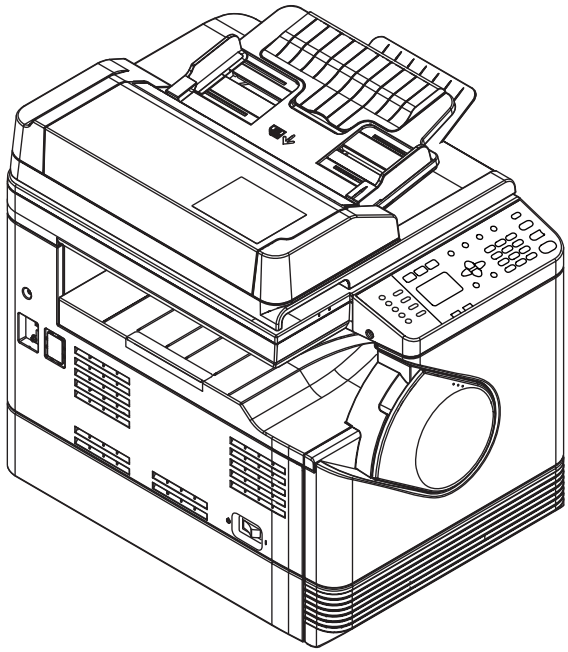
TOSHIBA

SERVICE MANUAL

MULTIFUNCTIONAL DIGITAL SYSTEMS

e-STUDIO2505/2505H/2505F

e-STUDIO2802A/2802AM/2802AF



Model: DP-2505/2505H/2505F/2802A/2802AM/2802AF
Publish Date: June 2013
File No. SME120047K0
R120621M1211-TTEC
Ver 11 F_2017-08

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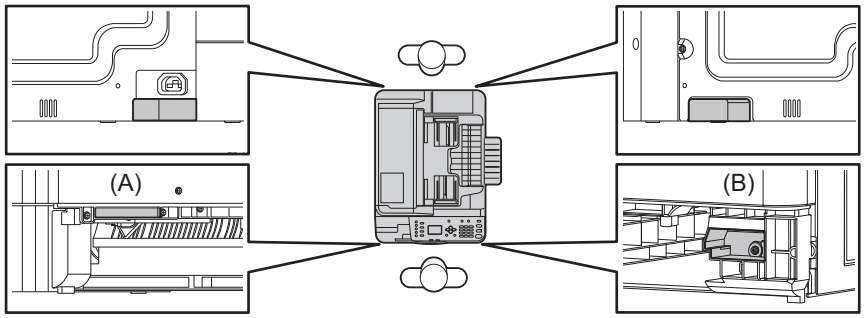
GENERAL PRECAUTIONS REGARDING THE SERVICE FOR THIS EQUIPMENT

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

1. **Transportation/Installation**
   - When transporting/installing the equipment, employ at least two persons, take off the drawer from it and be sure to hold the positions as shown in the figure.
     The equipment is quite heavy and weighs approximately 27 kg (59.5 lb.), therefore pay full attention when handling it.
     * To ensure the space to hold the equipment securely, take off the drawer as shown in the figures (A) and (B).



   - Be sure not to hold the movable parts or units (e.g. the ADU) when transporting the equipment.
   - Be sure to use a dedicated outlet with AC 120 V / 12 A, 220-240 V / 8A 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 80 cm (32”) on the left, 80 cm (32”) on the right and 10 cm (4”) on the rear.
   - The equipment shall be installed near the socket outlet and shall be accessible.
   - Be sure to fix and plug in the power cable securely after the installation so that no one trips over it.
   - When the equipment is used after the option is removed, be sure to install the parts or the covers which have been taken off so that the inside of the equipment is not exposed.

2. General Precautions at Service

- Be sure to turn the power OFF and unplug the power cable 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 in the wrong places.
- Basically, the equipment should not be operated with any parts removed or disassembled.
- The PC board must be stored in an anti-electrostatic bag and handled carefully using a wristband since the ICs on it may be damaged due to static electricity.

  Caution: Before using the wristband, unplug the power cable of the equipment and make sure that there are no charged objects which are not insulated in the vicinity.

- Avoid expose to laser beam during service. This equipment uses a laser diode. Be sure not to expose your eyes to the laser beam. Do not insert reflecting parts or tools such as a screwdriver on the laser beam path. Remove all reflecting metals such as watches, rings, etc. before starting service.
- Be sure not to touch high-temperature sections such as the fuser unit, damp heater and areas around them.
- Be sure not to touch high-voltage sections such as the chargers, transfer roller, developer, 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.
- 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

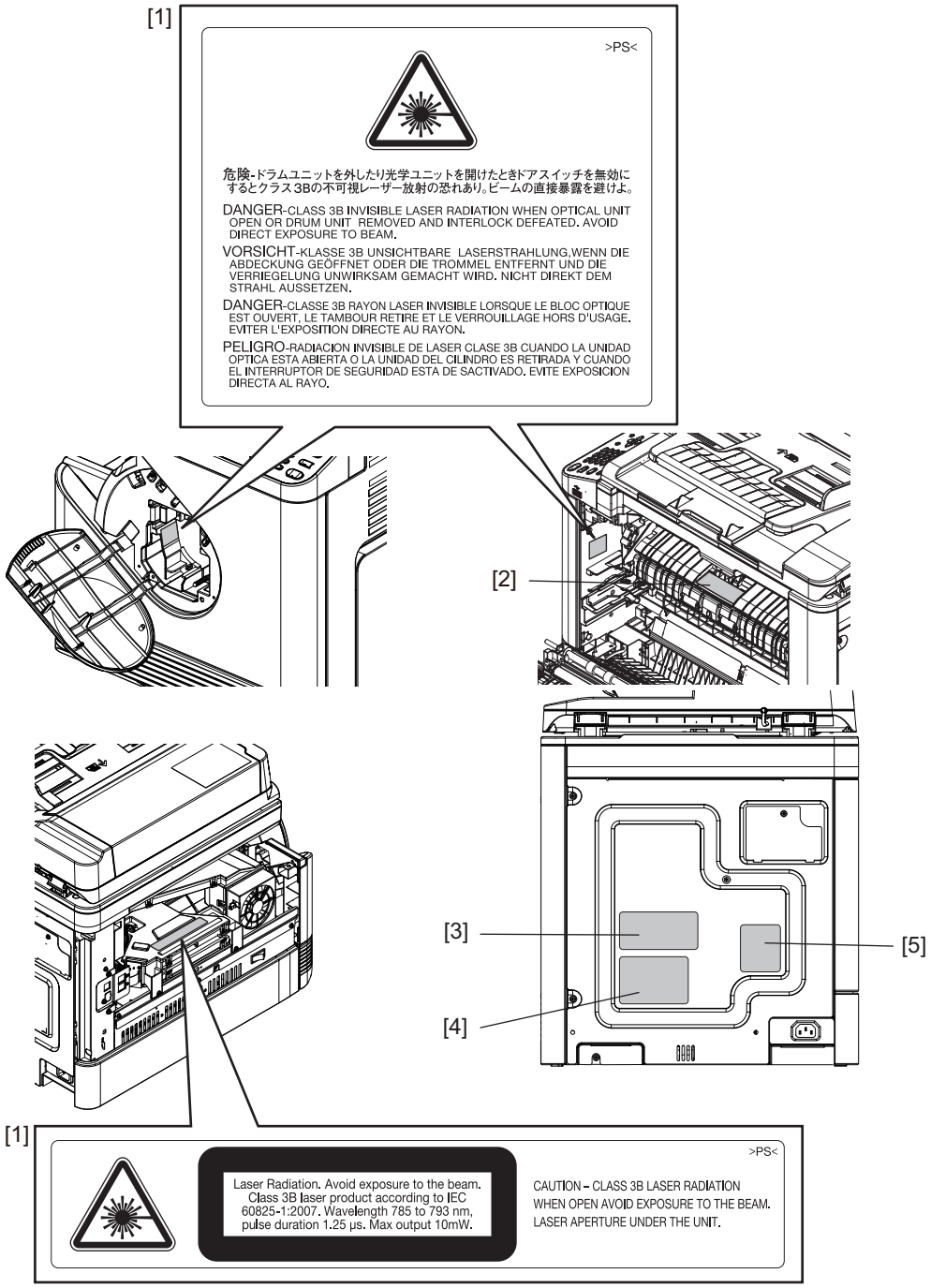
- Check the procedures and perform them as described in the Service Manual.
- Make sure you do not lose your balance.
- Avoid exposure to your skin and wear protective gloves as needed.

