-264
F106_0	Fatal Error - Please Contact Service Technician.	Secure HDD error: Illegal disk replacement detected (ADI-HDD Exchange to SATA-HDD)	2nd	-	Y	Y	-	P. 8-264	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
F106_1	Other service call	Fatal Error - Please Contact Service Technician.	Secure HDD error: HDD type detection error	2nd	-	Y	Y	-	P. 8-265
F106_2		Fatal Error - Please Contact Service Technician.	Secure HDD error: ADI encryption key download operation error	2nd	-	Y	Y	-	P. 8-265
F106_3		Fatal Error - Please Contact Service Technician.	Secure HDD error: ADI authentication Admin Password generation error	2nd	-	Y	Y	-	P. 8-266
F106_4		Fatal Error - Please Contact Service Technician.	Secure HDD error: Authentication random number generation error	2nd	-	Y	Y	-	P. 8-266
F106_5		Fatal Error - Please Contact Service Technician.	Secure HDD error: Authentication data transmission error	2nd	-	Y	Y	-	P. 8-267
F106_6		Fatal Error - Please Contact Service Technician.	Secure HDD error: Error caused by reason other than F106_0 to 5 errors	2nd	-	Y	Y	-	P. 8-268
F106_7		Fatal Error - Please Contact Service Technician.		2nd	-	Y	Y	-	P. 8-268
F106_8		Fatal Error - Please Contact Service Technician.		2nd	-	Y	Y	-	P. 8-268
F106_10		Fatal Error - Please Contact Service Technician.		2nd	-	Y	Y	-	P. 8-268
F106_UNDEF		Fatal Error - Please Contact Service Technician.		2nd	-	Y	Y	-	P. 8-268
F109_0	Fatal Error - Please Contact Service Technician.	Key consistency error: Consistency check operation error.	Y	-	Y	Y	-	P. 8-268	
F109_1	Fatal Error - Please Contact Service Technician.	Key consistency error: SRAM encryption AES key data damage.	Y	-	Y	Y	-	P. 8-269	
F109_2	Fatal Error - Please Contact Service Technician.	Key consistency error: Signature Check public key damage.	Y	-	Y	Y	-	P. 8-269	
F109_3	Fatal Error - Please Contact Service Technician.	Key consistency error: HDD encryption parameter damage.	Y	-	Y	Y	-	P. 8-269	
F109_4	Fatal Error - Please Contact Service Technician.	Key consistency error: license data damage.	Y	-	Y	Y	-	P. 8-271	
F109_5	Fatal Error - Please Contact Service Technician.	Key consistency error: Encryption key for ADI-HDD is damaged.	Y	-	Y	Y	-	P. 8-272	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
F109_6	Other service call	Fatal Error - Please Contact Service Technician.	Key consistency error: Administrator password error for ADI-HDD authentication.	Y	-	Y	Y	-	P. 8-274
F110	Communication related service call	Fatal Error - Please Contact Service Technician.	Communication error between System-CPU and Scanner-CPU	2nd	-	Y	Y	-	P. 8-275
F111		Fatal Error - Please Contact Service Technician.	Scanner response abnormality	2nd	-	Y	Y	-	P. 8-198
F115	Scanning system related service call (DSDF)	Fatal Error - Please Contact Service Technician.	S-VDEN ON time-out	2nd	-	Y	Y	-	P. 8-201
F116		Fatal Error - Please Contact Service Technician.	S-VDEN OFF time-out	2nd	-	Y	Y	-	P. 8-201
F117		Fatal Error - Please Contact Service Technician.	S-VDEN ON (back side) time-out	2nd	-	Y	Y	-	P. 8-201
F118		Fatal Error - Please Contact Service Technician.	S-VDEN OFF (back side) time-out	2nd	-	Y	Y	-	P. 8-201
F119	Communication related service call	Fatal Error - Please Contact Service Technician.	SCN abnormality detection	2nd	-	Y	Y	-	P. 8-198
F11A		Fatal Error - Please Contact Service Technician.	Communication error between the SYS board and the CCD board	-	-	Y	Y	-	P. 8-199
F11B		Fatal Error - Please Contact Service Technician.	Communication error between the SYS board and the DSDF-CCD module (DSDF)	-	-	Y	Y	-	P. 8-199
F120	Other service call	Fatal Error - Please Contact Service Technician.	Database abnormality: Database is not operating normally.	Y	-	Y	Y	-	P. 8-276
F121		Fatal Error - Please Contact Service Technician.	Database abnormality (user information management database)	Y	-	Y	Y	-	P. 8-276
F122		User Management DB corrupted.	Database abnormality (message/job log management database error)	Y	-	Y	Y	-	P. 8-277
F124		AppManagement DB corrupted.	Database abnormality (application management database damage error)	Y	-	Y	Y	-	P. 8-277

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
F125	Other service call	HomeScreen DB corrupted.	Database abnormality (Home screen database damage error)	Y	-	Y	Y	-	P. 8-277
F126	Other service call	JobHistory DB corrupted.	Database abnormality (Job history database damage error)	Y	-	Y	Y	-	P. 8-278
F127	Other service call	AppLicense DB corrupted.	Database abnormality (application license management database damage error)	Y	-	Y	Y	-	P. 8-278
F130		Fatal Error - Please Contact Service Technician.	Invalid MAC address	Y	-	Y	Y	-	P. 8-278
F131		Fatal Error - Please Contact Service Technician.	Error due to damage to filtering setting file	Y	-	Y	Y	-	P. 8-278
F140		Fatal Error - Please Contact Service Technician.	ASIC format error	Y	-	Y	Y	-	P. 8-279
F150		-	Power failure during the manufacturing mode	Y	-	Y	Y	-	P. 8-279
F200		Fatal Error - Please Contact Service Technician.	Data Overwrite option (GP-1070) disabled	Y	-	Y	Y	-	P. 8-279
F350		Circuit related service call	Fatal Error - Please Contact Service Technician.	SYS board abnormality	Y	-	Y	Y	-
F400		Fatal Error - Please Contact Service Technician.	SYS board cooling fan abnormality	Y	-	Y	Y	-	P. 8-207
F410		Fatal Error - Please Contact Service Technician.	Power abnormality	Y	-	Y	Y	-	P. 8-207
F510	Other service call	Fatal Error - Please Contact Service Technician.	Application start error	Y	-	-	-	-	P. 8-280
F520		Fatal Error - Please Contact Service Technician.	Operating system start error	Y	-	-	-	-	P. 8-280

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
F521	Other service call	Fatal Error - Please Contact Service Technician.	Integrity check error	Y	-	-	-	-	P. 8-280
F550		Fatal Error - Please Contact Service Technician.	Encryption partition error	-	-	Y	Y	-	P. 8-281
F600		Fatal Error - Please Contact Service Technician.	Software update error	Y	-	-	-	-	P. 8-281
F700		Fatal Error - Please Contact Service Technician.	Overwrite error	-	-	Y	Y	-	P. 8-281
F800		Fatal Error - Please Contact Service Technician.	Date error	Y	-	-	-	-	P. 8-281
F900		Fatal Error - Please Contact Service Technician.	Model information error	Y	-	-	-	-	P. 8-283

## 8.2.3 Error in Internet FAX / Scanning Function

### 1. Internet FAX related error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
1C10	Internet fax related error	Illegal Job status	System access abnormality	-	Y	-	Y	-	P. 8-284
1C11		Not enough memory	Insufficient memory	-	Y	-	Y	-	P. 8-284
1C12		Illegal Job status	Message reception error	-	Y	-	Y	-	P. 8-284
1C13		Illegal Job status	Message transmission error	-	Y	-	Y	-	P. 8-284
1C14		Invalid parameter specified	Invalid parameter	-	Y	-	Y	-	P. 8-285
1C15		Message size exceeded limit or maximum size	Exceeding file capacity	-	Y	-	Y	-	P. 8-285
1C30		Failed to create directory	Directory creation failure	-	Y	-	Y	-	P. 8-285
1C31		Failed to create file	File creation failure	-	Y	-	Y	-	P. 8-285
1C32		Failed to delete file	File deletion failure	-	Y	-	Y	-	P. 8-284
1C33		Failed to create file	File access failure	-	Y	-	Y	-	P. 8-285
1C40	Internet fax related error	Failed to convert image file format	Image conversion abnormality	-	Y	-	Y	-	P. 8-286
1C60		Failed To Process your Job. Insufficient Storage space.	HDD full failure during processing	-	Y	-	Y	-	P. 8-286
1C61		Failed to read AddressBook	Address book reading failure	-	Y	-	Y	-	P. 8-286
1C63		Invalid Domain Address	Terminal IP address unset	-	Y	-	Y	-	P. 8-286
1C64		Invalid Domain Address	Terminal mail address unset	-	Y	-	Y	-	P. 8-287
1C65		Failed to connect to SMTP server	SMTP address unset	-	Y	-	Y	-	P. 8-287
1C66		Failed to connect to SMTP server	Server time-out error	-	Y	-	Y	-	P. 8-287
1C69		Failed to connect to SMTP server	SMTP server connection error	-	Y	-	Y	-	P. 8-288
1C6B		Invalid address specified in To: field	Terminal mail address error	-	Y	-	Y	-	P. 8-288
1C6C		Invalid address specified in To: field	Destination mail address error	-	Y	-	Y	-	P. 8-288
1C6D		NIC system error	System error	-	Y	-	Y	-	P. 8-288
1C70		SMTP service is not available	SMTP client OFF	-	Y	-	Y	-	P. 8-289
1C71		Failed SMTP Authentication	SMTP authentication error	-	Y	-	Y	-	P. 8-289



Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
1C72		POP Before SMTP Authentication Failed	POP before SMTP error	-	Y	-	Y	-	P. 8-289
1CC0		Job canceled	Job canceling	-	Y	-	Y	-	-
1CC1		Power failure occurred	Power failure	-	Y	-	Y	-	P. 8-290

## 2. RFC related error

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
2500	RFC related error	Syntax error, command unrecognized	HOST NAME error (RFC: 500) Destination mail address error (RFC: 500) Terminal mail address error (RFC: 500)	-	Y	-	Y	-	P. 8-290
2501	RFC related error	Syntax error in parameters or arguments	HOST NAME error (RFC: 501) Destination mail address error (RFC: 501) Terminal mail address error (RFC: 501)	-	Y	-	Y	-	P. 8-290
2503		Bad sequence of commands	Destination mail address error (RFC: 503)	-	Y	-	Y	-	P. 8-290
2504		Command parameter not implemented	HOST NAME error (RFC: 504)	-	Y	-	Y	-	P. 8-290
2550		Mailbox unavailable	Destination mail address error (RFC: 550)	-	Y	-	Y	-	P. 8-291
2551		User not local	Destination mail address error (RFC: 551)	-	Y	-	Y	-	P. 8-290
2552		Insufficient system storage	Terminal/ Destination address error (RFC: 552)	-	Y	-	Y	-	P. 8-291
2553		Mailbox name not allowed	Destination mail address error (RFC: 553)	-	Y	-	Y	-	P. 8-291

### 3. Remote scanning related error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
2A00	Information	Successfully stored document	Successful completion (BoxInTA)	-	Y	-	-	-	-
2A20	Remote scanning related error	Failed to acquire resource	System management module resource acquiring failure	-	Y	-	-	-	P. 8-296
2A31		WS Scan function is not available	WS Scan disabled	-	Y	-	-	-	P. 8-296
2A40		System fatal error	System error	-	Y	-	-	-	P. 8-297
2A50		Job canceled	Job canceled	-	Y	-	-	-	-
2A51		Power failure occurred	Power failure	-	Y	-	-	-	P. 8-297
2A60		Authentication for WS Scan failed	WS Scan user authentication failure	-	Y	-	-	-	P. 8-297
2A70		Insufficient permission to execute RemoteScan	Remote Scan privilege check error	-	-	Y	-	-	P. 8-297
2A71		Insufficient permission to execute WS Scan	WS Scan privilege check error	-	Y	-	-	-	P. 8-298
2A72		Remote scanning related error	Insufficient permission to access e-Filing box using scan utility	e-Filing data access privilege check error (Scan Utility)	-	-	Y	-	-
2A73	Insufficient permission to execute Addressbook Export/Import operation		Error in the address book operation privilege check	-	-	Y	-	-	P. 8-298
2AD0		Backup operation of e-Filing data from Backup/Restore Utility is done	e-Filing data backing up	-	-	Y	-	-	-
2AD1		Restore operation of e-Filing data from Backup/Restore Utility is done	e-Filing data restoring	-	-	Y	-	-	-
2AD2		Archive operation of e-Filing data is done	e-Filing data archiving	-	-	Y	-	-	-
2AD3		Restore operation of e-Filing data is done	Archived e-Filing data restoring	-	-	Y	-	-	-
2AD4		e-Filing data was downloaded by scan utility	e-Filing data downloading (Scan Utility)	-	-	Y	-	-	-

#### 4. Electronic Filing related error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
2B00	Information	Successfully stored document	Doc saving successful	-	Y	-	Y	-	-
2B01		Successfully sent document to print queue	Successful completion (BoxPrnTA)	-	Y	-	-	-	-
2B11	e-Filing box related error	Job status failed	Job status abnormality	-	Y	-	Y	-	P. 8-292
2B20		Failed to access file	File library function error	-	Y	-	Y	-	P. 8-292
2B30		Insufficient disk space	Insufficient disk space in /BOX partition	-	Y	-	Y	-	P. 8-292
2B31		Failed to access Electronic Filing	Status of the specified e-Filing box or folder is undefined or being created/deleted	-	Y	-	Y	-	P. 8-292
2B50		Failed to process image	Image library error	-	Y	-	Y	-	P. 8-292
2B51		Failed to print images from the document box	List library error	-	Y	-	Y	-	P. 8-293
2B71		e-Filing box related error	Document(s) expire(s) in a few days	There are documents which will expire in a few days	-	-	Y	Y	-
2B80		Hard Disk space for Electronic Filing nearly full	Hard disk space in /BOX partition is nearly full (90%)	-	-	Y	Y	-	-
2B90		Insufficient Memory	Insufficient memory capacity	-	Y	-	Y	-	P. 8-292
2BA0		Invalid Box password specified	Invalid Box password	-	Y	-	Y	-	P. 8-293
2BA1		Incorrect paper size / invalid color mode / invalid resolution	The specified paper size, color mode or resolution is not available	-	-	-	Y	-	P. 8-293
2BB0		Job canceled	Job canceling	-	Y	-	Y	-	-
2BB1		Power failure occurred	Power failure	-	Y	-	Y	-	P. 8-294
2BC0		System fatal error	Fatal failure occurred	-	Y	-	Y	-	P. 8-292
2BD0		Power failure occurred during e-Filing restoring	Power failure during restoring of e-Filing	-	-	Y	Y	-	P. 8-294
2BD1	Information	e-Filing Box Storage is initialized.	e-Filing box is initialized.	-	Y	-	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
2BE0	e-Filing box related error	Failed to get machine parameter	Machine parameter reading error	-	Y	-	Y	-	P. 8-294
2BF0		Maximum number of page range is reached	Exceeding the maximum number of pages	-	Y	-	Y	-	P. 8-294
2BF1		Maximum number of document range is reached	Exceeding the maximum number of documents	-	Y	-	Y	-	P. 8-294
2BF2		Maximum number of folder range is reached	Exceeding the maximum number of folders	-	Y	-	Y	-	P. 8-295

## 5. E-mail related error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
2C00	Information	Sent scanned image(s) by email	Communication successful completion	-	Y	-	Y	-	-
2C01		Sent scanned image(s) by email	Transferring completion (fax reception)	-	Y	-	Y	-	-
2C02		Sent scanned image(s) by email	Transferring completion (Email reception)	-	Y	-	Y	-	-
2C04		Service information was sent by E-mail	Notification transmission successful completion	-	Y	-	Y	-	-
2C10	E-mail related error	Illegal Job status	System access abnormality	-	Y	-	Y	-	P. 8-299
2C11		Not enough memory	Insufficient memory	-	Y	-	Y	-	P. 8-299
2C12		Illegal Job status	Message reception error	-	Y	-	Y	-	P. 8-299
2C13		Illegal Job status	Message transmission error	-	Y	-	Y	-	P. 8-299
2C14		Invalid parameter specified	Invalid parameter	-	Y	-	Y	-	P. 8-299
2C15		Message size exceeded limit or maximum size	Exceeding file capacity	-	Y	-	Y	-	P. 8-300
2C20		Illegal Job status	System management module access abnormality	-	Y	-	Y	-	P. 8-300
2C21		Illegal Job status	Job control module access abnormality	-	Y	-	Y	-	P. 8-300
2C22		Illegal Job status	Job control module access abnormality	-	Y	-	Y	-	P. 8-300
2C30		Failed to create directory	Directory creation failure	-	Y	-	Y	-	P. 8-300
2C31		Failed to create file	File creation failure	-	Y	-	Y	-	P. 8-300
2C32		Failed to delete file	File deletion failure	-	Y	-	Y	-	P. 8-299

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
2C33		Failed to create file	File access failure	-	Y	-	Y	-	P. 8-300
2C40		Failed to convert image file format	Image conversion abnormality	-	Y	-	Y	-	P. 8-301
2C43		Encryption error. Failed to create file	Encryption error	-	Y	-	Y	-	P. 8-301
2C44		Creating the image file was not permitted	Encryption PDF enforced mode error	-	Y	-	Y	-	P. 8-301
2C45		Failed in making meta data	Meta data creation error (Scan to Email)	-	Y	-	Y	-	P. 8-302
2C60		Failed To Process your Job. Insufficient Storage space	HDD full failure during processing	-	Y	-	Y	-	P. 8-302
2C61		Failed to read AddressBook	Address book reading failure	-	Y	-	Y	-	P. 8-302
2C62		Not enough memory	Memory acquiring failure	-	Y	-	Y	-	P. 8-301
2C63		Invalid Domain Address	Terminal IP address unset	-	Y	-	Y	-	P. 8-302
2C64		Invalid Domain Address	Terminal mail address unset	-	Y	-	Y	-	P. 8-303
2C65		Failed to connect to SMTP server	SMTP address unset	-	Y	-	Y	-	P. 8-303
2C66		Failed to connect to SMTP server	Server time-out error	-	Y	-	Y	-	P. 8-303
2C69		Failed to connect to SMTP server	SMTP server connection error	-	Y	-	Y	-	P. 8-304
2C6A	E-mail related error	Failed to send E-mail message	HOST NAME error (No RFC error)	-	Y	-	Y	-	P. 8-304
2C6B		Invalid address specified in From: field	Terminal mail address error	-	Y	-	Y	-	P. 8-304
2C6C		Invalid address specified in To: field	Destination mail address error (No RFC error)	-	Y	-	Y	-	P. 8-304
2C70		SMTP service is not available	SMTP client OFF	-	Y	-	Y	-	P. 8-305
2C71		Failed SMTP Authentication	SMTP authentication error	-	Y	-	Y	-	P. 8-305
2C72		POP Before SMTP Authentication Failed	POP before SMTP error	-	Y	-	Y	-	P. 8-305
2CC0		Job canceled	Job canceling	-	Y	-	Y	-	-
2CC1		Power failure occurred	Power failure	-	Y	-	Y	-	P. 8-306

## 6. File sharing related error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
2D00	Information	Stored document in controller shared folder	Successful completion (saving in a local directory)	-	Y	-	Y	-	-
2D01		Stored document in network folder	Successful completion (saving in REMOTE)	-	Y	-	Y	-	-
2D02		Stored document in controller shared folder	Successful completion (saving of a received FaxtoFile/&File in a local directory)	-	Y	-	Y	-	-
2D03		Stored document in network folder	Successful completion (saving of a received FaxtoFile/&File in REMOTE)	-	Y	-	Y	-	-
2D04		Stored document in controller shared folder	Successful completion (saving of a received EmailtoFile/&File in a local directory)	-	Y	-	Y	-	-
2D05		Stored document in network folder	Successful completion (saving of a received EmailtoFile/&File in REMOTE)	-	Y	-	Y	-	-
2D10	File sharing related error	Illegal Job status	System access abnormality	-	Y	-	Y	-	P. 8-307
2D11		Not enough memory	Insufficient memory	-	Y	-	Y	-	P. 8-307
2D12		Illegal Job status	Message reception error	-	Y	-	Y	-	P. 8-307
2D13		Illegal Job status	Message transmission error	-	Y	-	Y	-	P. 8-307
2D14		Invalid parameter specified	Invalid parameter	-	Y	-	Y	-	P. 8-308
2D15		Document size exceeded limit or maximum size	Exceeding the maximum size for file sharing	-	Y	-	Y	-	P. 8-308
2D30		Failed to create directory	Directory creation failure	-	Y	-	Y	-	P. 8-308
2D31		Failed to create file	File creation failure	-	Y	-	Y	-	P. 8-308
2D32		Failed to delete file	File deletion failure	-	Y	-	Y	-	P. 8-307
2D33		Failed to create file	File access failure	-	Y	-	Y	-	P. 8-308
2D40		Failed to convert image file format	Image conversion abnormality	-	Y	-	Y	-	P. 8-308
2D43		Encryption error. Failed to create file	Encryption error	-	Y	-	Y	-	P. 8-309
2D44		Creating the image file was not permitted	Encryption PDF enforced mode error	-	Y	-	Y	-	P. 8-309
2D45		Failed in making meta data	Meta data creation error (Scan to File)	-	Y	-	Y	-	P. 8-309

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
2D62	File sharing related error	Failed to connect to network destination. Check destination path	File server connection failure	-	Y	-	Y	-	P. 8-310
2D63		Specified network path is invalid. Check destination path	Invalid network path	-	Y	-	Y	-	P. 8-310
2D64		Logon to file server failed. Check username and password	Login failure	-	Y	-	Y	-	P. 8-310
2D65		There are too many documents in the folder. Failed in creating new document.	New document creation failure caused by an excess of documents in a folder	-	Y	-	Y	-	P. 8-310
2D66		Failed To Process your Job. Insufficient Storage space.	Storage capacity full failure during processing	-	Y	-	Y	-	P. 8-311
2D67		FTP service is not available	FTP service not available	-	Y	-	Y	-	P. 8-311
2D68		File Sharing service is not available	File sharing service not available	-	Y	-	Y	-	P. 8-311
2D69		NetWare service is not available	NetWare service not available	-	Y	-	Y	-	P. 8-311
2DA1	Information	Expired Sent Fax documents deleted from shared folder	Periodical deletion of transmitted fax documents has been completed properly.	-	Y	Y	Y	-	-
2DA2		Expired Received Fax documents deleted from shared folder	Periodical deletion of received fax documents has been completed properly.	-	Y	Y	Y	-	-
2DA3		Scanned documents in shared folder deleted upon user's request	Manual deletion of scanned documents has been completed properly.	-	Y	Y	Y	-	-
2DA4		Sent Fax Documents in shared folder deleted upon user's request.	Manual deletion of transmitted fax documents has been completed properly.	-	Y	Y	Y	-	-
2DA5		Received Fax Documents in shared folder deleted upon user's request.	Manual deletion of received fax documents has been completed properly.	-	Y	Y	Y	-	-
2DA6	File sharing related error	Failed to delete file	File deletion failure	-	-	Y	Y	-	P. 8-307
2DA7		Failed to acquire resource.	Resource acquiring failure	-	-	Y	Y	-	P. 8-307

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				PanI	JL	ML	Noti	CSV	
2DC0	Information	Job canceled	Job canceling	-	Y	-	Y	-	-
2DC1	File sharing related error	Power failure occurred	Power failure	-	Y	-	Y	-	P. 8-312
2E00	Information	Stored document in controller USB Media	Successful completion (saving in a USB storage)	-	Y	-	Y	-	-
2E01		Stored document in controller USB Media	Successful completion (saving of a received FaxtoFile/&File in a USB storage)	-	Y	-	Y	-	-
2E02		Stored document in controller USB Media	Successful completion (saving of a received EmailtoFile/&File in a USB storage)	-	Y	-	Y	-	-
2E10	File sharing related error	Illegal Job status	System access abnormality in USB storage	-	Y	-	Y	-	P. 8-312
2E11		Not enough memory	Insufficient memory capacity for USB storage	-	Y	-	Y	-	P. 8-312
2E12		Illegal Job status	Message reception error in USB storage	-	Y	-	Y	-	P. 8-313
2E13		Illegal Job status	Message transmission error in USB storage	-	Y	-	Y	-	P. 8-313
2E14		Invalid parameter specified	Invalid parameter for USB storage	-	Y	-	Y	-	P. 8-313
2E15		Document size exceeded limit or maximum size	Exceeding the maximum size for file sharing	-	Y	-	Y	-	P. 8-313
2E30		Failed to create directory	Directory creation failure in USB storage	-	Y	-	Y	-	P. 8-313
2E31		Failed to create file	File creation failure in USB storage	-	Y	-	Y	-	P. 8-314
2E32		Failed to delete file	File deletion failure in USB storage	-	Y	-	Y	-	P. 8-314
2E33		Failed to create file	File access failure in USB storage	-	Y	-	Y	-	P. 8-314
2E40		Failed to convert image file format	Image conversion abnormality in USB storage	-	Y	-	Y	-	P. 8-315
2E43		Encryption error. Failed to create file.	Encryption failure in USB storage	-	Y	-	Y	-	P. 8-315
2E44		Creating the image file was not permitted	Encryption PDF enforced mode error in USB storage	-	-	-	Y	-	P. 8-315
2E45	Failed in making meta data	Meta data creation error in USB storage (Scan to File)	-	Y	-	Y	-	P. 8-315	



Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
2E65	File sharing related error	There are too many documents in folder. Failed in creating new document.	File creation error due to insufficient USB folder capacity	-	Y	-	Y	-	P. 8-316
2E66		Failed To Process your Job. Insufficient Storage space.	HDD full failure during USB storage process	-	Y	-	Y	-	P. 8-316
2EC0		Job canceled	Job canceling	-	Y	-	Y	-	-
2EC1		Power Failure Job Aborted	Power failure in USB storage	-	Y	-	Y	-	P. 8-316

## 7. E-mail reception related error

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
3000	Information	Received E-mail Job was successfully completed.	E-mail reception is completed properly.	-	Y	-	Y	-	-
3A10	E-mail reception related error	MIME Error has been detected in the received mail.	E-mail MIME error	-	Y	-	Y	-	P. 8-317
3A20		Analyze Error has been detected in the received mail.	E-mail analysis error	-	Y	-	Y	-	P. 8-317
3A30		Whole partial mails were not reached by timeout.	Partial mail time-out error	-	Y	-	Y	-	P. 8-317
3A40		Partial Mail Error has been detected in the received mail.	Partial mail related error	-	Y	-	Y	-	P. 8-317
3A50		HDD Full Error has been occurred in this mail.	Insufficient HDD capacity error	-	Y	-	Y	-	P. 8-318
3A70		Receiving partial mail was aborted since the partial mail setting has been changed to Disable.	Error of partial mail interruption	-	Y	-	Y	-	P. 8-318
3A80		Partial mail was received during the partial mail setting is disabled.	Partial mail reception setting OFF	-	Y	-	Y	-	P. 8-318
3B10		Format Error has been detected in the received mail.	E-mail format error	-	Y	-	Y	-	P. 8-317
3B20		Content-Type Error has been detected in the received mail.	Content-Type error	-	Y	-	Y	-	P. 8-319

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
3B40	E-mail reception related error	Decode Error has been detected in the received mail.	E-mail decode error	-	Y	-	Y	-	P. 8-317
3B50	Information	Received Email data was broken. It was deleted from mail server.	Received mail data deletion	-	Y	-	Y	-	-
3C10	E-mail reception related error	Tiff Analyze Error has been detected in the received mail.	TIFF analysis error	-	Y	-	Y	-	P. 8-319
3C13		Tiff Analyze Error has been detected in the received mail.	TIFF analysis error	-	Y	-	Y	-	P. 8-319
3C20		Tiff Compression Error has been detected in the received mail.	TIFF compression error	-	Y	-	Y	-	P. 8-319
3C30		Tiff Resolution Error has been detected in the received mail.	TIFF resolution error	-	Y	-	Y	-	P. 8-320
3C40		Tiff Paper Size Error has been detected in the received mail.	TIFF paper size error	-	Y	-	Y	-	P. 8-320
3C50		Offramp Destination Error has been detected in the received mail.	Offramp destination error	-	Y	-	Y	-	P. 8-320
3C60		Offramp Security Error has been detected in the received mail.	Offramp security error	-	Y	-	Y	-	P. 8-320
3C70		Power Failure has been occurred in E-mail receiving.	Power failure	-	Y	-	Y	-	P. 8-321
3C90		OffRamp Fax transmission disable error has been detected in the received mail.	OffRamp fax transmission disable error	-	Y	-	Y	-	P. 8-321
3D10		SMTP Destination Error has been detected in the received mail. This mail was deleted.	Destination address error	-	-	Y	Y	-	P. 8-321
3D20	Offramp Destination limitation Error has been detected in the received mail.	Maximum number of offramp destination error	-	-	Y	Y	-	P. 8-322	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
3D30	E-mail reception related error	Fax unit Error has occurred because the OffRamp mail was received but it has no Fax unit.	No fax board error	-	-	Y	Y	-	P. 8-322
3E10		POP3 Connection Error has been occurred in the received mail.	POP3 server connection error	-	-	Y	Y	-	P. 8-322
3E20		POP3 Connection Timeout Error has been occurred in the received mail.	POP3 server connection time-out error	-	-	Y	Y	-	P. 8-322
3E30		POP3 Login Error has been occurred in the received mail.	POP3 login error	-	-	Y	Y	-	P. 8-323
3E40		POP3 Login Error occurred in the received mail.	POP3 login method error	-	-	Y	Y	-	P. 8-323
3F10		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	-	-	Y	Y	-	P. 8-323
3F20		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	-	Y	-	Y	-	P. 8-323

## 8.2.4 Printer function error

Following codes are displayed at the end of the user name on the print job log screen.

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
4011	Printer error	-	Print job cancellation: A print job (copy, list print, network print) is deleted from the print job screen.	-	Y	-	-	-	P. 8-324
4021		-	Power failure at print job processing: The power of the equipment is turned OFF during a print job (copy, list print, network print) process.	-	Y	-	-	-	P. 8-324
4031		-	HDD full during print: A large amount of image data is saved in an HDD at private print or invalid network print.	-	Y	-	-	-	P. 8-324
4032		-	Exceeding the upper limit of the registration number for the sharing jobs: No more sharing jobs can be registered because its registration number as a personal or functional has reached the upper limit. (A specific error for the Serverless Location Free Print function)	-	Y	-	-	-	P. 8-324
4033		-	A sharing job cannot be registered since the applicable address has not been found from the list used for the Serverless Location Free Print function. (A specific error for the Serverless Location Free Print function)	-	Y	-	-	-	P. 8-324

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
4041	Printer error	-	User authentication error: The user who intended to print a document is not registered as a user.	-	Y	-	-	-	P. 8-325
4042		-	Department authentication error: The department whose code is specified for a print job is not registered.	-	Y	-	-	-	P. 8-325
4043		-	Project authentication error: The project whose code is specified for a print job is not registered.	-	Y	-	-	-	P. 8-325
4045		-	Problem in LDAP server connection or LDAP server authorization settings.	-	Y	-	-	-	P. 8-325
4111		-	Quota over error (no quota in a department and user): The number of the assigned pages set by the department and user management has reached 0.	-	Y	-	-	-	P. 8-325
4112		-	Quota over error (no quota in a user): The number of the assigned pages set by the user management has reached 0.	-	Y	-	-	-	P. 8-326
4113		-	Quota over error (no quota in a department): The number of the assigned pages set by the department management has reached 0.	-	Y	-	-	-	P. 8-326
4121		-	Job canceling due to external counter error.	-	Y	-	-	-	P. 8-326

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				PanI	JL	ML	Noti	CSV	
4211	Printer error	-	Printing data storing limitation error: Printing with its data being stored to the HDD temporarily (Proof print, Private print, Scheduled print, etc.) has been performed.	-	Y	-	-	-	P. 8-326
4212		-	e-Filing storing limitation error: Printing with its data being stored to the HDD (print and e-Filing, print to e-Filing, etc.) has been performed.	-	Y	-	-	-	P. 8-326
4213		-	File storing limitation error: The file storing function is set to "disabled".	-	Y	-	-	-	P. 8-327
4214		-	Fax / internet fax transmission limitation error: The fax / internet fax transmission function or the network fax / internet fax function is set to "disabled".	-	Y	-	-	-	P. 8-327
4221		-	Private-print-only error: Jobs other than Private print ones have been performed.	-	Y	-	-	-	P. 8-327
4231		-	Hardcopy security printing error: A hardcopy security printing job has been performed when the function is restricted.	-	Y	-	-	-	P. 8-327
4243		-	Sharing job - An error caused by not having a license	-	Y	-	-	-	P. 8-328
4244		-	Sharing job - An error caused by function disabled	-	Y	-	-	-	P. 8-328
4245		-	OCR functions not available	-	Y	-	-	-	P. 8-328
4311		-	No privilege to perform a job	-	Y	-	-	-	P. 8-328
4312	-	No privilege to store a file	-	Y	-	-	-	P. 8-329	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
4313	Printer error	-	No privilege for e-Filing storage: No privilege to store e-Filing data is given. (e-Filing storage permission)	-	Y	-	-	-	P. 8-329
4314		-	No privilege for fax / internet fax transmission: No privilege to send a fax or internet fax jobs is given. (Fax / internet fax transmission permission)	-	Y	-	-	-	P. 8-329
4321		-	No privilege for the print settings: No privilege to print with the specified settings is given. (Print setting permission)	-	Y	-	-	-	P. 8-329
4411		-	Image data creation failure: Data or a file whose printing is attempted may be corrupted.	-	Y	-	-	-	P. 8-329
4412		-	Double-sign encoding error: A double-sign encoding error has occurred because the PDF file is encrypted in a forbidden language or in a language not supported.	-	Y	-	-	-	P. 8-329
4511		Print failure due to connection timeout	In the case the print data is not sent from the client PC during printing and print ends in error, or connection is not disconnected from the PC, timeout error is detected.	-	-	Y	-	-	-
4521		Cannot print due to connection limit	In the case the MFP reaches the max. number of connections and cannot receive a job	-	-	Y	-	-	-
4522	Registered print job number reached to limit during printing	Since the MFP nears the Workflow Full, reception of the jobs is limited.	-	-	Y	-	-	-	

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
4523	Printer error	Storage full occurred during printing	Since the MFP nears the HDD Full, reception of the jobs is limited.	-	-	Y	-	-	-
4611		-	Font download failure (exceeding the maximum number of registrations): A new font cannot be registered because the number of fonts registered in this equipment has already reached the limit.	-	Y	-	-	-	P. 8-330
4612		-	Font download failure (HDD full): A new font cannot be registered because there is insufficient space in the font storage area of this equipment.	-	Y	-	-	-	P. 8-330
4613		-	Font download failure (others): A new font cannot be registered due to other abnormalities.	-	Y	-	-	-	P. 8-330
4621		-	Downloaded font deletion failure: The specified font cannot be deleted because it does not exist, it is undeletable or any another abnormality has occurred.	-	Y	-	-	-	P. 8-330
4721		-	Connection failure of Multi Station Print because of an unexpected ROM version combination.	-	Y	-	-	-	P. 8-330
4F10		-	Printing has not been performed successfully due to other abnormalities.	-	Y	-	-	-	P. 8-331



## 8.2.5 TopAccess related error/Communication error with external application

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
5010	Communication error	-	Internal setting error: A print job, a proof print job, a private print job, a print job without a set department code, a scan job or a fax job is remaining in this equipment.	-	-	-	-	-	P. 8-332
5012		TOSHIBA remote monitoring system error	Authentication error: A temporary password entered in this equipment by downloading from e-Bridge is invalid, or the permanent password set in e-Bridge is invalid.	-	-	Y	Y	-	P. 8-332
5013		TOSHIBA remote monitoring system error	Communication error between e-Bridge: Communication is attempted while e-Bridge is enabled for some reason such as a version upgrade.	-	-	Y	-	-	P. 8-332
5014		TOSHIBA remote monitoring system error	No SSL certificate: There is no SSL certificate or the certificate is not in a correct file format.	-	-	Y	-	-	P. 8-332
5015		TOSHIBA remote monitoring system error	Invalid SSL certificate error: The SSL certificate is incorrect	-	-	Y	-	-	P. 8-333
5016		TOSHIBA remote monitoring system error	Expired SSL certificate error: The SSL certificate is expired.	-	-	Y	-	-	P. 8-333
5017		TOSHIBA remote monitoring system error	Other SSL certificate related error: The SSL certificate is invalid.	-	-	Y	-	-	P. 8-333
5018		TOSHIBA remote monitoring system error	Invalid DNS error: The DNS address is incorrect.	-	-	Y	-	-	P. 8-334

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
5019	Communication error	TOSHIBA Global remote monitoring system error	Connection error: Settings for the initial URL and proxy are incorrect.	-	-	Y	-	-	P. 8-334
501A		TOSHIBA Global remote monitoring system error	Proxy error: Settings for the IP address or port are incorrect.	-	-	Y	-	-	P. 8-334
501B		TOSHIBA Global remote monitoring system error	No URL (host/port) or invalid path: The initial URL is incorrect.	-	-	Y	-	-	P. 8-334
5020	Information	The first registration was completed.	Initial registration completion	-	-	Y	-	-	-
5021		Communication with TOSHIBA Remote monitoring system succeeded	Successful communication with an eBR server	-	-	Y	-	-	-
5030	Communication error	TOSHIBA remote monitoring system error	An error has occurred in the HTTP communication	-	-	Y	-	-	P. 8-335
50FF		TOSHIBA remote monitoring system error	A fatal error has occurred in the MFP.	-	-	Y	-	-	P. 8-335
5110		-	Toner cartridge detection error	-	-	-	-	-	P. 8-335
5211	Information	-	PM counter excess	-	-	-	-	-	-
5212		Open the front cover, and clean the slit glass and main charger	Appears when the time for main charger cleaning comes (at the output of approx. every 10,000 sheets)	-	-	Y	Y	-	-
5310		-	Toner-K empty	-	-	Y	Y	-	-
5311		-	Toner-Y empty	-	-	Y	Y	-	-
5312		-	Toner-M empty	-	-	Y	Y	-	-
5313		-	Toner-C empty	-	-	Y	Y	-	-
5400		Succeeded in MFP registration	MFP registration success	-	-	Y	Y	-	-
5410		Communication error	TOSHIBA Global remote monitoring system error	MFP registration error	-	-	Y	Y	-
5411	TOSHIBA Global remote monitoring system error		MFP registration lock error	-	-	Y	Y	-	P. 8-335
5412	TOSHIBA Global remote monitoring system error		Server busy error	-	-	Y	Y	-	P. 8-336
5413	TOSHIBA Global remote monitoring system error		Server error	-	-	Y	Y	-	P. 8-336

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
5414	Communication error	TOSHIBA Global remote monitoring system error	Invalid device file error	-	-	Y	Y	-	P. 8-336
5415		TOSHIBA Global remote monitoring system error	Communication error	-	-	Y	Y	-	P. 8-336
5416		TOSHIBA Global remote monitoring system error	Setting files / system software update error	-	-	Y	Y	-	P. 8-336
5417		TOSHIBA Global remote monitoring system error	System software error	-	-	Y	Y	-	P. 8-337
5BD0		Power failure occurred during restore	Power supply has been cut off during the restoration of the database sent from TopAccess.	-	-	Y	Y	-	P. 8-337
5C10		FAX Unit is not attached.	Network fax is disabled because no fax unit is installed.	-	-	Y	Y	-	P. 8-337
5C11		Security error on Address Book.	A network fax job has failed because the specified address is not registered in the address book.	-	-	Y	Y	-	P. 8-338

## 8.2.6 MFP access error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
6000	Information	Successful user login	User login success to an MFP	-	-	Y	Y	-	-
6001	MFP access error	Failed user login	User login failure to an MFP	-	-	Y	Y	-	-
6002	Information	Successful user logout	User logout success from an MFP: Manual logout	-	-	Y	Y	-	-
6003		Successful user logout (Session Time Out)	User logout success from an MFP: Automatic logout	-	-	Y	Y	-	-
6004		Successful User Box Authentication	Authentication success of a user box password	-	-	Y	Y	-	-
6005		MFP access error	Failed User Box Authentication	Authentication failure of a user box password	-	-	Y	Y	-
6006		User login information was broken	UserToken binding failure	-	-	Y	Y	-	-
6007		Failed user login	User login to MFP failure	-	-	Y	Y	-	P. 8-339

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
6008	MFP access error	Failed to connect on External LDAP server for Role Base Access Control	Connection failure to an external Role Base Access Control (LDAP) server	-	-	Y	Y	-	P. 8-339
6009		Failed user login(Authentication server connection error)	User login failure to an MFP (during NIC initialization)	-	-	Y	Y	-	P. 8-339
600A		Department code has not been assigned to the user	Department code not assigned to a user	-	-	Y	Y	-	P. 8-339
6010		Cannot find the Home Directory.	Home directory not found	-	-	Y	Y	-	-
6011		Failed to register the user by automatically(Maximum number of registered users)	User automatic registration failure (due to an upper limit of the user registration number)	-	-	Y	Y	-	P. 8-339
6013		Failed to connect on the authentication server	Connection failure to an authentication server	-	-	Y	Y	-	P. 8-340
6014		Detected the authentication server that can not be connected	Inaccessible authentication server detection	-	-	Y	Y	-	P. 8-340
6031		Illegal CL code	Invalid setting: Invalid CL code	-	-	Y	Y	-	P. 8-340
6032		Illegal period	Card related error	-	-	Y	Y	-	P. 8-340
6033		No entering record	Card related error	-	-	Y	Y	-	P. 8-340
6034		Illegal entering record	Card related error	-	-	Y	Y	-	P. 8-341
6035		Illegal SSFC settings of MFP.	Invalid setting: Invalid flag information (not set in an MFP)	-	-	Y	Y	-	P. 8-341
6036		Unmatch settings and card info.	Invalid setting: Invalid flag information (Information between an MFP and card does not match)	-	-	Y	Y	-	P. 8-341
6037		You cannot be used.	Permission flag for use not available	-	-	Y	Y	-	P. 8-341
6040		Failed to read the card	Card authentication: Read error	-	-	Y	Y	-	P. 8-341
6041		Card Authentication Failed because of Card Reading Error	Card authentication	-	-	Y	Y	-	P. 8-342

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
6042	MFP access error	Card Authentication Failed because of Setting Error	Card authentication	-	-	Y	Y	-	P. 8-342
6043		Card Authentication Failed because the card information was duplicated on the card server.	Card authentication failure (duplication of card information)	-	-	Y	Y	-	-
6044		Communication Error of CardNotification	Card notification failure (Stage2)	-	-	Y	Y	-	-
6066		PIN Authentication Failed because the PIN code was duplicated on the PIN server.	PIN authentication failure (duplication of a PIN code)	-	-	Y	Y	-	-
6100		User account is locked	User account locking out	-	-	Y	Y	-	-
6101		Box is locked	e-Filing box locking out	-	-	Y	Y	-	-
6102		Failed to login because the user account had been locked out.	User account is being locked out.	-	-	Y	Y	-	-
6103		Failed to access Box because the Box had been locked out.	e-Filing box is being locked out.	-	-	Y	Y	-	-
6121		Failed to Secure Erase	Automatic secure erase failure	-	-	Y	Y	-	P. 8-342
6130	Information	Successfully verified clock with Time Server	Synchronization success to a time server	-	-	Y	Y	-	-
6131	MFP access error	MFP fail to verify clock with Time Server	Synchronization with a time server has failed.	-	-	Y	Y	-	P. 8-342
6150	Information	Print Log full (100% Used) Log OverWrite will be start	Print log database full	-	-	Y	Y	-	-
6151		Print Log near full (95% Used)	Print log database nearly full (95%)	-	-	Y	Y	-	-
6152		Print Log near full (90% Used)	Print log database nearly full (90%)	-	-	Y	Y	-	-
6153		Print Log near full (80% Used)	Print log database nearly full (80%)	-	-	Y	Y	-	-
6154		Print Log near full (70% Used)	Print log database nearly full (70%)	-	-	Y	Y	-	-
6160	MFP access error	Scan Log full (100% Used) Log OverWrite will be start	Scan log database full	-	-	Y	Y	-	-
6161	Information	Scan Log near full (95% Used)	Scan log database nearly full (95%)	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
6162	Information	Scan Log near full (90% Used)	Scan log database nearly full (90%)	-	-	Y	Y	-	-
6163		Scan Log near full (80% Used)	Scan log database nearly full (80%)	-	-	Y	Y	-	-
6164		Scan Log near full (70% Used)	Scan log database nearly full (70%)	-	-	Y	Y	-	-
6170	MFP access error	FAX_Transmission Log full (100% Used) Log OverWrite will be started	Fax transmission database full	-	-	Y	Y	-	-
6171	Information	FAX_Transmission Log near full (95% Used)	Fax transmission database nearly full (95%)	-	-	Y	Y	-	-
6172		FAX_Transmission Log near full (90% Used)	Fax transmission database nearly full (90%)	-	-	Y	Y	-	-
6173		FAX_Transmission Log near full (80% Used)	Fax transmission database nearly full (80%)	-	-	Y	Y	-	-
6174		FAX_Transmission Log near full (70% Used)	Fax transmission database nearly full (70%)	-	-	Y	Y	-	-
6180	MFP access error	FAX_Receive Log full (100% Used) Log OverWrite will be start	Fax reception database full	-	-	Y	Y	-	-
6181	Information	FAX_Receive Log near full (95% Used)	Fax reception database nearly full (95%)	-	-	Y	Y	-	-
6182		FAX_Receive Log near full (90% Used)	Fax reception database nearly full (90%)	-	-	Y	Y	-	-
6183		FAX_Receive Log near full (80% Used)	Fax reception database nearly full (80%)	-	-	Y	Y	-	-
6184		FAX_Receive Log near full (70% Used)	Fax reception database nearly full (70%)	-	-	Y	Y	-	-
6190	MFP access error	Message Log full (100% Used) Log OverWrite will be start	Message log database full	-	-	Y	Y	-	-
6191	Information	Message Log near full (95% Used)	Message log database nearly full (95%)	-	-	Y	Y	-	-
6192		Message Log near full (90% Used)	Message log database nearly full (90%)	-	-	Y	Y	-	-
6193		Message Log near full (80% Used)	Message log database nearly full (80%)	-	-	Y	Y	-	-
6194		Message Log near full (70% Used)	Message log database nearly full (70%)	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				PanI	JL	ML	Noti	CSV	
61A0	Information	Secure Receive was enabled	Shifting to the Secure RX ON mode is recorded.	-	-	Y	Y	-	-
61A1		Secure Receive was disabled	Shifting to the Secure RX OFF mode is recorded.	-	-	Y	Y	-	-
61C0	MFP access error	Application Log full (100% Used) Log OverWrite will be start	Application log database full	-	-	Y	Y	-	-
61C1	Information	Application Log near full (95% Used)	Application log database nearly full (95%)	-	-	Y	Y	-	-
61C2		Application Log near full (90% Used)	Application log database nearly full (90%)	-	-	Y	Y	-	-
61C3		Application Log near full (80% Used)	Application log database nearly full (80%)	-	-	Y	Y	-	-
61C4		Application Log near full (70% Used)	Application log database nearly full (70%)	-	-	Y	Y	-	-
6200		Service Technician changed Security Level	Security level change of an MFP by a service technician	-	-	Y	Y	-	-
6220	Administrator's setting wizard is finished	Execution of the administrator setting wizard	-	-	-	-	-	-	
6221	Security settings are changed by Administrator	Security setting items change by an administrator	-	-	-	-	-	-	
6240	MFP access error	User account password is not pursuant to Security Policy	A user password is outside the security policy.	-	-	-	-	-	-
6241		eFiling Box password is not pursuant to Security Policy	An e-Filing box password is outside the security policy.	-	-	-	-	-	-
6260	Information	User Information updated	User information change	-	-	-	-	-	-
6261		Role Information updated	Role information change	-	-	-	-	-	-
6262		Role in Group is edited	Group role information change	-	-	-	-	-	-
6280		Selfsigned Certificate generated	Self-signed certification generation	-	-	-	-	-	-
6281		Server Certificate generated	Server certification generation	-	-	-	-	-	-
6282	MFP access error	Failed to add certificate	Certification addition failure	-	-	-	-	-	-
6283	Information	Cryptographic key generated	Encryption key generation	-	-	-	-	-	-

## 8.2.7 Maintenance error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
7100	Information	Successfully updated Copier Firmware	System Firmware installation success	-	-	Y	Y	-	-
7101	Maintenance error	Failed to update Copier Firmware	System firmware installation failure	-	-	Y	Y	-	P. 8-343
7102	Information	Successfully updated Copier Main ROM	Succeeded in installation of engine firmware.	-	-	Y	Y	-	-
7103	Maintenance error	Failed to update Copier Main ROM	Engine firmware installation failure	-	-	Y	Y	-	P. 8-343
7104	Information	Successfully updated Copier Scanner ROM	Succeeded in installation of scanner firmware.	-	-	Y	Y	-	-
7105	Maintenance error	Failed to update Copier Scanner ROM	Scanner firmware installation failure	-	-	Y	Y	-	P. 8-343
7108	Information	Successfully updated Printer Driver	Succeeded in installation of printer driver.	-	-	Y	Y	-	-
7109	Maintenance error	Failed to update Printer Driver	Printer driver upload failure	-	-	Y	Y	-	P. 8-343
710A	Information	Successfully updated Point And Print	Succeeded in installation of point and print data.	-	-	Y	Y	-	-
710B	Maintenance error	Failed to update Printer Driver	Printer Driver data upload failure	-	-	Y	Y	-	P. 8-343
710E	Information	Successfully installed Language Pack	Succeeded in installation of language pack.	-	-	Y	Y	-	-
710F	Maintenance error	Failed to install Language Pack	Language pack installation failure	-	-	Y	Y	-	P. 8-344
7110	Information	Successfully installed Patch	Succeeded in installation of patch.	-	-	Y	Y	-	-
7111	Maintenance error	Failed to install Patch	Patch installation failure	-	-	Y	Y	-	P. 8-343
7112	Information	Successfully installed Plugin	Succeeded in installation of plug-in.	-	-	Y	Y	-	-
7113	Maintenance error	Failed to install Plugin	Plug-in installation failure	-	-	Y	Y	-	P. 8-343
7114	Information	Successfully updated HDD Data	Successful Installation of HDD Data	-	-	Y	Y	-	-
7115	Maintenance error	Failed to update HDD Data	HDD data installation failure	-	-	Y	Y	-	P. 8-343
7116	Information	Successfully updated Reversing Automatic Document Feeder ROM	Succeeded in installation of DSDf firmware.	-	-	Y	Y	-	-



Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
7117	Maintenance error	Failed to update Reversing Automatic Document Feeder ROM	DSDF firmware installation failure	-	-	Y	Y	-	P. 8-343
7118	Information	Successfully updated PFC ROM	Succeeded in installation of PFC firmware.	-	-	Y	Y	-	-
7119	Maintenance error	Failed to update PFC ROM	PFC firmware installation failure	-	-	Y	Y	-	P. 8-343
711A	Information	Cleared License Key	Electronic key clear	-	-	Y	Y	-	-
711C		Successfully removed License Key	Electronic key returning success	-	-	Y	Y	-	-
711D	Maintenance error	Failed to remove License Key	License key returning failure	-	-	Y	Y	-	P. 8-344
711E	Information	Successfully installed License Key	Electronic key installation success	-	-	Y	Y	-	-
711F	Maintenance error	Failed to install License Key	License key installation failure	-	-	Y	Y	-	P. 8-344
7120	Information	Successfully imported Address Book	Succeeded in import of address book data.	-	-	Y	Y	-	-
7121	Maintenance error	Failed to import Address Book	Unsuccessful Import of Address Book Data	-	-	Y	Y	-	P. 8-344
7122	Information	Successfully imported Template	Successful Import of Template Data	-	-	Y	Y	-	-
7123	Maintenance error	Failed to import Template	Unsuccessful Import of Template Data	-	-	Y	Y	-	P. 8-344
7124	Information	Successfully imported Mail Boxes	Successful Import of MailBox Data	-	-	Y	Y	-	-
7125	Maintenance error	Failed to import Mail Boxes	Unsuccessful Import of MailBox Data	-	-	Y	Y	-	P. 8-345
7126	Information	Successfully imported XML Format File	Successful Import of Format File for Metascan	-	-	Y	Y	-	-
7127	Maintenance error	Failed to import XML Format File	Unsuccessful Import of Format File for Metascan	-	-	Y	Y	-	P. 8-345
7128	Information	Successfully imported User Information	Successful Import of User Information	-	-	Y	Y	-	-
7129	Maintenance error	Failed to import User Information	Unsuccessful Import of User Information	-	-	Y	Y	-	P. 8-345
712A	Information	Successfully imported Role Information	Successful Import of Role Information	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
712B	Maintenance error	Failed to import Role Information	Unsuccessful Import of Role Information	-	-	Y	Y	-	P. 8-345
712C	Information	Successfully imported Department Code	Successful Import of Department Data	-	-	Y	Y	-	-
712D	Maintenance error	Failed to import Department Code	Unsuccessful Import of Department Data	-	-	Y	Y	-	P. 8-345
712E	Information	Successfully imported ICC Profile	Successful Import of ICC Profile	-	-	Y	Y	-	-
712F	Maintenance error	Failed to import ICC Profile	Unsuccessful Import of ICC Profile	-	-	Y	Y	-	P. 8-345
7130	Information	Successfully imported Print Data Converter	Successfully imported Print Data Converter	-	-	Y	Y	-	-
7131	Maintenance error	Failed to import Print Data Converter	Failed to import Print Data Converter	-	-	Y	Y	-	P. 8-346
7132		Failed to import some User Information	Failed to import any users	-	-	Y	Y	-	P. 8-346
7133		Failed to import some User, Role and Group information	Failed to import any user, role and group information	-	-	Y	Y	-	P. 8-346
7134		Failed to import some Department Code	Failed to import any department code	-	-	Y	Y	-	P. 8-346
7136	Information	Successfully imported EWB error screen file	Successful Import of EWB error screen file	-	-	Y	Y	-	-
7137	Maintenance error	Failed to imported EWB error screen file	Unsuccessful Import of EWB error screen file	-	-	Y	Y	-	-
7138	Information	Successfully imported the certificate by SCEP	Succeeded in acquisition of certificate from SCEP server. Import Certification > Success import the certification by SCEP	-	-	Y	Y	-	-
7139	Maintenance error	Failed to import the certificate by SCEP	Failed in acquisition of certificate from SCEP server. Import Certification > failure import the certification by SCEP	-	-	Y	Y	-	P. 8-346

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
713A	Information	Successfully imported the certificate	Succeeded in import of certificate from TopAccess. Import Certification > Success import the certification by TopAccess	-	-	Y	Y	-	-
713B	Maintenance error	Failed to import the certificate	Failed in import of certificate from TopAccess. Import Certification > failure import the certification by TopAccess	-	-	Y	Y	-	P. 8-347
713C	Information	Successfully imported Combined data(User Information, Role, Group)	Successful Import of User Combined Data	-	-	Y	Y	-	-
713D	Maintenance error	Failed to import Combined data(User Information, Role, Group)	Unsuccessful Import of User Combined Data	-	-	Y	Y	-	P. 8-347
713E	Information	Successfully imported Combined data (Template, Address Book, Mail Boxes)	Successful Import of All Data(Template/ AddressBook/ MailBox)	-	-	Y	Y	-	-
713F	Maintenance error	Failed to import Combined data (Template, Address Book, Mail Boxes)	Unsuccessful Import of All Data(Template/ AddressBook/ MailBox)	-	-	Y	Y	-	P. 8-347
7140	Information	Successfully exported Address Book	Succeeded in export of address book data.	-	-	Y	Y	-	-
7141	Maintenance error	Failed to export Address Book	Failed in export of address book data.	-	-	Y	Y	-	P. 8-347
7142	Information	Successfully exported Template	Succeeded in export of template data.	-	-	Y	Y	-	-
7143	Maintenance error	Failed to export Template	Failed in export of template data.	-	-	Y	Y	-	P. 8-347
7144	Information	Successfully exported Mail Boxes	Succeeded in export of MailBox data.	-	-	Y	Y	-	-
7145	Maintenance error	Failed to export Mail Boxes	Failed in export of MailBox data.	-	-	Y	Y	-	P. 8-348
7148	Information	Successfully exported User Information	Succeeded in export of user information.	-	-	Y	Y	-	-
7149	Maintenance error	Failed to export User Information	Failed in export of user information.	-	-	Y	Y	-	P. 8-348

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				Panl	JL	ML	Noti	CSV	
714A	Information	Successfully exported Role Information	Succeeded in export of role information.	-	-	Y	Y	-	-
714B	Maintenance error	Failed to export Role Information	Failed in export of role information.	-	-	Y	Y	-	P. 8-348
714C	Information	Successfully exported Department Code	Succeeded in export of department information.	-	-	Y	Y	-	-
714D	Maintenance error	Failed to export Department Code	Failed in export of department information.	-	-	Y	Y	-	P. 8-348
714E	Information	Successfully exported ICC Profile	Succeeded in export of ICC profile.	-	-	Y	Y	-	-
714F	Maintenance error	Failed to export ICC Profile	Failed in export of ICC profile.	-	-	Y	Y	-	P. 8-349
7150	Information	Successfully exported Log data	Succeeded in export of log data.	-	-	Y	Y	-	-
7151	Maintenance error	Failed to export Log data	Failed in export of log data.	-	-	Y	Y	-	P. 8-349
7152	Information	Cleared Log data	Clear log.	-	-	Y	Y	-	-
7154		Rebuilt the Log DB by Log DB corruption	Rebuilt the Log DB automatically, because the Log DB was corrupted.	-	-	Y	Y	-	-
715A		Successfully exported Print Data Converter	Successful Print Data Converter	-	-	Y	Y	-	-
715B	Maintenance error	Failed to export Print Data Converter	Unsuccessful Print Data Converter	-	-	Y	Y	-	P. 8-349
715C	Information	Successfully exported Combined data (User Information, Role, Group)	Successful export of User Combined Data	-	-	Y	Y	-	-
715D	Maintenance error	Failed to export Combined data (User Information, Role, Group)	Unsuccessful export of User Combined Data	-	-	Y	Y	-	P. 8-349
715E	Information	Successfully exported Combined data (Template, Address Book, Mail Boxes)	Successful Export of All Data (Template/ AddressBook/ MailBox)	-	-	Y	Y	-	-
715F	Maintenance error	Failed to export Combined data (Template, Address Book, Mail Boxes)	Unsuccessful Export of All Data (Template/ AddressBook/ MailBox)	-	-	Y	Y	-	P. 8-349
7160	Information	Added new contact	Addition of AddressBook	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
7161	Information	Added new Template Group	Addition of Template Group	-	-	Y	Y	-	-
7162		Added new User Box	Addition of e-FilingBox	-	-	Y	Y	-	-
7163		Added new Department Code	Addition of Department Information	-	-	Y	Y	-	-
7165		Cleared Department Counter	Clear department counter.	-	-	Y	Y	-	-
7166		Edited Address Book	Modification of AddressBook	-	-	Y	Y	-	-
7167		Edited Template	Edit of Template Group and Add/Delete/Edit a Template in this Group	-	-	Y	Y	-	-
7168		Edited e-Filing	Modification of e-FilingBox	-	-	Y	Y	-	-
7169		Edited Department Code	Modification of Department Information	-	-	Y	Y	-	-
7170		Removed a contact	Deletion of AddressBook	-	-	Y	Y	-	-
7171		Removed a Template Group	Deletion of Template	-	-	Y	Y	-	-
7172		Removed a User Box	Deletion of e-FilingBox	-	-	Y	Y	-	-
7173		Removed a Department Code	Deletion of Department Information	-	-	Y	Y	-	-
7174		Updated user information: New User created	User information was modified. Edited User Information > Addition/change/delete of User (Include changing user password)	-	-	Y	Y	-	-
7175		Updated user information: User Information modified	Edited User Information > change of User (Include changing user password)	-	-	Y	Y	-	-
7176		Updated user information: User removed	(RemoveUser) Edited User Information > delete of User	-	-	Y	Y	-	-
7177	Updated role Information: New Role created	Role information was modified. Edited Role Information > Addition/change/delete of Role	-	-	Y	Y	-	-	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				PanI	JL	ML	Noti	CSV	
7178	Information	Updated role Information: Role information modified	Modification of role Information	-	-	Y	Y	-	-
7179		Updated role Information: Role removed	Deletion of role Information	-	-	Y	Y	-	-
717A		Updated group information: New Group created	Group role information was modified. Edited Role Information > Addition/Change/Delete Group information	-	-	Y	Y	-	-
717B		Updated group information: Group information modified	Modification of group information	-	-	Y	Y	-	-
717C		Updated group information: Group removed	Deletion of group information	-	-	Y	Y	-	-
7182		Edited Device Setting	Device Setting	-	-	Y	Y	-	-
7183		Edited Network Setting	Network setting	-	-	Y	Y	-	-
7184		Edited Security Setting	Security Setting	-	-	Y	Y	-	-
7185		Edited Authentication Setting	Authentication Setting	-	-	Y	Y	-	-
7188	Maintenance error	Failed to change user password because of password policy mismatch	Failed in modification because of password policy violation at modification of user password.	-	-	Y	Y	-	-
7189		eFiling Box password is not pursuant to Security Policy	Failed in modification because of password policy violation at modification of eFiling Box password.	-	-	Y	Y	-	-
7190	Information	Successfully uploaded DDNS public key file	DDNS public key file upload succeed	-	-	Y	Y	-	-
7191	Maintenance error	Failed to upload DDNS public key file	DDNS public key file upload failure	-	-	Y	Y	-	P. 8-350
7192	Information	Successfully uploaded DDNS private key file	DDNS private key file upload succeed	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
7193	Maintenance error	Failed to upload DDNS private key file	DDNS private key file upload failure	-	-	Y	Y	-	P. 8-350
71A0	Information	Generated Self signed Certificate	Self-signed certificate was issued. Cryptograph > Generation of self-signed certificate and the outcome	-	-	Y	Y	-	-
71A1		Success to add CA certificate	Success in addition of certificate. Cryptograph > Failure to add Certificates to Database	-	-	Y	Y	-	-
71A2	Maintenance error	Failed to add CA certificate	Failed in addition of certificate. Cryptograph > Failure to add Certificates to Database	-	-	Y	Y	-	P. 8-350
71A3	Information	Generated Cryptographic key	Encryption key was generated. Cryptograph > Creation of Asymmetric / Symmetric Keys	-	-	Y	Y	-	-
71A4	Maintenance error	Cryptographic key consistency confirmation failure	Failed in consistency confirmation in cryptographic key.	-	-	Y	Y	-	P. 8-350
71A5	Information	Successfully deleted Device Certificate.	Successfully deleted Device Certificate.	-	-	Y	Y	-	-
71A6	Maintenance error	Failed to delete Device Certificate.	Failed to delete Device Certificate.	-	-	Y	Y	-	P. 8-350
71A7	Information	Successfully deleted CA Certificate.	Successfully deleted CA Certificate.	-	-	Y	Y	-	-
71A8	Maintenance error	Failed to delete CA Certificate.	Failed to delete CA Certificate.	-	-	Y	Y	-	P. 8-350
71AA		Invalid Error Occurd while getting Certificate from SCEP server	Invalid Error Occurd while getting Certificate from SCEP server	-	-	Y	Y	-	P. 8-351
71AB		Timeout Error Occurd while getting Certificate from SCEP server	Timeout Error Occurd while getting Certificate from SCEP server	-	-	Y	Y	-	P. 8-351
71AC		File Save Error Occurd while getting Certificate from SCEP server	File Save Error Occurd while getting Certificate from SCEP server	-	-	Y	Y	-	P. 8-351
71AD		SCEP operation failure.	Failed SCEP operation	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
71B0	Maintenance error	Failed to decrypt Software Package	Failed to decrypt Software Package	-	-	Y	Y	-	P. 8-351
71B2	Information	Successfully updated Laser ROM	Successful Installation of Laser Firmware	-	-	Y	Y	-	-
71B3	Maintenance error	Failed to update Laser ROM	Unsuccessful Installation of Laser Firmware	-	-	Y	Y	-	-
71B4	Information	Successfully updated Finisher ROM	Successful Installation of Finisher Firmware	-	-	Y	Y	-	-
71B5	Maintenance error	Failed to update Finisher ROM	Unsuccessful Installation of Finisher Firmware	-	-	Y	Y	-	-
71B6	Information	Successfully updated Saddle ROM	Successful Installation of Saddle Firmware	-	-	Y	Y	-	-
71B7	Maintenance error	Failed to update Saddle ROM	Unsuccessful Installation of Saddle Firmware	-	-	Y	Y	-	-
71B8	Information	Successfully updated Punch ROM	Successful Installation of Punch Firmware	-	-	Y	Y	-	-
71B9	Maintenance error	Failed to update Punch ROM	Unsuccessful Installation of Punch Firmware	-	-	Y	Y	-	-
71BA	Information	Successfully updated UI Data	UI data installation success	-	-	Y	Y	-	-
71BB	Maintenance error	Failed to update UI Data	UI data installation failure	-	-	Y	Y	-	-
71BC	Information	Successfully rollback UI Data	UI data recovery success	-	-	Y	Y	-	-
71BD	Maintenance error	Failed to rollback UI Data	UI data recovery failure	-	-	Y	Y	-	-
71C0	Information	Integrity Check requested by User is started.	Integrity Check requested by User is Started.	-	-	Y	Y	-	-
71C1		No problems found by Integrity Check requested by User.	Integrity Check requested by User is Finished [NO ISSUE FOUND]	-	-	Y	Y	-	-
71C2		Integrity Check is canceled by User.	Integrity Check requested by User is Canceled	-	-	Y	Y	-	-
71C3		No problems found by start up Integrity Check.	StartUp Integrity Check is Finished [NO ISSUE FOUND]	-	-	Y	Y	-	-
71D0	Maintenance error	Failed to restore Factory Default settings	Factory default setting failed.	-	-	Y	Y	-	P. 8-352
71F0	Information	Successfully created Clone File	Successfully created Clone File	-	-	Y	Y	-	-
71F1	Maintenance error	Failed to create Clone File	The creation of a clone file failed.	-	-	Y	Y	-	P. 8-352



Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
71F2	Information	Successfully imported Clone File	Successfully imported Clone File	-	-	Y	Y	-	-
71F3	Maintenance error	Failed to import Clone File	Failed to import Clone File	-	-	Y	Y	-	P. 8-352
71F4		Failed to decrypt Clone File	Failed to decrypt Clone File	-	-	Y	Y	-	P. 8-352
71F5		Failed to encrypt Cone File	Failed to encrypt Cone File	-	-	Y	Y	-	P. 8-352
7210	Information	Successful synchronization of User Management information	Successful synchronization of User Management information	-	-	Y	Y	-	-
7211	Maintenance error	Failed to synchronize User Management information	User management information synchronization failure	-	-	Y	Y	-	-
7212		Failed to synchronize User Management information (setting mistake)	User management information synchronization failure (incorrect setting)	-	-	Y	Y	-	-
7213		Failed to synchronize User Management information for some Secondary MFP	Some user management information synchronization failure	-	-	Y	Y	-	-
7220	Information	Successful synchronization of AddressBook	Address book delivery success	-	-	Y	Y	-	-
7221	Maintenance error	Failed to synchronize AddressBook	Failed to synchronize AddressBook	-	-	Y	Y	-	-
7222		Failed to synchronize AddressBook for some Secondary MFP	Some address book delivery failure	-	-	Y	Y	-	-
7230	Information	Added new Project Code	Addition of Project Code	-	-	Y	Y	-	-
7231		Edited Project Code	Modification of Project Code	-	-	Y	Y	-	-
7232		Removed a Project Code	Project deletion	-	-	Y	Y	-	-
7233		Successfully exported Project Code	Project export success	-	-	Y	Y	-	-
7234	Maintenance error	Failed to export Project Code	Project export failure	-	-	Y	Y	-	-
7235		Download Project Code.	Exported project downloading	-	-	Y	Y	-	-
7236	Information	Successfully imported Project Code	Project import success	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
7237	Maintenance error	Failed to import Project Code	Project import failure	-	-	Y	Y	-	-
7238		Failed to import some Project Code	Some project import failure	-	-	Y	Y	-	-
7240	Information	Download Address Book.	Download Address Book.	-	-	Y	Y	-	-
7241		Download Template.	Download Template.	-	-	Y	Y	-	-
7242		Download Mail Boxes.	Download Mail Boxes.	-	-	Y	Y	-	-
7244		Download User Information.	Download User Information.	-	-	Y	Y	-	-
7245		Download Role Information.	Download Role Information.	-	-	Y	Y	-	-
7246		Download Department Code.	Download Department Code.	-	-	Y	Y	-	-
7247		Download ICC Profile.	Download ICC Profile.	-	-	Y	Y	-	-
7248		Download Log data.	Download Log data.	-	-	Y	Y	-	-
7249		Download Combined data (User Information, Role, Group).	Download Combined data (User Information, Role, Group).	-	-	Y	Y	-	-
724A		Download Combined data (Template, Address Book, Mail Boxes).	Operation to download Template, Address Book, Mail Boxes	-	-	Y	Y	-	-
724B		Download Clone File.	Operation to download Clone File	-	-	Y	Y	-	-
724C		Download Print Data Converter.	Operation to download Print Data Converter	-	-	Y	Y	-	-
7272			Successfully updated FAX FIRMWARE1	Fax firmware1 installation success	-	-	Y	Y	-
7273	Maintenance error	Failed to update FAX FIRMWARE1	Fax firmware1 installation failure	-	-	Y	Y	-	-
7274	Information	Successfully updated FAX FIRMWARE2	Fax firmware2 installation success	-	-	Y	Y	-	-
7275	Maintenance error	Failed to update FAX FIRMWARE2	Fax firmware2 installation failure	-	-	Y	Y	-	-
7276	Information	Successfully updated NIC FIRMWARE	NIC firmware installation success	-	-	Y	Y	-	-
7277	Maintenance error	Failed to update NIC FIRMWARE	NIC firmware installation failure	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				Panl	JL	ML	Noti	CSV	
72A0	Information	Notification events that were registered from an application were deleted	Deletion of event notification destination information registered from an application	-	-	Y	Y	-	-
7300		Successfully installed Application	An application is installed.	-	-	Y	Y	-	-
7301	Maintenance error	Failed to install Application	Installation of an application fails.	-	-	Y	Y	-	-
7302	Information	Successfully uninstalled Application	An application is uninstalled.	-	-	Y	Y	-	-
7303	Maintenance error	Failed to uninstall Application	Uninstallation of an application fails.	-	-	Y	Y	-	-
7304	Information	Successfully updated Application	An application is updated.	-	-	Y	Y	-	-
7305	Maintenance error	Failed to update Application	Updating of an application fails.	-	-	Y	Y	-	-
7306	Information	Application was all removed.	Application was all removed.	-	-	Y	Y	-	-
7307	Maintenance error	Failed to Delete all of the applications.	Failed to Delete all of the applications.	-	-	Y	Y	-	-
7308	Information	Automatically stopped the application.	Automatically stopped the application.	-	-	Y	Y	-	-
7309	Information	Automatically started the application.	Automatically started the application.	-	-	Y	Y	-	-
7311	Maintenance error	Failed to start Application	Start of an application fails.	-	-	Y	Y	-	-
7313		Application was terminated abnormally	An application ends abnormally.	-	-	Y	Y	-	-
7315		App start duplicated error. Please retry later.	App start duplicated error.	-	-	Y	Y	-	-
7320	Information	Application license was activated.	The license of an application is enabled.	-	-	Y	Y	-	-
7321	Maintenance error	Failed to activation of application license	Enabling of the license for an application fails.	-	-	Y	Y	-	-
7322	Information	Application license was inactivated.	The license of an application is disabled.	-	-	Y	Y	-	-
7323	Maintenance error	Failed to inactivation of application license	Disabling of the license for an application fails.	-	-	Y	Y	-	-
7324	Information	Installed the application license.	Installed the application license.	-	-	Y	Y	-	-
7325	Maintenance error	Failed to inactivation of application license	Disabling of the license for an application fails.	-	-	Y	Y	-	-

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				PanI	JL	ML	Noti	CSV	
7326	Information	Application license uninstalled.	Application license uninstalled.	-	-	Y	Y	-	-
7327	Maintenance error	Failed to uninstall the application license.	Failed to uninstall the application license.	-	-	Y	Y	-	-
7328	Information	Application license was all removed.	Application license was all removed.	-	-	Y	Y	-	-
7329	Maintenance error	Failed to Delete all of the application license.	Failed to Delete all of the application license.	-	-	Y	Y	-	-
7330		The expiration date of the license of the application approaches.	The validated date of the license for an application will nearly have expired.	-	-	Y	Y	-	-
7331		The time limit of the application license expired.	The validity date of the license for an application has expired.	-	-	Y	Y	-	-
7332		The time limit of the application license expired.	Application installation error	-	-	Y	Y	-	P. 8-353
7333		The time limit of the application license expired.	Application start error	-	-	Y	Y	-	P. 8-353

## 8.2.8 Network error

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
8000	Network error	Static address of IPv4 was duplicated.	IPv4 address conflict	-	-	Y	Y	-	P. 8-354
8011		Link Local address of IPv6 was duplicated.	IPv6 link local address conflict	-	-	Y	Y	-	P. 8-354
8012		Manual address of IPv6 was duplicated.	IPv6 manual address conflict	-	-	Y	Y	-	P. 8-354
8013		Stateless address of IPv6 was duplicated.	IPv6 stateless address conflict	-	-	Y	Y	-	P. 8-354
8014		Stateful address of IPv6 was duplicated.	IPv6 stateful address conflict	-	-	Y	Y	-	P. 8-354
8022		Authentication Failure	802.1X authentication failure	-	-	Y	Y	-	P. 8-354
8023		Can not contact Authentication Server/Switch	Connection failure to an authentication server and a switch	-	-	Y	Y	-	P. 8-355
8024		Certificate verification Failure	Failure in verification of certification	-	-	Y	Y	-	P. 8-355
8031		No IKE proposal chosen	Ipsec error for IKEv1 certification failure	-	-	Y	Y	-	P. 8-355
8032		IKE Certificate Authentication failed	Ipsec error for wrong proposal selection	-	-	Y	Y	-	P. 8-355
8033		IKE Pre-shared key Authentication failed	Ipsec error for shared key authentication failure	-	-	Y	Y	-	P. 8-355
8034		Invalid Certificate	Ipsec error for invalid certificate upload	-	-	Y	Y	-	P. 8-356
8035		Certificate Type unsupported	Ipsec error for non-supported certification	-	-	Y	Y	-	P. 8-356
8036		Invalid certificate authority	Ipsec error for invalid certification of authentication	-	-	Y	Y	-	P. 8-356
8037		Certificate unavailable	Ipsec error for certification disable	-	-	Y	Y	-	P. 8-356
8038		No ISAKMP SA established	Ipsec error for SA non-existing	-	-	Y	Y	-	P. 8-356
8039		Invalid Signature	Ipsec error for invalid signature for certification	-	-	Y	Y	-	P. 8-357
803A	No IKEv2 proposal chosen	Ipsec error for wrong selection of proposal	-	-	Y	Y	-	P. 8-357	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
803B	Network error	IKEv2 Certificate Authentication failed	Ipsec error for IKEv2 certification failure	-	-	Y	Y	-	P. 8-357
803C		IKEv2 Secret key Authentication failed	Ikev2 error for IKEv2 if secret key authentication failed	-	-	Y	Y	-	P. 8-357
803D		Falling Back to IKEv1	Ipsec error if peer does not support IKEv2 and falling back to IKEv1	-	-	Y	Y	-	P. 8-358
803E		ISAKMP SA unusable (deleted)	Ipsec error if ISAKMP SA is uncreated or destroyed due to some uncertain conditions	-	-	Y	Y	-	P. 8-358
803F		Crypto operation failed	Ipsec error for IKEv2 if crypto operation failed	-	-	Y	Y	-	P. 8-358
8040		Invalid key information	Ipsec error for IKEv2 if key info is invalid	-	-	Y	Y	-	P. 8-358
8041		CA not trusted	Ipsec error for IKEv2 if CA is not trusted	-	-	Y	Y	-	P. 8-358
8042		Authentication Method mismatch	Ipsec error for authentication method inconsistency	-	-	Y	Y	-	P. 8-359
8043		IKE Version mismatch	Ipsec error for version inconsistency	-	-	Y	Y	-	P. 8-359
8044		Encapsulation mode mismatch	Ipsec error for encapsulation inconsistency	-	-	Y	Y	-	P. 8-359
8045		Peer IP Address mismatch	Ipsec error for peer ip inconsistency	-	-	Y	Y	-	P. 8-359
8046		Local IP Address mismatch	Ipsec error for local ip inconsistency	-	-	Y	Y	-	P. 8-359
8047		Local ID mismatch	Ipsec error for local id inconsistency	-	-	Y	Y	-	P. 8-360
8048		Remote ID mismatch	Ipsec error for remote id inconsistency	-	-	Y	Y	-	P. 8-360
8049		IPsec Remote IP mismatch	Ipsec error for remote ip inconsistency	-	-	Y	Y	-	P. 8-360
804A		IKEv1/IKEv2 Timed out	Ipsec error for IKEv2 timeout	-	-	Y	Y	-	P. 8-360
804B	Invalid manual key data	Ipsec error for invalid of id manual key	-	-	Y	Y	-	P. 8-360	
8061	Secure Update to Primary DDNS failed.	Update error for secure primary DDNS	-	-	Y	Y	-	P. 8-361	

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
8062	Network error	Secure Update to Secondary DDNS failed	Update error for secure secondary DDNS	-	-	Y	Y	-	P. 8-361
8063		Secure Update to Primary IPv6 DDNS failed.	Update error for IPv6 secure primary DDNS	-	-	Y	Y	-	P. 8-361
8064		Secure Update to Secondary IPv6 DDNS failed	Update error for IPv6 secure secondary DDNS	-	-	Y	Y	-	P. 8-361
8065		IPv6 Update to Primary DDNS failed.	Update error for IPv6 primary DDNS	-	-	Y	Y	-	P. 8-361
8066		IPv6 Update to Secondary DDNS failed.	Update error for IPv6 secondary DDNS	-	-	Y	Y	-	P. 8-361
8067		IPv4 Update to Primary DDNS failed.	Update error for IPv4 primary DDNS	-	-	Y	Y	-	P. 8-361
8068		IPv4 Update to Secondary DDNS failed.	Update error for IPv4 secondary DDNS	-	-	Y	Y	-	P. 8-361
8069		Invalid TSIG/SIG(0) Key file uploaded	This message is displayed when the key file for SIG(0) or TSIG is invalid.	-	-	Y	Y	-	P. 8-361
8101		Wireless association with Access point failure	Wireless connection in the Access point failure	-	-	Y	Y	-	P. 8-361
8102		MFP not able to contact the Access point with the specified SSID	Connection of MFP to the Access point with a specified SSID failure	-	-	Y	Y	-	P. 8-361
8103		Wireless Certificate verification failure	Wireless certificate verification failure	-	-	Y	Y	-	P. 8-362
8104		Wireless Certificate verification failure	Wireless certificate verification failure	-	-	Y	Y	-	P. 8-362
8121		Domain - General Failure during Authentication	Domain: Authentication failure	-	-	Y	Y	-	P. 8-362
8122		Domain - Invalid Username or Password	Domain: Invalid user name or password	-	-	Y	Y	-	P. 8-362
8123	Domain - Server not present in Network	Domain: Invalid server	-	-	Y	Y	-	P. 8-362	
8124	Domain - User account is disabled on Server	Domain: Invalid user account	-	-	Y	Y	-	P. 8-363	
8125	Domain - User account has expired and cannot be used for logon	Domain: Expired user account (cannot be used for logon)	-	-	Y	Y	-	P. 8-363	

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
8126	Network error	Domain - User account is locked and cannot be used for logon	Domain: Locked user account (cannot be used for logon)	-	-	Y	Y	-	P. 8-363
8127		Domain - Invalid logon hours for the User	Domain: Invalid logon hours	-	-	Y	Y	-	P. 8-363
8128		Active Directory Domain - Clock Skew error due to difference in Time between Server and MFP	Active directory domain: Clock skew error (due to difference in time between the server and the MFP)	-	-	Y	Y	-	P. 8-363
8129		Active Directory Domain - Kerberos Ticket has expired and cannot be used for Authentication	Active directory domain: Expired Kerberos ticket (cannot be used for authentication)	-	-	Y	Y	-	P. 8-364
812A		Active Directory Domain - Verification of the Ticket has failed	Active directory domain: Kerberos ticket authentication failure	-	-	Y	Y	-	P. 8-364
812B		Active Directory Domain - The Domain specified could not be found	Active directory domain: Invalid realm name	-	-	Y	Y	-	P. 8-364



## 8.2.9 Notification

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
A08B	Information	-	Insufficient disk space for the 1st saving of the image data	-	-	-	-	Y	-
A15D		-	Memory Full	-	-	-	-	Y	-
A240		-	Paper empty during scanning	-	-	-	-	Y	-
A248		-	Scanner cover open	-	-	-	-	Y	-
A249		-	DSDF jam	-	-	-	-	Y	-
A24C		-	Detach Key Counter	-	-	-	-	Y	-
A24D		-	Service call occurs in scanner device	-	-	-	-	Y	-
A24E		-	Service call occurs in DSDF	-	-	-	-	Y	-
A24F		-	Unknown error	-	-	-	-	Y	-
A250		-	Error due to the use of an invalid original	-	-	-	-	Y	-
A251		-	There is no drawer for the size detected by APS.	-	-	-	-	Y	-

Error code	Classification	Message	Contents	Error code display media					Troubles shooting
				Panl	JL	ML	Noti	CSV	
A252	Information	-	Different orientation of an original	-	-	-	-	Y	-
A253		-	No upcoming originals	-	-	-	-	Y	-
A254		-	An original is not set on the DSDF.	-	-	-	-	Y	-
A256		-	Exceeding the maximum number of sheets for an original of 1 job	-	-	-	-	Y	-
A257		-	Software inside error	-	-	-	-	Y	-
A258		-	There is no drawer for the size with the different orientation set from that for an original.	-	-	-	-	Y	-
A259		-	Fatal error of the software	-	-	-	-	Y	-
A260		-	Detection of the finisher non-supported original size	-	-	-	-	Y	-
A266		-	Non-standard original size This will occur only when APS or AMS is set.	-	-	-	-	Y	-
A275		-	Paper is fed from the drawer set for Cover or Insert.	-	-	-	-	Y	-
A277		-	Detection of the punching non-supported original size	-	-	-	-	Y	-
A280		-	Non-standard paper size	-	-	-	-	Y	-
A28E		-	All pages are detected as blank.	-	-	-	-	Y	-
A28F		-	A duplication inhibition original, to which hardcopy security has been applied, is detected.	-	-	-	-	Y	-
A2B0		-	Job cancelation by means of an external counter	-	-	-	-	Y	-
D101		Paper Empty - Large Capacity Feeder (LCF)	Paper presence/absence in the LCF	-	-	-	Y	Y	-
D102			Paper presence/absence in the SFB	-	-	-	Y	Y	-

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
D103	Information	Paper Empty in Drawer 1 - Please Add Paper.	Paper presence/absence in the CST1	-	-	Y	Y	Y	-
D104		Paper Empty in Drawer 2 - Please Add Paper.	Paper presence/absence in the CST2	-	-	-	Y	Y	-
D105		Paper Empty in Drawer 3 - Please Add Paper.	Paper presence/absence in the CST3	-	-	-	Y	Y	-
D106		Paper Empty in Drawer 4 - Please Add Paper.	Paper presence/absence in the CST4	-	-	-	Y	Y	-
D107		Open and close Large Capacity Feeder (LCF).	Paper Empty - Large Capacity Feeder (Option-LCF)	-	-	-	Y	Y	-
D201		Close front cover	Close front cover	-	-	Y	Y	Y	-
D205		Lower Side Cover Open - Please Close Cover.	Paper feed cover of the PFP (side cover)	-	-	Y	Y	Y	-
D206		Automatic Duplexing Unit Cover Open - Please Close Cover.	ADU cover / unit	-	-	Y	Y	Y	-
D207		Relay Unit Cover Open - Please Close Cover.	Bridge unit transport cover	-	-	Y	Y	Y	-
D209		Finisher Joint Cover Open - Please Close Cover.	Finisher joint (when a hanging finisher is taken off)	-	-	Y	Y	Y	-
D20A		Finisher Door Open - Please Close Door.	Finisher door	-	-	Y	Y	Y	-
D20E		Lower Tray Delivery Cover Open - Please Close Cover	Saddle stitch stapler connection	-	-	Y	Y	Y	-
D20F		Punch Unit Front Cover Open - Please Close Cover.	Front cover of the punch unit	-	-	Y	Y	Y	-
D217		Finisher Door Open - Please Close Door.	Finisher Door Open	-	-	Y	Y	Y	-
D218		Waste Cover Open - Please Close Cover.	Waste Cover Open	-	-	Y	Y	Y	-
D219	Right Cover Open - Please Close Cover.	Right Cover Open	-	-	Y	Y	Y	-	
D21A	Switchback Cover Open - Please Close Cover.	Switchback Cover Open	-	-	Y	Y	Y	-	

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
D21B	Information	Option LCF Cover Open - Please Close Cover.	Option LCF Cover Open	-	-	Y	Y	Y	-
D21C		Please Join finisher to the copier.	Please Join finisher to the copier.	-	-	Y	Y	Y	-
D301		Black Toner Empty - Please Replace.	Black Toner Empty	-	-	Y	Y	Y	-
D302		Cyan Toner Empty - Please Replace.	Cyan Toner Empty	-	-	Y	Y	Y	-
D303		Magenta Toner Empty. Please Replace.	Magenta Toner Empty	-	-	Y	Y	Y	-
D304		Yellow Toner Empty. Please Replace.	Yellow Toner Empty	-	-	Y	Y	Y	-
D30F		Used Toner Container Full - Please Replace.	Used Toner Container Full	-	-	Y	Y	Y	-
D311		-	Non-genuine toner-K	-	-	-	Y	Y	-
D312		-	Non-genuine toner-C	-	-	-	Y	Y	-
D313		-	Non-genuine toner-M	-	-	-	Y	Y	-
D314		-	Non-genuine toner-Y	-	-	-	Y	Y	-
D321		-	K Toner near empty	-	-	-	Y	Y	-
D322		-	C Toner near empty	-	-	-	Y	Y	-
D323		-	M Toner near empty	-	-	-	Y	Y	-
D324		-	Y Toner near empty	-	-	-	Y	Y	-
D32E		-	Waste toner box nearly full	-	-	-	Y	Y	-
D341		Black Toner Empty - Please Refill.	Cartridge-K empty	-	-	Y	Y	Y	-
D342		Cyan Toner Empty - Please Refill.	Cartridge-C empty	-	-	Y	Y	Y	-
D343		Magenta Toner Empty - Please Refill.	Cartridge-M empty	-	-	Y	Y	Y	-
D344		Yellow Toner Empty - Please Refill.	Cartridge-Y empty	-	-	Y	Y	Y	-
D351	Time for Developer(K) Maintenance. Please Contact Service Technician.	Developer material-K replacing period	-	-	Y	Y	Y	-	

Error code	Classification	Message	Contents	Error code display media					Troubles hooting
				Panl	JL	ML	Noti	CSV	
D352	Information	Time for Developer(C) Maintenance. Please Contact Service Technician.	Developer material-C replacing period	-	-	Y	Y	Y	-
D353		Time for Developer(M) Maintenance. Please Contact Service Technician.	Developer material-M replacing period	-	-	Y	Y	Y	-
D354		Time for Developer(Y) Maintenance. Please Contact Service Technician.	Developer material-Y replacing period	-	-	Y	Y	Y	-
D401		Close Drawer 1	Drawer 1 (upper drawer open: eB2)	-	-	Y	Y	Y	-
D402		Close Drawer 2	Drawer 2 (lower drawer open: eB2)	-	-	Y	Y	Y	-
D403		Close Drawer 3	Drawer 3 (PFP upper drawer open: eB2)	-	-	Y	Y	Y	-
D404		Close Drawer 4	Drawer 4 (PFP lower drawer open: eB2)	-	-	Y	Y	Y	-
D405		Close large capacity feeder (LCF)	Paper supply door of the tandem LCF (LCF open: eB2)	-	-	Y	Y	Y	-
D406		Close large capacity feeder (LCF)	Paper supply door of the option LCF (LCF open)	-	-	Y	Y	Y	-
D407		Close large capacity feeder (LCF)	Paper supply door of the tandem LCF (left side)	-	-	Y	Y	Y	-
D712		Add/Remove Drawer 3	Drawer 3 installation/removal	-	-	Y	Y	Y	-
D713		Add/Remove Drawer 4	Drawer 4 installation/removal	-	-	Y	Y	Y	-
D719		Add/Remove External Large Capacity Feeder	Option-LCF installation/removal	-	-	Y	Y	Y	-
D730		Add/Remove Finisher	Finisher installation/removal	-	-	Y	Y	Y	-
D731		Add/Remove Saddle Finisher	Saddle stitch unit installation/removal	-	-	Y	Y	Y	-
D732		Add/Remove Hole Punch Unit	Hole punch unit installation/removal	-	-	Y	Y	Y	-
D7B0		Add/Remove Fax Unit(Line1)	Fax (line1) installation/removal	-	-	Y	Y	Y	-
D7B1		Add/Remove Fax Unit(Line2)	Fax (line2) installation/removal	-	-	Y	Y	Y	-
D7E0		Add/Remove Coin Controller	Coin controller installation/removal	-	-	Y	Y	Y	-

Error code	Classification	Message	Contents	Error code display media					Troubleshooting
				Panl	JL	ML	Noti	CSV	
D7E1	Information	Add/Remove Key Copy Counter	Key counter installation/removal	-	-	Y	Y	Y	-
D800		The machine was shut down	Shutdown	-	-	Y	Y	Y	-
D801		Turned on the power	Power On	-	-	Y	Y	Y	-
D802		Gone into the energy save mode	Move Low Power	-	-	Y	Y	Y	-
D803		Gone into the sleep mode	Move Sleep	-	-	Y	-	Y	-
D804		The machine was rebooted	Execute reboot	-	-	Y	Y	Y	-
DA01			Fax board line 1 malfunction	-	-	Y	-	-	-
DA02			Fax board line 2 malfunction	-	-	Y	-	-	-

## 8.2.10 Error history

In the setting mode (FS-08-9703), the latest twenty groups of error data will be displayed.

Display example

EA10	99999999	2016-04-14 17:57:32	064	064	2362_1000_0000_0 _XXXXXXXXXX
Error code	Total counter	YYYY-MM-DD HH:MM:SS	MMM	NNN	ABCD_EFHI_JLOP_Q_R
4 digits	8 digits	14 digits	3 digits	3 digits	23 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: Optional 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 / LD wide L: Unused M: 8K N: 16K-R O: 16K P: COM10 Q: DL R: Monarch S: CHO-3 T: YOU-4 U: SRA3(320x450) V: SRA3(320x460) W:13x19"(330x4483) Z: Not selected a: Envelope Kaku-2
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 B: Center fold C: Top Left D: Top Right E: Top Center F: Left Center
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
	Copy: 0: Single-sided/Single-sided 1: Book 2: Double-sided/Single-sided 4: Double-sided/Duplex copying 8: Single-sided/Duplex copying Printer: 0: Single-sided 8: Double-sided FAX: 0: Single-sided 8: Double-sided e-Filing: 0: Single-sided 8: Double-sided List printing: 0: Single-sided -
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: Unused 9: Unused 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 K: Plain paper/ reverse L: Recycled paper/ reverse M: Thin paper/ reverse N: Unused O: Unused P: Envelope/ reverse Q: Thick R: Thick/reverse S to Z: Unused a: User type 1 b: User type 2 c: User type 3 d: User type 4 e: User type 5 f: User type 6 g: User type 7 h: User type 8 i: User type 9 j: User type 10
Q	DSDF size mixed
	0: Unused 1: Size mixed 2: Single-size document
R	Workflow ID: 10-digit ID



## 8.3 Diagnosis and Prescription for Each Error Code

### 8.3.1 Check item

Check item	Contents
Sensor check	<ul style="list-style-type: none"> <li>• Check the sensor in the test mode.</li> <li>• Check that there is no dust on the sensor.</li> <li>• Check that the actuator is correctly operated.</li> </ul>
Connector check	<ul style="list-style-type: none"> <li>• Check that the connector is not disconnected.</li> <li>• Check that the pins are not deformed and do not come off.</li> <li>• Disconnect and reconnect the connector.</li> </ul>
Harness check	<ul style="list-style-type: none"> <li>• Check if the harnesses are open circuited.</li> </ul>
Motor check	<ul style="list-style-type: none"> <li>• Check the motor in the test mode.</li> <li>• Check that there is no abnormality in the driving section.</li> <li>• Check that there is no abnormality in the roller.</li> </ul>
Board check	<ul style="list-style-type: none"> <li>• Check if the board is short circuited or open circuited.</li> </ul>

### 8.3.2 Paper transport jam (paper exit section)

#### [E590] Stop jam at the upper paper exit sensor

Classification	Error item
Paper transport jam	Jam not reaching the bridge unit.

Check item	Measures
Upper paper exit sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[8]/[C], FS-03-[ALL]OFF/[8]/[D])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Exit motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-142)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN365, CN367, CN366, CN350)</li> <li>• Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN538, CN539, CN540)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Upper paper exit sensor	
Exit motor	
PFC board	
DRV board	
LGC board	Only when the check of the upper paper exit sensor (FS-03-[ALL]OFF/[8]/[D]) failed

**[E5A0] Jam not reaching the upper paper exit sensor**

Classification	Error item
Paper transport jam	Stop jam at the upper paper exit sensor.

Check item	Measures
Upper paper exit sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[8]/[C], FS-03-[ALL]OFF/[8]/[D])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bridge unit transport exit motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-136)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN365, CN367, CN366, CN350)</li> <li>• Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN539, CN540, CN538)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Upper paper exit sensor	
exit motor	
PFC board	
DRV board	
LGC board	Only when the check of the upper paper exit sensor (FS-03-[ALL]OFF/[8]/[D]) failed

**[E970] Jam not reaching the lower paper exit sensor**

Classification	Error item
Paper transport jam (Relay transport section)	Paper transported from the bridge unit does not reach the lower paper exit sensor.

Check item	Measures
Lower paper exit sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[9]/[A], FS-03-[ALL]OFF/[9]/[B])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bridge unit transport exit motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-136)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN365, CN367, CN366)</li> <li>• Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN539, CN540, CN538)</li> <li>• Board check</li> </ul>

Check item	Measures
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Lower paper exit sensor	
Bridge unit transport exit motor	
PFC board	
DRV board	
LGC board	Only when the check of the lower paper exit sensor (FS-03-[ALL]OFF/[9]/[B]) failed
Exit roller	

### [E980] Stop jam at the lower paper exit sensor

Classification	Error item
Paper transport jam (Relay transport section)	Paper transported from the bridge unit does not pass the lower paper exit sensor.

Check item	Measures
Lower paper exit sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[9]/[A], FS-03-[ALL]OFF/[9]/[B])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Exit motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-140)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN365, CN367, CN366)</li> <li>• Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN539, CN540, CN538)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Lower paper exit sensor	
exit motor	
PFC board	
DRV board	
LGC board	Only when the check of the lower paper exit sensor (FS-03-[ALL]OFF/[9]/[B]) failed
Exit roller	

### 8.3.3 Paper misfeeding

#### [E110] ADU misfeeding (paper not reaching the registration sensor)

Classification	Error item
Paper misfeeding	The paper which has passed through ADU does not reach the registration sensor during duplex printing.

Check item	Measures
Registration sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C], FS-03-[F3]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
ADU motor2	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-144)</li> <li>• Connector check (CN490, CN495)</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN365)</li> <li>• Harness check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Registration sensor	
ADU motor2	
ADU board	
PFC board	
LGC board	Only when the check of the registration sensor (FS-03-[ALL]OFF/[7]/[C]) failed
ADU roller	

#### [E120] Bypass misfeeding (paper not reaching the bypass feed sensor)

Classification	Error item
Paper misfeeding	Paper fed from the bypass tray does not reach the bypass feed sensor.

Check item	Measures
Bypass feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[9]/[D])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bypass motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-126)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
Bypass pick-up solenoid	<ul style="list-style-type: none"> <li>• Solenoid check (Perform the output check: FS-03-254)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>• Connector check (CN490, CN496, CN498)</li> <li>• Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN361)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Bypass feed sensor	
Bypass motor	
Bypass pick-up solenoid	
ADU board	
PFC board	
ADU roller	
Rollers	

**[E130] 1st drawer misfeeding (paper not reaching the 1st drawer feed sensor)**

Classification	Error item
Paper misfeeding	The paper fed from the 1st drawer does not reach the 1st drawer feed sensor.

Check item	Measures
1st drawer feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-120)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN362, CN364, CN360)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
1st drawer feed sensor	
1st/2nd drawer feed motor	
PFC roller	
Rollers	

**[E140] 2nd drawer misfeeding (paper not reaching the 2nd drawer feed sensor)**

Classification	Error item
Paper misfeeding	The paper fed from the 2nd drawer does not reach the 2nd drawer feed sensor.

Check item	Measures
2nd drawer feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[8]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-121)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN362, CN364, CN360)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
2nd drawer feed sensor	
1st/2nd drawer feed motor	
PFC roller	
Rollers	

**[E150] 3rd drawer misfeeding (paper not reaching the 3rd drawer feed sensor)**

Classification	Error item
Paper misfeeding	The paper fed from the 3rd drawer does not reach the 3rd drawer feed sensor.

Check item	Measures
3rd drawer feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd/4th drawer/LCF feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-122)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd drawer feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-250)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN354)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
3rd drawer feed sensor	
3rd/4th drawer/LCF feed motor	
PFC roller	
Rollers	
3rd drawer feed clutch	

**[E160] 4th drawer misfeeding (paper not reaching the 34th drawer feed sensor)**

Classification	Error item
Paper misfeeding	The paper fed from the 4th drawer does not reach the 4th drawer feed sensor.

Check item	Measures
4th drawer feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[0]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd/4th drawer/LCF feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-122)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
4th drawer feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-251)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN355)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
4th drawer feed sensor	
3rd/4th drawer/LCF feed motor	
PFC roller	
Rollers	
4th drawer feed clutch	

**[E180] Option LCF misfeeding (Paper not reaching the LCF feed sensor)**

Classification	Error item
Paper misfeeding	Paper fed from the LCF does not reach the LCF feed sensor.

Check item	Measures
Option LCF feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F2]ON/[1]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
LCF transport motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-127)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LCF transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-268)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN353)</li> <li>• Board check</li> </ul>
LCF board	<ul style="list-style-type: none"> <li>• Connector check (J850, J854)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
LCF feed sensor	
LCF transport motor	
PFC board	
LCF board	
Rollers	
LCF transport clutch	

**[E190] LCF misfeeding (paper not reaching the LCF feed sensor)**

Classification	Error item
Paper misfeeding	The paper fed from the LCF does not reach the LCF feed sensor.

Check item	Measures
LCF feed sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LCF feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-250)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN354)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
LCF feed sensor	
LCF feed clutch	
PFC board	
Rollers	



## 8.3.4 Paper transport jam

### [E010] Jam not reaching the fuser transport sensor

Classification	Error item
Paper transport jam	The paper which has passed through the fuser unit does not reach the fuser transport sensor.

Check item	Measures
ADU board	<ul style="list-style-type: none"> <li>Connector check (CN490, CN497)</li> <li>Board check</li> </ul>
Fuser transport sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[ALL]OFF/[6]/[H], FS-03-[ALL]OFF/[8]/[F])</li> <li>Connector check</li> <li>Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN314)</li> <li>Harness check</li> <li>Board check</li> </ul>
Fuser unit	<ul style="list-style-type: none"> <li>Check the gap between the separation plate and the fuser belt. (Refer to "6.11.1 Adjustment of the Separation Plate Gap".)</li> <li>Paper transport check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>
Leading edge margin	<p>Adjust the margin with FS-05-4402 (Leading edge position adjustment) to "Color: 4.5 mm". (Specification Black: 4.2 mm / Color: 5 mm)</p> <ul style="list-style-type: none"> <li>Use A3/LD paper</li> <li>Black solid image on 10 mm of the leading edge</li> </ul> <p>Refer to "6.1.1 Image Related Adjustment".</p>
2nd transfer bias offset	<p>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. Black: FS-05-2936 Subcode: 0, 7 Black: FS-05-2937 Subcode: 0, 7</p>
Change of the 2nd transfer bias	<p>If the leading edge of paper clings to the 2nd transfer roller and causes paper jamming, change the 2nd transfer roller bias correction factor of the leading/trailing edge of the paper. (The larger the value, the smaller the transfer voltage of the leading/trailing edge of the paper.)</p> <p>Codes to be changed (Initial value of the transfer bias of the leading/trailing edge of the paper: 0)</p> <ul style="list-style-type: none"> <li>Black mode print (top side): FS-05-2940-*</li> <li>Black mode print (back side): FS-05-2941-*</li> </ul> <p>Sub codes:* → Plain paper: 0, Recycled paper: 7</p> <p><b>Notes:</b> After these codes are changed, perform solid duplex-printing and check that there is no faint or void image on the leading/trailing edge of the paper.</p>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN350, CN361)</li> <li>Harness check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Fuser transport sensor	
LGC board	Only when the check of the fuser transport sensor (FS-03-[ALL]OFF/[6]/[H]) failed
ADU board	
PFC board	Only when the check of the fuser transport sensor (FS-03-[ALL]OFF/[8]/[F]) failed
Fuser unit	

### [E020] Stop jam at the fuser transport sensor

Classification	Error item
Paper transport jam	The trailing edge of the paper does not pass the fuser transport sensor after its leading edge has reached this sensor.

Check item	Measures
Fuser transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[6]/[H], FS-03-[ALL]OFF/[8]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>• Connector check (CN490, CN497)</li> <li>• Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN361)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Fuser transport sensor	
LGC board	Only when the check of the fuser transport sensor (FS-03-[ALL]OFF/[6]/[H]) failed
ADU board	
PFC board	Only when the check of the fuser transport sensor (FS-03-[ALL]OFF/[8]/[F]) failed
Rollers	

- [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)

Classification	Error item
Paper transport jam	<p>The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.(E200)</p> <p>The paper does not reach the registration sensor after it has passed the 1st drawer feed sensor.(E210)</p> <p>Paper fed from the bypass tray and passed through the bypass feed sensor does not reach the registration sensor.(E270)</p>

Check item	Measures
Registration sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C],FS-03-[F3]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport motor-1	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-124/524)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN362, CN364, CN363)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Registration sensor	
Transport motor-1	
PFC board	
LGC board	Only when the check of the registration sensor (FS-03-[ALL]OFF/[7]/[C]) failed
Rollers	

**[E220] 2nd drawer transport jam (not reaching the 1st drawer transport sensor)**

**[E310] 3rd drawer transport jam (not reaching the 1st drawer transport sensor)**

**[E340] 4th drawer transport jam (not reaching the 1st drawer transport sensor)**

**[E3D0] LCF transport jam (not reaching the 1st drawer transport sensor)**

Classification	Error item
Paper transport jam	The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.(E220) The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.(E310) The paper does not reach the 1st drawer transport sensor after it has passed the 2nd drawer feed sensor.(E340) Paper fed from the LCF and passed through the 2nd drawer feed sensor does not reach the 1st drawer transport sensor.(E3D0)

Check item	Measures
1st drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport motor-2	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-125/525)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport motor-1	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-124/524)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN362, CN364, CN360)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
1st drawer transport sensor	
Transport motor-2	
Transport motor-1	
PFC board	
Rollers	

**[E230] 1st drawer misfeeding (Paper not reaching the 1st drawer transport sensor)**

Classification	Error item
Paper transport jam	Paper fed from the 1st drawer does not reach the 1st drawer transport sensor.

Check item	Measures
1st drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
Transport motor-1	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-124/524)</li> <li>Connector check</li> <li>Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-120/520)</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN362, CN364, CN360)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>

Replace parts	Remarks
1st drawer transport sensor	
Transport motor-1	
1st/2nd drawer feed motor	
PFC board	
Rollers	

#### [E240] 2nd drawer transport jam (Paper not reaching the 2nd drawer transport sensor)

Classification	Error item
Paper transport jam	Paper fed from the 2nd drawer does not reach the 2nd drawer transport sensor.