4. Important Service Parts for Safety

- The breaker, 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. Do not allow a short-circuit and do not use the parts not recommended by Toshiba TEC Corporation.

5. Cautionary Labels

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



[1] Cautionary label for laser unit
[2] Warning for high temperature area (fuser unit)
[3] Explanatory label
[4] Identification label
[5] Service label

6. Disposal of the Equipment, Supplies, Packing Materials, Used Batteries and IC-RAMs including lithium batteries

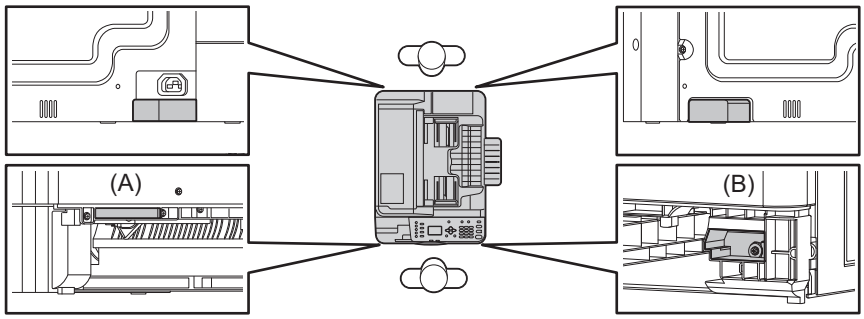
- Regarding the recovery and disposal of the equipment, supplies, packing materials, used batteries and IC-RAMs including lithium batteries, follow the relevant local regulations or rules.

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.

ALLGEMEINE SICHERHEITSMASSNAHMEN FÜR DIESES GERÄT

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

1. **Transport/Installation**
   - Zum Transportieren/Installieren des Systems mit 2 Personen arbeiten, die Kassette entfernen und das System nur an den abgebildeten Stellen halten. Das System ist relativ schwer und wiegt etwa 27 kg, daher behutsam vorgehen.
     * Damit genug Platz zum sicheren Halten des Systems geschaffen wird, muss die Kassette gemäß gemas den Abb. (A) und (B) entfernt werden.



   - Beim Transportieren des Geräts nicht an den beweglichen Teilen oder Einheiten (z.B. die Duplexeinheit oder die automatische Dokumentenzuführung) halten.
   - Eine spezielle Steckdose mit Stromversorgung von AC 120 V / 12 A, 220-240 V / 8A als Stromquelle verwenden.
   - Das Gerät ist aus Sicherheitsgründen zu erden.
   - Einen geeigneten Standort für die Installation wählen. Standorte mit zuviel Hitze, hoher Luftfeuchtigkeit, Staub, Vibrieren und direkter Sonneneinstrahlung sind zu vermeiden.
   - Für ausreichende Belüftung sorgen, da das Gerät etwas Ozon abgibt.
   - Um einen optimalen Kopierbetrieb zu gewährleisten, muss ein Abstand von mindestens 80 cm links, 80 cm rechts und 10 cm dahinter eingehalten werden.
   - Das Gerät ist in der Nähe der Steckdose zu installieren; diese muss leicht zu erreichen sein.
   - Nach der Installation muss das Netzkabel richtig hineingesteckt und befestigt werden, damit niemand darüber stolpern kann.
   - Falls der Auspackungsstandort und der Installationsstandort des Geräts verschieden sind, die Bildqualitätsjustierung (automatische Gammajustierung) je nach der Temperatur und Luftfeuchtigkeit des Installationsstandorts und der Papiersorte, die verwendet wird, durchführen.

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

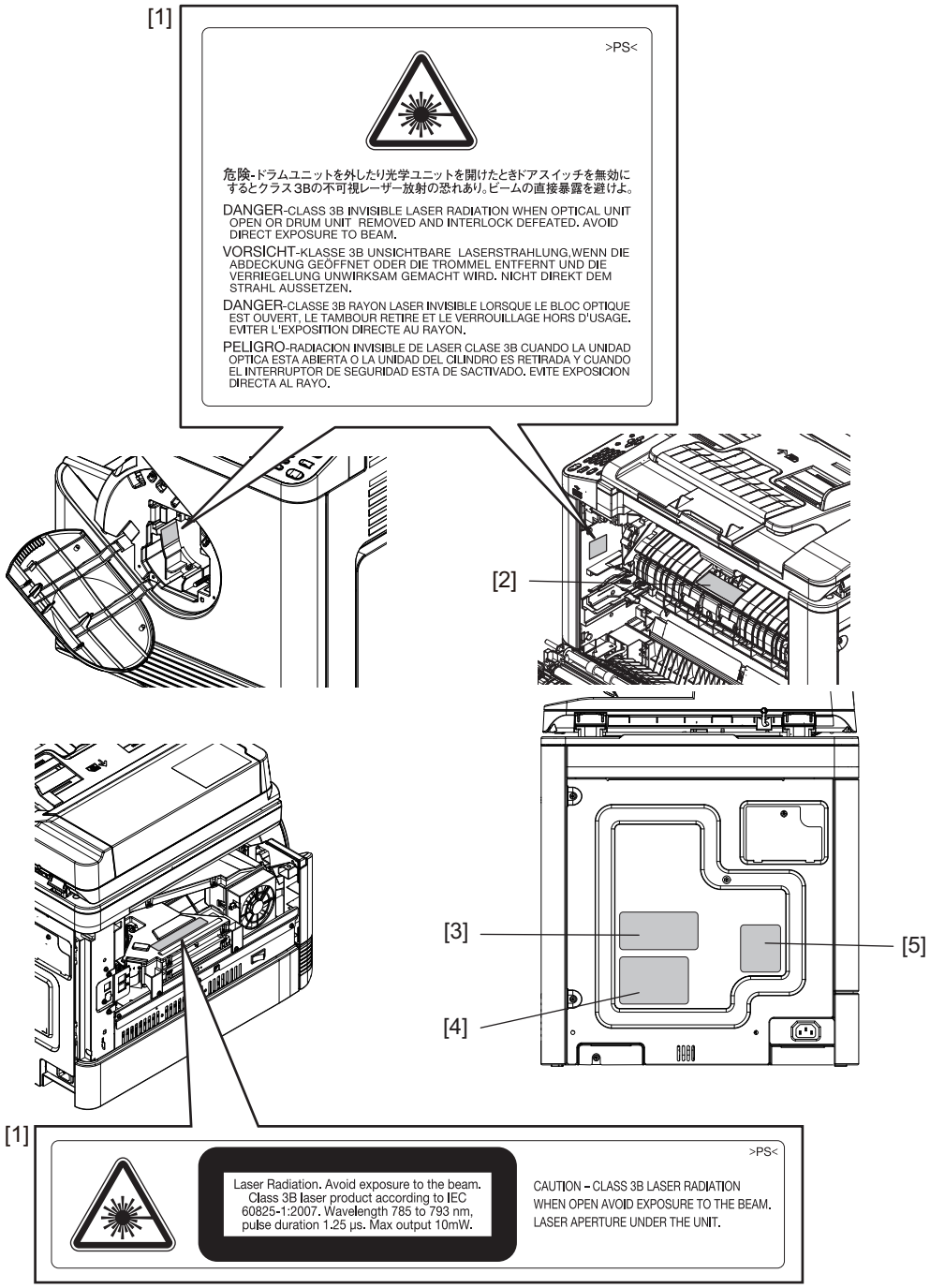
     Vorsicht: Vor Benutzung der Manschette der Betätigung des Armbandes, das Netzkabel des Gerätes herausziehen und prüfen, dass es in der Nähe keine geladenen Gegenstände, die nicht isoliert sind, gibt.
   - Setzen Sie sich während der Wartungsarbeiten nicht dem Laserstrahl aus. Dieses Gerät ist mit einer Laserdiode ausgestattet. Es ist unbedingt zu vermeiden, direkt in den Laserstrahl zu blicken. Keine reflektierenden Teile oder Werkzeuge, wie z. B. Schraubendreher, in den Pfad des Laserstrahls halten. Vor den Wartungsarbeiten sämtliche reflektierenden Metallgegenstände, wie Uhren, Ringe usw., entfernen.
   - Auf keinen Fall Hochtemperaturbereiche, wie die Fixiereinheit, die Heizquelle und die umliegenden Bereiche, berühren.
   - Auf keinen Fall Hochspannungsbereiche, wie die Ladeeinheiten, die 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.
   - 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 Sicherheïtsmassnahmen**
   - Die Verfahren sind zu überprüfen und wie im Wartungshandbuch beschrieben durchzuführen.
   - Vorsichtig, dass Sie nicht umfallen.
   - Um Aussetzung zur Haut zur vermeiden, tragen Sie wenn nötig Schutzhandschuhe.

4. **Sicherheitsrelevante Wartungsteile**
   - Der Leistungsschutzschalter, der Türschalter, die Sicherung, der Thermostat, die Thermosicherung, der Thermistor, der Akkus, die IC-RAMs einschließlich der Lithiumakkus usw. 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 [z. B. „Unplug the power cable during service“ („Netzkabel vor Beginn der Wartungsarbeiten abziehen“), „CAUTION. HOT“ („VORSICHT, HEISS“), „CAUTION. HIGH VOLTAGE“ („VORSICHT, HOCHSPANNUNG“), „CAUTION. LASER BEAM“ („VORSICHT, LASER“) usw.], um sicherzustellen, dass sie nicht verschmutzt sind und korrekt am Gerät angebracht sind.



[1] Laser-Warnetikett
[2] Warnung fur Bereiche mit hohen Temperaturen (Fixiereinheit)
[3] Erklarungsetikett
[4] Erkennungsetikett
[5] Dienstaufschrift

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.

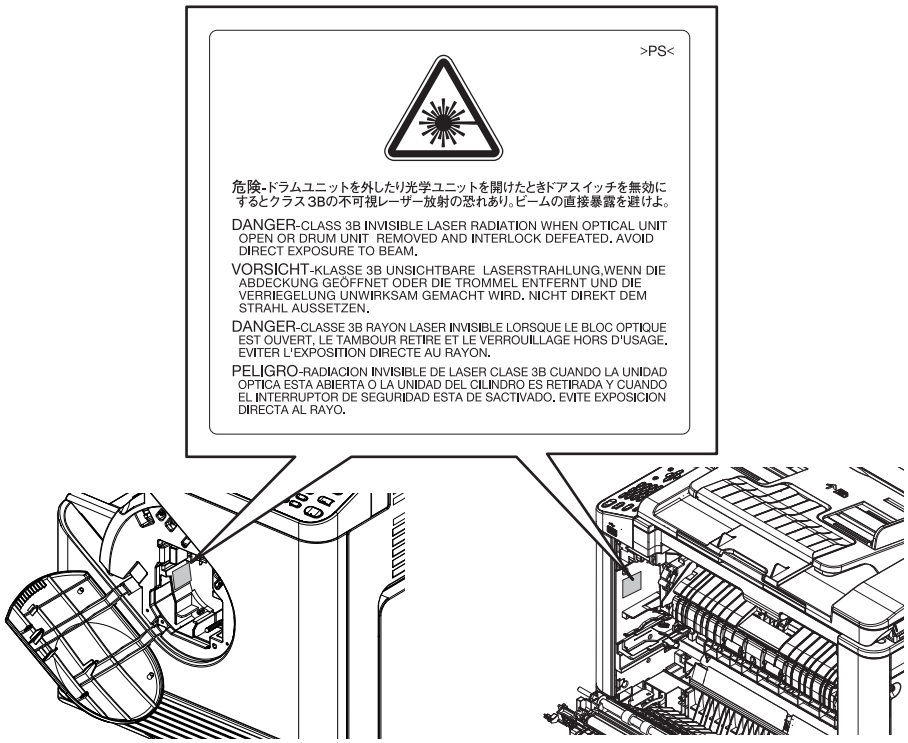
  - Laserdiode

  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 (LDRS) aus. Die durch das Fokussierobjektiv geführten Laserstrahlen werden auf die Trommeloberfläche fokussiert.