Check item	Measures
2nd drawer transport sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[F3]ON/[8]/[E])</li> <li>Connector check</li> <li>Harness check</li> </ul>
Transport motor-2	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-125/525)</li> <li>Connector check</li> <li>Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-121/521)</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN362, CN364, CN360)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>

Replace parts	Remarks
2nd drawer transport sensor	
Transport motor-2	
1st/2nd drawer feed motor	
PFC board	
Rollers	

**[E260] Option LCF transport jam (Paper not reaching the registration sensor)**

Classification	Error item
Paper transport jam	Paper fed from the option LCF does not reach the registration sensor.

Check item	Measures
Registration sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C], FS-03-[F3]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport motor-1	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-124/524)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN362, CN364, CN363)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Registration sensor	
Transport motor-1	
PFC board	
LGC board	Only when the check of the registration sensor (FS-03-[ALL]OFF/[7]/[C]) failed
Rollers	

**[E290] Option LCF transport jam**

Classification	Error item
Paper transport jam	Paper fed from the Option LCF does not reach the 1st drawer transport sensor.

Check item	Measures
1st drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport motor-1	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-124/524)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LCF transport motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-127)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
LCF transport clutch	<ul style="list-style-type: none"> <li>Clutch check (Perform the output check: FS-03-269)</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN362, CN364, CN360)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>

Replace parts	Remarks
1st drawer transport sensor	
Transport motor-1	
LCF transport motor	
LCF transport clutch	
PFC board	
Rollers	

**[E320] 3rd drawer transport jam (not reaching the 2nd drawer transport sensor)**

**[E350] 4th drawer transport jam (not reaching the 2nd drawer transport sensor)**

**[E3E0] LCF transport jam (not reaching the 2nd drawer transport sensor)**

Classification	Error item
Paper transport jam	<p>The paper does not reach the 2nd drawer transport sensor after it has passed the 3rd drawer feed sensor.(E320)</p> <p>The paper does not reach the 2nd drawer transport sensor after it has passed the 4th drawer feed sensor.(E350)</p> <p>Paper fed from the LCF and passed through the LCF feed sensor does not reach the 2nd drawer transport sensor.(E3E0)</p>

Check item	Measures
2nd drawer transport sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[F3]ON/[8]/[E])</li> <li>Connector check</li> <li>Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-122/172)</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN352, CN360)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>
3rd drawer transport clutch	<ul style="list-style-type: none"> <li>Clutch check (Perform the output check: FS-03-252)</li> <li>Connector check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
3rd drawer transport clutch	
2nd drawer transport sensor	

Replace parts	Remarks
1st/2nd drawer feed motor	
PFC board	
Rollers	

**[E360] 4th drawer transport jam (not reaching the 3rd drawer transport sensor)**

Classification	Error item
Paper transport jam	The paper does not reach the 3rd drawer transport sensor after it has passed the 4th drawer feed sensor.

Check item	Measures
3rd drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd drawer transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-252)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
4th drawer transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-253)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
1st/2nd drawer feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-122/172)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN354)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
4rd drawer transport clutch	
3rd drawer transport sensor	
3rd drawer transport clutch	
1st/2nd drawer feed motor	
PFC board	
Rollers	

**[E370] 3rd drawer transport jam (Paper not reaching the 3rd drawer transport sensor)**

Classification	Error item
Paper transport jam	Paper fed from the 3rd drawer does not reach the 3rd drawer transport sensor.



Check item	Measures
3rd drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd drawer transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-252)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd drawer feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-250)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN354)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
3rd drawer transport sensor	
3rd drawer transport clutch	
3rd drawer feed clutch	
PFC board	
Rollers	

#### [E380] 4th drawer transport jam (Paper not reaching the 4th drawer transport sensor)

Classification	Error item
Paper transport jam	Paper fed from the 4th drawer does not reach the 4th drawer transport sensor.

Check item	Measures
4th drawer transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[0]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
4th drawer transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-253)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
4th drawer feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-251)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd/4th drawer/LCF feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-122)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN355)</li> <li>• Board check</li> </ul>

Check item	Measures
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
4th drawer transport sensor	
4th drawer transport clutch	
4th drawer feed clutch	
3rd/4th drawer/LCF feed motor	
PFC board	
Rollers	

### [E3F0] Tandem LCF transport jam (Paper not reaching the tandem LCF transport sensor)

Classification	Error item
Paper transport jam	Paper fed from the Tandem LCF does not reach the tandem LCF transport sensor.

Check item	Measures
Tandem LCF transport sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Tandem LCF transport clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-252)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Tandem LCF feed clutch	<ul style="list-style-type: none"> <li>• Clutch check (Perform the output check: FS-03-250)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
3rd/4th drawer/LCF feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-122)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN352, CN354, CN516)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Tandem LCF transport sensor	
Tandem LCF transport clutch	
Tandem LCF feed clutch	
3rd/4th drawer/LCF feed motor	
PFC board	
Rollers	

**[E510] ADU transport stop jam**

Classification	Error item
Paper transport jam (ADU section)	The paper does not reach the reverse path sensor after it is switchbacked in the reverse section.

Check item	Measures
Reverse path sensor (S57)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[G])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Reverse motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-132/134)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
ADU feed motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-144)</li> <li>• Connector check (Connectors CN490 and CN495 of the ADU board)</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN363)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Reverse path sensor (S57)	
Reverse motor	
ADU feed motor	
PFC board	
ADU board	
Rollers	

**[E511] ADU transport jam (Paper not reaching the duplexing unit path entrance sensor)**

Classification	Error item
Paper transport jam (ADU section)	

Check item	Measures
Duplexing unit path entrance sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[8]/[G])</li> <li>• Connector check (CN490, CN497)</li> <li>• Harness check</li> </ul>
Reverse motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-132/134)</li> <li>• Connector check (DRV Board CN537, CN539, CN538)</li> <li>• Harness check</li> </ul>
ADU transport motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-146)</li> <li>• Connector check (CN490, CN495)</li> <li>• Harness check</li> </ul>

Check item	Measures
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN350, CN361, CN365, CN366, CN367)</li> <li>Board check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>Connector check (CN537, CN539)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>

Replace parts	Remarks
Duplexing unit path entrance sensor	
Reverse motor	
ADU transport motor	
PFC board	
ADU board	
Rollers	

#### [E540] ADU transport jam (Paper not reaching the duplexing unit path exit sensor)

Classification	Error item
Paper transport jam (ADU section)	Paper does not reach the duplexing unit path exit sensor after it has passed the duplexing unit path entrance sensor.

Check item	Measures
Duplexing unit path exit sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[ALL]OFF/[8]/[H])</li> <li>Connector check</li> <li>Harness check</li> </ul>
ADU transport motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-146)</li> <li>Connector check</li> <li>Harness check</li> </ul>
ADU feed motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-144)</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN350, CN361, CN365)</li> <li>Board check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>Connector check (CN490, CN497)</li> <li>Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>Gear check</li> <li>Roller check</li> </ul>

Replace parts	Remarks
Duplexing unit path exit sensor	
ADU transport motor	
ADU feed motor	
PFC board	
ADU board	
Rollers	

**[E570] Jam not reaching the bridge unit**

Classification	Error item
Paper transport jam	

Check item	Measures
Reverse sensor (S59)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[F], FS-03-[ALL]OFF/[8]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport entrance motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-130)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Fuser motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-129)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN538, CN539)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN351, CN366, CN367)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314, CN315)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Reverse sensor (S59)	
Transport entrance motor	
Fuser motor	
DRV board	
PFC board	
LGC board	Only when the check of the reverse sensor (FS-03-[ALL]OFF/[7]/[F]) failed
Rollers	

**[E580] Stop jam at the bridge unit**

Classification	Error item
Paper transport jam	

Check item	Measures
Reverse sensor (S59)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[F], FS-03-[ALL]OFF/[8]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Reverse motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-132/134)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bridge unit transport exit motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-136)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN538, CN539)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN366, CN351, CN366, CN367)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Reverse sensor (S59)	
Reverse motor	
Bridge unit transport exit motor	
DRV board	
PFC board	
LGC board	Only when the check of the reverse sensor (FS-03-[ALL]OFF/[7]/[F]) failed
Rollers	

- [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)**

Classification	Error item
Paper transport jam	

Check item	Measures
Registration sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Registration motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-128/528)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN362, CN364, CN363)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Registration sensor	
Registration motor	
PFC board	
LGC board	Only when the check of the registration sensor (FS-03-[ALL]OFF/[7]/[C]) failed
Rollers	

### [EB50] Paper remaining on the transport path due to multiple feeding

Classification	Error item
Paper transport jam	The multiple feeding of preceding paper caused the misfeeding of upcoming paper.

Check item	Measures
1st drawer feed sensor (When the paper is fed from the 1st drawer:)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bypass feed sensor (When the paper is fed from the bypass feed unit:)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[9]/[D])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
ADU exit sensor (When the paper is fed from the ADU:)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[8]/[H])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Registration sensor (When the paper is fed from the ADU:)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C], FS-03-[F3]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
2nd drawer feed sensor (When the paper is fed from any of the 2nd drawer, PFP or LCF:)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F3]ON/[8]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>• Connector check (CN211, CN213)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN337, CN338, CN347, CN348)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
1st drawer feed sensor	
Bypass feed sensor	
ADU exit sensor	
Registration sensor	
1st drawer feed sensor	
2nd drawer feed sensor	
ADU board	
LGC board	
Rollers	

#### [EB60] Paper remaining on the transport path due to multiple feeding

Classification	Error item
Paper transport jam	

Check item	Measures
Registration sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[C], FS-03-[F3]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN351)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>

Replace parts	Remarks
Registration sensor	
PFC board	
LGC board	Only when the check of the registration sensor (FS-03-[ALL]OFF/[7]/[C]) failed
Rollers	



### 8.3.5 Other paper jam

[E011] Paper jam caused by clinging to the transfer belt (Paper not reached the paper clinging detection sensor)

Classification	Error item
Paper transport 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.

Check item	Measures
Paper clinging detection sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[B]: FS-03-[ALL]OFF/[7]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Registration motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-128/528)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN362, CN364)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN309, CN310, CN311)</li> <li>• Board check</li> </ul>
Drive unit, Rollers	<ul style="list-style-type: none"> <li>• Gear check</li> <li>• Roller check</li> </ul>
Setting	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.)
2nd transfer bias offset	<p>Change the 2nd transfer bias offset value as shown below and then check if there are still jams.</p> <p>Change the default value 5 of each code below to 6 or 7.</p> <p>Color: FS-05-2934 Subcode: 0, 7            Color: FS-05-2935 Subcode: 0, 7            Black: FS-05-2936 Subcode: 0, 7            Black: FS-05-2937 Subcode: 0, 7</p>
Change of the 2nd transfer bias	<p>If the leading edge of paper clings to the 2nd transfer roller and causes paper jamming, change the 2nd transfer roller bias correction factor of the leading/trailing edge of the paper. (The larger the value, the smaller the transfer voltage of the leading/trailing edge of the paper.)</p> <p>Codes to be changed (Initial value of the transfer bias of the leading/trailing edge of the paper: 0)</p> <ul style="list-style-type: none"> <li>• Color mode print (front side): FS-05-2938-*</li> <li>• Color mode print (back side): FS-05-2939-*</li> <li>• Black mode print (front side): FS-05-2940-*</li> <li>• Black mode print (back side): FS-05-2941-*</li> </ul> <p>Sub codes:* → Plain paper: 0, Recycled paper: 7</p> <p><b>Notes:</b>            After these codes are changed, perform solid duplex-printing and check that there is no faint or void image on the leading/trailing edge of the paper.</p>

Check item	Measures
Other	Check if there is any paper clinging to the transfer belt or entering under the receiving tray. Remove it if there is. Use the paper within the specification if the thin paper being used is out of specification.

Replace parts	Remarks
Paper clinging detection sensor	
Registration motor	
PFC board	
LGC board	
Rollers	

### [E030] Power-ON jam

Classification	Error item
Other paper jam	The paper is remaining on the paper transport path when power is turned ON.

Check item	Measures
Transport path	Open the cover, and then remove paper if there is any paper on the transport path.
Sensor	Sensor check (Refer to the table below)
	Connector check
	Harness check
PFC board	Connector check (CN350, CN354, CN355, CN361, CN362, CN364, CN360, CN365, CN358, CN356)
	Harness check
	Board check
ADU board	Connector check (CN490, CN497, CN498)
	Harness check

Replace parts	Remarks
Sensor in the jamming area	Refer to the table below
PFC board	
ADU board	

Jamming area	Cover	Sensor	Test Mode/Input check
Paper path section	Duplexing unit	Registration sensor	FS-03-[ALL]OFF/[7]/[C]
		Registration sensor (PFC side)	FS-03-[F3]ON/[2]/[A]
		Transfer belt paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[B]
		2nd transfer side paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[A]
		1st drawer transport sensor	FS-03-[F3]ON/[7]/[E]
Fuser	Duplexing unit	Fuser transport sensor	FS-03-[ALL]OFF/[6]/[H]
		Fuser transport sensor (PFC side)	FS-03-[ALL]OFF/[8]/[F]
		Reverse path sensor	FS-03-[ALL]OFF/[7]/[G]

Jamming area	Cover	Sensor	Test Mode/Input check
ADU	Duplexing unit Cover	Duplexing unit path exit sensor	FS-03-[ALL]OFF/[8]/[H]
		Duplexing unit path entrance sensor	FS-03-[ALL]OFF/[8]/[G]
Bypass unit	Duplexing unit	Bypass feed sensor	FS-03-[ALL]OFF/[9]/[D]
Feeding area (equipment)	Paper feed cover	4th drawer transport sensor	FS-03-[F3]ON/[0]/[E]
		3rd drawer/T-LCF transport sensor	FS-03-[F3]ON/[9]/[E]
		2nd drawer transport sensor	FS-03-[F3]ON/[8]/[E]
LCF	LCF side cover	Option LCF feed sensor	FS-03-[F2]ON/[1]/[F]
Bridge unit	Front cover	Bridge unit path exit sensor	FS-03-[ALL]OFF/[7]/[E] FS-03-[F3]ON/[2]/[C]
		Bridge unit path entrance sensor	FS-03-[ALL]OFF/[7]/[D] FS-03-[F3]ON/[2]/[D]
		Reverse sensor	FS-03-[ALL]OFF/[7]/[F]
		Reverse sensor (PFC side)	FS-03-[ALL]OFF/[8]/[A]
		Reverse section stationary jam detection sensor	FS-03-[ALL]OFF/[7]/[H]
Upper exit section	-	Upper paper exit sensor (PFC side)	FS-03-[ALL]OFF/[8]/[C]
		Upper paper exit sensor	FS-03-[ALL]OFF/[8]/[D]
Lower exit section	-	Lower paper exit sensor	FS-03-[ALL]OFF/[9]/[A]
		Lower paper exit sensor (PFC side)	FS-03-[ALL]OFF/[9]/[B]
Reverse section	Reverse path cover	Reverse section paper transport detection sensor	FS-03-[F3]ON/[F]/[2]
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**

Classification	Error item
Other paper jam	<p>The size of paper in the 1st drawer differs from size setting of the equipment.(E061)</p> <p>The size of paper in the 2nd drawer differs from size setting of the equipment.(E062)</p> <p>The size of paper in the 3rd drawer differs from size setting of the equipment.(E063)</p> <p>The size of paper in the 4th drawer differs from size setting of the equipment.(E064)</p> <p>The size of paper in the bypass tray differs from size setting of the equipment.(E065)</p>

Check item	Measures
Setting	<p>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.</p> <p>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.</p>

**[E090] Image data delay jam**

Classification	Error item
Other paper jam	Image data to be printed cannot be prepared.

Check item	Measures
Other	<ul style="list-style-type: none"> <li>Remove the paper remained in front of the registration sensor.</li> <li>If the error still occurs, check the following.</li> </ul>
Power	<ul style="list-style-type: none"> <li>Check if the error is cleared by turning the power OFF and then back ON.</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN130, CN131, CN132)</li> <li>Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN330, CN331, CN332)</li> <li>Board check</li> </ul>
HDD	<ul style="list-style-type: none"> <li>Connector check</li> <li>HDD check</li> </ul>
Main memory	Check if the page memory is correctly connected to the connector on the SYS board.

Replace parts	Remarks
SYS board	
LGC board	
HDD	
Main memory	
Flat cable	

**[E091] Motor on time-out jam**

Classification	Error item
Other paper jam	The equipment does not operate normally because abnormality occurred on an interface between the SYS board and engine firmware.

Check item	Measures
Other	<ul style="list-style-type: none"> <li>Check if there is any paper in the equipment. Remove it if there is.</li> <li>If the error still occurs, check the following.</li> </ul>
Power	Check if the error is cleared by turning the power OFF and then back ON.
SYS board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN130, CN131, CN132)</li> <li>Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN330, CN331, CN332)</li> <li>Board check</li> </ul>
HDD	<ul style="list-style-type: none"> <li>Connector check</li> <li>HDD check</li> </ul>

Check item	Measures
Main memory	Check if the page memory is correctly connected to the connector on the SYS board.

Replace parts	Remarks
SYS board	
LGC board	
HDD	
Main memory	
Flat cable	

### [E0A0] Image transport ready time-out jam

Classification	Error item
Other paper jam	Image transport ready time-out jam

Check item	Measures
Other	<ul style="list-style-type: none"> <li>Remove the paper remained in front of the registration sensor.</li> <li>If the error still occurs, check the following.</li> </ul>
Power	<ul style="list-style-type: none"> <li>Check if the error is cleared by turning the power OFF and then back ON.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN330, CN331, CN332)</li> <li>Board check</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN130, CN131, CN132)</li> <li>Board check</li> </ul>
Main memory	Check if the page memory is correctly connected to the connector on the SYS board.

Replace parts	Remarks
SYS board	
LGC board	
Main memory	
Flat cable	

### [E550] Paper remaining on the transport path

Classification	Error item
Other paper jam	The paper is remaining on the transport path when printing is finished (caused by a multiple paper feeding).

Step	Check Item	Result	Measure	Next Step
1	Jamming transport path		Open the cover of the unit/area whose picture is flashing on the control panel and remove any paper on the transport path.	

Step	Check Item	Result	Measure	Next Step
2	Feed or transport roller possibly causing multiple feeding		Check the feed roller.	
3	Sensor in the jamming area		<ul style="list-style-type: none"> <li>• Sensor check (Refer to the table below)</li> <li>• Harness check</li> <li>• Connector check</li> </ul>	
4	PFC board		<ul style="list-style-type: none"> <li>• Harness check</li> <li>• Connector check</li> <li>• Board check</li> </ul>	
	<b>Notes:</b> If the jam is occurring in the ADU or LCF, check the board in each unit.			

Replace parts	Remarks
Feed or transport roller possibly causing multiple feeding	
Sensor in the jamming area	Refer to the table below
PFC board	

Relation between the jamming area and the corresponding sensors/covers.

Jamming area	Cover	Sensor	Test Mode/Input check
Paper path section	Duplexing unit	Registration sensor	FS-03-[ALL]OFF/[7]/[C]
		Registration sensor (PFC side)	FS-03-[F3]ON/[2]/[A]
		Transfer belt paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[B]
		2nd transfer side paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[A]
		1st drawer transport sensor	FS-03-[F3]ON/[7]/[E]
Fuser	Duplexing unit	Fuser transport sensor	FS-03-[ALL]OFF/[6]/[H]
		Fuser transport sensor (PFC side)	FS-03-[ALL]OFF/[8]/[F]
		Reverse path sensor	FS-03-[ALL]OFF/[7]/[G]
ADU	Duplexing unit	Duplexing unit path exit sensor	FS-03-[ALL]OFF/[8]/[H]
	Cover	Duplexing unit path entrance sensor	FS-03-[ALL]OFF/[8]/[G]
Bypass unit	Duplexing unit	Bypass feed sensor	FS-03-[ALL]OFF/[9]/[D]
Feeding area (equipment)	Paper feed cover	4th drawer transport sensor	FS-03-[F3]ON/[0]/[E]
		3rd drawer/T-LCF transport sensor	FS-03-[F3]ON/[9]/[E]
		2nd drawer transport sensor	FS-03-[F3]ON/[8]/[E]
LCF	LCF side cover	Option LCF feed sensor	FS-03-[F2]ON/[1]/[F]
Bridge unit	Front cover	Bridge unit path exit sensor	FS-03-[ALL]OFF/[7]/[E] FS-03-[F3]ON/[2]/[C]
		Bridge unit path entrance sensor	FS-03-[ALL]OFF/[7]/[D] FS-03-[F3]ON/[2]/[D]
		Reverse sensor	FS-03-[ALL]OFF/[7]/[F]
		Reverse sensor (PFC side)	FS-03-[ALL]OFF/[8]/[A]
		Reverse section stationary jam detection sensor	FS-03-[ALL]OFF/[7]/[H]
Upper exit section	-	Upper paper exit sensor (PFC side)	FS-03-[ALL]OFF/[8]/[C]
		Upper paper exit sensor	FS-03-[ALL]OFF/[8]/[D]

Jamming area	Cover	Sensor	Test Mode/Input check
Lower exit section	-	Lower paper exit sensor	FS-03-[ALL]OFF/[9]/[A]
		Lower paper exit sensor (PFC side)	FS-03-[ALL]OFF/[9]/[B]
Reverse section	Reverse path cover	Reverse section paper transport detection sensor	FS-03-[F3]ON/[F]/[2]
Finisher	Finisher door	Sensors in the finisher	-

**[E551] Paper remaining on the transport path (when a service call occurs)**

**[E552] Paper remaining on the transport path (when the cover is closed)**

Classification	Error item
Other paper jam	The paper is detected on the transport path when a service call occurs. (E551) The paper is detected on the transport path after the cover is opened and closed. (E552)

Step	Check Item	Result	Measure	Next Step
1	Jamming transport path		Open the cover of the unit/area whose picture is flashing on the control panel and remove any paper on the transport path.	
2	Sensor in the jamming area		<ul style="list-style-type: none"> <li>• Sensor check (Refer to the table below)</li> <li>• Harness check</li> <li>• Connector check</li> </ul>	
3	PFC board		<ul style="list-style-type: none"> <li>• Harness check</li> <li>• Connector check</li> <li>• Board check</li> </ul>	
	<b>Notes:</b> If the jam is occurring in the ADU or LCF, check the board in each unit.			

Replace parts	Remarks
Sensor in the jamming area	Refer to the table below
PFC board	

Relation between the jamming area and the corresponding sensors/covers.

Jamming area	Cover	Sensor	Test Mode/Input check
Paper path section	Duplexing unit	Registration sensor	FS-03-[ALL]OFF/[7]/[C]
		Registration sensor (PFC side)	FS-03-[F3]ON/[2]/[A]
		Transfer belt paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[B]
		2nd transfer side paper clinging detection sensor	FS-03-[ALL]OFF/[7]/[A]
		1st drawer transport sensor	FS-03-[F3]ON/[7]/[E]
Fuser	Duplexing unit	Fuser transport sensor	FS-03-[ALL]OFF/[6]/[H]
		Fuser transport sensor (PFC side)	FS-03-[ALL]OFF/[8]/[F]
		Reverse path sensor	FS-03-[ALL]OFF/[7]/[G]

Jamming area	Cover	Sensor	Test Mode/Input check
ADU	Duplexing unit Cover	Duplexing unit path exit sensor	FS-03-[ALL]OFF/[8]/[H]
		Duplexing unit path entrance sensor	FS-03-[ALL]OFF/[8]/[G]
Bypass unit	Duplexing unit	Bypass feed sensor	FS-03-[ALL]OFF/[9]/[D]
Feeding area (equipment)	Paper feed cover	4th drawer transport sensor	FS-03-[F3]ON/[0]/[E]
		3rd drawer/T-LCF transport sensor	FS-03-[F3]ON/[9]/[E]
		2nd drawer transport sensor	FS-03-[F3]ON/[8]/[E]
LCF	LCF side cover	Option LCF feed sensor	FS-03-[F2]ON/[1]/[F]
Bridge unit	Front cover	Bridge unit path exit sensor	FS-03-[ALL]OFF/[7]/[E] FS-03-[F3]ON/[2]/[C]
		Bridge unit path entrance sensor	FS-03-[ALL]OFF/[7]/[D] FS-03-[F3]ON/[2]/[D]
		Reverse sensor	FS-03-[ALL]OFF/[7]/[F]
		Reverse sensor (PFC side)	FS-03-[ALL]OFF/[8]/[A]
		Reverse section stationary jam detection sensor	FS-03-[ALL]OFF/[7]/[H]
Upper exit section	-	Upper paper exit sensor (PFC side)	FS-03-[ALL]OFF/[8]/[C]
		Upper paper exit sensor	FS-03-[ALL]OFF/[8]/[D]
Lower exit section	-	Lower paper exit sensor	FS-03-[ALL]OFF/[9]/[A]
		Lower paper exit sensor (PFC side)	FS-03-[ALL]OFF/[9]/[B]
Reverse section	Reverse path cover	Reverse section paper transport detection sensor	FS-03-[F3]ON/[F]/[2]
Finisher	Finisher door	Sensors in the finisher	-



### 8.3.6 Cover open jam

#### [E400] Duplexing unit open

Classification	Error item
Cover open jam	The duplexing unit has opened during printing.

Check item	Measures
Duplexing unit	<ul style="list-style-type: none"> <li>Close the duplexing unit if it is opened. Remove if there is any paper before closing it</li> </ul>
Duplexing unit opening/closing detection sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FC-03-[F1]ON/[5]/[C], FC-03-[F1]ON/[5]/[D])</li> </ul>
24V power	<ul style="list-style-type: none"> <li>24V check (Perform the input check: FS-03-[F1] ON/[5]/[B])</li> <li>Connector check</li> <li>Harness check</li> </ul>
Fuse	<ul style="list-style-type: none"> <li>Fuse check (F201, F202, F203, F204)</li> <li>Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN312)</li> <li>Board check</li> </ul>
Interlock switch	<ul style="list-style-type: none"> <li>Switch check (Perform the input check: FS-03-[F2] ON/[3]/[B])</li> <li>Connector check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Fuse	
LGC board	
Switching regulator	
Interlock switch	

#### [E430] ADU open jam

Classification	Error item
Cover open jam	The ADU has opened during printing.

Check item	Measures
ADU	<ul style="list-style-type: none"> <li>Close the ADU if it is opened. Remove if there is any paper before closing it</li> </ul>
ADU opening/closing switch	<ul style="list-style-type: none"> <li>Switch check (Perform the input check: FS-03-[F2]ON/[3]/[B])</li> <li>Connector check</li> <li>Harness check</li> </ul>
ADU board	<ul style="list-style-type: none"> <li>Connector check (CN490, CN494)</li> <li>Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN361)</li> <li>Board check</li> </ul>

Replace parts	Remarks
ADU opening/closing switch	

Replace parts	Remarks
ADU board	
PFC board	

#### [E440] Paper feed cover open jam

Classification	Error item
Cover open jam	The paper feed cover has opened during printing.

Check item	Measures
Paper feed cover	<ul style="list-style-type: none"> <li>Close the paper feed cover if it is opened.</li> <li>Remove if there is any paper before closing it.</li> </ul>
Side door switch	<ul style="list-style-type: none"> <li>Switch check (Perform the input check: FS-03-[F2]ON/[1]/[A])</li> <li>Connector check</li> <li>Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN314, CN307)</li> <li>Board check</li> </ul>

Replace parts	Remarks
ADU opening/closing switch	
LGC board	

#### [E450] Option LCF open jam

Classification	Error item
Cover open jam	The optional LCF has been disconnected from the equipment during printing.

Check item	Measures
Option LCF	<ul style="list-style-type: none"> <li>Connect the LCF in the equipment.</li> </ul>
Option LCF installation sensor	<ul style="list-style-type: none"> <li>Switch check (Perform the input check: FS-03-[F2]ON/[1]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>
LCF board	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN353)</li> <li>Board check</li> </ul>

Replace parts	Remarks
LCF side cover opening/closing switch	
LCF board	
PFC board	

**[E480] Bridge unit open jam**

Classification	Error item
Cover open jam	The bridge unit has opened during printing.

Check item	Measures
Bridge unit	<ul style="list-style-type: none"> <li>• Close the bridge unit if it is opened.</li> <li>• Remove if there is any paper before closing it.</li> </ul>
Bridge unit cover opening/closing detection switch	<ul style="list-style-type: none"> <li>• Switch check (Perform the input check: FS-03-[F2]ON/[3]/[C], FS-03-[F2]ON/[3]/[D], FS-03-[F3]ON/[2]/[G])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN367, CN365)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Bridge unit cover opening/closing detection switch	
PFC board	

**[E4A0] Waste toner cover open jam (printing)**

Classification	Error item
Cover open jam	The waste toner cover has opened during printing.

Check item	Measures
Waste toner cover	<ul style="list-style-type: none"> <li>• Close the waste toner cover if it is opened.</li> <li>• Remove if there is any paper before closing it.</li> </ul>
Waste toner detection sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[3]/[C])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN318)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Waste toner detection sensor	
LGC board	

**[E4B0] Reverse path cover open jam (printing)**

Classification	Error item
Cover open jam	The reverse path cover has opened during printing.

Check item	Measures
Reverse path cover	<ul style="list-style-type: none"> <li>• Close the bridge unit if it is opened.</li> <li>• Remove if there is any paper before closing it.</li> </ul>

Check item	Measures
Reverse path cover switch	<ul style="list-style-type: none"> <li>• Switch check (Perform the input check: FS-03-[F2]ON/[3]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN367, CN365)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Bridge unit connecting detection switch	
PFC board	

## 8.3.7 DSDF jam

### [E712] Jam not reaching the original registration sensor

Classification	Error content
DSDF jam	The original fed from the original tray does not reach the DFDF registration sensor.

Check item	Measures
Original	Flatten the original if it is folded or excessively curled and place it again.
Roller	Clean the DSF pickup roller, DSDF feed roller and DSDF separation roller if they are stained.
DSDF registration sensor	<ul style="list-style-type: none"> <li>Check if the DSDF registration sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[H])</li> <li>Replace the DSDF registration sensor.</li> </ul>
Connector	Check if the connectors (J975, J950 and CN74) on the DSDF control PC board are disconnected from the DSDF registration sensor or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
Roller	DSF pickup roller, DSDF feed roller, DSDF separation roller
DSDF registration sensor	
DSDF control PC board	

### [E714] DSDF feed signal reception jam

Classification	Error content
DSDF jam	The feed signal from the equipment is received even though there is no original on the original tray.

Check item	Measures
Reproducing ability	Release the paper jam and reattempt copying or scanning.
DSDF empty sensor	<ul style="list-style-type: none"> <li>Check if the DSDF empty sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[B])</li> <li>Check if the connector (CN75) on the DSDF control PC board is disconnected from the DSDF empty sensor or the harnesses are open circuited. Correct if any.</li> <li>Replace the DSDF empty sensor.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF empty sensor	
DSDF control PC board	

### [E717] Original not reaching the DSDF original feed sensor jam

Classification	Error content
DSDF jam	The original does not reach the DSDF feed sensor even though original feeding has started.

Check item	Measures
DSDF feed sensor	<ul style="list-style-type: none"> <li>Check if the DSDF feed sensor is working properly. (Perform the input check: FS-03-[F2]ON/[8]/[E])</li> <li>Replace the DSDF feed sensor.</li> </ul>
Connector	Check if the connectors (J974, J950 and CN74) on the DSDF control PC board are disconnected from the DSDF feed sensor or the harnesses are open circuited. Correct if any.
DSDF feed motor	Check if the DSDF feed motor is working properly.
Connector	<ul style="list-style-type: none"> <li>Check if the connectors (J990 and CN77) on the DSDF control PC board are disconnected from the DSDF feed motor or the harnesses are open circuited. Correct if any.</li> <li>Check if the harnesses of the DSDF feed motor and the DSDF registration motor are connected incorrectly. If yes, connect them correctly. <ul style="list-style-type: none"> <li>- DSDF feed motor harness: Purple</li> <li>- DSDF registration motor harness: Gray</li> </ul> </li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF feed sensor	
DSDF feed motor	
DSDF control PC board	

#### [E718] Original miss operating jam / Original tray lift abnormality

Classification	Error content
DSDF jam	A paper jam which may occur when the original tray lift is working (before the original feeding operation).

Check item	Measures
<ul style="list-style-type: none"> <li>When the original tray lift is being rising (When a paper jam has occurred after the original placed or during original feeding)</li> </ul>	
DSDF tray lift upper limit sensor	<p>There will be an abnormality in the DSDF tray lift upper limit sensor when an error occurs while the tray is rising. (Perform the input check: FS-03-[F2]ON/[6]/[E])</p> <ul style="list-style-type: none"> <li>Check if the sensor is damaged, the connector is disconnected or the harness is open circuited. If yes, replace any of them.</li> </ul>
<ul style="list-style-type: none"> <li>When the original tray lift is being lowering (When a paper jam has occurred at initial operation or if an original is pulled out)</li> </ul>	
DSDF tray lift lower limit sensor	<p>There will be an abnormality in the DSDF tray lift lower limit sensor when an error occurs while the tray is lowering. (Perform the input check: FS-03-[F2]ON/[6]/[F])</p> <ul style="list-style-type: none"> <li>Check if the sensor is damaged, the connector is disconnected or the harness is open circuited. If yes, replace any of them.</li> </ul>
<ul style="list-style-type: none"> <li>When the rising or lowering of the original tray lift does not work</li> </ul>	
DSDF tray-up clutch	<p>There will be an abnormality in the DSDF tray-up clutch if it does not work.</p> <ul style="list-style-type: none"> <li>Check if the clutch is damaged, the connector is disconnected or the harness is open circuited. If yes, replace any of them.</li> </ul>

Check item	Measures
DSDF separation motor	There will be an abnormality in the DSDF separation motor if it does not work. (Perform the output check: FS-03-291/292) <ul style="list-style-type: none"> <li>Check if the motor is damaged, the connector is disconnected or the harness is open circuited. If yes, replace any of them.</li> </ul>
• All	
DSDF control PC board	Check that there is no abnormality on the DSDF control PC board when operation failure has occurred in the DSDF tray lift upper limit sensor, DSDF tray lift lower limit sensor, DSDF tray-up clutch or DSDF separation motor. If yes, replace any of them.

Parts to be replaced	Remark
DSDF tray lift upper limit sensor	
DSDF tray lift lower limit sensor	
DSDF tray-up clutch	
DSDF separation motor	
DSDF control PC board	

### [E721] Original not reaching the DSDF read-in sensor-1 jam

Classification	Error content
DSDF jam	The original does not reach the DSDF read-in sensor-1 after it has passed through the DSDF registration sensor.

Check item	Measures
Roller	Clean the DSDF registration roller and pre-read rollers if they are stained.
DSDF read-in sensor-1	<ul style="list-style-type: none"> <li>Check if the DSDF read-in sensor-1 is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[G])</li> <li>Perform the DSDF read-in sensor-1 automatic adjustment.</li> </ul>
Aligning amount	Perform the aligning amount adjustment (FS-05-3040).
Connector	Check if the connectors (J983, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-1 or the harnesses are open circuited. Correct if any.
DSDF read motor	<ul style="list-style-type: none"> <li>Check if the DSDF read motor is working properly.</li> <li>Check if the connectors (J992 and CN79) on the DSDF control PC board are disconnected from the DSDF read motor or the harnesses are open circuited. Correct if any.</li> </ul>
DSDF registration motor	<ul style="list-style-type: none"> <li>Check if the DSDF registration motor is working properly.</li> <li>Check if the connectors (J982 and CN79) on the DSDF control PC board are disconnected from the DSDF read motor or the harnesses are open circuited. Correct if any.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
Roller	DSDF registration roller, Pre-read roller
DSDF read-in sensor-1	
DSDF read motor	
DSDF registration motor	
DSDF control PC board	

**[E722] Original not reaching the DSDF exit sensor jam**

Classification	Error content
DSDF jam	The original does not reach the DSDF exit sensor after it has passed through the DSDF read-in sensor-2.

Check item	Measures
Roller	Clean the post-read roller-2 if it is stained.
DSDF exit sensor	<ul style="list-style-type: none"> <li>Check if the DSDF exit sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[E])</li> <li>Replace the DSDF exit sensor.</li> </ul>
Connector	Check if the connectors (J985, J957 and CN75) on the DSDF control PC board are disconnected from the DSDF exit sensor or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
Roller	Post-read roller-2
DSDF exit sensor	
DSDF control PC board	

**[E724] Original stopping at the DSDF registration sensor jam**

Classification	Error content
DSDF jam	The trailing edge of the original does not pass through the DSDF registration sensor after its leading edge has passed through this sensor.

Check item	Measures
Roller	Clean the DSDF registration roller if it is stained.
DSDF registration sensor	<ul style="list-style-type: none"> <li>Check if the DSDF registration sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[H])</li> <li>Replace the DSDF registration sensor.</li> </ul>
DSDF tray original length sensor-1, DSDF tray original length sensor-2 DSDF tray original width sensor-1, DSDF tray original width sensor-2	<ul style="list-style-type: none"> <li>Check if these sensors can detect an original properly.</li> <li>Check if the DSDF tray original width sensor-1 and DSDF tray original width sensor-2 are working properly. (Perform the input check: FS-03-[F2]ON/[8]/[F], FS-03-[F2]ON/[8]/[G])</li> <li>Check if the DSDF tray original length sensor-1 and DSDF tray original length sensor-2 are working properly. (Perform the input check: FS-03-[F2]ON/[8]/[D], FS-03-[F2]ON/[7]/[A])</li> <li>Replace the DSDF tray original width sensor-1 and -2, DSDF tray original length sensor-1 and -2.</li> </ul>
Connector	<ul style="list-style-type: none"> <li>Check if the connectors (J975, J950 and CN74) on the DSDF control PC board are disconnected from the DSDF registration sensor or the harnesses are open circuited. Correct if any.</li> <li>Check if the connectors (J970, J971 and CN76) on the DSDF control PC board are disconnected from the DSDF tray original length sensor-1 and DSDF tray original length sensor-2 or the harnesses are open circuited. Correct if any.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.



Parts to be replaced	Remark
DSDF registration sensor	
DSDF tray original length sensor-1, DSDF tray original length sensor-2	
DSDF tray original width sensor-1, DSDF tray original width sensor-2	
DSDF control PC board	

#### [E725] Original stopping at the DSDF read-in sensor-1 jam

Classification	Error content
DSDF jam	The trailing edge of the original does not pass through the DSDF read-in sensor-1 after its leading edge has reached this sensor.

Check item	Measures
Roller	Clean the post-read roller-1 if it is stained.
DSDF read-in sensor-1	<ul style="list-style-type: none"> <li>Check if the DSDF read-in sensor-1 is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[G])</li> <li>Perform the DSDF read-in sensor-1 automatic adjustment.</li> </ul>
Connector	Check if the connectors (J983, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-1 or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF read-in sensor-1	
DSDF control PC board	

#### [E726] Exit signal reception jam

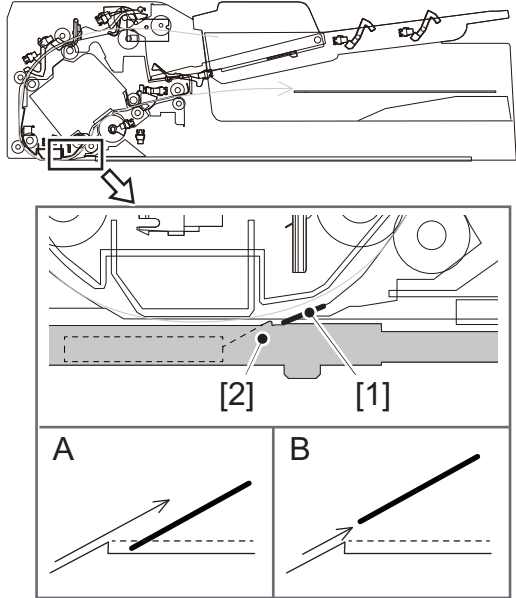
Classification	Error content
DSDF jam	The transport or exit signal has been received while no original is placed in the DSDF.

Check item	Measures
Reproducing ability	Turn the power OFF and then back ON to check the occurrence.

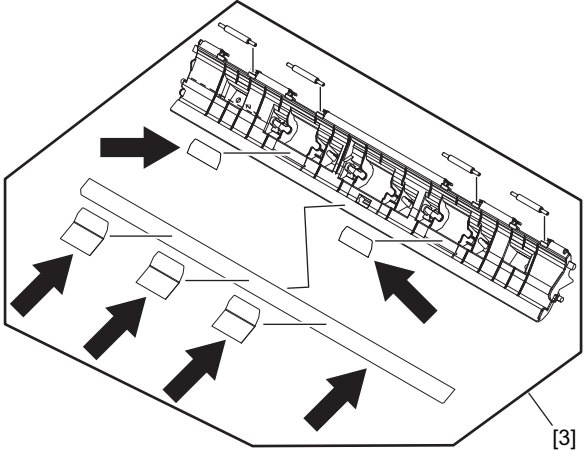
Parts to be replaced	Remark
-	

**[E727] Original not reaching the DSDF read-in sensor-2 jam**

Classification	Error content
DSDF jam	The original does not reach the DSDF read-in sensor-2 after it has passed through the DSDF read-in sensor-1.

Check item	Measures
An original has stopped at the transparent film [1].	<p>Turn on the exposure lamp (output check: FS-03-267) and confirm the position between the transparent film [1] and the upper edge of the slope [2].</p>  <p style="text-align: center;"><b>Fig.8-2</b></p> <ul style="list-style-type: none"> <li>• State A (throughout the whole of the transparent film): OK (Go to the next step.)</li> <li>• State B: Perform the height adjustment. ( P. 6-110 "6.12.2 Adjustment of Height") Replace the transparent film if the position between it and the upper edge of the slope cannot be adjusted as shown above [A].</li> </ul>
Roller	Clean the post-read roller-1 if it is stained.
Installation	Check if the DSDF is installed properly.
DSDF read-in sensor-2	<ul style="list-style-type: none"> <li>• Check if the DSDF read-in sensor-2 is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[D])</li> <li>• Replace the DSDF read-in sensor-2.</li> </ul>
Connector	Check if the connectors (J984, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-2 or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF read-in sensor-2	
DSDF control PC board	

Parts to be replaced	Remark
Transparent film set	 <p>Fig.8-3</p> <p>Perform the replacement with the transparent film set or with the guide [3].</p>

**[E729] Original stopping at the DSDF read-in sensor-2 jam**

Classification	Error content
DSDF jam	The trailing edge of the original does not pass through the DSDF read-in sensor-2 after its leading edge has reached this sensor.

Check item	Measures
Roller	Clean the pre-read roller-2 if it is stained.
DSDF read-in sensor-2	<ul style="list-style-type: none"> <li>• Check if the DSDF read-in sensor-2 is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[D])</li> <li>• Replace the DSDF read-in sensor-2.</li> </ul>
Connector	Check if the connectors (J984, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-2 or the harnesses are open circuited. Correct if any.
DSDF exit motor	<ul style="list-style-type: none"> <li>• Check if the DSDF exit motor is working properly.</li> <li>• Check if the connectors (J991 and CN77) on the DSDF control PC board are disconnected from the DSDF exit motor or the harnesses are open circuited. Correct if any.</li> </ul>
DSDF control PC board	<ul style="list-style-type: none"> <li>• Replace the DSDF control PC board.</li> </ul>

Parts to be replaced	Remark
DSDF read-in sensor-2	
DSDF exit motor	
DSDF control PC board	

**[E72A] DSDF original scanning start time-out jam**

Classification	Error content
DSDF jam	Preparation of the page memory has not been completed within a specified time.

Check item	Measures
Reproducing ability	Release the paper jam and reattempt copying or scanning.

Parts to be replaced	Remark
-	

### [E731] Original stopping at the DSDF exit sensor jam

Classification	Error content
DSDF jam	The trailing edge of the original does not pass through the DSDF exit sensor after its leading edge has reached this sensor.

Check item	Measures
Roller	Clean the DSDF exit roller if it is stained.
Transport path	Check if there is a paper or foreign matter in the exit section of the DSDF.
DSDF exit sensor	<ul style="list-style-type: none"> <li>Check if the DSDF exit sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[E])</li> <li>Replace the DSDF sensor.</li> </ul>
Connector	Check if the connectors (J985, J957 and CN75) on the DSDF control PC board are disconnected from the DSDF exit sensor or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF exit sensor	
DSDF control PC board	

### [E762] Original remaining at the DSDF registration sensor jam

Classification	Error content
DSDF jam	The DSDF registration sensor remains turned ON.

Check item	Measures
Transport path	Check if there is a paper or foreign matter in the transport path of the DSDF.
DSDF registration sensor	<ul style="list-style-type: none"> <li>Check if the DSDF registration sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[H])</li> <li>Replace the DSDF registration sensor.</li> </ul>
Connector	Check if the connectors (J975, J950 and CN74) on the DSDF control PC board are disconnected from the DSDF registration sensor or the harnesses are open circuited. Correct if any.
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF registration sensor	
DSDF control PC board	

**[E769] Original remaining at the DSDF feed sensor jam**

Classification	Error content
DSDF jam	The DSDF feed sensor remains turned ON.

Check item	Measures
Connector	Check if the connectors (J974, J950 and CN74) on the DSDF control PC board are disconnected from the DSDF feed sensor or the harnesses are open circuited. Correct if any.
DSDF feed sensor	<ul style="list-style-type: none"> <li>Check if the DSDF feed sensor is working properly. (Perform the input check: FS-03-[F2]ON/[8]/[E])</li> <li>Replace the DSDF feed sensor.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF feed sensor	
DSDF control PC board	

**[E770] Original remaining at the DSDF original width detection sensor-1 jam**

Classification	Error content
DSDF jam	The DSDF original width detection sensor-1 remains turned ON.

Check item	Measures
Connector	Check if the connectors (J972, J950 and CN75) on the DSDF control PC board are disconnected from the DSDF original width detection sensor-1 or the harnesses are open circuited. Correct if any.
DSDF original width detection sensor-1	<ul style="list-style-type: none"> <li>Check if the DSDF original width detection sensor-1 is working properly. (Perform the input check: FS-03-[F2]ON/[8]/[F])</li> <li>Check that there is no paper dust on the DSDF original width detection sensor-1. If paper dust adheres to the DSDF original width detection sensor-1, clean it.</li> <li>Replace the DSDF original width detection sensor-1.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF original width detection sensor-1	
DSDF control PC board	

**[E771] Original remaining at the DSDF original width detection sensor-2 jam**

Classification	Error content
DSDF jam	The DSDF original width detection sensor-2 remains turned ON.

Check item	Measures
Connector	Check if the connectors (J973, J950 and CN75) on the DSDF control PC board are disconnected from the DSDF original width detection sensor-2 or the harnesses are open circuited. Correct if any.
DSDF original width detection sensor-2	<ul style="list-style-type: none"> <li>• Check if the DSDF original width detection sensor-2 is working properly. (Perform the input check: FS-03-[F2]ON/[8]/[G])</li> <li>• Check that there is no paper dust on the DSDF original width detection sensor-2. If paper dust adheres to the DSDF original width detection sensor-2, clean it.</li> <li>• Replace the DSDF original width detection sensor-2.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF original width detection sensor-2	
DSDF control PC board	

**[E774] Original remaining at the DSDF read-in sensor-1 jam**

Classification	Error content
DSDF jam	The DSDF read-in sensor-1 remains turned ON.

Check item	Measures
Roller	Clean the post-read roller-1 if it is stained.
Connector	Check if the connectors (J983, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-1 or the harnesses are open circuited. Correct if any.
DSDF read-in sensor-1	<ul style="list-style-type: none"> <li>• Check if the DSDF read-in sensor-1 is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[G])</li> <li>• Perform the DSDF read-in sensor-1 automatic adjustment.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF read-in sensor-1	
DSDF control PC board	

**[E775] Original remaining at the DSDF read-in sensor-2 jam**

Classification	Error content
DSDF jam	The DSDF read-in sensor-2 remains turned ON.

Check item	Measures
Roller	Clean the pre-read roller-2 if it is stained.
Connector	Check if the connectors (J984, J956 and CN75) on the DSDF control PC board are disconnected from the DSDF read-in sensor-2 or the harnesses are open circuited. Correct if any.
DSDF read-in sensor-2	<ul style="list-style-type: none"> <li>Check if the DSDF read-in sensor-2 is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[D])</li> <li>Replace the DSDF read-in sensor-2.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF read-in sensor-2	
DSDF control PC board	

**[E777] Original remaining at the DSDF exit sensor jam**

Classification	Error content
DSDF jam	The DSDF exit sensor remains turned ON.

Check item	Measures
Roller	Clean the DSDF exit roller if it is stained.
Connector	Check if the connectors (J985, J957 and CN75) on the DSDF control PC board are disconnected from the DSDF exit sensor or the harnesses are open circuited. Correct if any.
DSDF exit sensor	<ul style="list-style-type: none"> <li>Check if the DSDF exit sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[E])</li> <li>Replace the DSDF sensor.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF exit sensor	
DSDF control PC board	

**[E860] DSDF original jam access cover open jam**

Classification	Error content
DSDF jam	The jam access cover of the DSDF has become opened during the DSDF operation.

Check item	Measures
	<ul style="list-style-type: none"> <li>When a paper jam has occurred at the start or end of the original transportation</li> </ul>
DSDF lower cover	Check if the DSDF lower cover is closed appropriately.

Check item	Measures
DSDF lower cover opening/closing detection sensor	<ul style="list-style-type: none"> <li>• Check if the connectors (J980, J953 and CN75) on the DSDF control PC board are disconnected from the DSDF lower cover opening/closing detection sensor or the harnesses are open circuited. Correct if any.</li> <li>• Check if the DSDF lower cover opening/closing detection sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[C])</li> <li>• Replace the DSDF lower cover opening/closing detection sensor.</li> </ul>
DSDF lower cover interlock switch	<ul style="list-style-type: none"> <li>• Check if the DSDF lower cover interlock switch is working properly.</li> <li>• Replace the DSDF lower cover interlock switch.</li> </ul>
DSDF exit motor	<ul style="list-style-type: none"> <li>• Check if the DSDF exit motor rotates properly. (Perform the output check: FS-03-284) If yes, check the DSDF shading sheet HP sensor.</li> <li>• Check if the connector of the DSDF exit motor is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDF exit motor.</li> </ul>
DSDF shading sheet HP sensor	<ul style="list-style-type: none"> <li>• Check if the DSDF shading sheet HP sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[A])</li> <li>• Check if the connector of the DSDF shading sheet HP sensor is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDF shading sheet HP sensor.</li> </ul>
DSDF control PC board	<ul style="list-style-type: none"> <li>• Check if the connector of the DSDF control PC board is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDF control PC board.</li> </ul>
<ul style="list-style-type: none"> <li>• When a paper jam has occurred during original transportation</li> </ul>	
Cover	<ul style="list-style-type: none"> <li>• Check if the DSDF upper cover is closed appropriately.</li> <li>• Check if the DSDF lower cover is closed appropriately.</li> <li>• Check if the front cover of the equipment is closed appropriately.</li> </ul>
DSDF upper cover opening/closing detection sensor	<ul style="list-style-type: none"> <li>• Check if the connectors (J981, J954 and CN75) on the DSDF control PC board are disconnected from the DSDF upper cover opening/closing detection sensor or the harnesses are open circuited. Correct if any.</li> <li>• Check if the DSDF upper cover opening/closing detection sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[C])</li> <li>• Replace the DSDF upper cover opening/closing detection sensor.</li> </ul>
DSDF upper cover interlock switch	<ul style="list-style-type: none"> <li>• Check if the DSDF upper cover interlock switch is working properly.</li> <li>• Replace the DSDF upper cover interlock switch.</li> </ul>
DSDF lower cover opening/closing detection sensor	<ul style="list-style-type: none"> <li>• Check if the connectors (J980, J953 and CN75) on the DSDF control PC board are disconnected from the DSDF lower cover opening/closing detection sensor or the harnesses are open circuited. Correct if any.</li> <li>• Check if the DSDF lower cover opening/closing detection sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[C])</li> <li>• Replace the DSDF lower cover opening/closing detection sensor.</li> </ul>



Check item	Measures
DSDF lower cover interlock switch	<ul style="list-style-type: none"> <li>Check if the DSDF lower cover interlock switch is working properly.</li> <li>Replace the DSDF lower cover interlock switch.</li> </ul>
DSDF exit motor	<ul style="list-style-type: none"> <li>Check if the DSDF exit motor rotates properly. (Perform the output check: FS-03-284) If yes, check the DSDF shading sheet HP sensor.</li> <li>Check if the connector of the DSDF exit motor is disconnected or the harnesses are open circuited.</li> <li>Replace the DSDF exit motor.</li> </ul>
DSDF shading sheet HP sensor	<ul style="list-style-type: none"> <li>Check if the DSDF shading sheet HP sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[A])</li> <li>Check if the connector of the DSDF shading sheet HP sensor is disconnected or the harnesses are open circuited.</li> <li>Replace the DSDF shading sheet HP sensor.</li> </ul>
DSDF control PC board	<ul style="list-style-type: none"> <li>Check if the connector of the DSDF control PC board is disconnected or the harnesses are open circuited.</li> <li>Replace the DSDF control PC board.</li> </ul>

Parts to be replaced	Remark
DSDF upper cover opening/closing detection sensor	
DSDF upper cover interlock switch	
DSDF lower cover opening/closing detection sensor	
DSDF lower cover interlock switch	
DSDF exit motor	
DSDF shading sheet HP sensor	
DSDF control PC board	

### [E870] DSDF open jam

Classification	Error content
DSDF jam	The DSDF has become opened during its operation.

Check item	Measures
DSDF	Close the DSDF if it opens.
Platen sensor	<ul style="list-style-type: none"> <li>Check if the platen sensor is working properly. (Perform the input check: FS-03-[F2]ON/[5]/[G])</li> <li>Correct if the connector of the platen sensor is disconnected or the harnesses are open circuited.</li> <li>Replace the platen sensor.</li> </ul>
SYS board	Replace the SYS board.

Parts to be replaced	Remark
Platen sensor	
SYS board	

### 8.3.8 Jam in bridge unit

[E910] Paper not reaching the bridge unit transport sensor-1

[E920] Paper stopping at the bridge unit transport sensor-1

Classification	Error item
Paper transport jam (Relay transport section)	The paper does not reach the bridge unit path entrance sensor after it has passed the Fuser transport sensor.(E910) The trailing edge of the paper does not pass the bridge unit path entrance sensor after its leading edge has reached the sensor.(E920)

Check item	Measures
Bridge unit	<ul style="list-style-type: none"> <li>Check if there is any paper in the bridge unit and remove it if there is</li> </ul>
Bridge unit path entrance sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[D], FS-03-[F3]ON/[2]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>
Transport path switching solenoid (bridge unit/reverse section)	<ul style="list-style-type: none"> <li>Solenoid check (Perform the output check: FS-03-275)</li> <li>Connector check</li> <li>Harness check</li> </ul>
Bridge unit transport entrance motor Bridge unit transport exit motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check (Bridge unit transport entrance motor): FS-03-130/180) (Perform the output check (Bridge unit transport exit motor): FS-03-136)</li> <li>Connector check</li> <li>Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN314)</li> <li>Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>Connector check (CN537, CN539)</li> <li>Harness check</li> <li>Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN350, CN365)</li> <li>Harness check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Bridge unit transport sensor-1	
Bridge unit transport entrance motor Bridge unit transport exit motor	
LGC board	
DRV board	
PFC board	
Roller	Transport roller of the bridge unit

**[E930] Paper not reaching the bridge unit transport sensor-2****[E940] Paper stopping at the bridge unit transport sensor-2**

Classification	Error item
Paper transport jam (Relay transport section)	The trailing edge of the paper does not reach the Bridge unit path exit sensor after its leading edge has reached the bridge unit path entrance sensor.(E930) The trailing edge of the paper does not pass the Bridge unit path exit sensor after its leading edge has reached the Bridge unit path exit sensor.(E940)

Check item	Measures
Bridge unit	<ul style="list-style-type: none"> <li>• Check if there is any paper in the bridge unit and remove it if there is</li> </ul>
Bridge unit path exit sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[7]/[E], FS-03-[F3]ON/[2]/[C])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport path switching solenoid (upper exit/lower exit)	<ul style="list-style-type: none"> <li>• Solenoid check (Perform the output check: FS-03-276)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Bridge unit transport exit motor: Normal rotation Bridge unit transport exit motor: Reverse rotation	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-140/190, FS-03-142/192)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN314)</li> <li>• Board check</li> </ul>
DRV board	<ul style="list-style-type: none"> <li>• Connector check (CN537, CN539)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN365)</li> <li>• Harness check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Bridge unit transport sensor-2	
LGC board	
Roller	Transport roller of the bridge unit

### 8.3.9 Paper jam in finisher section

#### [EA10] Transport delay jam (paper not inserted)

Classification	Error item
Finisher jam (Finisher section)	Transport delay jam (paper not inserted)


Check item	Measures
Finisher	Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.
Feeding sensor (S22)	Check if there is a disconnection of the connector, incorrect installation or breakage of the feeding sensor (S22). If there is, reinstall the sensor correctly or replace it.
Transport path switching solenoid (SOL5)	Check that the gap between the transfer guide surface and the upper surface of the flapper tip is in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5 to 2.1 mm, solenoid ON: 2.3 to 2.9 mm). If it is not, adjust it.
Entrance motor (M1)	Check the harness between the entrance motor (M1) and the finisher controller board (CN17). If there is any abnormality, correct it.
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN1, CN17)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Feeding sensor (S22)	
Transport path switching solenoid (SOL5)	
Entrance motor (M1)	
Finisher control PC board (FIN)	

#### [EA20] Paper transport jam in Finisher (entrance sensor)

Classification	Error item
Finisher jam (Finisher section)	Paper transport jam in Finisher (entrance sensor)


Check item	Measures
Finisher	Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>• Sensor check Check if the actuator moves smoothly.</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN8)</li> <li>• Harness check</li> </ul>
Assist guide	Check that there is no abnormality in the adjustment for its height.

Check item	Measures
Measures against exit paper side deviation	 P. 8-373 "8.4.9 Measures against exit paper side deviation"

Replace parts	Remarks
Entrance sensor (S1)	
Finisher control PC board (FIN)	
Assist guide	

### [EA21] Paper size error jam (transport sensor)

Classification	Error item
Finisher jam (Finisher section)	Paper size error jam (transport sensor) Paper size error jam (punch paper edge sensor) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is. Use paper accepted in the specifications.</li> </ul>
Exit paper sideways deviation	<ul style="list-style-type: none"> <li>When an exit paper alignment problem occurs during continuous printing in the non-sort mode, take the following countermeasure.</li> <li>Check if exit paper sideways deviation has occurred in the equipment installed. If there is any, adjust it by following the Service Manual for the equipment installed</li> </ul>
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Transport sensor (S2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN8)</li> <li>Board check</li> </ul>
Measures against exit paper side deviation	 P. 8-373 "8.4.9 Measures against exit paper side deviation"

Replace parts	Remarks
Entrance sensor (S1)	
Transport sensor (S2)	
Finisher controller board (FIN)	

### [EA22] Paper size error jam (punch paper edge sensor)

Classification	Error item
Finisher jam (Finisher section)	Paper size error jam (transport sensor) Paper size error jam (punch paper edge sensor) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> <li>• Use paper accepted in the specifications.</li> </ul>
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>• Sensor check Check if the actuator moves smoothly.</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Transport sensor (S2)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Paper position sensor (Hole punch unit)	<ul style="list-style-type: none"> <li>• Sensor check (S6-1, S6-2)</li> <li>• Connector check (CN1, CN4, CN5)</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check (CN8)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Entrance sensor (S1)	
Transport sensor (S2)	
Paper position sensor (S6-2, S6-2)	
Finisher controller board	

#### [EA23] Paper transport stop jam in Finisher (transport sensor)

Classification	Error item
Finisher jam (Finisher section)	Paper transport stop jam (transport sensor) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Transport sensor (S2)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check (CN8)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Transport sensor (S2)	
Finisher controller board	

#### [EA24] Paper transport stop jam in Finisher (between entrance & transport sensor)

Classification	Error item
Finisher jam (Finisher section)	Paper transport stop jam (between entrance and transport sensor) [MJ-1111/1112]


Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Pinch roller arm	<ul style="list-style-type: none"> <li>Check the position of pinch roller arm. If it is down, fix its mechanism.</li> </ul>
Transport path switching solenoid (SOL5)	<ul style="list-style-type: none"> <li>Check that the gap between the transfer guide surface and the upper surface of the flapper tip is in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5 to 2.1 mm, solenoid ON: 2.3 to 2.9 mm). If it is not, adjust it.</li> <li>Check the harness between the transport path switching solenoid (SOL5) and the finisher controller board (CN1). If there is any abnormality, correct it.</li> </ul>
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>Sensor check Check if the actuator moves smoothly.</li> <li>Connector check</li> <li>Harness check</li> </ul>
Transport sensor (S2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Entrance motor (M1)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check(CN8, CN17)</li> <li>Board check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Entrance sensor (S1)	
Transport sensor (S2)	
Entrance motor (M1)	
Finisher controller board	

#### [EA25] Paper transport jam in Finisher (after paper stack was exited)

Classification	Error item
Finisher jam (Finisher section)	Paper transport stop jam (after paper stack exit) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Exit paper sideways deviation	<ul style="list-style-type: none"> <li>When an exit paper alignment problem occurs during continuous printing in the non-sort mode, take the following countermeasure.</li> <li>Check if exit paper sideways deviation has occurred in the equipment installed. If there is any, adjust it by following the Service Manual for the equipment installed.</li> </ul>
Finishing tray paper detection sensor (S12)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN25)</li> <li>Harness check</li> </ul>

Check item	Measures
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check (CN25)</li> <li>• Board check</li> <li>• Harness check</li> </ul>
Measures against exit paper side deviation	 P. 8-373 "8.4.9 Measures against exit paper side deviation"

Replace parts	Remarks
Finishing tray paper detection sensor (S12)	
Finisher controller board	

**[EA26] Paper transport jam in Finisher (Stop signal received from equipment)**

**[EA27] Paper transport jam in Finisher (Paper not inserted but paper detected)**

Classification	Error item
Finisher jam (Finisher section)	[EA26] Paper transport stop jam (stop command request) [EA27] Paper transport stop jam (paper not inserted) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN8)</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check (CN8)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Entrance sensor (S1)	
Finisher controller board	



**[EA28] Paper transport stop jam in Finisher (paper holder plate operation delay)**

Classification	Error item
Finisher jam (Finisher section)	Paper transport stop jam (paper holder plate operation delay) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Assist guide	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the assist guide is rotated? If there is any mechanical problem, fix its mechanism.</li> </ul>
Assist guide motor (M10)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check (CN10)</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN10)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Assist guide motor (M10)	
Finisher controller board	

**[EA29] Paper transport stop jam in Finisher (paper stack transport delay)**

Classification	Error item
Finisher jam (Finisher section)	Paper transport stop jam (stack transport delay) [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Buffer tray guide	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the buffer tray guide is opened and closed while the buffer roller is kept raised? If there is any mechanical problem, fix its mechanism.</li> </ul>
Buffer tray guide motor (M2)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check (CN10)</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN8)</li> <li>Board check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Buffer tray guide motor (M2)	
Finisher controller board	

**[EA31] Transport path paper remaining jam**

Classification	Error item
Finisher jam (Finisher section)	Transport path paper remaining jam. [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Entrance sensor (S1)	<ul style="list-style-type: none"> <li>Sensor check (S1) Check if the actuator moves smoothly.</li> <li>Connector check (CN8)</li> <li>Harness check</li> </ul>
Feeding sensor (S22)	<ul style="list-style-type: none"> <li>Sensor check (S22)</li> <li>Connector check (CN1)</li> <li>Harness check</li> </ul>
Paper position sensor (Hole punch unit: S6-1, S6-2)	Remove any paper dust in and around the sensors (S6-1 and S6-2) and clean them. <ul style="list-style-type: none"> <li>Sensor check (S6-1, S6-2)</li> <li>Connector check (CN1, CN4, CN5)</li> <li>Harness check</li> </ul>
Transport sensor (S2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN8)</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN1, CN8)</li> <li>Board check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Entrance sensor (S1)	
Feeding sensor (S22)	
Paper position sensor (S6-1, S6-2)	Hole punch unit
Transport sensor (S2)	
Finisher controller board	

### [EA32] Exit paper remaining jam

Classification	Error item
Finisher jam (Finisher section)	Exit paper remaining jam [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Finishing tray paper detection sensor	<ul style="list-style-type: none"> <li>Sensor check (S12)</li> <li>Connector check</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN25)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Finishing tray paper detection sensor	
Finisher controller board	

## [EA40] Cover open jam

Classification	Error item
Finisher jam (Finisher section)	The front cover or stationary tray cover is opened during paper transport. [MJ-1111/1112]

Check item	Measures
Cover	<ul style="list-style-type: none"> <li>Close the front cover or the stationary tray cover if they are opened.</li> </ul>
Front cover switch (SW1)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Stationary tray opening/closing switch (SW2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN14)</li> <li>Board check</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Cover locking bracket	If it is broken.
Front cover switch (SW1)	
Stationary tray opening/closing switch (SW2)	
Finisher controller board	

## [EA50] Stapling jam

Classification	Error item
Finisher jam (Finisher section)	Stapling jam [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> <li>Is the jam cleared by taking off the staple cartridge from the finisher and removing the staple sheet slid from the staple case?</li> <li>If the actuator of the stapler safety sensor (S11) does not move smoothly, remove its clip from the side and then reattach it.</li> <li>Connector check</li> <li>Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN19)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Stapler	
Finisher controller board	

### [EA60] Early arrival jam

Classification	Error item
Finisher jam (Finisher section)	The inlet sensor detects the paper earlier than a specified timing. [MJ-1111/1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher or on the transport path of the equipment and remove it if there is.</li> </ul>
Feeding sensor (S22)	<ul style="list-style-type: none"> <li>• Sensor check (S22)</li> <li>• Connector check (CN1)</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check(CN1)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Feeding sensor (S22)	
Finisher controller board	

### [EA70] Stack exit belt home position error

Classification	Error item
Finisher jam (Finisher section)	The stack exit belt is not at the home position. [MJ-1111/1112]

Check item	Measures
Stack belt exit home position sensor (S9)	<ul style="list-style-type: none"> <li>• Check if there is a disconnection of the connector, incorrect installation or breakage of the stack belt exit home position sensor (S9). If there is, reinstall the sensor correctly or replace it.</li> <li>• Check if the connector (CN25) 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.</li> </ul>
Stack transport motor (M8)	<ul style="list-style-type: none"> <li>• Check if the connector (CN18) on the finisher controller PC board is disconnected from the stack transport motor (M8) and the harnesses are open circuited. Correct if any.</li> </ul>

Replace parts	Remarks
Stack belt exit home position sensor (S9)	
Stack transport motor (M8)	
Finisher controller board	

### 8.3.10 Paper jam in saddle stitcher section

#### [EA90] Saddle stitch unit open error

Classification	Error item
Finisher jam (Saddle stitcher section)	The delivery cover or inlet cover has opened during printing [MJ-1112]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Remove any paper on the stacker.</li> </ul>
Saddle stitch unit	<ul style="list-style-type: none"> <li>Close the saddle stitch unit if it is open.</li> </ul>
Saddle stitch unit opening/closing switch (SW5)	<ul style="list-style-type: none"> <li>Check if there is a disconnection of the connector, incorrect installation or breakage of the saddle stitch unit opening/closing switch (SW5). If there is, reinstall the sensor correctly or replace it.</li> <li>Check if the harness between the saddle stitch unit opening/closing switch (SW5) and the CN26 of the finisher controller PC board (FIN) is disconnected or open circuited. Correct if so.</li> </ul>

Replace parts	Remarks
Saddle stitch unit opening/closing switch (SW5)	
Finisher control PC board (FIN)	

#### [EAA0] Paper remaining in Saddle Stitch Unit

Classification	Error item
Finisher jam (Saddle stitcher section)	Paper remaining in saddle stitch unit [MJ-1112]

Check item	Measures
Finisher, saddle stitcher	<ul style="list-style-type: none"> <li>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.</li> <li>Use paper accepted in the specifications. Do not use the paper shorter than the specification.</li> </ul>
Junction box paper detection sensor (S26)	<ul style="list-style-type: none"> <li>Sensor check (S26) Check if the actuator moves smoothly.</li> <li>Connector check (CN1)</li> <li>Harness check</li> </ul>
Transport path-2 sensor (S27)	<ul style="list-style-type: none"> <li>Sensor check (S27) Check if the actuator moves smoothly.</li> <li>Connector check (CN3)</li> <li>Harness check</li> </ul>
Transport path-3 sensor (S28)	<ul style="list-style-type: none"> <li>Sensor check (S28) Check if the actuator moves smoothly.</li> <li>Connector check (CN3)</li> <li>Harness check</li> </ul>
Ejecting roller sensor(S29)	<ul style="list-style-type: none"> <li>Sensor check (S29)</li> <li>Connector check (CN3)</li> <li>Harness check</li> </ul>

Check item	Measures
Finisher controller board	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN21)</li> <li>• Harness check</li> </ul>
Saddle controller board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN3, CN6)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Junction box paper detection sensor (S26)	
Transport path-2 sensor (S27)	
Transport path-3 sensor (S28)	
Ejecting roller sensor (S29)	
Finisher control PC board (FIN)	
Saddle controller board (SDL)	

### [EAB0] Paper transport jam in Saddle Stitch Unit

Classification	Error item
Finisher jam (Saddle stitche section)	Paper transport jam in saddle stitch unit [MJ-1112]

Check item	Measures
Paper	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher, saddle stitche or the on the transport path of the equipment. Remove it if there is.</li> <li>• Use paper accepted in the specifications. Do not use the paper shorter than the specification.</li> </ul>
Transport roller	Fix any mechanical problem occurring when the roller is rotated.
Feeding sensor (S22)	<ul style="list-style-type: none"> <li>• Sensor check (S22)</li> <li>• Connector check (CN1)</li> <li>• Harness check</li> </ul>
Junction box paper detection sensor (S26)	<ul style="list-style-type: none"> <li>• Sensor check (S26) Check if the actuator moves smoothly.</li> <li>• Connector check (CN1)</li> <li>• Harness check</li> </ul>
Transport path-2 sensor (S27)	<ul style="list-style-type: none"> <li>• Sensor check (S27) Check if the actuator moves smoothly.</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Transport path-3 sensor (S28)	<ul style="list-style-type: none"> <li>• Sensor check (S28) Check if the actuator moves smoothly.</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Ejecting roller sensor(S29)	<ul style="list-style-type: none"> <li>• Sensor check (S29) Check if the actuator moves smoothly.</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>

Check item	Measures
Saddle transport motor (M16)	<ul style="list-style-type: none"> <li>Motor check (M16) Check if the actuator moves smoothly.</li> <li>Connector check (CN5)</li> <li>Harness check</li> </ul>
Transport path switching solenoid (SOL5)	<ul style="list-style-type: none"> <li>Check that the gap between the transfer guide surface and the upper surface of the flapper tip is in the acceptable range according to the status of the transport path switching solenoid (SOL5) (solenoid OFF: 1.5 to 2.1 mm, solenoid ON: 2.3 to 2.9 mm). If it is not, adjust it.</li> <li>Check if the harness between the transport path switching solenoid (SOL5) and the CN1 of the finisher controller PC board (FIN) is disconnected or open circuited. Correct if so.</li> </ul>
Entrance motor (M1)	<ul style="list-style-type: none"> <li>Sensor check (M1)</li> <li>Connector check (CN17)</li> <li>Harness check</li> </ul>
Harness	<p>Check if the flat cable between the finisher control PC board (FIN) and the saddle control PC board (SDL) is disconnected or open circuited.</p> <p>Correct if so. (Replace the harness if open circuited. Reconnect the connector securely if there is any disconnection.)</p>
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>Board check</li> <li>Connector check (CN21)</li> <li>Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>Board check</li> <li>Connector check (CN3, CN6)</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Junction box paper detection sensor (S26)	
Feeding sensor (S22)	
Transport path-2 sensor (S27)	
Transport path-3 sensor (S28)	
Ejecting roller sensor (S29)	
Saddle transport motor (M16)	
Entrance motor (M1)	
Transport path switching solenoid (SOL5)	
Finisher control PC board (FIN)	
Saddle control PC board (SDL)	

### [EAB1] Short paper jam in Saddle Stitch Finisher

Classification	Error item
Finisher jam (Saddle stitcher section)	Short paper jam in Saddle Stitch Finisher [MJ-1112]

Check item	Measures
Finisher, saddle stitcher	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Use paper accepted in the specifications.</li> </ul>
Feeding sensor (S22)	<ul style="list-style-type: none"> <li>• Sensor check (S22)</li> <li>• Connector check (CN1)</li> <li>• Harness check</li> </ul>
Junction box paper detection sensor (S26)	<ul style="list-style-type: none"> <li>• Sensor check (S26)</li> <li>• Connector check (CN1)</li> <li>• Harness check</li> </ul>
Transport path-2 sensor (S27)	<ul style="list-style-type: none"> <li>• Sensor check (S27)</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Transport path-3 sensor (S28)	<ul style="list-style-type: none"> <li>• Sensor check (S28)</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Ejecting roller sensor (S29)	<ul style="list-style-type: none"> <li>• Sensor check (S29)</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Harness	<p>Check if the flat cable between the finisher control PC board (FIN) and the saddle control PC board (SDL) is disconnected or open circuited. Correct if so. (Replace the harness if open circuited. Reconnect the connector securely if there is any disconnection.)</p>
Saddle controller board (SDL)	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN3, CN6)</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN1, CN21)</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Feeding sensor (S22)	
Junction box paper detection sensor (S26)	
Transport path-2 sensor (S27)	
Transport path-3 sensor (S28)	
Ejecting roller sensor (S29)	
Saddle stitcher controller board	
Finisher controller board	



### 8.3.11 Paper jam in puncher unit

#### [E9F0] Punching jam

Classification	Error item
Finisher jam (Punch unit)	[MJ-6106]

Check item	Measures
Finisher, saddle stitcher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher, punch unit or the on the transport path of the equipment. Remove it if there is.</li> </ul>
Punch HP sensor (S4)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Punch motor (M3)	<ul style="list-style-type: none"> <li>• Motor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Punch sensor (S5)	<ul style="list-style-type: none"> <li>• Sensor check (S5)</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Punch HP sensor (S4)	
Punch motor (M3)	
Punch sensor (S5)	
Hole punch control PC board (HP)	

### 8.3.12 Other paper jam

#### [EAD0] Print end command time-out jam

Classification	Error item
Other paper jam	The printing has not finished normally because of an error occurring on the interface between the SYS board and the engine firmware at the end of printing.

Check item	Measures
Power	<ul style="list-style-type: none"> <li>Check if the error is cleared by turning the power OFF and then back ON.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN330, CN331, CN332)</li> <li>Board check</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>Flat cable check (SYS board - LGC board)</li> <li>Connector check (CN130, CN131, CN132)</li> <li>Board check</li> </ul>

Replace parts	Remarks
SYS board	
LGC board	
Flat cable	

#### [EAE0] Receiving time-out jam

#### [EB30] Ready time-out jam

Classification	Error item
Other paper 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.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is the finisher working?</li> <li>Check if the voltage (24V) is being supplied to the finisher.</li> <li>Connector check</li> </ul>
Harness	Check if the connector on the equipment is disconnected from the finisher or the harnesses are open circuited. Correct if any.
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check (CN3, CN13)</li> <li>Check if the conductor pattern on the finisher controller board board is short circuited or open circuited.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN305)</li> <li>Check if the conductor pattern on the LGC board board is short circuited or open circuited.</li> </ul>

Replace parts	Remarks
Harness	
Finisher controller board	
LGC board	

**[EAFA] Catching motor home position detection error**

Classification	Error item
Finisher related service call	Catching motor home position detection error

Check item	Measures
Catching motor (M21)	Is there any mechanical problem when the catching motor is rotated? If there is any mechanical problem, fix its mechanism.
Catching home position sensor (S52)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN17)</li> <li>• Harness check</li> </ul>
Harness	Check if the connector (CN17) on the finisher controller PC board is disconnected from the Catching home position sensor (S52) and the harnesses are open circuited. Correct if any.
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>• Connector check (CN17)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Catching home position sensor (S52)	
Harness	
Finisher control PC board (FIN)	

**[CB51] Stapler shift home position error**  
**[EAFB] Stapler movement error (paper jam)**

Classification	Error item
Finisher related service call	Stapler shift home position error: The stapler is not at the home position.

Check item	Measures
Stapler	Move the stapler. Fix any mechanical problem.
Stapler unit home position sensor (S10)	<ul style="list-style-type: none"> <li>• Check if there is a disconnection of the connector, incorrect installation or breakage of the stapler unit home position sensor (S10). If there is, reinstall the sensor correctly or replace it.</li> <li>• Check if the connector (CN27) on the finisher controller PC board is disconnected from the stapler unit home position sensor (S10) and the harnesses are open circuited. Correct if so.</li> </ul>
Stapler unit shift motor (M9)	Check if the connector (CN15) on the finisher control PC board is disconnected from the stapler unit shift motor (M9) and the harnesses are open circuited. Correct if so.

Replace parts	Remarks
Stapler unit home position sensor (S10)	
Stapler unit shift motor (M9)	

Replace parts	Remarks
Finisher control PC board (FIN)	

**[CB30] Movable tray shift motor abnormality**

**[EAFC] Movable tray height error (paper jam)**

Classification	Error item
Finisher related service call	Movable tray shift motor abnormality: The movable tray shift motor is not rotating or the movable tray is not moving normally.

Check item	Measures
Movable tray	If there is mechanical problem when the movable tray is moved, fix the mechanism.
Movable tray shift motor (M12)	Check the connectors and harnesses between the movable tray shift motor (M12) and the finisher control PC board (CN19).
Movable tray position A, B, and C sensors (S13, S14 and S15)	<ul style="list-style-type: none"> <li>• Connector check (CN20)</li> <li>• Sensor check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Movable tray shift motor (M12)	
Movable tray position A, B, and C sensors (S13, S14 and S15)	
Finisher control PC board (FIN)	

**[CB31] Movable tray paper-full detection error**

**[EAFD] Movable tray movement error (paper jam)**

Classification	Error item
Finisher related service call	Movable tray paper-full detection error: The actuator of the movable tray paper-full detection sensor does not move smoothly.

Check item	Measures
Movable tray paper-full sensor (S16)	<ul style="list-style-type: none"> <li>• Fix any mechanical problem occurring when the actuator is moved.</li> <li>• Check if there is a disconnection of the connector, incorrect installation or breakage of the movable tray paper-full sensor (S16). If there is, reinstall the sensor correctly or replace it.</li> <li>• Check if the connector (CN22) on the finisher controller PC board is disconnected from the movable tray paper-full sensor (S16) and the harnesses are open circuited. Correct if so.</li> </ul>
Movable tray position A, B, and C sensors (S13, S14 and S15)	<ul style="list-style-type: none"> <li>• Connector check (CN20)</li> <li>• Sensor check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Movable tray paper-full sensor (S16)	
Movable tray position A, B, and C sensors (S13, S14 and S15)	
Finisher control PC board (FIN)	

**[CB14] Assist guide motor (M10) abnormality**  
**[EAFE] Paper holding cam position error (paper jam)**

Classification	Error item
Finisher related service call	The Assist guide motor is not rotating or the paper pusher cam is not moving normally.

Check item	Measures
Paper pusher cam	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the paper pusher cam is rotated?</li> </ul>
Assist guide motor (M10)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check (CN10)</li> <li>Harness check</li> </ul>
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>Connector check (CN10)</li> <li>Sensor check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Assist guide motor (M10)	
Finisher control PC board (FIN)	

**[ED10] Skew adjustment motor (M1) home position detection abnormality**

Classification	Error item
Finisher jam	The Skew adjustment motor is not at the home position. [MJ-1111/1112 (when MJ-6106 is installed)]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Check if there is any paper in the finisher. Remove it if there is.</li> <li>Use paper accepted in the specifications.</li> </ul>
Skew adjustment motor (M1)	Rotate skew adjustment motor and fix its mechanism if it does not rotate smoothly.
Skew HP sensor (S2) Skew adjustment motor (M1) Hole punch control PC board (HP)	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.

Replace parts	Remarks
Skew adjustment motor (M1)	
Skew HP sensor (S2)	
Hole punch control PC board (HP)	

**[ED11] Sideways adjustment motor (M2) home position detection error**

Classification	Error item
Finisher jam	The Sideways adjustment motor is not at the home position. [MJ-1111/1112 (when MJ-6106 is installed)]

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the finisher. Remove it if there is.</li> <li>• Use paper accepted in the specifications.</li> </ul>
Sideways adjustment motor (M2)	<ul style="list-style-type: none"> <li>• Rotate sideways adjustment motor and fix its mechanism if it does not rotate smoothly.</li> </ul>
Sideways deviation HP sensor (S3) Sideways adjustment motor (M2) Hole punch control PC board (HP)	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.

Replace parts	Remarks
Sideways adjustment motor (M2)	
Sideways deviation HP sensor (S3)	
Hole punch control PC board (HP)	

**[ED12] Shutter home position error**

Classification	Error item
Finisher jam	The shutter is not at the home position. [MJ-1111/1112]

Check item	Measures
Shutter	<ul style="list-style-type: none"> <li>• Open and close the shutter. If there is any mechanical problem, fix its mechanism.</li> </ul>
Shutter opening/closing sensor (S4)	<ul style="list-style-type: none"> <li>• Rotate sideways adjustment motor and fix its mechanism if it does not rotate smoothly.</li> <li>• Motor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Shutter clutch (CLT1)	<ul style="list-style-type: none"> <li>• Clutch check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Shutter opening/closing sensor (S4)	
Shutter clutch (CLT1)	
Finisher controller board	

### [ED13] Front alignment plate home position error

Classification	Error item
Finisher jam	The front alignment plate is not at the home position. [MJ-1111/1112]

Check item	Measures
Front alignment plate	<ul style="list-style-type: none"> <li>Move the front alignment plate. If there is any mechanical problem, fix its mechanism.</li> </ul>
Front alignment plate home position sensor (S7)	<ul style="list-style-type: none"> <li>Check if there is a disconnection of the connector, incorrect installation or breakage of the front alignment plate home position sensor (S7). If there is, reinstall the sensor correctly or replace it.</li> <li>Check if the connector (CN25) on the finisher controller PC board is disconnected from the front alignment plate home position sensor (S7) and the harnesses are open circuited. Correct if so.</li> </ul>
Front alignment motor (M5)	Check if the connector (CN18) on the finisher controller PC board is disconnected from the front alignment motor (M5) and the harnesses are open circuited. Correct if so.
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Front alignment plate home position sensor (S7)	
Front alignment motor (M5)	
Finisher controller board	

### [ED14] Rear alignment plate home position error

Classification	Error item
Finisher jam (Finisher section)	The rear alignment plate is not at the home position. [MJ-1111/1112]

Check item	Measures
Rear alignment plate	<ul style="list-style-type: none"> <li>Move the rear alignment plate. If there is any mechanical problem, fix its mechanism.</li> </ul>
Rear alignment plate home position sensor (S8)	<ul style="list-style-type: none"> <li>Check if there is a disconnection of the connector, incorrect installation or breakage of the rear alignment plate home position sensor (S8). If there is, reinstall the sensor correctly or replace it.</li> <li>Check if the connector (CN25) on the finisher controller PC board is disconnected from the rear alignment plate home position sensor (S8) and the harnesses are open circuited. Correct if so.</li> </ul>
Rear alignment motor (M6)	Check if the connector (CN18) on the finisher controller PC board is disconnected from the rear alignment motor (M6) and the harnesses are open circuited. Correct if so.

Replace parts	Remarks
Rear alignment plate home position sensor (S8)	
Rear alignment motor (M6)	
Finisher controller board	

#### [ED15] Paddle home position error

Classification	Error item
Finisher jam (Finisher section)	The paddle is not at the home position. [MJ-1111/1112]

Check item	Measures
Paddle	<ul style="list-style-type: none"> <li>Rotate the paddle. If there is any mechanical problem, fix its mechanism.</li> </ul>
Paddle home position sensor (S3) Paddle motor (M3) Finisher control PC board (FIN)	Check if the connectors (CN15, CN16) on the finisher control PC board are disconnected from the paddle home position sensor (S3) and the paddle motor (M3), or the harnesses are open circuited. Correct if any.

Replace parts	Remarks
Paddle home position sensor (S3)	
Paddle motor (M3)	
Finisher controller board	

#### [ED16] Buffer tray home position error

Classification	Error item
Finisher jam (Finisher section)	The buffer tray is not at the home position. [MJ-1111/1112]

Check item	Measures
Buffer tray guide	<ul style="list-style-type: none"> <li>Open and close the buffer tray guide. If there is any mechanical problem, fix its mechanism.</li> </ul>
Buffer tray home position sensor (S5)	<ul style="list-style-type: none"> <li>Check if there is a disconnection of the connector, incorrect installation or breakage of the buffer tray home position sensor (S5). If there is, reinstall the sensor correctly or replace it.</li> <li>Check if the connector (CN11) on the finisher controller PC board is disconnected from the buffer tray home position sensor (S5) and the harnesses are open circuited. Correct if so.</li> </ul>
Assist guide motor (M10)	Check if the connector (CN10) on the finisher controller PC board is disconnected from the Assist guide motor (M10) and the harnesses are open circuited. Correct if so.
Buffer tray guide motor (M2)	Check if the connector (CN10) on the finisher controller PC board is disconnected from the buffer tray guide motor (M2) and the harnesses are open circuited. Correct if so.
Finisher controller board	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>



Replace parts	Remarks
Buffer tray home position sensor (S5)	
Assist guide motor (M10)	
Buffer tray guide motor (M2)	
Finisher controller board	

#### [EF10] Selecting paper not supported by Saddle Stitch Finisher

Classification	Error item
Finisher jam (Finisher section)	In the Saddle Stitch Finisher, selection is made of an unsupported paper size and type and an excess number of pages for stapling.

Check item	Measures
Setting	Check the paper size, paper type, or number of pages for stapling. Change them if they are unsupported.

#### [EF11] Saddle Stitch Finisher stapling error (front)

Classification	Error item
Finisher jam (Saddle section)	Front stapling is not correctly done.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the hole punch unit, finisher or the on the transport path of the equipment. Remove it if there is.</li> <li>• Use paper accepted in the specifications.</li> </ul>
Staple cartridge (front side)	<ul style="list-style-type: none"> <li>• Is the jam released by taking off the front staple cartridge from the Finisher and removing the staple sheet slid from the staple case?</li> </ul>
Front saddle stapler drive unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>• Connector check (CN2)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Front saddle stapler drive unit	
Saddle controller board	

#### [EF12] Saddle Stitch Finisher stapling error (rear)

Classification	Error item
Finisher jam (Saddle section)	Rear stapling is not correctly done.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if there is any paper in the hole punch unit, finisher or the on the transport path of the equipment. Remove it if there is.</li> <li>• Use paper accepted in the specifications.</li> </ul>
Staple cartridge (rear side)	<ul style="list-style-type: none"> <li>• Is the jam released by taking off the rear staple cartridge from the Finisher and removing the staple sheet slid from the staple case?</li> </ul>
Rear saddle stapler drive unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>• Connector check (CN1)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Rear saddle stapler drive unit	
Saddle controller board	

### [EF13] Saddle stitch unit paper holding home position detection error

Classification	Error item
Finisher jam (Saddle section)	The paper holder home position cannot be detected.

Check item	Measures
Paper holding cam	<ul style="list-style-type: none"> <li>• Is there any mechanical problem when the paper holding cam is rotated? Correct if so.</li> </ul>
Paper holding home position sensor (S38)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Paper holding clutch (CLT4)	<p>Check if the harness between the saddle control PC board (SDL) and the paper holding clutch (CLT4) is disconnected or open circuited. Correct if so. (Replace the harness if open circuited. Reconnect the connector securely if there is any disconnection.)</p>
Saddle transport motor (M16)	<p>Check if the harness between the saddle control PC board (SDL) and the saddle transport motor (M16) is disconnected or open circuited. Correct if so. (Replace the harness if open circuited. Reconnect the connector securely if there is any disconnection.)</p>
Saddle controller board	<ul style="list-style-type: none"> <li>• Connector check (CN5)</li> <li>• Board check</li> </ul>

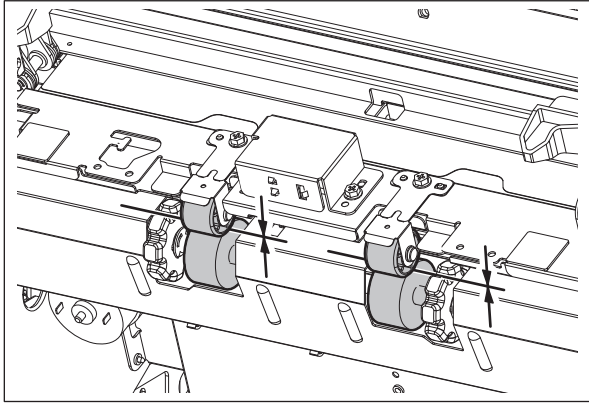
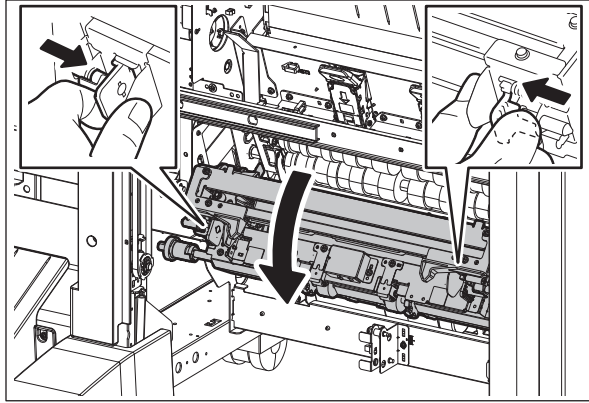
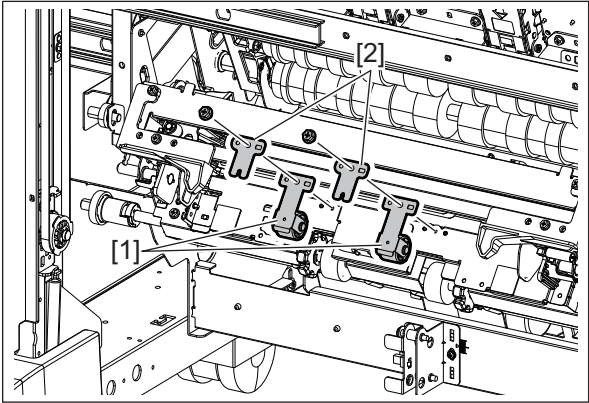
Replace parts	Remarks
Paper holding home position sensor (S38)	
Paper holding clutch (CLT4)	
Saddle transport motor (M16)	
Saddle controller board	

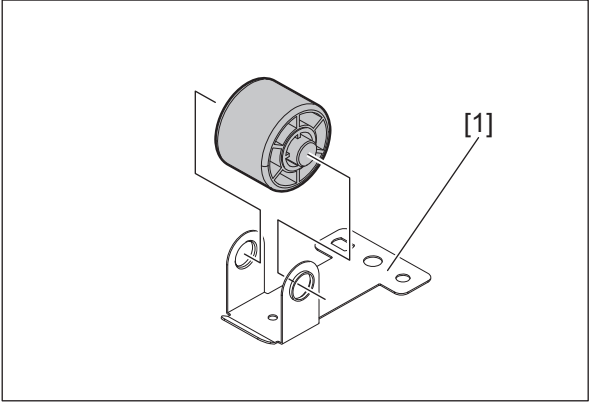
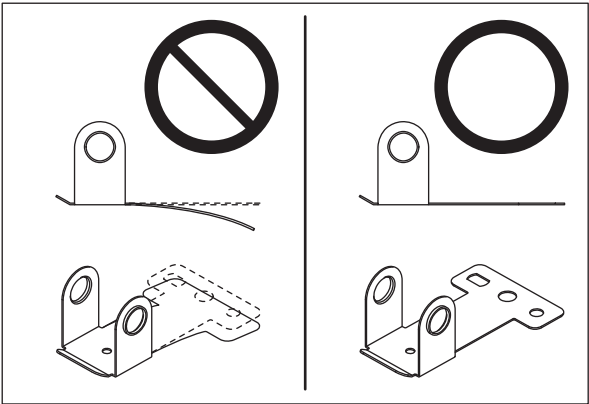
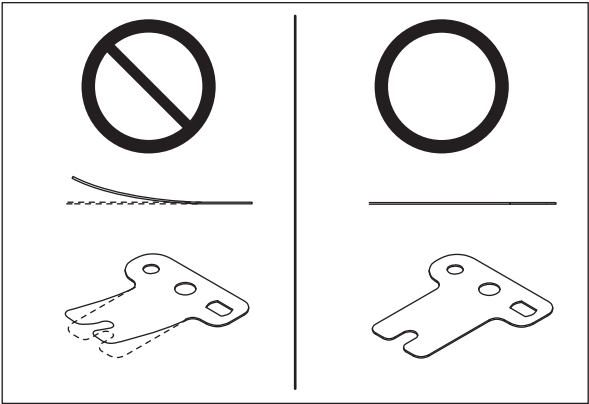
**[EF14] Saddle paper exit jam**

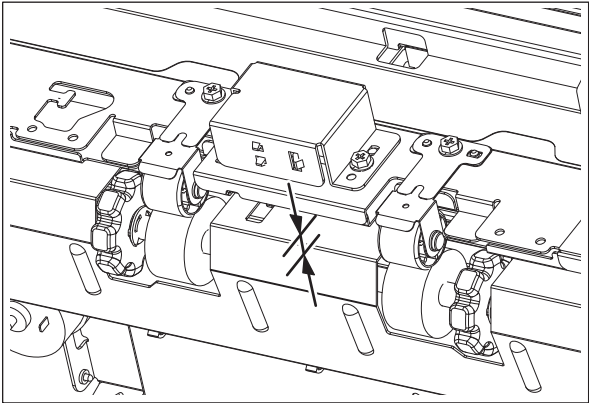
MJ-1112

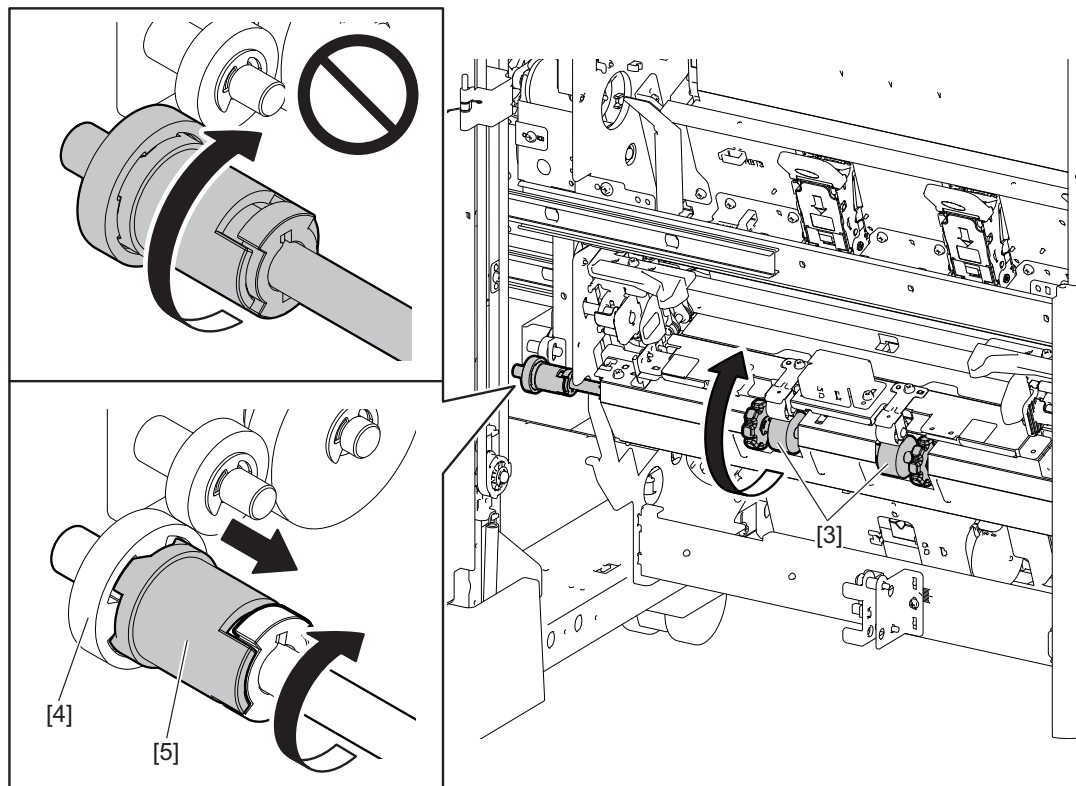
Classification	Error item
Finisher jam (Saddle stitch section)	Outputting paper is not completed within a fixed time.

Check item	Measures
Paper	<ul style="list-style-type: none"> <li>• Is there any paper remaining in the paper transport path of the equipment or the saddle stitch section of the Finisher?</li> <li>• Use the paper specified in the specifications if a type outside of the range is selected.</li> </ul>
Exit sensor (S31)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN7)</li> <li>• Harness check</li> </ul>
Harness	Check if the harness between the finisher controller PC board (FIN) and the saddle control PC board (SDL) is disconnected or open circuited. Correct if so. (Replace the harness if open circuited. Reconnect the connector securely if there is any disconnection.)
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN21)</li> <li>• Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN6, CN7)</li> <li>• Board check</li> <li>• Harness check</li> </ul>

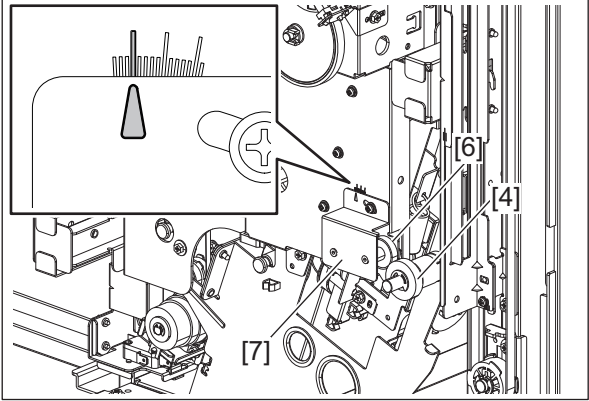
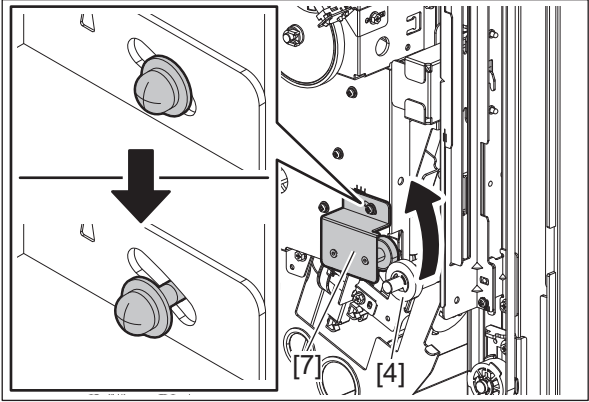
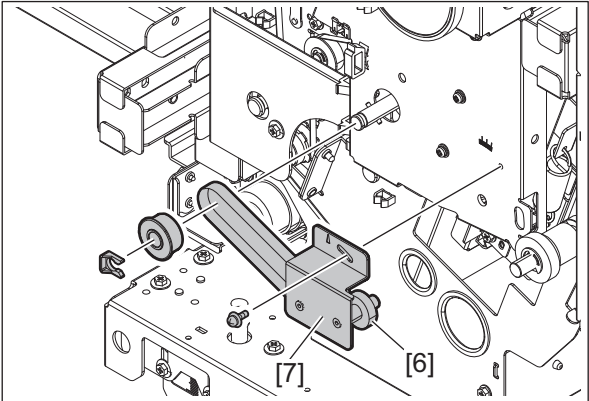
Check item	Measures
<p>Leaf springs and assist leaf springs of the transport pinch roller (for the saddle)</p>	<ul style="list-style-type: none"> <li> <p>Check if there is any gap between the exit roller (for the saddle) and the transport pinch roller (for the saddle). If there is, replace the leaf springs [1] and the assist leaf springs [2] of the transport pinch roller (for the saddle).</p>  <p>Fig.8-4</p> </li> <li> <p>Check if the leaf springs [1] and the assist leaf springs [2] of the transport pinch roller (for the saddle) are misshapen. If they are warped or deformed, replace them. For the removal procedure of the leaf springs [1] and the assist leaf springs [2], refer to the following figures.</p>  <p>Fig.8-5</p> </li> <li>  <p>Fig.8-6</p> </li> </ul>

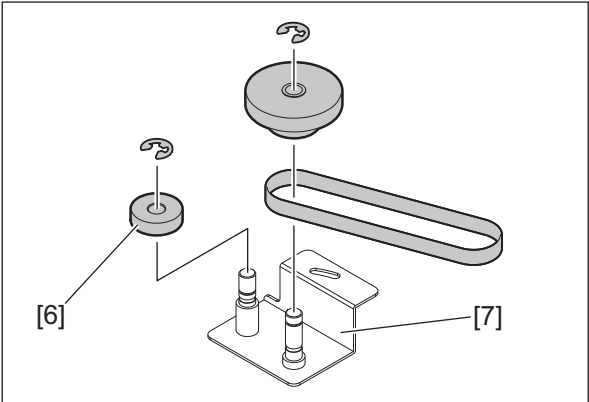
Check item	Measures
<p>Leaf springs and assist leaf springs of the transport pinch roller (for the saddle)</p>	<ul style="list-style-type: none"> <li>Take off the leaf springs [1].</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: center;">Fig.8-7</p> <p><b>Notes:</b>  In order to confirm that there is no warpage or deformation on the leaf springs [1] and the assist leaf springs [2] of the transport pinch roller (for the saddle), remove them and put them on a flat place.</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Fig.8-8</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Fig.8-9</p>

Check item	Measures
Lower transport guide	<p>Check that the gap of the lower transport guide is 15 mm or below.</p> <p>15 mm or below: OK Larger than 15 mm: Not good</p>  <p style="text-align: center;"><b>Fig.8-10</b></p> <p>If the gap is larger than 15 mm, check the attachment condition or replace the lower transport guide.</p>
Exit roller (for the saddle)	<ul style="list-style-type: none"> <li>• Check the engagement status of the gear [4] by rotating the exit roller [3] (for the saddle) in the direction of the arrow (opposite direction of the exiting). <ul style="list-style-type: none"> <li>- When not good: The gear [4] rotates without having been engaged. (The ratchet [5] does not rotate.)</li> <li>- When OK: The ratchet [5] rotates while sliding, but the gear [4] is stopped. (The gear [4] is engaged.)</li> </ul> </li> </ul>



**Fig.8-11**

Check item	Measures
Exit roller (for the saddle)	<ul style="list-style-type: none"> <li>In the case of "not good", replace the bracket [7] at the idle gear [6] side.</li> </ul> <p><b>Notes:</b> When replacing, check the position where the pre-change bracket [7] is attached and add its marking in order to install the post-change one in the same place.</p>  <p style="text-align: center;"><b>Fig.8-12</b></p> <ul style="list-style-type: none"> <li>For the removal procedure of the bracket [7], refer to the following figures.</li> </ul>  <p style="text-align: center;"><b>Fig.8-13</b></p>  <p style="text-align: center;"><b>Fig.8-14</b></p>

Check item	Measures
Exit roller (for the saddle)	 <p style="text-align: center;"><b>Fig.8-15</b></p>

Replace parts	Remarks
Exit sensor (S31)	
Saddle control PC board (SDL)	
Finisher controller PC board (FIN)	
Leaf springs for the transport pinch roller (for the saddle)	Even if no abnormalities have been confirmed by the check items for the lower transport guide (for the saddle) and the transport pinch roller (for the saddle), replace the leaf springs and the assist leaf springs of the transport pinch roller (for the saddle) if an EF14 error has occurred.
Assist leaf springs for the transport pinch roller (for the saddle)	
Bracket at the idle gear side	
Lower transport guide (for the saddle)	
Exit roller (for the saddle)	

#### [EF15] Saddle Stitch Finisher side alignment motor home position detection abnormality

Classification	Error item
Finisher jam (Saddle section)	The side alignment motor home position cannot be detected.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Is there any mechanical problem when the jog is moved?</li> </ul>
Side alignment home position sensor (S36)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN7)</li> <li>• Harness check</li> </ul>
Side alignment motor (M15)	<ul style="list-style-type: none"> <li>• Motor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>• Connector check (CN4)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Side alignment home position sensor (S36)	
Side alignment motor (M15)	
Saddle controller board	



**[EF16] Saddle Stitch Finisher stacker motor home position detection abnormality**

Classification	Error item
Finisher jam (Saddle section)	The stacker motor home position cannot be detected.