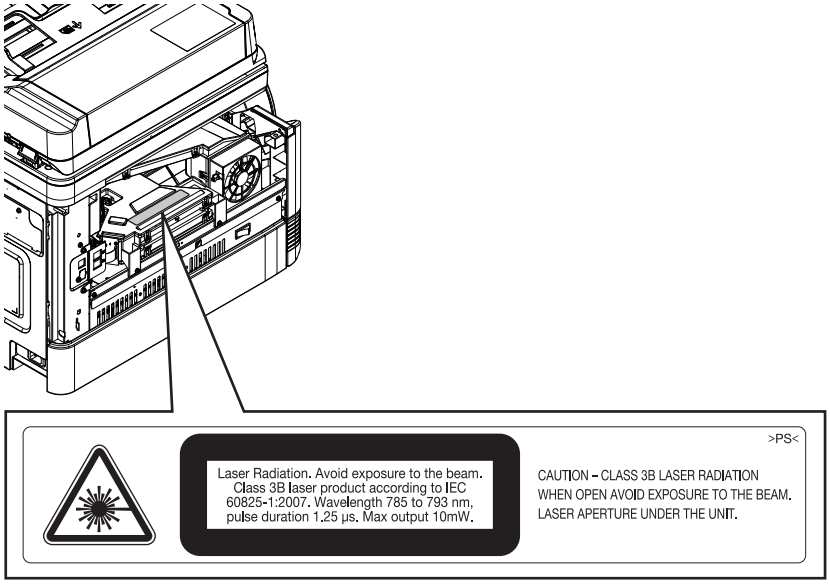
  - Vorsichtsmaßnahmen im Zusammenhang mit Lasern

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

  Das folgende Laserwarnetikett ist am Gehäuse sichtbar, wenn die Abdeckung auf der rechten Seite und die Tonerzufuhrabdeckung geöffnet sind.



Das folgende Laserwarnetikett befindet sich auf der optischen Lasereinheit.



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

CONTENTS

1. FEATURES

1.1 Main Feature of 25S

- Compact monochrome copier for A4/LT paper. Can also print on A3/LD using bypass feed or ADF.
- As cover opening is wide, easy to remove jammed paper.
- Structure requiring less screws used.

1.2 Main Feature of 25H

- Compact monochrome machine supporting A3/LD based on 25S.
- Supports duplex printing.
- Supports network printing.

1.3 Main Feature of 25F

- Compact monochrome machine supporting A3/LD based on 25H.
- Supports fax features.

1.4 Main Feature of 28A

- Speed for copying up from 25 to 28.
- Set-up time shortened by adopting the developer material cartridge.
- Efficiency of serviceability such as the replacement of supplies is improved. (EPU Mode)

1.5 Main Feature of 28M/28F

- Speed for copying up from 25 to 28.
- Set-up time shortened by adopting the developer material cartridge.
- Efficiency of serviceability such as the replacement of supplies is improved. (EPU Mode)
- Supports the RADF as a standard.

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

Model name	Alias
e-STUDIO2505	25S
e-STUDIO2505H	25H
e-STUDIO2505F	25F
e-STUDIO2802A	28A
e-STUDIO2802AM	28M
e-STUDIO2802AF	28F

2. SPECIFICATIONS / ACCESSORIES / OPTIONS / SUPPLIES

2.1 Specifications

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

Model name	Alias
e-STUDIO2505	25S
e-STUDIO2505H	25H
e-STUDIO2505F	25F
e-STUDIO2802A	28A
e-STUDIO2802AM	28M
e-STUDIO2802AF	28F

2.1.1 General

•Type..... Desktop type

•Original glass..... Fixed type (the left rear corner used as guide to place originals)

•Copy process ..... Indirect electrophotographic process (dry)

•Fixing method..... Halogen lamp (25S: 1 piece, 25H/25F/28A/28M/28F: 2 pieces)

•Photosensor type ..... OPC

•Original scanning sensor..... Contact Image sensor (CMOS Line sensor)

•Scanning light source ..... LED

•Reproduction ratio ..... Actual ratio: 100±0.5%
Zooming: 25 to 400% in increments of 1%

•Resolution ..... Scanning: 600 dpi x 600 dpi
Printing: Equivalent to 2400 dpi x 600 dpi

•Gradation..... 256 steps

•Paper feeding ..... 1 drawers + Bypass feeding

•Paper supply ..... Standard drawers:

Stack height 28 mm, equivalent to 250 sheets; 80 g/m^2 (20 lb. Bond)): Depends on destinations or versions.

Bypass feeding:

Stack height 5.9 mm: equivalent to 50 sheets; 80 g/m^2 (20 lb. Bond)

•Paper

Paper size	Drawer	A4, 16K, LT (Non-standard sizes are not available)
	Bypass feeding	<25S/25H25F> A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, LD, LG, LT, LT-R, COMPUTER, 13"LG, 8.5"x8.5” (Non-standard sizes are not available)
		<28A/28M/28F> A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, LD, LG, LT, LT-R, COMPUTER, 13"LG, 8.5"x8.5”, C4, C5, Custom (Non-standard sizes are available)
Paper type	Drawers	Plain paper (Tracing paper, OHP films, sticker labels, envelopes and punched paper are not available)
	Bypass feeding	Plain paper, Tracing paper, OHP film, Sticker labels, Envelope (DL, COM10, Monarch, CHO-3, YOU-4)
Paper weight	Drawers	64 - 80 g/m^2 (17 - 20 lb. Bond)
	Bypass feeding	52 - 163 g/m^2 (14 lb. Bond - 90 lb. Index) (for single feed) Plain paper: 64 - 80 g/m^2 (17 - 20 lb. Bond) Thin paper: 52 - 63 g/m^2 (14 - 17 lb. Bond) <25S/25H/25F> Thick 1: 81 - 105 g/m^2 (21 - 28 lb. Bond) Thick 2: 106 - 163 g/m^2 (29 lb. Bond - 90 lb. Index) <28A/28M/28F> Thick: 81 - 105 g/m^2 (21.5 - 28 lb. Bond) Thick 1: 106 - 163 g/m^2 (29 lb. Bond - 90 lb. Index) Thick 2: 164 - 216 g/m^2 (80 lb. Cover - 110 lb. Index)
		64 - 80 g/m^2 (17 lb. Bond - 20 lb. Index) (for continuous feed)
	ADU <25H/25F, 28M/28F>	64 - 80 g/m^2 (17 - 20 lb. Bond)

•Automatic duplexing unit <25H/25F/28M/28F>
..... Stackless, Switchback type
Uses an exclusive switchback mechanism
Acceptable paper size
A3, A4, A4-R, A5-R, B4, B5, B5-R, FOLIO, 8K, 16K, 16K-R, LD, LG, LT, LT-R, ST-R, COMPUTER, 13"LG, 8.5" x 8.5"
Acceptable paper weight
64 - 80 g/m^2 (17 - 20 lb. Bond)

•Interface ..... Standard:
USB 2.0 (High Speed),
Ethernet (10BASE-T/100BASE-TX)
Optional:
Wireless LAN (Wireless LAN (IEEE 802.11b/g/n)

•Toner supply ..... Automatic toner density detection/supply
Toner cartridge replacing method
(There is a recovered toner supply mechanism.)

•Toner density control ..... Magnetic auto-toner method

•Memory (RAM) ..... Main memory:
25S: 128MB
25H/25F: 512MB
28A/28M/28F: 512MB

•Warming-up time ..... Approx. 20 sec. (temperature: 20°C)

•Power requirements ..... AC 120 V, 220-240 V (50/60 Hz), AC 110 V (60 Hz)
* The acceptable value of each voltage is ±10%.

•Power consumption ..... 1.5 kW or less
Sleep mode: 1 W or less (When the damp heater is OFF)

•Total counter ..... Electronical counter

•Dimensions of the equipment ..... See the figure below
25S/28A: W390 x D540 x H402 (mm)
25H/25F/28M/28F: W390 x D540 x H505 (mm)

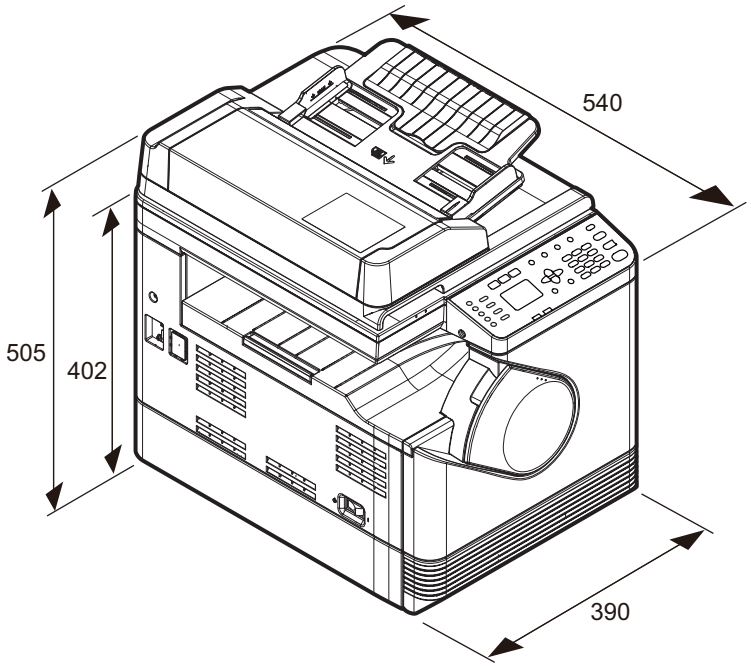


Fig. 2-1

•Weight ..... 25S: Approximately 21 kg (46.30 lb.)
25H: Approximately 26.5 kg (58.3 lb.)
25F: Approximately 27 kg (59.5 lb.)
(including developer material and drum)

28A: Approximately 19.5 kg (42.99 lb.)
28M: Approximately 24 kg (52.92 lb.)
28F: Approximately 24.5 kg (54.02 lb.)
(excluding developer material and drum)

2.1.2 Copy

•Automatic document feeder

Original scanning system:
Fixed scanning system by feeding the original
(the center used as guide to place originals)

Original type:
Sheets

Original size:
A5-R, A4-R, A4, A3, B5-R, B5, B4, 16K, 16K-R, 8K, ST-R, LT-R, LT, LG, LD, COMP

Original paper weight:
50 g/m^2 ~ 104 g/m^2

Original capacity
Max. 50 sheets (80 g/m^2) (Stack height 9.5 mm)

•Accepted originals ..... Sheet and book.
Maximum size: A4/LT (When using the ADF: A3/LD)

•Eliminated portion..... Leading edges: 3.0±2.0 mm, Side/trailing edges: 2.0±2.0 mm (copy)
Leading edges: 5±3.0 mm, Side/trailing edges: 5±3.0 mm (print)

•Multiple copying..... Up to 999 copies; Key in set numbers

•First copy time ..... <25S/25H/25F>
Approx. 7.0 sec. or less (A4, drawer, 100%)
Approx. 7.1 sec. or less (LT, drawer, 100%)

<28A/28M/28F>
Approx. 6.4 sec. or less (A4, drawer, 100%)
Approx. 6.5 sec. or less (LT, drawer, 100%)

•Copy speed (Copies/min.)

<25S/25H/25F>

Paper size	Drawer	Bypass feed	
		Size specified	Size not specified
A4, LT	25	-	-
B5, A5-R, ST-R	-	25	14
A4-R, B5-R, LT-R	–	19	14
B4, FOLIO, LG, COMPUTER	–	16	14
A3, LD	–	14	14

<28A/28M/28F>

Paper size	Drawer	Bypass feed	
		Size specified	Size not specified
A4, B5, A5-R, LT, ST-R	28	28	14
A4-R, B5-R, LT-R	–	19	14
B4, FOLIO, LG, COMPUTER	–	16	14
A3, LD	–	14	14

* "–" means "Not acceptable".

* The copy speed in the above table are available when originals are manually placed for single side, multiple copying.

* Copy speed when using plain paper. For Thin paper, Thick 1, and Thick 2 paper, only 1 sheet of paper is fed from the bypass tray.

* System copy speed A4/LT (Unit: Second)

<25S/25H/25F>

Copy mode	A4/LT (Reproduction ratio 100%)			remarks
	1 sheet	5 sheets	10 sheets	
Single-sided originals ↓ Single-sided copies	72.18	92.79	96.77	
Single-sided originals ↓ Double-sided copies	59.12	83.20	86.62	Installing ADU <25H/25F>

<28A/28M/28F>

Copy mode	A4/LT (Reproduction ratio 100%)			remarks
	1 sheet	5 sheets	10 sheets	
Single-sided originals ↓ Single-sided copies	69.24	91.84	95.75	
Single-sided originals ↓ Double-sided copies	54.25	73.29	77.39	
Double-sided originals ↓ Double-sided copies	28.64	76.40	78.48	Installing RADF and ADU <28M/28F>
Double-sided originals ↓ Single-sided copies	29.20	93.83	-	Installing RADF and ADU <28M/28F>

* The system copy speed, including scanning time, is available when 10 sheets of A4/LT size original are set on ADF and one of the copy modes in the above table is selected. The period of time from pressing [START] to the paper exit completely out of the equipment based on the actually measured value.

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.