Check item	Measures
Stacker carrier	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the stacker carrier is moved?</li> </ul>
Stacker home position sensor (S33)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Stacker motor (M14)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>Connector check (CN8)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Stacker home position sensor (S33)	
Stacker motor (M14)	
Saddle controller board	

**[EF17] Saddle Stitch Finisher folding blade home position detection abnormality**

Classification	Error item
Finisher jam (Saddle section)	The folding blade home position cannot be detected.

Check item	Measures
Folding blade cam	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the folding blade cam is rotated?</li> </ul>
Folding blade home position sensor (S35)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN12)</li> <li>Harness check</li> </ul>
Folding blade clutch (CLT3)	<ul style="list-style-type: none"> <li>Clutch check</li> <li>Connector check (CN13)</li> <li>Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>Connector check (CN12, CN13)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Folding blade home position sensor (S35)	
Folding blade clutch (CLT3)	
Saddle controller board	

### [EF18] Saddle Stitch Finisher additional folding roller home position detection abnormality

Classification	Error item
Finisher jam (Saddle section)	The additional folding roller home position cannot be detected.

Check item	Measures
Additional folding carrier	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the additional folding carrier is moved? Correct if so.</li> </ul>
Additional folding home position sensor (S39) Additional folding motor encoder sensor (S42)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN7)</li> <li>Harness check</li> </ul>
Additional folding motor (M20)	<ul style="list-style-type: none"> <li>Motor check. Check if the motor and timing belt is installed properly.</li> <li>Connector check (CN10)</li> <li>Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>Connector check (CN7, CN10)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Additional folding home position sensor (S39)	
Additional folding motor encoder sensor (S42)	
Additional folding motor (M20)	
Saddle controller board	

### [EF19] Saddle paper folding jam

Classification	Error item
Finisher jam (Saddle section)	Fold processed paper cannot be transported to the additional folding roller.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?</li> </ul>
Exit transport sensor (S41)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN7)</li> <li>Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>Connector check (CN7)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Exit transport sensor (S41)	
Saddle controller board	

**[EF20] Saddle stacker jam**

Classification	Error item
Finisher jam (Saddle section)	Transported paper cannot be detected in the stacker.

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining in the paper transport path in the equipment or the saddle stitch section of the Finisher?</li> </ul>
Stacker paper detection sensor (S30)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN3)</li> <li>Harness check</li> </ul>
Saddle controller board	<ul style="list-style-type: none"> <li>Connector check (CN3)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Stacker paper detection sensor (S30)	
Saddle controller board	

**[EF21] Hole Punch Unit paper leading edge skew detection abnormality**

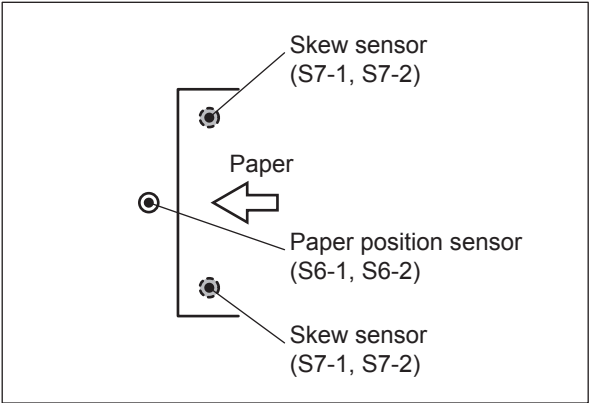
Classification	Error item
Finisher jam (Saddle section)	

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining on the paper transport path? Is it staying at the position shown below?</li> </ul> <div> <p>The diagram illustrates the paper transport path in the finisher. It shows a vertical path where paper moves from left to right, indicated by two arrows labeled 'Paper'. Three sensors are positioned along the path: a 'Skew sensor (S7-1, S7-2)' at the top, a 'Paper position sensor (S6-1, S6-2)' in the middle, and another 'Skew sensor (S7-1, S7-2)' at the bottom. The paper is shown slightly skewed to the right as it moves.</p> </div> <ul style="list-style-type: none"> <li>Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.</li> </ul>
Skew sensor (S7-1/S7-2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Punch controller board	<ul style="list-style-type: none"> <li>Connector check (CN19)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Skew sensor (S7-1/S7-2)	
Punch controller board	

**[EF22] Hole Punch Unit paper leading edge detection abnormality**

Classification	Error item
Finisher jam (Saddle section)	

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining on the paper transport path? Is it staying at the position shown below?</li> </ul>  <ul style="list-style-type: none"> <li>Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.</li> </ul>
Paper position sensor (S6-1/S6-2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Punch controller board	<ul style="list-style-type: none"> <li>Connector check (CN19)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Paper position sensor (S6-1/S6-2)	
Punch controller board	

**[EF23] Hole Punch Unit paper alignment abnormality**

Classification	Error item
Finisher jam (Saddle section)	

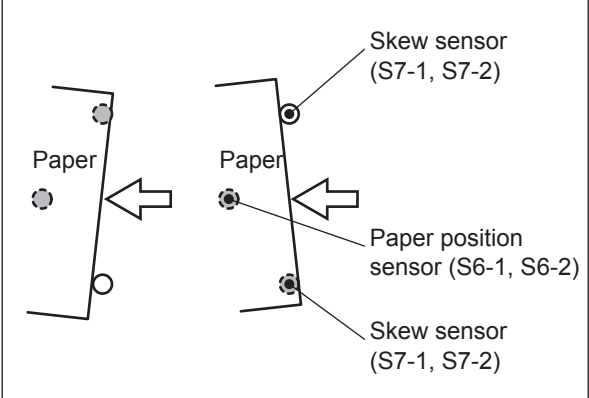
Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining in the paper transport path in the equipment or the Finisher?</li> </ul>
Sideways deviation home position sensor (S3)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Paper position sensor (S6-1/S6-2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Sideways adjustment motor (M2)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check</li> <li>Harness check</li> </ul>

Check item	Measures
Punch controller board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Sideways deviation home position sensor (S3)	
Sideways adjustment motor (M2)	
Punch controller board	

**[EF24] Hole Punch Unit paper leading skew detection abnormality**

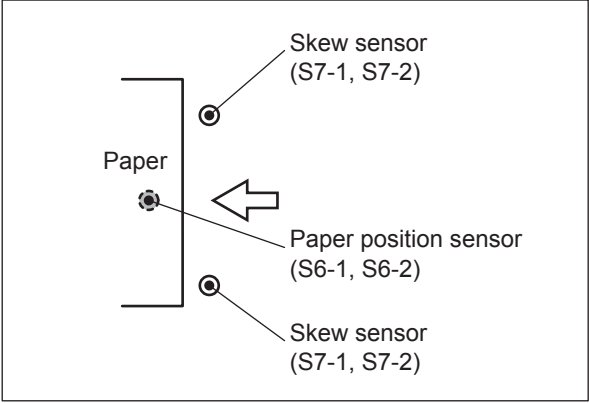
Classification	Error item
Finisher jam (Saddle section)	

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Is there any paper remaining on the paper transport path? Is it staying at the position shown below?</li> </ul>  <ul style="list-style-type: none"> <li>• Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.</li> </ul>
Skew sensor (S7-1/S7-2)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Punch controller board	<ul style="list-style-type: none"> <li>• Connector check (CN19)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Skew sensor (S7-1/S7-2)	
Punch controller board	

**[EF25] Hole Punch Unit paper leading edge detection abnormality**

Classification	Error item
Finisher jam (Saddle section)	

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining on the paper transport path? Is it staying at the position shown below?</li> </ul>  <ul style="list-style-type: none"> <li>Figure out the cause of the paper stopping (e.g. folding) and correct it. Then remove the paper.</li> <li>Remove paper dust or punches on the paper position sensor (S6-1, S6-2).</li> </ul>
Paper position sensor (S6-1/S6-2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Punch controller board	<ul style="list-style-type: none"> <li>Connector check (CN19)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Paper position sensor (S6-1/S6-2)	
Punch controller board	

**[EF27] Hole Punch Unit paper edge detection order abnormality-1**

**[EF28] Hole Punch Unit paper edge detection order abnormality-2**

Classification	Error item
Finisher jam (Saddle section)	

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>Is there any paper remaining in the paper transport path in the equipment or the Finisher?</li> </ul>
Skew sensor (S7-1/S7-2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check</li> <li>Harness check</li> </ul>
Punch controller board	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Skew sensor (S7-1/S7-2)	
Punch controller board	

### 8.3.13 Paper feeding system related service call

[C130] 1st drawer tray abnormality

[C140] 2nd drawer tray abnormality

Classification	Error item
Paper feeding system related service call	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).(C130) 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).(C140)

Check item	Measures
Coupling	Check that no paper scraps remain in the coupling section.
Tray-up motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-246/247)</li> <li>Connector check</li> <li>Harness check</li> </ul>
Tray-up sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[F3]ON/[7]/[D], /[8]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN358, CN359, CN360)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Tray-up motor	
Tray-up sensor	
PFC board	

[C150] 3rd drawer tray abnormality

[C160] 4th drawer tray abnormality

Classification	Error item
Paper feeding system related service call	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).(C150) 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).(C160)

Check item	Measures
Coupling	Check that no paper scraps remain in the coupling section.
Tray-up motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-248/249)</li> <li>Connector check</li> <li>Harness check</li> </ul>
Tray-up sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[D], /[0]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>

Check item	Measures
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN504, CN352, CN354, CN355)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Tray-up motor	
Tray-up sensor	
PFC board	

### [C180] LCF tray-up motor abnormality

Classification	Error item
Paper feeding system related service call	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)

Check item	Measures
LCF tray-up motor	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-257)</li> <li>Connector check</li> <li>Harness check</li> </ul>
LCF tray-up sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[F3]ON/[9]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>
LCF tray bottom sensor	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[ALL]OFF/[0]/[B])</li> <li>Connector check</li> <li>Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>Connector check (CN352, CN354, CN356)</li> <li>Board check</li> </ul>

Replace parts	Remarks
LCF tray-up motor	
LCF tray-up sensor	
LCF tray bottom sensor	
PFC board	

### [C1A0] LCF end fence motor abnormality

Classification	Error item
Paper feeding system related service call	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)



Check item	Measures
LCF end fence motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-256)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
T-LCF end fence home position sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[0]/[G])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
T-LCF end fence stop position sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[0]/[H])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN356)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
LCF end fence motor	
T-LCF end fence home position sensor	
T-LCF end fence stop position sensor	
PFC board	

### [C1C0] Option LCF tray-up motor abnormality

Classification	Error item
Paper feeding system related service call	The option LCF tray-up motor is not moving normally

Check item	Measures
Option LCF hook	Check that the optional LCF is hooked by two positions on the equipment. If it is not hooked securely, perform its height adjustment.
Gaps between the equipment and the optional LCF	Check that the gaps between the equipment and the optional LCF on the upper and lower positions are even. If the gap on the upper position is wider than that on the lower position, perform height adjustment of the optional LCF.
Option LCF tray-up motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-270)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Option LCF tray-up sensor	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F2]ON/[2]/[A])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LCF board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN353)</li> <li>• Harness check</li> <li>• Board check</li> </ul>

<b>Replace parts</b>	<b>Remarks</b>
Option LCF bottom sensor	
Option LCF top sensor	
LCF board	
PFC board	

### 8.3.14 Scanning system related service call

#### [C260] Peak detection error

Classification	Error content
Scanning system related service call	Peak detection error

Procedure	Check item	Result	Measure	Next Step
1	Does the exposure lamp light? (Perform the output check: FS-03-267)	Yes	It is lit.	2
		No	It is not lit.	3
2	Shading correction plate		Check if there is any scratch or stain on the shading correction plate.	
	Mirror		Check if the mirror is tilted. 1. Check that the lens is reflected in the mirror looking at carriage-1 from the upper position. 2. Check that the mirror is secured at the leaf spring.	
	Carriage		1. Check if the carriage is tilted by moving it to the left stopping point. 2. Check if the wire fixing screw is loosened. 3. Check if the movement of the carriage is unstable due to disengagement of the carriage roller.	
	Exposure lamp		1. Check if the exposure lamp is correctly lit. 2. Check if the harness is connected properly to the exposure lamp connector. (CN123, CN010) 3. When the carriage is driven, check if the harness interferes with it or parts are caught in it.	
	CCD board / Lens unit		1. Check if the connector of the CCD board is connected properly. (CN120, CN001) 2. Check if the CCD board is installed properly. (Check that the lens unit is not tilted or the screw is securely tighten.)	
	SYS board		1. Check if the connector of the SYS board (CN120, CN123) is connected properly. 2. Check if the mounted parts on the SYS board are damaged or abnormal. 3. Check if the power is output from the SYS board for CCD. (CN122).	

Procedure	Check item	Result	Measure	Next Step
3	SYS board		<ol style="list-style-type: none"> <li>1. Check if the supply cable is connected properly to the connector (CN127).</li> <li>2. Check if the mounted parts on the SYS board are damaged or abnormal.</li> </ol>	
	Exposure lamp		<ol style="list-style-type: none"> <li>1. Check if the harness of the exposure lamp is connected to the LED light source properly.</li> <li>2. Check if the exposure lamp is scratched or damaged.</li> <li>3. Check if the exposure lamp harness comes off the board.</li> </ol>	
	Power supply harness		<ol style="list-style-type: none"> <li>1. Check if wiring of the power supply harness (CN127) is abnormal.</li> <li>2. Check if the harness is scratched or open circuited.</li> </ol>	

Parts to be replaced	Remark
Lens unit	
SYS board	
Exposure lamp	
Power supply harness	

### [C262] Communication error

Classification	Error content
Scanning system related service call	Communication error

Procedure	Check item	Measure
1	Lens unit	<ol style="list-style-type: none"> <li>1. Check if the connector is properly connected all the way in the CCD board. (CN001)</li> <li>2. Check if there is any abnormality in the appearance of parts mounted on the CCD board.</li> <li>3. Check if +5V is output to the CCD board.</li> <li>4. Check if +3.3V is output from the CCD board.</li> <li>5. Replace the Lens unit.</li> </ol>
2	SYS board	<ol style="list-style-type: none"> <li>1. Check if the connector is properly connected all the way in the SYS board. (CN120)</li> <li>2. Check if there is any abnormality in the appearance of parts mounted on the SYS board.</li> <li>3. Check if +5V is output to the SYS board.</li> <li>4. Replace the SYS board.</li> </ol>
3	Harnesses	<ol style="list-style-type: none"> <li>1. Check if the harness has any scratch on it or is open circuited or caught anywhere.</li> <li>2. Check if there is any abnormality in the connector terminal or the contacting surface of the flat harness.</li> <li>3. Replace the harness between the SYS board and the CCD board.</li> </ol>


Procedure	Check item	Measure
4	DSDF	<ol style="list-style-type: none"> <li>1. Turn the power OFF, disconnect the communication cable of the DSDF from the equipment and turn the power ON again. Then check if the error is reproduced.</li> <li>2. If the error is reproduced, check if there is any abnormality in the communication cable and the connector between the DSDF and the equipment.</li> <li>3. Replace the communication cable between the DSDF and the equipment.</li> <li>4. Replace the DSDF.</li> </ol>

Parts to be replaced	Remark
Lens unit	
SYS board	
Harnesses	
DSDF	

**[C270] Carriage home position sensor not going OFF within a specified time / Downloading firmware with an incorrect model**

Classification	Error content
Scanning system related service call	Carriage home position sensor not going OFF within a specified time / Downloading firmware with an incorrect model

Procedure	Check item	Result	Measure	Next Step
1	Carriage locking		Check if the carriage locking screw for packaging is attached.	
2	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 CCD board are abnormal.	
		No		3
3	CCD board		<ul style="list-style-type: none"> <li>• Check if the connector pin is disconnected or the harness is short circuited or open circuited. (CN001)</li> <li>• Check if the conductor pattern on the CCD board is short circuited or open circuited.</li> <li>• 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 firmware.</li> </ul>	
4	Carriage home position sensor		<ol style="list-style-type: none"> <li>1. Check if the harness of the carriage home position sensor is connected properly. (CN121, J002)</li> <li>2. Check if the harness is caught or open circuited.</li> </ol>	

Procedure	Check item	Result	Measure	Next Step
5	SYS board		<ol style="list-style-type: none"> <li>1. Check if the connector of the SYS board (CN120, CN121, CN124, CN105) is connected properly.</li> <li>2. Check if the mounted parts on the SYS board are damaged or abnormal.</li> <li>3. Check if 24 V (CN105) on the SYS board is short circuited.</li> <li>4. Check if 24 V is supplied to the SYS board (CN105).</li> </ol>	
6	Scan motor		<ol style="list-style-type: none"> <li>1. Check if the belt tension is loosened.</li> <li>2. Check if the motor fixing screw is loosened.</li> <li>3. Check if the carriage wire and the timing belt come off.</li> <li>4. Check if the connector (CN124) is connected to the motor properly.</li> <li>5. Check if the harness of the motor is caught or open circuited.</li> </ol>	
7	Setting		Clear the SRAM data and initialize them. Refer to  P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM".	

Parts to be replaced	Remark
CCD board	
Carriage home position sensor	
Carriage home position sensor harness	
SYS board	
Scan motor	
Scan motor harness	

### [C280] Carriage home position sensor not going ON within a specified time

Classification	Error content
Scanning system related service call	Carriage home position sensor not going ON within a specified time

Procedure	Check item	Measures
1	Carriage locking	Check if the carriage locking screw for packaging is attached.
2	Carriage hole position sensor	<ol style="list-style-type: none"> <li>1. Check if the harness is properly connected to the sensor.</li> <li>2. Check if the harness is caught or open circuited.</li> </ol>
3	SYS board	<ol style="list-style-type: none"> <li>1. Check if the harness (CN121, J002) of the carriage home position sensor is connected properly.</li> <li>2. Check if the mounted parts on the SYS board are damaged or abnormal.</li> <li>3. Check if 24 V (CN105) on the SYS board is short circuited.</li> <li>4. Check if 24 V is supplied to the SYS board (CN105).</li> </ol>

Procedure	Check item	Measures
4	Scan motor	<ol style="list-style-type: none"> <li>1. Check if the belt tension is loosened (if the motor screw is loosened).</li> <li>2. Check if the carriage wire and the timing belt come off.</li> <li>3. Check if the connector (CN124) is connected to the motor properly.</li> <li>4. Check if the harness of the motor is caught or open circuited.</li> </ol>

Parts to be replaced	Remark
Carriage home position sensor	
Carriage home position sensor harness	
SYS board	
Scan motor	
Scan motor harness	

### [C290] Scanner fuse blowout

Classification	Error content
Scanning system related service call	The scanning system does not operate due to a blowout of the fuse in the scanning system.

Check item	Result	Measure
Is 24V supplied to the SYS board?	Yes	<p>Check the following because the signal for checking 24V on the SYS board is abnormal.</p> <ol style="list-style-type: none"> <li>1. Check if the scanner CPU (IC26) is damaged or abnormal.</li> <li>2. Check if the mounted parts on the SYS board are damaged or abnormal.</li> <li>3. Check if 24V on the SYS board is short circuited.</li> <li>4. Check if 24V is supplied to the SYS board (CN105).</li> </ol>
	No	<ol style="list-style-type: none"> <li>1. Check if the 24V supply harness is properly connected to the connector (CN105).</li> <li>2. Check if 24V and SG on the SYS board are short circuited.</li> <li>3. Check if the power supply is short circuited by pulling out the supply harness on the SYS board (CN105).</li> <li>4. Check if the fuse on the LVPS (F203) is open circuited.</li> <li>5. Check if there is no abnormality on the LVPS.</li> </ol>

Parts to be replaced	Remark
SYS board	
Fuse (F203)	
Power supply harness	
LVPS	

### 8.3.15 Fuser unit related service call

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.

**[C443] Heater temperature abnormality after abnormality judgment (not reaching to intermediate temperature)**

**[C445] Heater temperature abnormality after abnormality judgment (pre-running end temperature abnormality)**

**[C446] Heater temperature abnormality after abnormality judgment (pre-running end temperature abnormality)**

**[C447] Heater temperature abnormality after abnormality judgment (temperature abnormality at ready status)**

**[C449] Heater temperature abnormality after abnormality judgment (high temperature abnormality)**

Classification	Error content
Fuser unit related service call	Heater temperature abnormality after abnormality judgment

Procedure	Check item	Measures
1	Power voltage	Check if the power voltage is normal.(Is the voltage during the operation $\pm 10\%$ of the rated voltage?)
2	Thermistor	<ul style="list-style-type: none"> <li>• Check if the center and edge thermistor are installed properly.</li> <li>• Check if the harnesses of the center and edge thermistor are open circuited.</li> <li>• Check if the connectors of the center and edge thermistor are disconnected (CN312, J819).</li> </ul>
3	Power supply and fuser unit	<ul style="list-style-type: none"> <li>• Is the fuser unit installed correctly?</li> <li>• Check if the IH-COIL is broken.</li> <li>• Check if the terminal of the IH-COIL is attached securely.</li> <li>• Check if the thermostat is blown</li> <li>• Check if the drawer connector is damaged or its connection is detected.</li> <li>• Check if the connectors of the power supply unit are disconnected (CN511, CN512, CN513, CN515).</li> <li>• Check if the power supply unit is abnormal.</li> </ul>
4	LGC board	<ul style="list-style-type: none"> <li>• Check if the connectors CN316 and CN317 are disconnected.</li> <li>• Check if the conductor pattern on the LGC board is short circuited or open circuited.</li> </ul>



Procedure	Check item	Measures
5	Clear the status counter	1. Perform FS-08-2002. 2. Change the current status counter value "5", "6", "7", "9", "10", "22", "23", "24", "25", "27", "29", or "63 to 70".  * The status counter value is as follows in the following cases. - The error occurred during warming-up: "5" or "6" The error occurred after the equipment has become ready: "7". - The temperature detected by the center thermistor is 220°C or higher, the temperature detected by the edge thermistor is 237°C or higher : "9", "10", "22", "23", "25", "27" or "29" - The error occurred during printing: "24", "25", or "64 to 70". - The error occurred during energy saving: "27". - A paper jam occurred: "29".

Parts to be replaced	Remark
Thermistor	
LGC board	
IH-COIL	
Power supply	

**[C471] IH board initialization abnormality**  
**[C472] Power supply abnormality**

Classification	Error item
Fuser unit related service call	Power is not supplied to the IH board. Or there is trouble in the power supply environment of the installation location.

Check item	Measures
Power supply	<ul style="list-style-type: none"> <li>• Check if the power voltage is normal.(Is the voltage during the operation ±10% of the rated voltage?)</li> <li>• Connector check</li> <li>• Power cable check</li> </ul>
IH interlock switch.	<ul style="list-style-type: none"> <li>• Switch check</li> <li>• Install check</li> </ul>
Thermostat	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Install check</li> </ul>
Fuser unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
IH board	<ul style="list-style-type: none"> <li>• Connector check (CN561, CN562, CN563)</li> <li>• Harness check</li> <li>• Breaker, fuse check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN309, CN312)</li> <li>• Harness check</li> </ul>
Status counter	1. Perform FS-08-2002. Change the current status counter value "11" to "0". 2. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Replace parts	Remarks
IH interlock switch	
Fuser unit	
Power supply	
IH board	
LGC board	

**[C473] Surge pressure detection / power and voltage upper limit abnormality**

**[C474] Power and voltage lower limit abnormality**

Classification	Error item
Fuser unit related service call	

Check item	Measures
Power supply	<ul style="list-style-type: none"> <li>• Check if the power voltage is normal.(Is the voltage during the operation <math>\pm 10\%</math> of the rated voltage?)</li> <li>• Connector check (CN505, CN506, CN504)</li> <li>• Power cable check</li> </ul>
Fuser unit	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Thermostat check</li> <li>• Unit check</li> </ul>
IH board	<ul style="list-style-type: none"> <li>• Connector check(CN562, CN563)</li> <li>• Harness check</li> <li>• Breaker, fuse check</li> </ul>
Status counter	<p>Perform FS-08-2002. Change the current status counter value "13" or "16" to "0".</p> <p>Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.</p>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN309, CN310, CN312)</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Power supply	
IH board	
LGC board	

**[C480] IGBT high temperature abnormality**

Classification	Error item
Fuser unit related service call	

Check item	Measures
IH board cooling fan	<ul style="list-style-type: none"> <li>• Fan motor check (Perform the output check: FS-03-453/454)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN309)</li> <li>• Harness check</li> </ul>

Check item	Measures
IH board	<ul style="list-style-type: none"> <li>Connector check (CN561, CN562, CN563)</li> <li>Harness check</li> </ul>
Status counter	1. Perform FS-08-2002. Change the current status counter value "14" to "0".

Replace parts	Remarks
IH board cooling fan	
LGC board	
IH board	

#### [C4B0] Fuser unit counter abnormality

Classification	Error item
Fuser unit related service call	

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>
Status counter	<ol style="list-style-type: none"> <li>Perform FS-08-2002.</li> <li>Change the values "71" or above, or "4" of the status counter (FS-08-2002) to "0".</li> </ol>

Replace parts	Remarks
LGC board	

#### [C4B1] IH board/LGC board judgment error

Classification	Error item
Fuser unit related service call	Errors when there is no match between the destination selected in the IH board and the equipment

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN309, CN312, CN319)</li> <li>Board check</li> </ul>
IH board	<ul style="list-style-type: none"> <li>Connector check (CN561, CN562, CN563)</li> <li>Board check</li> </ul>

Replace parts	Remarks
LGC board	
IH board	

#### [C4B2] IH firmware combination error

Classification	Error item
Fuser unit related service call	Abnormality due to a mismatch between the IH firmware and the IH board

Check item	Measures
Combination of the firmware version	<ul style="list-style-type: none"> <li>• Check the combination of the firmware version of the IH firmware.</li> <li>• Reinstall the firmware of correct combination.</li> </ul>
IH board	<ul style="list-style-type: none"> <li>• Connector check (CN561, CN562, CN563)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
IH board	

#### [C4E0] Fuser pressure release abnormality

#### [C4E1] Fuser pressure contact abnormality

Classification	Error item
Fuser unit related service call	<p>Though the pressure roller is released, its position cannot be detected.(C4E0)</p> <p>Though the pressure roller is contacted, its position cannot be detected.(C4E1)</p>

Check item	Measures
Pressure roller contact/release detection sensor(S48)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[F2]ON/[3]/[H])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Pressure roller contact/release motor (M48)	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-273)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Fuser unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Connector check</li> <li>• Harness check</li> <li>• Fuser unit installation check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN312, CN309)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Pressure roller contact/release detection sensor	
Pressure roller contact/release motor	
LGC board	

#### [C4E2] Fuser belt rotation detection sensor abnormality

Classification	Error item
Fuser unit related service call	The fuser belt does not rotate or does so incorrectly.

Check item	Measures
Fuser unit	<ul style="list-style-type: none"> <li>• Fuser belt rotation detection sensor check (Input check: FS-03-[F2]ON/[3]/[E])</li> <li>• Connector check in the fuser belt rotation sensor</li> <li>• Harness check in the fuser belt rotation sensor</li> <li>• Detection plate (rotor) check</li> <li>• Grease check in the gear (shaft / tooth flank)</li> <li>• Fuser belt check</li> <li>• Check that the C-ring in the pressure roller does not come off.</li> <li>• Fuser unit installation check (Check that the screws fixing the fuser unit are not loose.)</li> </ul>
Fuser drive unit	<ul style="list-style-type: none"> <li>• Bushing check</li> <li>• Check that the drive unit is correctly installed (2 dowels).</li> <li>• Check that the drive metal plate is not broken.</li> <li>• Check that the gear is not damaged or worn.</li> <li>• One-way clutch check</li> <li>• Grease check in the gear (shaft / tooth flank)</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN312, CN309)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Fuser belt rotation detection sensor	
Detection plate (rotor)	Dirty/damaged
Fuser belt	Deformed/damaged
Bushing	Worn
Drive plate	Bend section broken
Gear	Teeth damaged, worn
LGC board	

### 8.3.16 Communication related service call

#### [C550] Communication error between the scanner and DSDF

Classification	Error item
DSDF related service call	Communication error between the scanner and DSDF

Check item	Measures
Connector	Check if the connectors (CN70, CN71 and J97) connected the DSDF and the equipment are connected properly.
HDMI cable	Check if the HDMI cables (CN78 and CN90) are connected properly.
DSDF I/F board	Check if the DSDF I/F board is installed in the SYS board properly.
Connector	<ul style="list-style-type: none"> <li>• Check if the connectors of the SYS board and the DSDF control PC board are connected properly.</li> <li>• Replace the harness.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.
SYS board	<ul style="list-style-type: none"> <li>• Check the connector (CN122) of the SYS board.</li> <li>• Check if the connectors on the SYS board are disconnected from the DSDF control PC board or the harnesses are open circuited. Correct if any.</li> <li>• Check the SYS board (IC25, IC28).</li> <li>• Replace the SYS board.</li> </ul>

Replace parts	Remarks
Harness	Between the DSDF control PC board and the equipment
HDMI cable	
DSDF I/F board	
DSDF control PC board	Replace the DSDF board, and then perform the automatic adjustment for the original reading start sensor (FS-05-3210).
SYS board	

#### [C551] Reversing automatic document feeder model detection error

Classification	Error item
DSDF related service call	Incorrect reversing automatic document feeder installed to the equipment

Check item	Measures
DSDF	Replace the reversing automatic document feeder (DSDF) with the correct one.
DSDF I/F board	<ul style="list-style-type: none"> <li>• Check the DSDF I/F board installation.</li> <li>• Check the connector (CN89) of the DSDF I/F board.</li> <li>• Check if the connectors on the DSDF I/F board are disconnected from the DSDF control PC board or the harnesses are open circuited. Correct if any.</li> <li>• Replace the DSDF I/F board.</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Check the connector (CN129) of the SYS board.</li> <li>• Replace the SYS board.</li> </ul>

Replace parts	Remarks
DSDF	
DSDF I/F board	
SYS board	

### [C552] DSDF abnormality

Classification	Error item
DSDF related service call	DSDF abnormality

Check item	Measures
Connector	Check if the connectors (CN70, CN71 and J97) connected the DSDF and the equipment are connected properly.
Firmware	Update the firmware of the DSDF.
Connector	<ul style="list-style-type: none"> <li>Check if the connectors of the DSDF control PC board are connected properly.</li> <li>Replace the harness.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Replace parts	Remarks
DSDF control PC board	Replace the DSDF board, and then perform the automatic adjustment for the original reading start sensor (FS-05-3210).

### [C553] DSDF CCD-module Peak detection error

Classification	Error item
DSDF related service call	The light source of the DSDF-CCD module does not light, or there is a detection error of the light source.

Check item	Measures
HDMI cable	<ul style="list-style-type: none"> <li>Check if the HDMI cables are connected properly.</li> <li>Connector check (DSDF control PC board side: CN78, DSDF I/F board side: CN90)</li> </ul>
DSDF I/F board	<ul style="list-style-type: none"> <li>Check if the DSDF I/F board is installed in the SYS board properly.</li> <li>Connector check (SYS board side: CN78, DSDF I/F board side: CN89)</li> </ul>
Connector	<ul style="list-style-type: none"> <li>Check if the connectors of the SYS board and the DSDF control PC board are connected properly.</li> <li>Replace the harness.</li> </ul>
Power supply	Check if 24V is supplied to the DSDF control PC board properly. (Check the connector of the power supply of the DSDF control PC board: CN70 Pins 1 and 2) (Check the connector of the power supply of the SYS board: CN122 Pins 19 and 20)
DSDF exit motor	<ul style="list-style-type: none"> <li>Check if the DSDF exit motor is working properly.</li> <li>Check if the connectors (J991 and CN77) on the DSDF control PC board are disconnected from the DSDF exit motor or the harnesses are open circuited. Correct if any.</li> </ul>

Check item	Measures
DSDF-CCD module	<ul style="list-style-type: none"> <li>• Check if the connectors of the DSDF-CCD module and the DSDF control PC board are connected properly.</li> <li>• Check that there is no abnormality in the DSDF-CCD module.</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Connector check (CN122)</li> <li>• Check the SYS board (IC31, IC32).</li> <li>• Replace the SYS board.</li> </ul>

Replace parts	Remarks
DSDF I/F board	
DSDF exit motor	
DSDF-CCD module	
SYS board	
HDMI cable	

#### [C554] AFE communication error

Classification	Error item
DSDF related service call	Communication error between the DSDF-CCD module and SYS board

Check item	Measures
HDMI cable	<ul style="list-style-type: none"> <li>• Check if the HDMI cables are connected properly.</li> <li>• Connector check (DSDF control PC board side: CN78, DSDF I/F board side: CN90)</li> </ul>
DSDF I/F board	<ul style="list-style-type: none"> <li>• Check if the DSDF I/F board is installed in the SYS board properly.</li> <li>• Connector check (SYS board side: CN78, DSDF I/F board side: CN89)</li> <li>• Check the DSDF I/F board (IC6, IC9, IC204).</li> <li>• Replace the DSDF I/F board.</li> </ul>
Connector	<ul style="list-style-type: none"> <li>• Check if the connectors of the SYS board and the DSDF control PC board are connected properly.</li> <li>• Replace the harness.</li> </ul>
DSDF-CCD module	<ul style="list-style-type: none"> <li>• Check if the connectors of the DSDF-CCD module and the DSDF control PC board are connected properly.</li> <li>• Check that there is no abnormality in the DSDF-CCD module.</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Connector check (CN122)</li> <li>• Check the SYS board (IC26).</li> <li>• Replace the SYS board.</li> </ul>

Replace parts	Remarks
DSDF I/F board	
DSDF-CCD module	
DSDF control PC board	
SYS board	
HDMI cable	



**[C560] Communication error between Engine-CPU and PFC board**

Classification	Error item
Optional communication related service call	

Check item	Measures
PFC board	<ul style="list-style-type: none"> <li>• Connector check (CN350, CN351)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN315, CN314)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
PFC board	
LGC board	

**[C580] Communication error between LGC board and finisher**

Classification	Error item
Optional communication related service call	Communication error between LGC board and finisher

Check item	Measures
Finisher	<ul style="list-style-type: none"> <li>• Check if the specified finisher is attached.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>
Harness (MFP - Finisher)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Harness check</li> </ul>
Finisher controller board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
LGC board	
Finisher controller board	

**[F070] Communication error between System-CPU and Engine-CPU**

**[F071] Communication error between the System-CPU and the Engine-CPU (Initialization error)**

**[F074] Communication error between System-CPU and Engine-CPU (Engine-CPU response abnormality)**

Classification	Error item
Communication related service call	

Check item	Measures
Error code	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON using the main power switch, and then check if the error code changes to another one.</li> <li>• If it changes to another one, follow the procedure for the changed error code.</li> </ul>

Check item	Measures
Check firmware version	<ul style="list-style-type: none"> <li>• Check the version of the system firmware on the SYS board.</li> <li>• Check the version of the engine firmware on the LGC board.</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Check the version of the system ROM.</li> <li>• Connector check (CN130, CN132)</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Check the version of the engine ROM.</li> <li>• Connector check (CN331, CN332)</li> </ul>

Replace parts	Remarks
Harness	
LGC board	
SYS board	If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the SYS board.

#### [F110] Communication error between System-CPU and Scanner-CPU

#### [F111] Scanner response abnormality

Classification	Error item
Communication related service call	

Check item	Measures
Reproducibility	Turn the power OFF and then back ON using the main power switch.
SYS board	<ul style="list-style-type: none"> <li>• Check the version of the system ROM.</li> <li>• Connector check (CN130, CN132)</li> </ul>

Replace parts	Remarks
SYS board	

#### [F119] Scanner abnormality detection

Classification	Error item
Communication related service call	Scanner abnormality detection (Connection error between scanner CPU and system CPU)

Check item	Measures
SYS board	<ul style="list-style-type: none"> <li>• Check if there is any abnormality in the appearance of parts mounted on the SYS board.</li> <li>• Replace the SYS board.</li> </ul>

Replace parts	Remarks
SYS board	

### [F11A] Communication error between the SYS board and the CCD board

Classification	Error item
Communication related service call	Communication error between the SYS board and the CCD board

Check item	Measures
Reproducibility	Turn the power OFF and then back ON to check the occurrence.
SYS board	<ul style="list-style-type: none"> <li>• Check if the connectors of the CCD board and SYS board are disconnected or the flat cable are open circuited. (CN120, CN001)</li> <li>• Check if there is no abnormality in the SYS board.</li> </ul>

Replace parts	Remarks
SYS board	
Flat cable	

### [F11B] Communication error between the SYS board and the DSDF-CCD module (DSDF)

Classification	Error item
Communication related service call	Communication error between the SYS board and the DSDF-CCD module (DSDF)

Check item	Measures
Reproducibility	Turn the power OFF and then back ON to check the occurrence.
SYS board	<ul style="list-style-type: none"> <li>• Check if there is no abnormality in the SYS board.</li> <li>• Connector check</li> <li>• Board check</li> </ul>
Relay board	Check if the relay board is installed in the SYS board properly.
HDMI cable	Check if the HDMI cables (CN78 and CN90) are connected properly.
DSDF control PC board	<ul style="list-style-type: none"> <li>• Check if the connector of the DSDF control PC board is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDF control PC board.</li> </ul>
DSDF-CCD module	<ul style="list-style-type: none"> <li>• Check if the connectors of the DSDF-CCD module and the DSDF control PC board are connected properly.</li> <li>• Check that there is no abnormality in the DSDF-CCD module.</li> </ul>

Replace parts	Remarks
Relay board	
SYS board	
HDMI cable	
DSDF control PC board	
DSDF-CCD module	

### 8.3.17 DSDF related service call

#### [C730] DSDF EEPROM format error

Classification	Error content
DSDF service call	An abnormality occurs while the data are being written in the EEPROM of the DSDF.

Check item	Measures
Adjustment	Perform the DSDF read-in sensor-1 automatic adjustment.
DSDF control PC board	If this error still persists after the DSDF read-in sensor-1 automatic adjustment has been performed, replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF control PC board	Replace the DSDF board, and then perform the automatic adjustment for the original reading start sensor (FS-05-3210).

#### [C7B0] Initial time-out error

Classification	Error content
DSDF service call	The initialization is not completed within the specified time.

Check item	Measures
Reproducing ability	Turn the power OFF and then back ON to check the occurrence.
DSDF shading sheet	Clean the DSDF shading sheet.

Parts to be replaced	Remark
DSDF shading sheet	

#### [C8C0] DSDF read-in sensor-1 automatic adjustment error

Classification	Error content
DSDF service call	An adjustment value becomes outside the specified one during DSDF read-in sensor-1 automatic adjustment.

Check item	Measures
DSDF read-in sensor-1	<ul style="list-style-type: none"> <li>• Perform the DSDF read-in sensor-1 adjustment manually.</li> <li>• If the LED does not light even if the adjustment has been performed, check the DSDF read-1 sensor-1 and the DSDF control PC board.</li> <li>• Check if the connector on the DSDF control PC board is disconnected from the DSDF read-in sensor-1 or the harnesses are open circuited. Correct if any.</li> <li>• Replace the DSDF read-in sensor-1.</li> </ul>
DSDF control PC board	Replace the DSDF control PC board.

Parts to be replaced	Remark
DSDF read-in sensor-1	
DSDF control PC board	Replace the DSDF board, and then perform the automatic adjustment for the original reading start sensor (FS-05-3210).

**[C8E0] DSDF control abnormality (communication protocol abnormality)**

Classification	Error content
DSDF service call	System stop is required due to the control abnormality.

Check item	Measures
Connector	Check if the connectors (CN70, CN71 and J97) connected the DSDF and the equipment are connected properly.
Power supply	Check if 5V is supplied to the DSDF control PC board properly. (Check the power supply connector on the DSDF control PC board.)
SYS board	Replace the SYS board.

Parts to be replaced	Remark
SYS board	

**[F115] S-VDEN ON signal time-out error****[F116] S-VDEN OFF signal time-out error****[F117] S-VDEN ON (back side) signal time-out error****[F118] S-VDEN OFF (back side) signal time-out error**

Classification	Error content
DSDF service call	The scanning job has not finished normally.

Check item	Measures
Reproducing ability	Turn the power OFF and then back ON to check the occurrence.
Harness	Check if the connectors of the DSDF control PC board and SYS board are disconnected or the harnesses are open circuited.
DSDF control PC board	Replace the DSDF control PC board.
SYS board	Replace the SYS board.

Parts to be replaced	Remark
SYS board	
DSDF control PC board	Replace the DSDF board, and then perform the automatic adjustment for the original reading start sensor (FS-05-3210).

### 8.3.18 Circuit related service call

#### [C5A0] EEPROM not connected (LGC board)

Classification	Error item
Optional communication related service call	EEPROM not connected (LGC board)

Check item	Measures
EEPROM	<ul style="list-style-type: none"> <li>• EEPROM check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• IC socket check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
EEPROM	
LGC board	

#### [C5A1] EEPROM data abnormality (LGC board)

Classification	Error item
Optional communication related service call	EEPROM data abnormality (LGC board)

Check item	Measures
EEPROM	<ul style="list-style-type: none"> <li>• EEPROM check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• IC socket check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
EEPROM	
LGC board	

#### [C900] Connection error between the SYS board and the LGC board

Classification	Contents
Circuit related service call	Connection error between SYS board and LGC board

Check item	Measure
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN331, CN332)</li> <li>• Board check</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Connector check (CN130, CN132)</li> <li>• Board check</li> </ul>
Harness (Flat cable)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Harness check</li> </ul>

Replacement part	Remark
LGC board	If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the SYS board.
SYS board	

Replacement part	Remark
Harness	

### [C901] System format error for scanner

Classification	Error item
Circuit related service call	System format error for scanner

Check item	Measures
Main power switch	Does service call still occur even after turning OFF the main power switch then back ON?
SYS board	<ul style="list-style-type: none"> <li>Connector check (CN130, CN132)</li> <li>Board check</li> </ul>

Replace parts	Remarks
SYS board	

### [C911] Toner cartridge PC board access abnormality

Classification	Contents
Toner cartridge related service call	Abnormal access between the CTRG board and LGC board (High possibility of failure except the LGC board)

Procedure	Check item	Result	Measure	Next Step
1	Does non-genuine toner cartridge display appear when the front cover is opened and closed?	Yes	Use the genuine toner cartridge.	2
		No		
2	Toner cartridge		<ul style="list-style-type: none"> <li>Check the phenomenon by removing the toner cartridges (Y, M, C and K) and reinserting them.</li> <li>Check that the CTRG board of each cartridge (Y, M, C and K) is installed properly.</li> <li>Avoid touching the contact point.</li> <li>Wipe the contact point with a soft cloth if it's stained.</li> </ul>	
3	Contact point on the equipment side		Check that the spring of the contact point for each color (Y, M, C and K) is not deformed.	
4	Is the spring of the contact point returned when it is pushed lightly?	Yes		7
		No	<ul style="list-style-type: none"> <li>Check that the CTIF board is installed properly.</li> <li>Board check</li> </ul>	
5	LGC board		<ul style="list-style-type: none"> <li>Connector check (CN328)</li> <li>Board check</li> </ul>	
6	Harness		<ul style="list-style-type: none"> <li>Connector check (CN328, CN471, J752)</li> <li>Harness check</li> </ul>	
7	CTIF board for each color (Y, M, C and K)		<ul style="list-style-type: none"> <li>Check that the board is installed properly.</li> <li>Board check</li> </ul>	

Procedure	Check item	Result	Measure	Next Step
8	Perform the above troubleshooting and if the C911 error is cleared, set the following self-diagnostic codes to "0" (normal). <ul style="list-style-type: none"> <li>• FS-08-4689-0: Board information of toner cartridge (Y)</li> <li>• FS-08-4689-1: Board information of toner cartridge (M)</li> <li>• FS-08-4689-2: Board information of toner cartridge (C)</li> <li>• FS-08-4689-3: Board information of toner cartridge (K)</li> </ul>			

Replacement part	Remark
Toner cartridge	
LGC board	
Harness	
CTIF board	

### [C940] Engine-CPU abnormality

Classification	Error item
Circuit related service call	

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>• Does service call still occur even after turning OFF the main power switch then back ON?</li> <li>• Check if the conductor pattern of the Engine-CPU is short circuited or open circuited.</li> </ul>

Replace parts	Remarks
LGC board	

### [C962] LGC board ID abnormality

Classification	Error item
Circuit related service call	LGC board ID abnormality

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN330, CN331, CN332)</li> <li>• Board check</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Connector check (CN130, CN131, CN132)</li> <li>• Board check</li> </ul>
Switching regulator	<ul style="list-style-type: none"> <li>• Connector check (CN512, CN515)</li> </ul>
Harness	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
LGC board	If the problem is not corrected with the replacement of the LGC board, reinstall the removed LGC board and replace the SYS board.
SYS board	



**[C963] Connection detection error between the SYS board and the LGC board**

Classification	Error item
Circuit related service call	3.3V output from the SYS board not detected on the LGC board

Check Item	Measure
LGC board	Connector check (CN331, CN332)
SYS board	Connector check (CN130, CN132)
Harness between the SYS board and the LGC board	Harness check
Harness between the SYS board and the low-voltage power supply	Harness check

Check item	Measures
Harness between the SYS board and the LGC board	
LGC board	If the problem is not corrected by the replacement of the LGC board, reinstall the removed LGC board and replace the SYS board.
SYS board	
Harness between the SYS board and the low-voltage power supply	

**[C9E0] Connection error between the scanner CPU and system CPU**

Classification	Error item
Circuit related service call	Connection error between the scanner CPU and system CPU

Check item	Measures
SYS board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
SYS board	

**[F090] SRAM abnormality on the SYS board**

Classification	Contents
Circuit related service call	SRAM abnormality on the SYS board

Check item	Measure
SRAM	<ol style="list-style-type: none"> <li>1. Check that the SRAM is installed properly.</li> <li>2. Shut down the equipment.</li> <li>3. Perform [FS-08].</li> <li>4. Press [CLASSIC].</li> <li>5. When "SRAM REQUIRES INITIALIZATION" appears on the LCD screen, confirm the destination and press the [START] button. If the destination is incorrect, enter the number for the correct one and press the [START] button.</li> <li>6. When the confirmation message appears on the LCD screen, press [INITIALIZE]. (SRAM initialization starts.)</li> <li>7. Enter the serial number of the equipment correctly. (FS-08-9601)</li> <li>8. Initialize the NIC information. (FS-08-9083)</li> <li>9. Shut down the equipment.</li> <li>10. Perform [FS-05].</li> <li>11. Press [CLASSIC].</li> <li>12. Perform "Data transfer of characteristic value of scanner". (FS-05-3203, FS-05-3240)</li> <li>13. By using the [4] [TEST PRINT] test pattern, perform "Automatic gamma adjustment" &lt;PPC&gt;. (FS-05-7869).</li> <li>14. By using the [70] [TEST PRINT] test pattern, perform "Automatic gamma adjustment" &lt;PRT&gt;. (FS-05-8008, FS-05-8009).</li> <li>15. Reboot the equipment.</li> <li>16. If the error still occurs, replace the SRAM.</li> </ol>
SYS board	Board check

Replacement part	Remark
SRAM	
SYS board	

**[F350] SYS board abnormality**

Classification	Contents
Circuit related service call	SYS board abnormality

Check item	Measure
SYS board	Board check
Combination of the firmware version	<ul style="list-style-type: none"> <li>• Check the combination of the firmware version of the system firmware, system software, engine firmware, and scanner firmware.</li> <li>• Reinstall the firmware of correct combination.</li> </ul>

Replacement part	Remark
SYS board	

**[F400] SYS board cooling fan abnormality**

Classification	Error item
Circuit related service call	SYS board cooling fan abnormality

Check item	Measures
SYS board cooling fan	<ul style="list-style-type: none"> <li>• Fun check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
SYS board	<ul style="list-style-type: none"> <li>• Connector check (CN117)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
SYS board cooling fan	
SYS board	

**[F410] SYS board cooling fan abnormality**

Classification	Error item
Circuit related service call	This error occurs when the status of the LSI mounted on the SYS board has become an error due to a power abnormality. The equipment will be automatically rebooted at the first-time occurrence; however, the error history will not remain when rebooting is done automatically. This error code appears if an error has occurred continuously.

Check item	Measures
Power cable	Check that the power cable is inserted securely or it is not damaged.
User's site	<ul style="list-style-type: none"> <li>• Do not plug any cables for other devices in the outlet to which that for the equipment is connected.</li> <li>• The power cable co-packed with the equipment must be used without employing any extension cables.</li> <li>• Be sure to use an outlet which is far from the one to which a device, such as an air conditioner or a printer, which uses a large amount of power is connected.</li> </ul>
Board	<ul style="list-style-type: none"> <li>• Power supply unit</li> <li>• SYS board</li> </ul>

Replace parts	Remarks
Power supply unit	Be sure to exchange the power supply unit and the SYS board in the order described on the left-hand side.
SYS board	

## 8.3.19 Laser optical unit related service call

### [CA10] Polygonal motor abnormality

Classification	Error item
Laser optical unit related service call	The polygonal motor is not rotating normally.

Check item	Measures
Polygonal motor Laser optical unit	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-103)</li> <li>• Connector check (CN207)</li> <li>• Harness check</li> </ul>
Laser unit cooling fan (front)	<ul style="list-style-type: none"> <li>• Fan motor check (Perform the output check: FS-03-437)</li> <li>• Connector check</li> <li>• Harness check</li> <li>• Check if the suction areas of the laser unit cooling fan (front) and the laser unit cooling fan (rear) are plugged up.</li> </ul>
Laser unit cooling fan (rear)	<ul style="list-style-type: none"> <li>• Fan motor check (Perform the output check: FS-03-439)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Polygonal motor	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-103)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN320, CN337)</li> <li>• Board check</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Perform the troubleshooting procedures for when an image control related/process related service call or an image failure occurs.</li> </ul>

Replace parts	Remarks
Laser unit cooling fan (front)	
Laser unit cooling fan (rear)	
LGC board	
Laser optical unit.	

### [CA20] H-Sync detection error

Classification	Error item
Laser optical unit related service call	H-Sync signal detection PC board cannot detect laser beams.

Check item	Measures
Laser optical unit.	<ul style="list-style-type: none"> <li>• Connector check (relay connector CN212)</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN327, CN323)</li> <li>• +5V check (CN316 - 7pin) Check should be performed after the front cover and ADU are closed.</li> <li>• Board check</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Check if the equipment is grounded.</li> </ul>

Replace parts	Remarks
LGC board	
Laser optical unit	

### [CF90] Laser optical unit shutter abnormality

Classification	Error item
Laser optical unit related service call	

Check item	Measures
Shutter motor (M38) Shutter	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-201)</li> <li>• Connector check (CN213, CN214)</li> <li>• Harness check</li> <li>• Shutter plate check</li> </ul>
Shutter sensor (home position) (S24)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[6]/[F])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Shutter sensor (end position) (S25)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[6]/[G])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN322)</li> <li>• Board check</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Check if the equipment is grounded.</li> </ul>

Replace parts	Remarks
Shutter motor	
Shutter sensor (home position)	
Shutter sensor (end position)	
LGC board	

### 8.3.20 Finisher related service call

[CB00] Finisher not connected

[CB01] Finisher communication error

Classification	Error item
Finisher related service call	Finisher not connected: Communication error has occurred between the equipment and finisher. Finisher communication error: Communication error has occurred between the equipment and finisher. [MJ-1111/1112]

Check item	Measures
Finisher control board	<ul style="list-style-type: none"> <li>• Check if the harness connecting the equipment and the finisher control PC board is disconnected or open circuited.</li> <li>• Check if the conductor pattern on the finisher control PC board is open circuited or short circuited.</li> <li>• Update the finisher firmware.</li> <li>• Replace the finisher control PC board.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Check if the harness connecting the finisher and the LGC board on the equipment is disconnected or open circuited.</li> <li>• Connector check (CN304)</li> <li>• Check if the conductor pattern on the LGC board is open circuited or short circuited.</li> <li>• Replace the LGC board.</li> </ul>

Replace parts	Remarks
Finisher control board	
LGC board	

[CB10] Entrance motor abnormality

Classification	Error item
Finisher related service call	The entrance motor is not rotating normally. [MJ-1111/1112]

Check item	Measures
Feeding roller	Rotate the feeding roller. Fix any mechanical problem.
Entrance motor (M1)	Check if the connector (CN17) on the finisher controller PC board is disconnected from the entrance motor (M1) and the harnesses are open circuited. Correct if so.

Replace parts	Remarks
Entrance motor	
Finisher control board	

### [CB11] Buffer tray guide motor abnormality

Classification	Error item
Finisher related service call	Buffer tray guide motor abnormality: The buffer tray guide motor is not rotating or the buffer tray guide is not moving normally. [MJ-1111/1112] A [CB11] error occurs if the [ED16] error occurs three times in succession or the [ED16] error occurs during the initialization.

Check item	Measures
Buffer tray guide	Raise the buffer roller and open/close the buffer tray guide. Fix any mechanical problem.
Buffer tray guide motor (M2).	Check if the connector (CN10) on the finisher control PC board is disconnected from the buffer tray guide motor (M2) and the harnesses are open circuited. Correct if so.

Replace parts	Remarks
Buffer tray guide motor (M2)	
Finisher control board	

### [CB13] Finisher exit motor (M11) abnormality

Classification	Error item
Finisher related service call	The exit motor is not rotating or the exit roller is not moving normally.

Check item	Measures
Exit roller	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the exit roller is rotated? Correct if so.</li> </ul>
Exit motor (M11).	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check (CN15)</li> <li>Harness check</li> </ul>
Finisher control board	<ul style="list-style-type: none"> <li>Connector check (CN15)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Exit motor	
Finisher control board	

### [CB40] Front alignment motor abnormality

Classification	Error item
Finisher related service call	The front alignment motor is not rotating or the front alignment plate is not moving normally. [MJ-1111/1112] You receive a [CB40] error when the [ED13] error occurs three times in succession.

Check item	Measures
Front alignment plate	If there is mechanical problem when the front alignment plate is moved, fix the mechanism.
Front alignment motor (M5)	Check the connectors and harnesses between the front alignment motor (M5) and the finisher control PC board (CN18).

Replace parts	Remarks
Front alignment motor (M5)	
Finisher control board	

### [CB50] Stapler home position error

Classification	Error item
Finisher related service call	The stapler home position sensor does not work. [MJ-1111/1112] You receive a [CB50] error when the [EA50] error occurs three times in succession.

Check item	Measures
Stapler	<ul style="list-style-type: none"><li>• Check the connectors and harnesses between the stapler and finisher controller PC board (CN2).</li><li>• Check the harnesses in the stapler.</li></ul>

Replace parts	Remarks
Stapler	
Finisher control board	

### [CB60] Stapler unit shift motor abnormality

Classification	Error item
Finisher related service call	Stapler shift motor is not rotating or staple unit is not moving normally. [MJ-1111/1112]

Check item	Measures
Stapler	If there is mechanical problem when the stapler is moved, fix the mechanism.
Stapler unit shift motor (M9)	Check the connectors and harnesses between the stapler unit shift motor (M9) and the finisher control PC board (CN15).



Replace parts	Remarks
Stapler unit shift motor	
Finisher control board	

#### [CB80] Backup RAM data abnormality

Classification	Error item
Finisher related service call	Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON

Check item	Measures
Equipment	Turn OFF the main power switch, then back ON.
Finisher control board	Board check

Replace parts	Remarks
Finisher control board	

#### [CB81] Flash ROM abnormality

Classification	Error item
Finisher related service call	Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON. [MJ-1111/1112]

Check item	Measures
Equipment	Turn OFF the main power switch, then back ON.
Finisher control board	Board check

Replace parts	Remarks
Finisher control board	

#### [CB82] Finisher main program error

Classification	Error item
Finisher related service call	Finisher main program error

Check item	Measures
Finisher control board	<ul style="list-style-type: none"> <li>• Update the firmware version of the finisher control PC board (FIN).</li> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Finisher control board	

**[CB83] Saddle main program error**

Classification	Error item
Finisher related service call	

Check item	Measures
Saddle control PC board	<ul style="list-style-type: none"> <li>• Update the firmware version of the saddle control PC board (SDL).</li> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Saddle control PC board	

**[CB84] Punch unit main program error**

Classification	Error item
Finisher related service call	Hole Punch Unit - Main CPU program error

Check item	Measures
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>• Update the firmware version of the hole punch control PC board (HP).</li> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Hole punch control PC board	

**[CB91] Saddle flash ROM abnormality**

Classification	Error item
Finisher related service call	

Check item	Measures
Saddle controller PC board (SDL)	<ul style="list-style-type: none"> <li>• Check if the conductor pattern on the saddle controller PC board (SDL) is open circuited or short circuited.</li> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Saddle controller PC board	

**[CB92] Saddle Stitch Finisher RAM abnormality**

Classification	Error item
Finisher related service call	

Check item	Measures
Saddle controller PC board (SDL)	<ul style="list-style-type: none"> <li>• Check if the conductor pattern on the saddle controller PC board (SDL) is open circuited or short circuited.</li> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Saddle controller PC board	

### [CB93] Saddle Stitch Finisher additional folding motor abnormality

Classification	Error item
Finisher related service call	<p>An abnormal interruption of the encoder pulse of the additional folding motor occurs.</p> <p>The [CB93] error also occurs when the error [EF18] has occurred consecutively for 3 times.</p>

Check item	Measures
Additional folding carrier	Is there any mechanical problem when the additional folding carrier is moved? Correct if so.
Additional folding motor (M20)	<ul style="list-style-type: none"> <li>• Motor check</li> <li>• Connector check (CN10)</li> <li>• Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN10)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Additional folding motor (M20)	
Saddle control PC board	

### [CB94] Saddle transport motor abnormality

Classification	Error item
Finisher related service call	<p>Saddle transport motor abnormality or the motor is not moving normally.</p> <p>Paper holding mechanism or transport path switching solenoid abnormality.</p> <p>The [CB94] error also occurs when the error [EAB0] or [EF13] has occurred consecutively for 3 times.</p>

Check item	Measures
Transport roller	<ul style="list-style-type: none"> <li>• Is there any mechanical problem when the transport rollers are rotated?</li> </ul>
Saddle transport motor (M16)	<ul style="list-style-type: none"> <li>• Motor check</li> <li>• Connector check (CN5)</li> <li>• Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN5)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Saddle transport motor (M16)	
Saddle control PC board	

#### [CB95] Saddle Stitch Finisher stacker motor abnormality

Classification	Error item
Finisher related service call	The [CB95] error also occurs when the error [EF16] has occurred consecutively for 3 times.

Check item	Measures
Stacker carrier	<ul style="list-style-type: none"> <li>Is there any mechanical problem when the stacker carrier is moved?</li> </ul>
Stacker motor (M14)	<ul style="list-style-type: none"> <li>Motor check</li> <li>Connector check (CN8)</li> <li>Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>Connector check (CN8)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Stacker motor (M14)	
Saddle control PC board	

#### [CBA0] Front saddle stapler home position error

Classification	Error item
Finisher related service call	The detection of the home position of the stapler unit ends abnormally. [MJ-1111/1112]

Check item	Measures
Front saddle stapler clinch unit	<ul style="list-style-type: none"> <li>Harness check</li> <li>Connector check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>Connector check (CN2)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Front saddle stapler clinch unit	
Saddle control PC board	

#### [CBB0] Rear saddle stapler home position error

Classification	Error item
Finisher related service call	The detection of the home position of the stapler unit ends abnormally. [MJ-1111/1112]

Check item	Measures
Rear saddle stapler clinch unit	<ul style="list-style-type: none"> <li>• Harness check</li> <li>• Connector check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN1)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Rear saddle stapler clinch unit	
Saddle control PC board (SDL)	

### [CBC0] Saddle Stitch Finisher side alignment motor (M15) abnormality

Classification	Error item
Finisher related service call	<p>The side alignment motor (M15) is not rotating or the jog is not moving normally.</p> <p>The [CBC0] error also occurs when the error [EF15] has occurred consecutively for 3 times. [MJ-1111/1112]</p>

Check item	Measures
Saddle stitch unit	Is there any mechanical problem when the jog is moved?
Side alignment motor (M15)	<ul style="list-style-type: none"> <li>• Motor check (M15)</li> <li>• Connector check (CN4)</li> <li>• Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN4)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Side alignment motor (M15)	
Saddle control PC board (SDL)	

### [CBE0] Saddle Stitch Finisher folding motor (M17) abnormality

Classification	Error item
Finisher related service call	<p>An encoder pulse interruption error or rotation abnormality occurs in the saddle stitch finisher folding motor.</p> <p>You receive a [CBE0] error when the [EF17] error occurs three times in succession.</p> <p>[MJ-1111/1112]</p>

Check item	Measures
Folding motor encoder sensor (S34)	<ul style="list-style-type: none"> <li>• Sensor check (S34)</li> <li>• Connector check (CN13)</li> <li>• Harness check</li> </ul>
Folding motor (M17)	<ul style="list-style-type: none"> <li>• Motor check (M17)</li> <li>• Connector check (CN19)</li> <li>• Harness check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>• Connector check (CN13, CN19)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Folding motor encoder sensor (S34)	
Folding motor (M17)	
Saddle control PC board	

### [CC20] Communication error between finisher and saddle stitcher

Classification	Error item
Finisher related service call	Communication error between finisher controller PC board and saddle stitcher controller board [MJ-1111/1112]

Check item	Measures
Equipment	<ul style="list-style-type: none"> <li>Is the problem solved by turning OFF and ON the power switch of the equipment?</li> </ul>
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>
Saddle control PC board (SDL)	<ul style="list-style-type: none"> <li>Connector check</li> <li>Board check</li> </ul>
Firmware	<ul style="list-style-type: none"> <li>Update the firmware version of the finisher control PC board (FIN).</li> <li>Update the firmware version of the saddle control PC board (SDL).</li> </ul>

Replace parts	Remarks
Finisher control PC board (FIN)	
Saddle control PC board (SDL)	

### [CC30] Stack transport motor abnormality

Classification	Error item
Finisher related service call	<p>Stack transport motor abnormality: The stack transport motor is not rotating or the stack transport belt is not moving normally. [MJ-1111/1112]</p> <p>You receive a [CC30] error when the [EA70] error occurs three times in succession.</p>

Check item	Measures
Stack transport belt	<ul style="list-style-type: none"> <li>Move the stack transport belt.</li> <li>Fix any mechanical problem.</li> </ul>
Stack transport motor (M8)	Check if the connector (CN18) on the finisher control PC board is disconnected from the stack transport motor (M8) and the harnesses are open circuited. Correct if so.
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>Connector check (CN10)</li> <li>Board check</li> </ul>

Replace parts	Remarks
Stack transport motor (M8)	
Finisher control PC board	

### [CC31] Transport motor abnormality

Classification	Error item
Finisher related service call	The transport motor is not rotating or the stack transport roller -1 and -2 is not rotating normally. [MJ-1111/1112] You receive a [CC31] error when the [ED12] error occurs three times in succession.

Check item	Measures
Stack transport roller-1/-2	<ul style="list-style-type: none"> <li>Rotate the stack transport roller -1 and -2.</li> <li>Fix any mechanical problem.</li> </ul>
Transport motor (M7)	<ul style="list-style-type: none"> <li>Check if the connector (CN15) on the finisher control PC board is disconnected from the transport motor (M7) and the harnesses are open circuited. Correct if so.</li> </ul>

Replace parts	Remarks
Transport motor (M7)	
Finisher control PC board	

### [CC41] Paper holder cam home position abnormality

Classification	Error item
Finisher related service call	The paper holder cam is not at the home position. [MJ-1111/1112]

Check item	Measures
Paper holder cam	<ul style="list-style-type: none"> <li>Rotate the paper pusher cam.</li> <li>Fix any mechanical problem.</li> </ul>
Paper holder home position sensor (S6)	<ul style="list-style-type: none"> <li>Check if the connector (CN11) on the finisher control PC board is disconnected from the paper holder home position sensor (S6) and the harnesses are open circuited. Correct if so.</li> </ul>

Replace parts	Remarks
Paper holder home position sensor (S6)	
Finisher control PC board	

### [CC51] Sideways adjustment motor (M2) abnormality

Classification	Error item
Finisher related service call	Sideways adjustment motor is not rotating or puncher is not shifting normally. [MJ-6106] The [CC51] error will be displays when the [ED11] error occurs three times in succession or during the initial operation.

Check item	Measures
Paper	If there is any paper remaining on the transport path, remove the paper.
Sideways adjustment motor (M2)	<ul style="list-style-type: none"> <li>If there is mechanical problem when the sideways adjustment motor (M2) is rotated, fix the mechanism.</li> <li>Check the connector (CN10) and harnesses between the hole punch control PC board (HP) and sideways adjustment motor (M2).</li> </ul>
Sideways deviation home position sensor (S3)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN8)</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Sideways adjustment motor (M2)	
Sideways deviation home position sensor (S3)	
Hole punch control PC board	

### [CC52] Skew adjustment motor (M1) abnormality

Classification	Error item
Finisher related service call	<p>Skew adjustment motor is not rotating or puncher is not shifting normally. [MJ-6106]</p> <p>The [CC52] error will be displays when the [ED10] error occurs three times in succession or during the initial operation.</p>

Check item	Measures
Paper	If there is any paper remaining on the transport path, remove the paper.
Skew adjustment motor (M1)	<ul style="list-style-type: none"> <li>If there is mechanical problem when the skew adjustment motor (M1) is rotated, fix the mechanism.</li> <li>Check the connector (CN10) and harnesses between the hole punch control PC board (HP) and skew adjustment motor (M1).</li> </ul>
Skew home position sensor (S2)	<ul style="list-style-type: none"> <li>Sensor check</li> <li>Connector check (CN10)</li> <li>Harness check</li> </ul>

Replace parts	Remarks
Skew adjustment motor (M1)	
Skew home position sensor (S2)	
Hole punch control PC board	

### [CC60] Punch motor abnormality

Classification	Error item
Finisher related service call	Punch motor is not rotating or puncher is not shifting normally. [MJ-6106]



Check item	Measures
Punch home position sensor (PI63)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Punch motor clock sensor (PI62)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Punch motor (M3)	<ul style="list-style-type: none"> <li>• Motor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>
Finisher control PC board (FIN)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Punch home position sensor	
Punch motor clock sensor	
Punch motor	
Hole punch control PC board	
Finisher control PC board	

#### [CC61] Punch motor (M3) home position detection error

Classification	Error item
Finisher related service call	<p>Punch motor (M3) home position detection error: Punch motor is not rotating or puncher is not shifting normally. The [CC61] error occurs when the [E9F0] error occurs three times in succession or during the initial operation. [MJ-6106]</p>

Check item	Measures
Punch motor (M3)	<ul style="list-style-type: none"> <li>• If there is mechanical problem when the punch motor (M3) is rotated, fix the mechanism.</li> <li>• Check the connector (CN2) and harnesses between the hole punch control PC board (HP) and punch motor (M3).</li> </ul>
Punch home position sensor (S4)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check (CN3)</li> <li>• Harness check</li> </ul>
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Punch motor (M3)	
Punch home position sensor (S4)	
Hole punch control PC board	

- [CC71] Punch ROM checksum error**
- [CC72] Punch RAM read/write error**
- [CC73] Punching device power supply abnormality**
- [CC74] Transport pulse abnormality**

Classification	Error item
Finisher related service call	Abnormality of checksum value on Hole punch controller PC board is detected when the power is turned on. (CC71) [MJ-6106] Abnormality of checksum value on Hole punch controller PC board is detected when the power is turned on. (CC72) [MJ-6106]

Check item	Measures
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>Download the latest version of the PNC board (HP) firmware again and then check its operation.</li> <li>Connector check</li> <li>Board check</li> </ul>

Replace parts	Remarks
Hole punch control PC board	

**[CC80] Rear alignment motor abnormality**

Classification	Error item
Finisher related service call	The rear alignment motor is not rotating or the rear alignment plate is not moving normally. [MJ-1111/1112] You receive a [CC80] error when the [ED14] error occurs three times in succession.

Check item	Measures
Rear alignment plate	If there is mechanical problem when the rear alignment plate is moved, fix the mechanism.
Rear alignment motor (M6)	Check the connectors and harnesses between the rear alignment motor (M6) and the finisher control PC board (CN18).

Replace parts	Remarks
Rear alignment motor (M6)	
Finisher control PC board	

**[CDE0] Rear alignment motor abnormality**

Classification	Error item
Finisher related service call	The paddle motor is not rotating or the paddle is not rotating normally. [MJ-1111/1112] You receive a [CDE0] error when the [ED15] error occurs three times in succession or during the classification contents.

Check item	Measures
Paddle	<ul style="list-style-type: none"> <li>• Rotate the paddle.</li> <li>• Fix any mechanical problem.</li> </ul>
Paddle motor (M3)	Check the connectors and harnesses between the paddle motor (M3) and the finisher control PC board (CN16).

Replace parts	Remarks
Paddle motor (M3)	
Finisher control PC board	

#### [CE00] Communication error between finisher and punch unit

Classification	Error item
Finisher related service call	Communication error between finisher controller PC board and punch controller PC board. [MJ-1111/1112 (when MJ-6106 is installed)]

Check item	Measures
Hole punch control PC board (HP)	<ul style="list-style-type: none"> <li>• Check the connectors and harnesses between the hole punch control PC board (HP) and the finisher control PC board.</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Hole punch control PC board	
Finisher control PC board	

#### [CF10] Communication module writing failure

Classification	Error item
Finisher related service call	Communication module writing failure.

Check item	Measures
Equipment	<ul style="list-style-type: none"> <li>• Check if the harness connecting the equipment and the finisher control PC board is disconnected or open circuited.</li> <li>• Check if the conductor pattern on the finisher controller PC board is open circuited or short circuited.</li> <li>• Update the finisher firmware.</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Check if the harness connecting the finisher and the LGC board on the equipment is disconnected or open circuited.</li> <li>• Connector check</li> <li>• Check if the conductor pattern on the LGC board is open circuited or short circuited.</li> </ul>

Replace parts	Remarks
Finisher control PC board	
LGC board	

### 8.3.21 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. Perform FS-05-2742.
2. 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. Perform FS-08-2528.
2. Rewrite the displayed status counter from "1" - "16" to "0".
3. Perform FS-08-2529.
4. Rewrite the displayed status counter from "1" - "16" to "0".
5. Perform FS-08-2530.
6. Rewrite the displayed status counter from "1" - "16" to "0".
7. Perform FS-08-2531.
8. Rewrite the displayed status counter from "1" - "16" to "0".
9. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

#### [CA00] Color registration abnormality

Classification	Error item
Image control related service call	

Step	Check item	Result	Measures	Next step
< Invalidating image position alignment control >				
1			Perform FS-08-4546.	
2			Set the value to "0" (not performed automatically).	
3			Power OFF	
< Checking the abnormal status on image position alignment >				
4			Perform FS-05-4720. (Displaying the cause of color registration detection error)	

Step	Check item	Result	Measures	Next step
5			<p>Press the [START] button again, then check the displayed value. (FS-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) *See step 9            128: K on the front side detection abnormality (*1)            170: All colors on the front side detection abnormality → (I) *See step 9            192: K on the front and rear sides detection abnormality            255: All colors on the front and rear sides detection abnormality → (I) *See step 9            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) FS-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) FS-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</p>	
6			Press the [START] button	
7			After [1] is pressed, then press the [START] button.	

Step	Check item	Result	Measures	Next step
8			<p>Check the displayed value. (FS-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) *See step 9  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) FS-05-4720-1 --- in case of 65  65 = 64 + 1  → K on the center side / Y on the center side detection abnormality</p>	
9			If the adjustment value fits (I) in step 5 or 8, proceed to step (10). In other cases, proceed to step (28).	
<p>&lt; Checking the status of the image position aligning sensor &gt;  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.</p>				
10			Perform FS-03-[ALL]OFF/[6]/[A]: Check the image position aligning sensor (Front).	
11			Perform FS-03-[ALL]OFF/[6]/[C]: Check the image position aligning sensor (Rear).	
12			Perform FS-03-[ALL]OFF/[6]/[B]: Image position aligning/image quality sensor (center)	
13			Perform FS-03-118: Shutter for image quality sensor and image position aligning sensors ON	
14			Perform FS-03-117: Image position aligning sensors (front, center, rear) LED ON	
15			Perform FS-03-[ALL]OFF/[6]/[A]: Check the image position aligning sensor (Front).	
16			Perform FS-03-[ALL]OFF/[6]/[C]: Check the image position aligning sensor (Rear).	

Step	Check item	Result	Measures	Next step
17	Compare them with the statues of [G] and [H] displayed in step 12.		<ul style="list-style-type: none"> <li>• Both [G] and [H] are changed - The image position aligning sensors on both sides are operating normally.</li> <li>• [G] remains same - The image position aligning sensor on the rear side is not operating normally.</li> <li>• [H] remains same - The image position aligning sensors on the front side is not operating normally.</li> <li>• Both [G] and [H] remains same - The image position aligning sensors on both sides are not operating normally.</li> </ul>	
18			Perform FS-03-[ALL]OFF/[6]/[B]: Image position aligning/image quality sensor (center).	
19	Compare it with the statue of [G] displayed in step 13.		<ul style="list-style-type: none"> <li>• [G] is changed - The image position aligning sensor on the center side is operating normally.</li> <li>• [G] remains same - The image position aligning sensor on the center side is not operating normally.</li> </ul>	
20			Perform FS-03-167: Image position aligning sensors (front, center, rear) LED OFF	
21			Perform FS-03-168: Shutter for image quality sensor and image position aligning sensors OFF	
22			If the image position aligning sensors on all sides are operating normally, proceed to step (28). In other cases, proceed to step (27).	

Step	Check item	Result	Measures	Next step
23	Check the following items if the image position aligning sensors are not operating normally:	Normal	<p>Is the connector CN311 on the LGC board disconnected?</p> <p>Is the connector of the image position aligning sensor disconnected?</p> <p>Is the harness between the LGC board and the image position aligning sensor broken?</p> <p>Is the light emitting or receiving area of the image position aligning sensor stained with toner?</p> <p>Are the sensor shutter and the image quality sensor opening or closing normally? Or are they damaged?</p> <p>Is the light emitting area of the image position aligning sensor emitting LEDs?</p> <p>&lt; Checking procedure for the sensor shutter opening/closing status &gt;</p> <p>1. Take off the transfer belt unit so that the sensor unit can be seen.</p> <p>2. Perform FS-03-118: Shutter for image quality sensor and image position aligning sensors ON (FS-03-168: Shutter for image quality sensor and image position aligning sensors OFF)</p> <p>&lt; Checking procedure for the LED emission of the image position aligning sensor &gt;</p> <p>1. Perform FS-03-118: Shutter for image quality sensor and image position aligning sensors ON</p> <p>2. Perform FS-03-117: Image position aligning sensors (front, center, rear) LED ON</p>	24
		Abnormal	<p>1. Reconnect the connector.</p> <p>2. Replace the harness.</p> <p>3. Clean the light emitting and receiving areas of the image position aligning sensor.</p> <p>4. If the sensor shutter is damaged, replace it.</p> <p>If the sensor shutter solenoid is not operating normally, replace the solenoid.</p>	10
< Checking with test pattern >				
24			Perform FS-04-220: 8% test pattern	
25			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.	



Step	Check item	Result	Measures	Next step
26	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.		<p>Is the test pattern printed in blank?            Check if the laser shutter is operating normally.            &lt; Checking procedure for the laser shutter opening/closing status &gt;            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.            Perform FS-03-201: LSU shutter opening/closing operation (Operation stops after the shutter is closed)            Abnormal: If the laser shutter is not opening or closing normally, check the shutter and correct it if necessary.            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.)            Is the image printed normally without yellow, magenta, cyan or black streaks in the secondary scanning direction?            Check if the main charger wire corresponding to the color of the streaks is stained.            Is the image printed normally without white streaks in the secondary scanning direction?            Check if the slit glass of the laser optical unit is stained.</p>	24
			<p>Is a certain color in the printed image turned to black solid?            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.</p>	24

Step	Check item	Result	Measures	Next step
<Checking with the enforced image position adjustment >				
27			Perform FS-05-4719	YES →4 NO →28
< Validating the image position alignment control > Check the operation and correct if necessary. Then be sure to perform the following:				
28			Perform FS-08-4546: Color registration control	
29			Set the value to "5" (performed automatically).	
30			Power OFF	
<Checking the image position aligning sensor>				
31			Clean the image position aligning sensor (S20/S21/S22).	
<Checking the power supply>				
32			Check if any of the springs for supplying power to the transfer belt unit is deformed. Replace the spring if it is deformed.	

Replace parts	Remarks

#### [CE10] Image quality sensor abnormality (OFF level)

Classification	Error item
Image control related service call	The output value of this sensor is out of a specified range when sensor light source is OFF.

Check item	Measures
Image quality sensor (S21)	<ul style="list-style-type: none"> <li>• Sensor check</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN335)</li> <li>• 24V check (CN335-8, 19pin)</li> <li>• Harness check</li> </ul>
Switching regulator	<ul style="list-style-type: none"> <li>• 24V check</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Image quality sensor	
Switching regulator	
LGC board	

#### [CE20] Image quality sensor abnormality (no pattern level)

Classification	Error item
Image control related service call	The output value of this sensor is out of a specified range when the image quality control test pattern is not formed.

Step	Check item	Result	Measures	Next step
1	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?	YES		2
		NO	<p>&lt;Checking procedure&gt;</p> <ol style="list-style-type: none"> <li>1. Check if the transfer belt unit is securely installed. Correct it if not.</li> <li>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.</li> <li>3. Check if the drum and the transfer belt are properly operated. (ON: FS-03-116 / OFF: FS-03-166) If they are not rotating normally, check if their drive gears are damaged or if they contact the equipment. Correct it if needed.</li> </ol> <p>Proceed to step (9). (to step (5) for the second time)</p>	
2	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?	YES	Perform FS-08-4546.	3
		NO	<p>&lt;Checking procedure&gt;</p> <ol style="list-style-type: none"> <li>1. Check if the transfer belt unit is securely installed. Correct it if not.</li> <li>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.</li> <li>3. Check if the drum and the transfer belt are properly operated. (ON: FS-03-101 / OFF: FS-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.</li> </ol> <p>Proceed to step (9). (to step (5) for the second time)</p>	
3	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?	YES		4
		NO	<p>&lt;Checking procedure&gt;</p> <p>Reconnect the connector. Replace the harness.</p> <p>Proceed to step (9). (to step (5) for the second time)</p>	

Step	Check item	Result	Measures	Next step
4	Is +24V power supply voltage normally supplied to the image quality sensor? Is +24V voltage normally output by the CN371-19, 20pin on the LGC board?	YES		5
		NO	<p>&lt;Checking procedure&gt;</p> <ol style="list-style-type: none"> <li>1. Check if 12V voltage is output by the switching regulator (PS-ACC CN404-7pin).</li> <li>2. Check if 12V voltage is output by the CN317-19, 20pin on the LGC board.</li> </ol> <p>Check if the supply harness between the switching regulator and the LGC board is open circuited, damaged or disconnected.</p> <p>Proceed to step (9). (to step (5) for the second time)</p>	
5	Set the values of "Image quality closed-loop control / Contrast voltage (FS-08-2486)" and "Drum surface potential sensor control setting (FS-08-2561)" to "0" (Invalid).			
6	Output the image quality control test pattern (FS-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		8
		Abnormal	<p>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.</p> <p>Blank print: including when one of the YMCK colors is not printed.</p> <p>Correct the abnormal image.</p> <p>Proceed to step (8).</p>	
7	Replace the image quality sensor or the LGC board.			
8	[To be corrected] Set the value of "Image quality closed-loop control / Contrast voltage (FS-08-2486)" to "1" (Valid). For 85ppm model, set the value of "Drum surface potential sensor control setting (FS-08-2561)" to "2" (Enabled).			
9	Perform "Image quality closed-loop control (FS-05-2742)" and make sure it is completed normally. (Error [CE10], [CE20] and [CE40] do not appear.) Then perform "Automatic gamma adjustment".	NO		11
		When an error occurs	Check and correct it accordingly.	

Step	Check item	Result	Measures	Next step
10	Reset all of the values in the codes "Abnormality detection count (Y/M/C/K) Display/0 clearing (FS-08-2528 to FS-08-2531)".			

Replace parts	Remarks
Image quality sensor	

#### [CE40] Image quality control test pattern abnormality

Classification	Error item
Image control related service call	The test pattern is not formed normally.

Step	Check item	Result	Measures	Next step
1	Use "Image quality control abnormal detection counter Y to K display/0 clearing (FS-08-2528 to 2531)" to check the abnormal occurring condition for each color.			
2	Check "Output value display of image quality sensor / High-density pattern (FS-05-2731-0 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 600 or above, it is defined as high-density pattern abnormality.	Under 600 (Y, M, C and K) 600 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

Step	Check item	Result	Measures	Next step
3	[To be corrected] Set the value of "Image quality closed-loop control / Contrast voltage (FS-08-2486)" to "0" (Invalid). For 85ppm model, also set the value of "Drum surface potential sensor control setting (FS-08-2561)" to "0" (Disabled).			
4	Output the image quality control test pattern (FS-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		5
		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 (6).	
5	Replace the image quality sensor or LGC board.			
6	[To be corrected] Set the value of "Image quality closed-loop control / Contrast voltage (FS-08-2486)" to "1" (Valid). For 85ppm model, set the value of "Drum surface potential sensor control setting (FS-08-2561)" to "2" (Enabled).			
7	Perform "Image quality closed-loop control (FS-05-2742)" and make sure it is completed normally. (Error [CE40] does not appear.) Then perform "Automatic gamma adjustment".	Normal		9
		When an error occurs	Check and correct it accordingly.	
8	Clear all "Image quality control abnormal detection counter Y to K display/0 clearing (FS-08-2528 to 2531)".			
9	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**

Classification	Error item
Image control related service call	The image quality TRC control test pattern is not printed normally.

Step	Check item	Result	Measures	Next step
1	Check each value of the subcodes 2 (Y), 5 (M), 8 (C) and 11 (K) of the code FS-05-2801.	Under 600 (Y, M, C and K)	(High density pattern abnormality) <Procedure> 1. Set both values of the codes FS-08-2600 and FS-08-8103 to 0. 2. Print the test chart FS-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" 3. Check if the process unit (EPU tray) and the developer unit are installed properly. 4. Check if any toner or developer material is spilt around the laser shutter. Clean if so. 5. Check the center position adjustment for each drawer is within the range preset at the shipment (rear side: 0-3 mm). ⓘ P. 6-89 "[B] Adjustment of the gear holder" 6. Adjust the image dimension with A3/LD. ⓘ P. 6-15 "[A] Reproduction ratio of the primary scanning direction" ⓘ P. 6-21 "[C] Primary scanning data writing start position" 7. Return both values of the codes FS-08-2600 and FS-08-8103 to 1. Then proceed to step 2. If it is the second time, proceed to step 2.	2
		600 or above (Y, M, C and K)		
2	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.			
3	Check if the harness between the connector CN131 on the SYS board and the connector CN331 on the LGC board is disconnected or open circuited. Correct if so.			

Step	Check item	Result	Measures	Next step
4	Check if the harness between the connector CN132 on the SYS board and the connector CN332 on the LGC board is disconnected or open circuited. Correct if so.			
5	Check if the conductor patterns on the SYS board and the LGC board are short circuited or open circuited.			
6	If no abnormality is found in steps 3 to 5 above, replace the SYS board.			
7	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 8.			
8	Reinstall the removed SYS board and then replace the LGC board. Perform automatic gamma adjustment after the board is replaced.			

Replace parts	Remarks
HDD	
SYS board	

#### [CE50] Temperature/humidity sensor abnormality

Classification	Error item
Image control related service call	The output value of this sensor is out of a specified range.

Check item	Measures
Temperature/humidity sensor (S12)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[1], FS-03-[ALL]OFF/[2])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN318)</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Temperature/humidity sensor	
LGC board	



**[CE60] Drum thermistor-Y abnormality**  
**[CE90] Drum thermistor-K abnormality**

Classification	Error item
Copy process related service call	The output value of the drum thermistor-Y is out of a specified range. (CE60) The output value of the drum thermistor-K is out of a specified range. (CE90)

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Drum thermistor-K (THM1)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[3])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Drum thermistor-Y (THM2)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[4])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN335)</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Drum thermistor-K	
Drum thermistor-Y	
EPU board	
LGC board	

## 8.3.22 Copy process related service call

### [C010] Drum motor-K/YMC locking error

Classification	Error item
Copy process related service call	The drum motor-K/YMC is not rotating normally

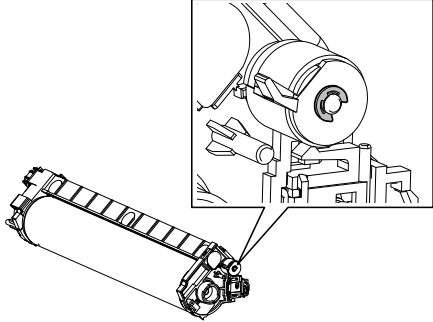
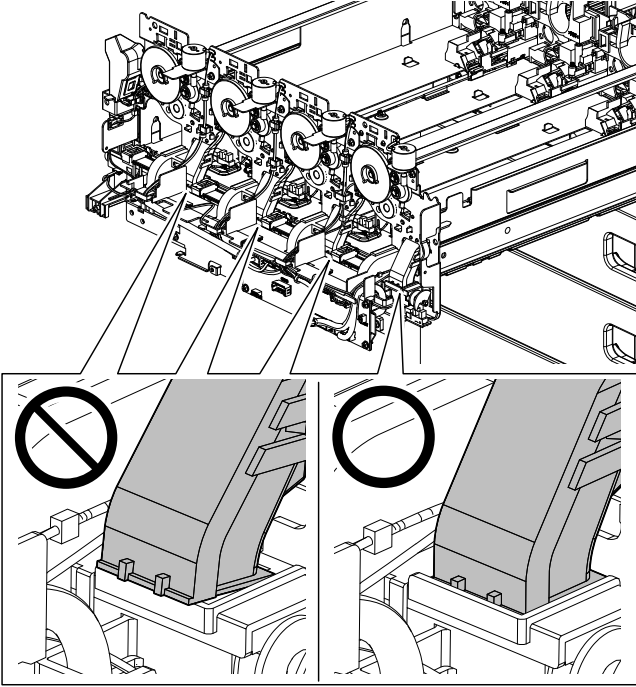
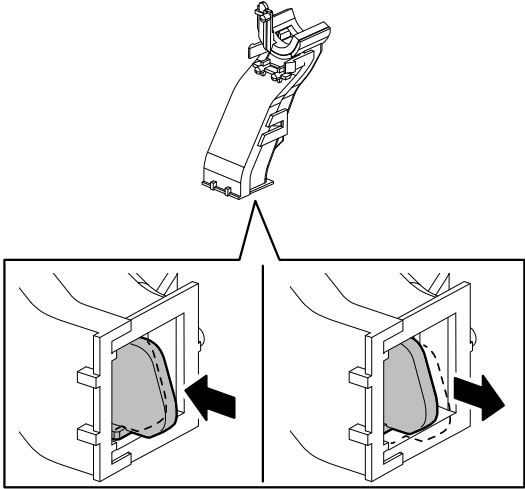
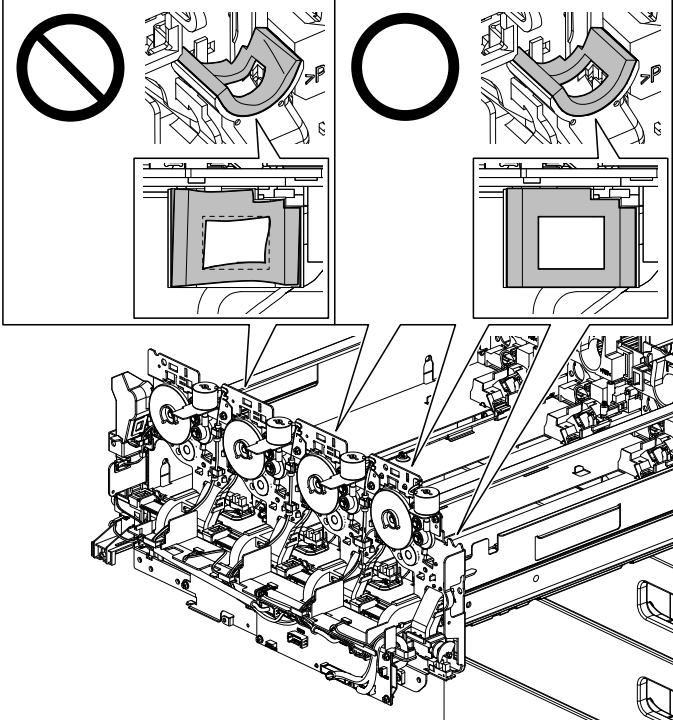

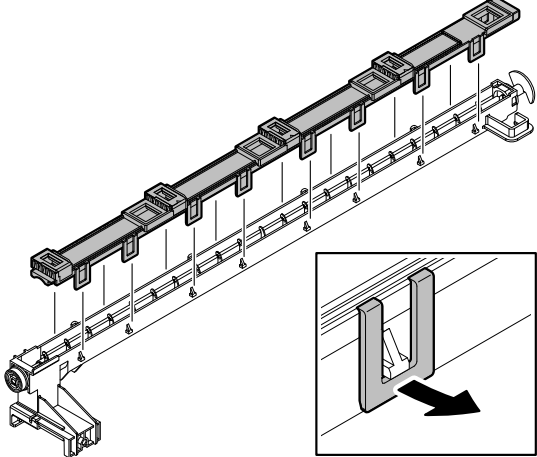
Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN303 · CN304)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
Drum motor-K	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-110)</li> <li>• Harness check</li> <li>• Driving section check (Is there any abnormality on the rotation?)</li> <li>• Connector check</li> </ul>
Drum motor-YMC	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-111)</li> <li>• Harness check</li> <li>• Driving section check (Is there any abnormality on the rotation?)</li> <li>• Connector check</li> </ul>
K-Drum and developer drive unit (K)	<ul style="list-style-type: none"> <li>• Check if there is any dust between the drum gear and the motor.</li> <li>• Check if there is any damage on the gear.</li> <li>• Check if there is any damage on the shaft bearing.</li> <li>• Check that there is no abnormality in the coupling.</li> <li>• K-Drum and developer drive unit (K) installation check</li> </ul>
Color Drum and developer drive unit (YMC)	<ul style="list-style-type: none"> <li>• Check if there is any dust between the drum gear and the motor.</li> <li>• Check if there is any damage on the gear.</li> <li>• Check if there is any damage on the shaft bearing.</li> <li>• Check that there is no abnormality in the coupling.</li> <li>• Color Drum and developer drive unit (YMC) installation check</li> </ul>
Drum cleaner unit	<p>Is the drum cleaning blade peeled?</p> <p>Is the blade side seal peeled?</p> <p>Is there adhesion of foreign matter on the drum surface?</p> <p>Is there adhesion of foreign matter or are there scratches on the drum surface?</p> <p>Check if there is any foreign matter in the row of the drum cleaner unit gears.</p> <p>Check if the E-ring attached to the tip of the nozzle of the drum cleaner unit is removed.</p> <div style="text-align: center;">  </div>

Fig.8-16

Check item	Measures
Drum cleaner unit	Shutter position check when the drum cleaner unit is installed in the EPU tray Check that the orange label is located directly above. P. 4-107 "3. When installing the drum cleaner unit, be sure that the orange label attached on the shutter is clearly seen."
Drum unit side vertical duct	Check if waste toner is clogged on the waste toner transport section. P. 4-117 "4.6.18 Drum unit side vertical duct" (1) Check that the drum unit side vertical duct attached to the EPU tray is installed properly or does not run on the rib.  <p style="text-align: center;"><b>Fig.8-17</b></p> (2) Check that the drum unit side vertical duct is installed properly and the slider in it can move smoothly.  <p style="text-align: center;"><b>Fig.8-18</b></p> If the slider does not move appropriately, clean the inside of the drum unit side vertical duct or replace it.

Check item	Measures
Drum unit side vertical duct	<p>(3) Check if any of the sponge sheets at the upper part of the drum unit side vertical duct blocks the insertion slot.</p>  <p style="text-align: center;"><b>Fig.8-19</b></p> <p>If yes, replace the drum unit side vertical duct.</p>
EPU tray waste toner horizontal transport unit	<p>Check if the EPU tray waste toner horizontal transport unit jams.   P. 4-140 "4.6.37 EPU tray waste toner horizontal transport unit"</p> <ul style="list-style-type: none"> <li>• Check that there is no abnormality in the waste toner transport spring.</li> <li>• Check if there is any foreign matter in the row of the waste toner transport section.</li> <li>• Waste toner transport drive section check</li> </ul>  <p style="text-align: center;"><b>Fig.8-20</b></p> <p>If yes, clean its inside or replace it.</p>

Replace parts	Remarks
Drum motor-K	
Drum motor-YMC	
Drum	
Drum cleaning blade	
Drum cleaner unit	
Drum unit side vertical duct	
EPU tray waste toner horizontal transport unit	
LGC board	

### [C021] Developer unit motor-YMC locking error

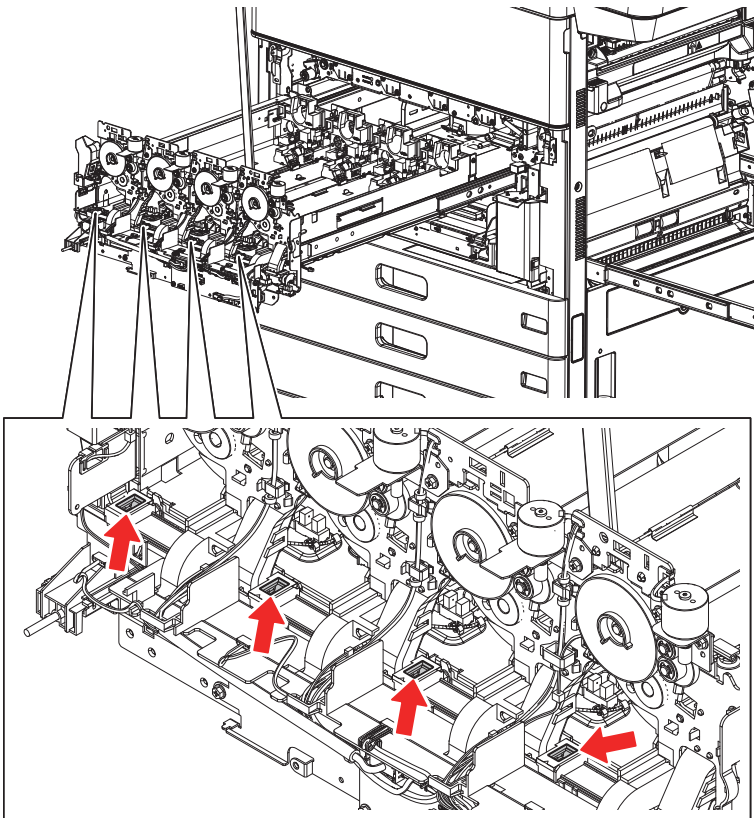
Classification	Error item
Copy process related service call	The developer unit motor-YMC is not rotating normally

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN302)</li> <li>Harness check</li> <li>Board check</li> </ul>
Developer unit motor-YMC	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-113)</li> <li>Connector check</li> <li>Driving section check (Is there any abnormality on the rotation?)</li> <li>Harness check</li> </ul>
Developer unit	<ul style="list-style-type: none"> <li>Check if waste toner is clogged on the waste toner transport path of the YMC-drum cleaner.</li> <li>Check if the developer material is excessively supplied to each YMC-developer unit.</li> </ul>
Drive unit	<ul style="list-style-type: none"> <li>Unit check</li> <li>Gear check</li> <li>Driving section check</li> </ul>
Process unit Drive section	<p>Check if the gear tooth flank is damaged.</p> <p>Check if there is any dust between the gear and the shaft.</p> <p>Check if the contact section between the gear and the shaft is worn out.</p>

Replace parts	Remarks
Developer unit motor-YMC	
LGC board	

### [C022] Developer unit mixer motor-YMC locking error

Classification	Error item
Copy process related service call	The developer unit mixer motor-YMC is not rotating normally.

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN302)</li> <li>• Harness check</li> <li>• Board check</li> </ul>
Developer unit mixer motor-YMC	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-115)</li> <li>• Connector check</li> <li>• Driving section check (Is there any abnormality in the rotation?)</li> <li>• Harness check</li> </ul>
Developer unit	<ul style="list-style-type: none"> <li>• Check if developer material is excessively supplied to each YMC-developer unit.</li> <li>• Check if the developer material is excessively supplied to each YMC-developer unit.</li> </ul>
EPU tray (process unit)	<p>Drum thermistor (THM2) check. (The drum contacts the thermistor.)</p> <p>SR discharging outlet check. (YMC) Check if the toner has accumulated on the SR discharging outlet. If yes, clean it.</p>  <p style="text-align: center;"><b>Fig.8-21</b></p>
Drive unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Gear check</li> </ul>
Process unit	<p>Check if the gear tooth flank is damaged.</p> <p>Check if there is any dust between the gear and the shaft.</p> <p>Check if the contact section between the gear and the shaft is worn out.</p>

Replace parts	Remarks
Developer unit mixer motor-YMC	
Developer unit	
Drum thermistor	(Y: THM2)
LGC board	

### [C023] Developer unit motor-K locking error

Classification	Error item
Copy process related service call	The developer unit motor-K is not rotating normally

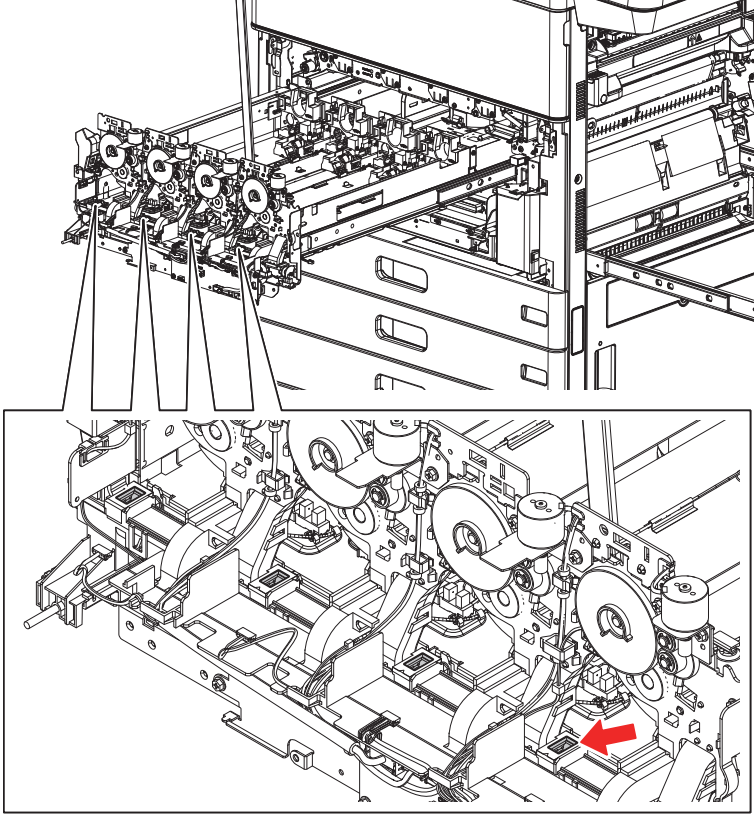
Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN303, CN301)</li> <li>Harness check</li> <li>Board check</li> </ul>
Developer unit motor-K	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-112)</li> <li>Connector check</li> <li>Driving section check (Is there any abnormality on the rotation?)</li> <li>Harness check</li> </ul>
Developer unit	<ul style="list-style-type: none"> <li>Check if waste toner is clogged on the waste toner transport path of the K-drum cleaner.</li> <li>Check if the developer material is excessively supplied to the K-developer unit.</li> </ul>
Drive unit	<ul style="list-style-type: none"> <li>Unit check</li> <li>Gear check</li> </ul>
Process unit Drive section	<p>Check if the gear tooth flank is damaged.</p> <p>Check if there is any dust between the gear and the shaft.</p> <p>Check if the contact section between the gear and the shaft is worn out.</p>

Replace parts	Remarks
Developer unit motor-K	
LGC board	

### [C024] Developer unit mixer motor-K locking error

Classification	Error item
Copy process related service call	The developer unit motor-K is not rotating normally

Check item	Measures
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN303, CN301)</li> <li>Harness check</li> <li>Board check</li> </ul>

Check item	Measures
Developer unit mixer motor-K	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-114)</li> <li>• Connector check</li> <li>• Driving section check (Is there any abnormality in the rotation?)</li> <li>• Harness check</li> </ul>
Developer unit	<ul style="list-style-type: none"> <li>• Check if waste toner is clogged on the waste toner transport path of the K-drum cleaner.</li> <li>• Check if the developer material is excessively supplied to the K-developer unit.</li> </ul>
EPU tray (process unit)	<p>Drum thermistor (THM1) check (The drum contacts the thermistor.)</p> <p>SR discharging outlet check Check if the toner has accumulated on the SR discharging outlet. If yes, clean it.</p>  <p style="text-align: center;"><b>Fig.8-22</b></p>
Drive unit	<ul style="list-style-type: none"> <li>• Unit check</li> <li>• Gear check</li> </ul>
Process unit Drive section	<p>Check if the gear tooth flank is damaged.</p> <p>Check if there is any dust between the gear and the shaft.</p> <p>Check if the contact section between the gear and the shaft is worn out.</p>

Replace parts	Remarks
Developer unit mixer motor-K	
Developer unit	
Drum thermistor	(K: THM1)
LGC board	



### [C360] Needle electrode cleaner operation abnormality

Classification	Error item
Copy process related service call	

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Perform the code FS-08-4606- 0 to -3 (-0: K, -1: Y, -2: M, -3: C) to check which station the error is found.</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Needle electrode cleaner detection sensor (S30 - S33)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: K: FS-03-[ALL]OFF/[4]/[A]), C: FS-03-[ALL]OFF/[4]/[D]), M: FS-03-[ALL]OFF/[4]/[C]), Y: FS-03-[ALL]OFF/[4]/[B])</li> <li>• Check if the needle electrode cleaner detection sensors (S30 - S33) are coming off of the plate of the EPU tray.</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Needle electrode cleaner drive motors (M23 - M26)	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: K: FS-03-207, C: FS-03-206, M: FS-03-205, Y: FS-03-204)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Needle electrode cleaner drive section	<ul style="list-style-type: none"> <li>• Check if the needle electrode cleaner drive section rotates smoothly, and if it does not, clean or replace it.</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>• Connector check (CN550, CN551, CN553, CN554, CN555, CN556, CN559, CN560)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN308, CN307)</li> <li>• Harness check</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Needle electrode cleaner detection sensor	
Needle electrode cleaner drive motor	
EPU board	
LGC board	

### [C370] Transfer belt abnormality

Classification	Error item
Copy process related service call	

Check item	Measures
Transfer belt unit	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Unit check</li> </ul>
Transfer belt contact/release motor (M14)	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: FS-03-237)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>

Check item	Measures
Transfer belt contact/release detection sensor (S46)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[5]/[H])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN309)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Transfer belt contact/release detection sensor (S46)	
Transfer belt contact/release motor (M14)	
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**

Classification	Error item
Copy process related service call	

Check item	Measures
Developer unit mixer motor-K/YMC	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: K: FS-03-114 YMC: FS-03-115)</li> </ul>
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>• Connector check (CN550, CN551, CN553, CN554, CN555, CN556, CN559, CN560)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN308, CN307)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Auto-toner sensor-K/-C/-M/-Y	
Developer unit mixer motor-K/YMC	
EPU board	
LGC board	

**[C3C0] Process unit (EPU tray) connection error**

Classification	Error item
Copy process related service call	

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>• Connector check (CN551)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN308)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
EPU board	
LGC board	

**[C970] High-voltage transformer abnormality**

Classification	Error item
Process related service call	Leakage of the main charger is detected.