2.1.3 Print

		25S	25H/25F	28A/28M/28F
Page Description Language (Printer Driver)		GDI	PCL6	PCL6, PCL5e PS3 (*1): 28M/28F only
Page Description Language (RIP)		GDI	PCL6	PCL6, PCL5e PS3 (*1): 28M/28F only
Supported OS		<25S/25H/25F> Windows Server 2003 / Windows Server 2008 / Windows Server 2008 R2 / Windows Server 2012 / Windows Server 2012 R2 / Windows Vista / Windows 7 / Windows 8.1		
		<28A/28M/28F> Windows Server 2008 / Windows Server 2008 R2 / Windows Server 2012 / Windows Server 2012 R2 / Windows Server 2016 / Windows Vista / Windows 7 / Windows 8.1 / Windows 10 Mac OS × 10.6.x to Mac OS × 10.12.x		
Resolution		600 x 600 dpi		
Eliminated portion		Leading edges: 5±3.0 mm, Side/trailing edges: 5±3.0 mm		
Interface	Standard	USB 2.0 (High Speed)	Ethernet (10Base-T/100Base-TX) USB 2.0 (High Speed)	
	Option	-	Wireless LAN (IEEE 802.11b/g/n)	

Remarks:

When the GA-1340 (option) is installed, PS3 can be added.

2.1.4 Scan

Scanning speed	20 sheets / min.
Resolution	<25S/25H/25F> 150 x 150 dpi, 300 x 300 dpi, 600 x 600 dpi <28A/28M/28F> 150 x 150 dpi, 200 x 200 dpi, 300 x 300 dpi, 400 x 400 dpi, 600 x 600 dpi
Original mode	[TEXT], [TEXT/PHOTO], [PHOTO]
File formats	JPEG, TIFF (Single/Multi), PDF (Single/Multi)

* Measuring condition of the scanning speed: Scanning single-sided A4/LT originals in the Text/Photo mode with 100% reproduction ratio using the ADF.

2.1.5 ADF <25S/25H/25F> / RADF <28A/28M/28F>

Maximum number of originals on the original feeding tray	Up to 50 sheets or 9.5 mm in height.
Acceptable paper size	A5-R, A4-R, A4, A3, B5-R, B5, B4, 16K, 16K-R, 8K, ST-R, LT-R, LT, LG, LD, COMP (Width: 137.7-297mm, Length: 148-433.8mm)
Acceptable size for automatic size detection	NAD: LD, LT, LG, LT-R, ST-R, COMPUTER CND: A3, A4, A4-R, A5-R, 8K, 16K, 16K-R Other than NAD and CND: A3, A4, A4-R, A5-R, B4, B5, B5-R
Acceptable paper weight	50 - 104 g/m^2

Dimensions	W385 x D445 x H88 mm (Excluding original tray)
Weight	ADF: 4 kg <25S/25H/25F> RADF: 4.3kg <28A/28M/28F>
Power consumption	Approx. 40 W
Power requirements	DC3.3 V, DC24 V (Supplied from the equipment)

2.2 Accessories

	25S/25H/25F	28A/28M/28F
Unpacking/setup instruction	1 set	←
Operator's manual	- Quick Guide: 1 manual - Safety Information: 1 manual	← ←
DVD	1 set	2 sets • Client Utilities • User Documentation
Power cable	1 pc.	←
Modular cable	1 pc. (25F)	1 pc.(28F)
Drum (installed inside of the equipment)	1 pc.	←
Toner cartridge	1 pc.	←
Developer material	1 pc.	1 pc. *Cartridge type
Warranty sheet	1 pc. (for NAD, MJD and CND)	←
Setup report	1 set (for NAD and MJD)	←
CS card	1 pc. (for MJD)	←
USB cable	1 pc. (for CND)	←
Approval sheet	1 pc. (for CND)	←
Packing list	1 pc. (for CND)	←

Machine version

NAD: North America
ARD: Argentina and 220-volt South America
ASD: Hong Kong
MJD: Europe
CND: China
TWD: Taiwan

Notes:

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

2.3 System List

<25S>

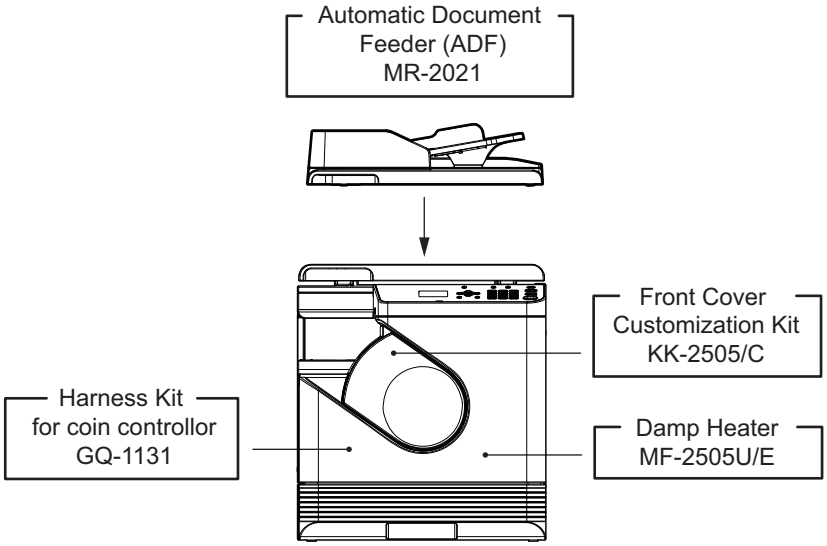


Fig. 2-2

<25H/25F>

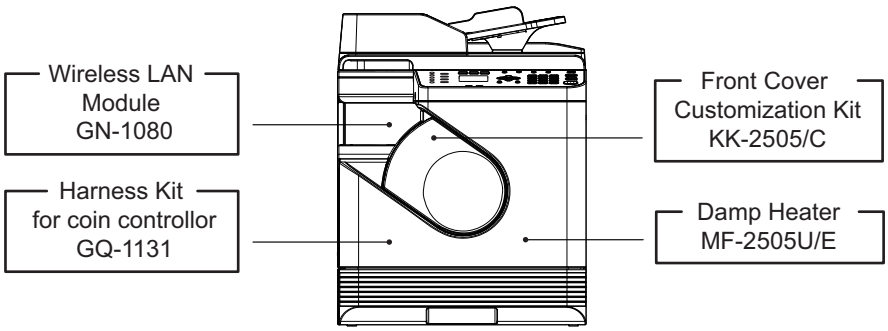


Fig. 2-3

<28A>

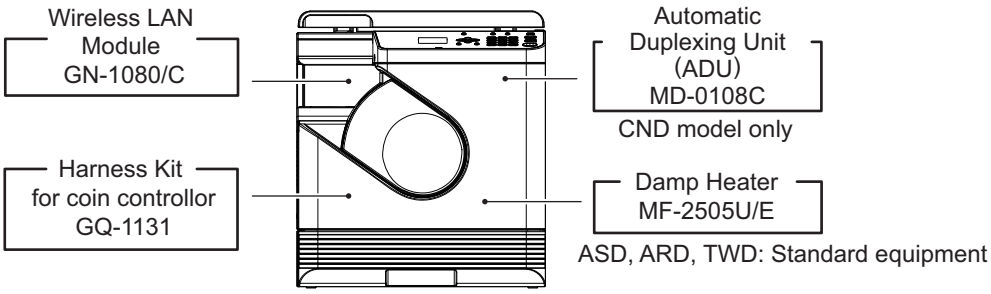


Fig. 2-4

<28M/28F>

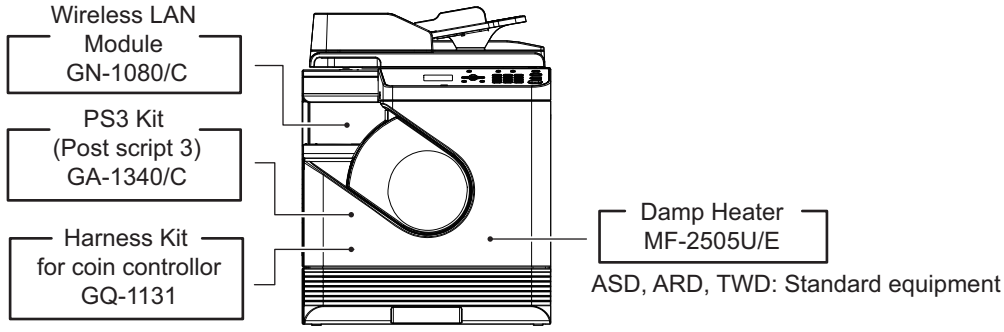


Fig. 2-5

2.3.1 Options

Options	Models	25S	25H/25F	28A	28M/28F
Automatic Document Feeder (ADF)	MR-2021	Yes	No (Standard) *1	-	-
Automatic Duplexing Unit	MD-0108/C	-	-	No *2	Standard
Damp Heater	MF-2505U / MF-2505E	Yes	Yes	Yes	Yes
Harness Kit	GQ-1131	Yes	Yes	Yes	Yes
Front Cover Customization Kit	KK-2505/C	Yes	Yes	-	-
Wireless LAN Module	GN-1080/C	-	Yes	Yes	Yes
PS3 Kit (Post script 3)	GA-1340/C	-	-	-	Yes

* 1) The MJD version is optional.

* 2) The CND version is optional.

2.4 Supplies

	25S/25H/25F	28A/28M/28F
Drum	OD-2505	
Developer	D-2505 (for except China) D-2505C	D-2309 (Cartridge type for 28A/28M/28F) D-2505 (for except China) D-2505C
Toner cartridge	PS-ZT2507D(1)*1 PS-ZT2507T(1)*1 PS-ZT2507TS(1)*1 PS-ZT2505E(1) *1 PS-ZT2505U(1)*1 PS-ZT2505A(1)*1 PS-ZT2505P(1)*1 PS-ZT2505PS(1)*1 PS-ZT2505C(1)*1 PS-ZT2505CS(1)*1 PS-ZT2505C(12)*1 PS-ZT2505CS(12)*1	PS-ZT2802E(1)*2 PS-ZT2802U(1)*2 PS-ZT2802P(1)*2 PS-ZT2802PS(1)*2 PS-ZT2802C(1)*2 PS-ZT2802CS(1)*2 PS-ZT2802C(12)*2 PS-ZT2802CS(12)*2

* 1) E: Europe, D: Oceania, T: Taiwan, TS: Taiwan, U: North America,
A: Argentina/220-volt South America, P: Asia, PS: Asia, C: China, CS: China
* 2) E: Europe, TS: Taiwan, U: North America, Argentina/220-volt South America,
P: Asia (include Australia), PS: Asia, C: China, CS: China