Check item	Measures
Main charger	<ul style="list-style-type: none"> <li>• Install check</li> <li>• Check if any foreign matter is on the needle electrode or main charger grid.</li> <li>• Harness check</li> </ul>
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Check if any foreign matter is adhering on the high-voltage terminal of the EPU tray.</li> <li>• 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.</li> </ul>

Replace parts	Remarks
Main charger	
High-voltage transformer (HVT)	

**[CD60] Sub-hopper toner sensor-Y, -M, -C, -K abnormality**

Classification	Error item
Process related service call	

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Sub-hopper toner sensor (S38 - S41)	<ul style="list-style-type: none"> <li>• Sensor check (Perform the input check: K: FS-03-[ALL]OFF/[1]/[E], C: FS-03-[ALL]OFF/[1]/[H], M: FS-03-[ALL]OFF/[1]/[G], Y: FS-03-[ALL]OFF/[1]/[F], Installation detection: FS-03-[ALL]OFF/[3]/[E])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>• Connector check (CN550, CN558)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN307)</li> <li>• Board check</li> </ul>

Replace parts	Remarks
Sub-hopper toner sensor-K/-C/-M/-Y	
EPU board	
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**

Classification	Error item
Process related service call	

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Connection check (FS-05-2788)</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
Sub-hopper toner motor (M19 - M22)	<ul style="list-style-type: none"> <li>• Motor check (Perform the output check: K: FS-03-227, C: FS-03-226, M: FS-03-225, Y: FS-03-224)</li> <li>• Sensor check (Perform the input check: FS-03-[ALL]OFF/[4]/[E/F/G/H])</li> <li>• Connector check</li> <li>• Harness check</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>• Connector check (CN551, CN553, CN554, CN555, CN556, CN559, CN560)</li> <li>• Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Connector check (CN308)</li> <li>• Board check</li> </ul>

Check item	Measures
Color Drum and developer drive unit (YMC) / K-Drum and developer drive unit (K)	<ul style="list-style-type: none"> <li>• Check that the mixer coupling is installed properly.</li> <li>• Check if there is any damage on the tooth surface of the mixer drive gears.</li> </ul>

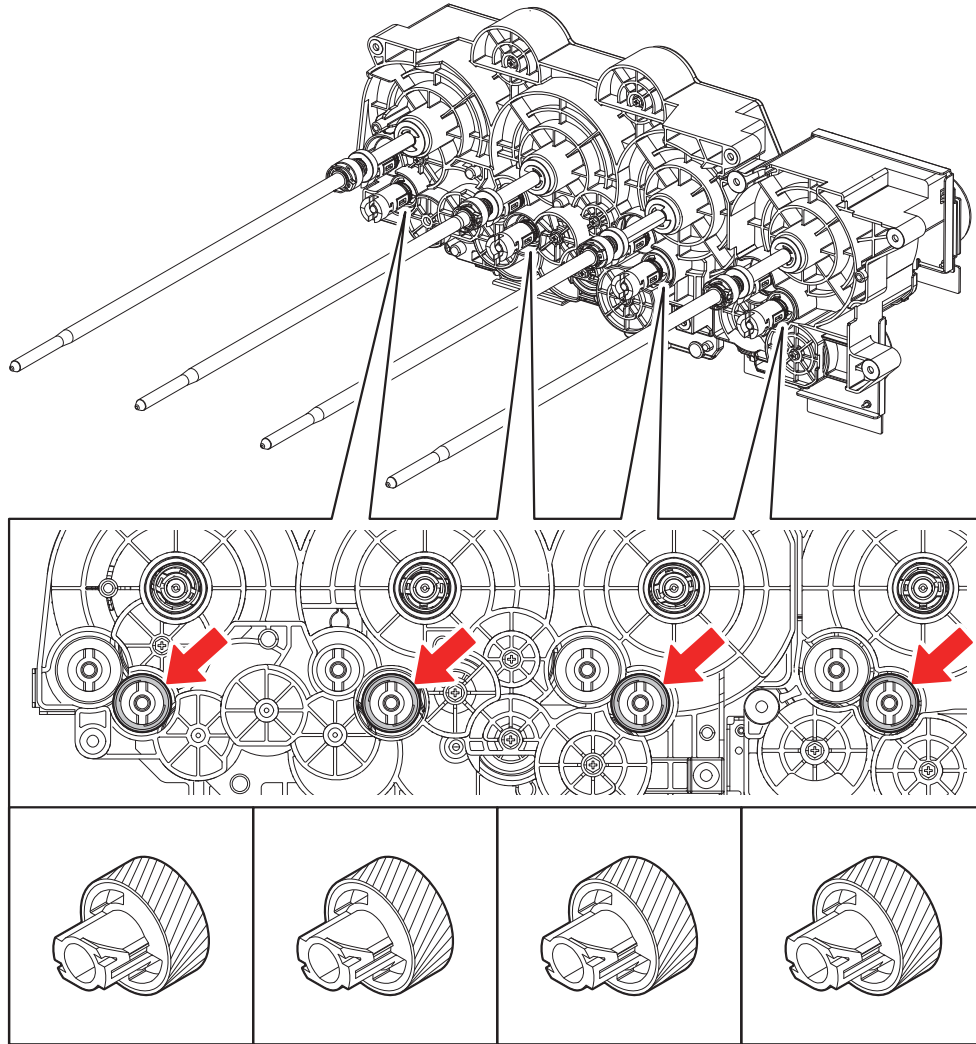


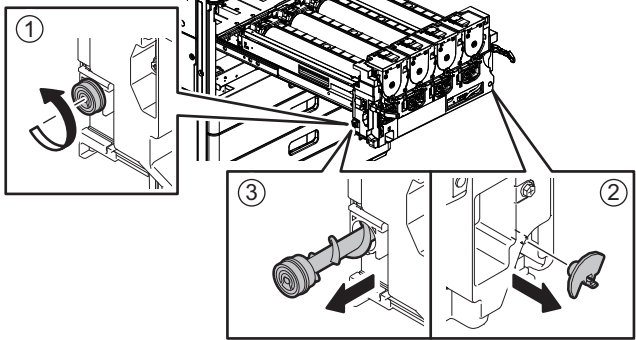
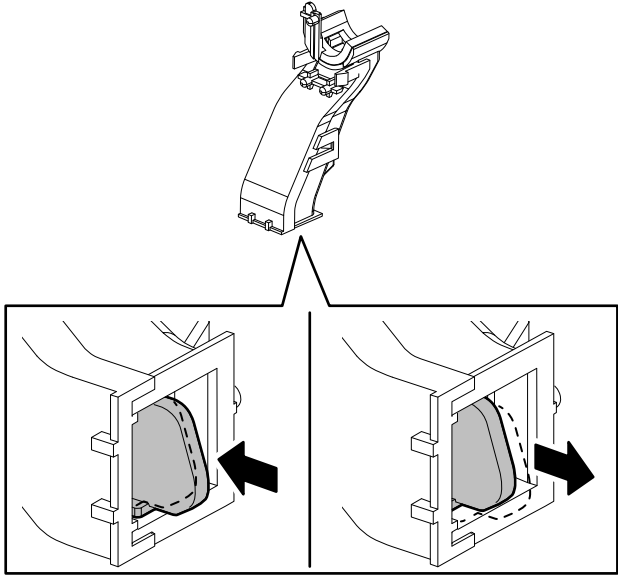
Fig.8-23


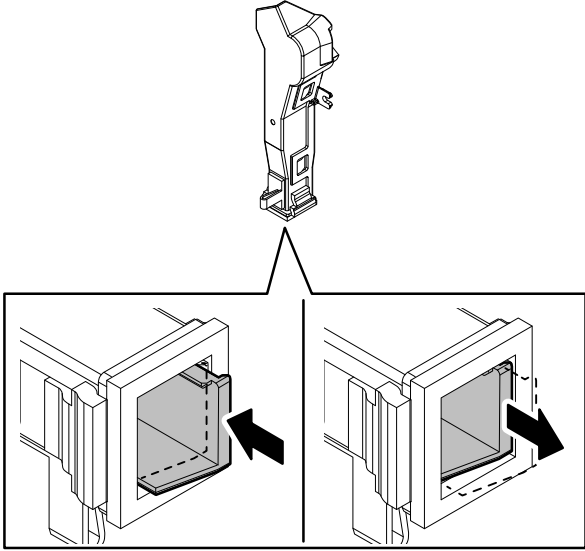
Developer unit	Check if there is any damage to the coupling.
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Replace parts	Remarks
Sub-hopper toner motor-K/-C/-M/-Y	
EPU board	
LGC board	
Developer unit	

**[CD71] Waste toner transport motor locking error**

Classification	Error item
Process related service call	

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>• Pull out the process unit, rotate the gear counterclockwise and check if the load is extremely heavy.</li> <li>• Is the load still extremely heavy after the gear is rotated for a while to discharge the toner from the waste toner transport path?</li> <li>• Is the load still extremely heavy after the actuator is removed, the auger is pulled out and clean them?</li> </ul>  <p style="text-align: center;"><b>Fig.8-24</b></p> <ul style="list-style-type: none"> <li>• Check that the slider of the drum unit side vertical duct works properly. Check if the slider is damaged.  <small>📖 P. 4-117 "4.6.18 Drum unit side vertical duct"</small></li> </ul>  <p style="text-align: center;"><b>Fig.8-25</b></p> <p>If the slider does not move appropriately, clean the inside of the drum unit side vertical duct or replace it.</p>

Check item	Measures
EPU tray (process unit)	<ul style="list-style-type: none"> <li>Check that the slider of the TBU cleaner side vertical duct works properly. Check if the slider is damaged.   P. 4-139 "4.6.36 TBU cleaner side vertical duct"</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Fig.8-26</b></p> <p>If the slider does not move appropriately, clean the inside of the TBU cleaner side vertical duct or replace it.</p>
Waste toner transport motor (M33)	<ul style="list-style-type: none"> <li>Motor check (Perform the output check: FS-03-234)</li> <li>Connector check</li> <li>Harness check</li> </ul>
Auger lock detection sensor (S42)	<ul style="list-style-type: none"> <li>Sensor check (Perform the input check: FS-03-[ALL]OFF/[3]/[D])</li> <li>Connector check</li> <li>Harness check</li> </ul>
EPU board	<ul style="list-style-type: none"> <li>Connector check (CN551, CN557)</li> <li>Board check</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>Connector check (CN308, CN318)</li> <li>Board check</li> </ul>
Waste toner transport unit	<ul style="list-style-type: none"> <li>Check if waste toner is clogged on the transport path.</li> <li>Check if there is no foreign matter in the transport path.</li> <li>Check if the waste toner transport gear is damaged.</li> <li>Check that the waste toner transport unit is installed properly.</li> <li>Check if any waste toner is clogged in the waste toner unit. If there is any, clean it.</li> </ul>
Waste toner duct (on the equipment)	<ul style="list-style-type: none"> <li>Check that the duct slider works properly.</li> <li>Check if the slider is damaged.</li> </ul>

Replace parts	Remarks
Waste toner transport motor	
Auger lock detection sensor	
EPU board	
LGC board	
Waste toner transport unit	
TBU cleaner side vertical duct	
Drum unit side vertical duct	

### 8.3.23 Other service call

#### [F100\_0] HDD format error (Operation failure of key data)

Classification	Contents
Other service call	HDD format error: Operation of HDD key data fails.

Check item	Measures
Setting	Reboot the equipment. If it cannot be recovered, reinstall the software in the following procedure. 1. Install the system firmware. 📖 P. 11-2 "11.2 Firmware Updating with USB Device"

#### [F100\_1] HDD format error (HDD encryption key data damaged - one board)

Classification	Contents
Other service call	HDD format error: Encryption key data of either the SYS board or the SRAM are damaged.

Check item	Measures
Encryption key status	Check the displayed message. (HS-73 Firmware Assist mode → Key Backup/Restore)

Take appropriate countermeasures shown in the table below according to the messages displayed in "SRAM" and "FROM".

#### Remarks:

If the error is not cleared, reinstallation of the system firmware, system software and application is needed. (HS-49 Firmware Update mode)

📖 P. 11-2 "11.2 Firmware Updating with USB Device"

SRAM	FROM	Measure
OK	AccessFailed	Replace the SYS board. 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)
OK	KeyNull	Recover the encryption key on the SYS board. 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (📖 P. 9-29 "[D] Restore encryption key")
	KeyBroken	
AccessFailed	OK	Replace the SRAM. (USB backup data are not used) 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)
KeyNull	OK	Recover the encryption key on the SRAM. 📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (📖 P. 9-34 "[H] Backup encryption key (FROM -> SRAM)")
KeyBroken		



SRAM	FROM	Measure
Keymismatch	Keymismatch	<p>&lt;The error occurs when the SYS board is replaced&gt;  Recover the encryption key on the SYS board.  📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (📖 P. 9-29 "[D] Restore encryption key")</p> <p>&lt;The error occurs except when the SYS board is replaced&gt;  Replace the SRAM.  📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (all steps)</p>

**[F100\_2] HDD format error (HDD encryption key data damaged - both boards)**

Classification	Contents
Other service call	HDD format error: Encryption key data of both the SYS board and the SRAM are damaged.







Check item	Measures
Encryption key status	Check the displayed message. (HS-73 Firmware Assist mode → Key Backup/Restore)

Take appropriate countermeasures shown in the table below according to the messages displayed in "SRAM" and "FROM".

**Remarks:**

If the error is not cleared, reinstallation of the system firmware / system software and application is needed. (HS-49 Firmware Update mode)

SRAM	FROM	Measure
*	AccessFailed	<p>Replace the SYS board.  📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)  &lt;With USB backup data: All key data recovery&gt;</p> <ol style="list-style-type: none"> <li>1. Recover all the data on the SRAM.  HS-59 SRAM Data Cloning mode → Restore SRAM Data from USB  (For details, see "📖 P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</li> <li>2. Recover the encryption key/license on the SYS board.  Follow the procedures below noted in 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board".  📖 P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed)  📖 P. 9-29 "[D] Restore encryption key"  📖 P. 9-30 "[E] Restore license"</li> </ol>
AccessFailed	*	<p>Replace the SRAM.  📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (for the SYS board, all steps)</p>

SRAM	FROM	Measure
KeyNull/ KeyBroken	KeyNull/ KeyBroken	<p>&lt;No USB backup data&gt;</p> <p>1. Reinstall the system software.   P. 11-2 "11.2 Firmware Updating with USB Device"</p> <p>&lt;With USB backup data: All key data recovery&gt;</p> <p>1. Recover all the data on the SRAM.            HS-59 SRAM Data Cloning mode → Restore SRAM Data from USB            (For details, see " P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</p> <p>2. Recover the encryption key/license on the SYS board.            Follow the procedures below noted in  P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board".   P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed)   P. 9-29 "[D] Restore encryption key"   P. 9-30 "[E] Restore license"</p>

\* AccessFailed, KeyNull or KeyBroken

### [F100\_3] Serial number value error

Classification	Contents
Other service call	Only the first two characters of the serial number are entered. (The serial number is not completely entered.)

Check item	Measures
Serial number	Enter the serial number with [FS-08-9601]. If an F100_3 error occurs at the FS Menu startup, select HS-76 SRAM clear mode → Set Serial Number and enter the serial number.

[F101\_0] HDD connection error (HDD connection cannot be detected.)

[F101\_1] Root partition mount error (HDD formatting fails.)

[F101\_2][F101\_3] Partition mount error (The HDD cannot be connected (mounted) caused by damage to areas other than those described in the F101\_1 and F101\_4 to F101\_10 errors.)

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 0: HDD connection error (HDD connection cannot be detected.) Sub-code 1: Root partition mount error (HDD formatting fails.) Sub-code 2, 3: Partition mount error (The areas other than those described in the F101_1 and F101_4 to F101_10 errors are damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>Connector and harness check</li> <li>Check if the connector pins of the HDD are bent.</li> <li>Check if HDD for other equipment is not installed.</li> <li>Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>If the error still persists after step 2, perform the following. <ul style="list-style-type: none"> <li>Perform HS-73 Firmware Assist mode → Format HDD, and then install "System software" (HS-49 Firmware Update mode → SYSTEM SOFTWARE (HD Data)).</li> </ul> <p><b>Notes:</b> The following items will be deleted by HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>Message Log</li> <li>Job Log</li> <li>Spool Data (Print, Email reception)</li> <li>Template</li> </ul> <p>If F101_1 occurs with secure HDD or the error persists after performing step 3, perform step 3 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>If the error persists even after step 3, replace the HDD.</li> <li>If the error persists even after step 4, replace the HDD harness.</li> <li>If the error persists even after step 5, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

[F101\_4] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/work" partition.)

[F101\_12] Partition mount error (File link error in the "/work" partition)

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 4: Partition mount error (The "/work" partition is damaged.) Sub-code 12: Partition mount error (File link error in the "/work" partition)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/work, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/work, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_5] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/registration" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 5: Partition mount error (The "/registration" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/registration, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/registration, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_6] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/backup" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 6: Partition mount error (The "/backup" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup / Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/backup, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/backup, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_7] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/imagedata" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 7: Partition mount error (The "/imagedata" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/imagedata, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/imagedata, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_8] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/storage" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 8: Partition mount error (The "/storage" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/storage, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/storage, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	



**[F101\_9] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/encryption" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 9: Partition mount error (The "/encryption" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/encryption, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/encryption, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_10] Partition mount error (The HDD cannot be connected (mounted) caused by damage to the "/application" partition.)**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 10: Partition mount error (The "/application" partition is damaged.)

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Key Backup/Restore and check that each Key Status is "OK".</li> <li>- If not, recover the key (press [Key] and select the menu, and then press [Execute]).</li> </ul> </li> <li>3. If the error persists after step 2, perform HS-75 File System Recovery mode→Recovery F/S→/application, and then restart the equipment.</li> <li>4. If the error persists after step 3, perform HS-75 File System Recovery mode→Initialize HDD→/application, and then restart the equipment.</li> <li>5. If the error still persists after step 4, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> <p>If the error persists after performing step 5, perform step 5 after performing HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</p> </li> <li>6. If the error persists even after step 5, replace the HDD.</li> <li>7. If the error persists even after step 6, replace the HDD harness.</li> <li>8. If the error persists even after step 7, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

**[F101\_13] Error due to damage to file (Damage to the file in the "/imagedata" partition) partition.**

Classification	Contents
Other service call	HDD unmounted: Connection of HDD cannot be detected. Sub-code 13: A file in the "/imagedata" partition is damaged.

Check item	Measures
HDD, SYS board, Setting	<ol style="list-style-type: none"> <li>1. Turn the power of the equipment OFF and check the connection of the HDD. <ul style="list-style-type: none"> <li>- Connector and harness check</li> <li>- Check if the connector pins of the HDD are bent.</li> <li>- Check if HDD for other equipment is not installed.</li> <li>- Check if SRAM for other equipment is not installed.</li> </ul> </li> <li>2. If the error still occurs after step 1, perform the following. <ul style="list-style-type: none"> <li>- HS-75 File System Recovery mode → Recovery F/S → /imagedata, and then restart the equipment.</li> <li>- Perform FS-FAX → 11 FAX CLEAR MODE → [CUSTOM INITIALZE] → [CLEAR DATA], and then restart the equipment.</li> </ul> </li> <li>3. If the error persists after step 2, perform the following. <ul style="list-style-type: none"> <li>- Perform HS-73 Firmware Assist mode → Format HDD, and then install "System Software (HD data)" with HS-49 Firmware Update mode.</li> </ul> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Firmware Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul> </li> <li>4. If the error persists even after step 3, perform the following and then reattempt step 3. <ul style="list-style-type: none"> <li>- HS-74 HDD Assist mode → Revert Factory Initial Status HDD.</li> </ul> </li> <li>5. If the error persists even after step 4, replace the HDD.</li> <li>6. If the error persists even after step 5, replace the HDD harness.</li> <li>7. If the error persists even after step 6, replace the SYS board.</li> </ol>

Replacement part	Remark
HDD	
HDD harness	
SYS board	

[F102] HDD start error  
[F103] HDD transfer time-out  
[F104] HDD data error  
[F105] HDD other error

Classification	Contents
Other service call	HDD start error: HDD cannot become "Ready" state. HDD transfer time-out: Reading/writing cannot be performed in the specified period of time. HDD data error: Abnormality is detected in the data of HDD. HDD other error

Check item	Measures
HDD	<ul style="list-style-type: none"> <li>• Connector and harness check</li> <li>• Check if the connector pins of the HDD are bent.</li> <li>• Perform the bad sector check (FS-08-9072). If the check result is OK, recover the data in the HDD. If the check result is failed, replace the HDD.</li> </ul>

Replacement part	Remark
HDD	
SYS board	

[F106\_0] Secure HDD error: Illegal disk replacement detected (Secure HDD Exchange to Normal HDD)

Classification	Error item
Other service call	Secure HDD error: The Secure HDD has been replaced illegally to Normal HDD.

Check item	Measures
Setting	<p>Check if the HDD has been replaced with a Normal HDD.</p> <ol style="list-style-type: none"> <li>1. Start the equipment in the 4C mode: Perform HS-74 HDD assist mode.</li> <li>2. Check the type of the HDD shown on the top left of the control panel display "Current HDD type". <ol style="list-style-type: none"> <li>1. In case of Normal HDD, replace it with the original Secure HDD or a new Secure HDD.</li> </ol> </li> </ol> <p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>To replace with the original Secure HDD, start the equipment in the normal mode and then reinstall system software only if any abnormality occurs.</li> <li>2. In case of "Secure HDD" <ol style="list-style-type: none"> <li>Check each item in the Measures field for the HDD below.</li> <li>If the error still occurs, reinstall the system software.</li> </ol> </li> </ol>

Check item	Measures
HDD	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Harness check</li> </ul> <p>Follow the procedure below if no abnormality is found in the check items above.</p> <ol style="list-style-type: none"> <li>1. Perform HS-74 HDD assist mode. → Revert Factory Initial Status HDD</li> <li>2. Reinstall the system software.</li> </ol> <p>If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.</p>

**[F106\_1] Secure HDD error: HDD type detection error**

Classification	Error item
Other service call	Secure HDD error: HDD type detection fails.

Check item	Measures
Setting	If the error is not recovered after rebooting the equipment or no abnormality is found on any check items for the HDD, reinstall the system software.
HDD	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Harness check</li> <li>• Perform HS-75 File system recovery mode. Check the file system and recover it if necessary. If the recovery fails, replace the HDD. If the equipment does not start in the HS-75 File system recovery mode, also replace the HDD.</li> <li>• Check that either the Secure HDD or Normal HDD is mounted.</li> </ul> <ol style="list-style-type: none"> <li>1. Perform HS-74 HDD assist mode.</li> <li>2. Check the type of the HDD shown on the control panel display "Current HDD type". Normal status: Secure HDD or Normal HDD Abnormal status: Unknown HDD</li> </ol> <p>If "Unknown HDD" is displayed, reinstall the system software. If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.</p>

**[F106\_2] Secure HDD error: Secure HDD encryption key download operation error**

Classification	Error item
Other service call	Secure HDD error: Downloading of or consistency check for Secure HDD encryption key fails.

Check item	Measures
Setting	Checking of Secure HDD encryption key status 1. Perform HS-73 Assist mode. 2. Perform "Key Backup / Restore". 3. Check the status of the Secure HDD encryption key on the Key Backup / Restore menu. 4. After the operation is completed, shut down the equipment. <ul style="list-style-type: none"> <li>• In case both the ADIKey SRAM/FROM status are OK Reinstall the system firmware.</li> <li>• In case either the ADIKey SRAM/FROM status is other than OK Restore the Secure HDD encryption key.</li> <li>• In case both of the ADIKey SRAM/FROM status are other than OK Reinstall the system software.</li> </ul>
HDD	If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.

#### [F106\_3] Secure HDD error: Secure HDD authentication Admin Password generation error

Classification	Error item
Other service call	Secure HDD error: The generation of Secure HDD authentication Admin Password fails.

Check item	Measures
Setting	Perform HS-73 Assist mode → Format HDD, and then install the system software by performing HS-49 Firmware update mode → SYSTEM SOFTWARE (HD Data).  <b>Notes:</b> The following items will be deleted by performing HS-73 Assist mode → Format HDD. <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul>
HDD	If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.

#### [F106\_4] Secure HDD error: Authentication random number generation error

Classification	Error item
Other service call	Secure HDD error: The generation of a random number for authentication data fails.

Check item	Measures
Setting	<p>Perform HS-73 Assist mode → Format HDD, and then install the system software by performing HS-49 Firmware update mode → SYSTEM SOFTWARE (HD Data).</p> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul>
HDD	<p>If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.</p>

### [F106\_5] Secure HDD error: Authentication data transmission error

Classification	Error item
Other service call	Secure HDD error: The transmission of authentication data fails.

Check item	Measures
Setting	<p>Perform HS-73 Assist mode → Format HDD, and then install the system software by performing HS-49 Firmware update mode → SYSTEM SOFTWARE (HD Data).</p> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul>
	<ul style="list-style-type: none"> <li>• In case this error occurred after returning SRAM data for SRAM cloning: Copy the Secure HDD key from FROM to SRAM. <ol style="list-style-type: none"> <li>1. Perform HS-73 Assist mode.</li> <li>2. Select “Key Backup / Restore”.</li> <li>3. Check the status of the Secure HDD key on the Key/ Backup Restore menu.</li> <li>4. Select [ADlkey] twice.</li> <li>5. Check that copying of the Secure HDD key from the FROM to SRAM is selected.</li> <li>6. Press [Execute].</li> <li>7. When the restoring of the encryption key is completed, “Success” appears to the right-hand side of [ADlKey] FROM.</li> <li>8. After the operation has been completed, shut down the equipment.</li> </ol> </li> </ul>
HDD	<p>If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.</p>




**[F106\_6]/[F106\_7]/[F106\_8]/[F106\_10] / [F106\_UNDEF] Secure HDD error: Error caused by reason other than F106\_0 to 5 errors**

Classification	Error item
Other service call	Secure HDD error: Error caused by reason other than F106_0 to 5 errors

Check item	Measures
Setting	<p>Perform HS-73 Assist mode → Format HDD, and then install the system software by performing HS-49 Firmware update mode → SYSTEM SOFTWARE (HD Data).</p> <p><b>Notes:</b> The following items will be deleted by performing HS-73 Assist mode → Format HDD.</p> <ul style="list-style-type: none"> <li>• Message Log</li> <li>• Job Log</li> <li>• Spool Data (Print, Email reception)</li> <li>• Template</li> </ul>
HDD	If the error persists even after above step, replace the HDD. If the equipment operation disabled after above step, replace the HDD.

**[F109\_0] Key consistency error (Consistency check operation error)**

Classification	Contents
Other service call	Key consistency error - Key consistency check on each key data fails.


Check item	Measures
Setting	<p>Reboot the equipment. If it cannot be recovered, reinstall the software in the following procedure.</p> <ol style="list-style-type: none"> <li>1. Install the system firmware.</li> <li>2. If the error cannot be solved after installing the system firmware, reinstall the system software and application program.</li> </ol> <p> P. 11-2 "11.2 Firmware Updating with USB Device"</p>
SRAM	<p>If the error is not cleared after the software reinstallation, replace the SRAM.</p> <p> P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM"</p>
SYS board	<p>If the error is not cleared after this (see above), replace the SYS board.</p> <p> P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board"</p>

Replacement part	Remark
SRAM	
SYS board	




**[F109\_1] Key consistency error (SRAM encryption AES key data damage)**

Classification	Contents
Other service call	Key consistency error - AES key data used for SRAM encryption are damaged.

Check item	Measures
Setting	Reboot the equipment. If it cannot be recovered, reinstall the software in the following procedure. 1. Install the system firmware. 2. If the error cannot be solved after installing the system firmware, reinstall the system software and application program.  P. 11-2 "11.2 Firmware Updating with USB Device"

**[F109\_2] Key consistency error (Signature Check public key damage)**

Classification	Contents
Other service call	Key consistency error - Public key data used for Integrity Check are damaged.

Check item	Measures
Setting	Reboot the equipment. If it cannot be recovered, reinstall the software in the following procedure. 1. Install the system firmware. 2. If the error cannot be solved after installing the system firmware, reinstall the system software and application program.  P. 11-2 "11.2 Firmware Updating with USB Device"

**[F109\_3] Key consistency error (HDD encryption parameter damage)**

Classification	Contents
Other service call	Key consistency error - Parameter used for HDD partition encryption are damaged.

Check item	Measures
Encryption key status confirmation	Check the message displayed by HS-73 Assist mode → Key Backup / Restore.

Take measures given in the following table according to the messages displayed in the SRAM and FROM fields.

**Remarks:**

If the error is not cleared, reinstallation of the system firmware, system software and application is needed. (HS-49 Firmware update mode)

SRAM	FROM	Measure
*	AccessFailed	<p>Replace the SYS board.</p> <p>📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)</p> <p>&lt;With USB backup data: All key data recovery&gt;</p> <ol style="list-style-type: none"> <li>1. Recover all the data on the SRAM. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "📖 P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</li> <li>2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". 📖 P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) 📖 P. 9-29 "[D] Restore encryption key" 📖 P. 9-30 "[E] Restore license"</li> </ol>
AccessFailed	*	<p>Replace the SYS board.</p> <p>📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (for the SYS board, all steps)</p>
OK	KeyNull/ KeyBroken	<p>Recover the encryption key on the SYS board.</p> <p>📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (📖 P. 9-29 "[D] Restore encryption key")</p>
AccessFailed	OK	<p>Replace the SRAM.</p> <p>📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (all steps)</p>
KeyNull/ KeyBroken	OK	<p>Recover the encryption key on the SRAM.</p> <p>📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (📖 P. 9-34 "[H] Backup encryption key (FROM -&gt; SRAM)")</p>
KeyNull/ KeyBroken	KeyNull/ KeyBroken	<p>&lt;No USB backup data&gt;</p> <ol style="list-style-type: none"> <li>1. Reinstall the system software. 📖 P. 11-2 "11.2 Firmware Updating with USB Device"</li> </ol> <p>&lt;With USB backup data: All key data recovery&gt;</p> <ol style="list-style-type: none"> <li>1. Recover all the data on the SRAM. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "📖 P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</li> <li>2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". 📖 P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) 📖 P. 9-29 "[D] Restore encryption key" 📖 P. 9-30 "[E] Restore license"</li> </ol>

\* AccessFailed, KeyNull or KeyBroken

**[F109\_4] Key consistency error (license data damage)**

Classification	Contents
Other service call	Key consistency error - The license data are damaged.

Check item	Measures
Encryption key status confirmation	Check the message displayed by HS-73 Assist mode → Key Backup / Restore.

Take appropriate countermeasures shown in the table below according to the messages displayed in the SRAM and FROM fields of LICENCE [F109\_4].

**Remarks:**

If the error is not cleared, reinstallation of the system firmware, system software and application is needed. (HS-49 Firmware update mode)

SRAM Licence Status	FROM Licence Status	Measure
*	AccessFailed	Replace the SYS board. ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps) <With USB backup data: All key data recovery> 1. Recover all the data on the board. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "☞ P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure") 2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". ☞ P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) ☞ P. 9-29 "[D] Restore encryption key" ☞ P. 9-30 "[E] Restore license"
AccessFailed	*	Replace the SRAM. ☞ P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (all steps)
KeyMismatch	KeyMismatch	<The error occurs when the SYS board is replaced> Recover the license on the SYS board. (Transfer the license from SYS-SRAM to SYS-FROM.) ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board"(☞ P. 9-30 "[E] Restore license") <The error occurs except when the SYS board is replaced> Recover the license on the SRAM. (Transfer the license from SYS-FROM to SYS-SRAM.) ☞ P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM"(☞ P. 9-35 "[I] Backup license (FROM -> SRAM)")

\* AccessFailed or KeyMismatch

**[F109\_5] Key consistency error (encryption key for Secure HDD is damaged)**

Classification	Contents
Other service call	Key consistency error - Encryption key for Secure HDD is damaged.

Check item	Measures
Encryption key status confirmation	Check the message displayed by HS-73 Assist mode → Key Backup Restore.

Take appropriate countermeasures shown in the table below according to the messages displayed in the SRAM and FROM fields of AGLNCKEY [F109\_5] / AGLDECKEY [F109\_5].

**Remarks:**

If the error is not cleared, reinstallation of the system firmware, system software and application is needed. (HS-49 Firmware update mode)

SRAM	FROM	Measure
*	AccessFailed	Replace the SYS board. ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps) <With USB backup data: All key data recovery> 1. Recover all the data on the SRAM. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "☞ P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure") 2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". ☞ P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) ☞ P. 9-29 "[D] Restore encryption key" ☞ P. 9-30 "[E] Restore license"
AccessFailed	*	Replace the SRAM. ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)
OK	KeyNull/ KeyBroken	Recover the ADI key on the SYS board. ☞ P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (☞ P. 9-29 "[C] Restore ADI key")
KeyNull/ KeyBroken	OK	Recover the ADI key on the SRAM. ☞ P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (☞ P. 9-34 "[G] Backup ADI key (FROM -> SRAM)")

SRAM	FROM	Measure
KeyNull/ KeyBroken	KeyNull/ KeyBroken	<p>&lt;No USB backup data&gt;</p> <ol style="list-style-type: none"> <li>1. Create the partition in the HDD, and reinstall the system software.  📖 P. 9-23 "9.2.3 Precautions and procedures when replacing the HDD" (Perform step 3 or later in "[E] Replace / Format HDD")</li> </ol> <p>&lt;With USB backup data: All key data recovery&gt;</p> <ol style="list-style-type: none"> <li>1. Recover all the data on the SRAM.  HS-59 SRAM data cloning mode → Restore SRAM Data from USB  (For details, see "📖 P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</li> <li>2. Recover the encryption key/license on the SYS board.  Follow the procedures below noted in 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board".  📖 P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed)  📖 P. 9-29 "[D] Restore encryption key"  📖 P. 9-30 "[E] Restore license"</li> </ol>
KeyMismatch	KeyMismatch	<p>&lt;The error occurs when the SYS board is replaced&gt;  Recover the ADI key on the SYS board. (Transfer the ADI key from SRAM to FROM.)  📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board"(📖 P. 9-29 "[C] Restore ADI key")</p> <p>&lt;The error occurs except when the SYS board is replaced&gt;  Recover the ADI key on the SRAM. (Transfer the ADI key from FROM to SRAM.)  📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM"(📖 P. 9-34 "[G] Backup ADI key (FROM -&gt; SRAM)")</p>

\* AccessFailed or KeyMismatch

**[F109\_6] Key consistency error (administrator password error for Secure HDD authentication)**

Classification	Contents
Other service call	Key consistency error - Administrator password error for Secure HDD authentication.

Check item	Measures
Encryption key status confirmation	Check the message displayed by HS-73 Assist mode → Key Backup Restore.

Take appropriate countermeasures shown in the table below according to the messages displayed in the SRAM and FROM fields of Admin Password [F109\_6].

**Remarks:**

If the error is not cleared, reinstallation of the system firmware, system software and application is needed. (HS-49 Firmware update mode)

SRAM	FROM	Measure
*	AccessFailed	<p>Replace the SYS board.</p> <p>📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (all steps)</p> <p>&lt;With USB backup data: All key data recovery&gt;</p> <ol style="list-style-type: none"> <li>1. Recover all the data on the SRAM. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "📖 P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</li> <li>2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in 📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". 📖 P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) 📖 P. 9-29 "[D] Restore encryption key" 📖 P. 9-30 "[E] Restore license"</li> </ol>
AccessFailed	*	<p>Replace the SRAM.</p> <p>📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (all steps)</p>
OK	KeyNull/ KeyBroken	<p>Recover the ADI key on the SYS board.</p> <p>📖 P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board" (📖 P. 9-29 "[C] Restore ADI key")</p>
KeyNull/ KeyBroken	OK	<p>Recover the ADI key on the SRAM.</p> <p>📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM" (📖 P. 9-34 "[G] Backup ADI key (FROM -&gt; SRAM)")</p>

SRAM	FROM	Measure
KeyNull/ KeyBroken	KeyNull/ KeyBroken	<p>&lt;No USB backup data&gt;</p> <p>1. Create the partition in the HDD, and reinstall the system software. 9.2.3 Precautions and procedures when replacing the HDD (Perform step 3 or later in "[E] Replace / Format HDD")</p> <p>&lt;With USB backup data: All key data recovery&gt;</p> <p>1. Recover all the data on the SRAM. HS-59 SRAM data cloning mode → Restore SRAM Data from USB (For details, see "P. 12-2 "12.1.4 Cloning procedure" [B] Restore procedure")</p> <p>2. Recover the encryption key/license on the SYS board. Follow the procedures below noted in P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board". P. 9-29 "[C] Restore ADI key" (only when Secure HDD is installed) P. 9-29 "[D] Restore encryption key" P. 9-30 "[E] Restore license"</p>
KeyMismatch	KeyMismatch	<p>&lt;The error occurs when the SYS board is replaced&gt; Recover the ADI key on the SYS board. (Transfer the ADI key from SRAM to FROM.) P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board"(P. 9-29 "[C] Restore ADI key")</p> <p>&lt;The error occurs except when the SYS board is replaced&gt; Recover the ADI key on the SRAM. (Transfer the ADI key from FROM to SRAM.) P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM"(P. 9-34 "[G] Backup ADI key (FROM -&gt; SRAM)")</p>

\* AccessFailed or KeyMismatch

**[F110] Communication error between System-CPU and Scanner-CPU**

**[F111] Scanner response abnormality**

Classification	Error content
Communication related service call	Communication error between System-CPU and Scanner-CPU Scanner response abnormality

Check item	Measure
Reproducibility	Turn the power OFF and then back ON using the main power switch.
SYS board	<ul style="list-style-type: none"> <li>• Check if the conductor pattern on the SYS board is short circuited or open circuited.</li> <li>• Connector check (CN122)</li> <li>• Harness check (CN122)</li> </ul>

Parts to be replaced	Remark
SYS board	

## [F120] Database abnormality

Classification	Error item
Other service call	Database abnormality: Database is not operating normally.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Check that no jobs remain and rebuild the databases. (HS-75 File system recovery mode → Initialize database → LDAP DB and Log DB (Job,Msg).</li> <li>2. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode → System Software(HD data))</li> </ol> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• If you rebuild the databases with a job remaining, delete it after finishing.</li> <li>• When "Rebuilding all databases" is performed, all data including log/user/role/group/department information and address book data are deleted. If you back up the data in advance, they will be recovered by restoring them after rebuilding the database.</li> </ul>

## [F121] Database abnormality (user information management database)

Classification	Error item
Other service call	Login after the startup fails in any starting mode because user management database is corrupted.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Check that no jobs remain and rebuild the databases.</li> <li>2. Delete the data in the following procedure: HS-75 File system recovery mode → Initialize database → LDAP database (Note that all user, role, group and accounting data will be deleted.)</li> <li>3. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode → System Software(HD data))</li> </ol> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• If you rebuild the databases with a job remaining, delete it after finishing.</li> <li>• When "Rebuilding all databases" is performed, all data including log/user/role/group/department information and address book data are deleted. If you back up the data in advance, they will be recovered by restoring them after rebuilding the database.</li> </ul>



**[F122] Database abnormality (message/job log management database)**

Classification	Error item
Other service call	Login after the startup fails in any starting mode because log management database is corrupted.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Check that no jobs remain and rebuild the databases.</li> <li>2. Delete the data in the following procedure: HS-75 File system recovery mode → Initialize database → Log database (jobs and messages) (Note that all job and message logs will be deleted.)</li> <li>3. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode → System Software(HD data))</li> </ol> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• If you rebuild the databases with a job remaining, delete it after finishing.</li> <li>• When "Rebuilding all databases" is performed, all data including log/user/role/group/department information and address book data are deleted. If you back up the data in advance, they will be recovered by restoring them after rebuilding the database.</li> </ul>

**[F124] Database abnormality (application management database damage error)**

Classification	Error item
Other service call	Application management database is damaged.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Perform HS-75 File System recovery mode &gt; Initialize DB → AppMgmt DB and then delete the journal file.</li> </ol> <p><b>Notes:</b></p> <p>All of the application information will be deleted.</p> <ol style="list-style-type: none"> <li>2. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode &gt; System Software(HD data))</li> </ol>

**[F125] Database abnormality (Home screen database damage error)**

Classification	Error item
Other service call	Home screen database is damaged.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Perform HS-75 File System recovery mode &gt; Initialize DB → HomeScreen DB and then delete the journal file.</li> <li>2. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode &gt; System Software(HD data))</li> </ol>

**[F126] Database abnormality (Job history database damage error)**

Classification	Error item
Other service call	Job history database is damaged.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Perform HS-75 File System recovery mode &gt; Initialize DB → JobHistory DB and then delete the journal file.</li> <li>2. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode &gt; System Software(HD data))</li> </ol>

**[F127] Database abnormality (application license management database damage error)**

Classification	Error item
Other service call	Application license management database is damaged.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Perform HS-75 File System recovery mode &gt; Initialize DB → AppLicense DB and then delete the journal file.</li> <li>2. If the error is not recovered, reinstall the system software. (HS-49 Firmware update mode &gt; System Software(HD data))</li> </ol>

**[F130] Invalid MAC address**

Classification	Error item
Other service call	This error occurs when the top 3 bytes of the MAC address is not "00" "80" "91".

Check item	Measures
SYS board	Replace the SYS board.

**[F131] Error due to damage to filtering setting file**

Classification	Error item
Other service call	The filtering function is not working properly due to the damage to the file for the filtering setting.

Check item	Measures
Setting	1. Check the bad sector of the HDD (FS-08-9072). If the result is "NG", replace the HDD. <b>Notes:</b> It may take more than 30 minutes to finish the checking. 2. Perform HS-73 Firmware Assist mode → Format HDD, and then reinstall the HDD software. <b>Notes:</b> User data will be deleted when HS-73 Firmware Assist mode → Format HDD is performed.

Replace parts	Remarks
HDD	

#### [F140] ASIC initialization error

Classification	Error item
Other service call	ASIC initialization fails or memory accessing fails when software startup.

Check item	Measures
SYS board	<ul style="list-style-type: none"> <li>• Connector check</li> <li>• Board check</li> </ul>
Main memory	<ul style="list-style-type: none"> <li>• Check the installation</li> <li>• Main memory check</li> </ul>

Replace parts	Remarks
SYS board	
Main memory	

#### [F150] Power failure during the manufacturing mode

Classification	Error item
Other service call	When a power failure occurred during the manufacturing mode, this error code appears at the next startup.

Check item	Measures
Power supply	Turn the power OFF and then back ON.

#### [F200] Data overwrite option (GP-1070) disabled

Classification	Error item
Other service call	Data Overwrite option (GP-1070) disabled

Check item	Measures
Firmware	Perform FS-08-3840 to install the Data Overwrite Enabler (GP-1070).

Replace parts	Remarks
SYS board	

#### [F510] Application start error

Classification	Error item
Other service call	The application fails to start.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Reboot.</li> <li>2. If it has still not recovered, reinstall the system software.</li> <li>3. If it still persists after step 2, perform HS-73 Assist mode → Format HDD, and then reinstall the system software.</li> </ol> <p>User data will be deleted when HS-73 Firmware Assist mode → Format HDD is performed.</p>

Replace parts	Remarks

#### [F520] Operating system start error

Classification	Error item
Other service call	The operating system fails to start.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Reboot.</li> <li>2. If it has still not recovered, reinstall the HDD software.</li> <li>3. If it still persists after step 2, perform HS-73 Firmware Assist mode → Format HDD, and then reinstall the system software.</li> </ol> <p>User data will be deleted when HS-73 Firmware Assist mode → Format HDD is performed.</p>

Replace parts	Remarks

#### [F521] Integrity check error

Classification	Error item
Other service call	Authentication of program data failed.

Check item	Measures
Setting	<p>Restart the equipment.</p> <p>If the error is not recovered after restarting the equipment, reinstall software following the procedure below.</p> <p>Reinstall the system software and application program.</p>

Replace parts	Remarks

#### [F550] Encryption partition error

Classification	Error item
Other service call	The encryption partition fails to be read and written.

Check item	Measures
Setting	Recover the encryption key with HS-73 Firmware Assist mode → Key Backup/Restore.

Replace parts	Remarks

#### [F600] F/W update error

Classification	Error item
Other service call	The firmware fails to be updated.

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>1. Perform HS-73 Firmware Assist mode → Clear Software Update Error Flag</li> <li>2. Reinstall the firmware in error displayed on the F600 error screen.</li> </ol>

Replace parts	Remarks

#### [F700] Overwrite error

Classification	Error item
Other service call	Overwriting fails.

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• If a service call occurs again after the reboot, replace the HDD.</li> </ul>

Replace parts	Remarks

#### [F800] Date error

Classification	Error item
Other service call	The year 2038 problem

Check item	Measures
Setting	Reset the date, and request the administrator to set the date and time. 1. Perform HS-76 SRAM clear mode → Reset Date and Time. (The date is set to January 1st, 2011.) 2. Request the administrator to set the date and time.


**[F900] Model information error**

Classification	Error item
Other service call	Machine information alignment error. The machine information is damaged.

Check item	Measures
Setting	<p>Recover the machine information by means of the following procedure.</p> <p>&lt;Machine information recovery&gt;</p> <ol style="list-style-type: none"><li>1. Perform HS-76 SRAM clear mode → SRAM Re-Initialize.</li><li>2. After the operation is completed, shut down the equipment. * If it is not recovered, perform the following procedure.</li><li>3. Perform HS-73 Assist mode → Key Backup/Restore.</li><li>4. Press [Key] twice.</li><li>5. Check that copying of the key from the FROM to SRAM is selected.</li><li>6. Press [Execute].</li><li>7. When the restoring of the key is completed, "Success" appears to the right-hand side of [Key] FROM.</li><li>8. After the operation is completed, shut down the equipment.</li></ol>

## 8.3.24 Error in Internet FAX / Scanning Function

### Notes:

- When formatting the HDD (HS-75 File System Recovery mode → Initialize HDD → ALL), 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. 9-23 "9.2.3 Precautions and procedures when replacing the HDD"

### [ 1 ] Internet FAX related error

#### [1C10] System access abnormality

#### [1C32] File deletion failure

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).</li> </ul>

Replace parts	Remarks

#### [1C11] Insufficient memory

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• When there are running jobs, perform the job in error again after the completion of the running jobs.</li> <li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

#### [1C12] Message reception error

#### [1C13] Message transmission error

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>



Replace parts	Remarks

**[1C14] Invalid parameter**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• When a template is used, form the template again.</li> <li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[1C15] Exceeding file capacity**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Reset and extend the “Maximum send to E-mail/iFAX size” or reduce the number of pages and perform the job again.</li> </ul>

Replace parts	Remarks

**[1C30] Directory creation failure**

**[1C31] File creation failure**

**[1C33] File access failure**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the access privilege to the storage directory is writable.</li> <li>• Check if the server or local disk has a sufficient space in disk capacity.</li> </ul>

Replace parts	Remarks

### [1C40] Image conversion abnormality

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Turn the power OFF and then back ON. Perform the job in error again.</li><li>• Replace the main memory and perform the job again.</li></ul>

Replace parts	Remarks
Main memory	

### [1C60] HDD full failure during processing

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Delete the job in progress or being set or in the HOLD/PRIVATE/PROOF/INVALID, and perform it again.</li><li>• Check if the server or local disk has a sufficient space in disk capacity.</li></ul>

Replace parts	Remarks

### [1C61] Address Book reading failure

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Turn the power OFF and then back ON. Perform the job in error again.</li><li>• Reset the data in the Address Book and perform the job again.</li></ul>

Replace parts	Remarks

### [1C63] Terminal IP address unset

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the Terminal IP address.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [1C64] Terminal mail address unset

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the Terminal mail address.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [1C65] SMTP mail address unset

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the SMTP address and perform the job.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [1C66] Server time-out error

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check if the SMTP server is operating properly.</li> </ul>

Replace parts	Remarks

**[1C69] SMTP server connection error**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the login name or password of SMTP server and perform the job again.</li> <li>Check if the SMTP server is operating properly.</li> </ul>

Replace parts	Remarks

**[1C6B] Terminal mail address error**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check the SMTP Authentication method.</li> <li>Check if there is an illegal character in the Terminal mail address.</li> <li>Set the correct SMTP Authentication method or delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.</li> </ul>

Replace parts	Remarks

**[1C6C] Destination mail address error**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check if there is an illegal character in the Destination mail address.</li> <li>Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.</li> </ul>

Replace parts	Remarks

**[1C6D] System error**

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• If the error still occurs, replace the SYS board.</li> </ul>

Replace parts	Remarks
SYS board	

#### [1C70] SMTP client OFF

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Set the SMTP valid and perform the job again.</li> </ul>

Replace parts	Remarks

#### [1C71] SMTP authentication ERROR

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check that SMTP authentication method, login name and password are correct, then perform authentication again.</li> </ul>

Replace parts	Remarks

#### [1C72] POP Before SMTP ERROR

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check that both the POP Before SMTP setting and POP3 setting are correct, then perform authentication again.</li> </ul>

Replace parts	Remarks

## [1CC1] Power failure

Classification	Error item
Internet FAX related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if the power cable is connected properly and it is inserted securely.</li><li>• Check if the power voltage is unstable.</li></ul>

Replace parts	Remarks

## [ 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)

Classification	Error item
RFC related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if the Terminal mail address and Destination mail address are correct.</li><li>• Check if the mail server is operating properly.</li><li>• Turn the power OFF and then back ON. Perform the job in error again.</li></ul>

Replace parts	Remarks

[2503] Destination mail address error (RFC: 503)

[2504] HOST NAME error (RFC: 504)

[2551] Destination mail address error (RFC: 551)

Classification	Error item
RFC related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if the mail server is operating properly.</li><li>• Turn the power OFF and then back ON. Perform the job in error again.</li><li>• If the error still occurs, replace the SYS board.</li></ul>

Replace parts	Remarks

**[2550] Destination mail address error (RFC: 550)**

Classification	Error item
RFC related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check the state of the mail box in the mail server.</li> </ul>

Replace parts	Remarks

**[2552] Terminal/Destination mail address error (RFC: 552)**

Classification	Error item
RFC related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Confirm the size on the mail server.</li> <li>• Transmit again in text mode or with lower resolution or divide the document and transmit again.</li> <li>• If the error still occurs, turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

**[2553] Destination mail address error (RFC: 553)**

Classification	Error item
RFC related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if there is an illegal character in the mail box in the mail server.</li> </ul>

Replace parts	Remarks

### [ 3 ] Electronic Filing related error

[2B11] JOB status abnormality

[2B20] File library function error

[2B30] Insufficient disk space in BOX partition

[2BC0] Fatal failure occurred

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Erase some data in the Electronic Filing or the shared folder and perform the job in error again (in case of [2B30]). Ask the administrator if e-Filing has been disabled.</li><li>• Turn the power OFF and then back ON. Perform the job in error again.</li><li>• Check if there are no other running jobs and perform the HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).</li><li>• If the recovery is still not completed, replace the SYS board.</li></ul>

Replace parts	Remarks
SYS board	

### [2B31] Status of specified Electronic Filing or folder is undefined or being created/deleted

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if the specified Electronic Filing or folder exists. (If no, this error would not occur.)</li><li>• Delete the specified Electronic Filing or folder.</li><li>• Change the name of folder to be created.</li><li>• Perform the job in error again.</li></ul>

Replace parts	Remarks

[2B50] Image library error

[2B90] Insufficient memory capacity

Classification	Error item
Electronic Filing related error	



Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• If the error still occurs, replace the main memory.</li> <li>• Delete the job in progress or being set or in the HOLD/PRIVATE/PROOF/INVALID, and retry the job in error.</li> </ul>

Replace parts	Remarks

#### [2B51] List library error

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the Function list can be printed.</li> <li>• If it can be printed, retry the job which was in error.</li> <li>• If it cannot be printed, replace the main memory.</li> <li>• If it still cannot be printed, initialize the HDD (HS-75 File System Recovery mode → Initialize HDD → ALL).</li> </ul>

Replace parts	Remarks

#### [2BA0] Invalid Box password

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the password is correct.</li> <li>• Reset the password.</li> <li>• When this error occurs when printing the data in the Electronic Filing, perform the printing with the administrator's password.</li> </ul>

Replace parts	Remarks

#### [2BA1] A paper size or a color mode not supported in the Electronic Filing function is being selected.

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• The specified paper size, color mode or resolution cannot be used. Check the setting.</li> </ul>

Replace parts	Remarks

**[2BB1] Power failure**

**[2BD0] Power failure occurred during restoring of Electronic Filing**

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the power cable is connected properly and it is inserted securely.</li> <li>• Check if the power voltage is unstable.</li> </ul>

Replace parts	Remarks

**[2BE0] Machine parameter reading error**

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

**[2BF0] Exceeding maximum number of pages**

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Reduce the number of inserting pages and perform the job again.</li> </ul>

Replace parts	Remarks

**[2BF1] Exceeding maximum number of documents**

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Backup the documents in the box or folder to PC or delete them.</li> </ul>

Replace parts	Remarks

**[2BF2] Exceeding maximum number of folders**

Classification	Error item
Electronic Filing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Backup the folders in the box or folder to PC or delete them.</li> </ul>

Replace parts	Remarks

#### [ 4 ] Remote scanning related error

##### [2A20] System management module resource acquiring failure

Classification	Error item
Remote scanning related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Retry the job in error.</li><li>• If the error still occurs, turn the power OFF and then back ON, then retry the job in error.</li></ul>

Replace parts	Remarks

##### [2A31] Disabled WS Scan

Classification	Error item
Remote scanning related error	A job is performed while WS Scan function is disabled.

Check item	Measures
Setting	Check if WS Scan (Web Scanning Services) function is disabled on the TopAccess screen. If it is disabled, enable it.

Replace parts	Remarks

## [2A40] System error

Classification	Error item
Remote scanning related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Turn the power OFF and then back ON, then retry the job in error.</li></ul>

Replace parts	Remarks

## [2A51] Power failure

Classification	Error item
Remote scanning related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if the power supply voltage is inconstant.</li></ul>

Replace parts	Remarks

## [2A60] WS Scan user authentication failure

Classification	Error item
Remote scanning related error	WS Scan for job authentication failed.

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• When "1" (TTEC's WIA driver) is set for FS-08-9749 and also Windows Fax&amp;Scan is used Check if the user name that you used to log in Windows is a name registered as a user.</li><li>• When MFP panel or EWB Scan is used Check if the login user name is a name registered as a user.</li></ul>

Replace parts	Remarks

## [2A70] Remote Scan privilege check error

Classification	Error item
Remote scanning related error	A job is performed by a user without Remote Scan privilege.

Check item	Measures
Setting	Check if correct privilege is given to the user.

Replace parts	Remarks

**[2A71] WS Scan privilege check error**

Classification	Error item
Remote scanning related error	A job is performed by a user without WS Scan privilege.

Check item	Measures
Setting	Check if correct privilege is given to the user.

Replace parts	Remarks

**[2A72] e-Filing data access privilege check error (Scan Utility)**

Classification	Error item
Remote scanning related error	A user without e-Filing data access privilege tried to use Scan utility.

Check item	Measures
Setting	Check if correct privilege is given to the user.

Replace parts	Remarks

**[2A73] Error in the address book operation privilege check**

Classification	Error item
Remote scanning related error	

Check item	Measures
Setting	A user, who does not have the Address book Remote Access privilege, has performed export/import of the address book. Check if the correct privilege is given to a user.

**[ 5 ] E-mail related error****[2C10] System access abnormality****[2C32] File deletion failure**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (HS-75 File System Recovery mode→ Initialize HDD → ALL).</li> </ul>

Replace parts	Remarks

**[2C11] Insufficient memory**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• When there are running jobs, perform the job in error again after the completion of the running jobs.</li> <li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[2C12] Message reception error****[2C13] Message transmission error**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

**[2C14] Invalid parameter**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>When a template is used, form the template again.</li> <li>If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[2C15] Exceeding file capacity**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset and extend the "Maximum send to E-mail/iFAX size" or reduce the number of pages and perform the job again.</li> </ul>

Replace parts	Remarks

**[2C20] System management module access abnormality**

**[2C21] Job control module access abnormality**

**[2C22] Job control module access abnormality**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> <li>Check if there are no other running jobs and perform the HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).</li> <li>If the recovery is still not completed, replace the SYS board.</li> </ul>

Replace parts	Remarks

**[2C30] Directory creation failure**

**[2C31] File creation failure**

**[2C33] File access failure**

Classification	Error item
E-mail related error	



Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the access privilege to the storage directory is writable.</li> <li>• Check if the server or local disk has a sufficient space in disk capacity.</li> </ul>

Replace parts	Remarks

**[2C40] Image conversion abnormality**  
**[2C62] Memory acquiring failure**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• Replace the main memory and perform the job again.</li> </ul>

Replace parts	Remarks
Main memory	

**[2C43] Encryption error**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

**[2C44] Encryption PDF enforced mode error**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Reset the encryption and perform the job in error again.</li> <li>• If an image file not encrypted is created, consult your administrators.</li> </ul>

Replace parts	Remarks

### [2C45] Meta data creation error (Scan to Email)

Classification	Error item
E-mail related error	Creation of meta data failed when a user tried to perform meta scan for Scan to Email.

Check item	Measures
Setting	Check the template settings. Perform the job in error again. If the error still occurs, turn the power OFF and then back ON, and then perform the job in error again.

Replace parts	Remarks

### [2C60] HDD full failure during processing

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Delete the job in progress or being set or in the HOLD/PRIVATE/PROOF/INVALID, and perform it again.</li><li>• Check if the server or local disk has a sufficient space in disk capacity.</li><li>• Check that there is enough space in the server or local disk.</li></ul>

Replace parts	Remarks

### [2C61] Address Book reading failure

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Turn the power OFF and then back ON. Perform the job in error again.</li><li>• Reset the data in the Address Book and perform the job again.</li></ul>

Replace parts	Remarks

### [2C63] Terminal IP address unset

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the Terminal IP address.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [2C64] Terminal mail address unset

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the Terminal mail address.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [2C65] SMTP address unset

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the SMTP address and perform the job.</li> <li>Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [2C66] Server time-out error

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check if the SMTP server is operating properly.</li> </ul>

Replace parts	Remarks

**[2C69] SMTP server connection error**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the login name and password of SMTP server and perform the job again.</li> <li>Check if the SMTP server is operating properly.</li> </ul>

Replace parts	Remarks

**[2C6A] HOST NAME error (No RFC error)**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check if there is an illegal character in the device name.</li> <li>Delete the illegal character and reset the appropriate device name.</li> </ul>

Replace parts	Remarks

**[2C6B] Terminal mail address error**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check the SMTP Authentication method.</li> <li>Check if there is an illegal character in the Terminal mail address.</li> <li>Set the correct SMTP Authentication method or delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.</li> </ul>

Replace parts	Remarks

**[2C6C] Destination mail address error (No RFC error)**

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if there is an illegal character in the Destination mail address.</li> <li>• Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.</li> </ul>

Replace parts	Remarks

#### [2C70] SMTP client OFF

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Set the SMTP valid and perform the job again.</li> </ul>

Replace parts	Remarks

#### [2C71] SMTP authentication ERROR

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check that SMTP authentication method, login name and password are correct, then perform authentication again.</li> </ul>

Replace parts	Remarks

#### [2C72] POP Before SMTP ERROR

Classification	Error item
E-mail related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check that both the POP Before SMTP setting and POP3 setting are correct, then perform authentication again.</li> </ul>

Replace parts	Remarks

**[2CC1] Power failure**

<b>Classification</b>	<b>Error item</b>
E-mail related error	

<b>Check item</b>	<b>Measures</b>
Setting	<ul style="list-style-type: none"><li>• Check if the power cable is connected properly and it is inserted securely.</li><li>• Check if the power voltage is unstable.</li></ul>

<b>Replace parts</b>	<b>Remarks</b>

**[ 6 ] File sharing related error**  
**[2D10] System access abnormality**  
**[2D32] File deletion failure**  
**[2DA6] File deletion failure**  
**[2DA7] Resource acquiring failure**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Delete some files in the shared folder by using Explorer because of automatic/manual file deletion failure (in case of [2DA6])</li> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• If the error still occurs, first, check if there are no jobs existing and then perform HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).</li> </ul>

Replace parts	Remarks

**[2D11] Insufficient memory**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• When there are running jobs, perform the job in error again after the completion of the running jobs.</li> <li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[2D12] Message reception error**  
**[2D13] Message transmission error**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

**[2D14] Invalid parameter**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• When a template is used, form the template again.</li> <li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[2D15] Exceeding the maximum size for file sharing**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Divide the file in error into several files and retry. Or retry the job in a single-page format.</li> </ul>

Replace parts	Remarks

**[2D30] Directory creation failure****[2D31] File creation failure****[2D33] File access failure**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the access privilege to the storage directory is writable.</li> <li>• Check if the server or local disk has a sufficient space in disk capacity.</li> </ul>

Replace parts	Remarks

**[2D40] Image conversion abnormality**

Classification	Error item
File sharing related error	



Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> <li>• Replace the main memory and perform the job again.</li> </ul>

Replace parts	Remarks

#### [2D43] Encryption error

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Turn the power OFF and then back ON. Perform the job in error again.</li> </ul>

Replace parts	Remarks

#### [2D44] Encryption PDF enforced mode error

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Reset the encryption and perform the job in error again.</li> <li>• If an image file not encrypted is created, consult your administrators.</li> </ul>

Replace parts	Remarks

#### [2D45] Meta data creation error (Scan to File)

Classification	Error item
File sharing related error	Creation of meta data failed when a user tried to perform meta scan for Scan to File.

Check item	Measures
Setting	Check the template settings. Perform the job in error again. If the error still occurs, turn the power OFF and then back ON, and then perform the job in error again.

Replace parts	Remarks

**[2D62] File server connection error**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check the IP address or path of the server.</li> <li>• Check if the server is operating properly.</li> </ul>

Replace parts	Remarks

**[2D63] Invalid network path**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check the network path.</li> <li>• If the path is correct, turn the power OFF and then back ON, and perform the job again.</li> </ul>

Replace parts	Remarks

**[2D64] Login failure**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Reset the login name and password. Perform the job.</li> <li>• Check if the account of the server is properly set up.</li> </ul>

Replace parts	Remarks

**[2D65] Exceeding documents in folder: Creating new document is failed**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Delete some documents in the folder.</li> </ul>

Replace parts	Remarks

**[2D66] Storage capacity full failure during processing**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Delete the job in progress or being set or in the HOLD/PRIVATE/PROOF/INVALID, and perform it again.</li> <li>• Check if the server or local disk has a sufficient space in disk capacity.</li> <li>• Check that there is enough space in the server or local disk.</li> </ul>

Replace parts	Remarks

**[2D67] FTP service not available**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the setting of FTP service is valid.</li> </ul>

Replace parts	Remarks

**[2D68] File sharing service not available**

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the setting of SMB is valid.</li> </ul>

Replace parts	Remarks

**[2D69] NetWare service not available**

Classification	Error item
File sharing related error	When a user tried to perform Scan to File with NetWare protocol even though the NetWare setting is disabled, a message notifies the user that NetWare service is disabled.

Check item	Measures
Setting	Check if the Netware setting is enabled.

Replace parts	Remarks

### [2DC1] Power failure

Classification	Error item
File sharing related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the power cable is connected properly and it is inserted securely.</li> <li>• Check if the power voltage is unstable.</li> </ul>

Replace parts	Remarks

### [2E10] USB storage system access abnormality

Classification	Error item
File sharing related error	Job status is invalid.

Check item	Measures
Setting	<p>Turn the power OFF and then back ON. Perform the job in error again.</p> <p>If the error still occurs, first, check if there are no jobs existing and then perform HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).</p>

Replace parts	Remarks

### [2E11] Insufficient memory capacity for USB storage

Classification	Error item
File sharing related error	Memory in the USB folder is not sufficient.

Check item	Measures
Setting	<p>If there is a job in progress, perform the job in error again after the job in progress is finished. If the error still occurs, turn the power OFF and then back ON, and then perform the job in error again.</p>

Replace parts	Remarks

**[2E12] Message reception error in USB storage**  
**[2E13] Message transmission error in USB storage**

Classification	Error item
File sharing related error	Job status is invalid.

Check item	Measures
Setting	Turn the power OFF and then back ON. Perform the job in error again.

Replace parts	Remarks

**[2E14] Invalid parameter for USB storage**

Classification	Error item
File sharing related error	The specified parameter is invalid.

Check item	Measures
Setting	If a template is being used, recreate the template. If the error still occurs, turn the power OFF and then back ON. Perform the job in error again.

Replace parts	Remarks

**[2E15] Exceeding maximum file capacity**

Classification	Error item
File sharing related error	There are too many files in the folder.

Check item	Measures
Setting	Delete some files in the folder. Perform the job in error again.

Replace parts	Remarks

**[2E30] Directory creation failure in USB storage**

Classification	Error item
File sharing related error	Creation of a directory failed.

Check item	Measures
Setting	Check if access privilege to the storage directory is writable. Check if the server or local disk has sufficient space in its disk capacity.

Replace parts	Remarks

#### [2E31] File creation failure in USB storage

Classification	Error item
File sharing related error	Creation of a file failed.

Check item	Measures
Setting	Check if access privilege to the storage directory is writable. Check if the server or local disk has sufficient space in its disk capacity.

Replace parts	Remarks

#### [2E32] File deletion failure in USB storage

Classification	Error item
File sharing related error	Deletion of a file failed.

Check item	Measures
Setting	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 HDD formatting (HS-75 File System Recovery mode → Initialize HDD → ALL).

Replace parts	Remarks

#### [2E33] File access failure in USB storage

Classification	Error item
File sharing related error	Access to a file failed.

Check item	Measures
Setting	Check if access privilege to the storage directory is writable. Check if the server or local disk has sufficient space in its disk capacity.

Replace parts	Remarks

**[2E40] Image conversion abnormality in USB storage**

Classification	Error item
File sharing related error	Conversion of image file format failed.

Check item	Measures
Setting	Turn the power OFF and then back ON. Perform the job in error again. Replace the main memory and then perform the job in error again.

Replace parts	Remarks

**[2E43] Encryption failure in USB storage**

Classification	Error item
File sharing related error	Creation of a file failed due to PDF encryption error.

Check item	Measures
Setting	Turn the power OFF and then back ON. Perform the job in error again.

Replace parts	Remarks

**[2E44] Encryption PDF enforced mode error in USB storage**

Classification	Error item
File sharing related error	Creation of an image file is not permitted.

Check item	Measures
Setting	Reset the encryption and perform the job in error again. To create an image file not encrypted, consult your administrator.

Replace parts	Remarks

**[2E45] Meta data creation error in USB storage (Scan to File)**

Classification	Error item
File sharing related error	Creation of meta data failed.

Check item	Measures
Setting	Check the template settings. Perform the job in error again. If the error still occurs, turn the power OFF and then back ON, and then perform the job in error again.

Replace parts	Remarks

#### [2E65] File creation error due to insufficient USB folder capacity

Classification	Error item
File sharing related error	Creation of a new file failed because there were too many files in the USB folder

Check item	Measures
Setting	Delete unnecessary files in the folder.

Replace parts	Remarks

#### [2E66] HDD full failure in USB storage

Classification	Error item
File sharing related error	HDD became full while storing data in HDD.

Check item	Measures
Setting	Delete the job in progress or being set or in the HOLD/ PRIVATE/PROOF/INVALID, and perform it again. Check if the server or local disk has a sufficient space in disk capacity. Check that there is enough space in the USB memory.

Replace parts	Remarks

#### [2EC1] Power failure in USB storage

Classification	Error item
File sharing related error	Power failure occurred.

Check item	Measures
Setting	Check if the power cable is connected properly and inserted securely. Check if the power voltage is unstable.

Replace parts	Remarks



## [ 7 ] E-mail reception related error

### [3A10] E-mail MIME error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• The format of the mail is not corresponding to MIME 1.0.</li><li>• Request the sender to retransmit the mail in the format corresponding to MIME 1.0.</li></ul>

Replace parts	Remarks

### [3A20] E-mail analysis error

### [3B10] E-mail format error

### [3B40] E-mail decode error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• These errors occur when the mail data is damaged from the transmission to the reception of the mail.</li><li>• Request the sender to retransmit the mail.</li></ul>

Replace parts	Remarks

### [3A30] Partial mail time-out error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• The partial mail is not received in a specified period of time.</li><li>• Request the sender to retransmit the partial mail, or set the time-out period of the partial mail longer.</li></ul>

Replace parts	Remarks

### [3A40] Partial mail related error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The format of the partial mail is not corresponding to this equipment.</li> <li>Request the sender to remake and retransmit the partial mail in RFC2046 format.</li> </ul>

Replace parts	Remarks

### [3A50] Insufficient HDD capacity error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>These errors occur when the HDD capacity is not sufficient for a temporary concentration of the jobs, etc.</li> <li>Request the sender to retransmit after a certain period of time, or divide the mail into more than one.</li> <li>Insufficient HDD capacity error also occurs when printing is disabled for no printing paper.</li> <li>In this case, supply the printing paper.</li> </ul>

Replace parts	Remarks

### [3A70] Error of partial mail interruption

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>This error occurs when the partial mail reception setting becomes OFF during the partial mail reception.</li> <li>Reset the partial mail reception setting ON and then request the sender to retransmit the mail.</li> </ul>

Replace parts	Remarks

### [3A80] Partial mail reception setting OFF

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reset the partial mail reception setting ON and then request the sender to retransmit the mail.</li> </ul>

Replace parts	Remarks

### [3B20] Content-Type error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The format of the attached file is not supported by this equipment (TIFF-FX).</li> <li>Request the sender to retransmit the file in TIFF-FX.</li> </ul>

Replace parts	Remarks

### [3C10] TIFF analysis error

### [3C13] TIFF analysis error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>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).</li> <li>Request the sender to retransmit the mail.</li> </ul>

Replace parts	Remarks

### [3C20] TIFF compression error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The compression method of the TIFF file is not acceptable for this equipment. (Acceptable: MH/MR/MMR/JBIG)</li> <li>Request the sender to retransmit the file in the acceptable compression method.</li> </ul>

Replace parts	Remarks

### [3C30] TIFF resolution error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• 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)</li><li>• Request the sender to retransmit the file in the acceptable resolution.</li></ul>

Replace parts	Remarks

### [3C40] TIFF paper size error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• The paper size of the TIFF file is not acceptable for this equipment. (Acceptable: A4, B4, A3, B5, LT, LG, LD or ST)</li><li>• Request the sender to retransmit the file in the acceptable paper size.</li></ul>

Replace parts	Remarks

### [3C50] Offramp destination error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• These errors occur when the FAX number of the offramp destination is incorrect.</li><li>• Request the sender to correct the FAX number of offramp destination and then retransmit the mail.</li></ul>

Replace parts	Remarks

### [3C60] Offramp security error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• These errors occur when the FAX number of the offramp destination is not on the Address Book.</li> <li>• Check if the FAX number of the offramp destination is correctly entered or the number has not been changed.</li> </ul>

Replace parts	Remarks

### [3C70] Power failure error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the mail is recovered after turning ON the power again.</li> <li>• Request the sender to retransmit the mail if it is not recovered.</li> </ul>

Replace parts	Remarks

### [3C90] Offramp Fax transmission disable error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	Offramp Fax transmission disable error has been detected in the received mail. Confirm if the Fax Send Function of MFP setting is disable or not.

### [3D10] Destination address error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the setting of the server or DNS is correct. Correct if any of the setting is incorrect.</li> <li>• When the content of the setting is correct, confirm the sender if the destination is correct.</li> </ul>

Replace parts	Remarks

### [3D20] Offramp destination limitation error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Inform the sender that the transfer of the FAX data over 40 is not supported.</li></ul>

Replace parts	Remarks

### [3D30] FAX board error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• This error occurs when the FAX board is not installed or the FAX board has an abnormality.</li><li>• Check if the FAX board is correctly connected.</li></ul>

Replace parts	Remarks

### [3E10] POP3 server connection error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• 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.</li></ul>

Replace parts	Remarks

### [3E20] POP3 server connection time-out error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Check if POP3 server to be connected is operating properly.</li><li>• Check if the LAN cable is correctly connected.</li></ul>

Replace parts	Remarks

### [3E30] POP3 login error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the POP3 server login name and password set for this equipment are correct.</li> </ul>

Replace parts	Remarks

### [3E40] POP3 Login Type ERROR

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check that the login type (Auto, POP3 or APOP) to the POP3 server is correct.</li> </ul>

Replace parts	Remarks

### [3F10] File I/O error

### [3F20] File I/O error

Classification	Error item
E-mail reception related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• These errors occur when the mail data is not transferred properly to the HDD.</li> <li>• Request the sender to retransmit the mail.</li> <li>• Replace the HDD if the error still occurs after retransmission.</li> </ul>

Replace parts	Remarks

### 8.3.25 Printer function error

#### [4011] Print job cancellation

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• This message appears when deleting the job on the screen.</li></ul>

#### [4021] Print job power failure

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• When there are running jobs, perform the job in error again after the completion of the running jobs.</li><li>• If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li></ul>

#### [4031] HDD full error

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"><li>• Delete unnecessary private print jobs and invalid department print jobs.</li></ul>

#### [4032] Exceeding the upper limit of the registration number for the sharing jobs

Classification	Error item
Printer function error	

Check item	Measures
Setting	Check that no unnecessary shared jobs yet to be printed are remaining. If there are such jobs, delete them.

#### [4033] Network setting error

Classification	Error item
Printer function error	

Check item	Measures
Setting	The address applicable to this equipment has not been registered in the cooperating machine list. Add the address applicable to this equipment.



**[4041] User authentication error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Perform the authentication or register as a user, and then perform the printing again.</li> </ul>

**[4042] Department authentication error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check department information registered in this equipment.</li> </ul>

**[4043] Project authentication error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check project information registered in this equipment.</li> </ul>

**[4045] Problem in LDAP server connection or LDAP server authorization settings**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Confirm the administrator for the LDAP server connection or LDAP server authorization settings.</li> </ul>

**[4111] Quota over error (The number of the assigned pages set by department and user management has reached 0.)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The number of the assigned pages set by the department and the number of those assigned by user management have both reached 0. Assign the number of the pages again or perform initialization.</li> </ul>

**[4112] Quota over error (The number of the assigned pages set by user management has reached 0.)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The number of the assigned pages set by the user management has reached 0. Assign the number of the pages again or perform initialization.</li> </ul>

**[4113] Quota over error (The number of the assigned pages set by department management has reached 0.)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The number of the assigned pages set by the department management has reached 0. Assign the number of the pages again or perform initialization.</li> </ul>

**[4121] Job canceling due to external counter error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ol style="list-style-type: none"> <li>Drop a coin in. Perform the print job in error again.</li> <li>Insert a key card and then perform the print job in error again, or consult your administrator.</li> <li>Insert a key copy counter and then perform the print job in error again.</li> <li>Reset the scheduled print job and then perform the print job in error again.</li> </ol>

**[4211] Printing data storing limitation error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Select "Normal Print", and then perform the printing again.</li> </ul>

**[4212] e-Filing storing limitation error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Select "Normal Print", and then perform the printing again.</li> </ul>

#### [4213] File storing limitation error

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The file storing function is set to "disabled". Check the setting of the equipment.</li> </ul>

#### [4214] Fax/Internet Fax transmission limitation error

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check the settings of this equipment.</li> </ul>

#### [4221] Private-print-only error

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Select "Private", and then perform the printing again.</li> </ul>

#### [4231] Hardcopy security printing error

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Hardcopy security printing cannot be performed because the function is restricted in the self-diagnosis mode.</li> </ul>

#### [4241] No Printer kit / Printer function disabled

Classification	Error item
Printer function error	Printing functions are disabled since the Printer kit or Printer/Scanner kit is not installed firmly

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check that the Printer kit or Printer/Scanner kit is installed firmly.</li> </ul>

**[4242] No Scanner kit / Scanner function disabled**

Classification	Error item
Scanner function error	Internet FAX or storing to a share folder function using a network fax driver is disabled since the Scanner kit is not installed firmly, but the Printer kit is installed.

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check that the Scanner kit is installed firmly.</li> </ul>

**[4243] Sharing job - An error caused by not having a license**

Classification	Error item
Printer function error	

Check item	Measures
Setting	Check that the license of the multi station print option is installed. If it is not, install it.

**[4244] Sharing job - An error caused by function disabled**

Classification	Error item
Printer function error	

Check item	Measures
Setting	Check from TopAccess whether the function of the multi station print option is disabled. If it is disabled, enable it.

**[4245] OCR functions not available**

Classification	Error item
Printer function error	

Check item	Measures
Setting	Check whether the OCR license or an extended memory is installed.

**[4311] Not being authorized to perform JOB**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Confirm the administrator for the JOB authorization.</li> </ul>

**[4312] Not authorized to store a file**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>The user has not been authorized to perform this operation. Ask your administrator.</li> </ul>

**[4313] No privilege for e-Filing storage****[4314] No privilege for Fax / Internet Fax transmission****[4321] No privilege for print settings**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check the privilege given, or request the administrator to add the necessary privilege.</li> </ul>

**[4411] Image data creation failure)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<p>Check if the file to be printed is broken. Perform printing again or use another printer driver.</p> <ul style="list-style-type: none"> <li>Network print: Perform the print job in error again, or use another printer driver (e.g.; PS3, Universal).</li> <li>Direct print: Check if the file is corrupted (e.g. checking if the file is displayed on your PC monitor), or check if the file format is supported by this equipment.</li> </ul>

**[4412] Double-sign encoding error**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>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.</li> </ul>

**[4611] Font download failure (reached the registration limit)****[4612] Font download failure (HDD full)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Delete one or more font already registered.</li> </ul>

**[4613] Font download failure (others)**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Reattempt the downloading. Recreate font data and reattempt the downloading.</li> </ul>

**[4621] Font deletion failure**

Classification	Error item
Printer function error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>Check if the font to be deleted is registered (or pre-registered) in this equipment.</li> </ul>



**[4721] Connection Error of Multi Station Print (Unexpected combination of ROM version)**

Classification	Error item
Printer function error	Connection failure of Multi Station Print because of an unexpected ROM version combination.

Check item	Measures
Check the version of the connected equipment.	Then update the version of the unconnectable equipment to become the same as that for the connected one.

## [4F10] System abnormality

Classification	Error item
Printer function error	Printing was not performed successfully due to other abnormalities.

Check item	Measures
Setting	<ol style="list-style-type: none"><li>1. Perform the job in error again. If the error still occurs, turn the power OFF and then back ON, and perform the job again.</li><li>2. Collect the debug log with USB media.  P. 8-2 "8.1.2 Collection of debug logs with a USB device"</li><li>3. Initialize HDD. Refer to step 3 and later in "[E] Replace / Format HDD" in  P. 9-23 "9.2.3 Precautions and procedures when replacing the HDD".</li></ol>

## 8.3.26 TopAccess related error/Communication error with external application

### [5010] Internal setting error

Classification	Error item
Communication error with external application	There is a print job, a proof print job, a private print job, a print job without a set department code, a scan job or a fax job remaining in this equipment.

Check item	Measures
Setting	Delete the remaining jobs. Turn the power OFF and then back ON. Until the initial registration is begun, do not press any button on the control panel or start any print or fax job.

Replace parts	Remarks

### [5012] Authentication error

Classification	Error item
Communication error with external application	A temporary password downloaded from e-Bridge and entered in this equipment is not valid, or the permanent password set in the e-Bridge is not valid.

Check item	Measures
Setting	Perform the job again at a later date.

Replace parts	Remarks

### [5013] e-Bridge communication error

Classification	Error item
Communication error with external application	Communication is attempted while the e-Bridge is enabled for some reason such as version upgrade.

Check item	Measures
Setting	Check if the MFP is connected to the eBR2 server.

Replace parts	Remarks

### [5014] No SSL certificate

Classification	Error item
Communication error with external application	There is no SSL certificate or the certificate is not in a correct file format.



Check item	Measures
Setting	Install the correct SSL certificate.

Replace parts	Remarks

#### [5015] Invalid SSL certificate

Classification	Error item
Communication error with external application	SSL certificate is not valid.

Check item	Measures
Setting	Install the correct SSL certificate.

Replace parts	Remarks

#### [5016] Expired SSL certificate

Classification	Error item
Communication error with external application	SSL certificate is expired.

Check item	Measures
Setting	Set the correct time.

Replace parts	Remarks

#### [5017] Other SSL certificate related error

Classification	Error item
Communication error with external application	SSL certificate is invalid.

Check item	Measures
Setting	Install the correct SSL certificate.

Replace parts	Remarks

**[5018] Invalid DNS error**

Classification	Error item
Communication error with external application	DNS address is invalid.

Check item	Measures
Setting	Set the correct DNS address. If any setting is needed in DNS, consult your administrators.

Replace parts	Remarks

**[5019] Connection error**

Classification	Error item
Communication error with external application	Settings for initial URL and proxy are incorrect.

Check item	Measures
Setting	Perform the correct settings for initial URL and proxy.

Replace parts	Remarks

**[501A] Proxy error**

Classification	Error item
Communication error with external application	IP address or port for proxy setting is invalid.

Check item	Measures
Setting	Set the correct IP address or port for the proxy setting. If any setting is needed in proxy, consult your administrators.

Replace parts	Remarks

**[501B] No URL (host/port) or invalid path**

Classification	Error item
Communication error with external application	Initial URL is invalid.

Check item	Measures
Setting	Set the correct initial URL.

**[5030] HTTP communication error**

Classification	Error item
Communication error with external application	An error in the HTTP communication

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check the URL for communication.</li> <li>• Check that the valid IP address is assigned to connect to the server.</li> </ul>


**[50FF] eBR2 internal error**

Classification	Error item
MFP internal error	A fatal error occurred in the MFP

Check item	Measures
Setting	Restart the MFP, and then try again.

**[5110] Toner cartridge detection error**

Classification	Error item
TopAccess related error	Toner cartridge PC board access abnormality

Check item	Measures
Toner cartridge	Refer to the troubleshooting for C911 error.  P. 8-203 " [C911] Toner cartridge PC board access abnormality"

**[5410] MFP registration error**

Classification	Error item
MFP registration error	An invalid registration by accessing a cloud server using a valid serial No. of the equipment has been performed. Or database in the cloud server has been damaged.

Check item	Measures
Setting of a cloud server	Retry the registration. Contact the administrator of the cloud server.

**[5411] MFP registration lock error**

Classification	Error item
MFP registration error	Data to be sent to a cloud server from the equipment has been damaged or incorrect authentication data have been sent. Or TOSHIBA equipment which has not been supported by the cloud server has been tried to be registered.

Check item	Measures
None	Contact the administrator of the cloud server.

**[5412] Server busy error**

Classification	Error item
Server busy error	The server cannot handle periodic communication from the equipment due to overloading. This phenomenon occurs when a busy signal is sent from the server at the start of the periodic communication of the equipment.

Check item	Measures
None	Not required

**[5413] Server error**

Classification	Error item
Server error	A fatal error has occurred on the cloud server.

Check item	Measures
Setting of a cloud server	Contact the administrator of the cloud server.

**[5414] Invalid device file error**

Classification	Error item
Invalid device file	A device file to be sent to a cloud server from the equipment has been damaged.

Check item	Measures
Communication environment	connection of network devices. If there is no problem with the network environment, reinstall the system software.

**[5415] Communication error**

Classification	Error item
Communication error	Communication with a cloud server has failed.

Check item	Measures
Setting	Check the connection and the settings of network devices and the cloud server.

**[5416] Setting files / system software update error**

Classification	Error item
Update failure of system software / setting files of the equipment	The system software and the setting files of the equipment cannot be updated because there is an ongoing job.

Check item	Measures
Communication environment	Retry the update of the setting files and the system software. If the same error occurs more than one time, contact the administrator of the cloud server.

**[5417] System software error**

Classification	Error item
Invalid system software / setting files of the equipment	The system software and the setting files of the equipment that have been downloaded from a cloud server have been damaged.

Check item	Measures
Communication environment	<p>Retry the downloading of the setting files and the system software.</p> <p>Check if the network cable is disconnected. Check the connection of network devices. If there is no problem with the network environment, contact the administrator of the cloud server.</p>

**[5BD0] Power failure during restoration**

Classification	Error item
TopAccess related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the power cable is connected properly and is inserted securely.</li> <li>• Check if the power voltage is unstable.</li> <li>• Reattempt the restoration of the database (Address Book, templates, F-code (Mailbox) or user information).</li> </ul>

Replace parts	Remarks

**[5C10] FAX Unit attachment error**

Classification	Error item
TopAccess related error	

Check item	Measures
Setting	<ul style="list-style-type: none"> <li>• Check if the FAX Unit is attached.</li> <li>• Check if there is any damage or abnormality on the FAX board.</li> <li>• Check if the connector on the FAX board is connected properly.</li> </ul>

Replace parts	Remarks

**[5C11] FAX Unit attachment error**

<b>Classification</b>	<b>Error item</b>
TopAccess related error	

<b>Check item</b>	<b>Measures</b>
Setting	<ul style="list-style-type: none"><li>• The address specified for the network FAX is not registered on the Address Book. Register it.</li></ul>

<b>Replace parts</b>	<b>Remarks</b>

### 8.3.27 MFP access error

#### [6007] Unsuccessful User Login to MFP

Classification	Error item
MFP access error	User authentication cannot be done because connection to the authentication server has failed.

Check item	Measures
Setting	Check if the operating status of the server and connection from an MFP have been confirmed.

#### [6008] Failed to connect on External Role Base Access Control (LDAP) Server

Classification	Error item
MFP access error	User authentication cannot be done because connection to an external RBAC server has failed.

Check item	Measures
Setting	Check if the operating status of the server and connection from the MFP have been confirmed.

#### [6009] User login failure to an MFP (during NIC initialization)

Classification	Error item
MFP access error	Connection to an authentication server failed since NIC initialization is being performed.

Check item	Measures
Setting	Perform the user log-in after NIC initialization has been completed.

#### [600A] Department code not assigned to a user

Classification	Error item
MFP access error	Authentication failed since the department code has not been assigned to the user.

Check item	Measures
Setting	Assign the department code to the user.

#### [6011] User automatic registration failure (due to an upper limit of the user registration number)

Classification	Error item
MFP access error	User automatic registration failed since the user registration number has reached the upper limit.

Check item	Measures
Setting	Delete unnecessary registered users.

**[6013] Connection failure to the authentication server**

Classification	Error item
MFP access error	Failed to connect to the authentication server

Check item	Measures
Setting	Check that the server setting is proper by accessing [TopAccess]→[Administration]→[Maintenance]→[Directory Service]. When "Auto" is selected as the authentication method, this error may output to the log depending on the environment.

**[6014] The authentication server that cannot be accessed is detected.**

Classification	Error item
MFP access error	The authentication server that cannot be accessed is detected.

Check item	Measures
Setting	Check if the authentication server is down since the access to the authentication server is not available. The unavailable authentication server is accessed again if the time set in FS-08-8788 passes or the power of the equipment is turned OFF and back ON.

**[6031] Invalid setting: Invalid CL code**

Classification	Error item
MFP access error	A card is not usable as its CL code does not match.

Check item	Measures
Setting	Use an available card.

**[6032] Card related error: Expired card**

Classification	Error item
MFP access error	The card cannot be used because it has expired.

Check item	Measures
Setting	Use a card with a valid expiration.

**[6033] Card related error: Invalid flag data (no room-entry data)**

Classification	Error item
MFP access error	The card cannot be used because no room-entry data are recorded in it.

Check item	Measures
Setting	Use a correct card that has been used for entering the room.



**[6034] Card related error: Invalid flag data (invalid card data)**

Classification	Error item
MFP access error	The card cannot be used because the data required for the use of the card are not correctly set.

Check item	Measures
Setting	Use a valid card.

**[6035] Invalid setting: Invalid flag information (not set in an MFP)**

Classification	Error item
MFP access error	The necessary information in order to use a card is not set in the equipment.

Check item	Measures
Setting	Use an available card or ask the administrator to register the information.

**[6036] Invalid setting: Invalid flag information (Information between an MFP and card does not match)**

Classification	Error item
MFP access error	A card is not usable since its information and the value set in the equipment do not match.

Check item	Measures
Setting	Use an available card or ask the administrator to register the information.

**[6037] Permission flag for use not available**

Classification	Error item
MFP access error	A card is not usable since the privilege to use the device or equipment is not applied.

Check item	Measures
Setting	Use an available card or request the administrator to apply the privilege.

**[6040] Card authentication: Read error**

Classification	Error item
MFP access error	Card information could not be obtained correctly.

Check item	Measures
Setting	Reattempt card scanning. If the error persists even though the card scanning is attempted several times, the card information may be broken or the card reader may be damaged.

#### [6041] Card authentication: Card related error

Classification	Error item
MFP access error	Card data cannot be obtained correctly.

Check item	Measures
Setting	Reattempt scanning. If the error still occurs after reattempting scanning for several times, card data may be corrupted or the card reader may be out of order.

#### [6042] Card authentication: Card setting error

Classification	Error item
MFP access error	The self-diagnostic code required for card authentication is not set in this equipment correctly.

Check item	Measures
MFP access error	Set the correct self-diagnostic code.

#### [6121] Automatic Secure Erase failure

Classification	Error item
MFP access error	The automatic secure erase fails.

Check item	Measures
Setting	Data overwriting failed for some reason. If the error still occurs after rebooting the equipment, start up using the following procedure:[3] + [C] + [POWER] → 3. HDD formatting → Reinstallation of software or HDD replacement

#### [6131] MFP fail to verify clock with Time Server

Classification	Error item
MFP access error	The clock in MFP cannot be synchronized with the time server.

Check item	Measures
Setting	Check that the time server is properly operating. Check that the path to the time server is properly operating. Check that the following is correctly set: TopAccess → [Administrator] → [Setup] → [General] → [SNTP Service]

### 8.3.28 Maintenance error

[7101] System firmware installation failure

[7103] Engine firmware installation failure

[7105] Scanner firmware installation failure

[7111] Patch installation failure

[7113] Plug-in installation failure

[7115] HDD data installation failure

[7117] DF firmware installation failure

[7119] PFC firmware installation failure

Classification	Error item
Maintenance error	System firmware installation failed. ([7101]) Engine firmware installation failed. ([7103]) Scanner firmware installation failed. ([7105]) Patch installation failed. ([7111]) Plug-in installation failed. ([7113]) HDD data installation failed. ([7115]) DF firmware installation failed. ([7117]) PFC firmware installation failed. ([7119])

Check item	Measures
Setting	Software package file may have a problem or may be corrupted. Check the software package file and then reattempt the installation.

Replace parts	Remarks

#### [7109] Printer driver update failure

Classification	Error item
Maintenance error	Printer driver upload failed.

Check item	Measures
Setting	Printer driver file may have a problem or may be corrupted. Check the package file and then reattempt the upload.

#### [710B] Point and Print data installation failure

Classification	Error item
Maintenance error	Point and Print data upload failed.

Check item	Measures
Setting	Point and Print data may have a problem or may be corrupted. Check the package file and then reattempt the upload.

### [710F] Language Pack installation failure

Classification	Error item
Maintenance error	Language Pack installation failed.

Check item	Measures
Setting	Language Pack file may have a problem or may be corrupted. Check the package file and then reattempt the installation.

### [711D] License key returning failure

Classification	Error item
Maintenance error	The one-time dongle license fails to be returned to USB media.

Check item	Measures
Setting	Return the license to the USB media used for installing the license. Check that the USB media is correctly installed. <b>Notes:</b> The GP-1080 IPsec Enabler cannot return to the USB media due to license problem. The GP-1070 Overwrite Enabler cannot return to the USB media in the high security (FS-08-8911: 3).

### [711F] License key installation failure

Classification	Error item
Maintenance error	The one-time dongle license fails to be installed.

Check item	Measures
Setting	Check that the USB media is correctly installed.

### [7121] Unsuccessful Import of Address Book Data

Classification	Error item
Maintenance error	The import of Address Book data failed.

Check item	Measures
Setting	Check if you are importing a valid file.

### [7123] Unsuccessful Import of Template Data

Classification	Error item
Maintenance error	The import of template data failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[7125] Unsuccessful Import of MailBox Data**

Classification	Error item
Maintenance error	The import of Mailbox data failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[7127] Unsuccessful Import of Format File for Metascan**

Classification	Error item
Maintenance error	The import of Meta Scan format file failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[7129] Unsuccessful Import of User Information**

Classification	Error item
Maintenance error	The import of user information failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[712B] Unsuccessful Import of Role Information**

Classification	Error item
Maintenance error	The import of role information failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[712D] Unsuccessful Import of Department Data**

Classification	Error item
Maintenance error	The import of department data failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[712F] Unsuccessful Import of ICC Profile**

Classification	Error item
Maintenance error	The import of ICC Profile failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[7131] Failed to import Print Data Converter**

Classification	Error item
Maintenance error	The import of Print Data Converter failed.

Check item	Measures
Setting	Check if you are importing a valid file.

**[7132] Failed to import any users**

Classification	Error item
Maintenance error	A part of the user information was not imported.

Check item	Measures
Setting	There is a possibility that the amount of user information has exceeded the maximum for registration during the import or the file contains invalid data. Check if you are importing a valid file and also that the amount of user information does not exceed the maximum.

**[7133] Failed to import any user, role and group information**

Classification	Error item
Maintenance error	A part of the user, role or group information was not imported.

Check item	Measures
Setting	There is a possibility that the amount of the combined user information has exceeded the maximum for registration during the import or the file contains invalid data. Check if you are importing a valid file and also that the amount of the combined user information does not exceed the maximum.

**[7134] Department data import partial failure**

Classification	Error item
Maintenance error	A part of the department data was not imported.

Check item	Measures
Setting	There is a possibility that the amount of department data has exceeded the maximum for registration during the import or the file contains invalid data. Check if you are importing a valid file and also that the amount of department data does not exceed the maximum.

**[7139] Unsuccessful Acquisition of Certificate from SCEP Server**

Classification	Error item
Maintenance error	Failed to import the certificate by SCEP

Check item	Measures
Setting	Check the SCEP server and the SCEP setting (automatic) in TopAccess Administration>Security>Certificate Management.

#### [713B] Unsuccessful Import of Certificate from TopAccess

Classification	Error item
Maintenance error	Failed to import the certificate

Check item	Measures
Setting	Certificate may have a problem or be corrupted. Check the certificate and perform the job again.

#### [713D] Unsuccessful Import of User Combined Data

Classification	Error item
Maintenance error	The import of combined user information failed.

Check item	Measures
Setting	Check if you are importing a valid file.

#### [713F] Unsuccessful Import of All Data (Template/AddressBook/MailBox)

Classification	Error item
Maintenance error	The import of all data (templates, Address Book, Mailbox) failed.

Check item	Measures
Setting	Check if you are importing a valid file.

#### [7141] Unsuccessful Export of Address Book Data

Classification	Error item
Maintenance error	The export of Address Book data failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

#### [7143] Unsuccessful Export of Template Data

Classification	Error item
Maintenance error	The export of template data failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[7145] Unsuccessful Export of MailBox Data**

Classification	Error item
Maintenance error	The export of Mailbox data failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[7147] Unsuccessful Export of Format File for Metascan**

Classification	Error item
Maintenance error	The export of a Meta Scan format file failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[7149] Unsuccessful Export of User Information**

Classification	Error item
Maintenance error	The export of user information failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[714B] Unsuccessful Export of Role Information**

Classification	Error item
Maintenance error	The export of role information failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[714D] Unsuccessful Export of Department Information**

Classification	Error item
Maintenance error	The export of department data failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.



**[714F] Unsuccessful Export of ICC Profile**

Classification	Error item
Maintenance error	The export of ICC Profile failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[7151] Unsuccessful Export of Log Data**

Classification	Error item
Maintenance error	The export of log data failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and the USB media and then retry the export.

**[715B] Unsuccessful Print Data Converter**

Classification	Error item
Maintenance error	The export of Print Data Converter failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[715D] Unsuccessful export of User Combined Data**

Classification	Error item
Maintenance error	The export of combined user information failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[715F] Unsuccessful Export of All Data (Template/AddressBook/MailBox)**

Classification	Error item
Maintenance error	The export of all data (templates, Address Book, Mailbox) failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and then retry the export.

**[7191] DDNS public key file upload failure**

Classification	Error item
Maintenance error	Failed to upload DDNS public key file

Check item	Measures
Setting	DDNS public key file may have a problem or be corrupted. Check the file and perform the job again.

**[7193] DDNS private key file upload failure**

Classification	Error item
Maintenance error	Failed to upload DDNS private key file

Check item	Measures
Setting	DDNS private key file may have a problem or be corrupted. Check the file and perform the job again.

**[71A2] Unsuccessful Addition of CA Certificate**

Classification	Error item
Maintenance error	Failed to add CA certificate

Check item	Measures
Setting	CA certificate may have a problem or be corrupted. Check the CA certificate and perform the job again.

**[71A4] Cryptographic key consistency confirmation failure**

Classification	Error item
Maintenance error	Cryptographic key consistency confirmation failed.

Check item	Measures
Setting	Perform HS-73 Assist mode → Key Backup/Restore.

**[71A6] Device certificate deletion failure**

Classification	Error item
Maintenance error	The deletion of device certificate failed.

Check item	Measures
Setting	Restart the equipment and then retry.

**[71A8] CA certificate deletion failure**

Classification	Error item
Maintenance error	The deletion of the CA certificate failed.

Check item	Measures
Setting	Restart the equipment and then retry.

#### [71AA] Unidentified error during certificate acquisition from SCEP server

Classification	Error item
Maintenance error	Unidentified error occurred during certificate acquisition from SCEP server.

Check item	Measures
Setting	Check SCEP server and the SCEP setting (automatic) on the TopAccess screen as follows: TopAccess Administration → Security → Certificate Management

#### [71AB] Timeout error during certificate acquisition from SCEP server

Classification	Error item
Maintenance error	Timeout error occurred during certificate acquisition from SCEP server.

Check item	Measures
Setting	Check SCEP server and the SCEP setting (automatic) on the TopAccess screen in the following procedure: TopAccess Administration → Security → Certificate Management

#### [71AC] File save error during certificate acquisition from SCEP server

Classification	Error item
Maintenance error	File save error occurred during certificate acquisition from SCEP server.

Check item	Measures
Setting	File saving failed for some reason. If the error still occurs after rebooting the equipment, start up using the following procedure:[3] + [C] + [POWER] → 3. HDD formatting → Reinstallation of software or HDD replacement

#### [71B0] Software package file decryption failure

Classification	Error item
Maintenance error	Software package file decryption failed.

Check item	Measures
Setting	Software package file may have a problem or may be corrupted. Check the software package file and then reattempt the installation.

**[71D0] Factory Default Failure**

Classification	Error item
Maintenance error	Factory default setting failed.

Check item	Measures
Setting	Restart the equipment and then retry.

**[71F1] Unsuccessful Creation of Clone File**

Classification	Error item
Maintenance error	The creation of a clone file failed.

Check item	Measures
Setting	Check if there is enough capacity in the HDD and the USB media and then retry the creation.

**[71F3] Unsuccessful Import of Clone Data**

Classification	Error item
Maintenance error	The import of clone data failed.

Check item	Measures
Setting	The clone file may be invalid. Check the file and then retry the import.

**[71F4] Failed to decrypt Clone file**

Classification	Error item
Maintenance error	The decryption of a clone file failed.

Check item	Measures
Setting	The clone file may be invalid or the password may be incorrect. Check the file and the password, and then retry the import.

**[71F5] Failed to encrypt Clone file**

Classification	Error item
Maintenance error	The encryption of a clone file failed.

Check item	Measures
Setting	Restart the equipment and then retry the encryption.

**[7332] Application installation error**

<b>Classification</b>	<b>Error item</b>
Maintenance error	Application installation error

<b>Check item</b>	<b>Measures</b>
Setting	Installation of the application has failed. Update the application.

**[7333] Application start error**

<b>Classification</b>	<b>Error item</b>
Maintenance error	Application start error

<b>Check item</b>	<b>Measures</b>
Setting	Start of the installation has failed. Update the application.

### 8.3.29 Network error

#### [8000] Static IPv4 address conflict

Classification	Error item
Network error	IPv4 address overlaps.

Check item	Measures
Setting	Check if the same IP address is not used by other machine.

#### [8011] Linklocal Address Conflict

Classification	Error item
Network error	Linklocal Address Conflict

Check item	Measures
Setting	Check if the same IP address is not used by other machine.

#### [8012] Manual Address Conflict

Classification	Error item
Network error	Manual IPv6 Address Conflict

Check item	Measures
Setting	Check if the same IP address is not used by other machine.

#### [8013] Stateless Address Conflict

Classification	Error item
Network error	Stateless Address Conflict

Check item	Measures
Setting	Check if the same IP address is not used by other machine.

#### [8014] Stateful Address Conflict

Classification	Error item
Network error	Stateful Address Conflict

Check item	Measures
Setting	Check if the same IP address is not used by other machine.

#### [8022] Authentication Failure

Classification	Error item
Network error	Failed in 802.1X authentication.

Check item	Measures
Setting	Check the user credential.

#### [8023] Can not contact Authentication Server/Switch

Classification	Error item
Network error	Failed in connection to authentication server and switch.

Check item	Measures
Setting	Check connectivity to switch or server.

#### [8024] Certificate verification Failure

Classification	Error item
Network error	Failed in verification of certificate.

Check item	Measures
Setting	Check if a valid certificate is installed.

#### [8031] IKEv1 certification failed

Classification	Error item
Network error	Ipsec error for ikev1 certification failed

Check item	Measures
Setting	Check <ol style="list-style-type: none"> <li>1. CA and user certificate in both MFP and remote peer - certificate timestamp and IPsec Certificate template should be valid.</li> <li>2. CRL DP server name is mapped in MFP's host table or DNS entry.</li> <li>3. Certificate against CRL.</li> </ol>

#### [8032] IKEv1 wrong proposal chosen

Classification	Error item
Network error	Ipsec error for wrong proposal chosen

Check item	Measures
Setting	Check the IKEv1 IPsec proposal parameters (like encryption/authentication algorithms, DH group, authentication methods) in MFP and peer machine.

#### [8033] IKEv1 shared key authentication failed

Classification	Error item
Network error	Ipsec error if auth for shared key failed

Check item	Measures
Setting	Mismatch in IKEv1 Pre Shared Key. Check the PSK in MFP and remote machine.

#### [8034] IKEv1 invalid certificate

Classification	Error item
Network error	Ipsec error if invalid certificate uploaded

Check item	Measures
Setting	Check the CA and User certificate in MFP and peer machine.

#### [8035] IKEv1 certificate not supported

Classification	Error item
Network error	Ipsec error if certificate not supported

Check item	Measures
Setting	Check the User certificate type.

#### [8036] IKEv1 invalid certificate authentication

Classification	Error item
Network error	Ipsec error if invalid certificate authentication

Check item	Measures
Setting	Check the CA certificate in MFP and Peer machine.

#### [8037] IKEv1 certificate unavailable

Classification	Error item
Network error	Ipsec error if certificate are not available

Check item	Measures
Setting	Certificate has been deleted from Certificate store. Re-upload the corresponding certificates.

#### [8038] IKEv1 no SA established

Classification	Error item
Network error	Ipsec error for SA is not present



Check item	Measures
Setting	Check the IKEv1/IPsec proposal parameters (like encryption/ authentication algorithms, DH group, authentication methods) in MFP and peer machine. Check 1. CA and user certificate in both MFP and remote peer - certificate timestamp and IPsec Certificate template.

### [8039] IKEv1 invalid signature

Classification	Error item
Network error	Ipsec error for invalid signature for certificate

Check item	Measures
Setting	Mismatch in Signature payload (MAC or IV). Check the CA and user certificate in MFP and peer machine.

### [803A] IKEv2 wrong proposal chosen

Classification	Error item
Network error	Ipsec error is proposal chosen is wrong

Check item	Measures
Setting	Check the IKEv2/IPsec proposal parameters (encryption/ authentication algorithms, DH group, authentication methods) in MFP and peer machine.

### [803B] IKEv2 Certificate failed

Classification	Error item
Network error	Ipsec error for ikev2 certification failed

Check item	Measures
Setting	Check 1. CA and user certificate in both MFP and remote peer - certificate timestamp and IPsec Certificate template should be valid. 2. CRL DP server name is mapped in MFP's host table or DNS entry. 3. Certificate against CRL.

### [803C] IKEv2 secret key authentication failed

Classification	Error item
Network error	Ipsec error for ikev2 if secret key auth failed

Check item	Measures
Setting	Mismatch in IKEv2 Pre Shared Key. Check the PSK in MFP and peer machine.

### [803D] IKEv2 falling back to IKEv1

Classification	Error item
Network error	Ipsec error if peer doesn't support IKEv2 and falling back to IKEv1

Check item	Measures
Setting	Remote machine is not supporting IKEv2. Going back to use IKEv1.

### [803E] IKEv2 ISAKMP SA unavailable

Classification	Error item
Network error	Ipsec error if ISAKMP SA is not created or destroyed due to some uncertain condition

Check item	Measures
Setting	Restart IPsec service on Peer and retry.

### [803F] IKEv2 cryptographic operation failed

Classification	Error item
Network error	Ipsec error for ikev2 if crypto operation failed

Check item	Measures
Setting	If Certificates are being used, re-upload the corresponding certificates using Security Services. Restart IPsec Service on MFP.

### [8040] IKEv2 invalid key information

Classification	Error item
Network error	Ipsec error for ikev2 if key info is invalid

Check item	Measures
Setting	Check IKE settings in MFP and peer.

### [8041] IKEv2 CA not trusted

Classification	Error item
Network error	Ipsec error for ikev2 if CA is not trusted

Check item	Measures
Setting	Check the CA certificate in MFP and peer machine. Check the CA certificate timestamp.

**[8042] IKEv2 Authentication method mismatch**

Classification	Error item
Network error	Ipssec error if auth method is not matching

Check item	Measures
Setting	Mismatch in IKE authentication type. Check the Authentication type in MFP and peer.

**[8043] IPsec IKE version mismatch**

Classification	Error item
Network error	Ipssec error if ike version is not matching

Check item	Measures
Setting	Mismatch in IKE version. Check the IKE version in MFP and peer.

**[8044] IPsec encapsulation mismatch**

Classification	Error item
Network error	Ipssec error for encapsulation is not matching

Check item	Measures
Setting	Check the IPsec mode (Transport/Tunnel) in MFP and peer.

**[8045] IPsec Peer IP mismatch**

Classification	Error item
Network error	Ipssec error for peer ip mismatch

Check item	Measures
Setting	Remote Traffic selector mismatch. Check the destination address/port in IPsec filter.

**[8046] IPsec local IP mismatch**

Classification	Error item
Network error	Ipssec error for local ip mismatch

Check item	Measures
Setting	Local traffic selector mismatch. Check the source address/port in IPsec filter.

**[8047] IPsec local ID mismatch**

Classification	Error item
Network error	Ipsec error for local id mismatch

Check item	Measures
Setting	Check the user certificate in MFP

**[8048] IPsec Remote ID mismatch**

Classification	Error item
Network error	Ipsec error for remote id mismatch

Check item	Measures
Setting	Check the user certificate in peer machine.

**[8049] IPsec Remote IP mismatch**

Classification	Error item
Network error	Ipsec error for remote ip mismatch

Check item	Measures
Setting	Remote traffic selector mismatch. Check the source address/port in IPsec filter.

**[804A] IPsec IKE timeout**

Classification	Error item
Network error	Ipsec error for ike timeout

Check item	Measures
Setting	Check the network connectivity between MFP and peer machine. Select the Flush Connections Option and retry.

**[804B] IPsec invalid manual key**

Classification	Error item
Network error	Ipsec error id manual key is not valid

Check item	Measures
Setting	Check the Inbound and Outbound (ESP Encryption/ Authentication and AH Authentication) keys in MFP and Remote PC.

- [8061] Secure primary DDNS update error
- [8062] Secure secondary DDNS update error
- [8063] IPv6 Secure primary DDNS update error
- [8064] IPv6 Secure secondary DDNS update error
- [8065] IPv6 primary DDNS update error
- [8066] IPv6 secondary DDNS update error
- [8067] IPv4 primary DDNS update error
- [8068] IPv4 secondary DDNS update error

Classification	Error item
Network error	Secure update to primary IPv4 server failed. ([8061]) Secure update to secondary IPv4 server failed. ([8062]) Secure update to primary IPv6 server failed. ([8063]) Secure update to secondary IPv6 server failed. ([8064]) IPv6 primary DDNS update error. ([8065]) IPv6 secondary DDNS update error. ([8066]) IPv4 primary DDNS update error. ([8067]) IPv4 secondary DDNS update error. ([8068])

Check item	Measures
Setting	Check if there is any problem with DNS or DDNS settings.

**[8069] Invalid TSIG/SIG(0) Key file**

Classification	Error item
Network error	This message is displayed when the key file for SIG(0) or TSIG is invalid.

Check item	Measures
Setting	Verify the TSIG/SIG(0) key files used.

**[8101] Wireless association with Access point failure**

Classification	Error item
Network error	Wireless association with Access point failure

Check item	Measures
Setting	Verify the credentials used for association with Access point.

**[8102] MFP not able to contact the Access point with the specified SSID**

Classification	Error item
Network error	MFP not able to contact the Access point with the specified SSID

Check item	Measures
Setting	Verify the access point name setting and mechanism used for association same as Access Point setting.

**[8103] Wireless Certificate verification failure**

Classification	Error item
Network error	Wireless Certificate verification failure

Check item	Measures
Setting	Verify the certificate settings used for association.

**[8104] Wireless-LAN module hardware error**

Classification	Error item
Network error	Wireless-LAN module hardware error

Check item	Measures
Check the connection status of the wireless-LAN module.	Replace the wireless-LAN module if its connection status cannot be confirmed.

**[8121] Domain authentication error: Domain authentication error**

Classification	Error item
Network error	An unidentified domain authentication error occurred during the connection of domain controller.

Check item	Measures
Setting	Check the network configuration of this equipment and then reconnect to the domain controller.

**[8122] Domain authentication error: Invalid user name or password**

Classification	Error item
Network error	Login is not permitted because the user name or a password for domain authentication is invalid.

Check item	Measures
Setting	Check if the user name and the password for this equipment are correct. Specify upper- and lower-case characters correctly when you enter them.

**[8123] Domain authentication error: Invalid server**

Classification	Error item
Network error	The server was not discovered during domain authentication.

Check item	Measures
Setting	Check if the server is down or the network configuration of this equipment is correct. If domain name resolution is used, check the DNS and DDNS settings.

**[8124] Domain authentication error: Invalid user account**

Classification	Error item
Network error	The user account is invalid and not available for login for domain authentication.

Check item	Measures
Setting	Check the setting to see if the user account noted in the Active Directory Users and Computers window is valid.

**[8125] Domain authentication error: Expired user account**

Classification	Error item
Network error	The user account is expired and not available for login for domain authentication.

Check item	Measures
Setting	Check the setting to see if the user account noted in the Active Directory Users and Computers window is not expired.

**[8126] Domain authentication error: User account lockout**

Classification	Error item
Network error	The user account is locked out and not available for login for domain authentication.

Check item	Measures
Setting	Check the account lockout setting of the server.

**[8127] Domain authentication error: Invalid logon hours**

Classification	Error item
Network error	The logon hour is invalid and not available for login for domain authentication.

Check item	Measures
Setting	Check the logon hour setting for the user account noted in the Active Directory Users and Computers window.

**[8128] Active Directory domain authentication error: Time delay between server and equipment**

Classification	Error item
Network error	There is a difference of 5 minutes or longer between the time settings of this equipment and the server, and therefore the login is not available for Active Directory domain authentication.

Check item	Measures
Setting	Set the time of this equipment and that of the domain controller the same. SNTP is recommended if there is an SNTP server in the network.

**[8129] Active Directory domain authentication error: Expired Kerberos ticket**

Classification	Error item
Network error	The Kerberos ticket is expired and not available for login for Active Directory domain authentication.

Check item	Measures
Setting	Check if the Kerberos ticket on the Kerberos server is expired.

**[812A] Active Directory domain authentication error: Kerberos ticket authentication error**

Classification	Error item
Network error	Login is not available for Active Directory domain authentication due to a Kerberos ticket authentication error.

Check item	Measures
Setting	Check if the user name and the password for this equipment are correct. If the error still occurs, ask your Windows Server administrator.

**[812B] Active Directory domain authentication error: invalid realm name**

Classification	Error item
Network error	The realm name is invalid and not available for login for Active Directory domain authentication.

Check item	Measures
Setting	Check if the realm name of this equipment for the Active Directory server is correct. If the error still occurs, ask your Windows Server administrator.



## 8.4 Other errors

### 8.4.1 Drum surface potential sensor control related troubleshooting (only for 75ppm)

Countermeasure when “Service Recommended for SPC” message is displayed

#### [ 1 ] Check the control setting of Drum surface potential (VO) sensor

##### [ 1-1 ] Check that FS-08-2561 (Drum surface potential control setting) is set to “2”.

**Notes:**

For 55ppm/65ppm in which no VO sensor is installed, “0” is set for FS-08-2561.

#### [ 2 ] Check for abnormal contents (VO sensor controlling / VO sensor shutter closing) and abnormal stations.

##### [ 2-1 ] Check the drum surface potential sensor controlling status: FS-05-2780 Sub-code 3: K.

- 0: Normally completed
- 1: Control paused  
(due to an open cover, etc.)
- 2: Sensor abnormality detected

##### [ 2-2 ] Check the drum surface potential sensor shutter closing controlling status? FS-05-2789 Sub-code 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 3.

\* When any of the drum surface potential sensor shutter closing controlling statuses is “2: Sensor shutter closing abnormality detected” → Go to 4.

#### [ 3 ] 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
- | Connectors CN308 and CN307 of the LGC board
- | NO → Reconnect the connector when it is disconnected. Then perform image quality closed-loop control (FS-05-2742) and check the controlling status.

YES

Check the drum surface potential sensor output (FS-05-2782).  
 Check the values of the sub codes “3”, “8” and “13” in the following list.  
 Perform 3-1 or 3-2 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	

**[ 3-1 ] 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 closed-loop control (FS-05-2742) / check  
 | the controlling status” (described later).  
 |  
 | When an adjustment error occurs  
 | Replace the shutter and then perform “4. Image quality closed-loop control  
 | (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

YES

Check if sounds are heard corresponding to proper solenoid operation (K: 03-212).

If such sounds are not heard, replace the solenoid and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs  
 Go to 3-2.

**[ 3-2 ] 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 (K) installed correctly?

Is the needle electrode or the main charger grid (K) installed correctly?

Is there any charging leak?

Is the discharge LED harness (K) connected correctly?

| YES → Remove any dust or toner staining. Then reinstall it.  
| If the discharge LED harness (K) is disconnected, reconnect it.  
| Perform “4. Image quality closed-loop control (FS-05-2742) / check the  
| controlling status” (described later).

NO When an adjustment error occurs

Replace the photoconductive drum (K) and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

Replace the drum surface potential sensor (K) and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

Replace the drum surface potential sensor board and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

Replace the EPU board and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

Replace the LGC board and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

When an adjustment error occurs

Replace the high-voltage board and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

**[ 4 ] 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 2-1 above (sensor shutter not opened) and then perform “4. Image quality closed-loop control (FS-05-2742) / check the controlling status” (described later).

**[ 5 ] Image quality closed-loop control (FS-05-2742) / 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.  
FS-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.  
FS-08-2577 Sub-code 0: Y 1: M 2: C 3: K
3. Select “1: Enabled” for the code FS-08-2561 (Drum surface potential sensor control setting).

4. Perform "Image quality closed-loop control (FS-05-2742)".
  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

**Notes:**

- 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 closed-loop control (FS-05-2742)" is performed while "0: Disabled" is selected for FS-08-2561 (Drum surface potential control setting), drum surface potential control measurement will not be performed. However, if the image quality control is completed normally, the screen returns to the test mode.
- If the "Image quality closed-loop control (FS-05-2742)" is performed while "1: All stations enabled" is selected for FS-08-2561 (Drum surface potential control setting), the following will result.

When any of the stations in the controlling status on the upper row is "2: Sensor abnormality detected" while "ERROR" is being displayed → Check the setting value of FS-08-2561 → Go to 3.

When any of the controlling statuses on the lower row is "2" while "ERROR" is being displayed → Go to 4.

When "ERROR" is not displayed and the mode returns to the test mode → Go to 6.

When any of service calls CE10, CE20 and CE40 is displayed → Go to 7.

**[ 6 ] 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.

**[ 7 ] CE10, CE20 or CE40 is image quality control abnormality. See "Image quality control related troubleshooting" to resolve these errors.**

## 8.4.2 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. 51 of 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 "FS-08-9022" allows you to know the completed status before the forced termination.

For example, if 6 is displayed for the code FS-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 FS-08-9022 to 5 enables you to perform the gamma adjustment again.

Also, setting the code FS-08-9022 to 99 allows you to release the unpacking operation and to start the equipment normally.

### 8.4.3 Drum surface potential sensor control related troubleshooting when setting up the equipment at unpacking (75ppm only)

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 (FS-05-2742)” 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 FS-05-2780 sub-code  
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 FS-05-2789 sub-code  
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 closed-loop control (FS-05-2742)” is performed while “0: Disabled” is selected for FS-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 (FS-05-2742) and checking controlling status” (described later).

## [ 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 (FS-05-2742) 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 (FS-05-2742) and checking controlling status” (described later).

NO When an adjustment error occurs

## [ 2-3 ] Checking the drum surface potential sensor and the drum surface potential sensor boards

Replace the drum surface potential sensor and perform “4. Image quality closed-loop control (FS-05-2742) and checking controlling status” (described later).

When an adjustment error occurs  
Replace the V0S board and perform “4. Image quality closed-loop control (FS-05-2742) 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 closed-loop control (FS-05-2742) and checking controlling status” (described later).

When an adjustment error occurs  
Replace the shutter and then perform “4. Image quality closed-loop control (FS-05-2742) and checking controlling status” (described later).

YES

When an adjustment error occurs

Replace the solenoid and then perform “4. Image quality control initialization (FS-05-2742) and checking controlling status” (described later).

When an adjustment error occurs

#### **[ 2-5 ] Checking the EPU board**

Replace the EPU board and perform “4. Image quality closed-loop control (FS-05-2742) 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 closed-loop control (FS-05-2742) 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 closed-loop control (FS-05-2742) and checking controlling status” (described later).

When an adjustment error occurs

Replace the HVT board and then perform “4. Image quality closed-loop control (FS-05-2742) 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 (FS-05-2742) and checking controlling status” (described later).

### **[ 4 ] Procedures for image quality closed-loop control (FS-05-2742) 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.  
FS-08-2560 Sub-code 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.  
FS-08-2577 Sub-code 3: K
3. Select “1: Enabled” for the code FS-08-2561 (Drum surface potential sensor control setting).
4. Perform “Image quality control initialization (FS-05-2742)”, refer to 1. for confirming the result, and then apply necessary measures if there is any abnormality.



## 8.4.4 Equipment operation disabled after the installation of option(s)

Check if the optional board is installed properly.

## 8.4.5 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.

## 8.4.6 When the duplexing unit cover open display cannot be released

1. Is the duplexing unit opening/closing detection sensor (S64) 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.

## 8.4.7 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)

## 8.4.8 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.

## 8.4.9 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.

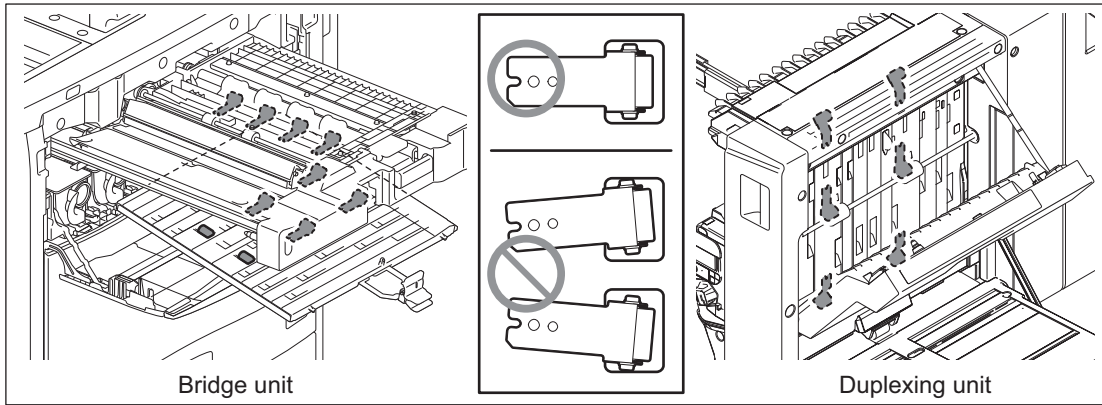


Fig.8-27

\* Cause 3 of exit paper side deviation: Installation status

**Notes:**

1. Check that the equipment is installed horizontally at the installation position. (Install a level on the original glass to check.)
2. 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)

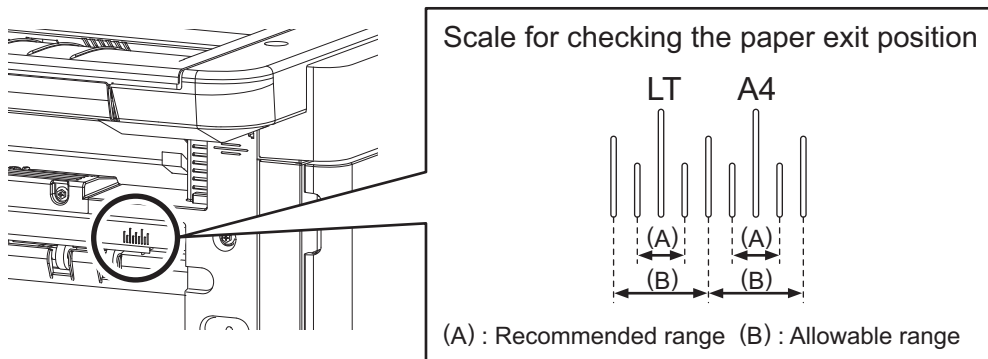


Fig.8-28

## 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.

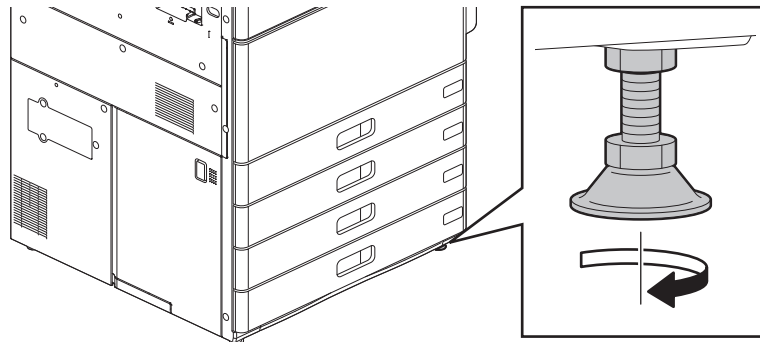


Fig.8-29

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.

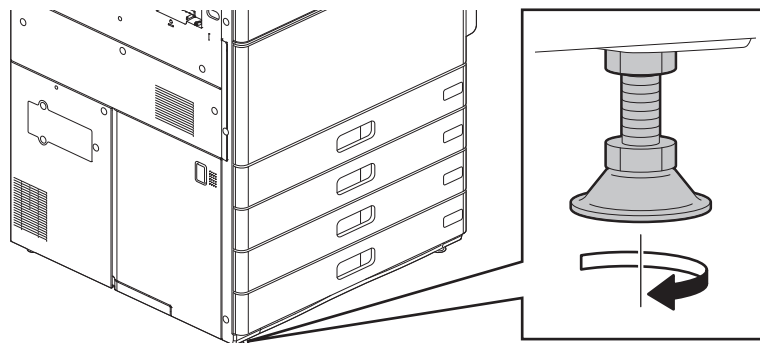


Fig.8-30

### Notes: Notes for installing the finisher

After the above adjustment, install the finisher according to the Unpacking Instructions.

When installing MJ-1111/1112, be sure to make the height adjustment in \*29 to \*30 in the Unpacking Instructions.

## 8.4.10 Error code “M00” is displayed while updating firmware

Check item	Measures
Switching regulator	<ul style="list-style-type: none"> <li>• Connector check (CN512)</li> <li>• Harness check</li> <li>• Fuse check (F201, F202)</li> </ul>
LGC board	<ul style="list-style-type: none"> <li>• Board check</li> <li>• Connector check (CN317, CN316)</li> <li>• Harness check</li> </ul>

Replace parts	Remarks
Switching regulator	
LGC board	

### 8.4.11 “Latch the developer unit (Yellow, Magenta, Cyan, Black)” remains displayed

After the power is turned ON, “Latch the developer unit (Yellow, Magenta, Cyan, Black)” is displayed on the panel. This display is not changed even if the developer unit is removed and then installed.

Step	Check item	Measures
1	Installation state of the developer unit (Y, M, C, K)	<ul style="list-style-type: none"> <li>Remove and install the developer unit. Close the front cover.</li> <li>Check if the drawer connector is not connected sufficiently or its pin is not deformed.</li> </ul> <p>If the display for all colors is not changed even if step 1 has been carried out, perform steps 2 to 5. If the display for any of the colors is changed, perform steps 6 and 8.</p>
2	Change in the display	Check if the display is changed when the power is turned OFF and then back ON. If an error indication is displayed, perform its troubleshooting in accordance with its procedure.
3	SYS board	<ul style="list-style-type: none"> <li>Connector check (CN132)</li> <li>Harness check</li> <li>Short circuited or open circuited check</li> </ul>
4	LGC board	<ul style="list-style-type: none"> <li>Connector check (CN332)</li> <li>Harness check</li> <li>Short circuited or open circuited check</li> </ul>
5	Flat cable	Check if there is any abnormality in the terminal of the flat cable between the SYS and LGC boards. Check if the flat cable is open circuited.
6	Harness	Check if there is a short circuit or open circuit in the harness (CN308) for connecting the LGC board and the developer unit whose display is not changed.
7	LGC board	<ul style="list-style-type: none"> <li>Connector check (CN308)</li> <li>Harness check</li> <li>Short circuited or open circuited check</li> </ul>
8	EPU board	<ul style="list-style-type: none"> <li>Connector check (CN551,CN553,CN555,CN559,CN560)</li> <li>Harness check</li> <li>Short circuited or open circuited check</li> </ul>

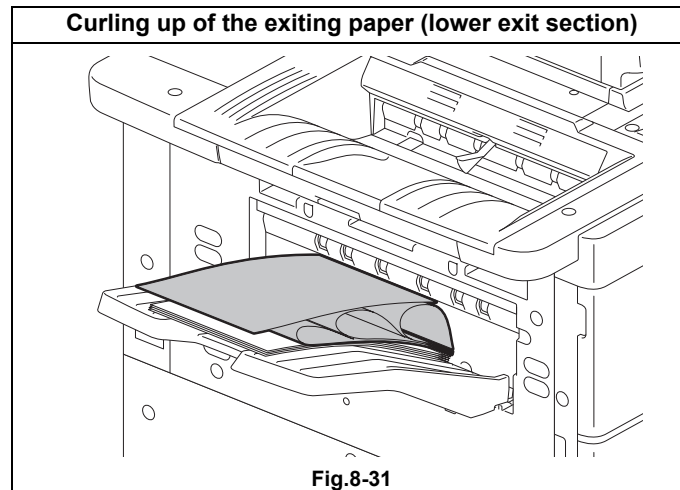
Replacement part	Remark
Flat cable	
SYS board	
LGC board	
EPU board	
Developer unit	

## 8.4.12 Problems in paper exiting

Countermeasure when the following problems occur in paper exiting to the upper or lower exit section, instead of the finisher being used

### [ 1 ] Curling up of the exiting paper

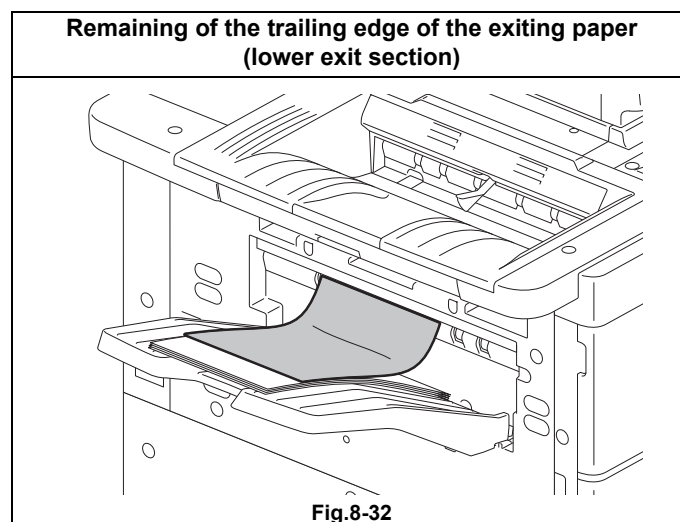
When there is a problem during the use of small-size paper (A5-R, ST-R, etc.), such as its curling up, perform the following procedure.



1. When this problem occurs in paper exiting to the upper exit section of the equipment, change the setting of the destination to the lower exit section.
2. When this problem occurs in paper exiting to the lower exit section using the side exit tray (option: KA-6551-ET), use the sub tray (service part).  
- Service part: COV-SUB-TRAY-H38X (P-I: 202-25)

### [ 2 ] Remaining of the trailing edge of the exiting paper (The trailing edge of the paper does not fall onto the tray.)

During the use of B5-R size paper or an OHP film, if there is a problem such as the remaining of the trailing edge of the paper at exiting, carry out the following procedure.



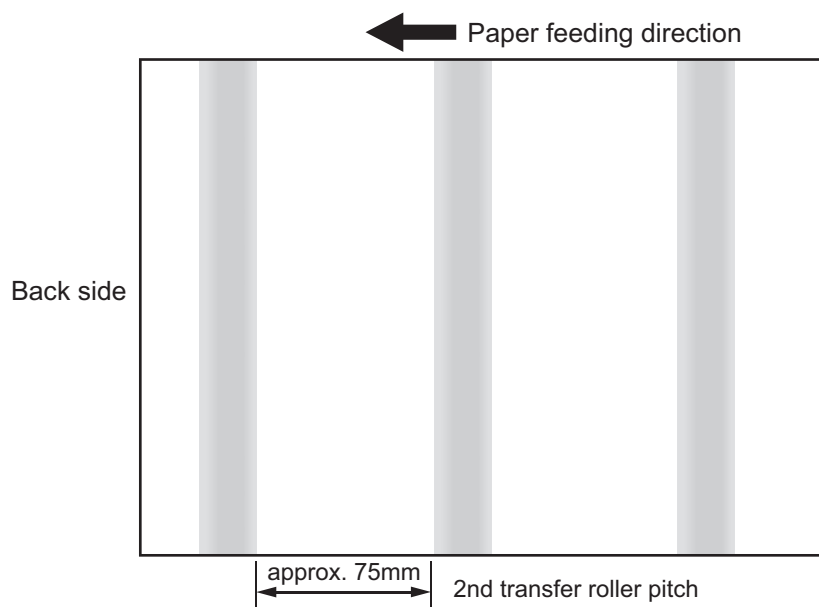
1. When this problem occurs in paper exiting to the upper exit section of the equipment, change the setting of the destination to the lower exit section.  
- Service part: COV-SUB-TRAY-H38X (P-I: 202-25)

### 8.4.13 Countermeasure for stains (stripe-shaped) on the back side of the paper occurring immediately after the drum cleaner unit is removed and then reinstalled

When stains as shown below occur immediately after the drum cleaner is removed and then reinstalled, perform the following measures.

#### [ 1 ] Symptoms

Stripe-shaped stains on the back side of the paper



#### [ 2 ] Measures

Carry out the enforced performing of image quality closed-loop control (FS-05-2742) or copy (or print) one sheet of paper.

## 8.4.14 The equipment does not start after the power has been turned ON.

### [ 1 ] The LCD screen does not display after the power has been turned ON.

#### 1. General description

When the lamps on the control panel do not light or error codes are not displayed on the LCD screen after the power has been turned ON, perform this troubleshooting.

#### 2. Status LED / Power LED

After the power is turned ON, the status of the equipment from the startup until the end of system device initialization (the LCD screen works) is displayed by the status LED (8-bit) on the SYS board. When the equipment does not start or the LCD screen does not display after the power is turned ON, check this status LED on the SYS board in order to judge the corresponding troubleshooting. In addition to this, the power LED is lit when 12 VA power is being supplied to the SYS board.

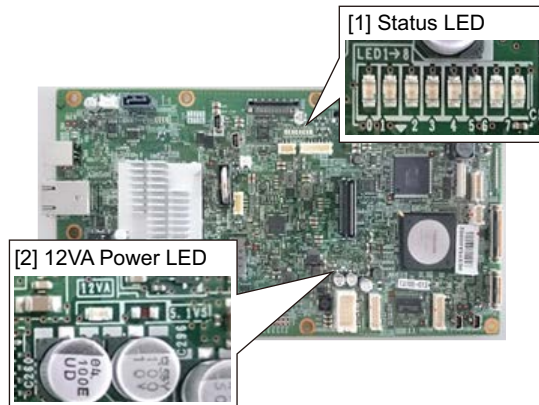


Fig.8-33

#### 3. Measures

When an error code is displayed, perform its troubleshooting.

If the LCD screen is turned OFF and an error code cannot be confirmed as a result, check the lighting condition of each LED and perform the troubleshooting by following the status below.

Main Power LED / Energy Saver LED (on Control panel)

LED	Lighting condition	SYS power LED	Troubleshooting
Main Power LED	ON	-	-
	OFF	ON	The 5 VS power is not supplied to the control panel. <ul style="list-style-type: none"> <li>• Check the connection of the harness of the control panel.</li> <li>• Check if there is no abnormality in the parts of the control panel.</li> </ul>
		OFF	OFF

LED	Lighting condition	SYS power LED	Troubleshooting
Energy Saver LED	ON	-	-
	Blinking	-	When the Energy Saver LED is turned OFF after some times have passed: Initialization between the control panel and the SYS board is not completed. <ul style="list-style-type: none"> <li>• Check the connection of the harness of the control panel.</li> <li>• SYS board abnormality (Check the lighting condition of the SYS power LED and the SYS status LED, and perform the measures described in the next table.)</li> </ul>
		-	When the Energy Saver LED blinks even if some times have passed: The LCD is not turned ON after initialization between the control panel and the SYS board is completed. <ul style="list-style-type: none"> <li>• Check the connection of the harness of the control panel.</li> <li>• Check if there is no abnormality in the parts of the control panel.</li> <li>• SYS board abnormality (Check the lighting condition of the SYS power LED and the SYS status LED, and perform the measures described in the next table.)</li> </ul>
	OFF	ON	The 12 VA power is not supplied to the control panel. <ul style="list-style-type: none"> <li>• Check the connection of the harness of the control panel.</li> <li>• Check if there is no abnormality in the parts of the control panel.</li> </ul>
		OFF	The power is not supplied to the SYS board <ul style="list-style-type: none"> <li>• Check the connection of the power harness of the SYS board</li> <li>• Check if there is no abnormality in the switching regulator.</li> <li>• Check if there is no abnormality in the SYS board.</li> </ul>

Power LED / Status LED (on SYS board)

LED	Lighting condition	SYS board status	Troubleshooting
Power LED	OFF	Waiting for the power supply	Check the connection of the switching regulator harness and the power supply harness.



LED		Lighting condition	SYS board status	Troubleshooting
Status LED	Bit7	ON	Main memory abnormality	<ul style="list-style-type: none"> <li>• Check the installation status of the main memory, and reinstall it if necessary.</li> <li>• Perform calibration of the main memory at the startup.</li> <li>• Replace the main memory or the SYS board.</li> </ul>
	Bit4	ON	Network IC communication error	Replace the SYS board.
	Bit3	ON	ASIC detection error	Replace the SYS board.
	Bit2	ON	HDD/SSD detection error	<ul style="list-style-type: none"> <li>• When the error code is from F100 to F109, perform the HDD/SSD fault diagnosis by following each troubleshooting.</li> <li>• If the LCD screen does not display, check the connection of the HDD harness.</li> </ul>
	Bit1	ON	Control panel communication error	<ul style="list-style-type: none"> <li>• Check the connection of the harness of the control panel.</li> <li>• Check if there is no abnormality in the parts of the control panel.</li> </ul>
	Bit0	ON	Errors other than the above	Replace the SYS board.

**Remarks:**

- When Bit1 or Bit7 of the status LED is ON and an error code is displayed on the LCD screen, perform the troubleshooting for each error code.
- The lighting condition of the status LED is determined while Bit0 is turned OFF. Due to this, be sure to check the condition from Bit1 to Bit7 while Bit0 is turned OFF.

## 8.4.15 Problems in DSDF

### 1. Multiple originals are transported simultaneously

Check item	Measures
Original	Flatten and reload an original if it is curled abnormally or is folded.
	When an original beyond the specifications is copied or scanned, place it on the original glass.
DSDF separation roller	If the DSDF separation roller is dirty, clean it with alcohol.
	Replace the DSDF separation roller.

### 2. Original is not transported to registration roller

Check item	Measures
Original	Flatten and reload an original if it is curled abnormally or is folded.
	When an original beyond the specifications is copied or scanned, place it on the original glass.
DSDF pickup roller	If the DSDF pickup roller is dirty, clean it with alcohol.
	Replace the DSDF pickup roller.
DSDF feed roller	If the DSDF feed roller is dirty, clean it with alcohol.
	Replace the DSDF feed roller.

### 3. Leading edge of original is skewed

Check item	Measures
Transport roller	If the transport roller is dirty, clean it with alcohol.
Left hinge	Check that the protrusions at the front and rear sides of the bottom face of the DSDF contact the glass surface. If not, adjust the height of the left hinge so that the protrusions at the front and rear sides contact the glass surface.
Right hinge	Check that the position of the right hinge is aligned properly. If not, adjust it.

### 4. Edges of original and copied image are not aligned

Check item	Measures
Side guides of the original tray	Set the side guides of the original tray by aligning them with the original width.
Original scanning section	Adjust the original scanning section of the equipment.

### 5. Black streaks appear on copied image

Check item	Measures	
Front side	ADF original glass of the equipment	Wipe the ADF original glass of the equipment with a dry cloth or clean it with a well-squeezed cloth.
	Original scanning section	Check if there is no abnormality in the original scanning section of the equipment.
Back side	DSDF-CCD module	Wipe the slit glass of the DSDF-CCD module with a dry cloth or clean it with a well-squeezed cloth.
		Check if there is no abnormality in the DSDF-CCD module.

6. "Place Doc. Feeder in the down position" is displayed.

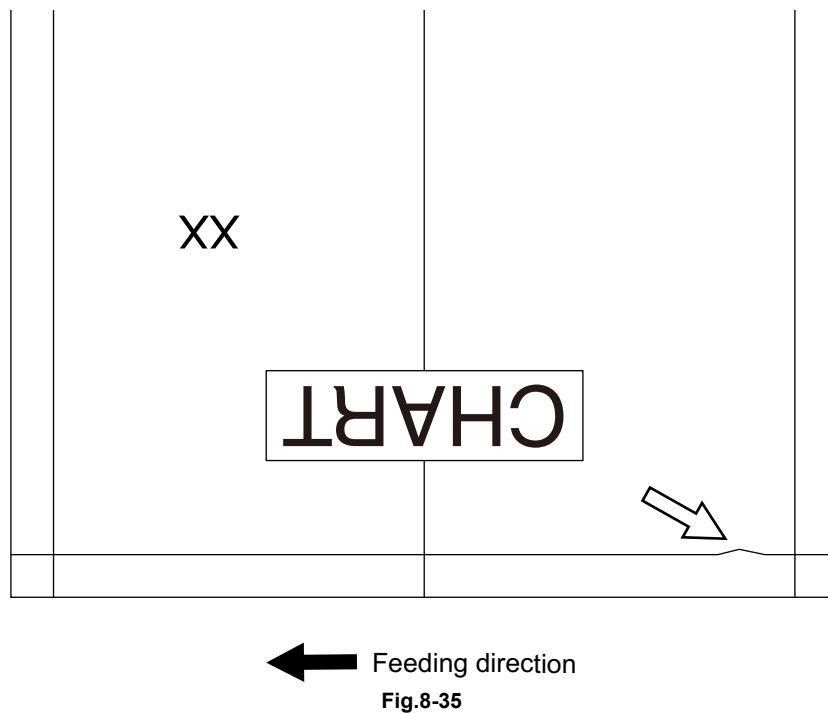
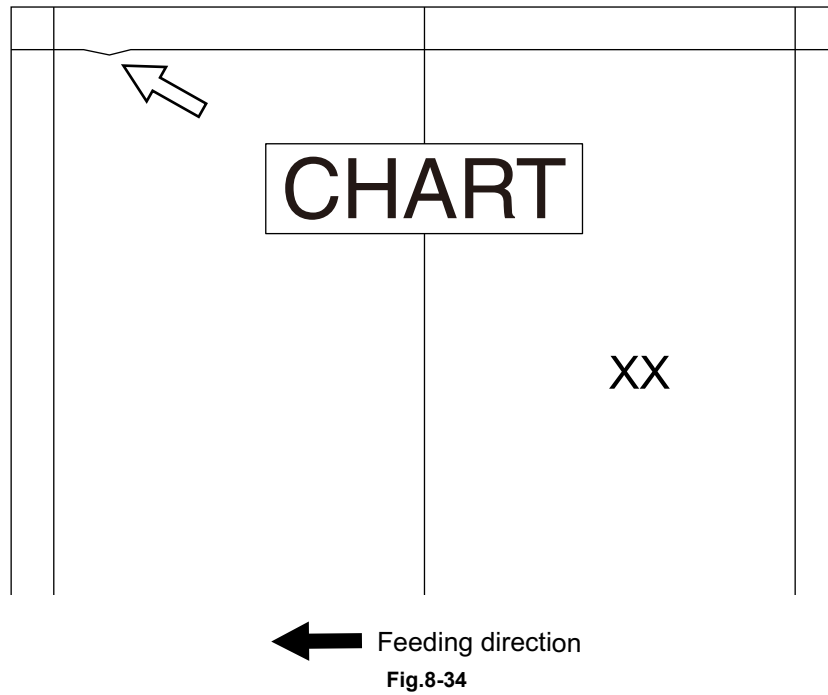
When "Place Doc. Feeder in the down position" is displayed even if the DSDf or its cover is closed appropriately, take the following measures.

Check item	Measures
DSDf lower cover	Check if the DSDf lower cover is closed appropriately.
DSDf exit motor	Check if the DSDf exit motor is rotating properly. If not, check the following items. <ul style="list-style-type: none"> <li>• Check if the connector of the DSDf exit motor is disconnected or the harnesses are open circuited.</li> <li>• Check if the connector of the DSDf control PC board is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDf exit motor.</li> </ul>
DSDf shading sheet HP sensor	<ul style="list-style-type: none"> <li>• Check if the DSDf shading sheet HP sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[A])</li> <li>• Check if the connector of the DSDf shading sheet HP sensor is disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDf shading sheet HP sensor.</li> </ul>
DSDf control PC board	<ul style="list-style-type: none"> <li>• Check if the connectors of the DSDf control PC board are disconnected or the harnesses are open circuited.</li> <li>• Replace the DSDf control PC board.</li> </ul>
DSDf lower cover opening/closing detection sensor	<ul style="list-style-type: none"> <li>• Check if the connectors (J980, J953 and CN75) on the DSDf control PC board are disconnected from the DSDf lower cover opening/closing detection sensor or the harnesses are open circuited. Correct if any.</li> <li>• Check if the DSDf lower cover opening/closing detection sensor is working properly. (Perform the input check: FS-03-[F2]ON/[6]/[C])</li> <li>• Replace the DSDf lower cover opening/closing detection sensor.</li> </ul>
DSDf lower cover interlock switch	<ul style="list-style-type: none"> <li>• Check if the DSDf lower cover interlock switch is working properly.</li> <li>• Replace the DSDf lower cover interlock switch.</li> </ul>
DSDf upper cover opening/closing detection sensor	<ul style="list-style-type: none"> <li>• Check if the connectors (J981, J954 and CN75) on the DSDf control PC board are disconnected from the DSDf upper cover opening/closing detection sensor or the harnesses are open circuited. Correct if any.</li> <li>• Check if the DSDf upper cover opening/closing detection sensor is working properly. (Perform the input check: FS-03-[F2]ON/[7]/[C])</li> <li>• Replace the DSDf upper cover opening/closing detection sensor.</li> </ul>
DSDf upper cover interlock switch	<ul style="list-style-type: none"> <li>• Check if the DSDf upper cover interlock switch is working properly.</li> <li>• Replace the DSDf upper cover interlock switch.</li> </ul>

Parts to be replaced	Remark
DSDf exit motor	
DSDf shading sheet HP sensor	
DSDf control PC board	
DSDf lower cover opening/closing detection sensor	
DSDf lower cover interlock switch	

<b>Parts to be replaced</b>	<b>Remark</b>
DSDF upper cover opening/ closing detection sensor	
DSDF upper cover interlock switch	

7. Image distortion (dogleg image)



The image distortion (dogleg image) shown upper occur on the leading or trailing edge at the back side of the copied or scanned paper while the DSDF was used.




Cause/Section	Step	Check item	Measures
DSDF	1	Adjustment of position / Adjustment of height	Check the installation condition of the DSDF and confirm that there are no abnormalities in the adjustment for its position and height. 📖 P. 6-106 "6.12.1 Adjustment of Position" 📖 P. 6-110 "6.12.2 Adjustment of Height"
	2	Adjustment of skew	Perform the adjustment of image tilting at the back side. 📖 P. 6-112 "6.12.3 Adjustment of Skew"  <b>Remarks:</b> The phenomenon tends to be reduced if the CCD module is moved in the "+" direction. Perform the adjustment of image tilting at the front side corresponding to the tilted amount of the back side.  <b>Notes:</b> <ul style="list-style-type: none"> <li>• When this adjustment is performed, an entire image may be tilted.</li> <li>• Even if this adjustment is performed, a dogleg image will not be resolved completely.</li> </ul>

## 8.5 Troubleshooting for the Image

### 8.5.1 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.8-36
Text Mode Text/Photo Mode	Outline in black text on a colored background	White void	 Fig.8-37
Photo Mode Map Mode	Color blurred in outline of line or text	Color deviation	 Fig.8-38

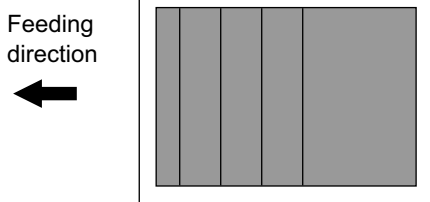
Cause/Section	Step	Check item	Measures	Remarks
	1	Perform the Forced performing of color registration control adjustment (FS-05-4719).	Has it ended normally? When CA00 occurs: → Proceed to [CA00] troubleshooting.	
	2	Output the built-in grid pattern in A3/LD size. (Perform [8][F3] at FS-05 startup.)	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 2nd transfer facing roller of the transfer belt unit dirty or worn out?	Clean or replace the 2nd transfer facing roller.	

Cause/Section	Step	Check item	Measures	Remarks
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.	
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.	
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 (FS-05-4520)?	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 2nd transfer facing roller shaft deformed?	Replace the 2nd transfer facing roller.	
	16	Is the transfer belt drive motor installed correctly?	Install the motor properly with a fixing screw in the correct position.	
Laser scanning lines warped	17	Are the laser scanning line warped?	Replace the laser optical unit.	
Poor skew adjustment of laser optical unit	18	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	



## 8.5.2 Uneven pitch and jitter image

<Symptoms>

Original mode	Location	Phenomena	
All modes	Occurs cyclically at right angles to paper feeding direction	Uneven pitch	 <p>Feeding direction</p> <p>←</p> <p>Fig.8-39</p>

Cause/Section	Step	Check item	Measures	Remarks
	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 8.	
		Are there uneven pitches of approx. 26 mm?	Perform procedure 7.	
	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 9, 10, 11 and 12	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 9 and 12	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.	
	7	Is there any dent, damage or deformation in the motor gear section of the drum drive unit?	Replace the drum motor.	
Fuser belt	8	Check if the fuser belt is scratched or deformed.)	Replace the fuser belt.	

Cause/Section	Step	Check item	Measures	Remarks
Transfer belt unit	9	Is the transfer belt rotating correctly?	Install the transfer belt drive motor correctly.	
2nd transfer unit	10	Check if there is no abnormality on the surface of the 2nd transfer roller.	Replace the 2nd transfer roller.	
	11	Check if any white void in the halftone occurs at the same time.	Apply the measure following "8.5.29 White void in the halftone".	
Transportation speed	12	Check if an abnormal value is set for the transportation speed. Drum motor FS-05-4520 (0 to 3) Registration motor FS-05-4523 (0 to 2) Fuser roller FS-05-4529 (0 to 4, 6)	Change the value back to the default.	
Transfer belt	13	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 cleaning facing roller	14	Density belt pattern of 105mm pitch	Clean or replace the transfer belt cleaning facing roller.	
Developer sleeve	15	Is the pitch of the density fluctuation 43.5mm?	Replace the developer sleeve	
Jitter (1.9mm pitch)	16	Density stripe pattern (jitter) of 1.9mm pitch in Black mode printing	Replace the developer sleeve. Replace the 2nd transfer drive unit. Replace the laser optical unit.	
Jitter (1.35mm pitch)	17	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.	

### 8.5.3 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.8-40

Cause/Section	Step	Check item	Measures	Remarks
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 2nd transfer facing roller?	Remove the foreign matter, or replace the 2nd transfer facing roller.	
	5	Is there any breakage, or is there adhesion of foreign matter on the transfer belt cleaning facing rollers?	Remove the foreign matter, or replace the transfer belt cleaning facing rollers.	

## 8.5.4 Poor image density, color reproduction and gray balance

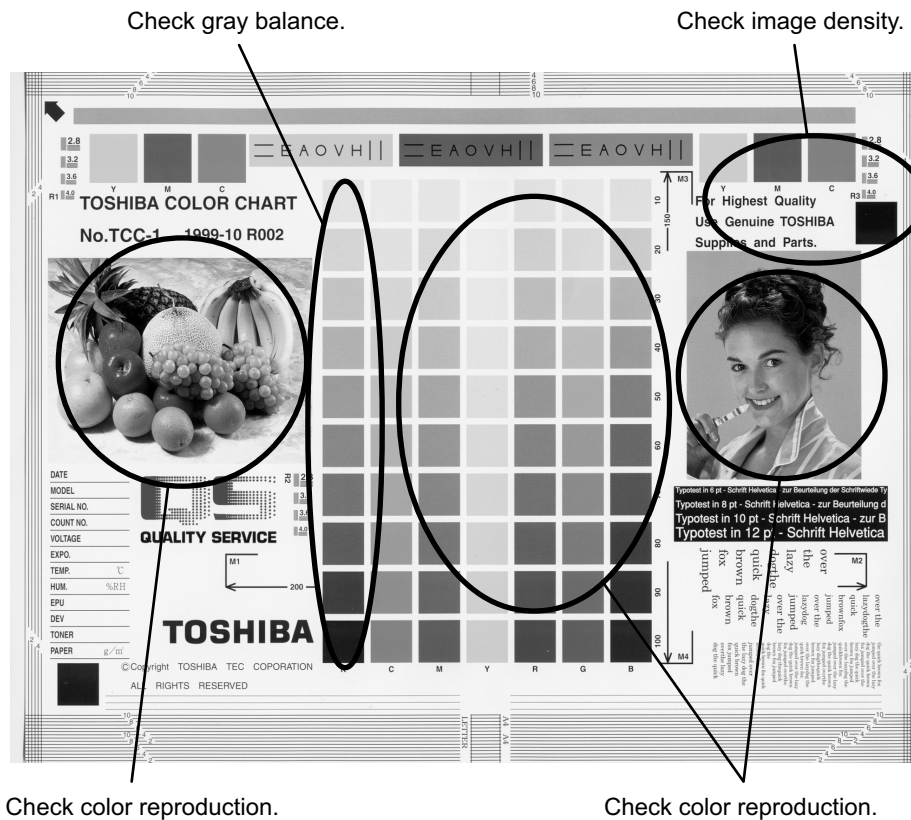


Fig.8-41

Cause/Section	Step	Check item	Measures	Remarks
Density / Color reproduction / Gray balance	1	Check the image density / color reproduction / gray balance.	Perform the enforced performing of image quality closed-loop control (FS-05-2742) 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.	

Cause/Section	Step	Check item	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.)	

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 "Image quality closed-loop control" and then "Automatic gamma adjustment" after taking a measure.

## 8.5.5 Background fogging

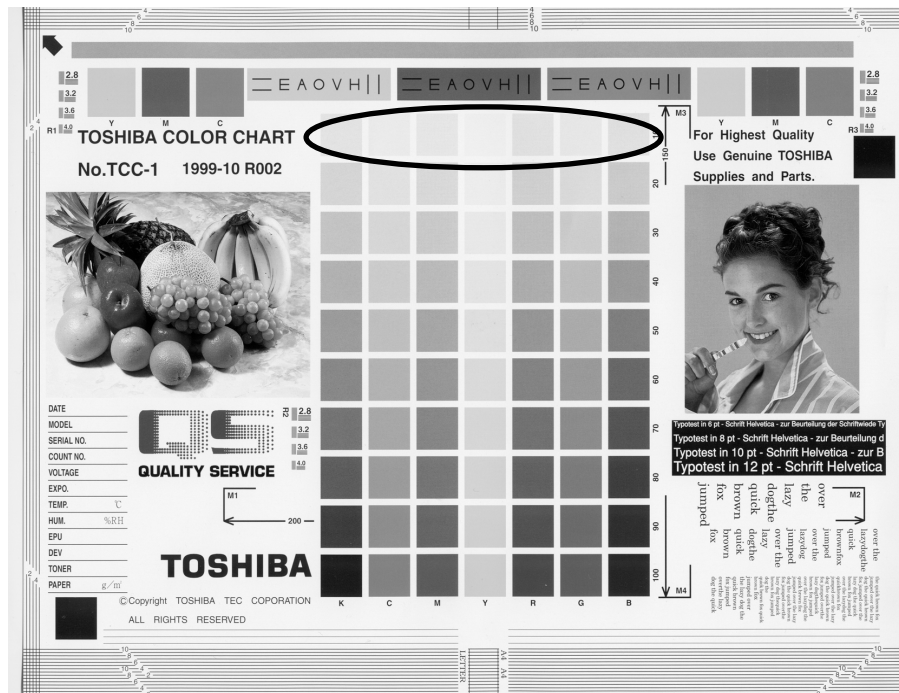


Fig.8-42

Cause/Section	Step	Check item	Measures	Remarks
Adjustment	1	Perform the shading correction.	Perform FS-05-3218. If an error occurs, retry it. If the error still persists, clean the original glass.	
Density reproduction	2	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (FS-05-2742) and then automatic gamma adjustment.	
Printer section	3	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 7 if defects occur.
Scanner	4	Check if the original glass, mirrors or lens is dirty.	Clean it.	

Cause/Section	Step	Check item	Measures	Remarks
Parameter adjustment value	5	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).	
	6	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	7	Is the cover installed properly? (Is the drum exposed to the external light?)	Correct it.	
Auto-toner	8	Is the auto-toner sensor normal?	Check the operation of auto-toner sensor and readjust.	
	9	Is the toner supply operating constantly?	Check the motor and circuits.	
Main charger output	10	Is the main charger output normal?	Check the circuits.	
Developer bias	11	Is the developer bias proper?	Check the circuits.	
Developer unit	12	Is the contact between the drum and developer material proper?	Check the doctor-to-sleeve gap and pole position.	
Developer material/Toner/ Drum	13	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.	
	14	Have the developer material and drum reached their PM life?	Replace the developer material and drum.	
	15	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	16	Is the drum cleaned properly?	Check the drum cleaning blade pressure.	
Transfer belt cleaning blade	17	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	18	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 2 and the step 3 or followings (excluding the parameter adjustment) are performed, make sure to perform “Image quality closed-loop control” and then “Automatic gamma adjustment” after taking a measure.

## 8.5.6 Moire/lack of sharpness

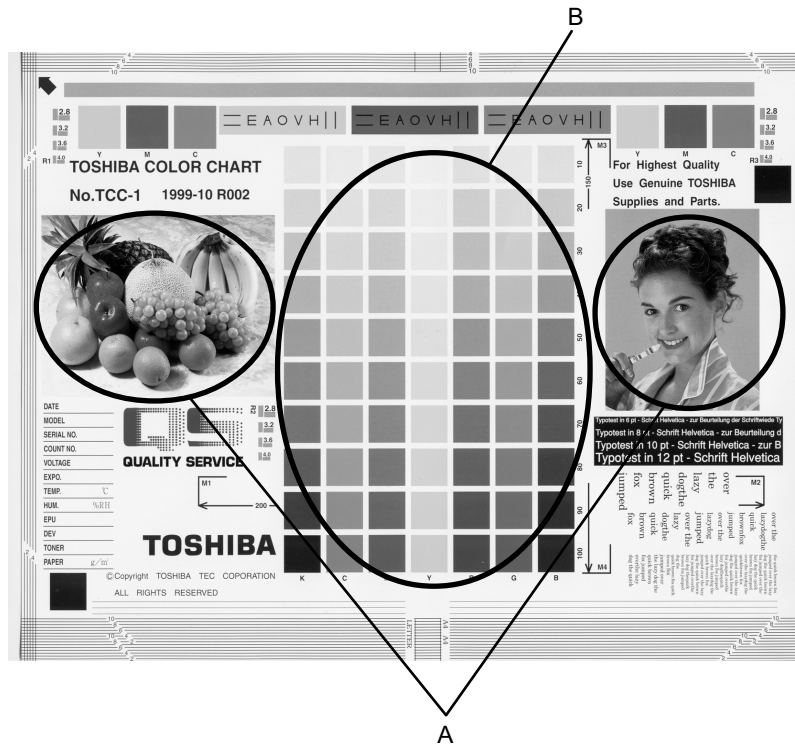


Fig.8-43

### Moire

Cause/Section	Step	Check item	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (FS-05-2742) 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 item	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (05-2742) and then automatic gamma adjustment.	



Cause/Section	Step	Check item	Measures	Remarks
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 "Image quality closed-loop control" and then "Automatic gamma adjustment" after taking a measure.

## 8.5.7 Toner offset



Fig.8-44

Toner offset (Shadow image appears approx. 126 mm behind the high density image.)

Cause/Section	Step	Check item	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 image quality closed-loop control (FS-05-2742) and then automatic gamma adjustment.	

Cause/Section	Step	Check item	Measures	Remarks
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.

## 8.5.8 Toner offset (shadow image) at the edges

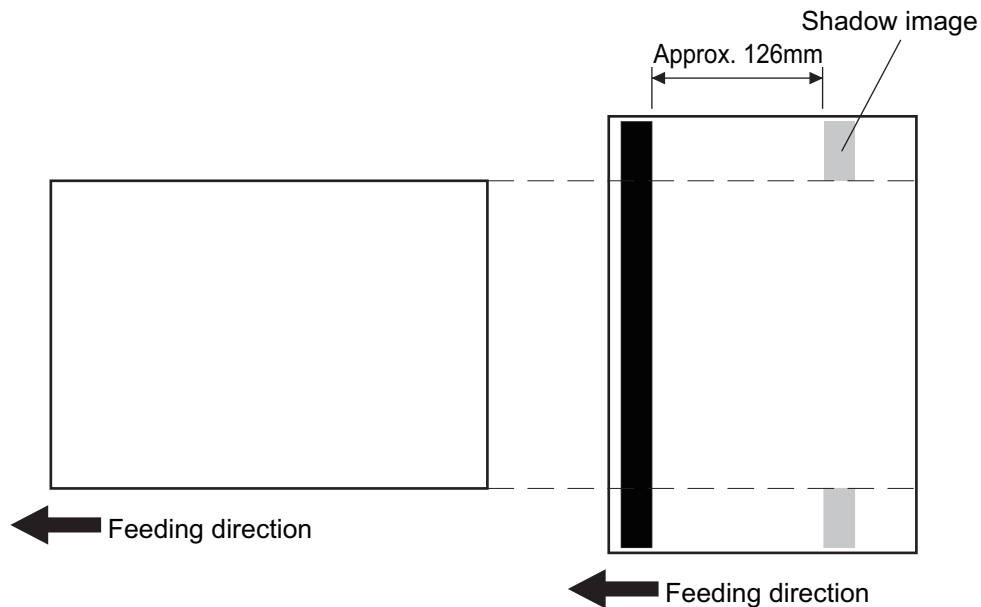


Fig.8-45

Toner offset (shadow image) sometimes appears at both edges of the paper when a wide-size sheet is printed following the continuous printing of narrow-size ones or rotate sort-printing. In such a case, change the setting of Wait between the printings of narrow-size and wide-size paper.

### Notes:

- When the setting is changed, toner offset can be reduced; however, the performance (printing speed) will also be lowered accordingly. Therefore, the setting should only be changed depending on the occurrence frequency or corresponding to users' requests.
- The values below are the recommended ones. Therefore, adjust the values according to the situation.
- Set the number of the sheets for FS-08-5455 so that the value is within the below ones.  
 $08-5455-0 \leq 08-5455-1 \leq 08-5455-2, 08-5455-3 \leq 08-5455-4 \leq 08-5455-5$
- Set the number of the sheets for FS-08-5355 so that the value is within the below ones.  
 $08-5355-0 \leq 08-5355-4 \leq 08-5355-8, 08-5355-1 \leq 08-5355-5 \leq 08-5355-9,$   
 $08-5355-2 \leq 08-5355-6 \leq 08-5355-10, 08-5355-3 \leq 08-5355-7 \leq 08-5355-11$   
 $08-5355-12 \leq 08-5355-13 \leq 08-5355-14 \leq 08-5355-15 \leq 08-5355-16 \leq 08-5355-17$

### 1. Combined job

Code	Paper type	Recommended setting value	Remarks
FS-08-5455-0	Plain	12	Wait is carried out with a small number of sheets.
FS-08-5455-1		14	
FS-08-5455-2		0	
FS-08-5455-3	Thick	12	
FS-08-5455-4		14	
FS-08-5455-5		0	

FS-08-5456-0	Plain	3	The Wait period is changed.
FS-08-5456-1		5	
FS-08-5456-2		11	
FS-08-5456-3	Thick	0	
FS-08-5456-4		1	

## 2. When Ready is inserted between jobs

Code	Paper type	Recommended setting value	Remarks
FS-08-5355-0	Plain	22	Wait is carried out with a small number of sheets.
FS-08-5355-1	Thick	22	
FS-08-5355-2	Plain	22	
FS-08-5355-3	Thick	22	
FS-08-5355-4	Plain	0	
FS-08-5355-5	Thick	0	
FS-08-5355-6	Plain	0	
FS-08-5355-7	Thick	0	
FS-08-5355-8	Plain	1	
FS-08-5355-9	Thick	1	
FS-08-5355-10	Plain	1	
FS-08-5355-11	Thick	1	
FS-08-5355-12		22	
FS-08-5355-13		0	
FS-08-5355-14		1	
FS-08-5355-15		22	
FS-08-5355-16		0	
FS-08-5355-17		1	
FS-08-5357-0	Plain	3	The Wait period is changed.
FS-08-5357-1	Thick	0	
FS-08-5357-2	Plain	3	
FS-08-5357-3	Thick	1	
FS-08-5357-5		1	
FS-08-5357-7		2	
FS-08-5357-8	Plain	11	
FS-08-5357-10		11	
FS-08-5357-12	Thick	0	
FS-08-5357-13		1	
FS-08-5357-15		1	
FS-08-5357-16		2	
FS-08-5358-0	Plain	12	
FS-08-5358-1	Thick	12	
FS-08-5358-2	Plain	12	
FS-08-5358-3	Thick	12	

## 8.5.9 Blurred image

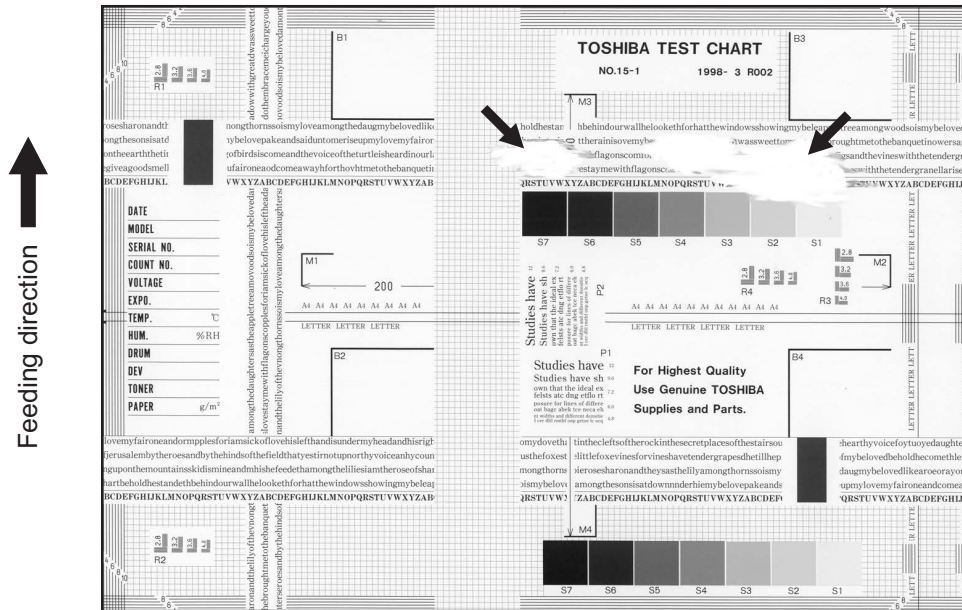


Fig.8-46

Cause/Section	Step	Check item	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 exhaust fan operating properly?	Check the connection of the connector.
	4	Is the ozone filter stained or damaged?	Replace it.
Main charger	5	Check if the inside wall in the case of the main charger unit is dirty or there is any fouling in the case of the main charger unit.	Clean the inside wall in the case.
	6	Check if the main charger grid is corroded, or rusted, or there is any fouling on the grid.	Replace the main charger grid.

## 8.5.10 Poor fusing

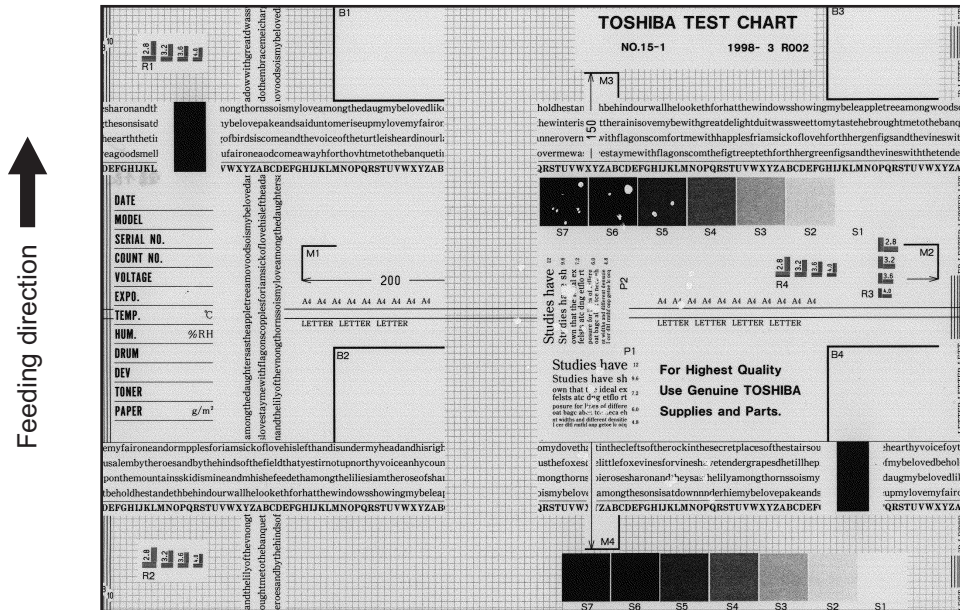


Fig.8-47

Cause/Section	Step	Check item	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 IH 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.
Pressure between fuser belt and pressure roller improper	5	Is the harness connected with the LGC board short circuited or open circuited?	Replace the harness.
	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 thermistor. 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.

## 8.5.11 Blank print

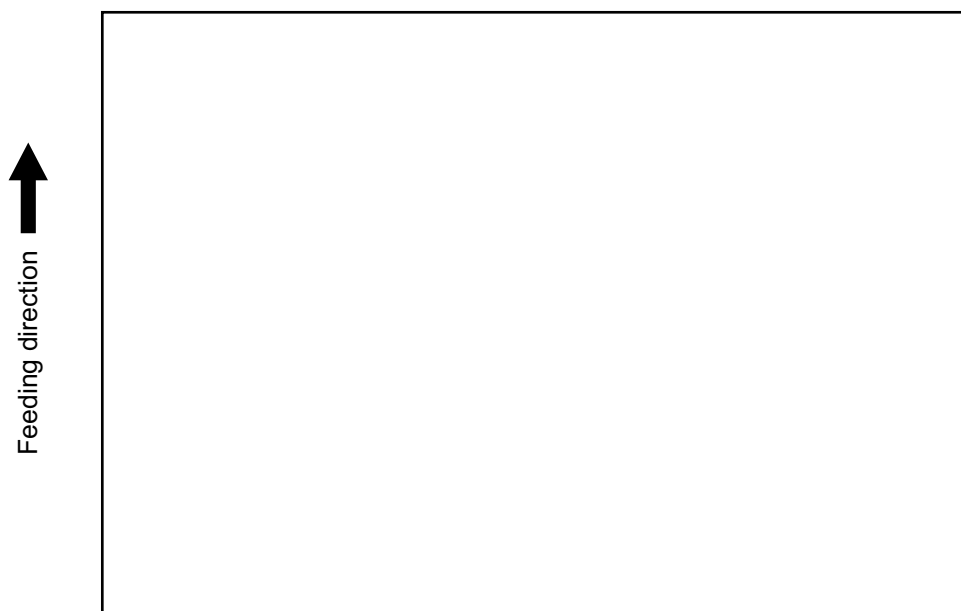


Fig.8-48

Cause/Section	Step	Check item	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.



<b>Cause/Section</b>	<b>Step</b>	<b>Check item</b>	<b>Measures</b>
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 motor and open circuit of harness.
switching regulator	14	Is the power supply output (5.1VD) normal?	Replace the switching regulator.
Harnesses for 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.
Laser optical unit	16	Was the protection seal of slit removed when replacing the unit?	Remove the protection seal.

## 8.5.12 Solid print

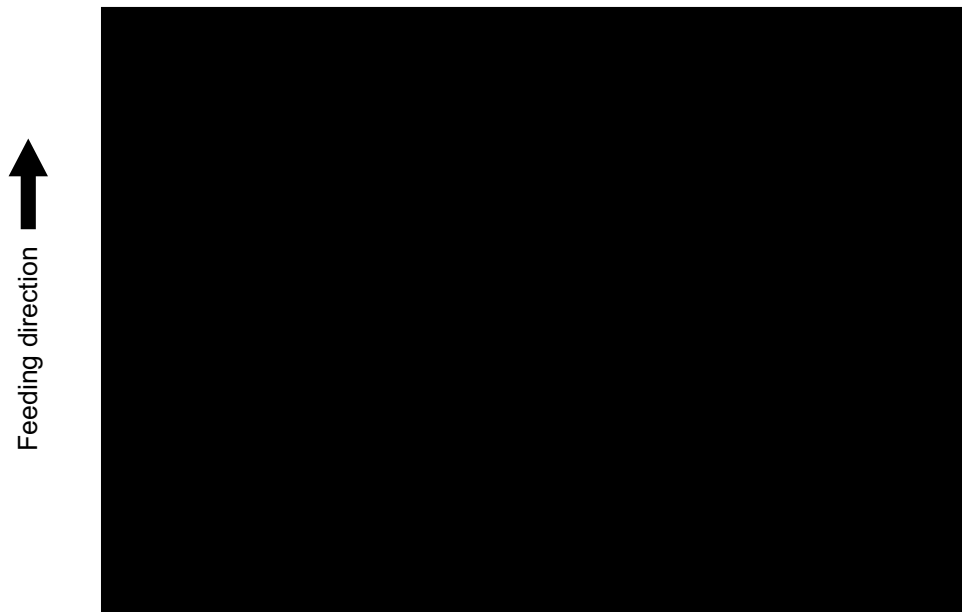


Fig.8-49

Cause/Section	Step	Check item	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 SYS and LGC boards	6	Are the connectors securely connected? Is any harness between the boards open circuited? Is the connector between the SYS boards not disconnected? Is the connector between the LGC 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 cable plugged so that the damp heater can work.

## 8.5.13 White banding or white void (in feeding direction)

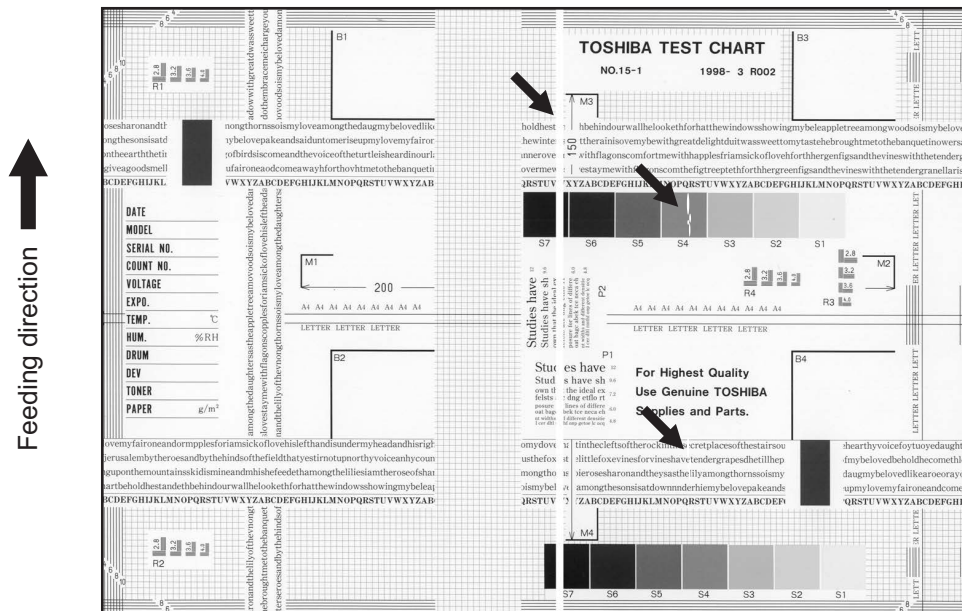


Fig.8-50

Cause/Section	Step	Check item	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 image quality closed-loop control (FS-05-2742).	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. 7-28 "7.6.7 Developer unit (K, Y, M, and C)"

Cause/Section	Step	Check item	Measures
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.
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.

## 8.5.14 White banding (at right angles to feeding direction)

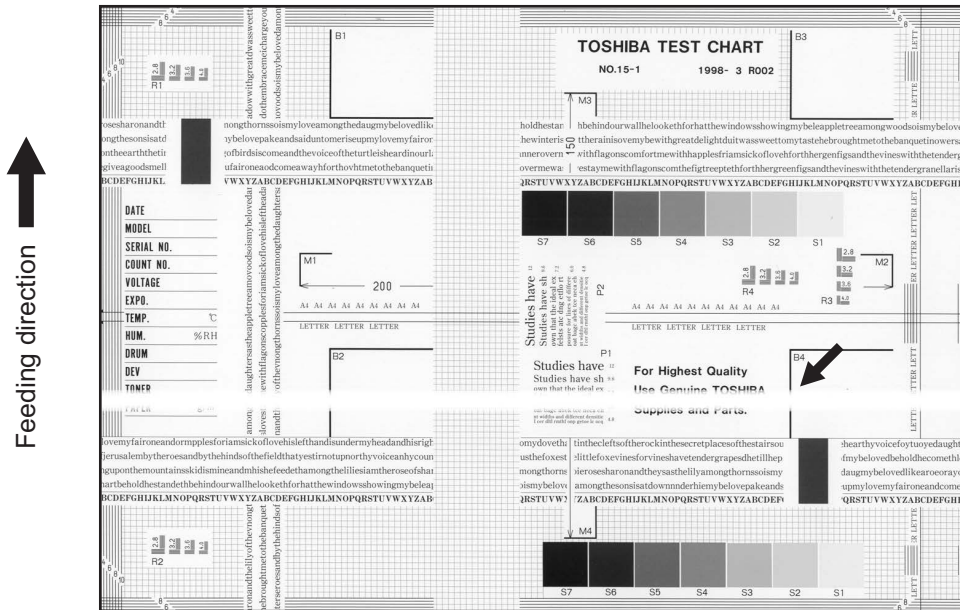


Fig.8-51

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.
	4	Check if the inside wall in the case of the main charger unit is dirty or there is any fouling in the case of the main charger unit.	Clean the inside wall in the case.
	5	Check if the main charger grid is corroded, or rusted, or there is any fouling on the grid.	Replace the main charger grid.
Drum	6	Is there any abnormalities on the drum surface?	Replace the drum.
	7	Is the drum grounded?	Check the contact of the grounding plate.
Discharge LED	8	Is the Discharge LED lighting properly?	Replace the Discharge LED.
Developer unit	9	Is the developer sleeve rotating correctly? Is there any abnormalities on the sleeve surface?	Check the developer drive system, or clean the sleeve surface.
	10	Is the connection of developer bias supply terminal normal?	Correct it.

<b>Cause/Section</b>	<b>Step</b>	<b>Check item</b>	<b>Measures</b>
Drive systems	11	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)	12	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.

## 8.5.15 Skew (slantwise copying)

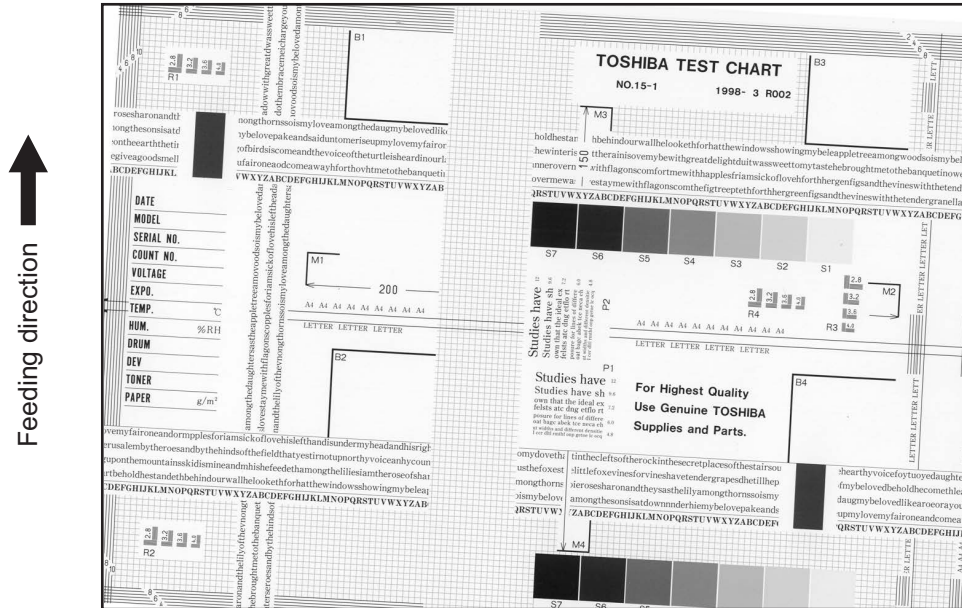


Fig.8-52

Cause/Section	Step	Check item	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.
DSDf	11	Is the DSDf installed and adjusted properly?	Reinstall and readjust it.
Transfer unit	12	Is the transfer belt unit installed properly?	Correct it.

## 8.5.16 Color banding (in feeding direction)

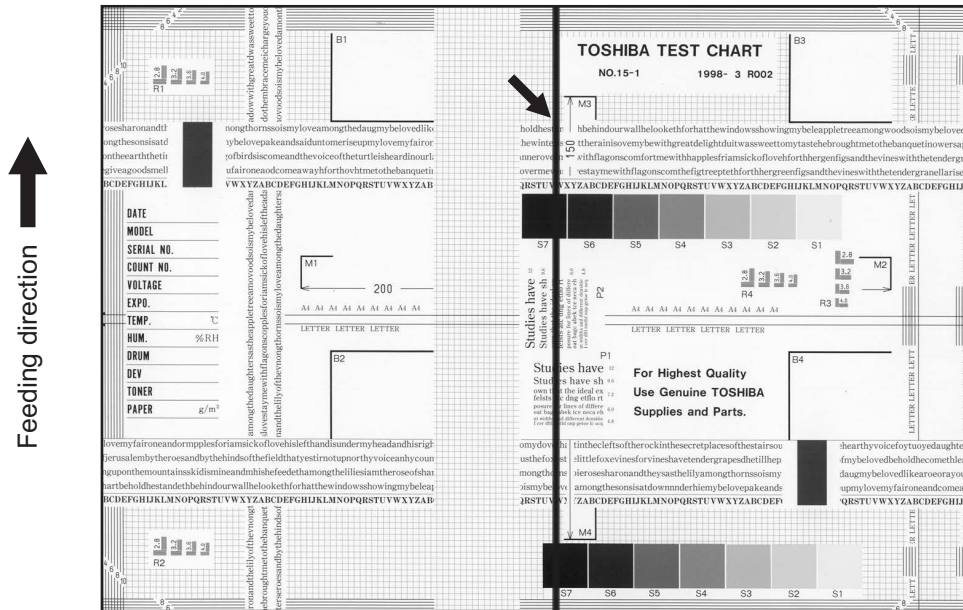


Fig.8-53

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.



Cause/Section	Step	Check item	Measures
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 (FS-05 mode).
Fuser unit	17	a. Is there dirt or scratches on the fuser belt and pressure roller. 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.
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 FS-05-2934-0 to -8 by 1 while you are checking how the streaks have changed.

Back side, color mode

Decrease the value of the code FS-05-2935-0 to -8 by 1 while you are checking how the streaks have changed.

Front side, black mode

Decrease the value of the code FS-05-2936-0 to -8 by 1 while you are checking how the streaks have changed.

Back side, black mode

Decrease the value of the code FS-05-2937-0 to -8 by 1 while you are checking how the streaks have changed.

## 8.5.17 Color banding (at right angles to feeding direction)

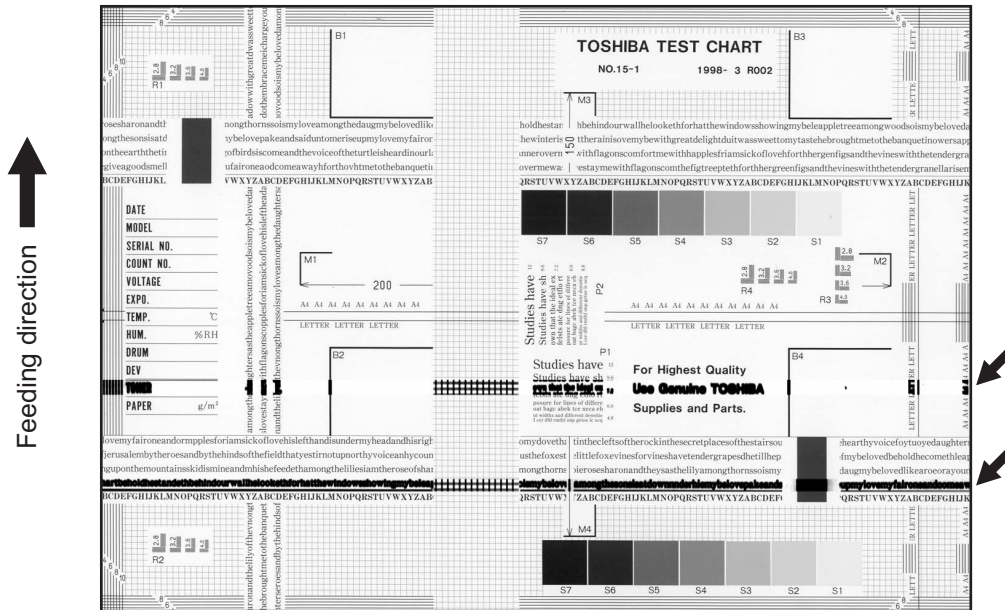


Fig.8-54

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.

## 8.5.18 White spots

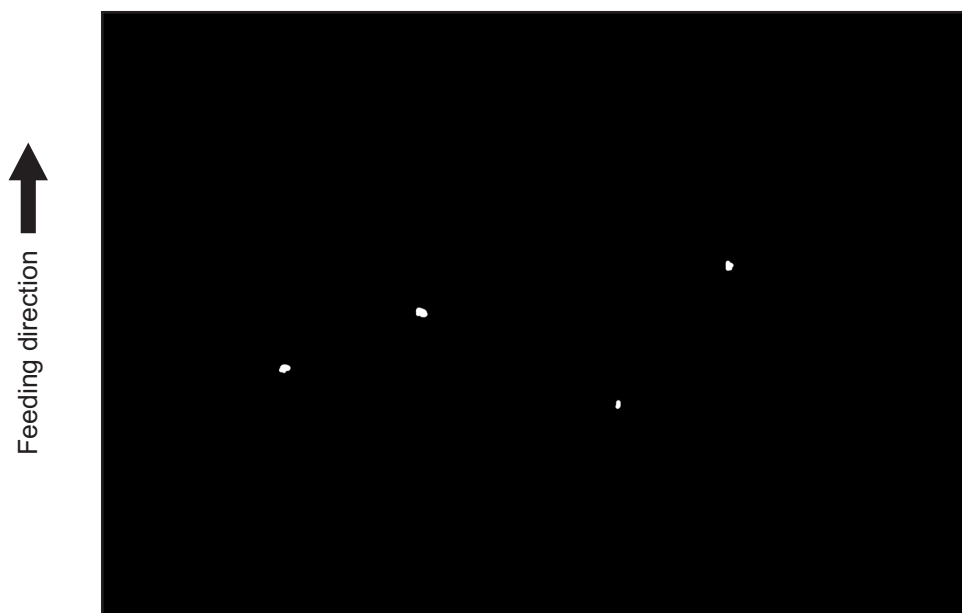


Fig.8-55

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.

<b>Cause/Section</b>	<b>Step</b>	<b>Check item</b>	<b>Measures</b>
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.
Paper	15	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.

## 8.5.19 Poor transfer

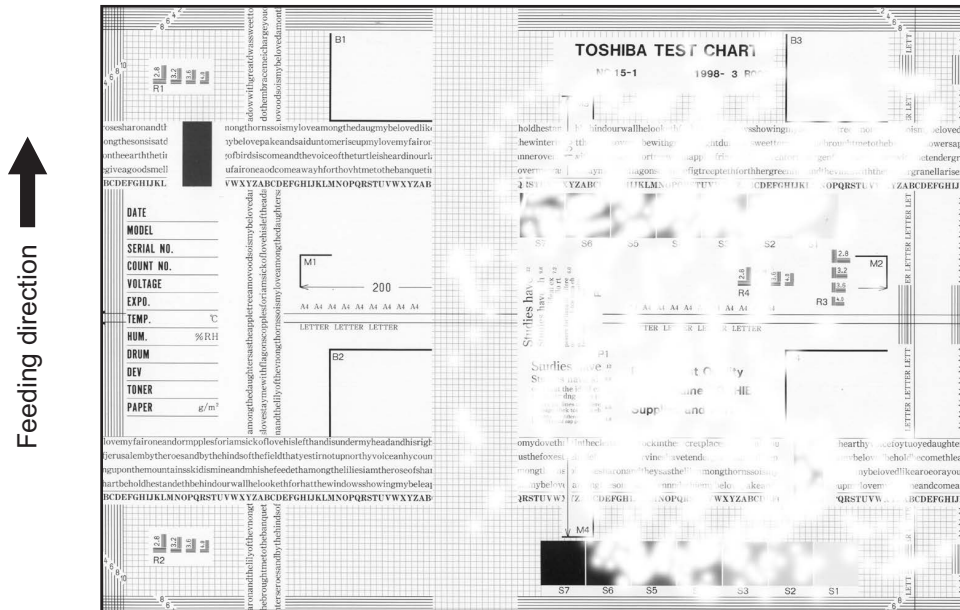


Fig.8-56

Cause/Section	Step	Check item	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.

Cause/Section	Step	Check item	Measures
2nd transfer contact/release unit (cam unit)	12	Is there any abnormality on the cam, pusher and actuator?	Check if the cam, pusher and actuator are installed correctly and there are no damages on them. Repair or replace them if needed.

## 8.5.20 Uneven image density 1

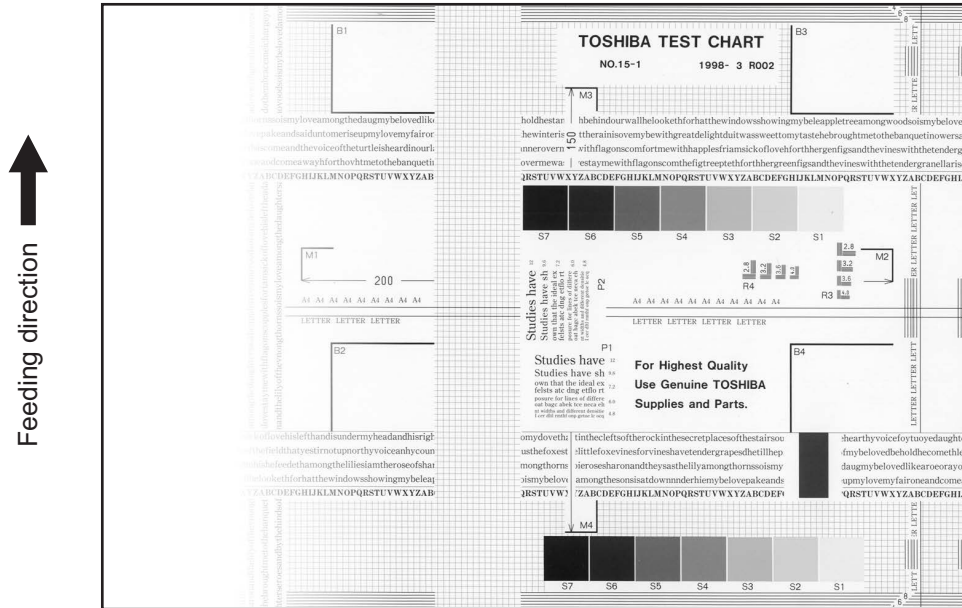


Fig.8-57

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.

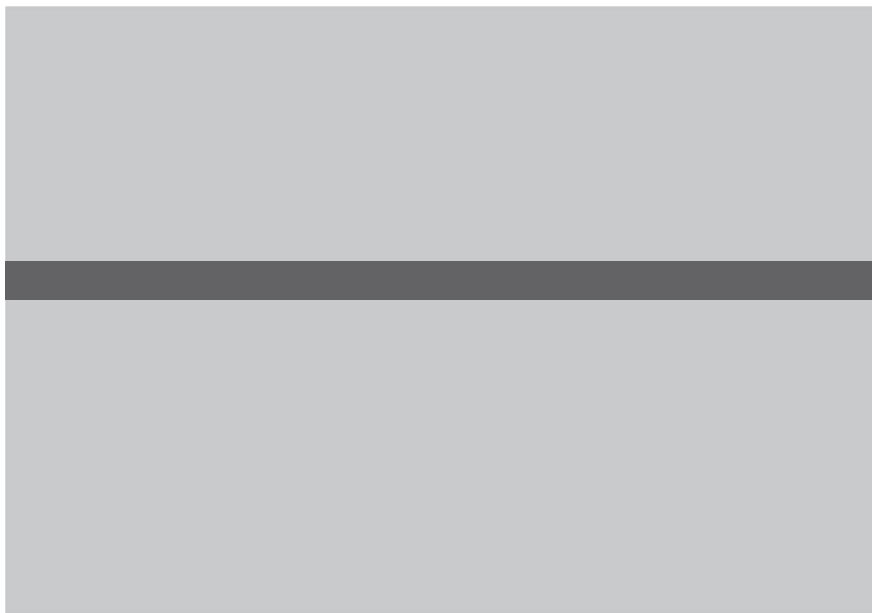
<b>Cause/Section</b>	<b>Step</b>	<b>Check item</b>	<b>Measures</b>
Developer unit	10	Is the magnetic brush in proper contact with the drum?	Adjust the doctor-sleeve gap.
	11	Is the developer unit pressure spring applying properly?	Check the pressure spring.
	12	Is the transport of developer material poor?	Remove foreign matter if any.
Scanner section	13	a. Is the DSDF open? b. Is the original glass, mirrors, or lens dirty?	a. Close the DSDF. b. Clean them.



## 8.5.21 Uneven image density 2



← Feeding direction  
Fig.8-58



← Feeding direction  
Fig.8-59

Cause/Section	Step	Check item	Measures
Developer unit	1	Is the layer of the developer material on the developer sleeve where the density is uneven thin or lacking?	<ul style="list-style-type: none"> <li>• Remove the foreign matter in the developer unit. See “2. Removal of foreign matter in the developer unit” in “7.6.7 Developer unit (K, Y, M and C)”.</li> <li>• Clean the developer unit. See “1. Cleaning” in “7.6.7 Developer unit (K, Y, M and C)”.</li> </ul>
	2	Does uneven image density occur again?	Adjust the doctor-sleeve gap close to the upper limit value of the adjustment standard. See “6.4.3 Adjustment of the doctor-sleeve gap”.

## 8.5.22 Faded image (low density)

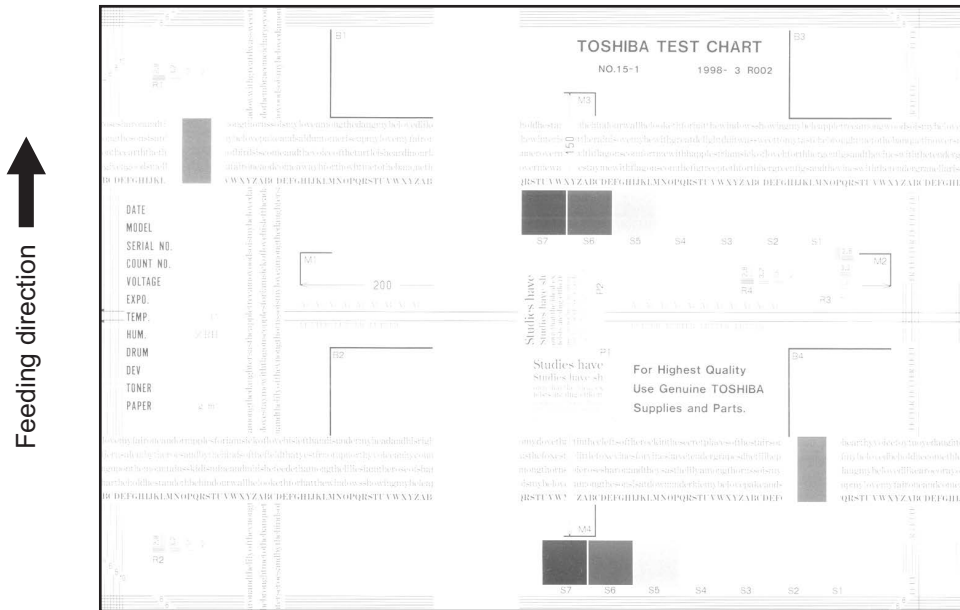


Fig.8-60

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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 transfer 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.

Cause/Section	Step	Check item	Measures
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.
2nd transfer contact/release unit (cam unit)	16	Is there any abnormality on the cam, pusher and actuator?	Check if the cam, pusher and actuator are installed correctly and there are no damages on them. Repair or replace them if needed.
	17	Is the 2nd transfer pressure reduction operating correctly during Thick paper printing?	Invalidate the 2nd transfer pressure reduction operation (change the value from "1" to "0" for FS-08-4663.), and check if the transfer failure is cleared. If it still persists, perform step 16 again.
2nd transfer	18	Is the recommended paper used?	If not, change the values of FS-05-2934 to FS-05-2937 to adjust the 2nd transfer bias offset. Check the mode (color or monochrome) and the side (front or back). Set the value for each paper type so that the density of the image quality becomes the darkest.  <b>Notes:</b> <ul style="list-style-type: none"> <li>• After the setting has been changed, perform automatic gamma adjustment.</li> <li>• When the value is increased close to 10, white spots may occur. To avoid, this, perform the adjustment while checking the image.</li> <li>• When the value is reduced close to 0, poor transfer may occur. To avoid, this, perform the adjustment while checking the image.</li> </ul>

## 8.5.23 Image dislocation in feeding direction

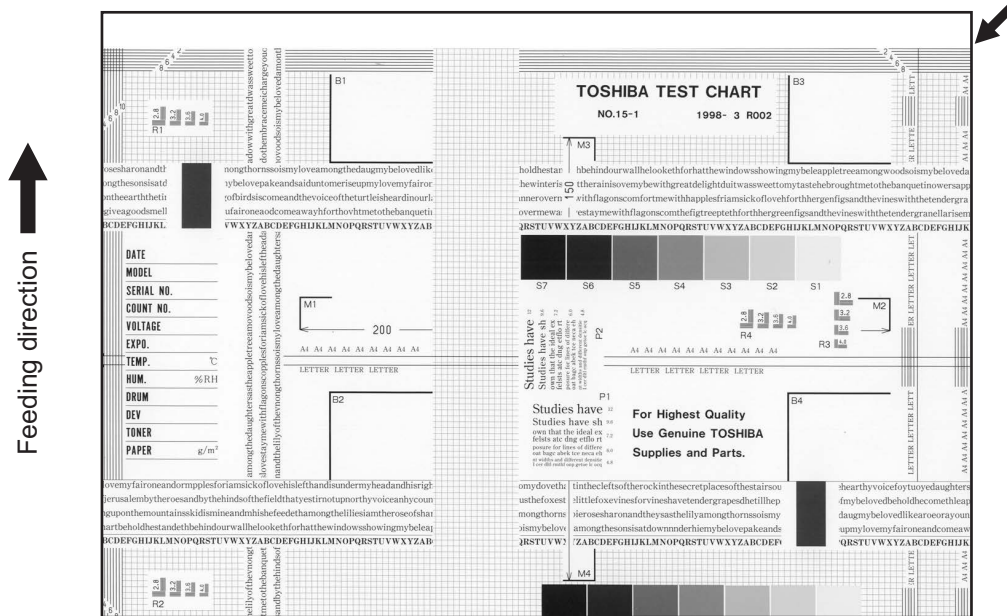


Fig.8-61

Cause/Section	Step	Check item	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.

## 8.5.24 Image jittering

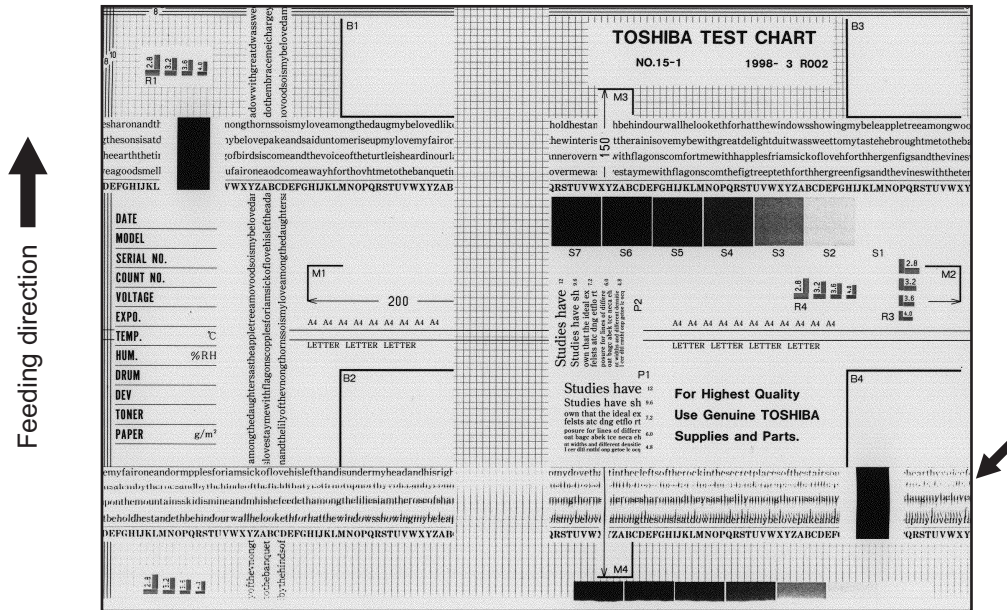


Fig.8-62

Cause/Section	Step	Check item	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 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.

Cause/Section	Step	Check item	Measures
Developer unit	12	Is there any abnormality on the driving gear in the developer unit?	<p>Check the driving gear in the developer unit.</p> <p>Replace the driving gear if it is worn out.</p> <p>Remove any developer material from the driving gear, and then reapply grease.</p>

## 8.5.25 Poor cleaning

### Notes:

Poor cleaning may occur in feeding direction.

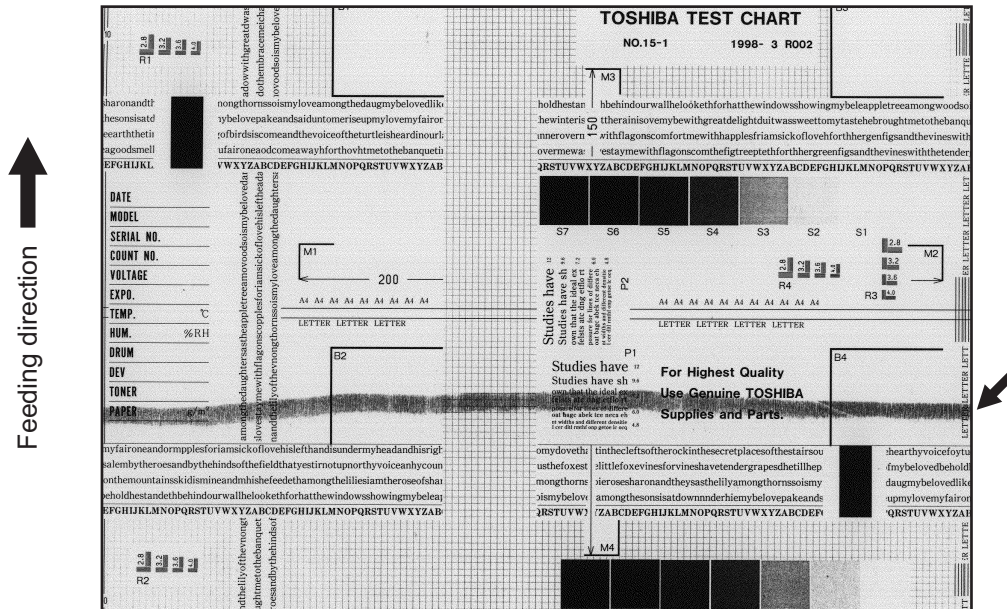


Fig.8-63

Cause/Section	Step	Check item	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. 126 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 thermistor. Check and correct the circuit.



## 8.5.26 Uneven light distribution

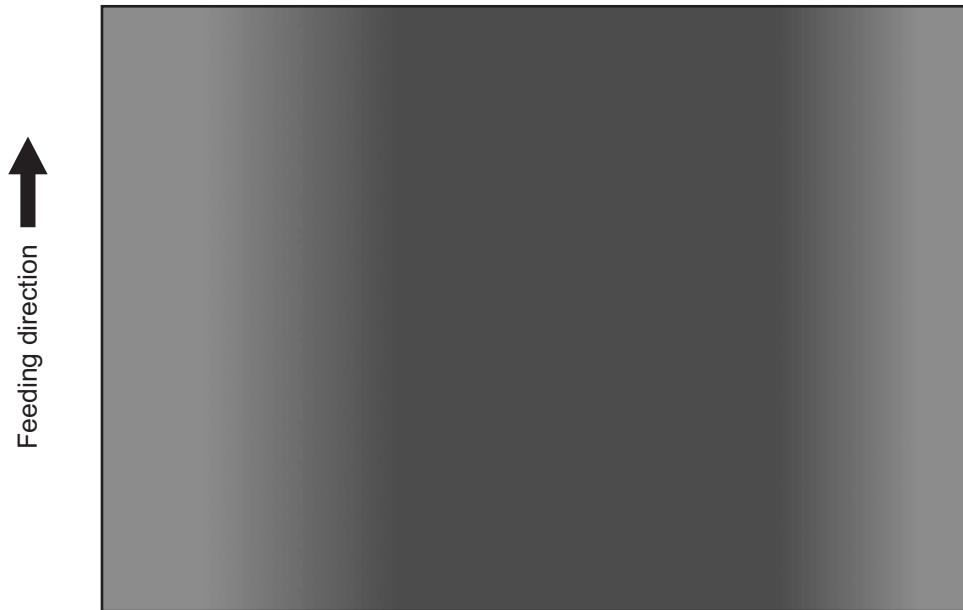


Fig.8-64

Cause/Section	Step	Check item	Measures
Laser optical unit, Main charger grid	1	Perform the enforced performing of image quality closed-loop control (FS-05-2742).	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.

## 8.5.27 Blotched image

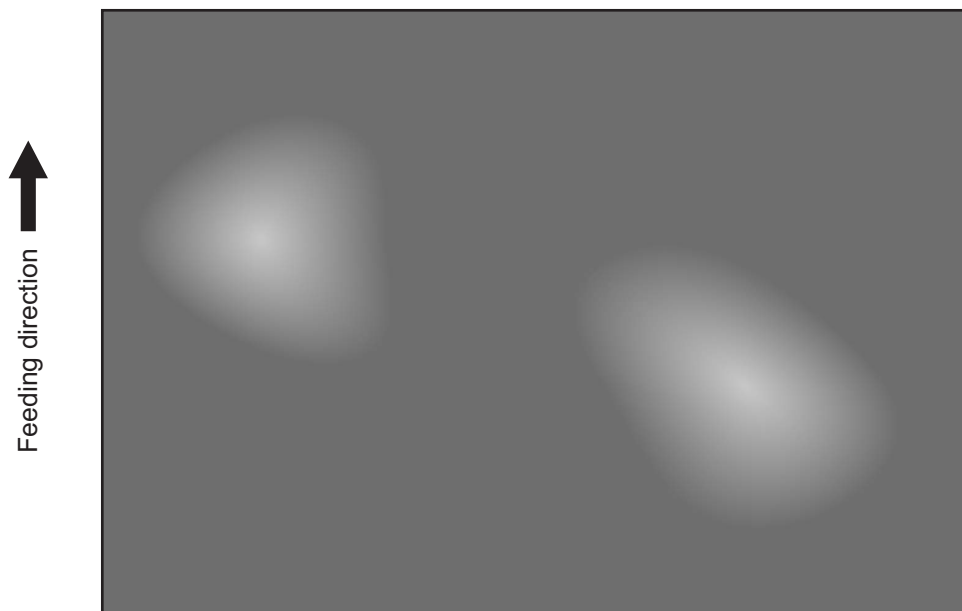


Fig.8-65

Cause/Section	Step	Check item	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.

## 8.5.28 Stain on the paper back side

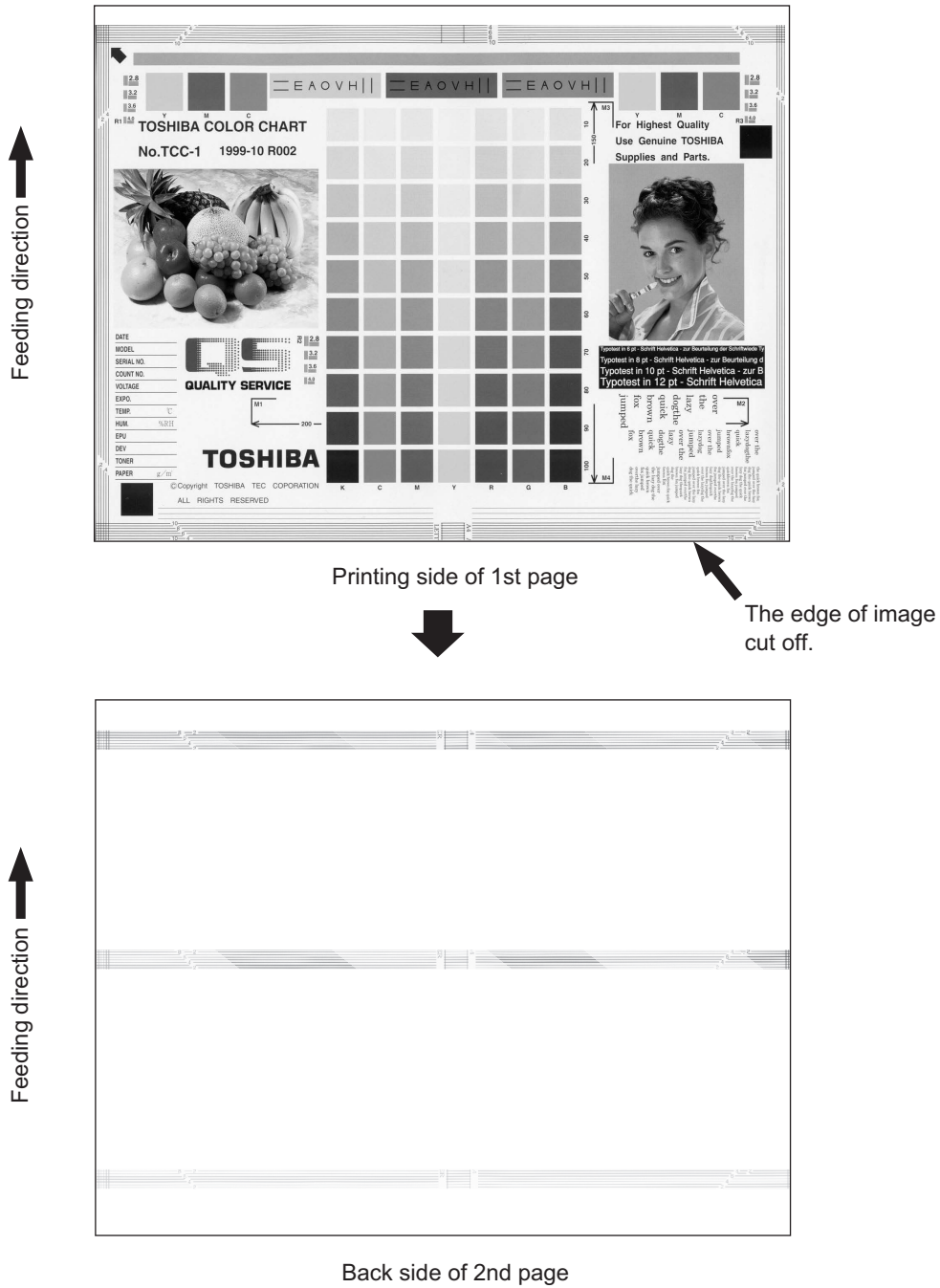

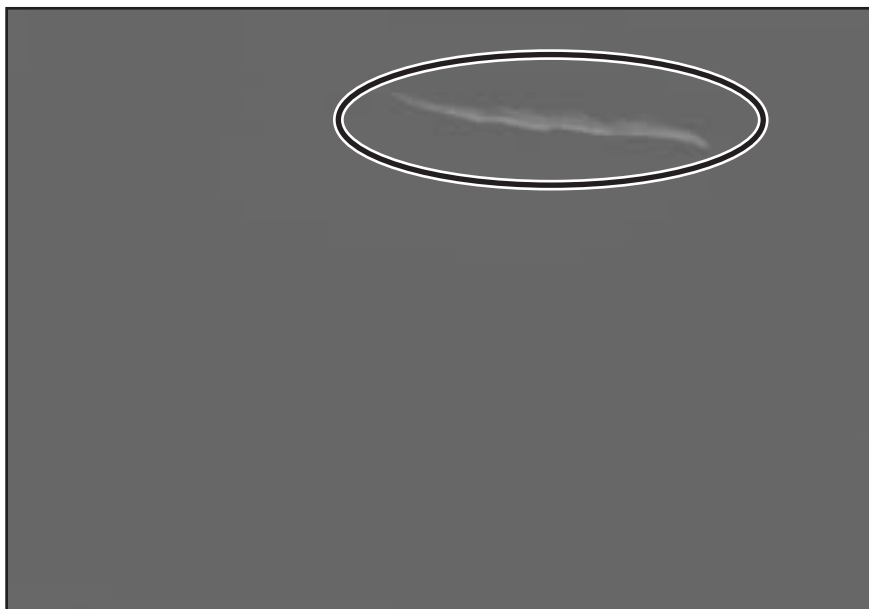


Fig.8-66

Cause/Section	Step	Check item	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. (FS-05-4064 0, 1, 4, to 5)
	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 properly installed?	Check if the 2nd transfer roller is properly installed.
	22	Has the 2nd transfer roller reached to its PM life?	Replace the 2nd transfer roller.

Cause/Section	Step	Check item	Measures
Fuser unit	23	Are the fuser belt, pressure roller, separation plate and 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 and 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. 6-96 "6.11.1 Adjustment of the Separation Plate Gap"
	24	Is the rib of transport guide dirty?	Clean the rib.
	25	Check the settings of the self diagnostic codes. <ul style="list-style-type: none"> <li>• Is the value for pressure roller contact / release setting (FS-08-5248) "1" (Release)?</li> <li>• Are the values for Plain paper: Heater forced On time (FS-08-2012-0 to 3) "0" (Invalid)?</li> <li>• Are the values for Time setting to keep temperature for print operation at print end (FS-08-2179-0 to 1) "0" (Invalid)?</li> </ul>	<ul style="list-style-type: none"> <li>• Set the value for Pressure roller contact / release setting (FS-08-5248) to "1" (Release).</li> <li>• Set the values for Plain paper: Heater forced On time (FS-08-2012-0 to 3) to "0" (Invalid).</li> <li>• Set the values for Time setting to keep temperature for print operation at print end (FS-08-2179-0 to 1) to "0" (Invalid).</li> </ul>

## 8.5.29 White void in the halftone



← Feeding direction

Fig.8-67

Cause/Section	Step	Check item	Measures
Paper	1	Does the paper mode correspond to the paper type?	Check the paper type. Use the recommended paper.
	2	Is the paper damaged such as curled?	Replace the paper.
Fuser unit	3	Is there any stain on the metal plate of the paper guide?	Clean the paper guide.
	4	Is there any deformation or scratch on the metal plate of the paper guide?	Replace the paper guide.
	5	Is there any stain on the rib plastic part in the paper guide?	Clean the paper guide.
2nd transfer unit area	6	Are the plastic part and the sensor bracket in the 2nd transfer rear guide installed properly?	Install them correctly.

### 8.5.30 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.

v

YES

Is there any abnormality such as scratch or wear on the transport roller?

| YES → Replace the transport roller.

v

NO

1. Increase the adjustment value for the paper alignment.

📖 P. 6-8 "6.1.6 Paper alignment at the registration roller"

2. Increase the transport motor speed. (Adjust it at the code FS-05-4532 0 to 2, 4.)

#### (2) Paper wrinkle in the fuser unit

Is the paper properly set?

| NO → Set the paper properly.

v

YES

Has the paper absorbed moisture?

| YES → Use paper that has not absorbed moisture.

v

NO

Is flexible paper such as recycled paper used?

| YES → Switch to the recycled paper mode.

| (Select "RECYCLED PAPER" in MEDIA TYPE.)

v

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)

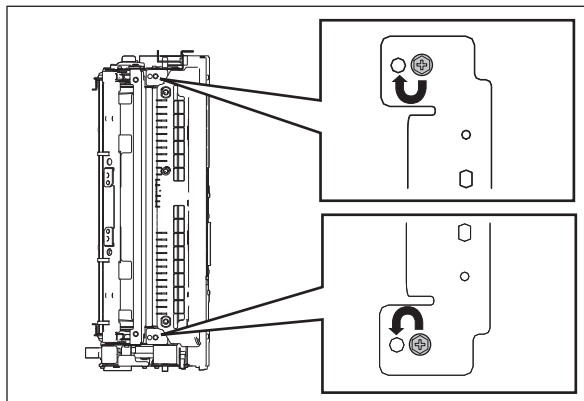


Fig.8-68

### 8.5.31 Toner scattering

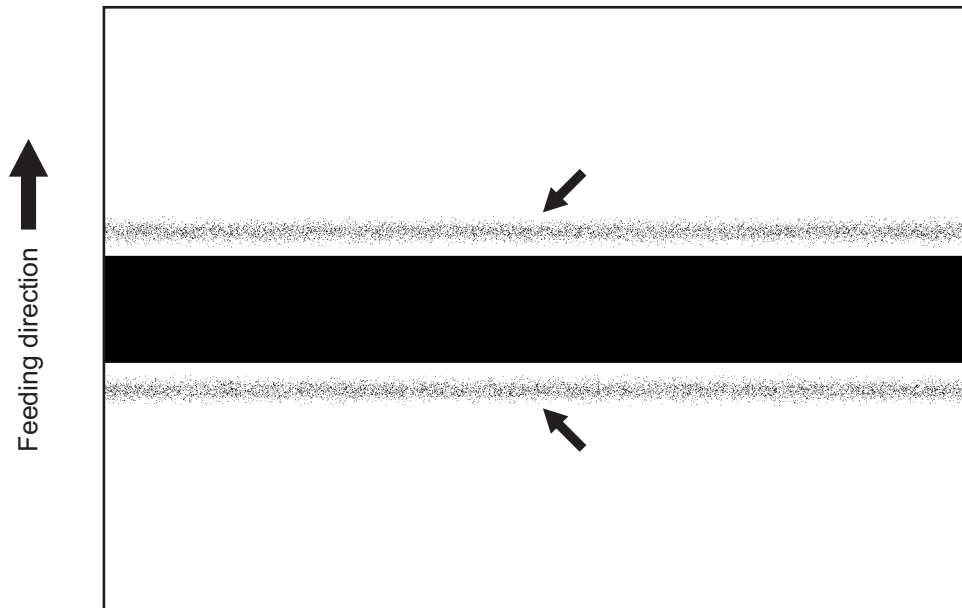


Fig.8-69

Cause/Section	Step	Check Item	Measure
Paper	1	Check if the paper type is set properly.	Set the paper type to be used properly.
Drawer / bypass tray	2	Is toner scattered when printing is performed on the back side of which front side has been printed?	When printing on the back side is performed, place the paper on the bypass tray and select the paper type and [Printed] in "Back Printed".
2nd transfer	3	Is the recommended paper used?	<p>If not, change the values of FS-05-2934 to FS-05-2937 to adjust the 2nd transfer bias offset.</p> <p>Check the mode (color or monochrome) and the side (front or back). Set the value for each paper type so that the density of the image quality becomes the darkest.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• After the setting has been changed, perform automatic gamma adjustment.</li> <li>• When the value is increased close to 10, white spots may occur. To avoid, this, perform the adjustment while checking the image.</li> <li>• When the value is reduced close to 0, poor transfer may occur. To avoid, this, perform the adjustment while checking the image.</li> </ul>



## 8.5.32 Residual image

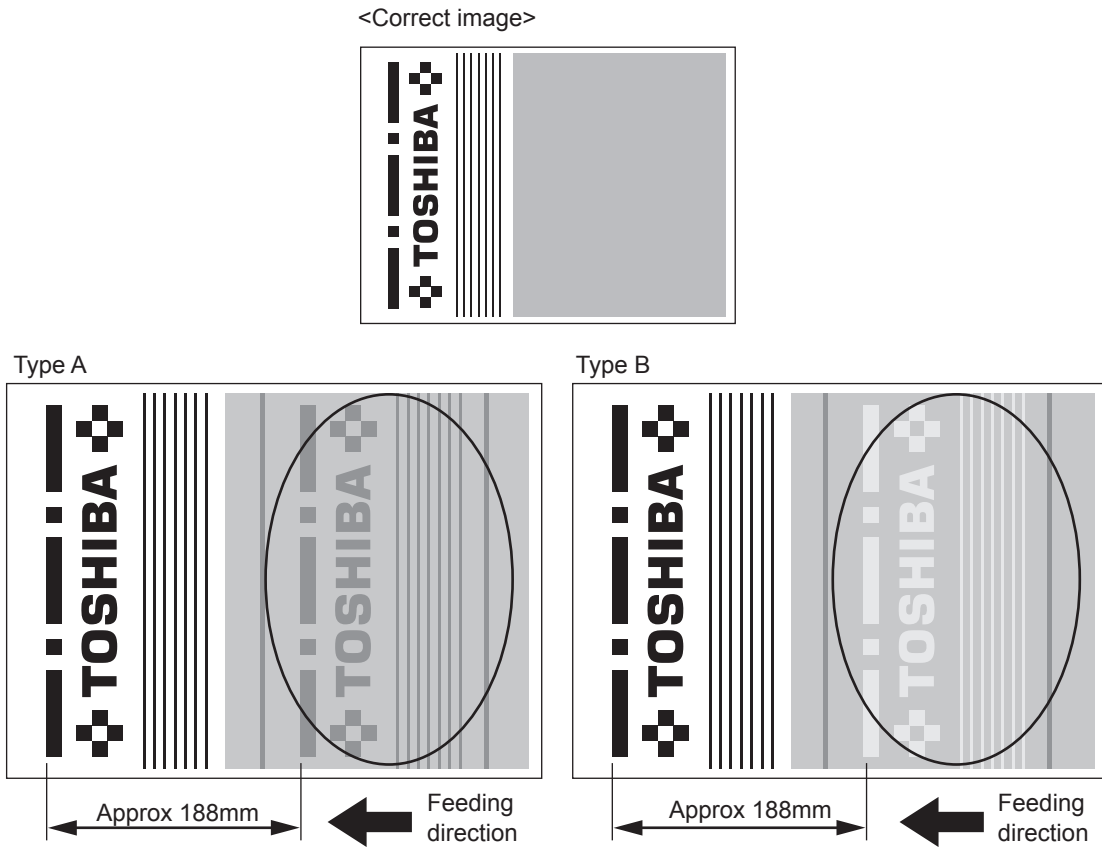


Fig.8-70

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 item	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 75ppm, decrease the value of the code FS-05-2905-5 by 1 while you are checking how the residual image has changed.

If the model is the 55ppm/65ppm, decrease the value of the code FS-05-2905-5 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.

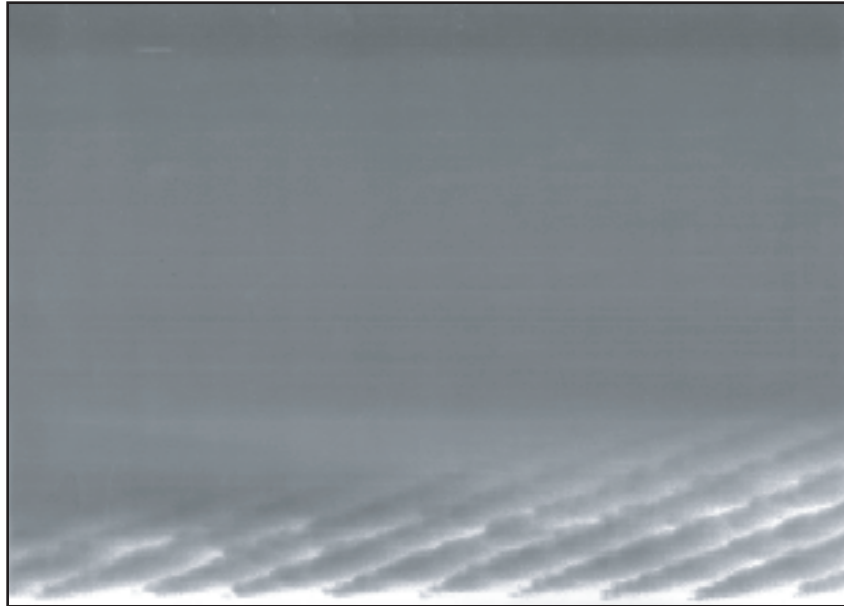
Special paper, OHP / black

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.

### 8.5.33 Feathered image



← Feeding direction

Fig.8-71

#### 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 the developer material layer on the developer sleeve (rear side)	The developer material has greatly decreased. Most of the surface of the mixer shaft is exposed.
<p>Lack of developer material layer</p> <p>Fig.8-72</p>	<p>Developer material</p> <p>Fig.8-73</p>

## 2) Investigating cause / taking measures

Cause/Section	Step	Check item	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.
Drum thermistor	4	Drum thermistor check (The drum contacts the thermistor.)	Replace the discharge Drum thermistor. (THM1, THM2)
Main pole position	5	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
Control	6	If the problem still persists even though the above steps 1 to 5 have been performed.	Increase the number of the toner refreshing control times. <ul style="list-style-type: none"> <li>Execute FS-08-2685 and change the setting value from 500 (default) to 250.</li> </ul> <b>Notes:</b> The setting value of FS-08-2680 should be set to "1" (ON) in order to execute FS-08-2685.
Developer material	7	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 77 and 78 in the unpacking instructions 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.)

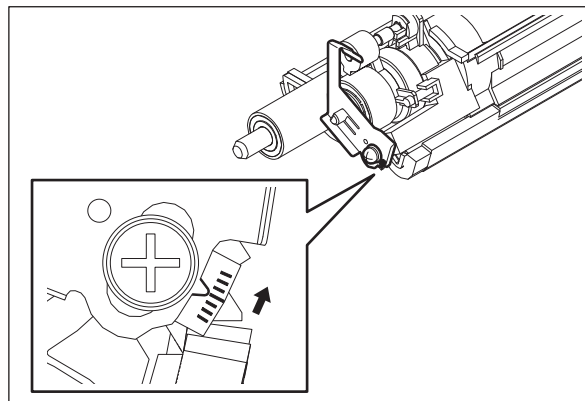
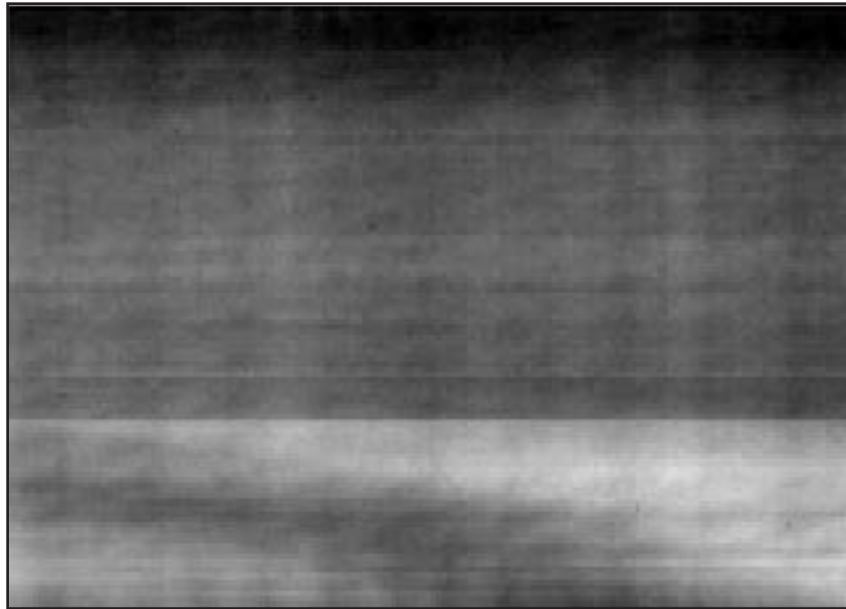


Fig.8-74

### 8.5.34 Low density image (rear side)



← Feeding direction

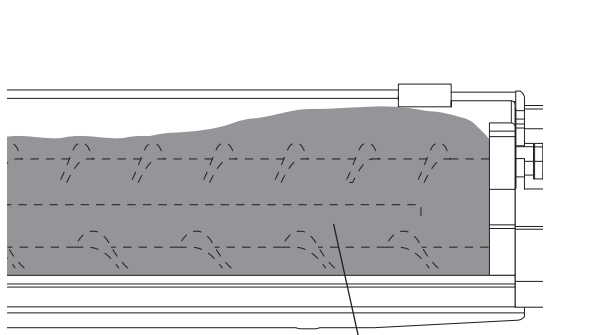
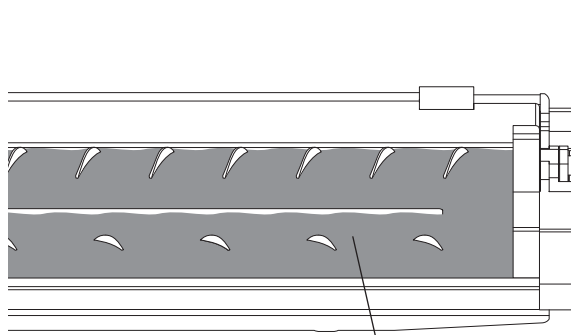
Fig.8-75

#### 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)
 <p>Developer material</p> <p>Fig.8-76</p>	 <p>Developer material</p> <p>Fig.8-77</p>

#### 2) Investigating cause / taking measures

Cause/Section	Step	Check item	Measures
Equipment installation	1	Check if the equipment is leaning to the right side using a level. *1	Reinstall the equipment horizontally. *1
Drum thermistor	2	Drum thermistor check (The drum contacts the thermistor.)	Replace the discharge Drum thermistor. (THM1, THM2)
Developer unit	3	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	4	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

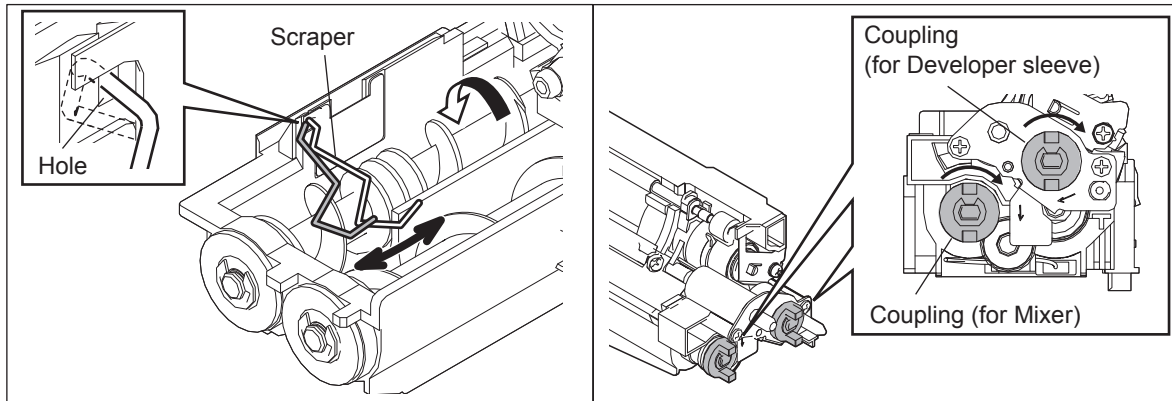
Repeat steps 77 and 78 in the unpacking instructions (shown below) to confirm that the equipment is horizontally installed.

**2** How to confirm the installation position or operation of the scraper

Check if the scraper is installed so that it 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.

**Notes:**

Never turn the coupling in the opposite direction because the scraper will be damaged.



**Fig.8-78**

### 8.5.35 Image tilting on leading edge

When a printed image at the leading edge of paper is tilted as shown below, correct this by adjusting the bracket of TBU.

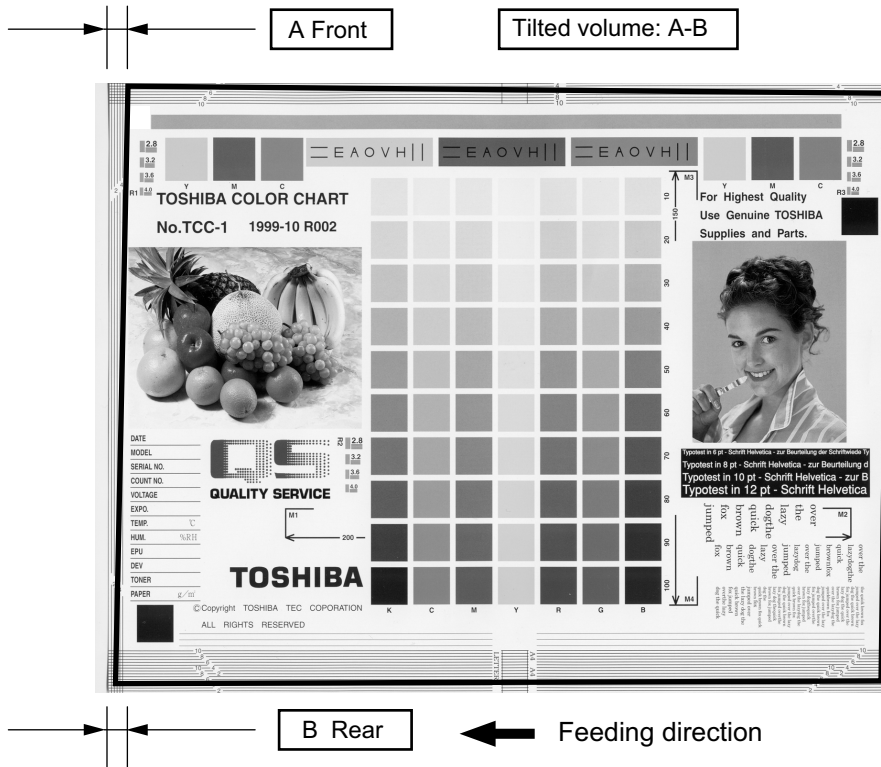


Fig.8-79

#### <Procedure>

- (1) Confirm the condition of the image tilting with a grid pattern.
- (2) Take off the transfer belt unit.
- (3) Remove 2 screws and take off the bracket of the transfer belt unit.
- (4) To improve the degree of image tilting by 0.5 mm or less: Align the bracket to the upper alignment position and secure it with 2 screws.  
To improve the degree of image tilting by 0.5 mm or more: Align the bracket to the lower alignment position and secure it with 2 screws.

#### Remarks:

Image tilting on the leading edge can be adjusted in the range of 1 mm or less by adjusting the bracket of the TBU. (Note that the improvement volume may decrease depending on the equipment.)

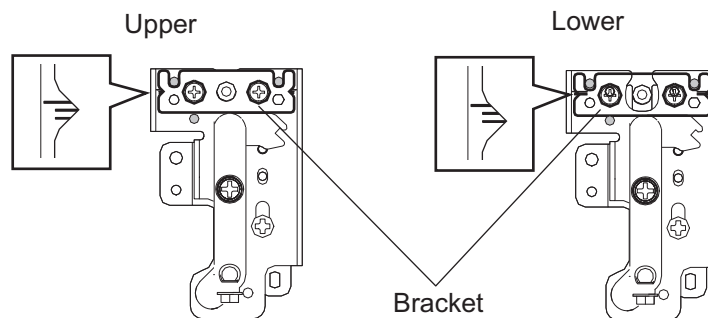
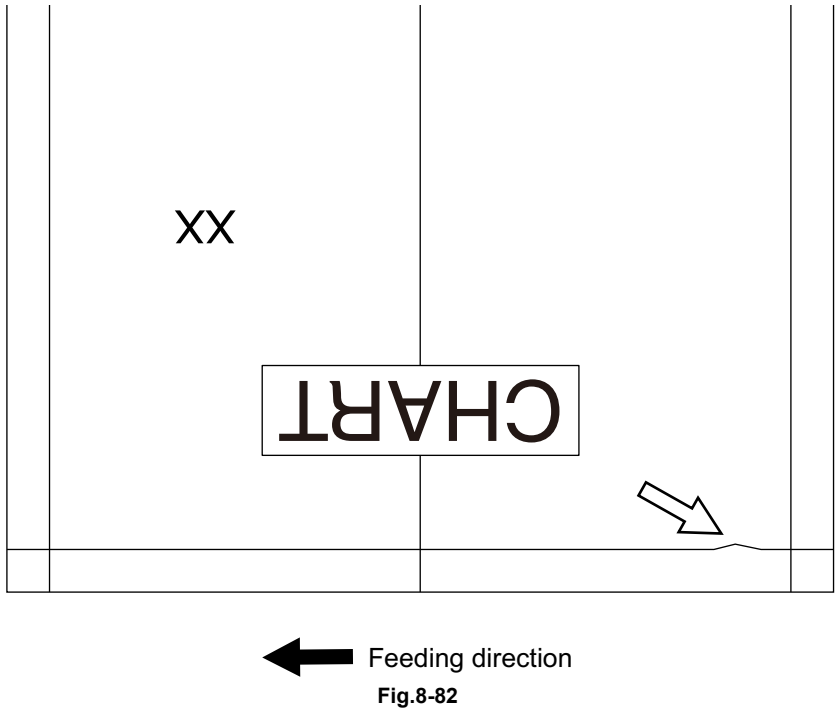
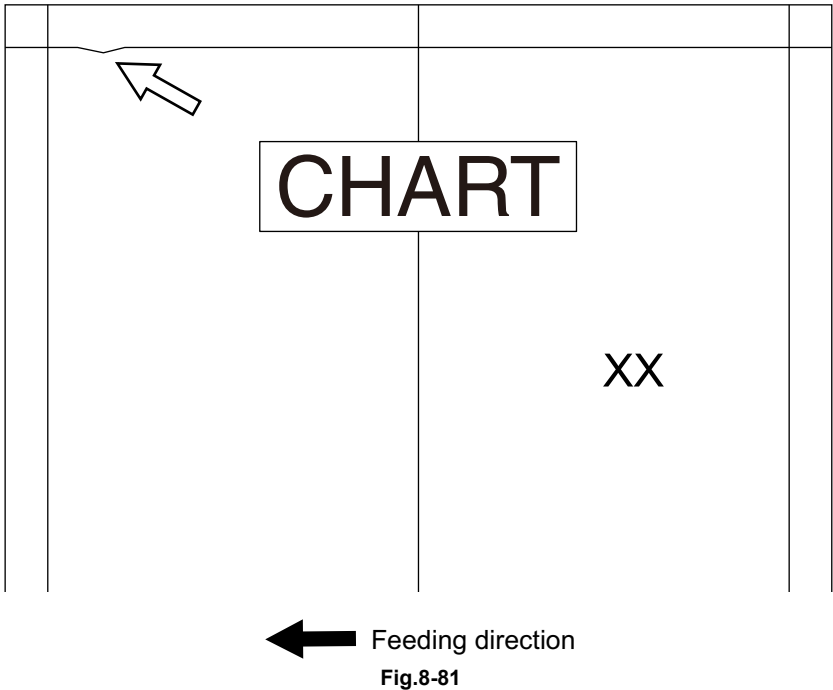


Fig.8-80

- (5) Install the transfer belt unit.
- (6) Confirm that there is no image tilting with the grid pattern.

8.5.36 Image distortion (dogleg image)

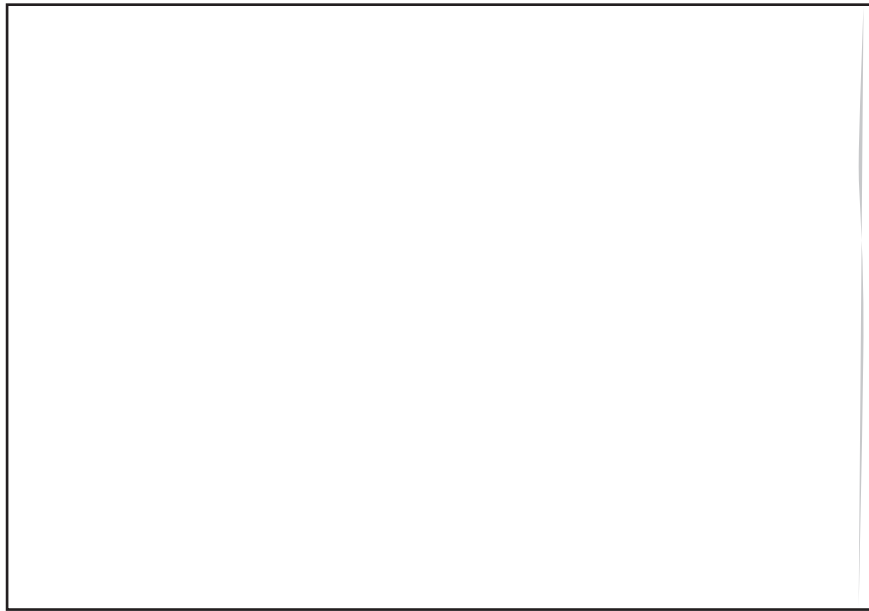


The image distortion (dogleg image) shown upper occur on the leading or trailing edge at the back side of the copied or scanned paper while the DSDF was used.



Cause/Section	Step	Check item	Measures
DSDF	1	Adjustment of position / Adjustment of height	Check the installation condition of the DSDF and confirm that there are no abnormalities in the adjustment for its position and height. 📖 P. 6-106 "6.12.1 Adjustment of Position" 📖 P. 6-110 "6.12.2 Adjustment of Height"
	2	Adjustment of skew	Perform the adjustment of image tilting at the back side. 📖 P. 6-112 "6.12.3 Adjustment of Skew"  <b>Remarks:</b> The phenomenon tends to be reduced if the CCD module is moved in the "+" direction. Perform the adjustment of image tilting at the front side corresponding to the tilted amount of the back side.  <b>Notes:</b> <ul style="list-style-type: none"> <li>• When this adjustment is performed, an entire image may be tilted.</li> <li>• Even if this adjustment is performed, a dogleg image will not be resolved completely.</li> </ul>

### 8.5.37 Shadow in copied/scanned images when using the DSDF



← Feeding direction

Fig.8-83

Cause/Section	Step	Check item	Measures	
Prior confirmation (MFP/DSDF adjustment condition check)	1	Check that the image dimensional adjustment of the MFP is performed properly.	If the adjustment is insufficient, perform the following items. 1. Image dimensional adjustment at the printing section 2. Image dimensional adjustment at the scanning section	If there is no problem in the adjustment condition, start the adjustment from step 3.
	2	Check that the image related adjustment of the DSDF is performed properly.	If the adjustment is insufficient, perform the following items. 1. Adjustment of the leading edge position 2. Adjustment of the horizontal position 3. Adjustment of the copy ratio	


Cause/Section	Step	Check item	Measures	
Image related adjustment of the MFP/ DSDF	3	Perform scanning from the DSDF and check whether a shadow or an image void has appeared at the leading or trailing edge in the feeding direction.	If any defects occur, perform the following items. <ol style="list-style-type: none"> <li>Image dimensional adjustment at the printing section (Secondary scanning data writing start position adjustment, Reproduction ratio of the primary scanning direction adjustment)</li> <li>Image dimensional adjustment at the scanning section (Secondary scanning data writing start position adjustment)</li> <li>Image related adjustment of the DSDF (Adjustment of the leading edge position, Adjustment of the copy ratio)</li> </ol>	
	4	Perform scanning from the DSDF and check whether a shadow or an image void has appeared at the left or right edge in the feeding and vertical direction.	If any defects occur, perform the following items. <ol style="list-style-type: none"> <li>Image dimensional adjustment at the printing section (Primary scanning data writing start position adjustment)</li> <li>Image dimensional adjustment at the scanning section (Primary scanning data writing start position adjustment)</li> <li>Image related adjustment of the DSDF (Adjustment of the horizontal position)</li> </ol>	
Copying	5	<ul style="list-style-type: none"> <li>Check whether a trailing edge shadow of an original has appeared at copying only.</li> <li>Check whether a trailing edge shadow of an original has appeared when copying is made by selecting a larger size of paper than that for an original or by reducing the size.</li> </ul>	If any defects occur, perform the following items. <ol style="list-style-type: none"> <li>Change the value of FS-08-3075 (Allowing of trailing edge adjustment of scanning) to "1" (Allowed).</li> <li>Decrease the value of FS-05-3350 (Scan trailing edge adjustment for the front side) and FS-05-3351 (Scan trailing edge adjustment for the back side) from 50 until the trailing edge shadow of an original has disappeared.</li> </ol> <p><b>Remarks:</b>  When the value is decreased by "1", the image will be cut (become shorter) by 0.3 mm.</p>	This adjustment is available only for the copying function. (This adjustment cannot be performed in the scanning function.)




## 9. REPLACEMENT OF PC BOARDS/HDD

### 9.1 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. 9-20 "9.2 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.

#### 9.1.1 SYS board cover

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 4 screws and take off the SYS board cover [1] by sliding it.

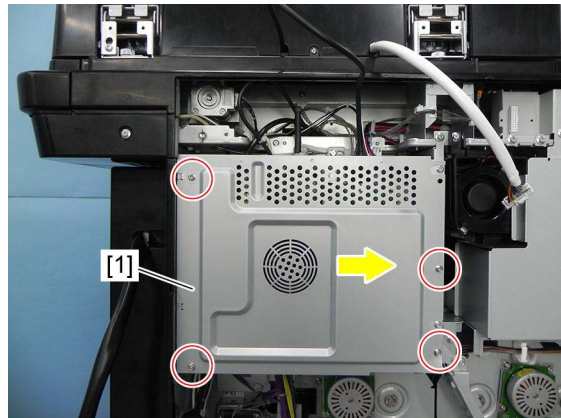




Fig.9-1

#### 9.1.2 SYS board (SYS)

#### Notes:

- When the SYS board or main memory has been replaced, be sure to perform the calibration of memory.
- When performing the calibration of memory, turn the power ON while pressing the [ENERGY SAVER] button.
- When the equipment is started up normally, the calibration has been completed.
- If the calibration is not performed, the equipment may be not started up normally.

- (1) Remove the SYS board cooling fan.  
 P. 9-7 "9.1.6 SYS board cooling fan (F27)"
- (2) Remove the hard disk.  
 P. 9-12 "9.1.11 Hard disk (HDD)"
- (3) Remove 1 screw. Release the lock by tilting the flap [1] and remove the flat cable [2] and harness guide [3].

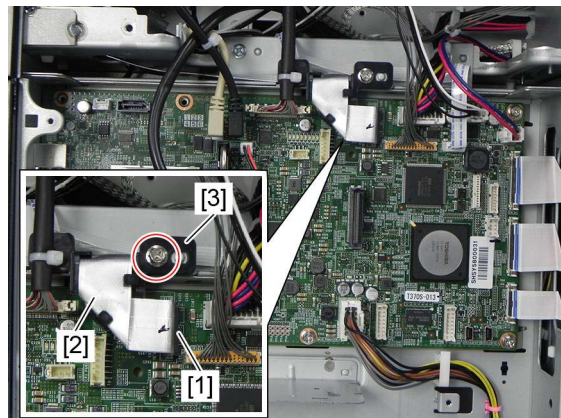
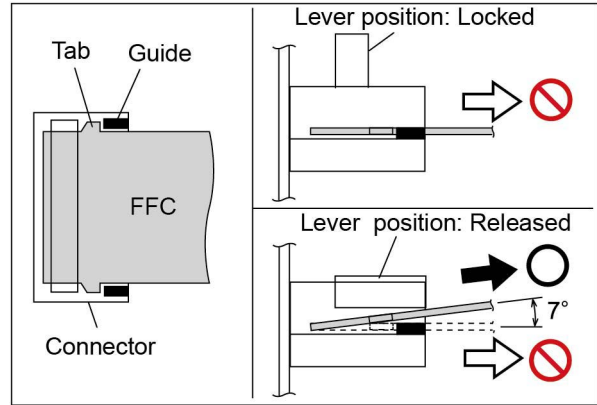


Fig. 9-2

**Notes:**

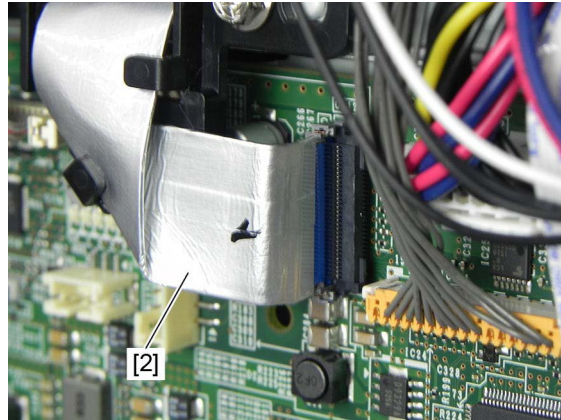
- When removing the flat cable [2], change the lever position so that the connector is released, and remove the flat cable by lifting it up slightly (approx. 7 degrees) as shown in the right figure.
- When connecting the flat cable [2] to the connector, insert the flat cable straightly and lock it securely. Confirm that the tabs are in the positions shown in the right figure.



**Fig. 9-3**

**Notes:**

- When installing the flat cable [2], do not push it in strongly.
- When installing the flat cable [2], be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable [2].



**Fig. 9-4**

- (4) Release the lock by pushing the actuator and remove 3 flat cables [4]. Remove all of the connectors and USB cables that are connected to the SYS board [5].

**Notes:**

- When installing the harnesses, be careful not to connect each different USB harness.  
CN112: White USB harness  
(The harness of the USB relay)  
CN113: Black USB harness  
(The harness of the USB Hub board)

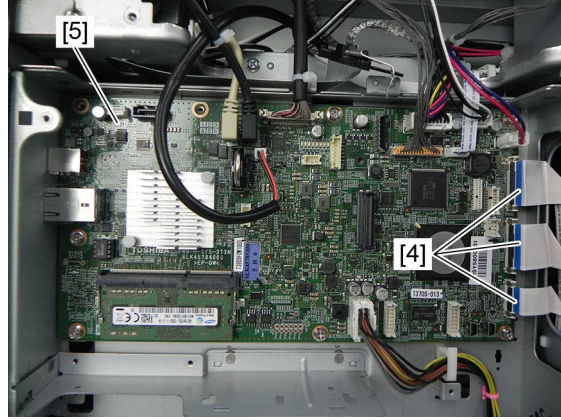


Fig. 9-5

- When removing the flat cable [4], pull out the actuator [6] while pushing it.
- When connecting the flat cable [4] to the actuator [6], connect it until a click sound is heard.
- When installing the flat cable [4], do not push it in strongly.
- When installing the flat cable [4], be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable [4].

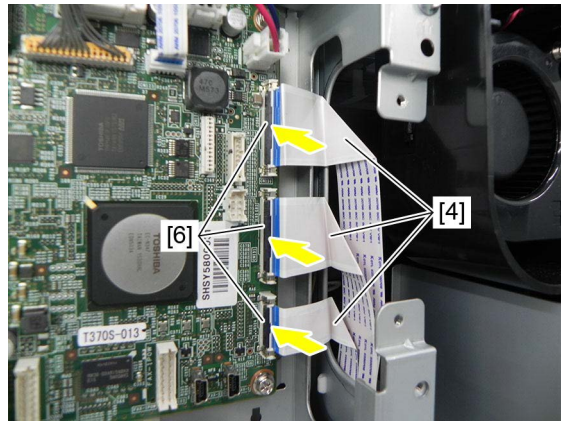


Fig. 9-6

- (5) Remove 6 screws and take off the SYS board [5].

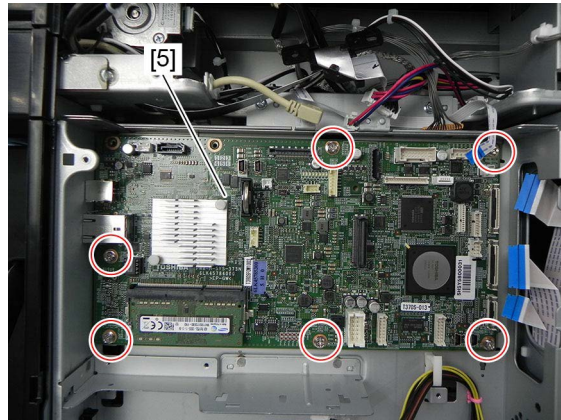


Fig. 9-7

### 9.1.3 SRAM

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove the HDD unit.  
 P. 9-12 "9.1.11 Hard disk (HDD)"
- (3) Remove the SRAM [1] from the SYS board [2].

**Notes:**

- Be careful not to damage the SRAM [1] when removing the SRAM [1] from the SYS board [2].
- When installing the SRAM [1], pay attention to the orientation. Install the SRAM [1] with its concave portion up.

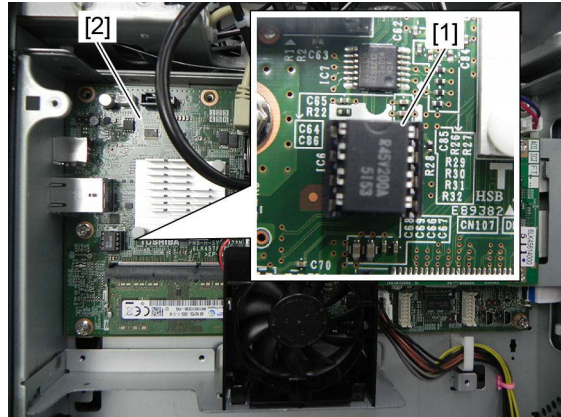


Fig. 9-8

### 9.1.4 Main memory (DIMM)

**Notes:**

- When the SYS board or main memory has been replaced, be sure to perform the calibration of memory.
- When performing the calibration of memory, turn the power ON while pressing the [ENERGY SAVER] button.
- When the equipment is started up normally, the calibration has been completed.
- If the calibration is not performed, the equipment may be not started up normally.

- (1) Remove the SYS board cooling fan.  
 P. 9-7 "9.1.6 SYS board cooling fan (F27)"
- (2) Remove the HDD unit.  
 P. 9-12 "9.1.11 Hard disk (HDD)"
- (3) Release 2 latches and remove the main memory [1].

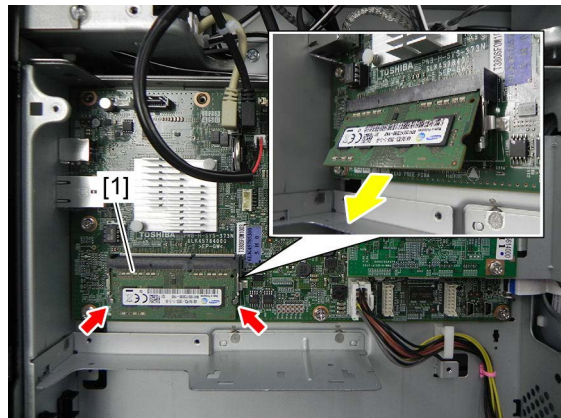


Fig. 9-9



## 9.1.5 SYS board case

- (1) Remove the SYS board cover.  
 P. 9-1 "9.1.1 SYS board cover"
- (2) Remove the DSDF board.  
 P. 4-277 "4.11.1 Removing the DSDF"
- (3) Remove 1 screw. Release the lock by tilting the flap [1] and remove the flat cable [2] and harness guide [3].

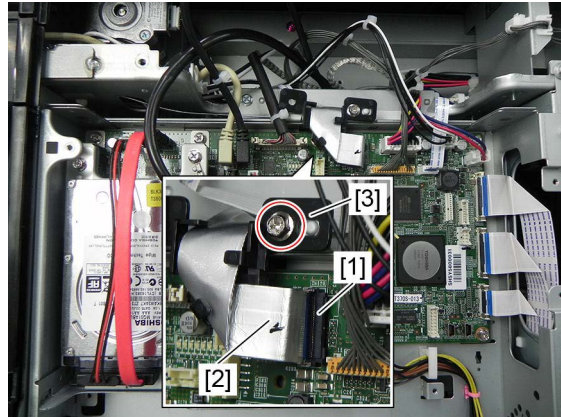


Fig. 9-10

### Notes:

- When removing the flat cable [2], change the lever position so that the connector is released, and remove the flat cable by lifting it up slightly (approx. 7 degrees) as shown in the right figure.
- When connecting the flat cable [2] to the connector, insert the flat cable straightly and lock it securely. Confirm that the tabs are in the positions shown in the right figure.

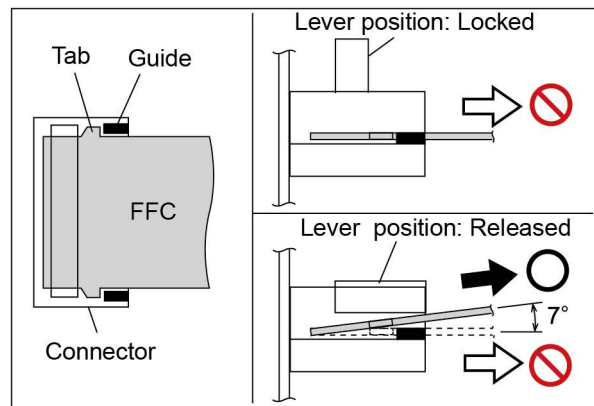


Fig. 9-11

### Notes:

- When installing the flat cable [2], do not push it in strongly.
- When installing the flat cable [2], be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable [2].

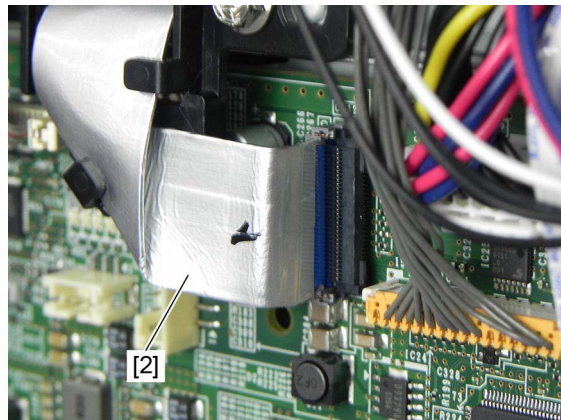
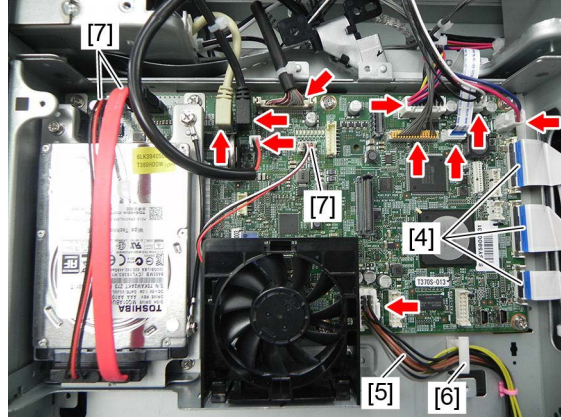


Fig. 9-12

- (4) Release the lock by pushing the actuator and remove 3 flat cables [4]. Disconnect the connectors shown in the figure. Release the harness [5] from the harness clamp [6].

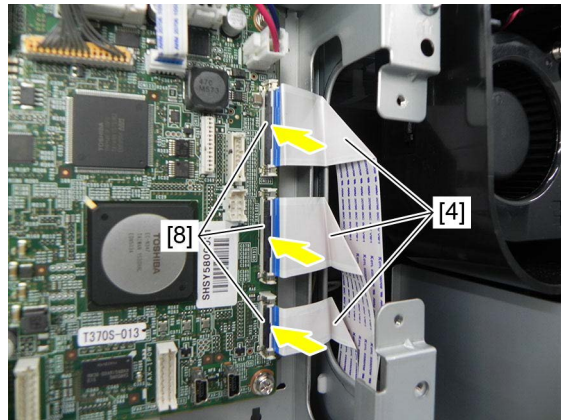
**Notes:**

- Do not disconnect 3 connectors [7] connected to the HDD and SYS board cooling fan.
- When installing the harnesses, be careful not to connect each different USB harness.  
CN112: White USB harness  
(The harness of the USB relay)  
CN113: Black USB harness  
(The harness of the USB Hub board)



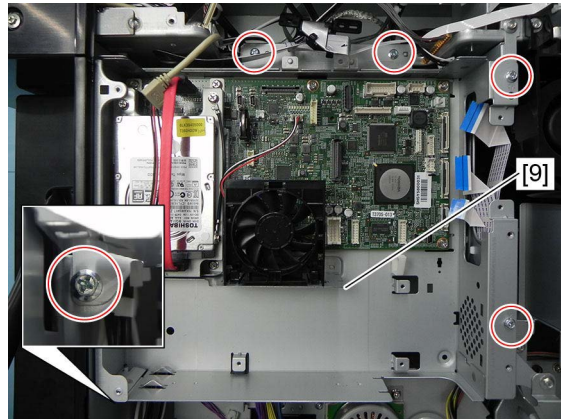
**Fig. 9-13**

- When removing the flat cable [4], pull out the actuator [8] while pushing it.
- When connecting the flat cable [4] to the actuator [8], connect it until a click sound is heard.
- When installing the flat cable [4], do not push it in strongly.
- When installing the flat cable [4], be careful not to insert it at an angle.
- Do not apply pressure to or damage the edge of the flat cable [4].



**Fig. 9-14**

- (5) Remove 5 screws and take off the SYS board case [9].



**Fig. 9-15**

## 9.1.6 SYS board cooling fan (F27)

- (1) Remove the SYS board cover.  
📖 P. 9-1 "9.1.1 SYS board cover"
- (2) Disconnect 1 connector.
- (3) Lift 2 latches [1] and remove the SYS board cooling fan [2] by sliding it toward you.

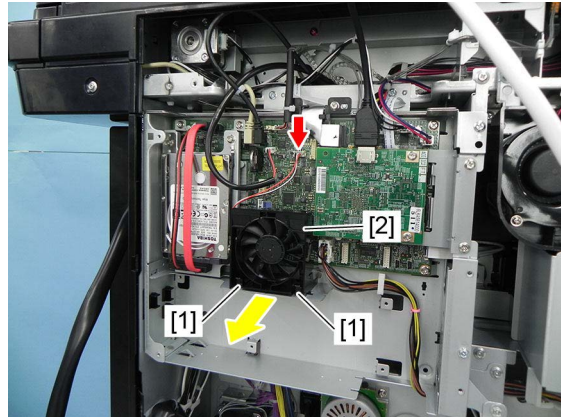


Fig. 9-16

## 9.1.7 LGC board (LGC)

- (1) Remove the rear cover.  
📖 P. 4-10 "4.1.22 Rear cover"
- (2) Remove all the connectors and 4 flat cables [2] that are connected to the LGC board [1].

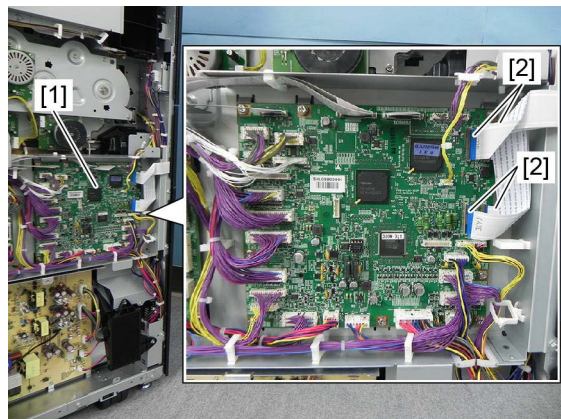


Fig. 9-17

### Notes:

- When disconnecting the flat cable [2], release the lock by tilting the flap and disconnect it.
- When installing, be sure to connect the flat cables at the proper positions.

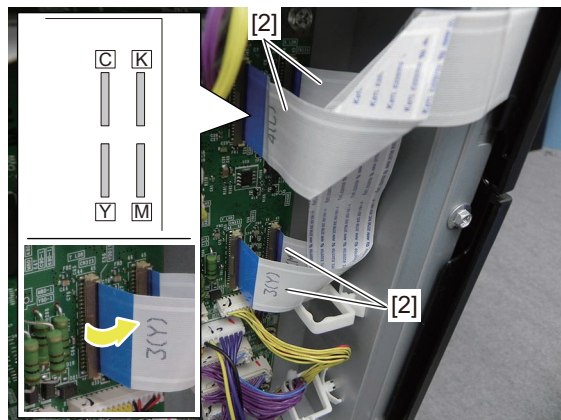


Fig. 9-18

- (3) Remove 8 screws and take off the LGC board [1].

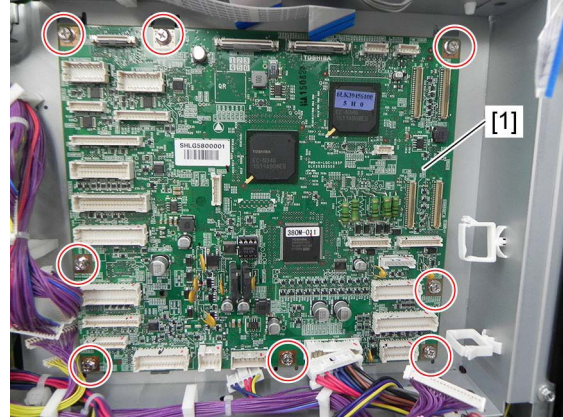


Fig. 9-19

**Notes:**

The LGC board to be installed differs depending on the models. Due to this, before replacing, be sure to check the color of the identification label on the LGC board to install the corresponding one in the equipment.

- 55ppm: Brown
- 65ppm: Blue
- 75ppm: Green

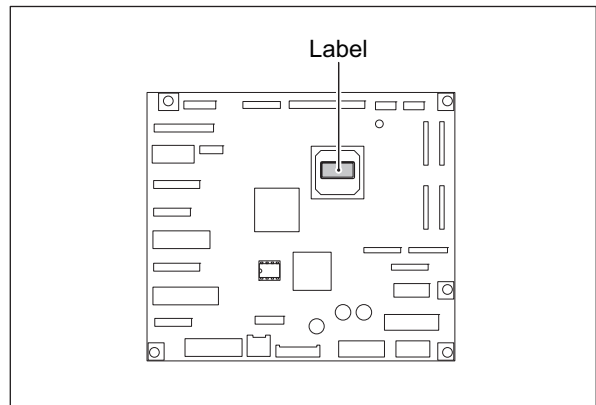


Fig. 9-20

### 9.1.8 EEPROM

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove the EEPROM [1] from the LGC Board [2].

**Notes:**

- Be careful not to damage the EEPROM [1] when replacing the EEPROM [1].
- When installing the EEPROM [1], pay attention to the orientation. Install the EEPROM [1] with its concave portion left.

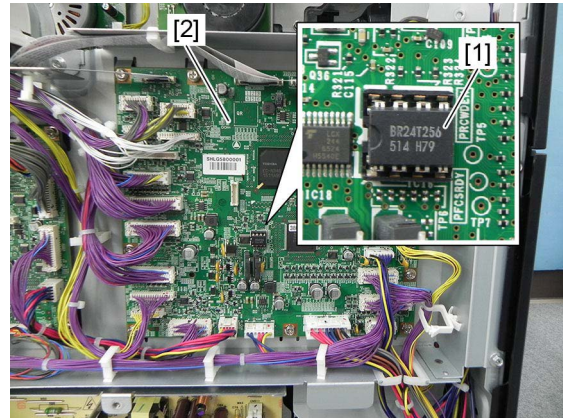


Fig. 9-21

### 9.1.9 LGC/PFC board case

- (1) Remove the rear cover.  
 📖 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect all the connectors and 4 flat cables [3] that are connected to the LGC board [1] and the PFC board [2].

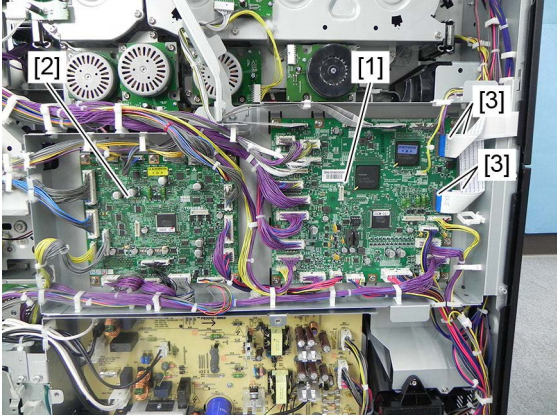


Fig. 9-22

**Notes:**

- When disconnecting the flat cable [3], release the lock by tilting the flap and disconnect it.
- When installing, be sure to connect the flat cables at the proper positions.

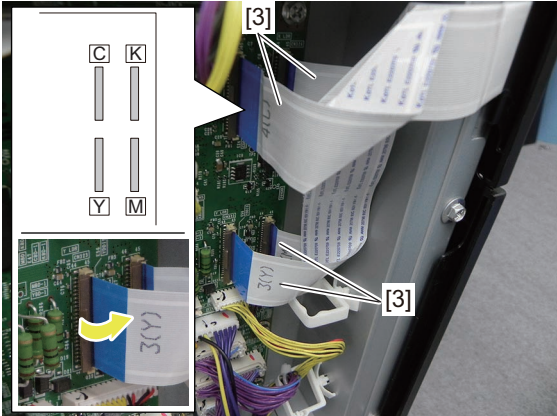


Fig. 9-23

- (3) Release the harnesses from the harness clamps shown in the figure.

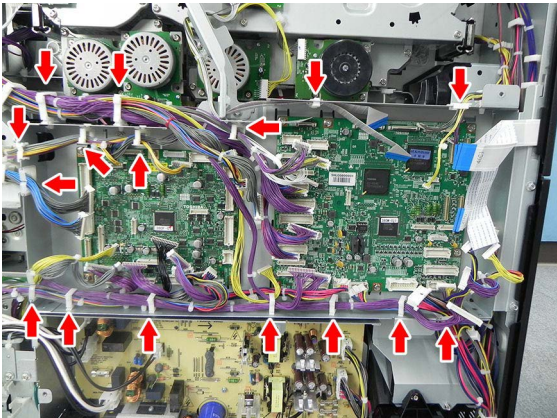


Fig. 9-24

- (4) Release the flat cable from 3 flat cable clamps.

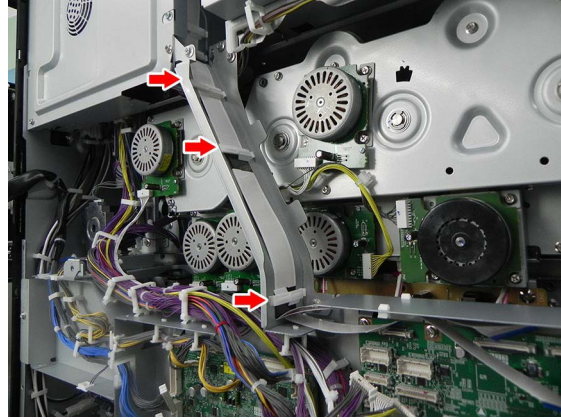


Fig. 9-25

- (5) Remove 3 screws and take off the stay [4].

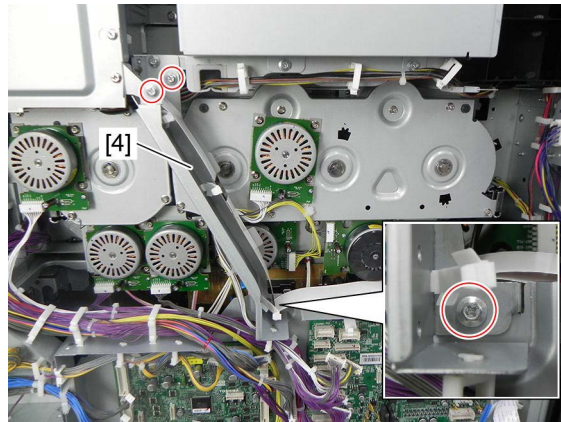


Fig. 9-26

- (6) Remove 2 screws and release the bracket [5].

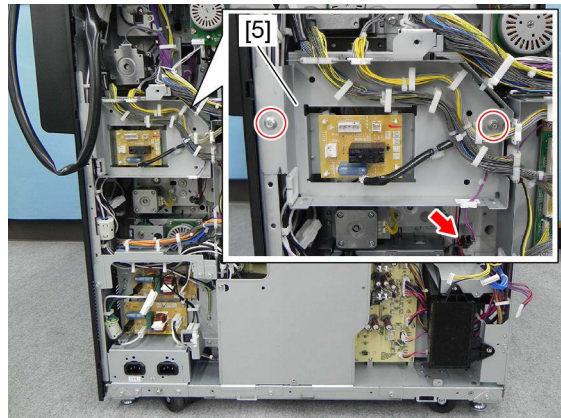


Fig. 9-27

- (7) Remove 4 screws and take off the LGC/PFC board case [6].

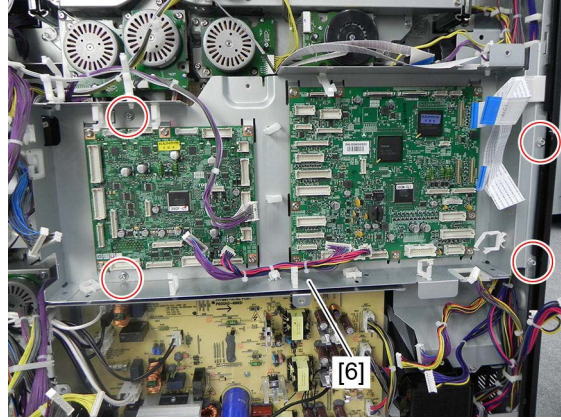


Fig. 9-28

### 9.1.10 PFC board (PFC)

- (1) Remove the rear cover.  
P. 4-10 "4.1.22 Rear cover"
- (2) Remove all the connectors that are connected to the PFC board [1].

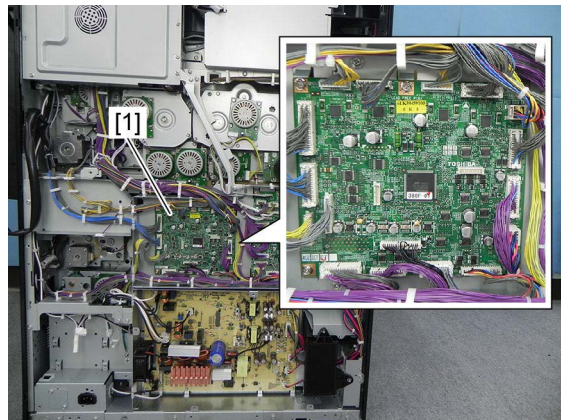


Fig. 9-29

- (3) Remove 5 screws and take off the PFC board [1].

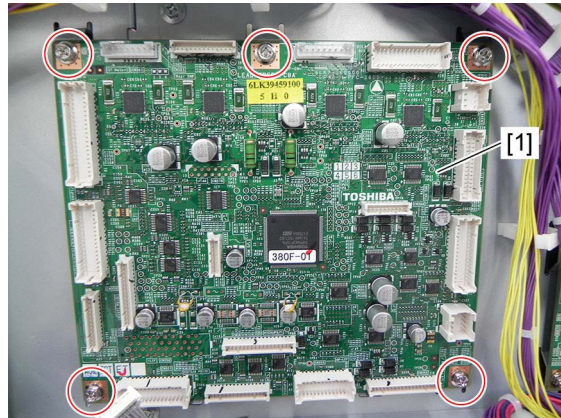


Fig. 9-30

### 9.1.11 Hard disk (HDD)

- (1) Remove the SYS board cover.  
📖 P. 9-1 "9.1.1 SYS board cover"
- (2) Remove 4 screws and disconnect 2 connectors, and then take off the HDD unit [1].

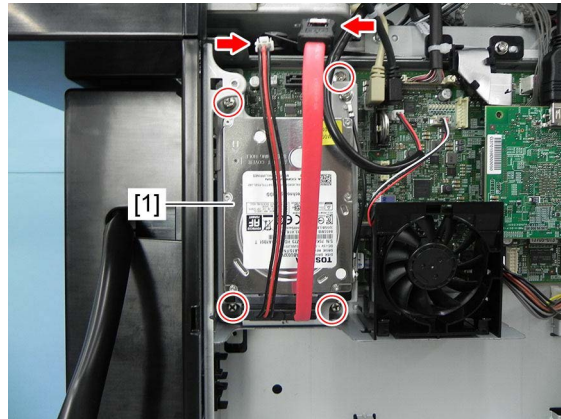


Fig. 9-31

- (3) Loosen 4 screws.

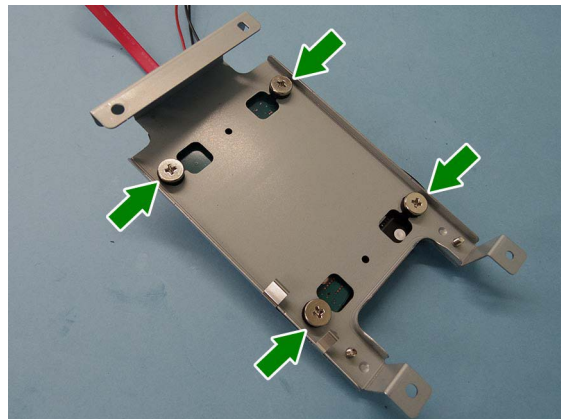


Fig. 9-32

- (4) Remove 2 screws and disconnect the ground cable [2]. Remove the hard disk [4] from the bracket [3].

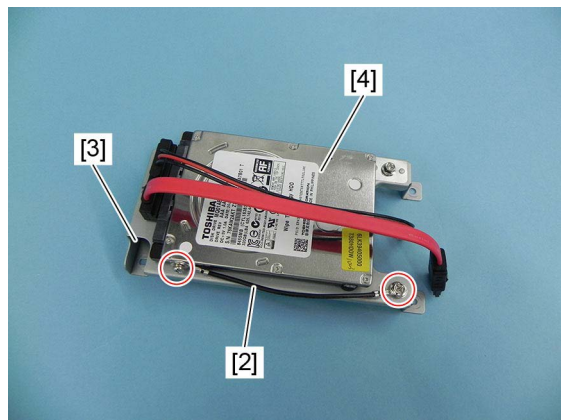



Fig. 9-33



## 9.1.12 Switching regulator (PS)

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 2 screws and take off the switching regulator cover [1].

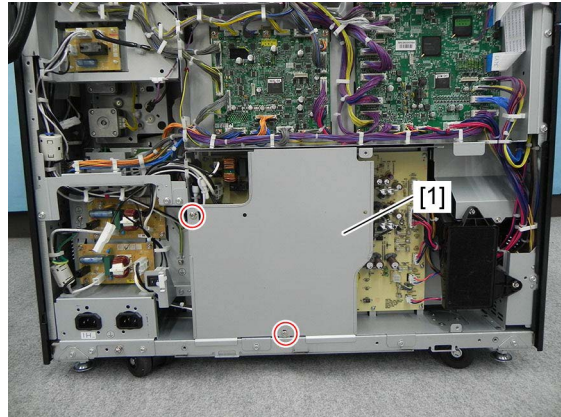


Fig. 9-34

- (3) Disconnect all the connectors that are connected to the switching regulator [2].

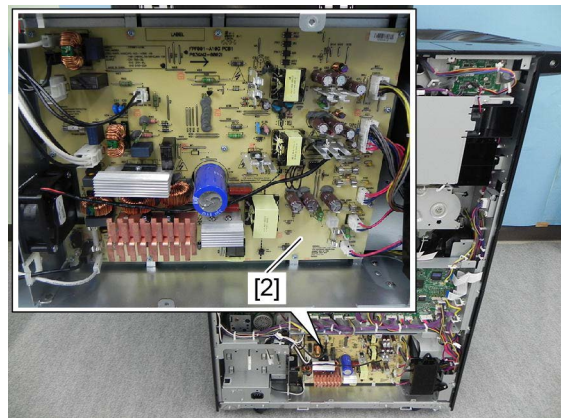


Fig. 9-35

- (4) Remove 12 screws and take off the switching regulator [2].

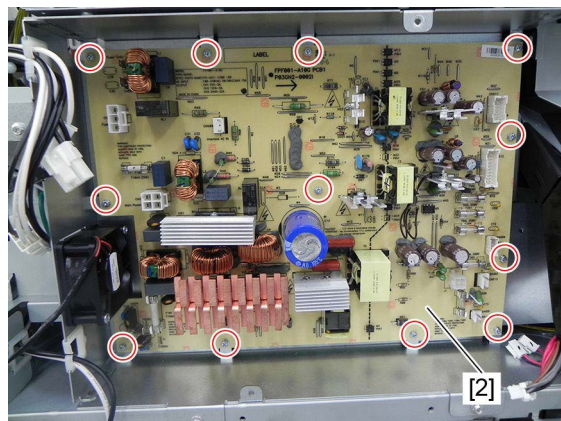




Fig. 9-36

### 9.1.13 Switching regulator case

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove the ozone filter 3.  
 P. 4-147 "4.6.45 Ozone filter3"
- (3) Remove 2 screws and take off the switching regulator cover [1].

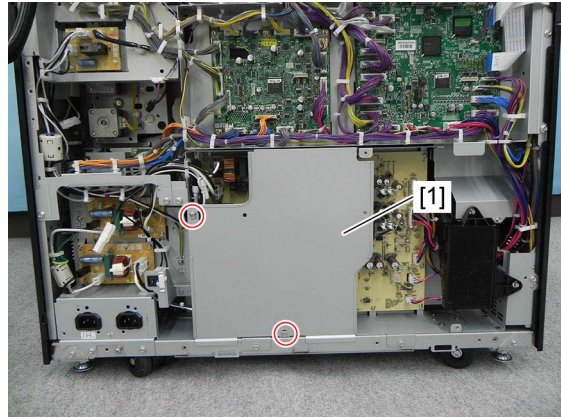


Fig. 9-37

- (4) Remove all the connectors that are connected to the switching regulator [2].

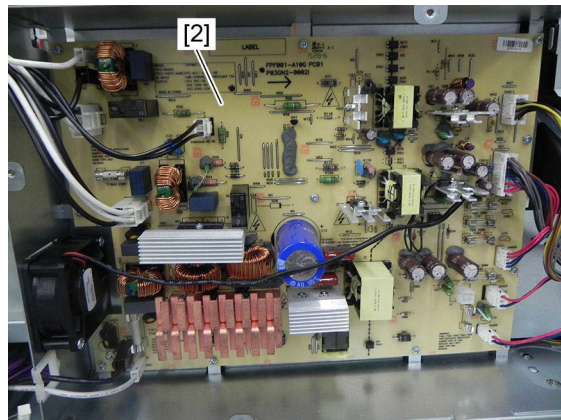


Fig. 9-38

- (5) Release the harness from 3 harness clamps.

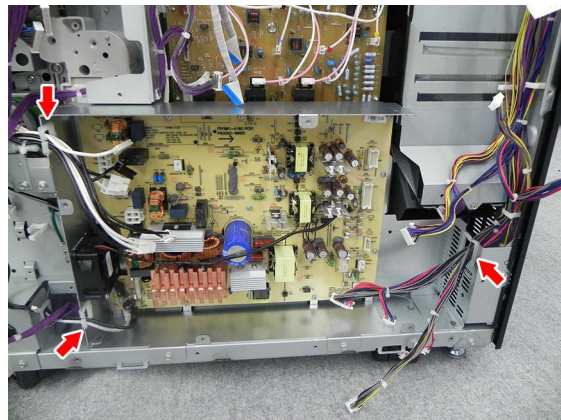


Fig. 9-39

- (6) Remove 4 screws and take off the switching regulator case [3].

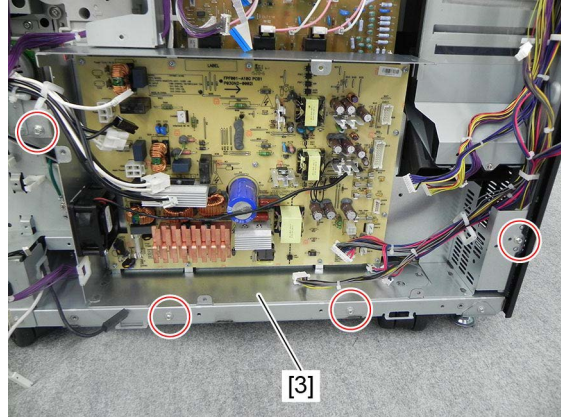


Fig. 9-40

### 9.1.14 High-voltage transformer (HVT)

- (1) Remove the LGC board case.  
 [1] P. 9-9 "9.1.9 LGC/PFC board case"
- (2) Remove the switching regulator case.  
 [1] P. 9-14 "9.1.13 Switching regulator case"
- (3) Disconnect all the connectors that are connected to the high-voltage transformer [1].

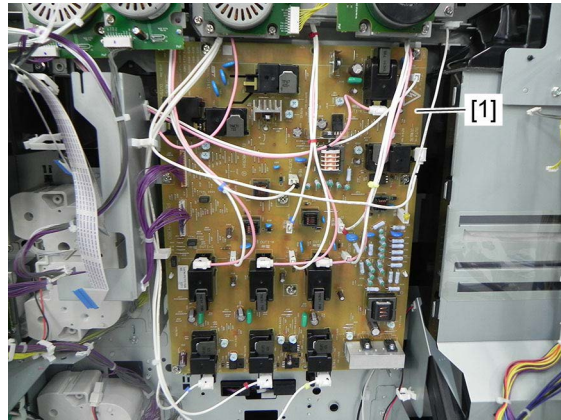


Fig. 9-41

- (4) Remove 7 screws and release 3 locking supports, and then take off the high-voltage transformer [1].

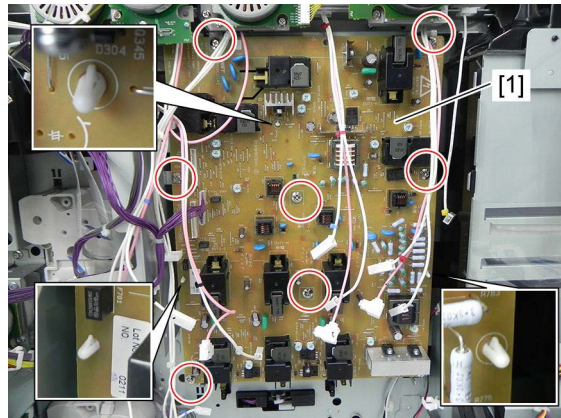



Fig. 9-42

## 9.1.15 FIL-AC board

### Notes:

Be sure to unplug the power cable before starting this work.

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 4 connectors from the FIL-AC board [1].

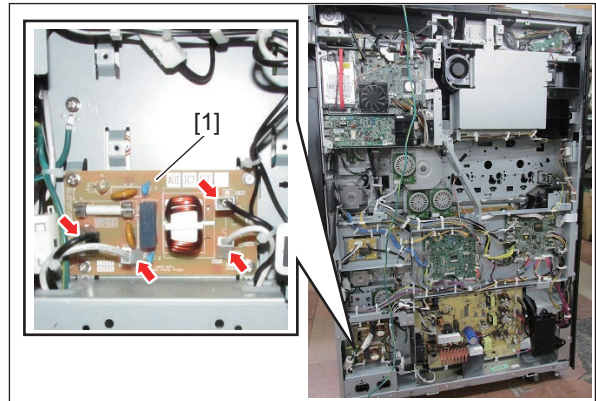


Fig. 9-43

- (3) Remove 4 screws and take off the FIL-AC board [1].

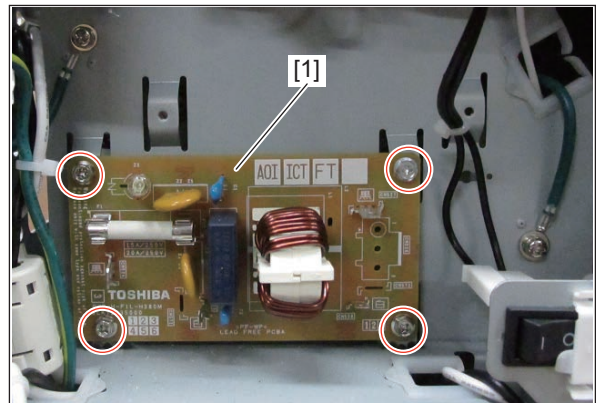



Fig. 9-44

## 9.1.16 DAMP board (Destinations other than NAD/NAC/MJD/MJC)

### Notes:

- Be sure to unplug the power cable before starting this work.
- If the damp heater board is not installed appropriately when it is replaced or installed, it may result in fatal accidents such as an electric shock. To avoid this, be sure to perform correct handling and installation.

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 3 connectors from the DAMP board [1].

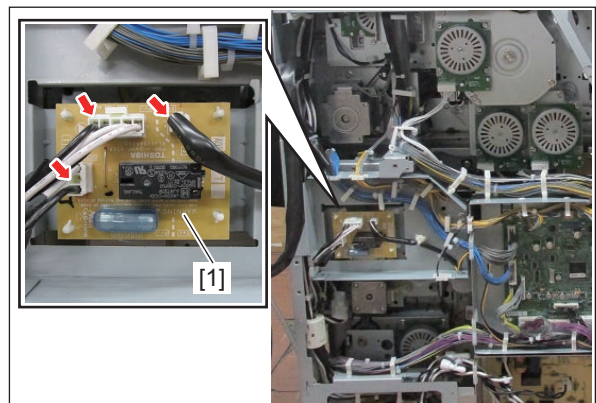


Fig. 9-45

- (3) Release 4 locking supports and remove the DAMP board [1].

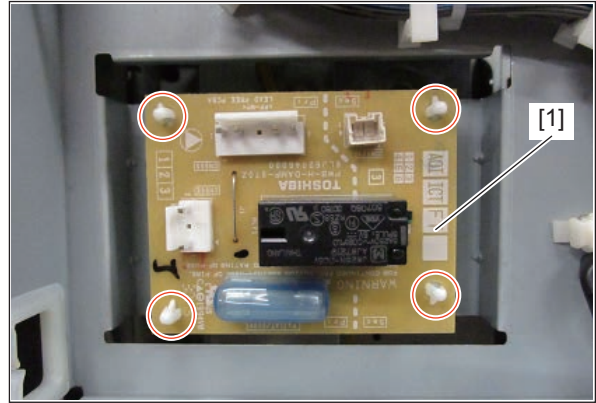



Fig. 9-46

### 9.1.17 DSDF-I/F board

- (1) Remove the SYS board cover.  
 P. 9-1 "9.1.1 SYS board cover"
- (2) Remove 2 screws and disconnect 1 HDMI connector, and then take off the DSDF-I/F board [1].

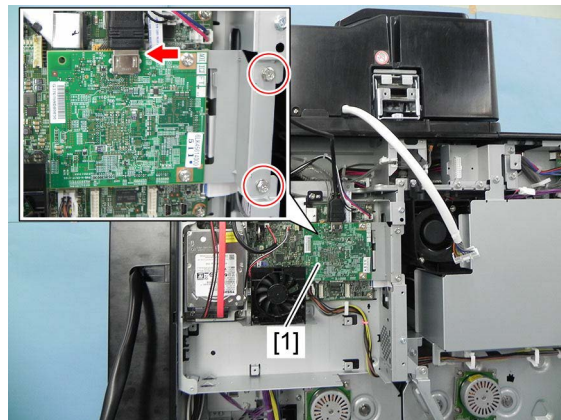



Fig. 9-47

### 9.1.18 IH board

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Remove 4 screws and disconnect 1 connector, and then take off the IH board cover [1].

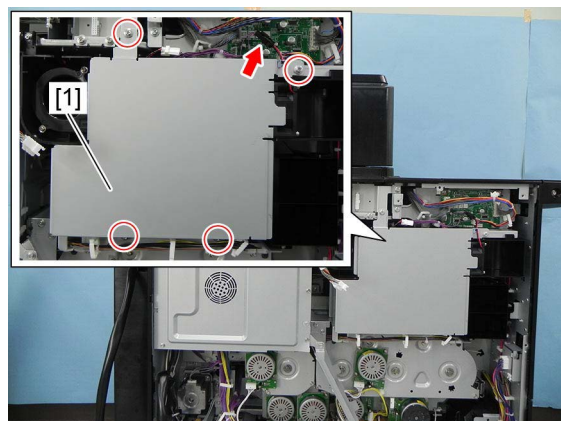


Fig. 9-48

- (3) Disconnect 3 connectors.

**Notes:**

When connecting connectors, be careful not to confuse the white connector location with the black connector location.

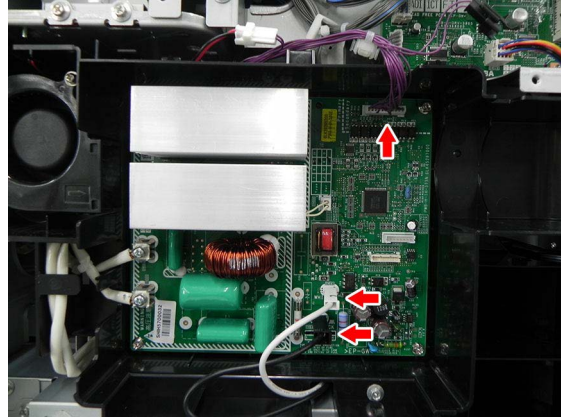


Fig. 9-49

- (4) Remove 1 screw for each terminal and take off 2 IH feed terminals [2].

**Notes:**

Securely tighten the fixing screw of the IH feed terminals [2] so that they do not become loose.

If the screw is not tightened securely when installing, heat will be generated due to a contact failure and this may cause a fire. To avoid this, be sure to confirm that the screw is tightened securely.

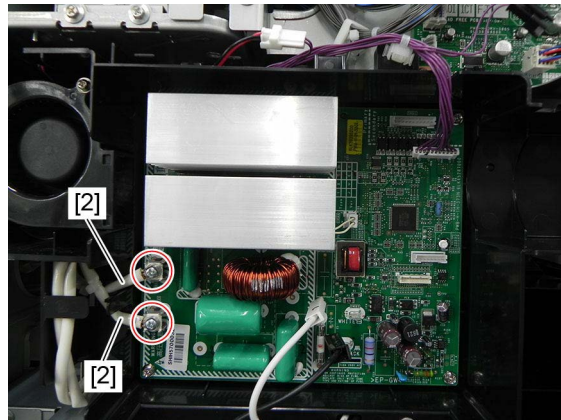


Fig. 9-50

- (5) Remove 4 screws and take off the IH board [3].

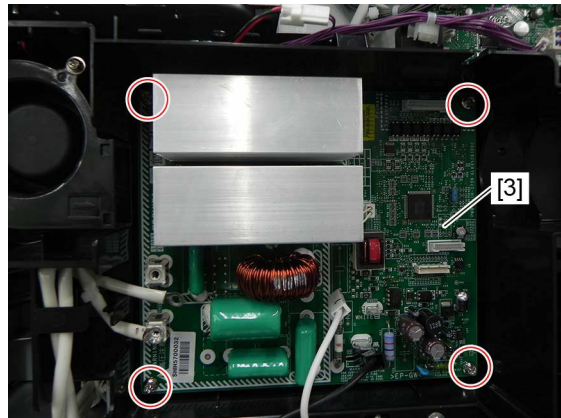



Fig. 9-51

### 9.1.19 DRV board

- (1) Remove the rear cover.  
 P. 4-10 "4.1.22 Rear cover"
- (2) Disconnect 4 connectors from the DRV board [1].

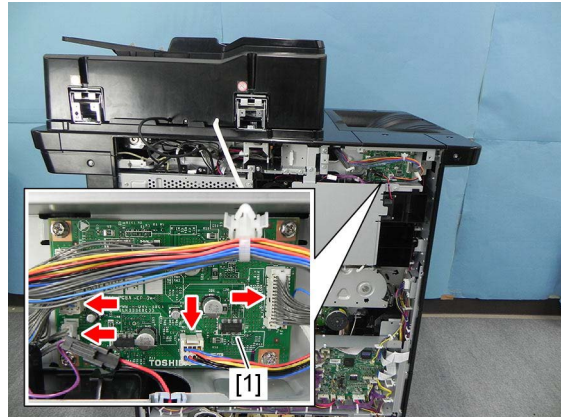


Fig. 9-52

- (3) Remove 4 screws and take off the DRV board [1].

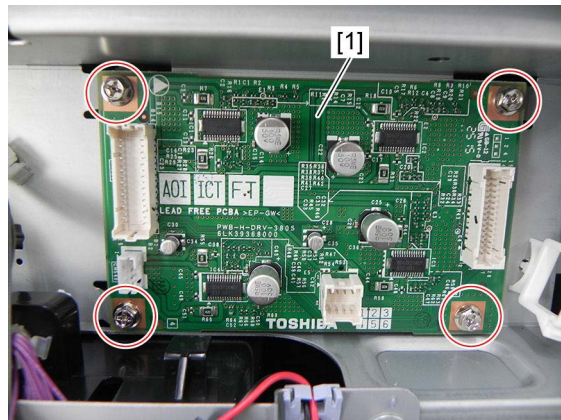



Fig. 9-53

### 9.1.20 CTIF board

- (1) Remove the toner motor assembly.  
 P. 4-149 "4.6.47 Toner motor (K/C/M/Y) (M15/M16/M17/M18)"
- (2) Release 4 latches and remove the CTIF board [1].

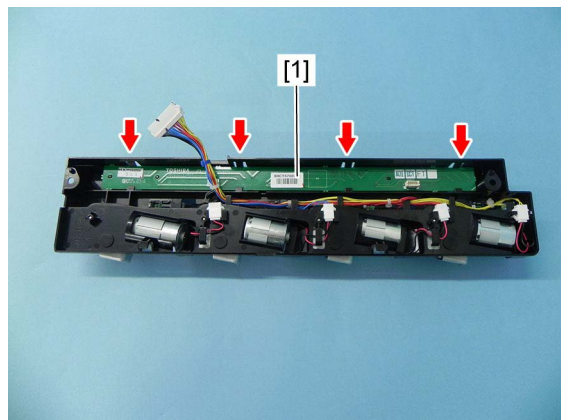






Fig. 9-54

## 9.2 Precautions, Procedures and Settings for Replacing PC Boards and HDD

### 9.2.1 Precautions when replacing PC boards

- The ID for each equipment is registered on the LGC board, the SYS board and Lens unit. So, if their replacement is required, be sure to replace only one board at a time. Do not replace the SYS board and the SRAM together.
- If both the LGC board and 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.
- When replacing the LGC board, remove the EEPROM on the old board, and then attach it to the new board.
- When the HDD requires replacement, see  P. 9-23 "9.2.3 Precautions and procedures when replacing the HDD".
- When the SYS board requires replacement, see  P. 9-28 "9.2.4 Precautions and procedures when replacing the SYS board".
- When the Lens unit requires replacement, see  P. 9-42 "9.2.8 Procedures and settings when replacing the Lens unit".
- When SRAM requires replacement, see  P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM".



## 9.2.2 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 FS-08-9065. You can also refer to the same information by performing HS-75 → [SMART Info].

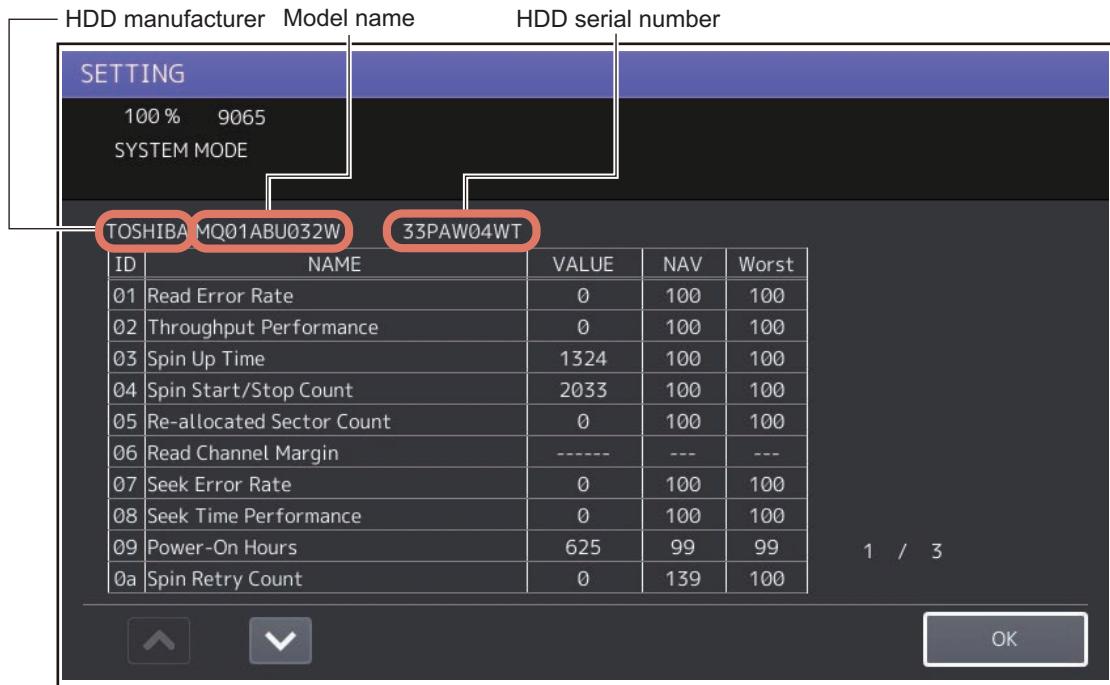


Fig. 9-55

- 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 - F109 or F120 or F124 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			

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.

**Notes:**

"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.

### 9.2.3 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.
- Do not replace the HDD and the SRAM together.
- When the HDD is replaced, do not perform SRAM data formatting (Clear SRAM) before the normal start-up.
- When the HDD is replaced, do not restore the back-up file before the normal start-up.

A procedure for replacing the HDD is shown below.

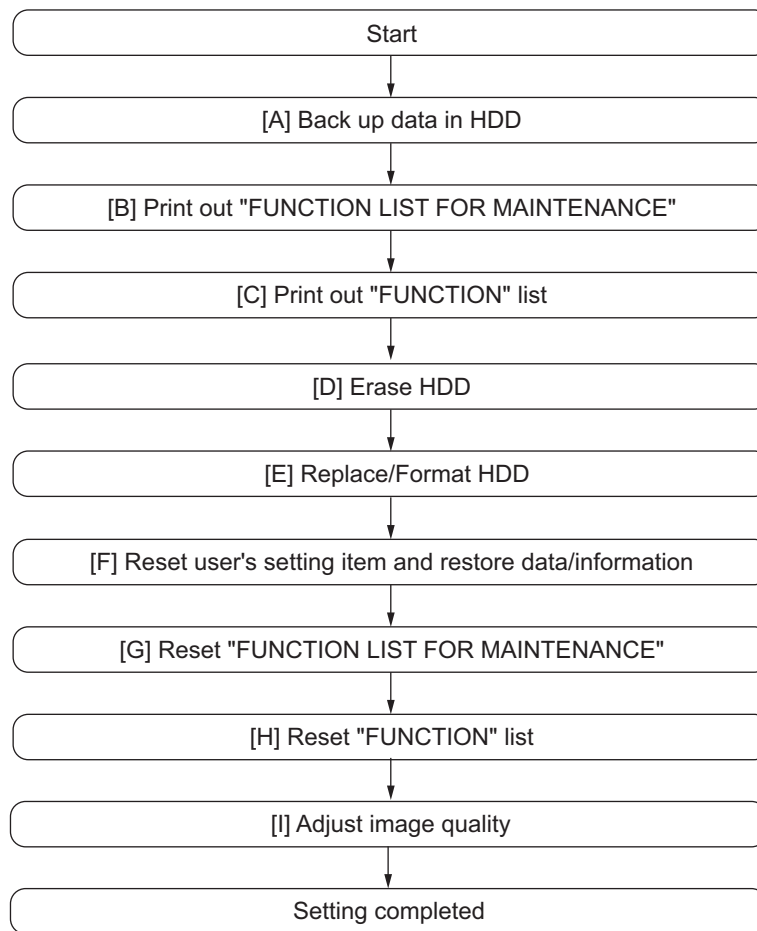


Fig. 9-56

**[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) Perform FS-12 (12 FAX LIST PRINT MODE).
- (2) Select "Function list for Maintenance" and then press [PRINT].

### **[C] Print out “FUNCTION” list**

- (1) Press [USER FUNCTIONS] on the [HOME] screen.
- (2) Enter the password in the [ADMIN] tab and press [OK].

#### **Notes:**

Explain the procedure to the user (machine administrator) and ask him/her to enter his/her password.

- (3) Press [LIST/REPORT] and then the [LIST].
- (4) Press [FUNCTION]. The “FUNCTION LIST FOR MAINTENANCE” list is printed out.

### **[D] Erase HDD**


In case of the Secure HDD:

- (1) Perform HS-74 → [Revert Factory Initial Status HDD] and then press [OK].
- (2) Turn the power OFF.

In case of Normal HDD:

- (1) Perform HS-73 → [Erase HDD Security] and then press [OK].
- (2) Select any of "LOW", "MEDIUM", "HIGH" or "SIMPLE" and then press [OK].
- (3) Turn the power OFF.

### **[E] Replace / Format HDD**

- (1) Confirm that the power is turned OFF.
- (2) Replace the HDD.  
(Refer to  P. 9-12 "9.1.11 Hard disk (HDD)".)
- (3) Create the partitions on the HDD.
  1. Perform HS-73 → [Format HDD] and then press [OK].
  2. When “Operation Complete” is displayed on the LCD, creating of the partitions is completed.
- (4) Turn the power OFF.
- (5) Format the service password.
  1. Perform HS-73 → [Clear Service Tech Password] and then press [OK].
  2. When "Reset Complete" is displayed on the LCD, formatting of the service tech password is completed.
- (6) Turn the power OFF.
- (7) Update the system software using the USB device.  
See “11.2 Firmware Updating with USB Device” for details.
- (8) Turn the power OFF.
- (9) When the Fax Board (GD-1370) is installed, perform [CUSTOM INITIALIZE] → [INIT MEMORY] and [CLEAR DATA] in the FS-11 FAX CLEAR MODE. Then turn the power OFF.
- (10) Check the system software version (FS-08-8952).  
Confirm the version displayed on the LCD, and then press [OK].
- (11) Initialization of NIC information (FS-08-9083).

(12) 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:

<b>Items to reset/restore</b>	<b>Method</b>
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 "Self-signed certificate" of TopAccess.
  - Country Name
  - State or Province Name
  - Locality Name
  - Organization Name
  - Organizational Unit Name
  - Common Name
  - Email Address
- When the wireless LAN is used, recreate its setting. (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 [B] Print out "FUNCTION LIST FOR MAINTENANCE".
- (2) Perform FS-13 (13 FAX 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 [C] Print out "FUNCTION" list.



- (1) Press [USER FUNCTIONS] on the [HOME] screen.
- (2) Press [ADMIN], enter the password, and then press [OK].

#### **Notes:**

Explain the user (machine administrator) about the next operation and ask him/her to enter his/her password.

- (3) Press [FAX] and then [TERMINAL ID] to set each item.
- (4) Press [INITIAL SETUP] to set each item.

## **[I] Adjust image quality**

- (1) Perform "Automatic gamma adjustment (PPC)" (FS-05-7869).  
 P. 6-28 "6.2.1 Automatic gamma adjustment"
- (2) Perform "Automatic gamma adjustment (PRT)" (FS-05-8008, 8009).  
 P. 6-52 "6.3.1 Automatic gamma adjustment"
- (3) Turn the power OFF.

## 9.2.4 Precautions and procedures when replacing the SYS board

A procedure for SYS board replacement is shown below.

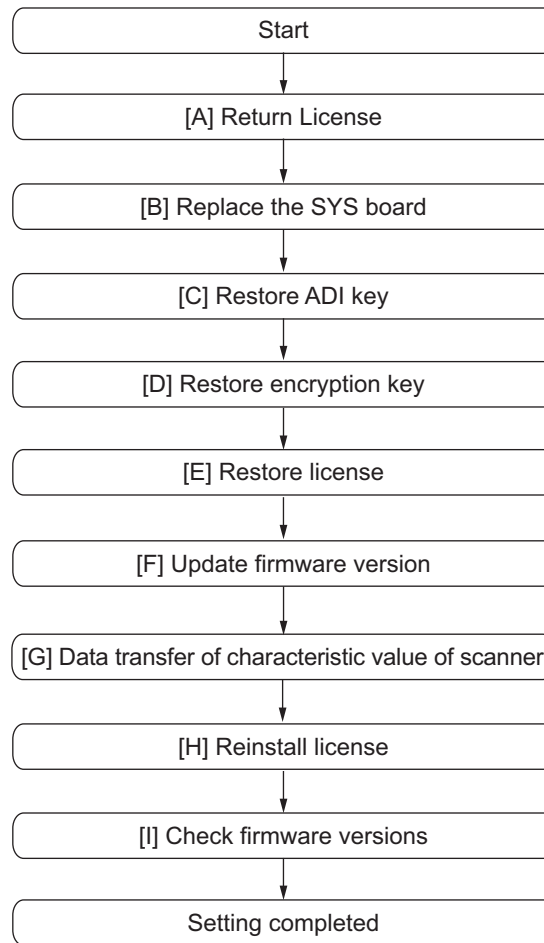


Fig. 9-57

### Notes:

- \*1 If the combination of the main memory and the SYS board has been changed in [B], be sure to perform the calibration of the main memory at the next startup.
- \*2 [C] and [D] are required only for the equipment in which the Secure HDD has been installed.

### [A] Return License

#### Notes:

- If the 08 Setting Mode is not started up, "[A] Return License" can be omitted. In that case, reinstall the license with "[ 1 ] Re-registration when the board is replaced" if it is cleared since "[H] Reinstallation of License" cannot be performed.
- When installing the Data Overwrite Enabler (GP-1070) and security mode is setting High Security, set the security mode level to "1" (Low level). Then restart the equipment.

- (1) Perform FS-08-3840.
- (2) Select the license to be returned, and then press [REMOVE].
- (3) Install the one-time dongle, which you used for uploading the selected license, in the equipment, and then press [OK].



- (4) The Remove screen is displayed, then press [YES]. If this screen is not displayed, check whether the one-time dongle is installed in the equipment properly.
- (5) After 10 to 40 seconds passes, the screen for notifying the success of performance is displayed. Then press [OK]. If this screen is not displayed or the screen for notifying the failure of performance is displayed, quit this operation by pressing [NO]/[CLOSE]. Then, check whether the one-time dongle, which you used for uploading the selected license, is installed in the equipment.
- (6) Check that the returned license is not displayed on the screen.

**Tips:**

- If there are any other licenses to be returned, repeat from step (2).
- If there is no more licenses to be returned, press [CLOSE], and then turn the power OFF.

**[B] Replace the SYS board**

**Notes:**

Before replacing the SYS board, perform the following procedure.

 P. 9-20 "9.2.1 Precautions when replacing PC boards"

- (1) Confirm that the power is turned OFF.
- (2) Replace the SYS board.
- (3) Install main memory (DIMM) to the new SYS board (from the old SYS board).
- (4) Install SRAM to the new SYS board (from the old SYS board).

**Notes:**

When the combination of the main memory and the SYS board has been changed by replacing either of them, it is necessary to perform the calibration of the main memory at the next startup. To perform the calibration of the main memory, start up the equipment while pressing the [ENERGY SAVER] button.

E.g.:

To start up HS Menu, turn the power ON by pressing the [POWER] button while pushing the [HOME] and [START] buttons simultaneously.

**[C] Restore ADI key**

If the Secure HDD is installed, follow the steps below. To confirm the type of device, start up the equipment in the HS-74.

- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].
- (3) Press [ADIKey] and then [Execute].
- (4) Wait until the restoring of the encryption key is completed. "Success" is displayed.
- (5) Restart the equipment after the restoring is completed. If you want to perform the restoring of the license, do not restart the equipment but perform from (2) in "[D] Restore encryption key".

**[D] Restore encryption key**



- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].

- (3) Press [Key] and then [Execute].
- (4) Wait until the restoring of the encryption key is completed. "Success" is displayed.
- (5) Restart the equipment after the restoring is completed. If you want to perform the restoring of the license, do not restart the equipment but perform from (2) in "[E] Restore license".

#### **[E] Restore license**

- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].
- (3) Press [License] and then [Execute].
- (4) Wait until the restoring of the license is completed. "Success" is displayed.
- (5) After the restoring is completed, check that "OK" is indicated in "FROM License Status". Then, restart the equipment.

#### **[F] Update firmware version**

- (1) Update the version of system firmware using the USB device.  
 P. 11-2 "11.2 Firmware Updating with USB Device"
- (2) Update the version of scanner firmware with the USB device.  
 P. 11-2 "11.2 Firmware Updating with USB Device"

#### **[G] Data transfer of characteristic value of scanner**

- (1) Perform FS-05-3203.
- (2) Turn the power OFF.

#### **[H] Reinstall license**

If the license was returned in "[A] Return License", reinstall it with the following procedure.

- (1) Perform FS-08-3840.
- (2) Press [INSTALL].
- (3) Install the one-time dongle in the equipment (the one which you used for returning the selected license before replacing the equipment). Then press [OK].
- (4) Select the license to be installed, and then press [INSTALL].
- (5) The screen for notifying that the installation will be started is displayed. Then press [YES].
- (6) After 10 to 40 seconds have passed, the screen for notifying the success of the performance is displayed. Then press [OK]. If the screen for notifying a failure of the performance is displayed, quit this operation by pressing [NO]. Then check that the one-time dongle is installed properly in the equipment.
- (7) Check that the installed license is displayed on the license list.

#### **Tips:**

If there are any other licenses to be installed, repeat from step (2). If there are no other licenses to be installed, press [CLOSE], and then turn the power OFF.

**[I] Check firmware versions**

- System firmware version (FS-08-9930)
- Scanner firmware version (FS-08-9902)

**Notes:**

If the security mode is changed from High Security to Low Security in the step "[A] Return License", set the value of FS-08-8911 to "3" (High Security).

## 9.2.5 Precautions and procedure when replacing the SRAM

### Notes:

- Do not replace the HDD and the SRAM together.
- Be careful not to damage the board when replacing the SRAM.
- When the SRAM is replaced, do not perform HDD partition creation (Format HDD) before the normal start-up.

A procedure for replacing the SRAM is shown below.

When disposing of the SRAM, perform the items in  P. 9-45 "9.3.4 Precautions when disposing of the SRAM".

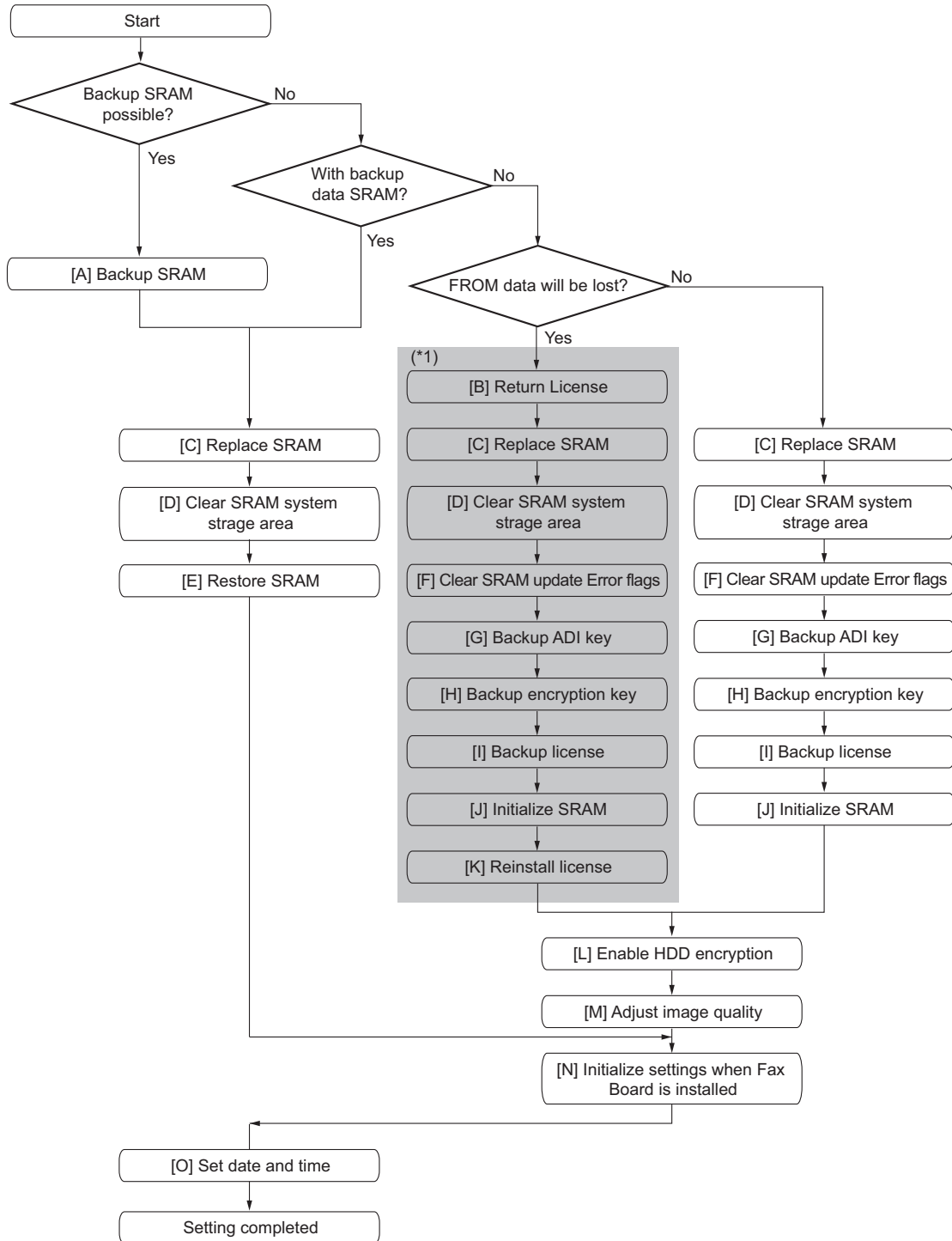



Fig. 9-58

**Notes:**

- [G], [H] and [I] are required only for the equipment in which the Secure HDD has been installed.
- [H] and [I] are required only for the equipment in which a Normal HDD has been installed.
- Use the flow (\*1) when securely returning and reinstalling the license. Returning and reinstalling the license is required when it has been lost. The examples are as below.
  - E.g. 1: When SRAM data are overwritten on the FROM mistakenly due to an incorrect operation during the backup of the license
  - E.g. 2: When the SYS board (SRAM) is damaged or the license data in the FROM are broken

**[A] Backup SRAM**

Perform a backup before replacing the SRAM.

 P. 12-2 "[A] Backup procedure"

**Notes:**

- If "[A] Backup SRAM" fails, proceed to "[B] Return License".
- If "[A] Backup SRAM" succeeds, proceed to "[C] Replace SRAM".

**[B] Return License****Notes:**


When installing the Data Overwrite Enabler (GP-1070) and security mode is setting High Security, set the security mode level to "1" (Low level). Then restart the equipment.

- (1) Perform FS-08-3840.
- (2) Select the license to be returned, and then press [REMOVE].
- (3) Install the one-time dongle, which you used for uploading the selected license, in the equipment, and then press [OK].
- (4) The Remove screen is displayed, then press [YES]. If this screen is not displayed, check whether the one-time dongle is installed in the equipment properly.
- (5) After 10 to 40 seconds passes, the screen for notifying the success of performance is displayed. Then press [OK]. If this screen is not displayed or the screen for notifying the failure of performance is displayed, quit this operation by pressing [NO]/[CLOSE]. Then, check whether the one-time dongle, which you used for uploading the selected license, is installed in the equipment.
- (6) Check that the returned license is not displayed on the screen.

**Tips:**

- If there are any other licenses to be returned, repeat from step (2).
- If there is no more licenses to be returned, press [CLOSE], and then turn the power OFF.

**[C] Replace SRAM**


- (1) Confirm that the power is turned OFF.
- (2) Take off the Fax Board (GD-1370) if it is installed.
- (3) Replace the SRAM.  
 P. 9-4 "9.1.3 SRAM"

**[D] Clear SRAM system storage area**


- (1) Perform HS-76.
- (2) When "SRAM Clear Mode" appears on the LCD, press the [Clear SRAM].

- (3) When "SRAM Format Completed" is displayed on the LCD, initializing is completed.
- (4) Turn the power OFF.

#### **[E] Restore SRAM**

- (1) Perform HS-76.
- (2) When "SRAM Clear Mode" appears on the LCD screen, press [Set Serial Number].
- (3) Key in the serial number printed on the label attached to the rear cover of the equipment and then press [OK].
- (4) "Set Serial Number was completed." is displayed.
- (5) Turn the power OFF.
- (6) If there are SRAM backup data, perform restoring.  
 P. 12-3 "[B] Restore procedure"
- (7) Turn the power OFF after the restoring of SRAM is completed.

#### **Tips:**


When the restoration is completed successfully, proceed to " P. 9-36 "[N] Initialize settings when FAX Board (GD-1370) is installed".

#### **[F] Clear SRAM update Error flags**

- (1) Perform HS-73.
- (2) Press [Clear Software Update Error Flag].
- (3) When "Operation Complete" is displayed on the LCD, clearing the flag is completed.
- (4) Turn the power OFF.


#### **[G] Backup ADI key (FROM -> SRAM)**

If the Secure HDD is installed, follow the steps below. To confirm the type of device, start up the equipment in HS-74.

- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].
- (3) Press [ADIKKey] twice and then [Execute].
- (4) Wait until the backup of the ADI key is completed. "Success" is displayed.
- (5) Restart the equipment after the backup is completed.  
If you want to perform the backup of the license, do not restart the equipment but perform from (3) in " P. 9-34 "[H] Backup encryption key (FROM -> SRAM)".
- (6) Turn the power OFF.


#### **[H] Backup encryption key (FROM -> SRAM)**

- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].
- (3) Press [Key] twice and then [Execute].

- (4) Wait until the backup of the encryption key is completed. "Success" is displayed.
- (5) Restart the equipment after the backup is completed. If you want to perform the backup of the license, do not restart the equipment but perform from (3) in  P. 9-35 "[I] Backup license (FROM -> SRAM)".
- (6) Turn the power OFF.

#### **[I] Backup license (FROM -> SRAM)**

##### **Notes:**

If "License SRAM to FROM" is performed by mistake, carry out the following procedure.  
 P. 9-43 "[ 1 ] Re-registration when the board is replaced"

- (1) Perform HS-73.
- (2) Press [Key Backup/Restore].
- (3) Press [License] twice and then [Execute].
- (4) Wait until the backup of the license is completed. "Success" is displayed.
- (5) Restart the equipment after the backup is completed.
- (6) Turn the power OFF.
  - \* After the restoring is completed, check that "OK" is indicated in SRAM column. Then, restart the equipment.

#### **[J] Initialize SRAM**

- (1) Perform FS-08.
- (2) Initialize the SRAM error.
  1. When "SRAM REQUIRES INITIALIZATION" 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 [OK].
- (3) Perform the initialization at the software version upgrade (FS-08-9030).
- (4) Initialize the NIC information (FS-08-9083).
- (5) Enter the serial number (FS-08-9601).  
Key in the serial number on the label attached to the rear cover of the equipment, and then press [OK].
- (6) Turn the power off.

#### **[K] Reinstall license**

If the license was returned in "[B] Return License", reinstall it with the following procedure.

- (1) Perform FS-08-3840.
- (2) Press [INSTALL].
- (3) Install the one-time dongle in the equipment (the one which you used for returning the selected license before replacing the equipment). Then press [OK].

- (4) Select the license to be installed, and then press [INSTALL].
- (5) The screen for notifying that the installation will be started is displayed. Then press [YES].
- (6) After 10 to 40 seconds have passed, the screen for notifying the success of the performance is displayed. Then press [OK]. If the screen for notifying a failure of the performance is displayed, quit this operation by pressing [NO]. Then check that the one-time dongle is installed properly in the equipment.
- (7) Check that the installed license is displayed on the license list.

**Tips:**

- If there are any other licenses to be installed, repeat from step (2).
- If there are no other licenses to be installed, press [CLOSE], and then turn the power OFF.

**[L] Enable HDD encryption**



If the HDD encryption function is used, follow the procedure below.

**Notes:**

When the installation of the license of the Data Overwrite Enabler (GP-1070) is required, be sure to do this before HDD encryption is performed. However, it is not necessary to do so for the models (NAD) in which the Data Overwrite Enabler (GP-1070) is installed as a standard.

- (1) Perform FS-08-8911.
- (2) Enable the encryption function.
  - For high security mode  
Set the value of FS-08-8911 to "3".
  - For enabling HDD encryption only  
Set the value of FS-08-8911 to "1", and then set the value of FS-08-9379 to "1" (Security priority) or "2" (Performance priority).
- (3) Turn the power OFF.

**[M] Adjust image quality**

- (1) Perform "Data transfer of characteristic value of scanner" (FS-05-3203).
- (2) Perform "Automatic gamma adjustment" <PPC> (FS-05-7869).  
 P. 6-28 "6.2.1 Automatic gamma adjustment"
- (3) Perform "Automatic gamma adjustment" <PRT> (FS-05-8008/8009).  
 P. 6-52 "6.3.1 Automatic gamma adjustment"
- (4) Turn the power OFF.

**[N] Initialize settings when FAX Board (GD-1370) is installed**

- (1) Reinstall the FAX Board (GD-1370).
- (2) Set the destination of FAX (FS-08-9001).
- (3) Turn the power OFF.
- (4) Perform FS-13 → CUSTOM INITIALIZE → INIT MEMORY.
- (5) Turn the power OFF and then back ON.



- (6) Set the dial type according to these buttons: [HOME] → [USER FUNCTIONS] → [ADMIN] → [FAX] → [INITIAL SETUP]


### **[O] Set date and time**

Set the date and time according to these buttons.

[HOME] → [USER FUNCTIONS] → [ADMIN] → [GENERAL] → [CLOCK] → [DATE/TIME]

## **9.2.6 Procedures when replacing the LGC board**

Before replacing the LGC board, perform the following procedure.

- (1) Turn the power OFF.
- (2) Remove the LGC board.  
 P. 9-7 "9.1.7 LGC board (LGC)"
- (3) Install the removed LGC board's EEPROM into the new LGC board.
- (4) Attach the new LGC board.

## 9.2.7 Procedures and settings when replacing EEPROM (for LGC board)

### Notes:

Be careful not to damage the EEPROM when replacing the EEPROM.

A procedure for replacing the EEPROM is shown below.

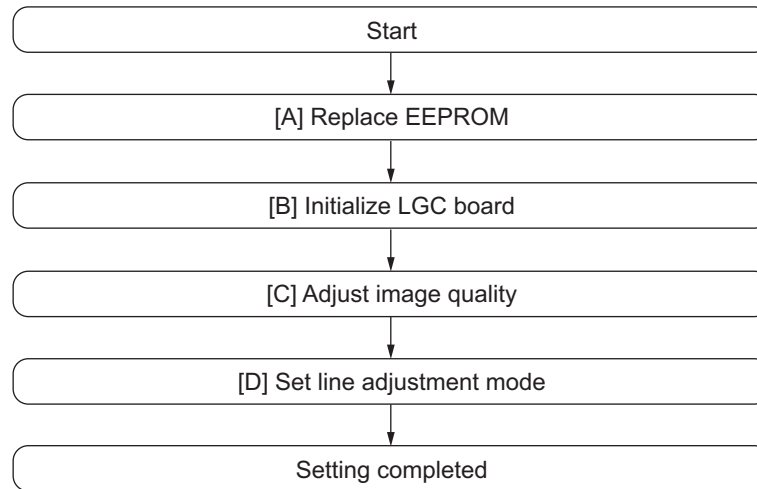



Fig. 9-59

### [A] Replace EEPROM

- (1) Confirm that the power is turned OFF.
- (2) Replace the EEPROM (for the LGC board).  
 P. 9-8 "9.1.8 EEPROM"

**[B] Initialize LGC board**

- (1) Pull up the duplexing unit, and check the destination printed on the white tape stuck on the equipment.
- (2) Perform "Destination display at SRAM initialization" (FS-08-9060).
- (3) Check whether the displayed destination (see the below figure) of the SRAM is the same as the one in step (1).

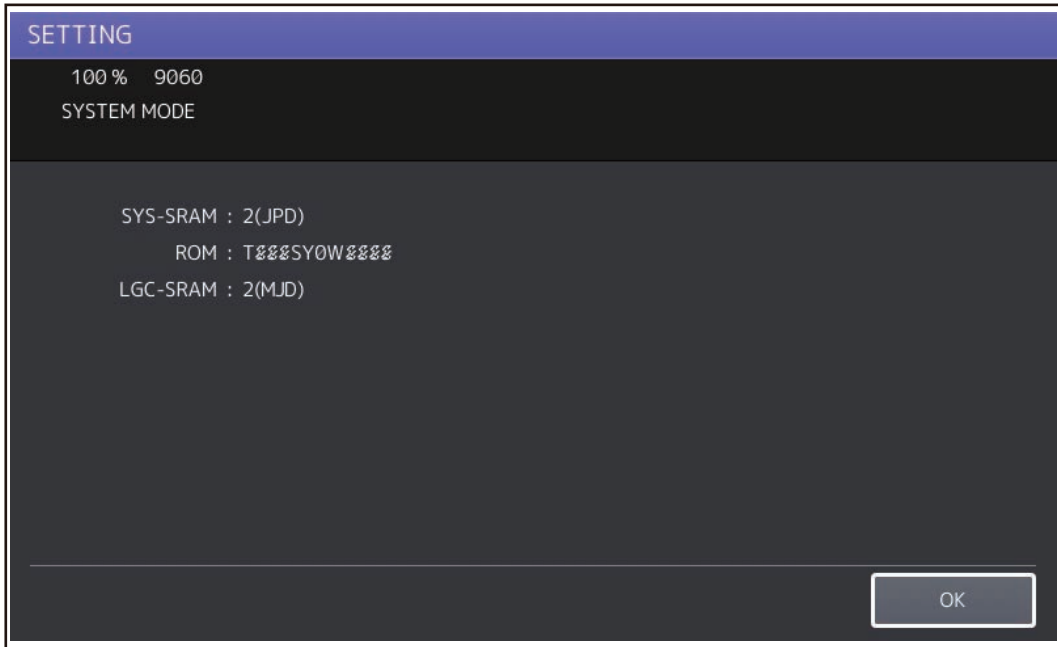


Fig. 9-60

**Tips:**

If the destinations are different, initialize the SRAM with reference to the following procedure.  
📖 P. 9-32 "9.2.5 Precautions and procedure when replacing the SRAM"

- (4) Perform "Printer all clear" (FS-08-9090).

- (5) Press [INITIALIZE] to perform the initialization of the EEPROM.

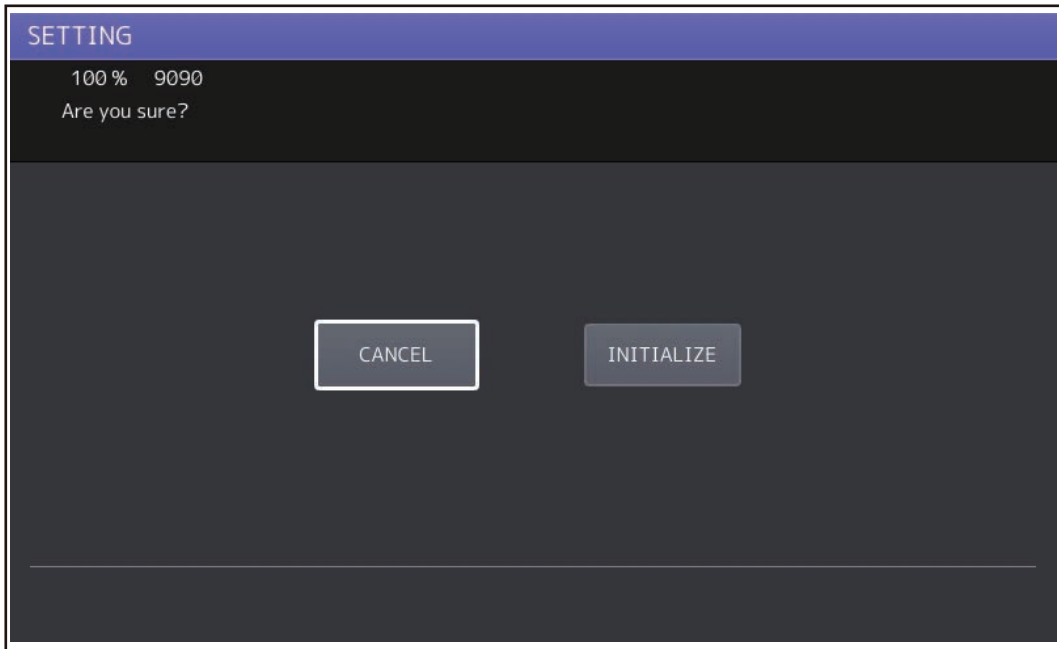


Fig. 9-61



- (6) Perform "Destination display at SRAM initialization" (FS-08-9060), and check whether the same destinations are displayed for the SRAM and the LGC board.



Fig. 9-62

**Tips:**








If an error occurs during the initialization of the LGC board and the initialization fails, error messages are displayed on the touch panel. The error messages and the corresponding troubleshooting methods are shown below.

Error message	Troubleshooting
UNDEFINED MODEL	Since the LGC board probably has a problem, replace it with a new one by following the procedure below.  P. 9-7 "9.1.7 LGC board (LGC)"
UNDEFINED VERSION	Recheck the destination of the SRAM. Since the SRAM probably has a problem, replace it with a new one by following the procedure below.  P. 9-4 "9.1.3 SRAM"
VERIFY ERROR	Check whether the EEPROM (for the LGC board) is connected properly.

**[C] Adjust image quality**

- (1) Write down the adjustment values of the following code attached on the laser optical unit cooling duct.

	L (0)	H (1)
FS-05-2627		
FS-05-2628		
FS-05-2629		
FS-05-2630		

- (2) Perform FS-05-2627 ~ 2630 and then enter all the adjustment values written down in step (1).
- (3) 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. 4-124 "4.6.25 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. 4-126 "4.6.26 Developer material"
  4. Install the empty developer units of 4 colors (Y, M, C and K) to the equipment.  
 P. 4-124 "4.6.25 Developer unit"
  5. Install the developer cartridges of 4 colors (Y, M, C and K) to the equipment.
  6. Install the front cover.  
 P. 4-1 "4.1.2 Front cover"
  7. Perform automatic adjustment of auto-toner sensor (FS-05-2400).
  8. Turn the power OFF.
  9. Take off the front cover.  
 P. 4-1 "4.1.2 Front cover"
  10. Take out all the developer cartridges and then install the sub-hoppers of 4 colors (Y, M, C and K).  
 P. 4-112 "4.6.11 Sub-hopper"
  11. Install the front cover.  
 P. 4-1 "4.1.2 Front cover"

**Notes:**

- You can reset the auto-toner sensor by directly entering the adjustment values for FS-05-2405-0 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.

- (4) Perform the "Forced performing of image quality closed-loop control (FS-05-2742)".
- (5) Perform "Mirror motor initial excitation setting" (FS-05-4721).
- (6) Perform the enforced position adjustment (FS-05-4719).
- (7) Perform printer related adjustment and scanner related adjustment.
  - 📖 P. 6-13 "6.1.7 Image dimensional adjustment at the printing section"
  - 📖 P. 6-20 "6.1.8 Image dimensional adjustment at the scanning section"
- (8) Perform "Automatic gamma adjustment" <PPC> (FS-05-7869).
  - 📖 P. 6-28 "6.2.1 Automatic gamma adjustment"
- (9) Perform "Automatic gamma adjustment" <PRT> (FS-05-8008/8009).
  - 📖 P. 6-52 "6.3.1 Automatic gamma adjustment"

**Notes:**

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.

**[D] Set line adjustment mode**

- (1) Turn the power OFF.
- (2) Perform FS-08-9010.
- (3) Set "Line adjustment mode" to "0: For factory shipment".

**Notes:**

Be sure to change the setting of "Line adjustment mode" (FS-08-9010) to "0: For factory shipment". Since "1: For line" is set for "Line adjustment mode" in [B] Initialize LGC board in EEPROM (for LGC board) supplied as a service part, number of prints is not counted unless it is changed.

## 9.2.8 Procedures and settings when replacing the Lens unit

When replacing the lens unit, follow the procedure below.

- (1) Confirm that the power is turned OFF.
- (2) Replace the lens unit.
  - 📖 P. 4-21 "4.3.4 Lens unit/CCD driving PC board (CCD)"
- (3) Perform "Data transfer of characteristic value of scanner / SYS board → Lens unit (FS-05-3209)".
- (4) Perform "Shading correction plate Automatic dust detection adjustment (FS-05-3218)".
- (5) Turn the power OFF.

## 9.2.9 Firmware confirmation after the PC board/HDD replacement

After replacing the PC board/HDD, check the firmware version in the 08 Setting Mode and confirm if the firmware combination is correct.

Firmware	Code
System software	9900
System firmware	9930
Engine firmware	9901
Scanner firmware	9902
NIC firmware	9990
DF firmware	9903
PFC firmware	9940
Finisher firmware	9904
Hole punch firmware	9944
FAX board firmware(Line1)	9905
FAX board firmware(Line2)	9969

The installed ROM versions and the registered optional Electronic License Keys can be confirmed in the list print mode following the procedure below.

- (1) Perform [FS-30-111] to print out VERSION LIST.  
\* It is recommended to keep this list for future reinstallation such as the replacement of the SYS board.
- (2) Keep pressing [ON/OFF] until you hear a sound to shut down the equipment.

## 9.2.10 License re-registration using the one-time dongle

### [ 1 ] Re-registration when the board is replaced

The license registered using the one-time dongle can be re-registered only in the same equipment.

- (1) Perform FS-08-3840.
- (2) Press [INSTALL].
- (3) Install the one-time dongle in the equipment (the one which you used for registering the selected license), and then press [OK].
- (4) Select the license to be installed, and then press [INSTALL].
- (5) The screen for notifying that the installation will be started is displayed. Then press [YES].
- (6) After 10 to 40 seconds have passed, the screen for notifying the success of the performance is displayed. Then press [OK]. If the screen for notifying a failure of the performance is displayed, quit this operation by pressing [CLOSE]. Then check that the one-time dongle, which you used for uploading the selected license, is installed in the equipment.
- (7) Check that the installed license is displayed on the license list.

#### Tips:

If there are any other licenses to be returned, repeat from step (2). If there are no other licenses to be returned, press [CLOSE], and then turn the power OFF.

**Notes:**

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 license.

**[ 2 ] Re-registration when the equipment is replaced due to malfunction**

When the equipment has to be replaced due to a malfunction, return the license registered in the equipment to the one-time dongle and register it to the new equipment following the procedure below.

**Notes:**

It is not possible to re-register the license for the IPsec Enabler (GP-1080) into other equipment.

- (1) Perform FS-08-3840.
- (2) Select the license to be returned, and then press [REMOVE].
- (3) Install the one-time dongle in the equipment (the one which you used for uploading the selected license), and then press [OK].
- (4) The Remove screen is displayed. Then press [YES].  
If this screen is not displayed, check that the one-time dongle is installed in the equipment properly.
- (5) After 10 to 40 seconds have passed, the screen for notifying the success of the performance is displayed. Then press [OK].  
If the screen for notifying a failure of the performance is displayed, quit this operation by pressing [CLOSE]. Then check that the one-time dongle, which you used for uploading the selected license, is installed in the equipment.
- (6) Check that the returned license is not displayed on the screen.

**Tips:**

If there are any other licenses to be returned, repeat from step (2).

If there are no other licenses to be returned, press [CLOSE], and then turn the power OFF.

- (7) Replace the equipment.
- (8) Perform FS-08-3840.
- (9) Press [INSTALL].
- (10) Install the one-time dongle in the equipment (the one which you used for returning the selected license before replacing the equipment). Then press [OK].
- (11) Select the license to be installed, and then press [INSTALL].
- (12) The screen for notifying that the installation will be started is displayed. Then press [YES].
- (13) After 10 to 40 seconds have passed, the screen for notifying the success of the performance is displayed. Then press [OK]. If the screen for notifying a failure of the performance is displayed, quit this operation by pressing [NO]. Then check that the one-time dongle is installed properly in the equipment.
- (14) Check that the installed license is displayed on the license list.

**Tips:**

If there are any other licenses to be installed, repeat from step (9). If there are no other licenses to be installed, press [CLOSE], and then turn the power OFF.



## 9.3 Precautions for Installation of GP-1070 and Disposal of HDD/ Board

### 9.3.1 Precautions for Installation of GP-1070

When installing the Data Overwrite Enabler (GP-1070), perform the following setting:

HS-73→[Erase HDD Securely]: HDD securely erasing

This setting is the overwriting method complying with DoD 5220.22-M.

1. LOW: This is the normal overwriting method. (This setting is used normally.)  
"00-FF-Random-Verify" Once
2. MEDIUM: This overwriting method is more secure than LOW. The erasing time is between LOW and HIGH.  
"00-FF-Random" three times repeatedly -Verify
3. HIGH: This is the most secure overwriting method. It takes the longest time to erase data  
"00-FF-Random" five times repeatedly -Verify
4. SIMPLE: This is the simple overwriting method. It takes the shortest time to erase data.  
Overwrite the Random data once

### 9.3.2 Precautions when disposing of HDD

#### [ 1 ] When disposing of Secure HDD

When disposing of Secure HDD, perform the following setting:

HS-74→[Revert factory initial status HDD]

#### [ 2 ] When disposing of Normal HDD

When disposing of Normal HDD, perform the following setting:

HS-73→[Erase HDD Securely]: HDD securely erasing

This setting is the overwriting method complying with DoD 5220.22-M.

1. LOW: This is the normal overwriting method. (This setting is used normally.)  
"00-FF-Random-Verify" Once
2. MEDIUM: This overwriting method is more secure than LOW. The erasing time is between LOW and HIGH.  
"00-FF-Random" three times repeatedly -Verify
3. HIGH: This is the most secure overwriting method. It takes the longest time to erase data  
"00-FF-Random" five times repeatedly -Verify
4. SIMPLE: This is the simple overwriting method. It takes the shortest time to erase data.  
Overwrite the Random data once

### 9.3.3 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.

### 9.3.4 Precautions when disposing of the SRAM

When disposing of the SRAM, perform HS-73→Erase SRAM Securely (SRAM securely erasing) for security reasons.

#### Notes:

If this is performed, the equipment cannot be started up.



## 10. REMOTE SERVICE

There are following functions as Remote Service.

1. Auto Supply Order  
Automatically orders the toner and used 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.

### 10.1 Auto Supply Order

#### 10.1.1 Outline

Automatically orders the toner and used 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

The Auto Supply Order is sent as indicated in the following steps.

- Toner cartridge
  1. Toner empty occurs.
  2. The toner cartridge is replaced.
  3. The toner empty counter is incremented when the total number of prints or the pixel counter value exceeds the threshold set in the following self-diagnostic code.

Items	Code	Contents
Toner empty determination counter	FS-08-6506	Selects the counter to determine toner empty. 0: Output pages 1: Pixel counter
Threshold setting for toner empty determination (output pages)	FS-08-6507	Sets the number of output pages to determine toner empty. This setting is valid when "0" is set at FS-08-6506.
Threshold setting for toner empty determination (pixel counter)	FS-08-6508	Sets the number of the pixel counter value to determine toner empty. This setting is valid when "1" is set at FS-08-6506.

e.g.) When "0" is set for FS-08-6506 and "50" is set for FS-08-6507

The toner empty counter is incremented when 50 sheets are printed after the toner cartridge has been replaced.

4. When the accumulated number of toner empty times reaches the set condition, an order is placed automatically.

- Waste toner box  
When the number of the waste toner full detection times reaches the set condition, an order is placed automatically.  
The order condition for the toner cartridge and the waste toner box can be set individually.

(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.

## 10.1.2 Setting Item

To enable Auto Supply Order, the following settings are required.

### Notes:

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 Mode)

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 (FS-08-9783) 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.)

#### (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 The fax number of the supplier must be entered when an order is made by means of a fax.

\*3 The e-mail address of the supplier must be entered when an order is made by means of an e-mail.

- 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.
1. Perform FS-12 (12 FAX LIST PRINT MODE).
  2. Select "SUPPLY ORDER LIST" and then press [PRINT].

### 10.1.3 Setting procedure

- (1) Perform FS-08-9783 and set the setting value to "0".
- (2) Turn the power OFF and then back ON.
- (3) Press [USER FUNCTIONS] on the HOME screen.
- (4) Press the [ADMIN] tab.  
When the Administrator Password has been set, the ADMINISTRATOR PASSWORD screen is displayed.

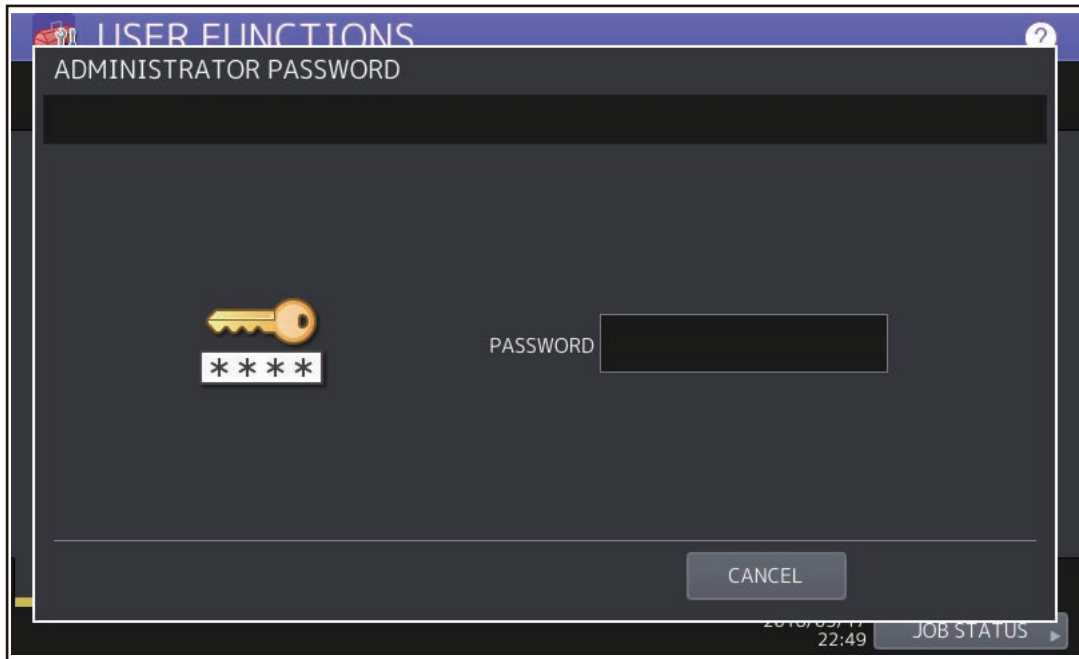


Fig.10-1

- (5) The keyboard appears upon your touching the entry box for a password. Enter the administrator password and then press [OK] or [CLOSE].  
\* Confirm the password to the administrator.

(6) Press [SERVICE] in the ADMIN screen.



Fig.10-2

(7) The SERVICE screen is displayed.

(8) Press [SUPPLY ORDER SETUP].

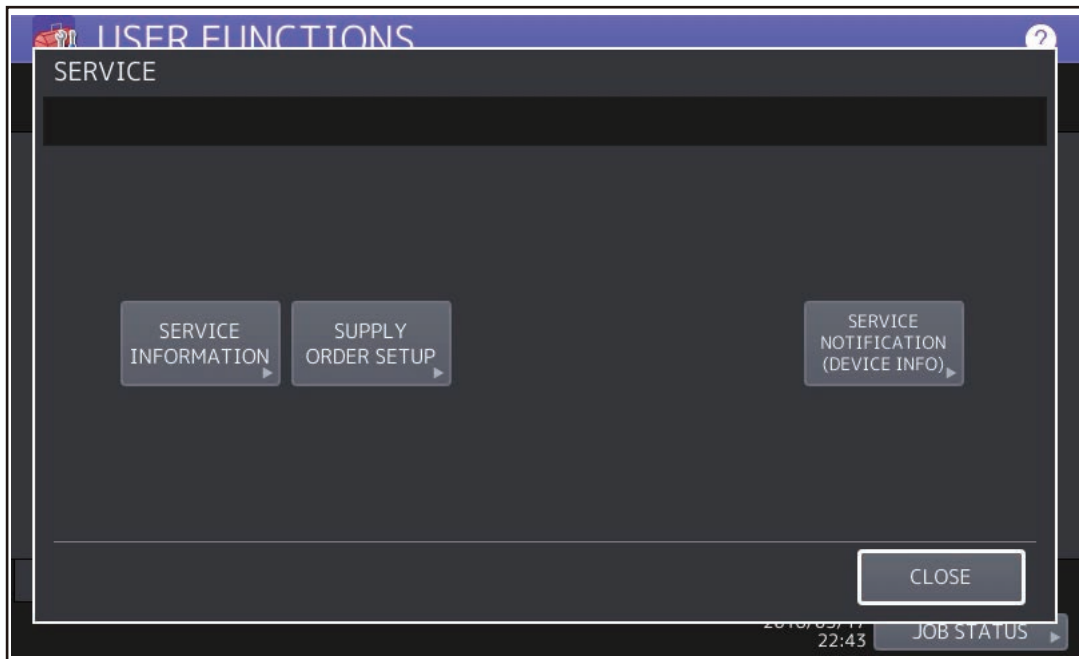


Fig.10-3

(9) Press [ORDER INFORMATION].



Fig.10-4

(10) The ORDER INFORMATION screen is displayed.

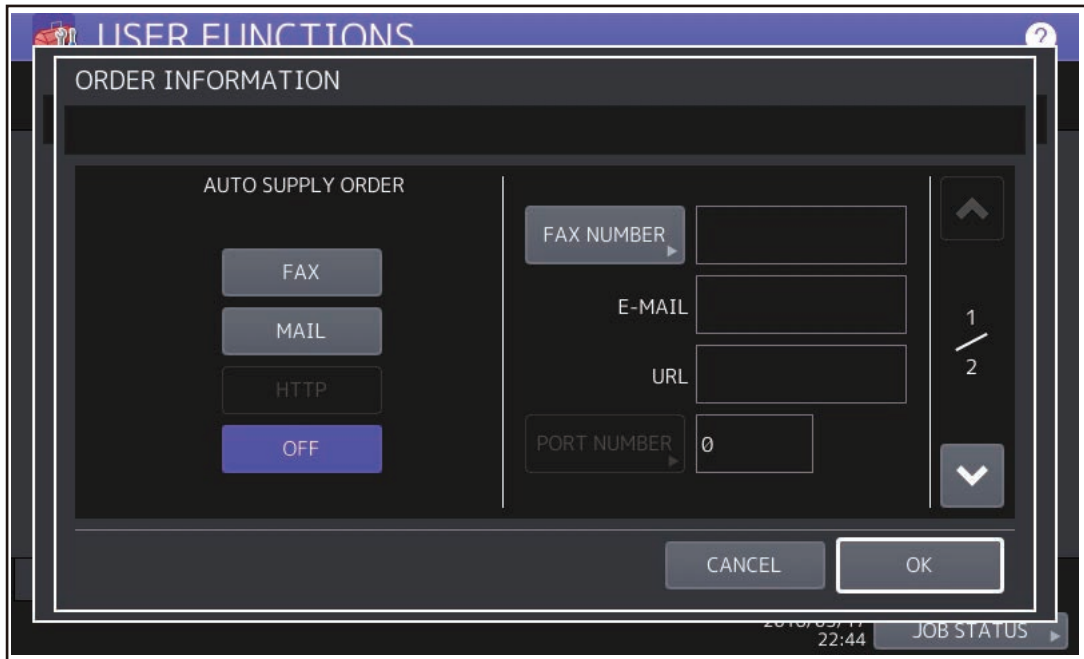


Fig.10-5



(11) Press the buttons on the screen of ORDER INFORMATION to set the required item.

- |                        |  |
|------------------------|--|
| [FAX]/[MAIL]/<br>[OFF] | Select [FAX] or [MAIL] for the transmitting way of order.<br>(HTTP has not been supported yet.)<br>[OFF]: Turn off the AUTO SUPPLY ORDER function. |
| [FAX NUMBER]           | Input the FAX number of supplier.<br>(This must be entered when an order is transmitted by means of a fax.)  |
| [E-MAIL]               | Input the E-mail address of supplier.<br>(This must be entered when an order is transmitted by means of an e-mail.)                                |

(12) Press the scroll button.

(13) The SUPPLIER screen is displayed.

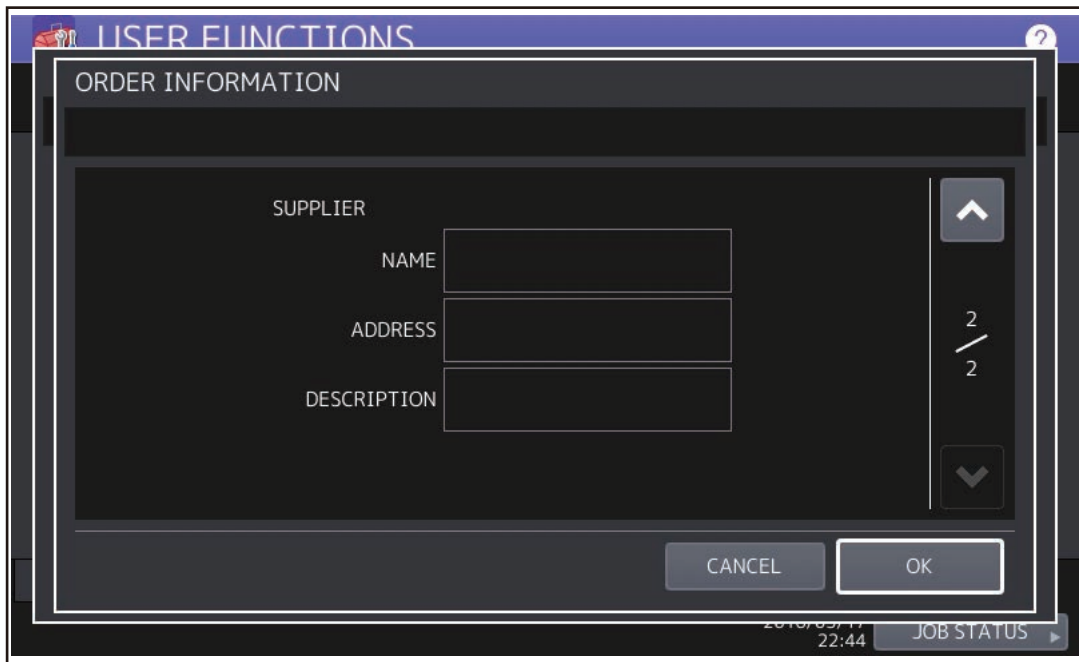


Fig.10-6

(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. |

(15) Press [OK].

Press [OK] to register the entered information and then the screen returns to the (7) SERVICE screen.

Press [CANCEL] to cancel the entered information and then the screen returns to the (7) SERVICE screen.

(16) The SERVICE screen is displayed.

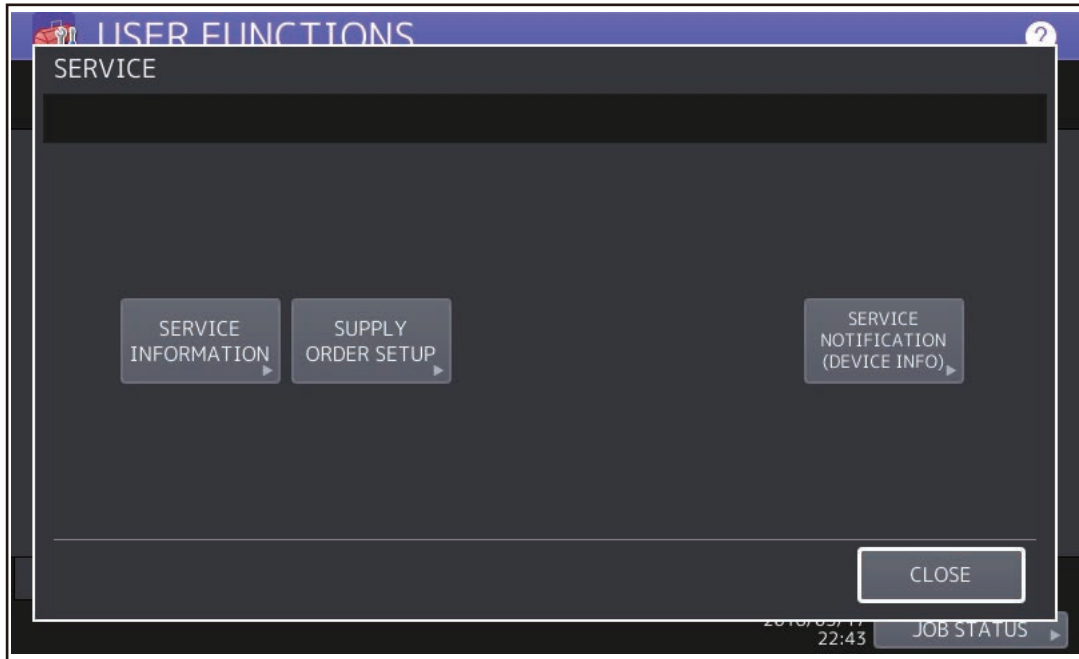


Fig.10-7

(17) Press [SERVICE INFORMATION].

(18) The CUSTOMER/SERVICE TECHNICIAN screen is displayed.

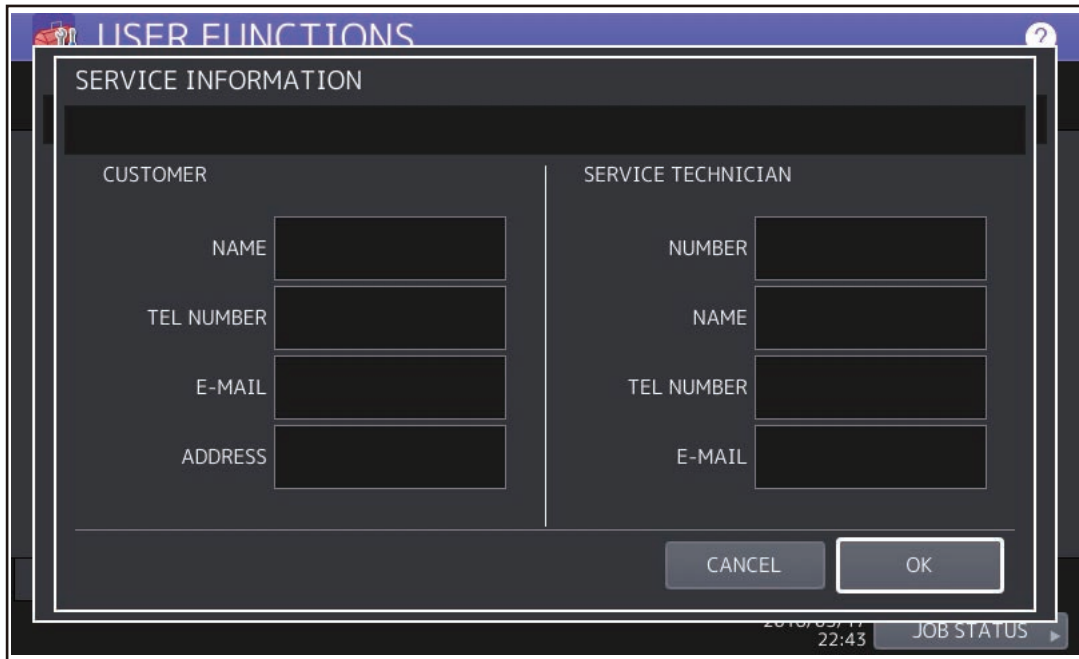


Fig.10-8

(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 [OK] to register and complete the order information setting.

(21) The SERVICE screen is returned.

(22) Press [SUPPLY ORDER SETUP].



Fig.10-9

(23) Press [TONER ORDERING].



Fig.10-10

(24) The TONER ORDERING screen is displayed.

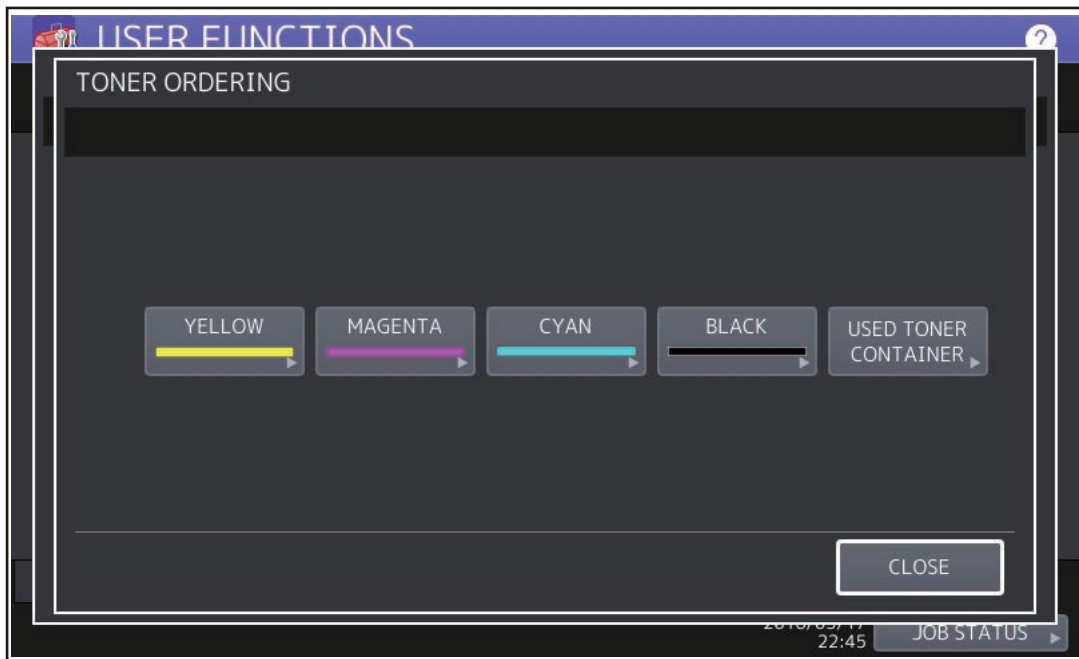


Fig.10-11

(25) Select the part to be ordered. (Press [YELLOW])

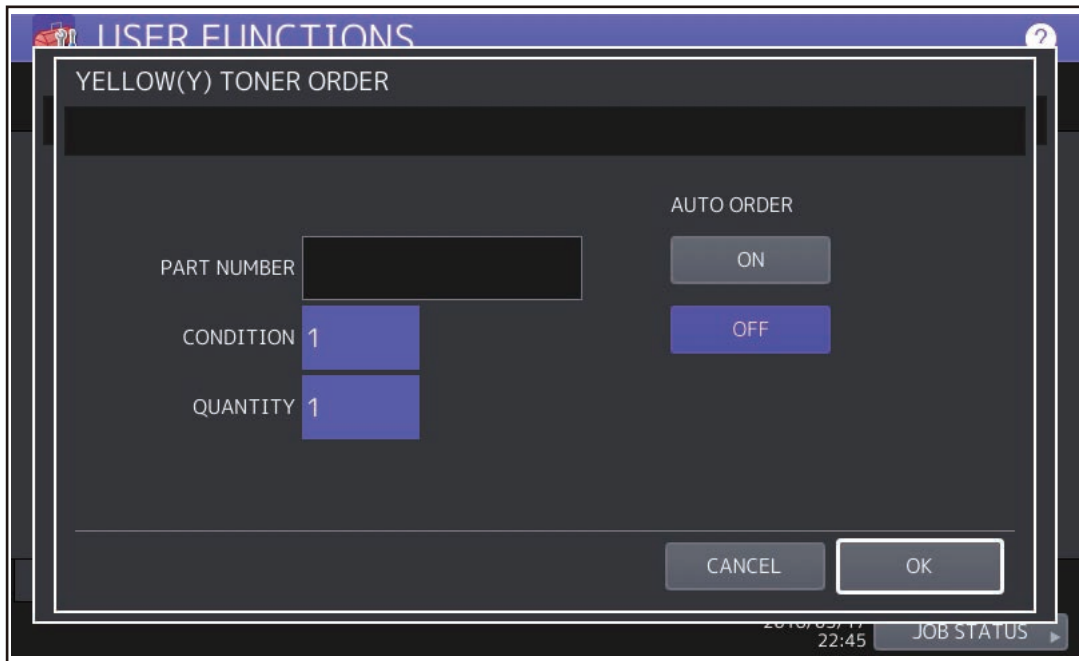


Fig.10-12

(26) Input the order information of TONER.

- |               |   |
|---------------|---|
| [PART NUMBER] | Toner number  |
| [CONDITION]   | The order is placed when the accumulated number of toner empty times reaches the value set in here. |
| [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 [OK] to register the setting of toner order.

(28) The TONER ORDERING screen is displayed.

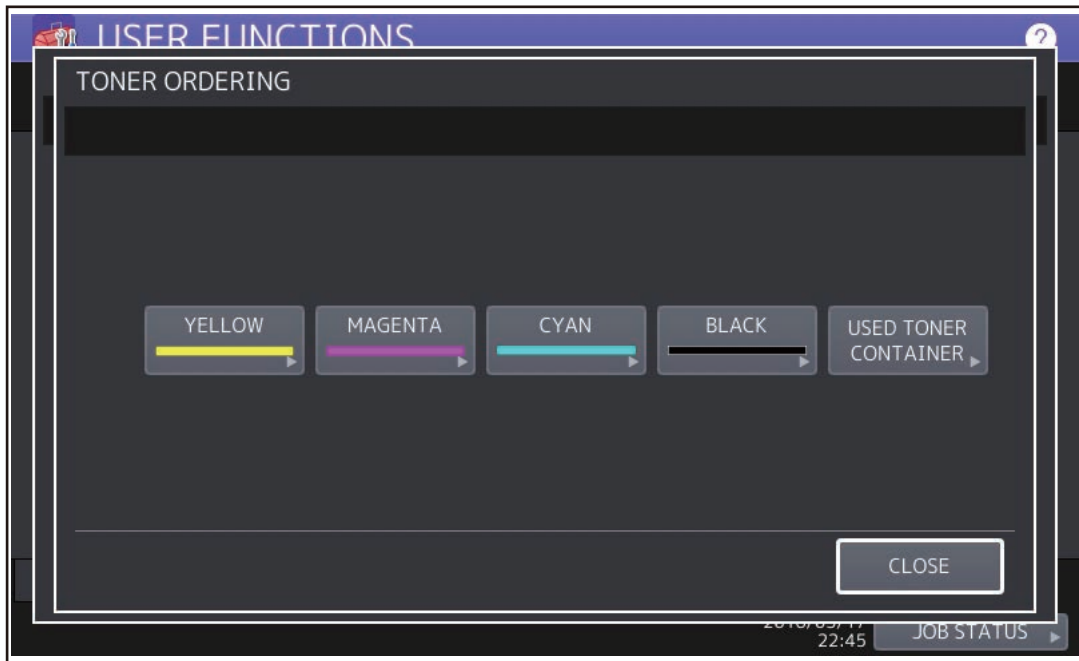


Fig.10-13

(29) Press [MAGENTA] / [CYAN] / [BLACK] / [USED TONER CONTAINER], and then input the order information in the same way.

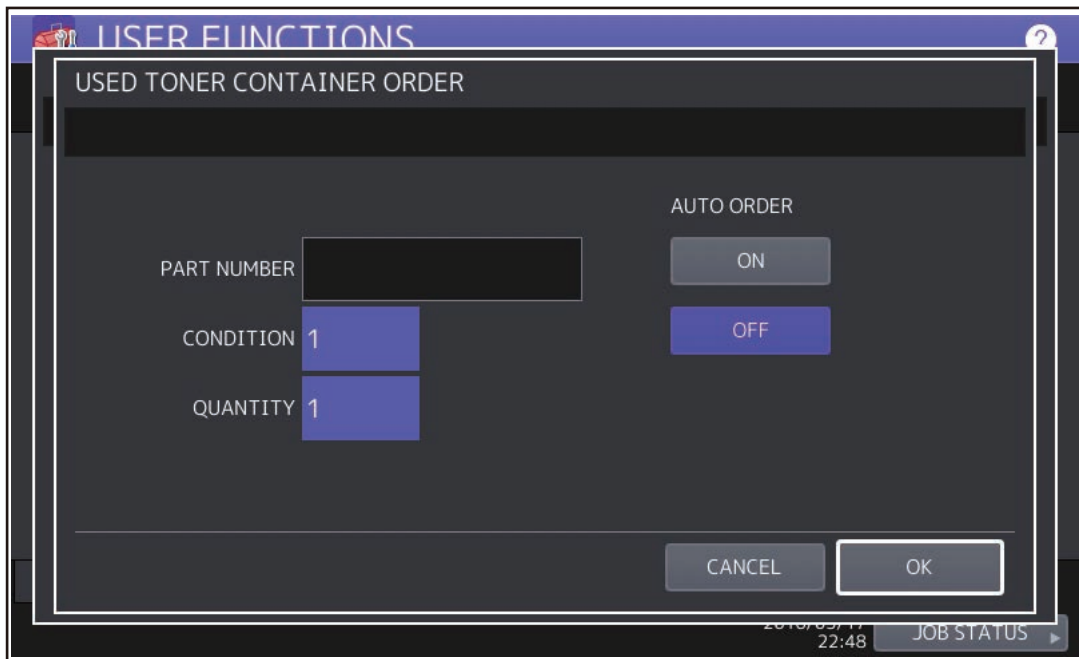


Fig.10-14

(30) Press [OK] to register the order information.

**Notes:**

Auto Supply Order setting is also available from the following 08 Setting Mode.

Items	Code	Contents
The transmitting way of order [FAX]/[MAIL] /[OFF]	FS-08-9750	0: Ordered by FAX 1: Ordered by E-mail 2: Ordered by HTTP 3: OFF
SUPPLIER [FAX NUMBER]	FS-08-9751	Maximum 32 digits
SUPPLIER [E-MAIL]	FS-08-9752	Maximum 192 letters
CUSTOMER [NAME]	FS-08-9756	Maximum 50 letters
CUSTOMER [TEL NUMBER]	FS-08-9757	Maximum 32 digits
CUSTOMER [E-MAIL]	FS-08-9758	Maximum 192 letters
CUSTOMER [ADDRESS]	FS-08-9759	Maximum 100 letters
SUPPLIER [NAME]	FS-08-9764	Maximum 50 letters
SUPPLIER [ADDRESS]	FS-08-9765	Maximum 100 letters
SERVICE TECHNICIAN [NUMBER]	FS-08-9760	Maximum 5 digits
SERVICE TECHNICIAN [NAME]	FS-08-9761	Maximum 50 letters
SERVICE TECHNICIAN [TEL NUMBER]	FS-08-9762	Maximum 32 digits
SERVICE TECHNICIAN [E-MAIL]	FS-08-9763	Maximum 192 letters
Remarks [DESCRIPTION]	FS-08-9766	Maximum 128 letters
YELLOW(Y) TONER [PART NUMBER]	FS-08-9773	Maximum 20 digits
YELLOW(Y) TONER [CONDITION]	FS-08-9775	1-99
YELLOW(Y) TONER [QUANTITY]	FS-08-9774	1-99
MAGENTA(M) TONER [PART NUMBER]	FS-08-9770	Maximum 20 digits
MAGENTA(M) TONER [CONDITION]	FS-08-9772	1-99
MAGENTA(M) TONER [QUANTITY]	FS-08-9771	1-99
CYAN(C) TONER [PART NUMBER]	FS-08-9767	Maximum 20 digits
CYAN(C) TONER [CONDITION]	FS-08-9769	1-99
CYAN(C) TONER [QUANTITY]	FS-08-9768	1-99
BLACK(K) TONER [PART NUMBER]	FS-08-9776	Maximum 20 digits

Items	Code	Contents
BLACK(K) TONER [CONDITION]	FS-08- 9778	1-99
BLACK(K) TONER [QUANTITY]	FS-08- 9777	1-99
USED TONER CONTAINER [PART NUMBER]	FS-08- 9779	Maximum 20 digits
USED TONER CONTAINER [CONDITION]	FS-08- 9781	1-99
USED TONER CONTAINER [QUANTITY]	FS-08- 9780	1-99

(31) The SERVICE screen is returned.

(32) Press [SERVICE NOTIFICATION (DEVICE INFO)].



Fig.10-15



- (33) Press [ON] or [OFF] in SERVICE NOTIFICATION (DEVICE INFO).  
When [OFF] is pressed, all functions related SERVICE NOTIFICATION (DEVICE INFO) become ineffective.

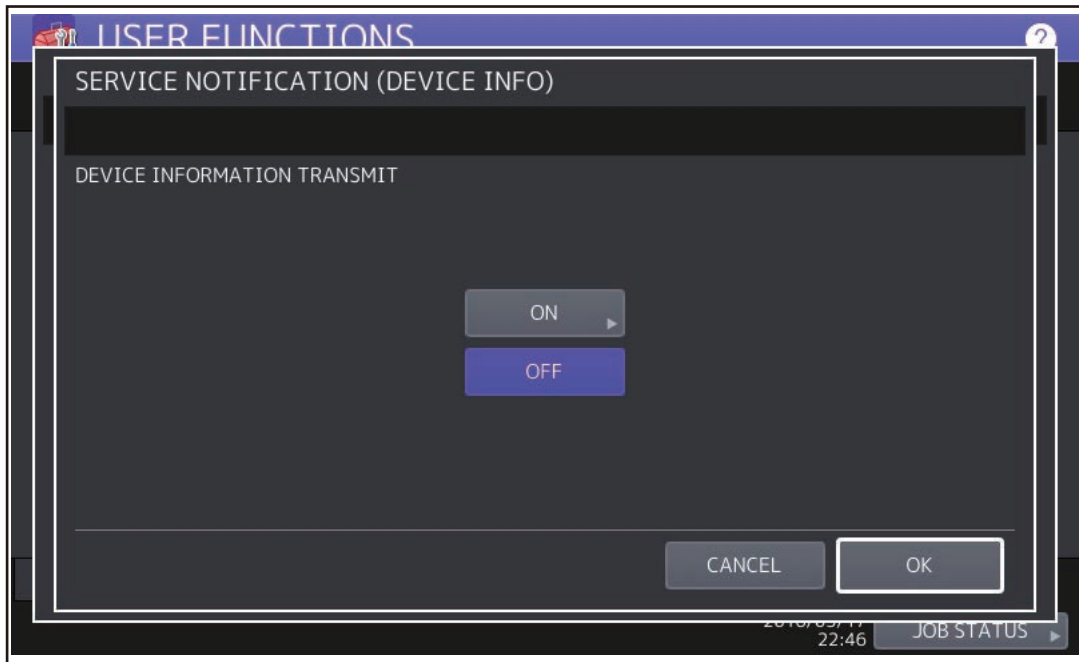


Fig.10-16

- (34) When SERVICE NOTIFICATION (DEVICE INFO) is set to ON, the screen to set the notification date is displayed.  
Then set the notification date with the following procedure.

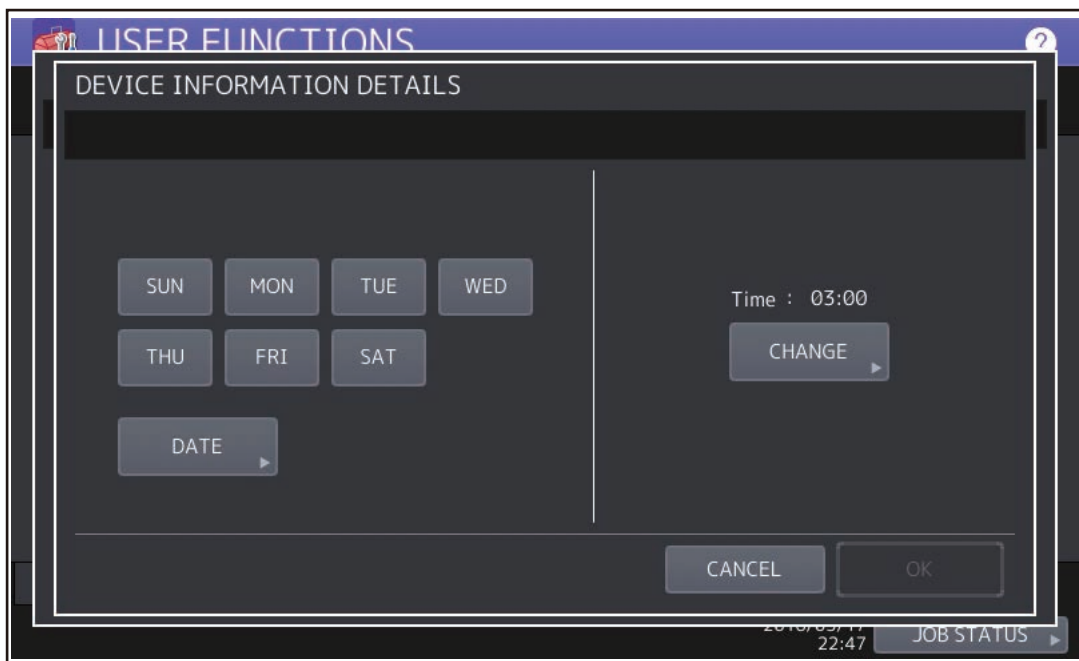


Fig.10-17

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
  
- **Day of the week ([SUN] to [SAT])**  
Pressing [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])**  
Pressing [DATE] sets up to 2 dates on which you want to send data.
  - \* This is not affected by the specified day of the week.

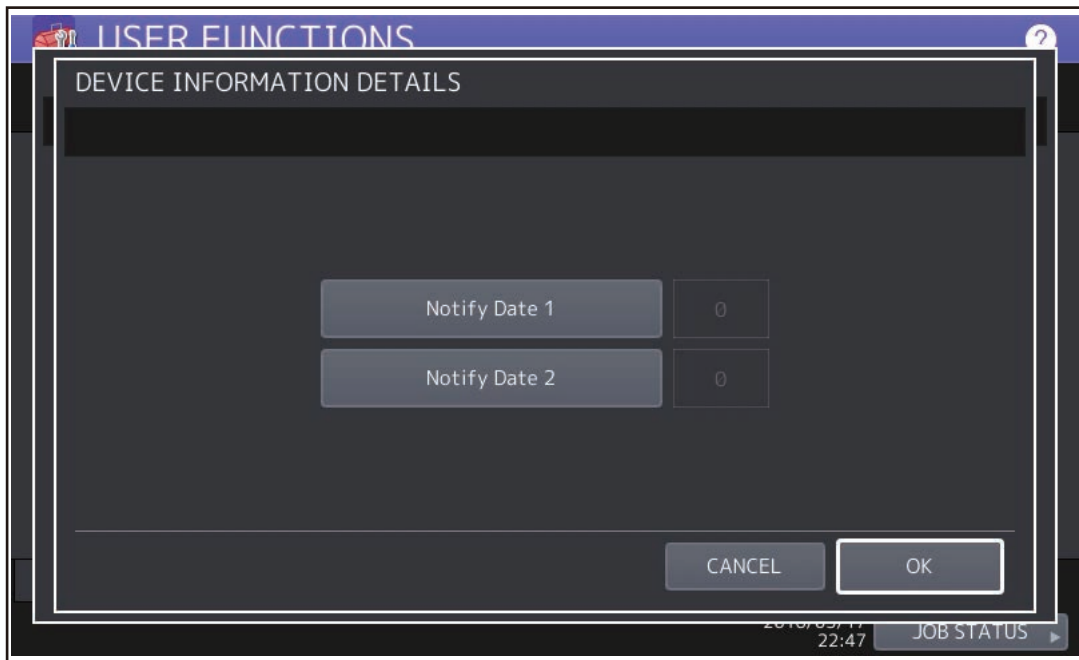


Fig.10-18

Key in the date (acceptable values: 0-31) in “Notify Date 1” or “Notify Date 2” and press [OK].

- **Time setting ([CHANGE])**

Pressing [CHANGE] sets the time at which you want to send data.

This is the time when data are sent with “Day of the week”, “Notify Date 1” and “Notify Date 2”.

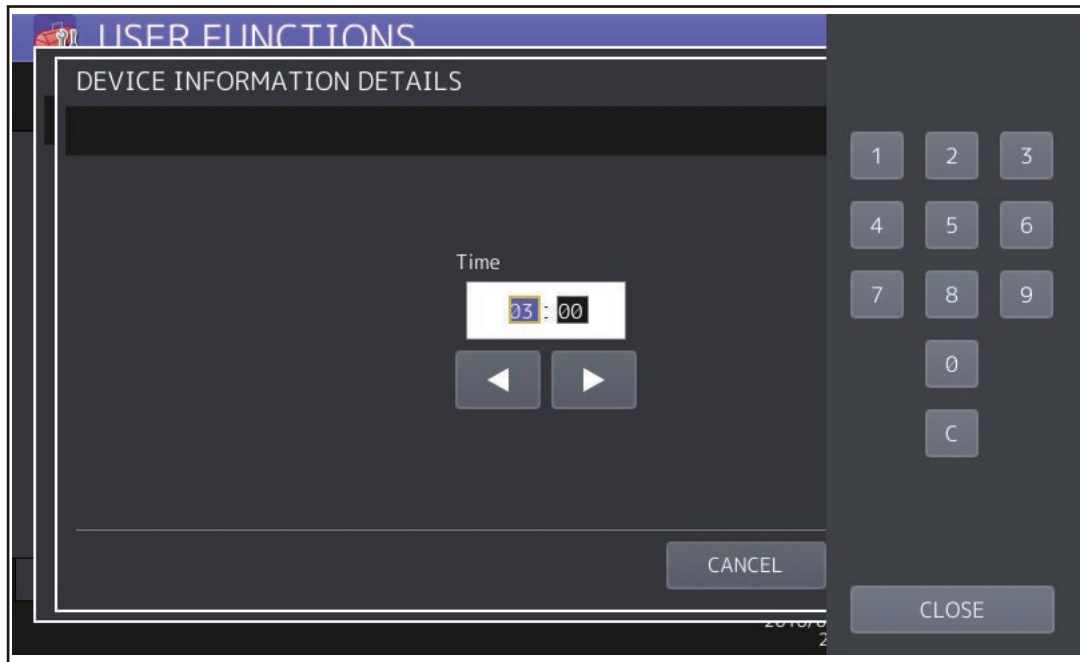


Fig.10-19

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 [OK].

(35) Press [CLOSE]. The setting completes.

## 10.1.4 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	:XX
CUSTOMER ADDRESS	:XX
CUSTOMER TEL NUMBER	:XX
CUSTOMER E-MAIL ADDRESS	:XX
SERVICE TECHNICIAN TEL NUMBER	:XX
SERVICE TECHNICIAN E-MAIL	:XX
SUPPLIER NAME	:XX
SUPPLIER ADDRESS	:XX

---

	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	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERIAL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DEVICE FAX NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DEVICE E-MAIL ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX

	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

Fig.10-20

DESCRIPTION AREA:       Remarks  
 DEVICE DESCRIPTION:    Model name  
 SERIAL NUMBER:         Serial number  
 DEVICE FAX NUMBER:     Fax number  
 DEVICE E-MAIL ADDRESS: E-mail address

(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: '12-04-14 00:17
Customer Number: a1 MachineName: TOSHIBA e-STUDIOxxxx
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.10-21

Date&Time:	Order date and time
Customer Number:	Customer number
MachineName:	Model name (MFP model name)
SerialNumber:	Serial number
Device FAX Number:	Fax number
Device Email:	E-mail address
OrderInformation:	Order information
CYAN PartNumber:	Cyan toner cartridge part number
MAGENTA PartNumber:	Magenta toner cartridge part number
BLACK PartNumber:	Black toner cartridge part number
Quantity:	Order quantity
CounterInformation:	Counter information
PrintCounter (Small) FullColor: 0 TwinColor: 0 Black:	Print count (Small size) for Full color, Twin color and Black
PrintCounter (Large) FullColor: 0 TwinColor: 0 Black:	Print count (Large size) for Full color, Twin color and Black
ScanCounter FullColor: 0 TwinColor: 0 Black:	Scan count
	Scan count for Full color, Twin color and Black

(3) Result list

\*1 Part not to be ordered is not output. (Less space between the lines)

ORDER	XXXXXXXXXX			
DATE & TIME	:99-99-'99 99:99			
CUSTOMER NUMBER	:XXX			
CUSTOMER NAME	:XX			
CUSTOMER ADDRESS	:XX			
CUSTOMER TEL NUMBER	:XX			
CUSTOMER E-MAIL ADDRESS	:XX			
SERVICE TECHNICIAN				
TEL NUMBER	:XX			
SERVICE TECHNICIAN E-MAIL	:XX			
SUPPLIER NAME	:XX			
SUPPLIER ADDRESS	:XX			
<hr/>				
	PART NUMBER	QUANTITY		
TONER CARTRIDGE				
CYAN	:XXXXXXXXXXXX	99		
MAGENTA	:XXXXXXXXXXXX	99		
YELLOW	:XXXXXXXXXXXX	99		
BLACK	:XXXXXXXXXXXX	99		
USED TONER CONTAINER	:XXXXXXXXXXXX	99		
		(*1)		
<hr/>				
DESCRIPTION AREA	.....			
	.....			
DEVICE DESCRIPTION	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
SERIAL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
DEVICE FAX NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
DEVICE E-MAIL ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

Fig.10-22

ORDER SUCCESSFUL/FAILURE:	Automatic supply ordering: transmission success or failure
DATE & TIME:	Order date and time
CUSTOMER NUMBER:	Customer number
CUSTOMER NAME:	Customer name
CUSTOMER ADDRESS:	Customer address
CUSTOMER TEL NUMBER:	Customer telephone number
CUSTOMER E-MAIL ADDRESS:	Customer E-mail address
SERVICE TECHNICIAN TEL NUMBER:	Service technician telephone number
SERVICE TECHNICIAN E-MAIL:	Service technician E-mail address
SUPPLIER NAME:	Supplier name
SUPPLIER ADDRESS:	Supplier address
PART NUMBER:	Order part number
QUANTITY:	Order quantity

TONER CARTRIDGE:	Toner cartridge
	CYAN: Cyan
	MAGENTA: Magenta
	YELLOW: Yellow
	BLACK: Black
USED TONER CONTAINER:	Used toner container (waste toner box)
DESCRIPTION AREA:	Remarks
DEVICE DESCRIPTION:	Model name (MFP model name)
SERIAL NUMBER:	Serial number
DEVICE FAX NUMBER:	Fax number
DEVICE E-MAIL ADDRESS:	E-mail address
PRINT COUNTER:	Print count
SCAN COUNTER:	Scan count
TOTAL:	Total
BLACK:	Black
TWIN COLOR:	Twin color
FULL COLOR:	Full color

## 10.2 Service Notification

### 10.2.1 Outline

This function automatically notifies the status of the equipment to the service technician by E-mail or FAX. The following 6 are the items to be notified.

- Total counter notification  
When this function is effective, it notifies each counter information periodically (on the set date and time every month).
- Service call notification (E-mail only)  
When this function is effective, it notifies the corresponding error code and such at a service call error.
- PM counter notification  
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.
- Toner near empty notification  
When this function is effective, it notifies each counter information and toner cartridge information if toner near empty occurs.
- Waste toner near full transmit  
When this function is effective, it notifies each counter information and toner cartridge information if toner near empty occurs.
- HDD alert notification  
When this function is effective, it notifies an alert for backing up or replacing the HDD.

### 10.2.2 Setting

**Notes:**

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

If the menu display of this function is disabled (not displayed), set it to be enabled (displayed) with the following code.

FS-08-    Setting of notification display  
9604

0: Invalid

1: Valid



## [ 2 ] Setting procedure

- (1) Press [USER FUNCTIONS] on the HOME screen and select the [ADMIN] tab. Then, enter the password and press [OK].  
Confirm the password to the administrator.

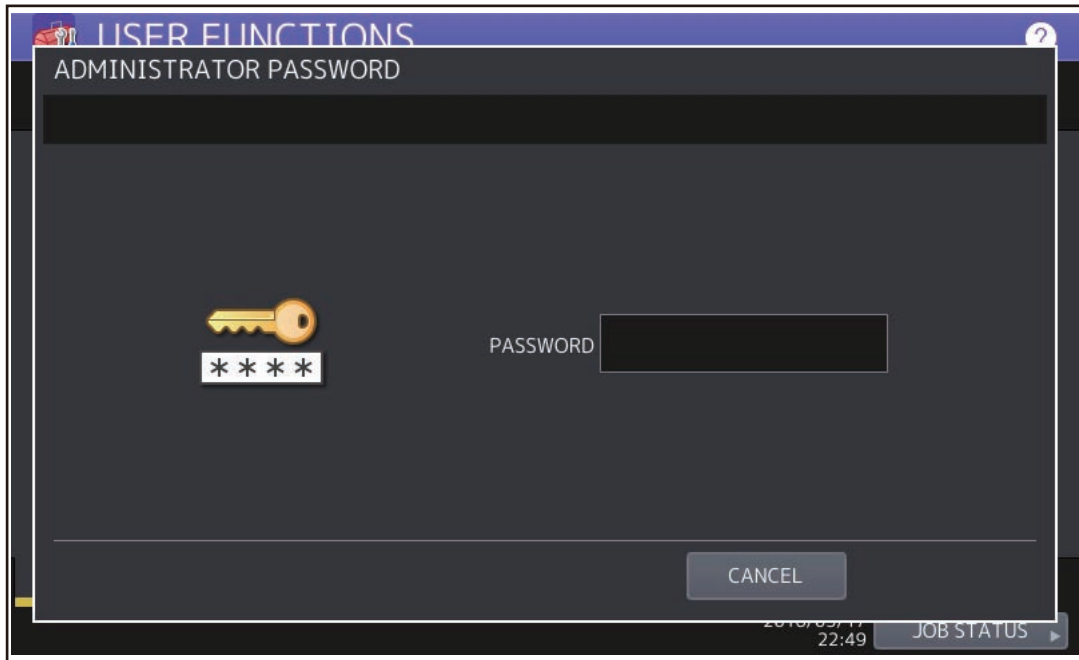


Fig.10-23

- (2) Press [SERVICE].

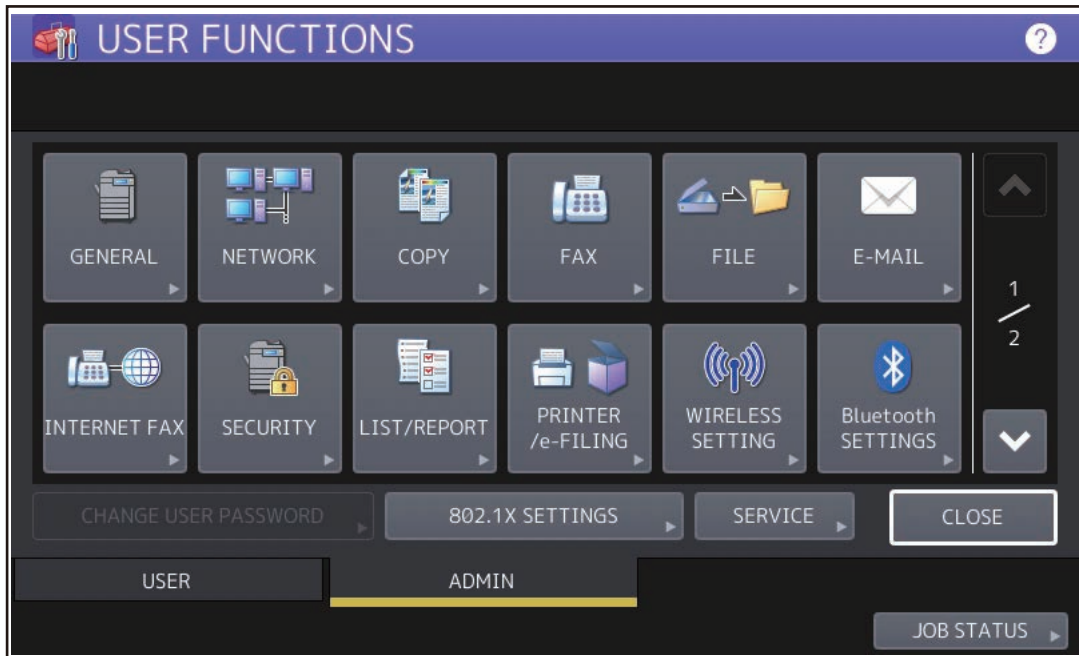


Fig.10-24

(3) Press [SERVICE NOTIFICATION].

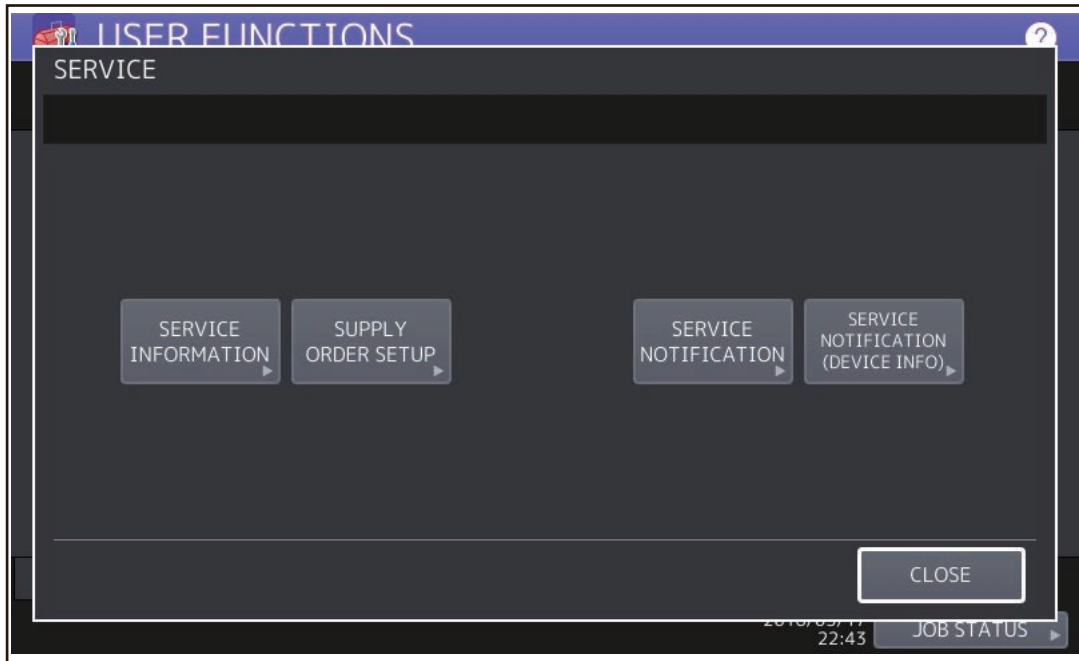


Fig.10-25

(4) Press [E-MAIL] or [FAX].  
When [OFF] is pressed, all functions related Service Notification become ineffective.

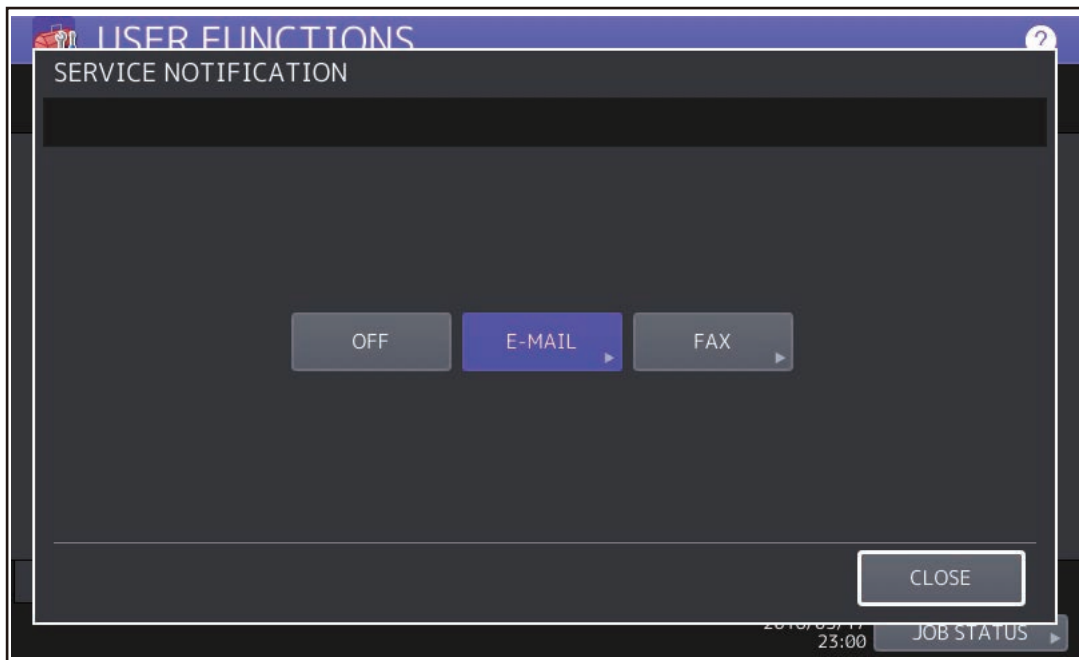


Fig.10-26

- (5) Enter the e-mail address or fax number of the destination and press [OK]. A maximum of 3 addresses can be set. (The keyboard appears upon your touching the entry box for an e-mail address.)



Fig.10-27

Press [FAX NUMBER], key in the FAX number and then press [OK].

10



Fig.10-28

- (6) Press [ON] to notify or [OFF] 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.

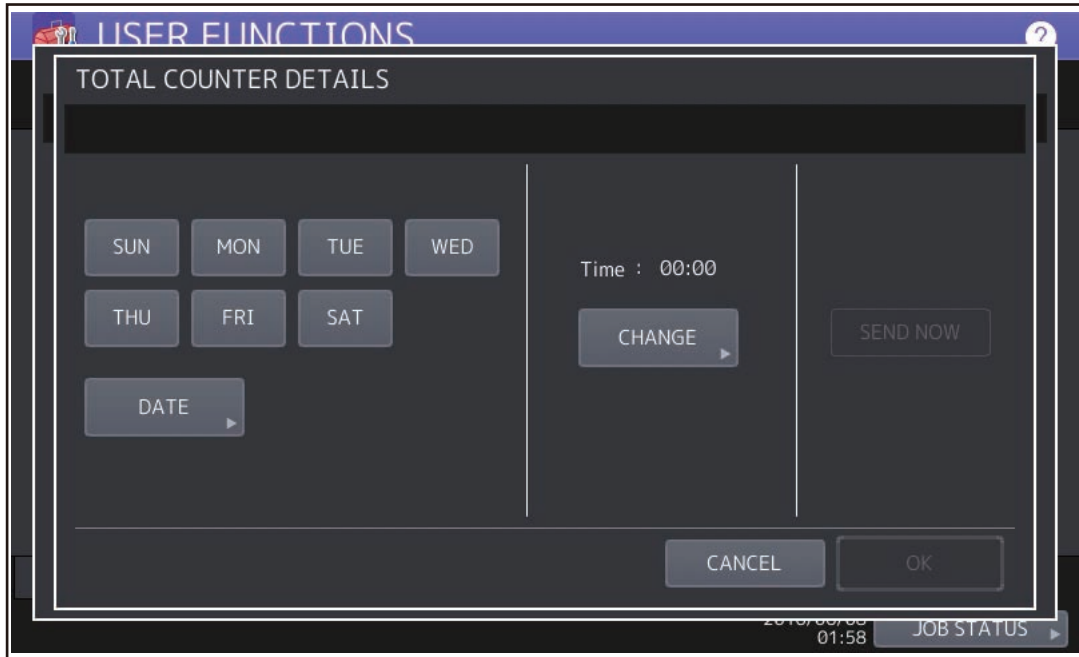


Fig.10-29

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 [SEND NOW].

- **Day of the week ([SUN] to [SAT])**  
 Pressing [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])**  
Pressing [DATE] sets up to 2 dates on which you want to send data.
- \* This is not affected by the specified day of the week.



Fig.10-30

Key in the date (acceptable values: 0-31) in “Notify Date 1” or “Notify Date 2” and press [OK].

- **Time setting ([CHANGE])**  
Pressing [CHANGE] sets the time at which you want to send data.  
This is the time when data are sent with “Day of the week”, “Notify Date 1” and “Notify Date 2”.

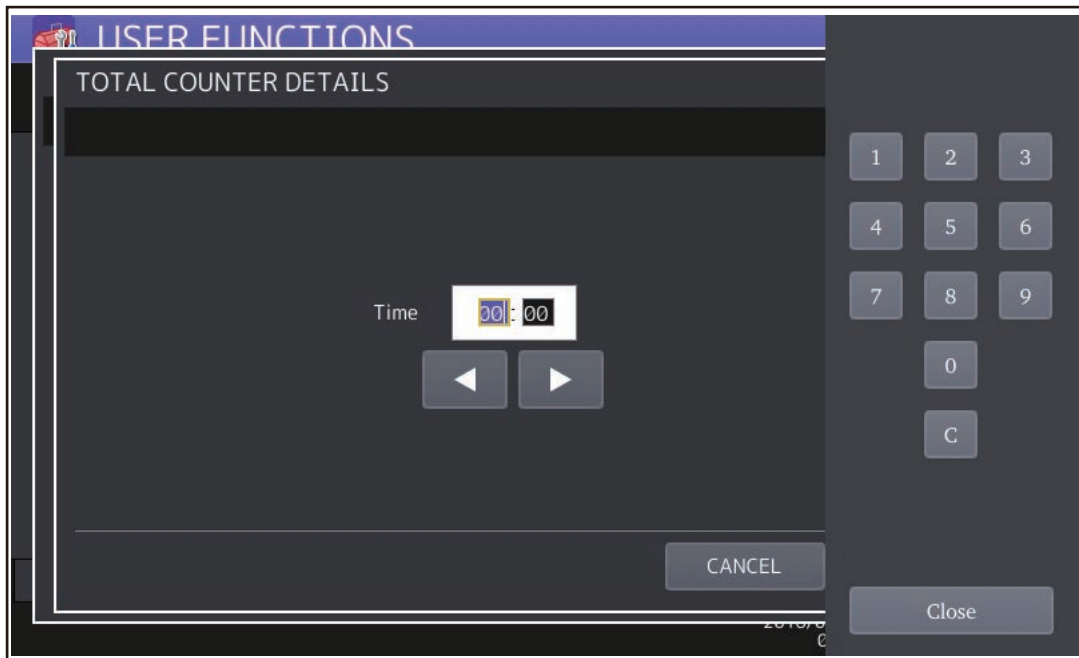


Fig.10-31

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 [OK]. The display returns to the screen in step (5).

(7) Press [OK]. The setting completes.

**Notes:**

Service Notification setting is also available from the following 08 Setting Mode.

Items	Code	Contents
Service Notification setting	FS-08-9793	0: OFF (Invalid) 1: E-mail 2: FAX
E-mail address 1	FS-08-9794	Maximum 192 letters
E-mail address 2	FS-08-9607	Maximum 192 letters
E-mail address 3	FS-08-9608	Maximum 192 letters
FAX number	FS-08-9784	Maximum 32 digits
Total Counter Transmit setting	FS-08-9795	0: OFF (Invalid) 1: ON (Valid)
Total counter transmission date setting	FS-08-9796	0 to 31
Total counter transmission date setting(2)	FS-08-9880	0 to 31
Day of total counter data transmission	FS-08-9881	1 byte 00000000(0)-01111111(127) From the 2nd bit - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday
Total counter transmission interval setting (Hour/Minute/Minute)	FS-08-9606	00:00-23:59
Service Call Transmit setting	FS-08-9605	0: OFF (Invalid) 1: ON (Valid)
PM Counter Transmit setting	FS-08-9797	0: OFF (Invalid) 1: ON (Valid)

### 10.2.3 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".)

①	Date	: 04/26/2012 12:34	
②	Machine Model	: TOSHIBA e-STUDIOxxxx	
③	SerialNumber	: 1234567890	
④	Total Counter	: 00004787	
⑤	Supplier:		
	Name	: SUPPLIER_NAME	
	Tel Number	: 1122334455	
	E-Mail	: Supplier_emailaddress@cccc.xxx	
	Address	: SUPPLIER_ADDRESS	
⑥	Customer:		
	Name	: CUSTOMER_NAME	
	Tel Number	: 1234567890	
	E-Mail	: customer_emailaddress@dddd.xxx	
	Address	: CUSTOMER_ADDRESS	
⑦	Service Technician:		
	Number	: svc12	
	Name	: SERVICE_TECHNICIAN_NAME	
	Tel Number	: 0987654321	
	E-Mail	: svc@toshibatec.co.jp	
	ChargeCounterFormat:		
⑧	LargeSizeChargeCount	1	
⑨	LargeSizeChargePaperDefinition	1	
	PMCounterFormat:		
⑩	LargeSizePMCount	1	
⑪	LargeSizePMPaperDefinition	0	
	Charge Counter:	Large	Small
	<Print Counter>		
	Full Color -----		
⑫	Copy	00000000	00000000
⑬	Print	00000000	00000000
	Twin Color -----		
⑭	Copy	00000000	00000000
	Black -----		
⑮	Copy	00000000	00000000
⑯	Print	00000000	00000000
⑰	List	00000000	00000000
⑱	FAX	00000000	00000000
	<Scan Counter>		
	Full Color -----		
⑲	Copy Scan	00000000	00000000
⑳	Net Scan	00000000	00000000
	Twin Color -----		
㉑	Copy Scan	00000000	00000000
	Black -----		
㉒	Copy Scan	00000000	00000000
㉓	FAX Scan	00000000	00000000
㉔	Net Scan	00000000	00000000
	<FAX Counter>		
㉕	Transmit	00000000	00000000
㉖	Receive	00000000	00000000

Fig.10-32

Periodical Maintenance Counter:			
		Pages	Drive Counts
⑲	K-EPU		
	Setting	00000000	00000000
⑳	Current	00000000	00000000
	Y-EPU		
㉑	Setting	00000000	00000000
㉒	Current	00000000	00000000
	M-EPU		
㉓	Setting	00000000	00000000
㉔	Current	00000000	00000000
	C-EPU		
㉕	Setting	00000000	00000000
㉖	Current	00000000	00000000
	Others		
㉗	Setting	00000000	00000000
㉘	Current	00000000	00000000
㉙	Printer Error History:		
	Date	Time	ErrorCode Counter
	04/13/2008	16:44	F110 00000000
	04/12/2008	22:28	F110 00000000
	04/12/2008	22:23	F110 00000000
	03/15/2008	22:23	F110 00000000
	02/25/2008	11:12	F110 00000000

Fig.10-33

- 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)
- 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.

## 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".

Sheet 1

COUNTER NOTIFICATION (\*1)

①	DATE	: 12/04/14 13:47
②	MACHINE MODEL	: TOSHIBA e-STUDIOxxxx
③	SERIAL NUMBER	: 1234567890
④	TOTAL COUNTER	: 00004787
⑤	CUSTOMER NAME	: CUSTOMER_NAME
	CUSTOMER ADDRESS	: CUSTOMER_ADDRESS
	CUSTOMER TEL NUMBER	: 1234567890
	CUSTOMER E-MAIL ADDRESS	: customer_emailaddress@dddd.xxx
⑥	SERVICE TECHNICIAN NUMBER	: svc12
	SERVICE TECHNICIAN NAME	: SERVICE_TECHNICIAN_NAME
	SERVICE TECHNICIAN TEL NUMBER	: 0987654321
	SERVICE TECHNICIAN E-MAIL	: svc@toshibatec.co.jp
⑦	SUPPLIER NAME	: SUPPLIER_NAME
	SUPPLIER ADDRESS	: SUPPLIER_ADDRESS
	SUPPLIER FAX NUMBER	: 5544332211
	SUPPLIER E-MAIL	: supplier_emailaddress@cccc.xxx

Fig.10-34

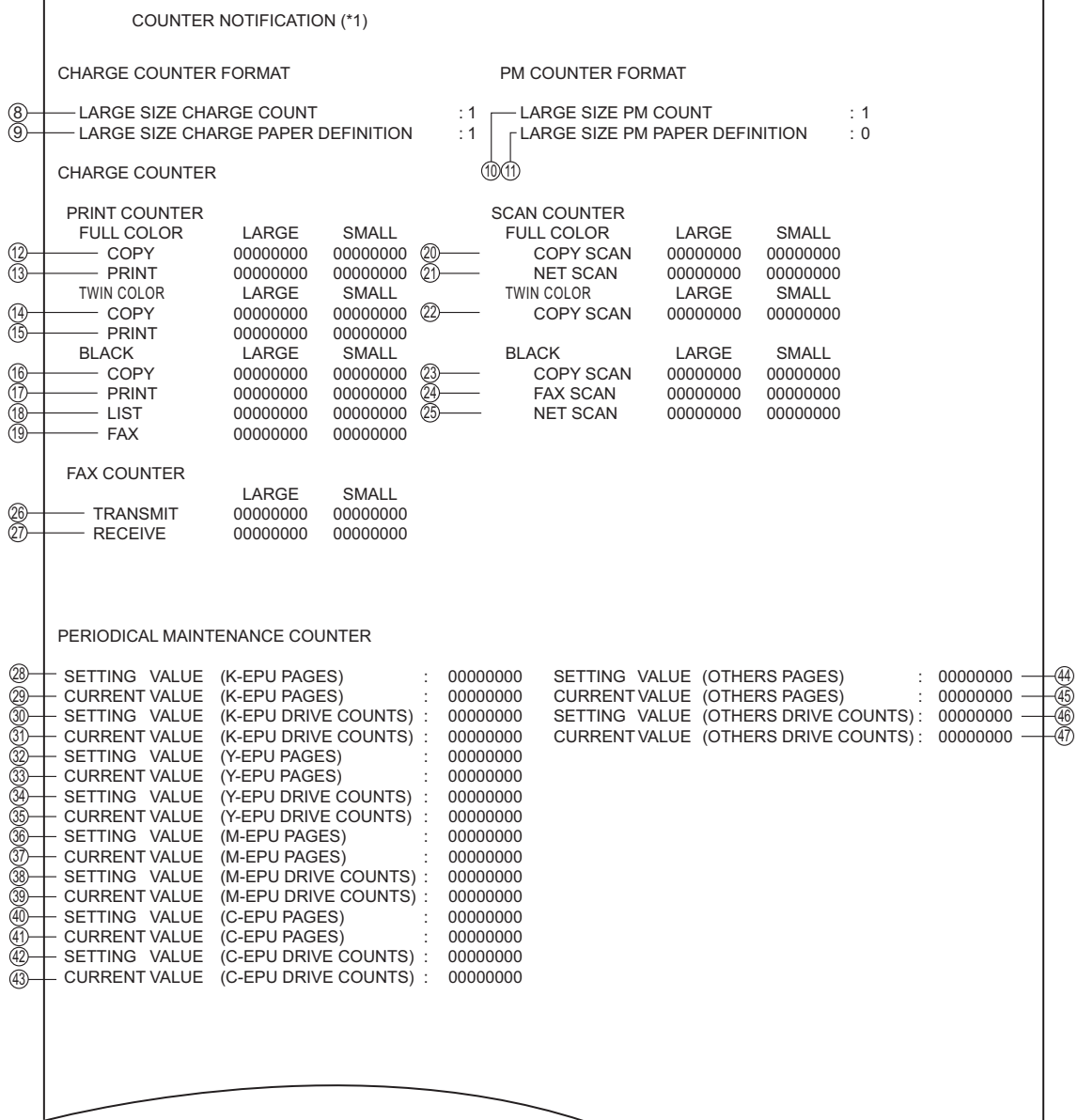


Fig.10-35

COUNTER NOTIFICATION (\*1)

④8 PRINTER ERROR HISTORY

DATE	TIME	ERROR CODE	COUNTER	DATE	TIME	ERROR CODE	COUNTER
08/04/13	16:44	F110	00000000	08/04/13	16:44	F110	00000000
08/04/12	22:28	F110	00000000	08/04/13	16:44	F110	00000000
08/04/12	22:23	F110	00000000	08/04/13	16:44	F110	00000000
08/03/15	22:23	F110	00000000	08/04/13	16:44	F110	00000000
08/02/25	11:12	F110	00000000	08/04/13	16:44	F110	00000000

(\*2)

Fig.10-36

- 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)
- 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.

### 3. Toner near-empty notification by e-mail Subject: Toner Near-Empty Notification

```

1  Date       : 04/26/2012 12:34
2  Machine Model : TOSHIBA e-STUDIOxxxx
3  SerialNumber : 1234567890
4  Total Counter : 00004787
5  Supplier:
   Name       : SUPPLIER_NAME
   Fax Number : 1122334455
   E-Mail     : Supplier_emailaddress@cccc.xxx
   Address    : SUPPLIER_ADDRESS
6  Customer:
   Name       : CUSTOMER_NAME
   Tel Number : 1234567890
   E-Mail     : customer_emailaddress@dddd.xxx
   Address    : CUSTOMER_ADDRESS
7  Service Technician:
   Number    : svc12
   Name      : SERVICE_TECHNICIAN_NAME
   Tel Number : 0987654321
   E-Mail    : svc@toshibatec.co.jp
   ChargeCounterFormat:
8  LargeSizeChargeCount      1
9  LargeSizeChargePaperDefinition  1
   PMCounterFormat:
10 LargeSizePMCount          1
11 LargeSizePMPaperDefinition  0
   Charge Counter:
           Large      Small
   <Print Counter>
   Black -----
12 Copy      00000000  00000000
13 Print     00000000  00000000
14 List      00000000  00000000
15 FAX       00000000  00000000
   <Scan Counter>
   Full Color -----
16 Net Scan  00000000  00000000
   Black -----
17 Copy Scan 00000000  00000000
18 FAX Scan  00000000  00000000
19 Net Scan  00000000  00000000
   <FAX Counter>
20 Transmit 00000000  00000000
21 Receive   00000000  00000000

```

Fig.10-37

Periodical Maintenance Counter:				
		Pages	Drive Counts	
22	K-EPU			
	Setting	00000000	00000000	
23	Current	00000000	00000000	
24	K-EPU			
	Setting	00000000	00000000	
25	Current	00000000	00000000	
26	Others			
	Setting	00000000	00000000	
27	Current	00000000	00000000	
28	Printer Error History:			
	Date	Time	ErrorCode	Counter
	04/13/2008	16:44	F110	00000000
	04/12/2008	22:28	F110	00000000
	04/12/2008	22:23	F110	00000000
	03/15/2008	22:23	F110	00000000
	02/25/2008	11:12	F110	00000000
				(*1)
29	Toner Cartridge Information:			
30	Toner Near-Empty Counter			
31	Setting		00000000	
32	Current		00000000	
33	Color code		1	
34	Point Of Destination		0	

Fig.10-38

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 (BLACK)
13. Number of output pages in the Printer Function (BLACK)
14. Number of output pages at the List Print Mode (BLACK)
15. Number of output pages in the FAX Function (BLACK)
16. Number of scanning pages in the Network Scanning Function (Full color)
17. Number of scanning pages in the Copier Function (BLACK)
18. Number of scanning pages in the FAX Function (BLACK)
19. Number of scanning pages in the Network Scanning Function (BLACK)
20. Number of transmitted pages in the FAX Function (BLACK)

21. Number of received pages in the FAX Function (BLACK)
  22. PM count setting value / PM driving count setting value [EPU (K)]
  23. PM count present value / PM driving count present value [EPU (K)]
  24. PM count setting value / PM driving count setting value [Developer material (K)]
  25. PM count present value / PM driving count present value [Developer material (K)]
  26. PM count setting value / PM driving count setting value [Other parts]
  27. PM count present value / PM driving count present value [Other parts]
  28. History error
  29. Toner cartridge information
  30. Toner near-empty counter
  31. Setting value of toner cartridge rotation time counter
  32. Current value of toner cartridge rotation time counter
  33. Color of toner cartridge
    - 1: Black
    - 2: Yellow
    - 3: Magenta
    - 4: Cyan
  34. Destination setting of toner cartridge
- \*1 The latest 20 errors are displayed.



#### 4. Toner near-empty notification by FAX

##### Sheet 1

TONER NEAR-EMPTY NOTIFICATION (*1)	
1	DATE : 12/04/14 13:47
2	MACHINE MODEL : TOSHIBA e-STUDIOxxxx
3	SERIAL NUMBER : 1234567890
4	TOTAL COUNTER : 00004787
[	
5	CUSTOMER NAME : CUSTOMER_NAME
	CUSTOMER ADDRESS : CUSTOMER_ADDRESS
	CUSTOMER TEL NUMBER : 1234567890
	CUSTOMER E-MAIL ADDRESS : customer_emailaddress@dddd.xxx
[	
6	SERVICE TECHNICIAN NUMBER : svc12
	SERVICE TECHNICIAN NAME : SERVICE_TECHNICIAN_NAME
	SERVICE TECHNICIAN TEL NUMBER : 0987654321
	SERVICE TECHNICIAN E-MAIL : svc@toshibatec.co.jp
[	
7	SUPPLIER NAME : SUPPLIER_NAME
	SUPPLIER ADDRESS : SUPPLIER_ADDRESS
	SUPPLIER FAX NUMBER : 5544332211
	SUPPLIER E-MAIL : supplier_emailaddress@ccccc.xxx

Fig.10-39

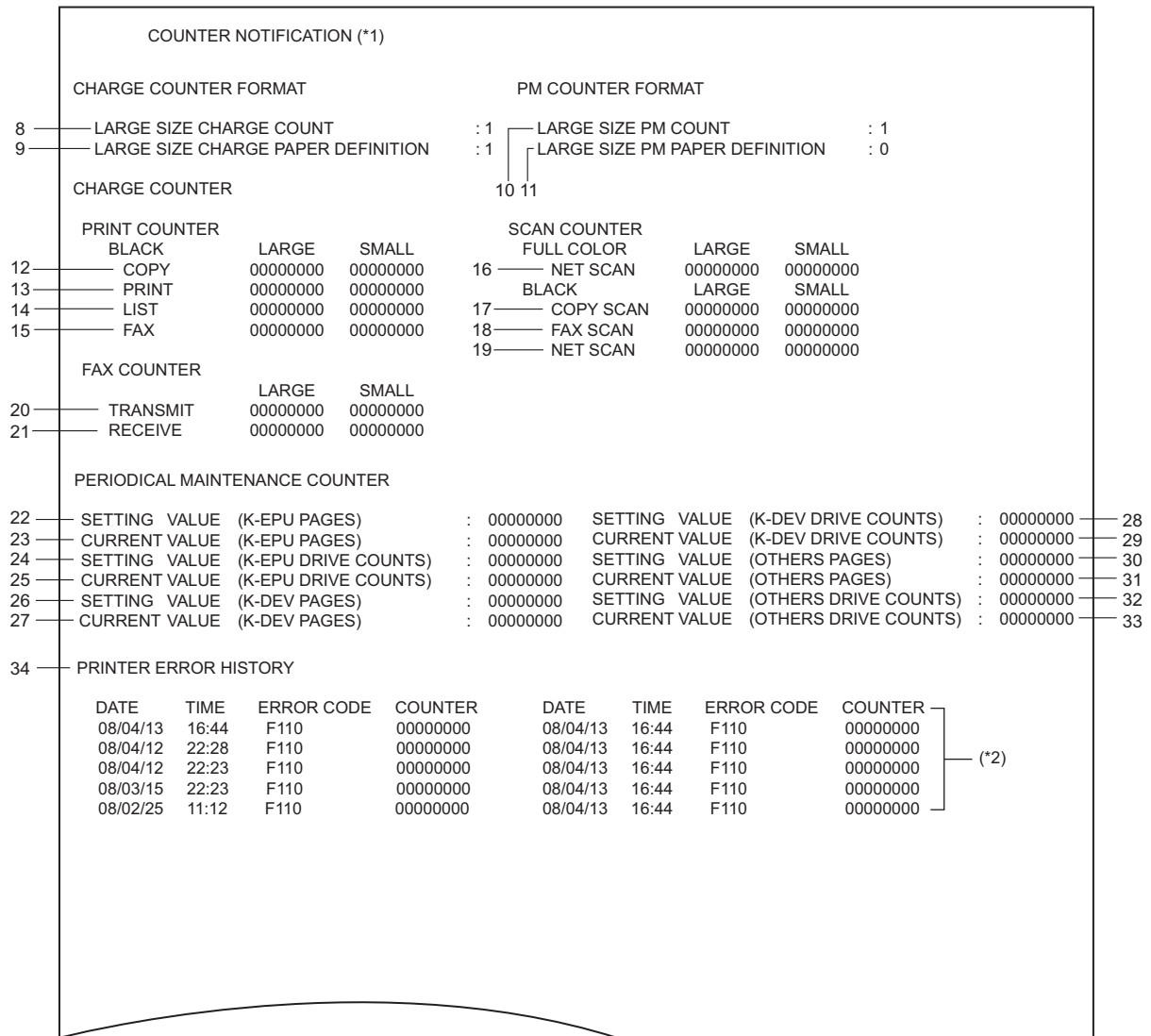


Fig.10-40

COUNTER NOTIFICATION (*1)		
35	Toner Cartridge Information:	
36	Toner Near-Empty Counter	
37	Setting	00000000
38	Current	00000000
39	Color code	1
40	Point Of Destination	0

Fig.10-41

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 (BLACK)
13. Number of output pages in the Printer Function (BLACK)
14. Number of output pages at the List Print Mode (BLACK)
15. Number of output pages in the FAX Function (BLACK)
16. Number of scanning pages in the Network Scanning Function (Full color)
17. Number of scanning pages in the Copier Function (BLACK)
18. Number of scanning pages in the FAX Function (BLACK)
19. Number of scanning pages in the Network Scanning Function (BLACK)
20. Number of transmitted pages in the FAX Function (BLACK)
21. Number of received pages in the FAX Function (BLACK)
22. PM count setting value [EPU (K)]
23. PM count present value [EPU (K)]
24. PM driving count setting value [EPU (K)]
25. PM driving count present value [EPU (K)]
26. PM count setting value [Developer material (K)]
27. PM driving count present value [Developer material (K)]
28. PM driving count setting value [Developer material (K)]
29. PM driving count present value [Developer material (K)]
30. PM count setting value (Other parts)

31. PM driving count present value (Other parts)
  32. PM driving count setting value (Other parts)
  33. PM driving count present value (Other parts)
  34. History of error
  35. Toner cartridge information
  36. Toner near-empty counter
  37. Setting value of toner cartridge rotation time counter
  38. Current value of toner cartridge rotation time counter
  39. Color of toner cartridge
    - 1: Black
    - 2: Yellow
    - 3: Magenta
    - 4: Cyan
  40. Destination setting of toner cartridge
- \*2 The latest 20 errors are displayed.



- 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.

6. HDD alert notification by E-mail  
 Subject: HDD ALERT NOTIFICATION

```

Date           : 99-99-'99 99:99
Machine Model  : TOSHIBA e-STUDIOxxxx
Serial Number  : 1234567890
F/W Ver.      : XXXXXXXXXXXXXXXX
Total Counter  : 00000000

Supplier:

  Name         : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Tel Number   : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  E-Mail       : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Address      : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Customer:

  Name         : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Tel Number   : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  E-Mail       : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Address      : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Service Technician:

  Number       : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Name         : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  Tel Number   : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
  E-Mail       : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

HDD Model Number : TOSHIBAXXXXXXXXXXXXXXXXXXXXXXXXXX
HDD Serial Number : XXXXXXXXXXXXXXXXXXXXXXXX

SMART Information
Start/Stop Count      : 0
Reallocated Sector Count : 0
Power-On hours count  : 0
Drive Power Cycle Count : 0
Shock Sense Count     : 0
Power-Off Retract Count : 0
Load Cycle Count      : 0
Temperature(Minimum)  : 0
Temperature(Maximum)  : 0
Reallocated Sector Event : 0
Current Pending Sector Count : 0
CRC Error Count       : 0
Loaded Hours          : 0

HDD Check Result   : Please make a backup of HDD data.
  
```

Fig.10-43

## 7. HDD alert notification by Fax

### Sheet 1

```
HDD ALERT NOTIFICATION

DATE : 99-99-99 99:99
MACHINE MODEL : TOSHIBA e-STUDIOxxxx
SERIAL NUMBER : 1234567890
TOTAL COUNTER : 00000000
CUSTOMER NAME : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER ADDRESS : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER TEL NUMBER : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER E-MAIL ADDRESS : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN NUMBER : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN NAME : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN TEL NUMBER : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN E-MAIL : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER NAME : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER ADDRESS : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER FAX NUMBER : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER E-MAIL ADDRESS : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Fig.10-44

### Sheet 2

```
HDD ALERT NOTIFICATION

HDD MODEL NUMBER : TOSHIBAXXXXXXXXXXXXXXXXXXXXXX
HDD SERIAL NUMBER : XXXXXXXXXXXXXXXXXXXX

SMART INFORMATION
START/STOP COUNT : 0
REALLOCATED SECTOR COUNT : 0
POWER-ON HOURS COUNT : 0
DRIVE POWER CYCLE COUNT : 0
SHOCK SENSE COUNT : 0
POWER-OFF RETRACT COUNT : 0
LOAD CYCLE COUNT : 0
TEMPERATURE(MINIMUM) : 0
TEMPERATURE(MAXIMUM) : 0
REALLOCATED SECTOR EVENT : 0
CURRENT PENDING SECTOR COUNT : 0
CRC ERROR COUNT : 0
LOADED HOURS : 0

HDD CHECK RESULT : PLEASE MAKE A BACKUP OF HDD DATA.
```

Fig.10-45



# 11. FIRMWARE UPDATING

## 11.1 Overview

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
System firmware	USB device
Engine firmware	
Scanner firmware	
System software	
PFC firmware	
NIC firmware	
DSDF firmware	

### Options

Model name	Firmware	Updating method
Finisher (MJ-1111)	Finisher firmware	USB device
Finisher (MJ-1112)	Finisher firmware	
	Saddle stitcher firmware	
Hole Punch Unit (MJ-6106)	Hole punch unit firmware	
FAX Board (GD-1370)	FAX board firmware (Line1)	
	FAX board firmware (Line2)	

#### 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, scanning section control PC board and FAX board. The latest version of the firmware at the time of delivery is written on the DSDF 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.
- "Can't fetch Ver." is displayed in the Installed Version field when the version of the installed firmware cannot be acquired properly. For example, if [HS-49] is carried out without your performing the normal startup after updating, this message will appear for some firmware.

## 11.2 Firmware Updating with USB Device

The software and firmware can be updated by means of a USB device in which an update package is stored. All necessary files for updating are stored in the package provided, so be sure to save all of them in the model specific folder.

For the data file for each firmware, refer to the following tables.

### Notes:

When performing the update, use the latest program.

### 11.2.1 Updating methods

There are three types of updating methods by means of a USB device. The table below explains the differences.

Method	File	Explanation
Standard update	Standard package	Updating the file of a base version.
Differential items update	Differential items package	Updating the version by means of the package of only the files which have been changed from the base. This method is applied to the system firmware and the system software. Since only the files which have been changed are packaged, the data size is smaller than that for the standard package. This method cannot be used for the equipment whose HDD has been formatted.
Patch update	Patch	Updating can be done in a shorter time than the standard one. This method is applied to the system firmware and the system software only.

### 11.2.2 Firmware type and data file name for updating

#### [A] Standard update Equipment

Firmware	Stored	Data file name	Display
System firmware	System control PC board (SYS board)	T380SF0Wxxxx.tar * xxxx is version.	SYSTEM FIRMWARE (OS DATA)
System software	HDD	T380HD0Wxxxx.tar * xxxx is version.	SYSTEM SOFTWARE (HDD DATA)
Engine firmware	Logic PC board (LGC board)	TH380MWW.xxx * xxx is version.	ENGINE FIRMWARE
PFC firmware	Logic PC board (PFC board)	TH380FWWW.xxx * xxx is version.	PFC FIRMWARE
Scanner firmware	System control PC board (SYS board)	TH370SLGWW.xxx * xxx is version.	SCANNER FIRMWARE
NIC firmware	System control PC board (SYS board)	T370NIC0Wxxxx.tar * xxxx is version.	NIC FIRMWARE
DSDf firmware	DLG board (MR-4000)	H616DFWW.xxx * xxx is version.	DSDf FIRMWARE

## Option

Firmware	Stored	Data file name	Display
Finisher firmware (MJ-1111)	Finisher control PC board	FIN1111T.xxx * xxx is version.	FINISHER FIRMWARE
Finisher firmware (MJ-1112)	Finisher control PC board	FIN1112T.xxx * xxx is version.	FINISHER FIRMWARE
Hole punch unit firmware (MJ-6106)	Punch control PC board	PUN6106T.xxx * xxx is version.	PUNCH FIRMWARE
FAX firmware (GD-1370)	System control PC board (SYS board)	FAXH625Txxx * xxx is version.	FAX FIRMWARE1, FAX FIRMWARE2

### [B] Patch update

Firmware	Stored	Data file name	Display
System firmware	System control PC board (SYS board)	T380SFPWxxxx.tar * xxxx is version.	SYSTEM FIRMWARE(OS DATA)
System software	HDD	T380HDPWxxxx.tar * xxxx is version.	SYSTEM SOFTWARE (HDD DATA)

### [C] Differential items update

Firmware	Stored	Data file name	Display
System firmware	System control PC board (SYS board)	T380SFdWxxxx.tar * xxxx is version.	SYSTEM FIRMWARE(OS DATA)
System software	HDD	T380HDdWxxxx.tar * xxxx is version.	SYSTEM SOFTWARE (HDD DATA)

## 11.2.3 Folder configuration of a USB device

### [A] Standard update

Store the data file for updating in the model specific folder. This configuration is an example. The number of files differs depending on the installed option.

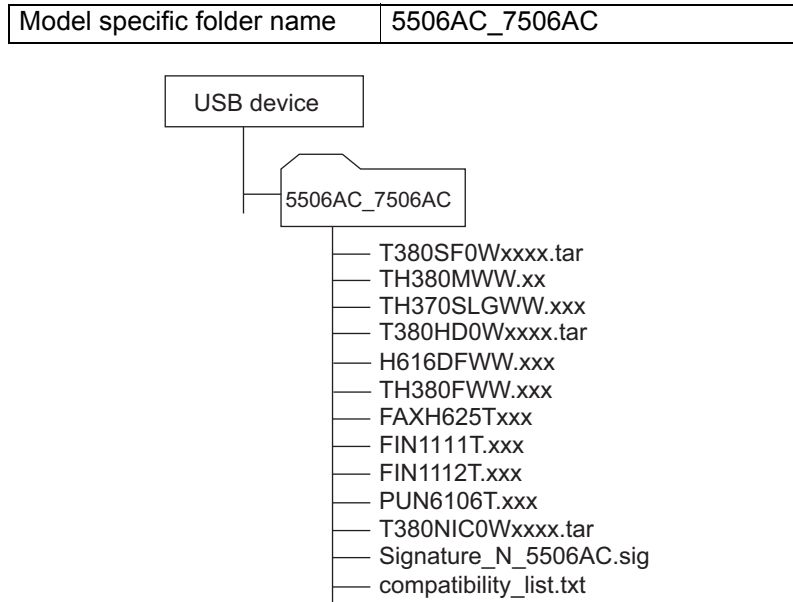


Fig.11-1

### [B] Patch update

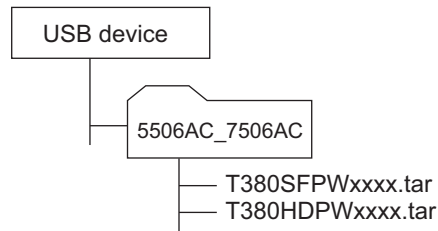


Fig.11-2

### [C] Differential items update

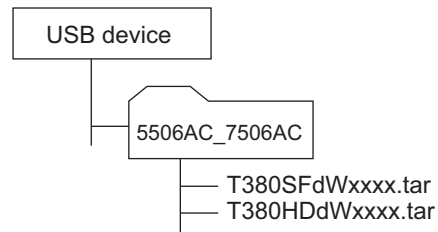


Fig.11-3

**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 device.

**Important:**

- Only the USB devices 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 device with a flash memory (to be connected directly to the USB port) and its capacity is 2GB or more.
  - Operation of the USB device used for updating has been confirmed at the input check of this equipment (03 Test mode). (☞ P. 5-10 "5.4.2 Input check")
  - USB devices 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 devices 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 devices complying with 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 device. 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.

## 11.2.4 Update procedure

### Important:

- The file system of a USB device should be formatted in the FAT16 or FAT32 format. USB devices formatted in an NTFS or another format will not be able to be operated. The file system of a USB device can be confirmed by opening its property using Windows Explorer or such.
- 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)
  - Hardcopy Security kit (GP-1190A)
  - OCR Enabler (GS-1080/1085)
  - Multi Station Print Enabler (GS-1090/1095)

### [A] Updating firmware

- (1) Connect the USB device to the PC and write the model specific folder in which the data file is stored.  
Store the data file for updating in the model specific folder.
- (2) Press the [ON/OFF] button to shut down the equipment.
- (3) Connect the USB device [1] to the USB port [2] on the right upper cover.

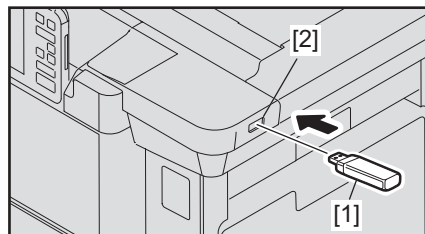


Fig.11-4

- (4) Start the HS Menu.

(5) Press [49 Firmware Update].

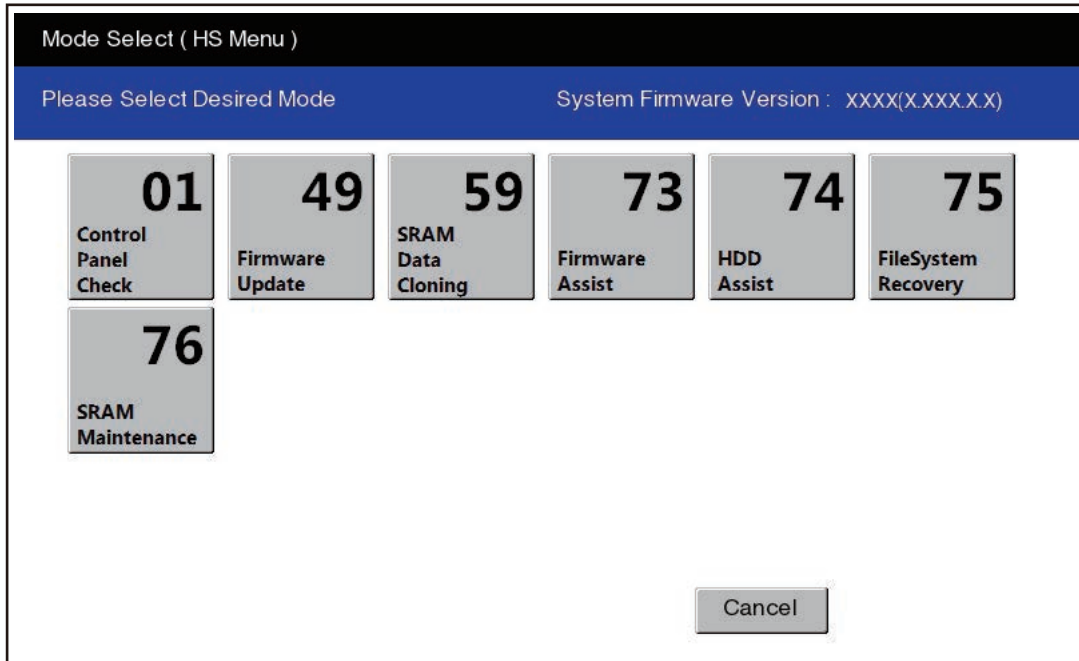


Fig.11-5

(6) Select the update type.  
Normal Update  
Patch Update  
Diff Update

**Notes:**

The update file which is selected must be included in the model specific folder. There is no problem if updated files of different types are mixed.

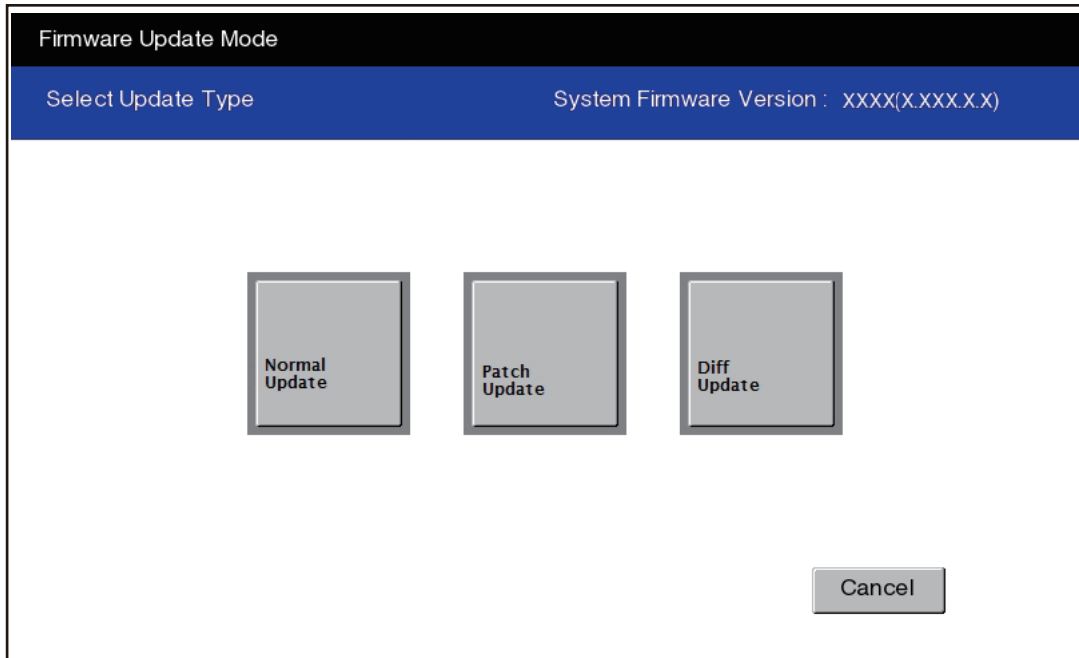


Fig.11-6

The screen for selecting items to be updated is displayed.

- Only the firmware which is included in the update file is displayed.
- The firmware whose version is later than the current one is being selected to be updated if there is such in the update file.

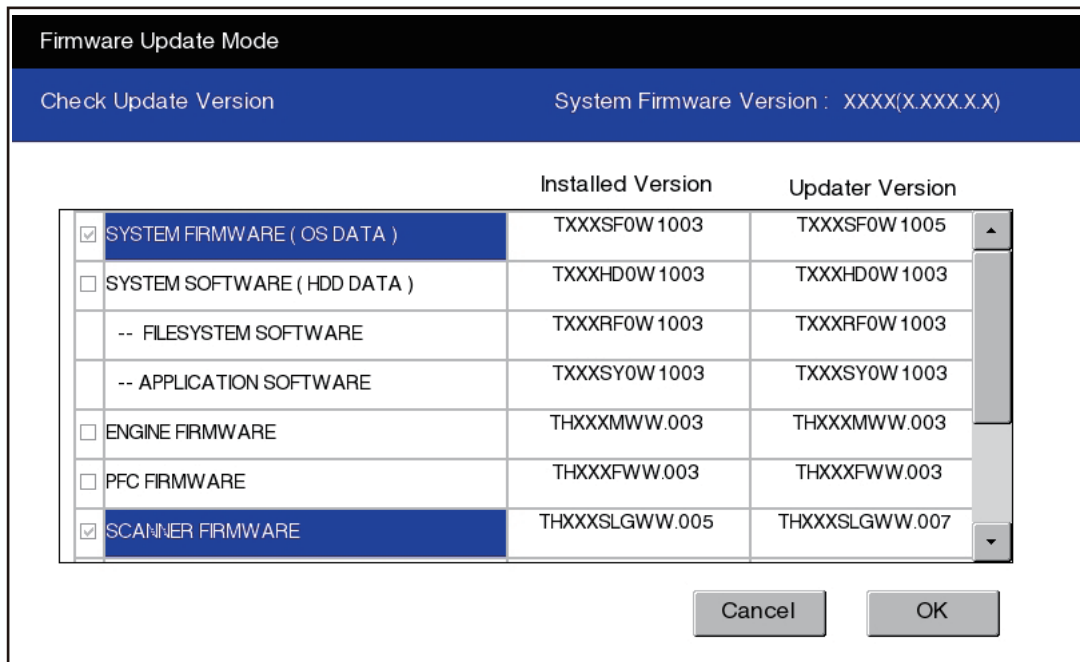


Fig.11-7

**Notes:**

- The display of items on this screen varies depending on the types of data written on the USB device. Each item is displayed only when each data file is written on the USB device in the following conditions.

**Standard update**

Item	Condition (xxx is version)
SYSTEM FIRMWARE (OS DATA)	T380SF0Wxxxx.tar is written.
SYSTEM SOFTWARE (HDD DATA)	T380HD0Wxxxx.tar is written.
ENGINE FIRMWARE	TH380MWW.xxx is written.
SCANNER FIRMWARE	TH370SLGWW.xxx is written.
PFC FIRMWARE	TH380FWW.xxx is written.
DSD FIRMWARE	H616DFWW.xxx is written.
NIC FIRMWARE	T370NIC0Wxxxx.tar is written.
FAX FIRMWARE	FAXH625TZxx is written. (When GD-1370 is connected.)
FINISHER FIRMWARE	FIN1111T.xxx is written. (When MJ-1111 is connected.) FIN1112T.xxx is written. (When MJ-1112 is connected.)
PUNCH FIRMWARE	PUN6106T.xxx is written. (When MJ-6106 is connected.)

**Patch update**

Item	Condition (xxx is version)
SYSTEM FIRMWARE (OS DATA)	T380SFPWxxxx.tar is written.
SYSTEM SOFTWARE (HDD DATA)	T380HDPWxxxx.tar is written.



## Differential items update

Item	Condition (xxx is version)
SYSTEM FIRMWARE (OS DATA)	T380SFdWxxxx.tar is written.
SYSTEM SOFTWARE (HDD DATA)	T380HDdWxxxx.tar is written.

- If the USB device is not recognized properly, “USB device Not detected” message is displayed. In this case, disconnect the USB device and connect again within 3 minutes, or shut down the equipment and connect the device properly. Then repeat the procedure from (5).
- If any of the error messages below is displayed, confirm if the data file in the USB device is correct. Then repeat the procedure from (5).

Error number	Error message	Cause
01	Model specific update program XXXXXXXXXXXXX is not stored.	No update file of this equipment exists in the USB storage.

(7) Select the item.

The item selected is highlighted and a check is marked at its left side. If you press the item once again, its selection is released.

Item	Remarks
SYSTEM FIRMWARE(OS DATA)	Updating System firmware
SYSTEM SOFTWARE (HDD DATA)	Updating System software
ENGINE FIRMWARE	Updating Engine firmware
SCANNER FIRMWARE	Updating Scanner firmware
PFC FIRMWARE	Updating PFC software
DSDf FIRMWARE	Updating DSDf firmware
NIC FIRMWARE	Updating NIC firmware
FAX FIRMWARE	Updating FAX firmware
FINISHER FIRMWARE	Updating Finisher firmware
PUNCH FIRMWARE	Updating Punch firmware

(8) Press [OK].

Updating starts and the processing status is displayed on the LCD screen.

Status display during update	Status display when update is completed
SYSTEM FIRMWARE (OS DATA) update in progress	SYSTEM FIRMWARE (OS DATA) Completed
SYSTEM SOFTWARE (HDD DATA) update in progress	SYSTEM SOFTWARE (HDD DATA) Completed
ENGINE FIRMWARE update in progress	ENGINE FIRMWARE Completed
SCANNER FIRMWARE update in progress	SCANNER FIRMWARE Completed
PFC FIRMWARE update in progress	PFC FIRMWARE Completed
DSDf FIRMWARE update in progress	DSDf FIRMWARE Completed
NIC FIRMWARE update in progress	NIC FIRMWARE Completed
FAX FIRMWARE update in progress	FAX FIRMWARE Completed
FINISHER FIRMWARE update in progress	FINISHER FIRMWARE Completed
PUNCH FIRMWARE update in progress	PUNCH FIRMWARE Completed

- (9) When updating is completed properly, the following message is displayed at the bottom of the LCD screen.

Standard update: Update successfully completed Restart the MFP

Patch update: Patch Update Successfully Restart the MFP

Differential items update: Differential Update Successfully Restart the MFP

**Notes: Troubleshooting when “Customized UI version is not compatible!” is displayed**

In the equipment with the customized UI installed, when its version is not compatible with that for the HDD DATA to be installed, “Customized UI version is not compatible!” is displayed and the updating will fail. To continue the updating, perform FS-08-3512 (Customized UI uninstallation).

**Notes: Troubleshooting**

- Even though an update fails, do not turn the power OFF until other updates are finished.
- “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. 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.
  - Does the USB device meet the conditions to be used for updating?
  - Is the data file written properly on the USB device?
  - Is the USB device installed properly?
  - Do the USB device and equipment operate properly?
  - When H05 error occurs and it does not clear after a USB media check, replace the main memory (DIMM).
- The integrity check system is automatically operated before firmware updating. During this operation, "Verifying Signature..." and "Progress: \*\*%" are displayed on the control panel. When the check is completed properly, no message for notifying the success will appear and the firmware updating will start. If it fails, "Invalid Signature" and "Copy Data with >valid signature in USB" will be shown. In that case, firmware updating cannot be performed, so turn the power OFF and disconnect the USB device. Check that there is no abnormality in the firmware data, and reperform the update.
- When a system firmware (OS Data) update error or system software (HD Data) update error occurs, "Update Failed" or "Failed" appears on the screen and the error number appears next to the message.

For details of each error, refer to the following tables.

System firmware 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
O07	Signature Check Failed error
O08	Signature not present error

System software update Error	
Error number	Error content
H01	File creation error
H02	File decompression error (Out of free disk space on the HDD at file extraction)
H03	Partition mount error
H04	Other errors
H05	Signature Check Failed error
H06	Signature not present error
H07	Hard Disk Full Error

- When an Engine firmware update error, Scanner firmware update error, DSDF firmware update error, Punch firmware update error, Finisher firmware update error or FAX firmware update error occurs, "Update Failed" or "Failed" appears on the screen and the error number and error message appear next to the message. For details of each error, refer to the following tables.

<b>Engine firmware update Error</b>		
<b>Error number</b>	<b>Error message</b>	<b>Error content</b>
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

<b>Scanner firmware update Error</b>		
<b>Error number</b>	<b>Error message</b>	<b>Error content</b>
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

<b>NIC firmware update Error</b>		
<b>Error number</b>	<b>Error message</b>	<b>Error content</b>
N01	Time out (When the download is requested)	Communication timeout (When the download is requested)
N02	Time out (When the download is written)	Communication timeout (When the download is written)
N03	Time out (When the download is finished)	Communication timeout (When the download is finished)
N04	Downloading request was denied (When the download is requested)	Downloading request was denied. (When the download is requested)
N05	Deletion error (When the download is written)	Deletion error (When the download is written)
N06	Writing error (When the download is written)	Writing error (When the download is written)
N07	Checksum error (When the download is finished)	Checksum error (When the download is finished)
N08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
N09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
N10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
N00	Other error	Other error

<b>PFC firmware update Error</b>		
<b>Error number</b>	<b>Error message</b>	<b>Error content</b>
P01	Time out (When the download is requested)	Communication timeout (When the download is requested)
P02	Time out (When the download is written)	Communication timeout (When the download is written)
P03	Time out (When the download is finished)	Communication timeout (When the download is finished)
P04	Downloading request was denied (When the download is requested)	Downloading request was denied. (When the download is requested)
P05	Deletion error (When the download is written)	Deletion error (When the download is written)
P06	Writing error (When the download is written)	Writing error (When the download is written)
P07	Checksum error (When the download is finished)	Checksum error (When the download is finished)
P08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
P09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
P10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
P00	Other error	Other error

DSDF firmware update Error		
Error number	Error message	Error content
R01	Time out (When the download is requested)	Communication timeout (When the download is requested)
R02	Time out (When the download is written)	Communication timeout (When the download is written)
R03	Time out (When the download is finished)	Communication timeout (When the download is finished)
R05	Deletion error (When the download is written)	Deletion error (When the download is written)
R06	Writing error (When the download is written)	Writing error (When the download is written)
R08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
R09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
R10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
R11	ADF not connected	DSDF not installed
R12	ADF download error	Firmware for different model data connected
R13	DSDF Mismatch error	Firmware for different model data connected
R00	Other error	Other error

Punch firmware update Error		
Error number	Error message	Error content
U01	Time out (When the download is requested)	Communication timeout (When the download is requested)
U02	Time out (When the download is written)	Communication timeout (When the download is written)
U03	Time out (When the download is finished)	Communication timeout (When the download is finished)
U04	Reception failed (When the download is requested)	Downloading request was denied. (When the download is requested)
U05	Deletion error (When the download is written)	Deletion error (When the download is written)
U06	Writing error (When the download is written)	Writing error (When the download is written)
U07	Checksum error (When the download is finished)	Checksum error (When the download is finished)
U08	Reception status code abnormality (When the download is requested)	Reception status code abnormality (When the download is requested)
U09	Reception status code abnormality (When the download is written)	Reception status code abnormality (When the download is written)
U10	Reception status code abnormality (When the download is finished)	Reception status code abnormality (When the download is finished)
U00	Other error	Other error

Finisher firmware 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

FAX firmware update Error		
Error number	Error message	Error content
FX01	Communication Timeout (when download is requested)	Communication timeout (When the download is requested)
FX02	Communication Timeout (when data is downloaded)	Communication timeout (When the download is finished)
FX03	Download request Failed	Downloading request was denied. (When the download is requested)
FX04	Received failure during download request	Reception Error (When the download is requested)
FX05	Received failure during data download	Reception error (During data download)
FX06	File decompression error	File decompression error
FX07	Other Errors	Other error


(10) Check that [Automatic Initialization] is displayed and then remove the USB device.

(11) Press [Automatic Initialization].

The equipment is rebooted and the initialization of the updating data is carried out.

### [B] Confirmation of the updated data

After the updating is completed, check each data version in the 08 Setting Mode to confirm that the data were overwritten properly.

 P. 11-16 "11.3 Confirmation of the updated data"

## [C] Adjustment

Perform the adjustment of the equipment.

- Performing Image Quality Control (FS-05-2742):  
📖 P. 6-4 "6.1.3 Performing Image Quality Control"
- Adjustment of Color Registration Control (FS-05-4719):  
📖 P. 6-5 "6.1.4 Adjustment of Color Registration Control"
- Automatic gamma adjustment <PPC> (FS-05-7869) (using FS-05-4 → [TEST PRINT] test pattern):  
📖 P. 6-28 "6.2.1 Automatic gamma adjustment"
- Automatic gamma adjustment <PRT> (FS-05-8008) (using FS-05-70 → [TEST PRINT] test pattern):  
📖 P. 6-52 "6.3.1 Automatic gamma adjustment"
- Automatic gamma adjustment <PRT> (FS-05-8009) (using FS-05-230 → [TEST PRINT] test pattern):  
📖 P. 6-52 "6.3.1 Automatic gamma adjustment"

### 11.3 Confirmation of the updated data

After the updating is completed, check each data version in 08 Setting Mode to confirm that the data were overwritten properly.

<b>Firmware</b>	<b>Code</b>
System software	9900
System firmware	9930
Engine firmware	9901
Scanner firmware	9902
NIC firmware	9990
DF firmware	9903
PFC firmware	9940
Finisher firmware	9904
Hole punch firmware	9944
FAX board firmware(Line1)	9905
FAX board firmware(Line2)	9969



## 12. BACKUP FUNCTION

### 12.1 Data Cloning

#### 12.1.1 General description

Data cloning is a function that backs up user data, setting data and SRAM data into a USB device and also restores these data into the equipment.

This function backs up or restores the data of the same equipment (same serial number), and is performed when the SRAM is replaced.

**Notes:**

The SYS board and SRAM should never be replaced together.

#### 12.1.2 Precautions

- When the Security HDD is initialized or replaced, back up the SRAM data afterwards.
- 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.
- The USB device 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 device with a flash memory (to be connected directly to the USB port) and its capacity is 1GB 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)

The USB device should be formatted in the FAT16 or FAT32. (Correct operation cannot be guaranteed if it is formatted in NTFS/exFAT.)
  - Most of the common USB device 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.
- The USB device compliant with both USB 1.1 and USB 2.0 can be used for this data cloning.
- 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.
- 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.
- 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.
- Restore data to equipment which has the same options as when the data are backed up.
- Delete the backed up data in the USB device after the data cloning.

## 12.1.3 Backup files

The following files are saved in the root directory of the USB device by backing up.

Filename	Remark
Modelname_MFPSerialNo_yyyy-MM-dd_hh-mm	E.g.: When backup was performed at 13:59 on October 1st, 2016. Txxx_CUK911379_2016-10-01_13-59

## 12.1.4 Cloning procedure

### [A] Backup procedure

- (1) Shut down the equipment.
- (2) Connect the USB device [1] to the USB port [2] on the right upper cover.

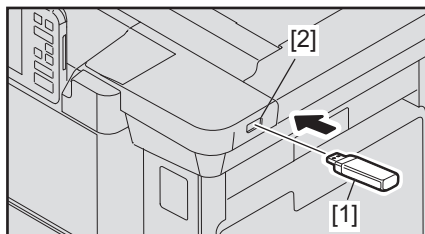


Fig.12-1

- (3) Perform HS-59 → [Backup SRAM Data to USB] .

#### Notes:

When "Operation Failed" is displayed, turn the power OFF and then reattempt the steps from (1).

- (4) Enter the password and press [OK].

#### Tips:

- Maximum 15 characters
- This password will be used when the backed-up clone data are restored in the equipment.

- (5) "Backup successfully done" is displayed on the LCD when the backup has been properly completed.
- (6) Turn the power OFF.

## [B] Restore procedure

- (1) Press the [ON/OFF] button to shut down the equipment.
- (2) Connect the USB device [1] to the USB port [2] on the right upper cover.

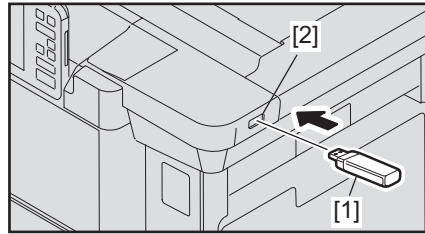


Fig.12-2

- (3) Perform HS-59 → [Restore SRAM Data from USB].
- (4) Enter the password which has been set in (8) of "[A] Backup procedure", and press [OK].
- (5) Enter the serial number of the equipment and press [OK].

### Notes:

Use the serial number given on the label attached to the rear cover for the entry.

- (6) "Restore successfully done Restart the MFP" is displayed on the LCD screen when the restoring has been properly completed.
- (7) Turn the power OFF.

### Notes:

- When the back-up file is restored, do not perform HDD partition creation (Format HDD) before the normal start-up.
- When the backup data, which were created before the HDD has been initialized or replaced, are restored, do so also for ADIKey. (Only for a secure HDD)

**[C] Confirmation of the error**

"Operation Failed" is displayed on the lower left part of the LCD screen when the data have not been properly backed up or restored.

Moreover, details of an error are displayed under the above message.

(The following is an example screen when "USB Memory not detected" is displayed.)

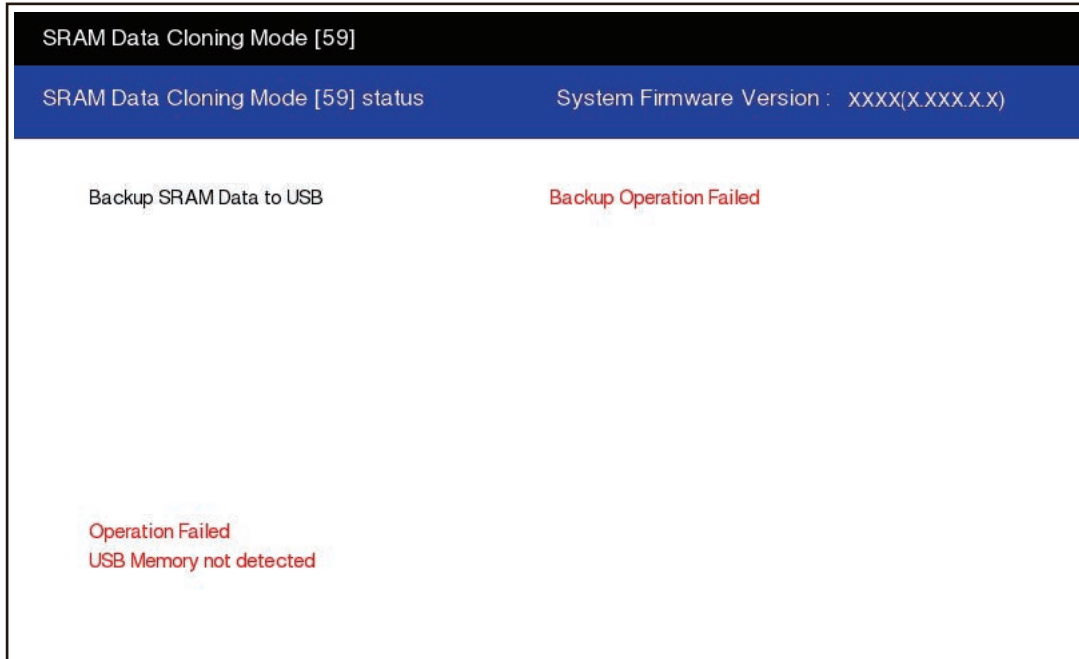


Fig.12-3

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 device meet the conditions being used for this cloning?
- Is the updated program file written on the USB device properly?
- Is the USB device installed properly?
- Is the USB device or the equipment damaged?

Backup	
Display content	Error content
USB device not detected	The USB device has not been installed.
SRAM Device Not Connected	The SRAM has not been installed.
Backup not created	Creation of the Backup file of data of the SRAM has been failed.
Encryption Failed	An encryption of the backup file has been failed.
password Not Appended to Backup	Addition of the encryption password has been failed.
MFP Serial Number Not Set	Acquisition of the MFP Serial No. has been failed.

Restore	
Display content	Error content
USB device not detected	The USB device has not been installed.
SRAM Device Not Connected	The SRAM has not been installed.
Invalid Backup File	The SYS board has not been recognized.
No Backup File Exists	Backup file has not existed in the USB device.
Invalid password	An incorrect password has been entered.
Decryption Failed	Decoding of the backup file has been failed.

<b>Restore</b>	
<b>Display content</b>	<b>Error content</b>
Invalid MFP Serial Number: xxxxxxxx	An incorrect MFP Serial No. has been entered.
MFP Serial Number Not Set	Acquisition of the MFP Serial No. has been failed.
Backup File Corrupted	A backup file has been damaged.

## 12.2 AES Data Encryption Function Setting

### 12.2.1 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.

### 12.2.2 Precautions

When the data encryption function is set to be enabled, the data saved in the HDD before the encryption has been performed cannot 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.

When the data encryption function is enabled, FS-08-9113 (Screen setting for automatic energy saver/ automatic power OFF) is automatically set to "0: OFF"

### 12.2.3 Setting procedure

A procedure for setting the data encryption function is shown below.

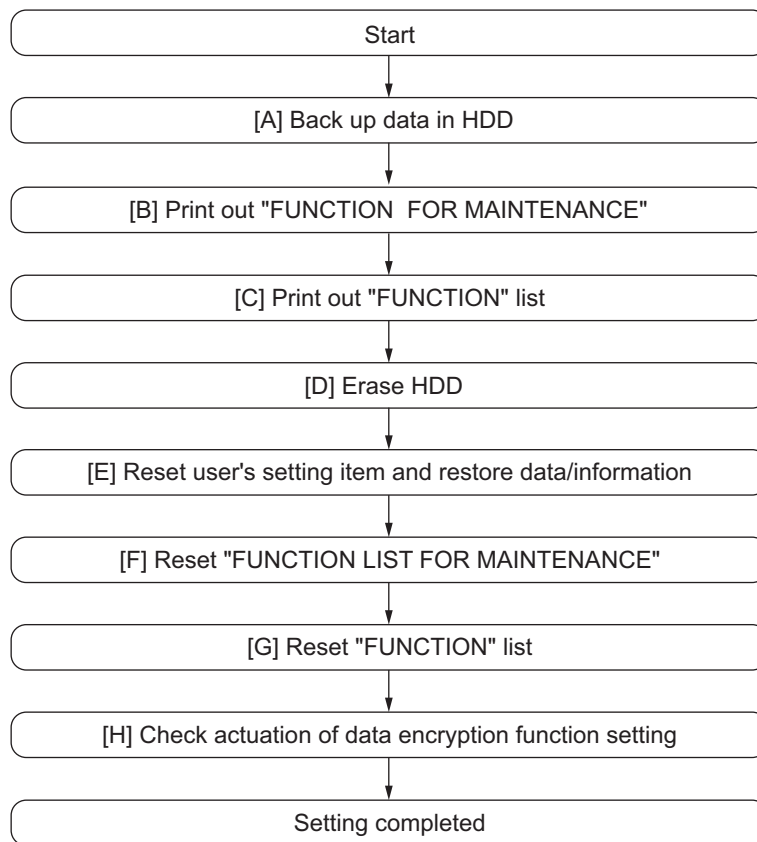


Fig.12-4

## [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	Export 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) / Message Log	Available	Export them in the "Log" 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 > [Export]
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) Select "FAX LIST PRINT MODE" and then press [NEXT].
- (2) Select "Function list for Maintenance" and then press [PRINT].



**[C] Print out “FUNCTION” list**

- (1) Press [USER FUNCTIONS] on the HOME screen.
- (2) Press [ADMIN], enter the password, and then press [ENTER].
- (3) Press [LIST/REPORT] and then [LIST].
- (4) Press [FUNCTION]. The “FUNCTION” list is printed out.

**Notes:**

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 FS-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] 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]


**Notes:**

- When the SSL is enabled, perform the setting of the following items again with “Create self-signed certificate” of TopAccess.
  - Country/Region Name
  - State or Province Name
  - Locality Name
  - Organization Name
  - Organizational Unit Name
  - Common Name
  - Email Address
- When the wireless LAN is used, recreate its setting. (only when security with a certificate is used) Also, upload the following certificate file with “Security” of TopAccess.
  - CA certificate
  - Device certificate

### [F] 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 [B]Print out “FUNCTION LIST FOR MAINTENANCE”.
- (2) Perform FS → [13 FAX 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.

### [G] Reset “FUNCTION” list

Reset the fax function by referring to the “function list” that was printed out in  P. 12-9 “[C] Print out “FUNCTION” list”.

- (1) Press [USER FUNCTIONS] on the HOME screen.
- (2) Press [ADMIN], enter the password, and then press [ENTER].
- (3) Press [FAX] and then [TERMINAL ID] to set each item.
- (4) Press [INITIAL SETUP] to set each item.

#### Notes:

Explain to the user (machine administrator) about the next operation and ask him/her to enter his/her password.

### [H] Check actuation of data encryption function setting

Check if the data encryption function is in operation.

Press [COUNTER] 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.

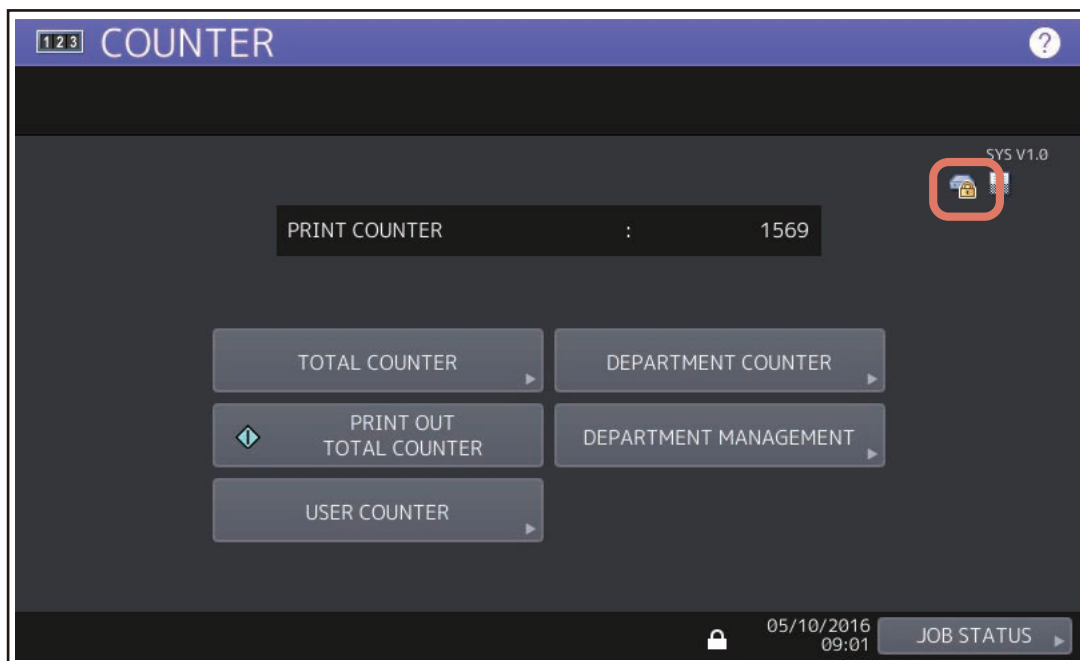




Fig.12-5

## 12.2.4 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 FS-08-9379 at step  P. 12-9 "[D] Enable data encryption function".

## 12.2.5 Procedure for discarding HDD when data encryption function is enabled


Set the data encryption function disabled following the procedure shown in  P. 12-11 "12.2.4 Procedure for disabling data encryption function". Then perform the code HS-73 → [Erase HDD Securely] to completely erase the data in the HDD.

## 12.3 High Security Mode

### 12.3.1 General description

The High Security Mode is a security mode complying with the IEEE2600.1 Security Standards Requirement. To have the equipment enter this mode, follow the procedure and the precautions below.

### 12.3.2 Prior confirmation

- Confirm that the administrator for the equipment is authorized and ask him/her to observe the installation.
- To have the equipment enter the High Security Mode, the Data Overwrite Enabler GP-1070 (optional) is required. Confirm that this option is installed in advance. Follow the Unpacking Instructions to install it.
- To avoid physical security problems, such as hardware removal or inappropriate disassembly at the installation site, take all necessary measures, such as checking who enters and leaves the site.
- Confirm that no received fax data or print jobs in progress exist. If there are any, be sure to print them all out before entering the High Security Mode.
- The HDD is initialized in the High Security Mode. Be sure first to back up user data such as documents, Address Book, templates or fax settings using the export function or the backup/restore utility of the TopAccess. Refer to items noted in  P. 12-6 "12.2 AES Data Encryption Function Setting".
- Make a note of the settings on the Administration tab page of the TopAccess in advance.
- Compatibility of cloning data is lost between the High Security Mode and the normal mode; therefore, cloning data cannot be imported.

Downloaded from	Downloaded to	Compatibility of cloning data
Normal mode	Normal mode	Yes
Normal mode	High Security Mode	No
High Security Mode	Normal mode	No
High Security Mode	High Security Mode	Yes

### 12.3.3 Procedure for entering the High Security Mode

- (1) Set the value of the code FS-08-8911 (Security mode level setting) to "3" (High). Then restart the equipment.
- (2) A key-shaped icon appears at the bottom of the touch panel, indicating that it is now in the High Security Mode.
- (3) Press [COUNTER] on the control panel. If a key-shaped icon, indicating that the HDD data are being encrypted, a paper-shaped icon indicating that the Data Overwrite Enabler is operating normally and the version name of the installed system ROM (SYS V1.0) are displayed on the top right of the counter menu, this means the mode is operating normally.
- (4) Reset the user data backed up in advance.

### 12.3.4 Precautions

- In the High Security Mode, an integrity check system is operated at every restart. If F521 (integrity check error) is displayed, take the necessary measures following the troubleshooting procedure.
- When a self-diagnostic mode is started in the High Security Mode, an authentication screen appears. Enter the default user name and password as follows:  
Default user name: service  
Default password: #1048#
- If a password change screen appears, reset the password according to the rules below.
  - It must not include the user name.
  - It must be a combination of letters of the alphabet and numbers.
  - It must be 6 characters or more. (Maximum 64 characters)
  - The same character must not be repeated 4 times within the new password.
  - The old and the new passwords must not be the same.
- When the equipment is shifted to the High Security Mode, the contents for some codes will be changed as below.
  - The default value is changed.
  - The settings cannot be changed.
  - Some setting values cannot be selected.For details, refer to the "Self-diagnostic code list" (separate document).
- The HDD is initialized (and the saved user data are deleted) when the equipment returns to the normal mode from the High Security Mode. Be sure to back up user data before having it do so.
- In the above case, the password is not reset. The password setting can be changed with the code FS-08-8919.
- After the equipment enters the High Security Mode, ask the administrator for the equipment to select [FULL] and perform the Integrity check manually.



## 13. EXTERNAL COUNTERS

### 13.1 Outline

This specification describes the interface between external counters, such as Coin Controller and Key copy counter.

### 13.2 Signal

#### 13.2.1 Connector

- Connector on the LGC board: CN306 (JST-made B20B-CZHK-B-1(LF)(SN)(V)) (Coin Controller)
- Connector on the SYS board: CN118 (JST-made B7B-PH-SM4) (Coin Controller)

#### 13.2.2 Coin Controller

##### [ 1 ] Settings

1. Set the value of FS-08-9016 to "1" or "5".
2. Harness kit: GQ-1280

##### [ 2 ] Pin Layout

###### Notes:

- Do not connect inductive loads to CTRON, such as a mechanical counter or a relay coil.

1. LGC Board

Pin No.	I/O	Signal name	Function	Voltage level	Remarks
1 - 4	-	-	-	-	Not connect
5	Power	+24V	24V line	DC24V+10%, -5%	
6	Out	CTRON	Total Counter On Signal	Open Collector	L: ON IO (Max): 500mA
7	In	CTRCNT	Copy permission Signal 1	L=0V, H=DC3.3V	L: Allowed *1
8	Out	MCRUN	Ready to Copy Signal	Open Collector	L: Operating IO (Max): 40mA
9	Out	EXTCTR	Exit Sensor On Signal	Open Collector	L: ON IO (Max): 40mA
10	GND	PG	Power ground	0V	
11 - 18	-	-	-	-	Not connect
19	Power	+5V (Sleep)	5V line	DC5.1V	At the sleep mode: OFF
20	-	-	-	-	Not connect

\*1: When the coin controller outputs the CTRCNT signal, the controller should be driven by means of an open collector or open drain to prevent the inflow of current to the equipment.

## 2. SYS board

Pin No.	I/O	Signal name	Function	Voltage level	Remarks
1	Out	LARGE / SMALL	Paper size Signal	Open Collector	L: Large size IO (Max): 20mA
2	Out	FULL COLOR	Full color mode Signal	Open Collector	L: Full color IO (Max): 20mA
3	Out	TWN/MON COLOR	Twin color / Mono color Mode Signal	Open Collector	L: Twin colors IO (Max): 20mA
4	Out	B/W	Black mode Signal	Open Collector	L: Black IO (Max): 20mA
5	-	-	-	-	Not connect
6	GND	GND	Signal Ground	0V	
7	-	-	-	-	Not connect

### [ 3 ] Details of the signals

#### 1. CTRON signal (output signal)

The CTRON signal is synchronized with an electronic counter of the equipment and it becomes "Low" when one sheet of paper is counted up. This signal is output from the LGC board.



Fig.13-1

#### 2. CTRCNT signal (input signal)

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.

#### 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 is turned ON, and "High" at 50 ms or more after the EXTCTR signal goes OFF. However, if copying is interrupted due to forced toner supply or similar, this signal is "High" until copying is made possible again.

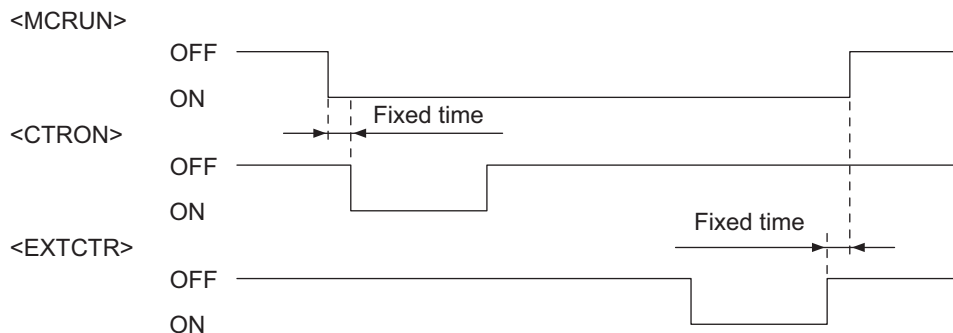


Fig.13-2



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.

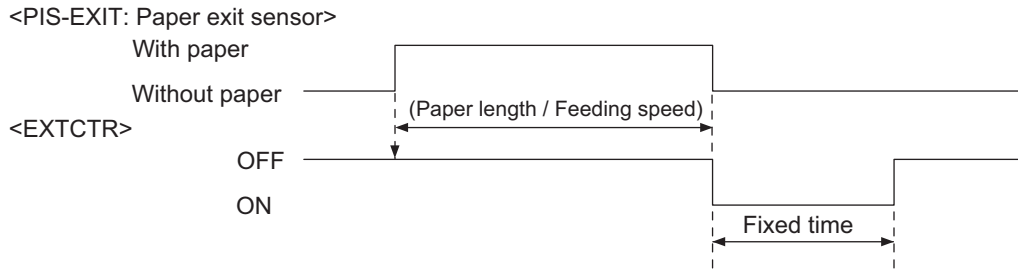


Fig.13-3

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.

#### [ 4 ] Harness (GQ-1280)

Board	Connector	Pin No.	Signal name	Pin No.	Connector
SYS board (CN118)	Connector-2	1	LARGE / SMALL	7	Connector-3 (Coin controller)
		2	FULL COLOR	8	
		3	TWN/MON COLOR	9	
		4	B/W	10	
		5	-	-	
		6	SG	12	
		7	-	-	
LGC board (CN306)	Connector-1	1	-	-	
		2	-	-	
		3	-	-	
		4	-	-	
		5	+24V	1	
		6	CTRON	2	
		7	CTRCNT	3	
		8	MCRUN	4	
		9	EXTCTR	5	
		10	PG	6	
		11	-	-	
		12	-	-	
		13	-	-	
		14	-	-	
		15	-	-	
		16	-	-	
		17	-	-	
		18	-	-	
		19	+5VL	11	
		20	-	-	

## 13.2.3 Key copy counter

### [ 1 ] Settings

1. Set the value of FS-08-9016 to "3".
2. Harness kit: -

### [ 2 ] Pin Layout

#### Notes:

- Use 24V supplied from the main equipment as power for the output signals (KCTRON) from the transistor.

1. LGC Board

Pin No.	I/O	Signal name	Function	Voltage level	Remarks
1	GND	SG	Signal Ground	0V	
2	In	CTRCNT	Copy permission Signal 1	L=0V, H=DC3.3V	L: Allowed *1
3	Power	+24V	24V line	DC24V+10%, -5%	
4	Out	KCTRON	Mechanical Counter On Signal	Open Collector	L: ON IO (Max): 500mA
5 - 20	-	-	-	-	Not connect

\*1: When the coin controller outputs the CTCNT signal, the controller should be driven by means of an open collector or open drain to prevent the inflow of current to the equipment.

2. SYS board

Do not connect to the SYS board.

### [ 3 ] Details of the signals

1. CTCNT signal (input signal)

The CTCNT 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.

2. KCTRON signal (output signal)

These signals are synchronized with the electronic counter of the equipment and they become "Low" when the counter is turned ON. They are the signals for driving a mechanical counter, and output from the LGC board.

They can drive inductive loads, such as a solenoid, using 24V supplied from the equipment. The interval between when they are turned ON and when this happens next must be at least 100 ms. "Single count" or "Double count" can be switched according to the paper size by setting "1" or "2" for FS-08-6010.

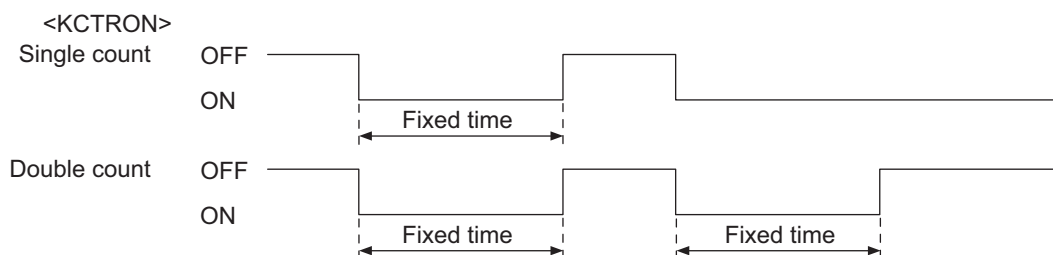


Fig.13-4

## 13.3 Notices

### 13.3.1 Setting code

Each signal will be enabled by configuring the setting code "FS-08-9016" (Externally installed counter).

FS-08-9016

- 0: No external counter (Default)
- 1: Coin controller
- 2: Copy key card (For Japan only)
- 3: Key copy counter
- 5: Coin controller supporting ACS/mixed-size

### 13.3.2 Setting value change and restrictions when using the Card Controller

#### 1. Setting value

- FS-08-9016 (Externally installed counter): Set to "2" (Copy key card).
- FS-08-9017 (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".
- FS-08-6011 (Definition setting of large sized paper): Set to "0" if only A3 and LD are regarded as large size. Set to "1" if B4, LG, FOLIO and COMP are done so as well.

### 13.3.3 Setting value change and restrictions when using the coin controller

FS-08-9016 (Externally installed counter): Set to "1" (Coin controller) or "5" (Coin controller supporting ACS/mixed-size).

#### Notes:

- A coin controller supporting ACS (Auto Color Selection) can be connected by setting to "5" (Coin controller supporting ACS/mixed-size). However, operation is not guaranteed unless the specification for the ACS timing is met.
- Mixed-size jobs will be supported by setting to "5". The switching process of the size signal is carried out for each page.
- Be sure to make the following charge settings appropriately according to the usage.
  - FS-08-9017 (Setting for counter installed externally): To charge only when copies are made, set to "1".
  - FS-08-6011 (Definition setting of large sized paper): Set to "0" if only A3 and LD are regarded as large size. Set to "1" if B4, LG, FOLIO and COMP are to be so as well.

### 13.3.4 Installation of External Counter

It is not allowed to install more than one external counter (Key copy counter and Coin Controller) at the same time.

### 13.3.5 Setting value

The Key copy counter used for current models is not supported in this equipment, but the circuit for driving the counter has been mounted. The mechanical counter can be used by setting as below, however the harness for connecting it has not been provided as an option.

#### 1. Setting value

- FS-08-9016 (Externally installed counter): Set to "3" (Key copy counter).
- FS-08-9017 (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".
- FS-08-6011 (Definition setting of large sized paper): Set to "0" if only A3 and LD are regarded as large size. Set to "1" if B4, LG, FOLIO and COMP are done so as well.

### 13.3.6 Restrictions when using the external counter

The Job Skip function will be disabled when an external counter is installed (when a value other than "0" is set for FS-08-9016).

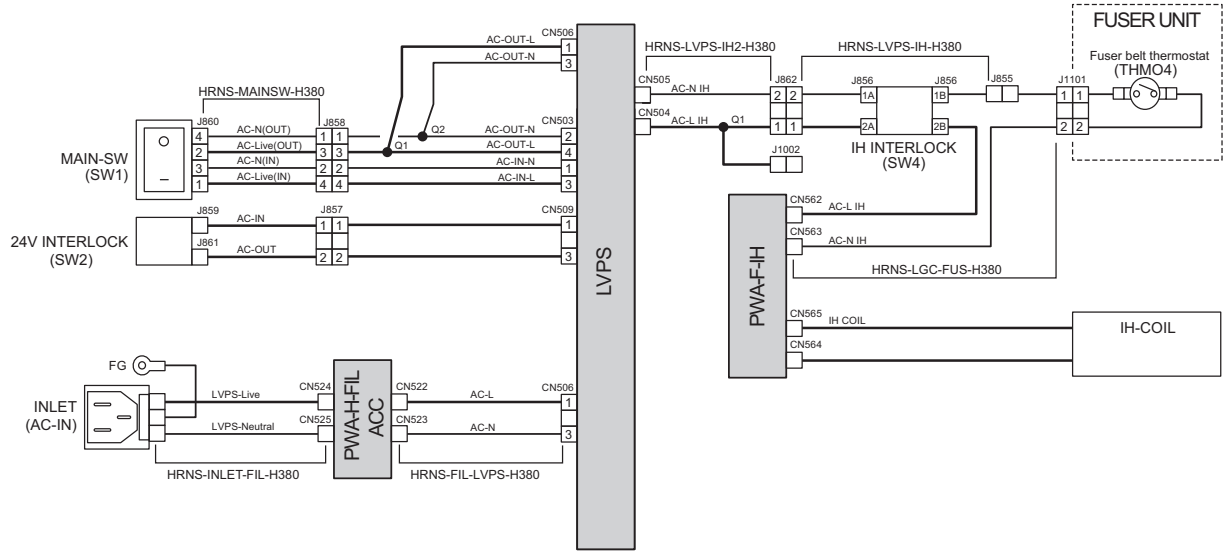
Therefore, if printing is attempted while a counter or a coin controller is used, all jobs stored in the HDD may be printed.



# 14. WIRE HARNESS CONNECTION

## 14.1 AC Wire Harness

Without the DAMP HEATER



With the DAMP HEATER

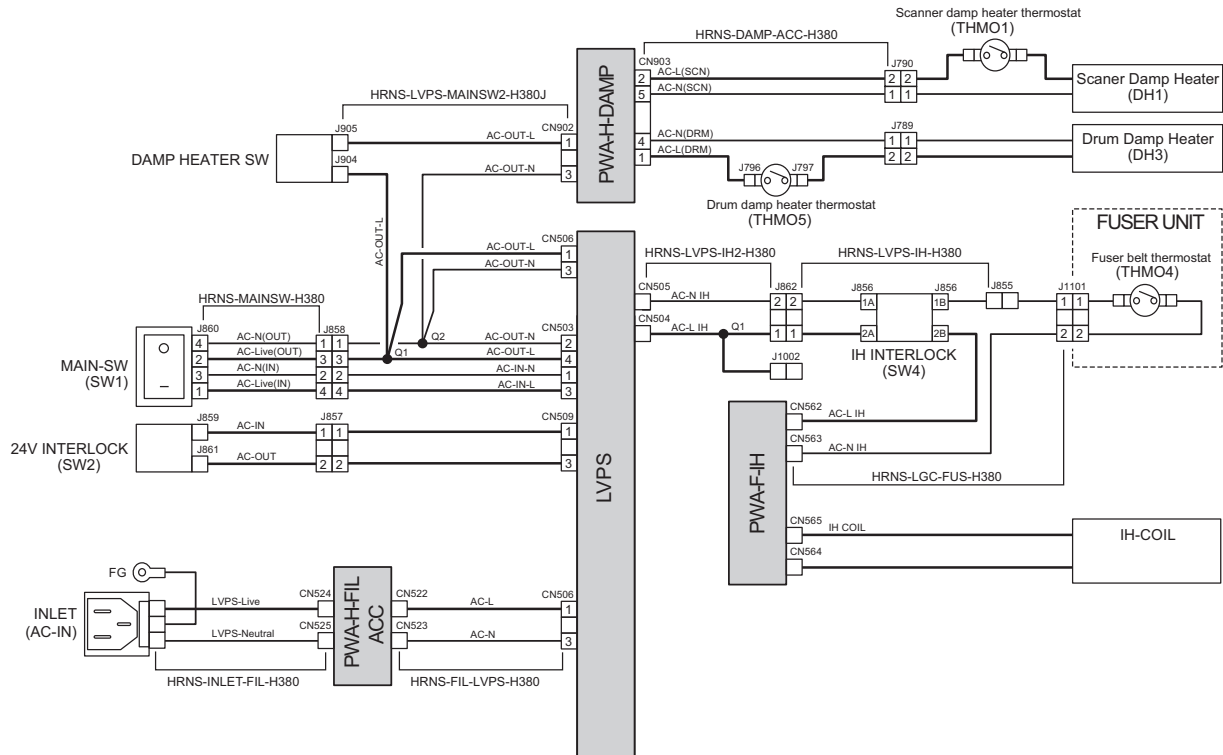


Fig.14-1

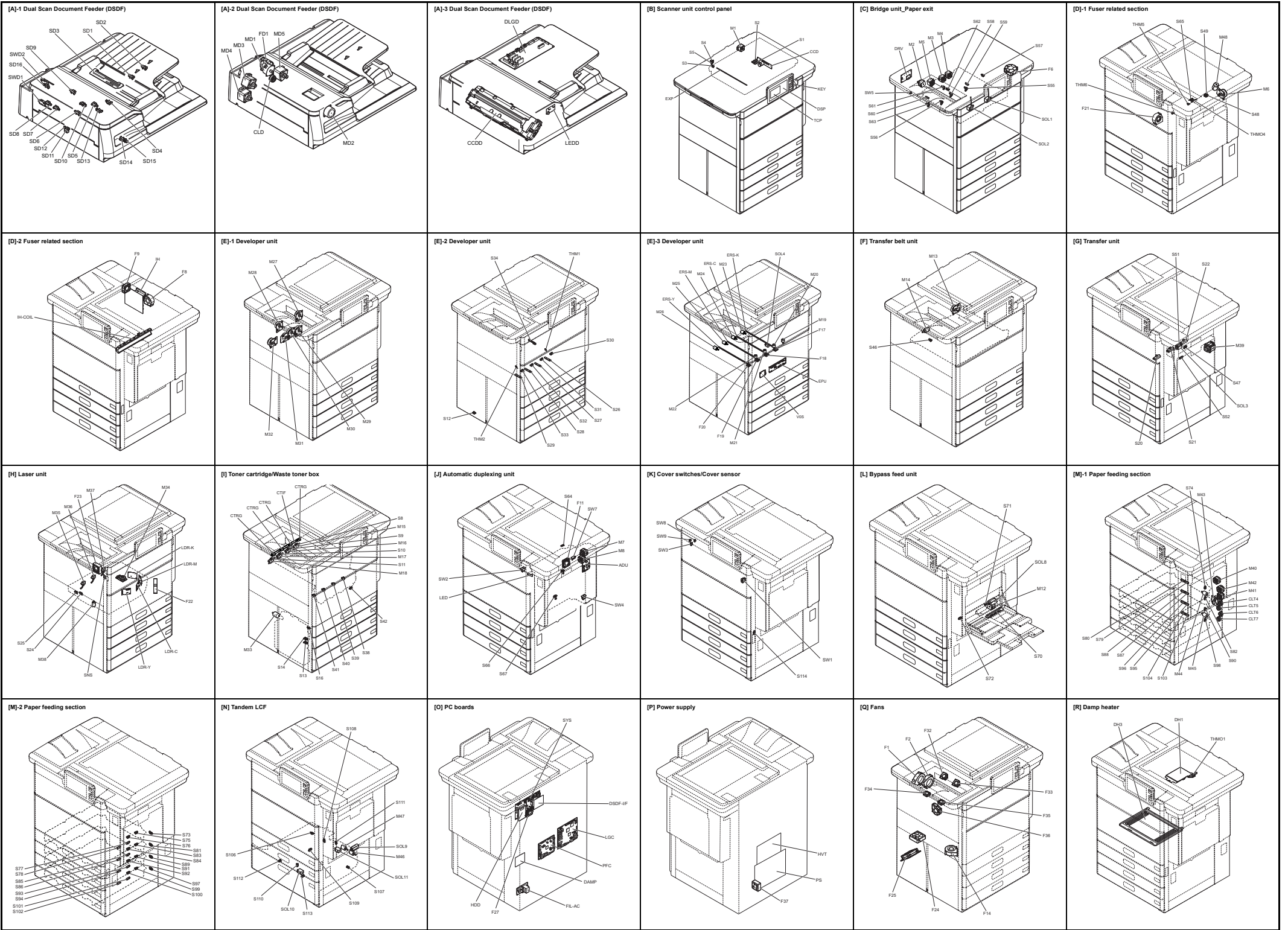
# 14.2 DC Wire Harness / Electric Parts Layout







# 14.2.3 Electric Parts Layout



Symbol	Name	Figure	Wire harness location
M01	DSDf feed motor	[A]-2	DSDf Harness Diagram
M02	DSDf separation motor	[A]-2	DSDf Harness Diagram
M03	DSDf registration motor	[A]-2	DSDf Harness Diagram
M04	DSDf read motor	[A]-2	DSDf Harness Diagram
M05	DSDf exit motor	[A]-2	DSDf Harness Diagram
M1	SCAN-MOT Scan motor	[B]	5-B(2)
M2	EXIT-MOT Exit motor	[C]	1-C
M3	REV-MOT Reverse motor	[C]	1-C
M4	BRIDGE-ENT-MOT Bridge unit transport entrance motor	[C]	1-C
M5	BRIDGE-EXT-MOT Bridge unit transport exit motor	[C]	1-C
M6	FUS-MOT Fuser motor	[D]-1	5-F
M7	ADU-MOT-1 ADU transport motor	[J]	1-D
M8	ADU-MOT-2 ADU transport motor	[J]	1-D
M12	SFB-MOT Bypass motor	[L]	1-E
M13	TBU-MOT Transfer belt motor	[F]	5-E
M14	TBU-CAM-MOT Transfer belt contact/release motor	[F]	5-D
M15	TNR-MOT-K Toner motor-K	[I]	5-C
M16	TNR-MOT-C Toner motor-C	[I]	5-C
M17	TNR-MOT-M Toner motor-M	[I]	5-C
M18	TNR-MOT-Y Toner motor-Y	[I]	5-B
M19	SUB-HOP-MOT-K Sub-hopper toner motor-K	[E]-3	6-A
M20	SUB-HOP-MOT-C Sub-hopper toner motor-C	[E]-3	6-E
M21	SUB-HOP-MOT-M Sub-hopper toner motor-M	[E]-3	6-D
M22	SUB-HOP-MOT-Y Sub-hopper toner motor-Y	[E]-3	6-C
M23	CH-CLN-MOT-K Needle electrode cleaner motor-K	[E]-3	6-B
M24	CH-CLN-MOT-C Needle electrode cleaner motor-C	[E]-3	6-E
M25	CH-CLN-MOT-M Needle electrode cleaner motor-M	[E]-3	6-D
M26	CH-CLN-MOT-Y Needle electrode cleaner motor-Y	[E]-3	6-C
M27	DRM-MOT-K Drum motor-K	[E]-1	7-H
M28	DRM-MOT-Y Drum motor-Y	[E]-1	6-H
M29	K-DEV-MIX-MOT Developer unit mixer motor-K	[E]-1	7-G
M30	DEV-MOT-K Developer unit motor-K	[E]-1	7-H
M31	DEV-MIX-MOT-Y Developer unit mixer motor-Y	[E]-1	6-G
M32	DEV-MOT-Y Developer unit motor-Y	[E]-1	6-H
M33	WASTE-TNR-TRPT-MOT Waste toner transport motor	[I]	7-G
M34	POL-MOT Polygonal motor	[H]	8-D, 8-E
M35	MIR-MOT-M Mirror motor-M	[H]	8-C, 8-D
M36	MIR-MOT-C Mirror motor-C	[H]	8-C, 8-D
M37	MIR-MOT-K Mirror motor-K	[H]	8-D, 8-E
M38	SHT-MOT Shutter motor	[H]	8-F
M39	REG-MOT Registration motor	[G]	2-E
M40	TRNS-MOT-1 Transport motor-1	[M]-1	2-E
M41	TRNS-MOT-2 Transport motor-2	[M]-1	2-E
M42	FEED-MOT 3rd/4th drawer feed motor	[M]-1	2-D
M43	FED-TR-MOT 3rd/4th drawer LCF feed motor	[M]-1	4-E
M44	CST-TRY-MOT-1 1st/2nd drawer tray-up motor	[M]-1	3-F
M45	CST-TRY-MOT-2 3rd/4th drawer LCF tray-up motor	[M]-1	3-H
M46	TLCF-TRY-MOT-1 TLCF tray-up motor	[N]	1-G
M47	TLCF-END-MOT TLCF end fence motor	[N]	1-F
M48	Pressure roller contact/release motor	[D]-1	5-F

Symbol	Name	Figure	Wire harness location
F2	Fuser unit heat exhausting fan	[C]	2-C
F6	BRIDGE-FAN-MOT Bridge unit cooling fan	[C]	2-C
F8	IH-FAN-MOT-1 IH board cooling fan (exhaust)	[D]-2	5-G
F9	IH-FAN-MOT-2 IH board cooling fan (suction)	[D]-2	5-G
F11	ADU-FAN-MOT ADU fan motor	[J]	1-E
F14	EPU-FAN-MOT EPU cooling fan	[G]	7-F
F17	EPU-FAN-MOT-K Mixing ozone fan-K	[E]-3	6-B
F18	EPU-FAN-MOT-C Mixing ozone fan-C	[E]-3	6-E
F19	EPU-FAN-MOT-M Mixing ozone fan-M	[E]-3	6-D
F20	EPU-FAN-MOT-Y Mixing ozone fan-Y	[E]-3	6-C
F21	TNR-CTR-FAN-MOT Toner cartridge fan motor	[D]-1	7-B
F22	LSU-FAN-MOT-1 Laser optical unit cooling fan (Front)	[H]	7-B
F23	LSU-FAN-MOT-R Laser optical unit cooling fan (Rear)	[H]	5-F
F24	OSN-FAN-MOT Ozone suction fan	[G]	7-H
F25	DEV-FAN-MOT Scattered toner suctioning fan	[G]	7-H
F27	SYS-FAN-MOT SYS board cooling fan	[C]	3-B
F32	UP-EXT-FAN-MOT-1 Upper exit section cooling fan (rear)	[C]	2-B
F33	UP-EXT-FAN-MOT-2 Upper exit section cooling fan (front)	[C]	2-B
F34	LOW-EXT-FAN-MOT-1 Lower exit section cooling fan (rear)	[C]	2-C
F35	LOW-EXT-FAN-MOT-2 Lower exit section cooling fan (front)	[C]	2-C
F36	LOW-EXT-FAN-MOT-3 Lower exit section cooling fan (under)	[C]	2-F
F37	PS-FAN-MOT-1 Power supply unit cooling fan	[P]	7-D

Symbol	Name	Figure	Wire harness location
S12	TEMP/HUM-SNR Temperature/humidity sensor	[E]-2	7-H
S13	WASTE-TNR-AMT-SNR Waste toner amount detection sensor	[I]	7-H
S14	WASTE-TNR-FLL-SNR Waste toner full detection sensor	[I]	7-H
S16	WASTE-TNR-BOX-SNR Waste toner detector sensor	[I]	7-G
S20	IMG-POS-SNR-F Image position aligning sensor (front)	[G]	5-H
S21	IMG-POS-SNR-C Image position aligning/image quality sensor (center)	[G]	5-H
S22	IMG-POS-SNR-R Image position aligning sensor (rear)	[G]	5-G
S24	SHT-SNR-HP Shutter sensor (home position)	[H]	8-F
S25	SHT-SNR-EP Shutter sensor (end position)	[H]	8-F
S26	AT-TNR-SNR-K Auto-toner sensor-K	[E]-2	6-B
S27	AT-TNR-SNR-C Auto-toner sensor-C	[E]-2	6-E
S28	AT-TNR-SNR-M Auto-toner sensor-M	[E]-2	6-D
S29	AT-TNR-SNR-Y Auto-toner sensor-Y	[E]-2	6-C
S30	CH-CLN-SNR-K Needle electrode cleaner detection sensor-K	[E]-2	6-B
S31	CH-CLN-SNR-C Needle electrode cleaner detection sensor-C	[E]-2	6-E
S32	CH-CLN-SNR-M Needle electrode cleaner detection sensor-M	[E]-2	6-D
S33	CH-CLN-SNR-Y Needle electrode cleaner detection sensor-Y	[E]-2	6-C
S34	VD-SNR-K Drum surface potential (V0) sensor-K	[E]-2	7-D
S38	SUB-HOP-TNR-SNR-K Sub-hopper toner sensor-K	[I]	7-C
S39	SUB-HOP-TNR-SNR-M Sub-hopper toner sensor-M	[I]	7-C
S40	SUB-HOP-TNR-SNR-Y Sub-hopper toner sensor-Y	[I]	7-C
S41	SUB-HOP-TNR-SNR-C Sub-hopper toner sensor-C	[I]	7-C
S42	AUG-LOCK-SNR Auger lock detection sensor	[I]	6-C
S44	TBU-CNT-SNR Transfer belt contact/release detection sensor	[F]	5-D
S47	CLNG-SNR Transfer belt paper clinging detection sensor	[G]	5-H
S48	PRP-SNR Pressure roller contact/release detection sensor	[D]-1	6-F
S49	HR-LOCK-SNR Paper belt relation detection sensor	[D]-1	6-F
S51	TR2-CLN-SNR 2nd transfer side paper clinging detection sensor	[J]	1-D
S52	RGST-SNR Registration sensor	[G]	2-D
S55	BRIDGE-ENT-SNR Bridge unit path entrance sensor	[C]	1-B
S56	BRIDGE-EXT-SNR Bridge unit path exit sensor	[C]	1-B
S57	REV-PATH-SNR Reverse path sensor	[C]	1-B
S58	REV-JAM-SNR Reverse section stationary jam detection sensor	[C]	1-C
S59	REV-SNR Reverse section sensor	[C]	2-D
S60	REV-JAM-SNR Reverse section paper transport detection sensor	[C]	2-B
S61	UP-EXT-SNR Upper exit sensor	[C]	2-B
S62	UP-EXT-FULL-SNR Upper exit tray paper full detection sensor	[C]	2-B
S63	LOW-EXT-SNR Lower exit sensor	[C]	2-C
S64	ADU-OPEN-SNR Duplexing unit opening/closing detection sensor	[J]	2-D
S65	FUS-TRPT-SNR Fuser transport sensor	[D]	1-E
S66	ADU-EXT-SNR Duplexing unit path entrance sensor	[J]	1-E
S67	ADU-EXT-SNR Duplexing unit path exit sensor	[J]	1-E
S70	SFB-SIZE-SNR 1st drawer empty size detection sensor	[M]	1-F
S71	SFB-SNR Bypass paper sensor	[M]	1-E
S72	SFB-FEED-SNR Bypass feed sensor	[M]	1-F
S73	CST1-SNR 1st drawer detection sensor	[M]-2	2-G
S74	CST1-BTM-SNR 1st drawer bottom sensor	[M]-1	4-F
S75	CST1-EMP-SNR 1st drawer empty sensor	[M]-2	2-G
S76	CST1-TRY-SNR 1st drawer tray-up sensor	[M]-2	2-G
S77	CST1-TRNS-SNR 1st drawer transport sensor	[M]-2	2-G
S78	CST1-FEED-SNR 1st drawer feed sensor	[M]-2	2-G
S79	CST1-SIZE-SNR-1 1st drawer paper width detection sensor	[M]-1	4-F
S80	CST1-SIZE-SNR-2 1st drawer paper length detection sensor	[M]-1	4-F
S81	CST2-SNR 2nd drawer detection sensor	[M]-2	2-H
S82	CST2-BTM-SNR 2nd drawer bottom sensor	[M]-1	4-G

Symbol	Name	Figure	Wire harness location
S83	CST2-EMP-SNR 2nd drawer empty sensor	[M]-2	2-H
S84	CST2-TRY-SNR 2nd drawer tray-up sensor	[M]-2	2-H
S85	CST2-TRNS-SNR 2nd drawer transport sensor	[M]-2	2-H
S86	CST2-FEED-SNR 2nd drawer feed sensor	[M]-2	2-H
S87	CST2-SIZE-SNR-1 2nd drawer paper width detection sensor	[M]-1	4-G
S88	CST2-SIZE-SNR-2 2nd drawer paper length detection sensor	[M]-1	4-G
S89	CST3-CLF-SNR 3rd drawer LCF detection sensor	[M]-2	3-G
S90	CST3-BTM-SNR 3rd drawer bottom sensor	[M]-1	4-G
S91	CST3-CLF-EMP-SNR 3rd drawer LCF empty sensor	[M]-2	3-G
S92	CST3-CLF-TRY-SNR 3rd drawer LCF tray-up sensor	[M]-2	3-G
S93	CST3-CLF-TRNS-SNR 3rd drawer LCF transport sensor	[M]-2	3-G
S94	CST3-CLF-FEED-SNR 3rd drawer LCF feed sensor	[M]-2	3-G
S95	CST3-SIZE-SNR-1 3rd drawer paper width detection sensor	[M]-1	4-G
S96	CST3-SIZE-SNR-2 3rd drawer paper length detection sensor	[M]-1	4-G
S97	CST4-SNR 4th drawer detection sensor	[M]-2	3-H
S98	CST4-BTM-SNR 4th drawer bottom sensor	[M]-1	4-H
S99	CST4-EMP-SNR 4th drawer empty sensor	[M]-2	3-H
S100	CST4-TRY-SNR 4th drawer tray-up sensor	[M]-2	3-H
S101	CST4-TRNS-SNR 4th drawer transport sensor	[M]-2	3-H
S102	CST4-FEED-SNR 4th drawer feed sensor	[M]-2	3-H
S103	CST4-SIZE-SNR-1 4th drawer paper width detection sensor	[M]-1	4-H
S104	CST4-SIZE-SNR-2 4th drawer paper length detection sensor	[M]-1	4-H
S106	TLCF-STBY-AMT-SNR TLCF standby tray paper amount detection sensor	[N]	1-G
S107	TLCF-BTM-SNR TLCF bottom sensor	[N]	1-H
S108	TLCF-STBY-TRY-SNR TLCF standby tray tray detection sensor	[N]	1-G
S109	TLCF-STBY-TRNS-SNR TLCF standby tray transport sensor	[N]	1-G
S110	TLCF-STBY-FEED-SNR TLCF standby tray feed sensor	[N]	1-H
S111	TLCF-STBY-OPEN-SNR TLCF standby tray opening/closing detection sensor (rear)	[N]	1-H
S112	TLCF-HOME-SNR TLCF home position sensor	[N]	1-G
S113	TLCF-STP-SNR TLCF stop position sensor	[N]	1-G
S114	FEED-COV-SNR Feed cover sensor	[K]	6-A

Symbol	Name	Figure	Wire harness location
SW01	DSDf lower cover interlock switch	[A]-1	DSDf Harness Diagram
SW02	DSDf upper cover interlock switch	[A]-1	DSDf Harness Diagram
SW1	MAIN-SW Main power switch	[J]	AC Wire Harness
SW2	Interlock switch	[K]	AC Wire Harness
SW3	TNR-MOT-SW Toner motor interlock switch	[K]	5-D
SW4	IH interlock switch	[J]	AC Wire Harness
SW5	REV-PATH-OPEN-SW Reverse path cover switch	[C]	2-C
SW7	ADU-SE-SW Duplexing unit interlock switch / Duplexing unit cover opening/closing detection switch	[J]	1-D
SW8	REV-PATH-COV-SW Reverse path connecting detection switch	[K]	2-C
SW9	FRONT-COV-SW Front cover opening/closing detection switch	[K]	2-C

Symbol	Name	Figure	Wire harness location
SW01	DSDf lower cover interlock switch	[A]-1	DSDf Harness Diagram
SW02	DSDf upper cover interlock switch	[A]-1	DSDf Harness Diagram
SW1	MAIN-SW Main power switch	[J]	AC Wire Harness
SW2	Interlock switch	[K]	AC Wire Harness
SW3	TNR-MOT-SW Toner motor interlock switch	[K]	5-D
SW4	IH interlock switch	[J]	AC Wire Harness
SW5	REV-PATH-OPEN-SW Reverse path cover switch	[C]	2-C
SW7	ADU-SE-SW Duplexing unit interlock switch / Duplexing unit cover opening/closing detection switch	[J]	1-D
SW8	REV-PATH-COV-SW Reverse path connecting detection switch	[K]	2-C
SW9	FRONT-COV-SW Front cover opening/closing detection switch	[K]	2-C

Symbol	Name	Figure	Wire harness location
F01	DSDf cooling fan motor	[A]-2	DSDf Harness Diagram
F1	Bridge unit heat exhausting fan	[C]	2-C

Symbol	Name	Figure	Wire harness location
S01	DSDf tray original length sensor-1	[A]-1	DSDf Harness Diagram
S02	DSDf tray original length sensor-2	[A]-1	DSDf Harness Diagram
S03	DSDf tray original width sensor	[A]-1	DSDf Harness Diagram
S04	DSDf original empty sensor	[A]-1	DSDf Harness Diagram
S05	DSDf feed sensor	[A]-1	DSDf Harness Diagram
S06	DSDf registration sensor	[A]-1	DSDf Harness Diagram
S07	DSDf original width detection sensor-1	[A]-1	DSDf Harness Diagram
S08	DSDf original width detection sensor-2	[A]-1	DSDf Harness Diagram
S09	DSDf tray lift upper limit sensor	[A]-1	DSDf Harness Diagram
S10	DSDf tray lift lower limit sensor	[A]-1	DSDf Harness Diagram
S11	DSDf read-in sensor-1	[A]-1	DSDf Harness Diagram
S12	DSDf read-in sensor-2	[A]-1	DSDf Harness Diagram
S13	DSDf exit sensor	[A]-1	DSDf Harness Diagram
S14	DSDf shading sheet HP sensor	[A]-1	DSDf Harness Diagram
S15	DSDf lower cover opening/closing detection sensor	[A]-1	DSDf Harness Diagram
S16	DSDf upper cover opening/closing detection sensor	[A]-1	DSDf Harness Diagram
S1	APS1 Automatic original detection sensor-1	[B]	5-B(2)
S2	APS2 Automatic original detection sensor-2	[B]	5-B(2)
S3	HOME-SNR Carriage home position sensor	[B]	5-B(2)
S4	PLTN-SNR1 Platen sensor-1	[B]	5-B(2)
S5	PLTN-SNR2 Platen sensor-2	[B]	5-B(2)
S8	TNR-SNR-K Toner cartridge paddle rotation detection sensor-K	[I]	5-C
S9	TNR-SNR-C Toner cartridge paddle rotation detection sensor-C	[I]	5-C
S10	TNR-SNR-M Toner cartridge paddle rotation detection sensor-M	[I]	5-C
S11	TNR-SNR-Y Toner cartridge paddle rotation detection sensor-Y	[I]	5-C

Symbol	Name	Figure	Wire harness location
S12	TEMP/HUM-SNR Temperature/humidity sensor	[E]-2	7-H
S13	WASTE-TNR-AMT-SNR Waste toner amount detection sensor	[I]	7-H
S14	WASTE-TNR-FLL-SNR Waste toner full detection sensor	[I]	7-H
S16	WASTE-TNR-BOX-SNR Waste toner detector sensor	[I]	7-G
S20	IMG-POS-SNR-F Image position aligning sensor (front)	[G]	5-H
S21	IMG-POS-SNR-C Image position aligning/image quality sensor (center)	[G]	5-H
S22	IMG-POS-SNR-R Image position aligning sensor (rear)	[G]	5-G
S24	SHT-SNR-HP Shutter sensor (home position)	[H]	8-F
S25	SHT-SNR-EP Shutter sensor (end position)	[H]	8-F
S26	AT-TNR-SNR-K Auto-toner sensor-K	[E]-2	6-B
S27	AT-TNR-SNR-C Auto-toner sensor-C	[E]-2	6-E
S28	AT-TNR-SNR-M Auto-toner sensor-M	[E]-2	6-D
S29	AT-TNR-SNR-Y Auto-toner sensor-Y	[E]-2	6-C
S30	CH-CLN-SNR-K Needle electrode cleaner detection sensor-K	[E]-2	6-B
S31	CH-CLN-SNR-C Needle electrode cleaner detection sensor-C	[E]-2	6-E
S32	CH-CLN-SNR-M Needle electrode cleaner detection sensor-M	[E]-2	6-D
S33	CH-CLN-SNR-Y Needle electrode cleaner detection sensor-Y	[E]-2	6-C
S34	VD-SNR-K Drum surface potential (V0) sensor-K	[E]-2	7-D
S38	SUB-HOP-TNR-SNR-K Sub-hopper toner sensor-K	[I]	7-C
S39	SUB-HOP-TNR-SNR-M Sub-hopper toner sensor-M	[I]	7-C
S40	SUB-HOP-TNR-SNR-Y Sub-hopper toner sensor-Y	[I]	7-C
S41	SUB-HOP-TNR-SNR-C Sub-hopper toner sensor-C	[I]	7-C
S42	AUG-LOCK-SNR Auger lock detection sensor	[I]	6-C
S44	TBU-CNT-SNR Transfer belt contact/release detection sensor	[F]	5-D
S47	CLNG-SNR Transfer belt paper clinging detection sensor	[G]	5-H
S48	PRP-SNR Pressure roller contact/release detection sensor	[D]-1	6-F
S49	HR-LOCK-SNR Paper belt relation detection sensor	[D]-1	6-F
S51	TR2-CLN-SNR 2nd transfer side paper cl		

## 14.2.4 DSDF Harness Diagram

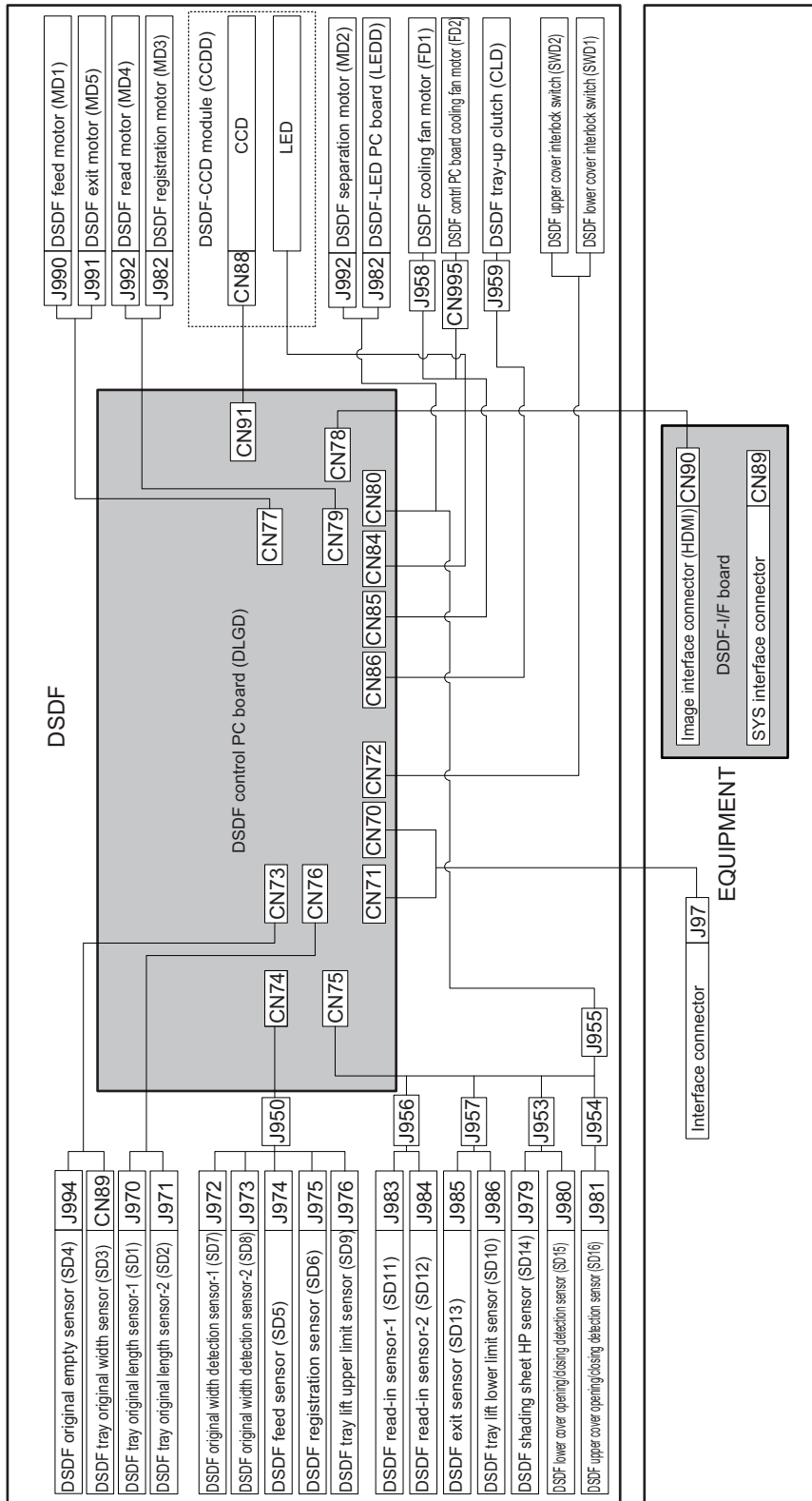


Fig.14-2

MAINTENANCE CHECK LIST  
e-STUDIO5506AC/6506AC/7506AC

MAINTENANCE CHECK LIST /  
LISTE DE VERIFICATION D'ENTRETIEN /  
LISTE DER WARTUNGSPRÜFUNG /  
LISTA DE CONTROL DE MANTENIMIENTO  
e-STUDIO5506AC/6506AC/7506AC

REPLACEMENT PARTS AND SUPPLIES		REPLACEMENT UNIT		COUNTER	TECHNICIAN	DATE
5506AC	6506AC	7506AC	1.MAIN CHARGER UNIT (X)			
480K	540K	600K	2.MAIN CHARGER UNIT (Y)			
960K	1080K	1200K	3.MAIN CHARGER UNIT (M)			
1440K	1620K	1800K	4.MAIN CHARGER UNIT (C)			
1920K	2160K	2400K	5.DRUM CLEANER UNIT (K)			
2400K	2700K	3000K	6.DRUM CLEANER UNIT (Y)			
2880K	3240K	3600K	7.DRUM CLEANER UNIT (M)			
3360K	3780K	4200K	8.DRUM CLEANER UNIT (C)			
3840K	4320K	4800K	9.TRANSFER BELT CLEANER UNIT			
4320K	4860K	5400K	10.2nd TRANSFER ROLLER UNIT			
4800K	5400K	6000K				
5506AC	6506AC	7506AC	1.PICK UP ROLLER(1st CST.)			
100K			2.FEED ROLLER(1st CST.)			
200K			3.SEP ROLLER(1st CST.)			
300K			4.PICK UP ROLLER(2nd CST.)			
400K			5.FEED ROLLER(2nd CST.)			
500K			6.SEP ROLLER(2nd CST.)			
600K			7.PICK UP ROLLER(3rd CST.)			
700K			8.FEED ROLLER(3rd CST.)			
800K			9.SEP ROLLER(3rd CST.)			
900K			10.PICK UP ROLLER(4th CST.)			
1000K			11.FEED ROLLER(4th CST.)			
			12.SEP ROLLER(4th CST.)			
			13.PICK UP ROLLER(SFB)			
			14.FEED ROLLER(SFB)			
			15.SEP ROLLER(SFB)			
			16.PICK UP ROLLER(T-LCF.)			
			17.FEED ROLLER(T-LCF.)			
			18.SEP ROLLER(T-LCF.)			
			19.PICK UP ROLLER(O-LCF)			
			20.FEED ROLLER(O-LCF)			
			21.SEP ROLLER(O-LCF)			
			22.MAIN CHARGER NEEDLE (C)			
			23.CHARGER CLEANING PAD (C)			
			24.DRUM CLEANER SIDE SEAL (C)			
			25.OZONE FILTER 1			
			26.TONER FILTER			
			27.OZONE FILTER 2			
			28.VOC FILTER			
			29.BELT BLADE			
			30.CLEANING PAD			
			31.BELT CLEANER SIDE SEAL			
			32.2nd TRANSFER ROLLER			
			1.FUSER BELT			
			2.PRESS ROLLER			
			3.FUSER PAD/LUBRICATING SHEET			

CLEANING UNIT		REPLACEMENT PARTS AND SUPPLIES	
5506AC	6506AC	7506AC	1.DRUM (K)
100K	540K	600K	2.DRUM BLADE (K)
200K	1080K	1200K	3.GRID (K)
300K	1620K	1800K	4.MAIN CHARGER NEEDLE (K)
400K	2160K	2400K	5.CHARGER CLEANING PAD (K)
500K	2700K	3000K	6.DRUM CLEANER SIDE SEAL (K)
600K	3240K	3600K	7.DRUM (Y)
700K	3780K	4200K	8.DRUM BLADE (Y)
800K	4320K	4800K	9.GRID (Y)
900K	4860K	5400K	10.MAIN CHARGER NEEDLE (Y)
1000K	5400K	6000K	11.CHARGER CLEANING PAD (Y)
			12.DRUM CLEANER SIDE SEAL (Y)
			13.DRUM (M)
			14.DRUM BLADE (M)
			15.GRID (M)
			16.MAIN CHARGER NEEDLE (M)
			17.CHARGER CLEANING PAD (M)
			18.DRUM CLEANER SIDE SEAL (M)
			19.DRUM (C)
			20.DRUM BLADE (C)
			21.GRID (C)
			22.MAIN CHARGER NEEDLE (C)
			23.CHARGER CLEANING PAD (C)
			24.DRUM CLEANER SIDE SEAL (C)
			25.OZONE FILTER 1
			26.TONER FILTER
			27.OZONE FILTER 2
			28.VOC FILTER
			29.BELT BLADE
			30.CLEANING PAD
			31.BELT CLEANER SIDE SEAL
			32.2nd TRANSFER ROLLER
			1.FUSER BELT
			2.PRESS ROLLER
			3.FUSER PAD/LUBRICATING SHEET



# REVISION RECORD

## Ver02

Ver. 02 <2018.02.14>	
Page	Contents
General precautions	The description has been deleted.
2-12	The illustration of "Fig 2-1" has been changed.
3-30	The numbers for P-I have been corrected.
3-32	The symbols for name have been corrected.
3-35	The symbols for function have been corrected.
3-41	The description has been corrected.
3-79	The description has been corrected.
3-84 to 3-85	The description has been added. (Toner near-empty / toner empty display adjustment)
4-20	The procedure step 3 has been corrected. The notes have been added.
4-25	The procedure step 4 has been corrected. The notes have been added.
4-58	The procedure has been added.
4-59	The illustration has been changed. (fig. 4-159)
4-117	The procedure has been added. (Drum unit side vertical duct) The procedure has been changed. (Mixing ozone fan)
4-138 to 4-140	The procedure has been added. (EPU tray developer unit cooling duct, TBU cleaner side vertical duct and EPU tray waste toner horizontal transport unit)
4-188	The illustration has been changed. (fig. 4-531)
6-124	The procedure has been corrected.
6-126 to 6-127	The procedure has been corrected.
7-17	The description has been added.
7-52	The part has been added.
8-2 to 8-3	The procedure has been corrected.
8-113	The troubleshooting of E570 has been corrected.
8-114	The troubleshooting of E580 has been corrected.
8-115	The troubleshooting has been corrected. (E2B0 to E2B7)
8-116	The troubleshooting of EB60 has been corrected.
8-118 to 8-119	The troubleshooting of E030 has been corrected.
8-122 to 8-124	The troubleshooting has been corrected. (E550, E551 and E552)
8-134 to 8-135	The troubleshooting of E727 has been changed.
8-150	The troubleshooting has been corrected. (EA32)
8-158	The troubleshooting has been corrected. (EAE0 and EB30)
8-168 to 8-172	The troubleshooting of EF14 has been changed.
8-190	The troubleshooting has been corrected. (C473 and C474)
8-203	The description has been changed.
8-207	The troubleshooting of F410 has been added.
8-225 to 8-226	The troubleshooting of CA00 has been changed.
8-238 to 8-241	The troubleshooting of C010 has been changed.
8-250 to 8-251	The description has been added.
8-277 to 8-278	The troubleshooting has been corrected. (F124, F125, F126 and F127)
8-279	The troubleshooting of F150 has been added.
8-335	The description has been added. (5110)
8-353	The troubleshooting has been added. (7332, 7333)
8-373	The description has been corrected.

<b>Ver. 02 &lt;2018.02.14&gt;</b>	
<b>Page</b>	<b>Contents</b>
8-446 to 8-447	The troubleshooting has been corrected. (Shadow in copied/scanned images when using the DSDF)
11-6	The procedure has been corrected.
11-14	The description has been changed.
Chapter 14	The mistake has been corrected.



# Ver01

Ver. 01 <2017.06.13>	
Page	Contents
General precautions	A note has been added. The description has been added. (Precautions for Transporting Equipment Once Unpacked)
2-1	The mistake has been corrected.
2-2	The mistake has been corrected.
2-4	The mistake has been corrected.
2-6 to 2-7	The mistake has been corrected.
2-9	The mistake has been corrected.
2-12	The illustration has been corrected. (2.3 System List)
3-29	The numbers for P-I have been added.
3-34	The numbers for P-I have been added.
3-36	The numbers for P-I have been added.
3-59	The mistake has been corrected.
3-89	The mistake has been corrected.
3-93	The mistake has been corrected.
3-111	The mistake has been corrected.
3-116	The mistake has been corrected.
4-37	The mistake has been corrected.
4-61 to 4-62	The procedure has been changed.
4-128	The notes have been changed.
4-129 to 4-132	The procedure has been added. (Mixer-1 / Mixer-2)
4-162	The illustration has been added.
4-164	The notes have been changed. The illustration has been added. (fig. 4-466)
4-180	The procedure has been added. (2nd transfer unit rear guide)
4-197	The notes have been changed.
4-198 to 4-200	The procedure has been changed.
4-202 to 4-206	The procedure has been added. (Rear fuser cover oil recovery sheet, Front fuser belt oil recovery sheet, Rear fuser belt oil recovery sheet, Rear fuser gear oil recovery sheet)
4-213	The notes have been changed.
4-274	The procedure has been added. (Upper discharge brush, Lower discharge brush)
4-289 to 4-291	The procedure has been changed.
4-301	The notes have been changed.
4-304	The notes have been changed.
5-1 to 5-2	The description has been added.
5-11	The description has been changed.
5-12 to 5-13	The description has been added.
5-31	The description has been changed.
5-32	The description has been changed.
5-33 to 5-34	The mistake has been corrected.
5-35	The mistake has been corrected.
5-36	The description has been changed. The illustration has been changed. (fig. 5-30)
5-40	The mistake has been corrected.
5-43	The mistake has been corrected.
5-47	The description has been changed. The illustration has been changed. (fig. 5-40)
5-49	The mistake has been corrected.
5-50	The mistake has been corrected.

Page	Contents
5-51	The mistake has been corrected.
5-53	The mistake has been corrected.
5-65	The mistake has been corrected.
5-56	The procedure has been changed.
6-96	The mistake has been corrected.
6-97	The description has been changed. The illustration has been changed. (fig. 6-53)
6-100 to 6-105	The procedure has been added.
6-123 to 6-125	The mistake has been corrected.
7-37 to 7-40	The description has been added.
7-42	The description has been changed.
7-51	The description has been added.
7-52	The mistake has been corrected.
7-53	The description has been changed. (Maintenance Part List)
7-55	The description has been changed.
7-56 to 7-57	The description has been changed.
8-1	The mistake has been corrected.
8-3 to 8-4	The description has been added.
8-40	The F11A and F11B have been added.
8-41	The F126, F127 and F140 have been added.
8-55	The error code 4043 has been added.
8-58	The error code 4721 has been added.
8-77	The error codes 7308 to 7309, 7324 and 7325 have been added.
8-78	The error codes 7326 to 7331 have been added.
8-81	The error code 8104 has been added.
8-89	The mistake has been corrected.
8-115	The mistake has been corrected. (E011)
8-128	The description has been added.
8-134	The description has been added. (E770)
8-135	The description has been added. (E771)
8-142 to 8-143	The description has been added. (EA20)
8-148	The description has been added. (EA31)
8-176 to 8-177	The contents of C262 has been changed.
8-187 to 8-190	The description has been added. (C551, C553, C554)
8-192	The troubleshooting of F11A has been added.
8-193	The troubleshooting of F11B has been added.
8-243	The illustration have been added. (CD61, CD62, CD63, CD64)
8-250 to 8-257	The mistake has been corrected. (F101_0 to F110_10)
8-274	The troubleshooting of F126 has been added.
8-275	The troubleshooting of F127 has been added.
8-276	The troubleshooting of F140 has been added.
8-319	The troubleshooting of 4043 has been added.
8-324	The troubleshooting of 4721 has been added.
8-355	The troubleshooting of 8104 has been added.
8-369	The troubleshooting "Latch the developer unit (Yellow, Magenta, Cyan, Black) remains displayed" has been added.
8-372 to 8-374	The troubleshooting "The equipment does not start after the power has been turned ON" has been added.
8-375 to 8-379	The troubleshooting "Problems in DSDF" has been added.
8-393 to 8-394	The troubleshooting "Toner offset (shadow image) at the edges" has been added.

<b>Ver. 01 &lt;2017.06.13&gt;</b>	
<b>Page</b>	<b>Contents</b>
8-433	The description has been added. (Feathered image)
8-435	The description has been added. (Low density image (rear side))
8-437 to 8-438	The troubleshooting "Image distortion (dogleg image)" has been added.
9-32 to 9-36	The description has been changed.
10-22	The description has been added.
10-45 to 10-46	The description has been added.
11-3	The mistake has been corrected.
11-4	The description has been added.
11-13	Descriptions of firmware update error have been added.
12-2	The description has been corrected.
13-1 to 13-5	The description has been changed.
Chapter 14.2.1	The mistake has been corrected.
Chapter 14.2.2	The mistake has been corrected.
Chapter 14.2.4	The mistake has been corrected.

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