3. OUTLINE OF THE MACHINE

3.1 Sectional View

1. Front side

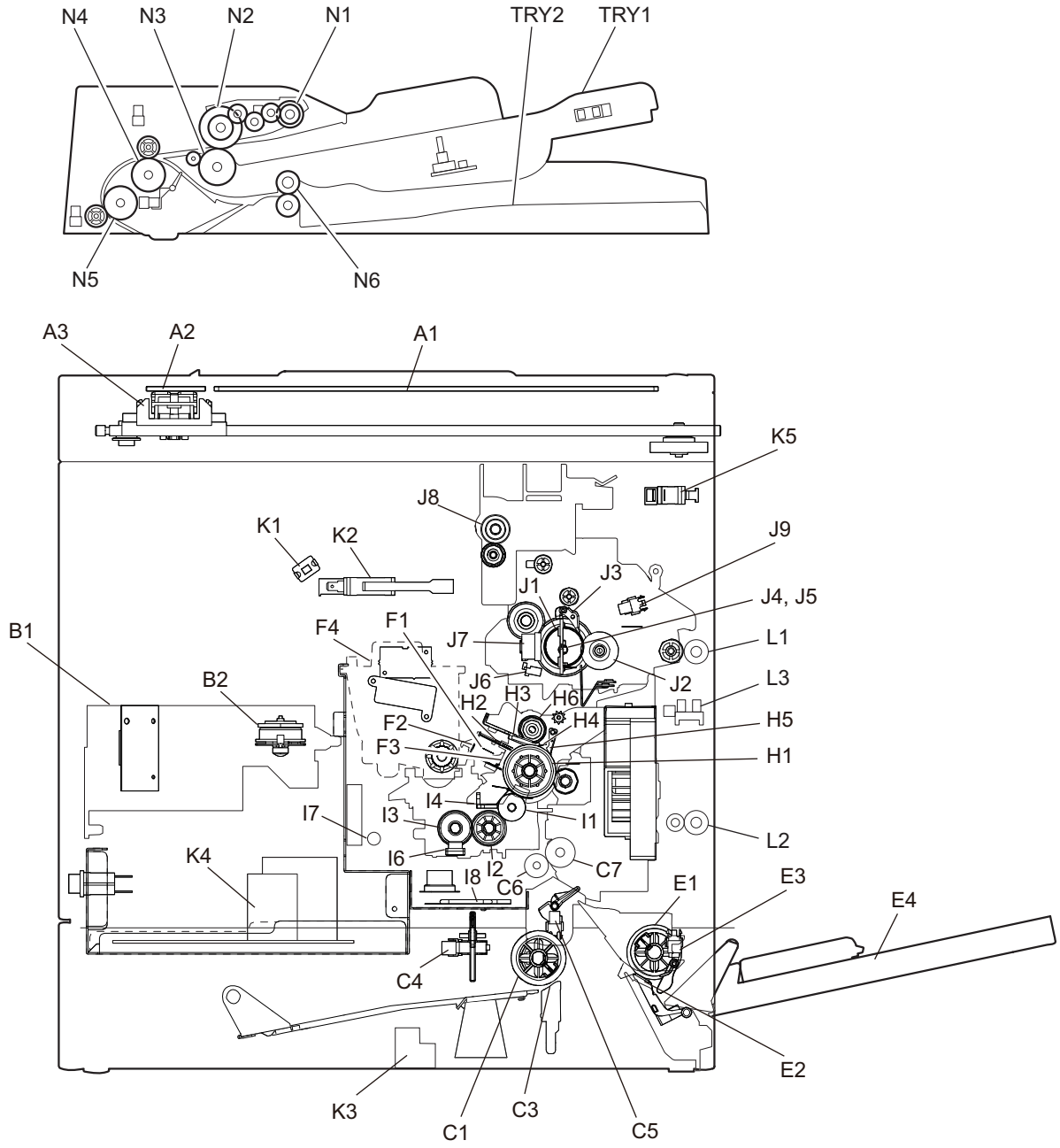


Fig. 3-1

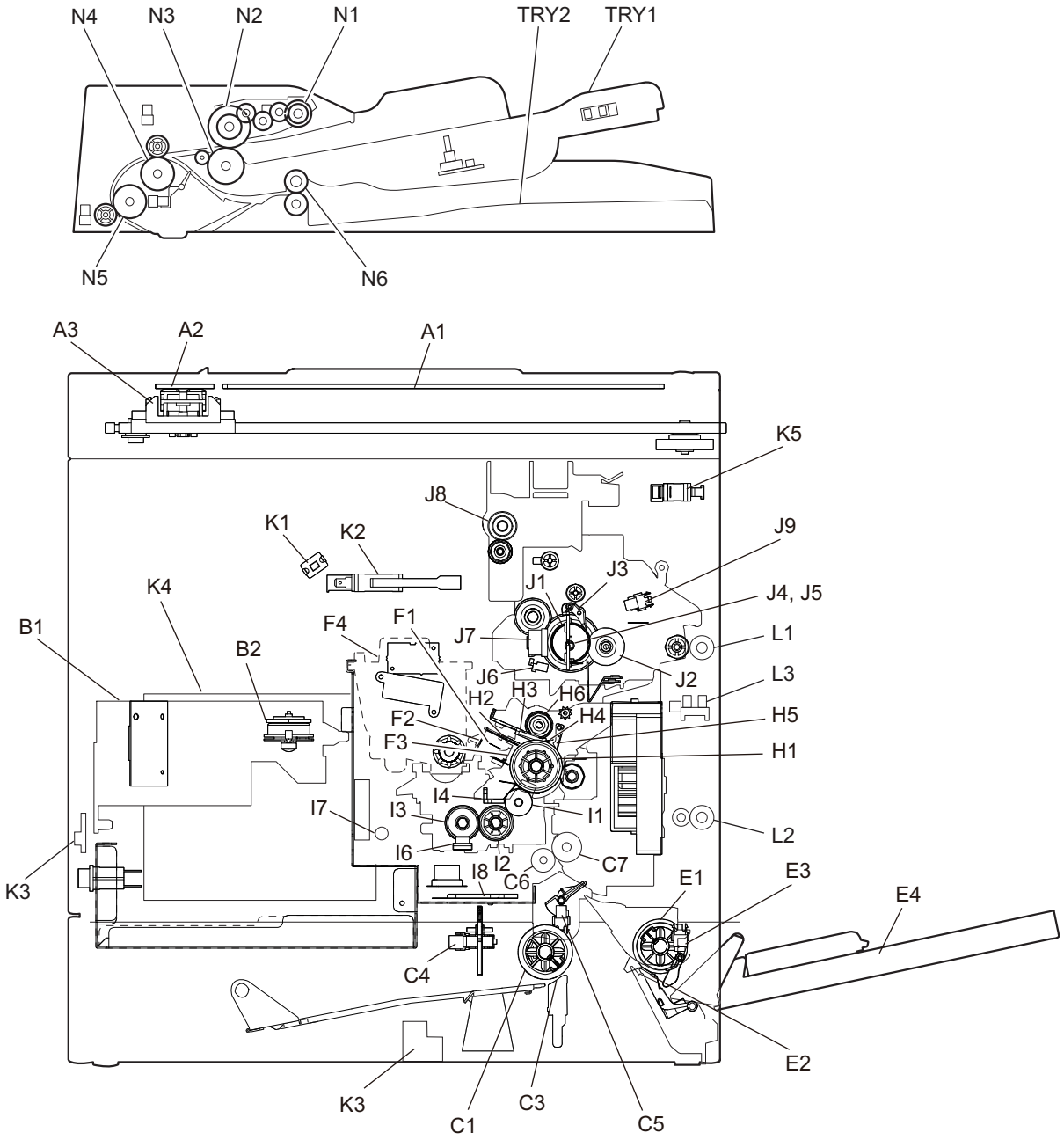


Fig. 3-2

A1	Original glass	
A2	ADF original glass	
A3	Contact image sensor unit (CIS)	
B1	Laser optical unit	
B2	Polygonal motor	M4
C1	Drawer feed roller	
C3	Drawer separation pad	
C4	Paper empty sensor	S5
C5	Registration sensor	S2

C6	Registration roller (metal)	
C7	Registration roller (rubber)	
E1	Bypass feed roller	
E2	Bypass separation pad	
E3	Bypass paper sensor	S6
E4	Bypass tray	
F1	Needle electrode	
F2	Main charger	
F3	Main charger grid	
F4	Toner cartridge	
H1	Drum	
H2	Discharge LED	
H3	Drum cleaning blade	
H4	Recovery blade	
H5	Drum separation finger	
H6	Toner recovery auger	
I1	Developer sleeve (Magnetic roller)	
I2	Mixer-1	
I3	Mixer-2	
I4	Doctor blade	
I6	Auto-toner sensor	S4
I7	Drum thermistor	THMS4
I8	Drum damp heater	DH1
J1	Fuser roller	
J2	Pressure roller	
J3	Separation finger	
J4	Center heater lamp	LAMP1
J5	Side heater lamp	LAMP2
J6	Center thermistor / side thermistor / edge thermistor	THMS1/2/3
J7	Fuser center thermostat / fuser front thermostat	THMO1/2
J8	Exit roller	
J9	Exit sensor	S3
K1	Toner supply cover opening/closing switch	SW4
K2	Toner supply cover opening/closing interlock switch	SW3
K3	Temperature/humidity sensor	S1
K4	Switching regulator	
K5	Right cover opening/closing interlock switch	SW2
L1	Upper transport roller	
L2	Lower transport roller	
L3	ADU sensor	S7
N1	Pickup roller	
N2	Feed roller	
N3	Separation roller	
N4	Transport roller 1	
N5	Transport roller 2	
N6	Exit roller	

2. Rear side

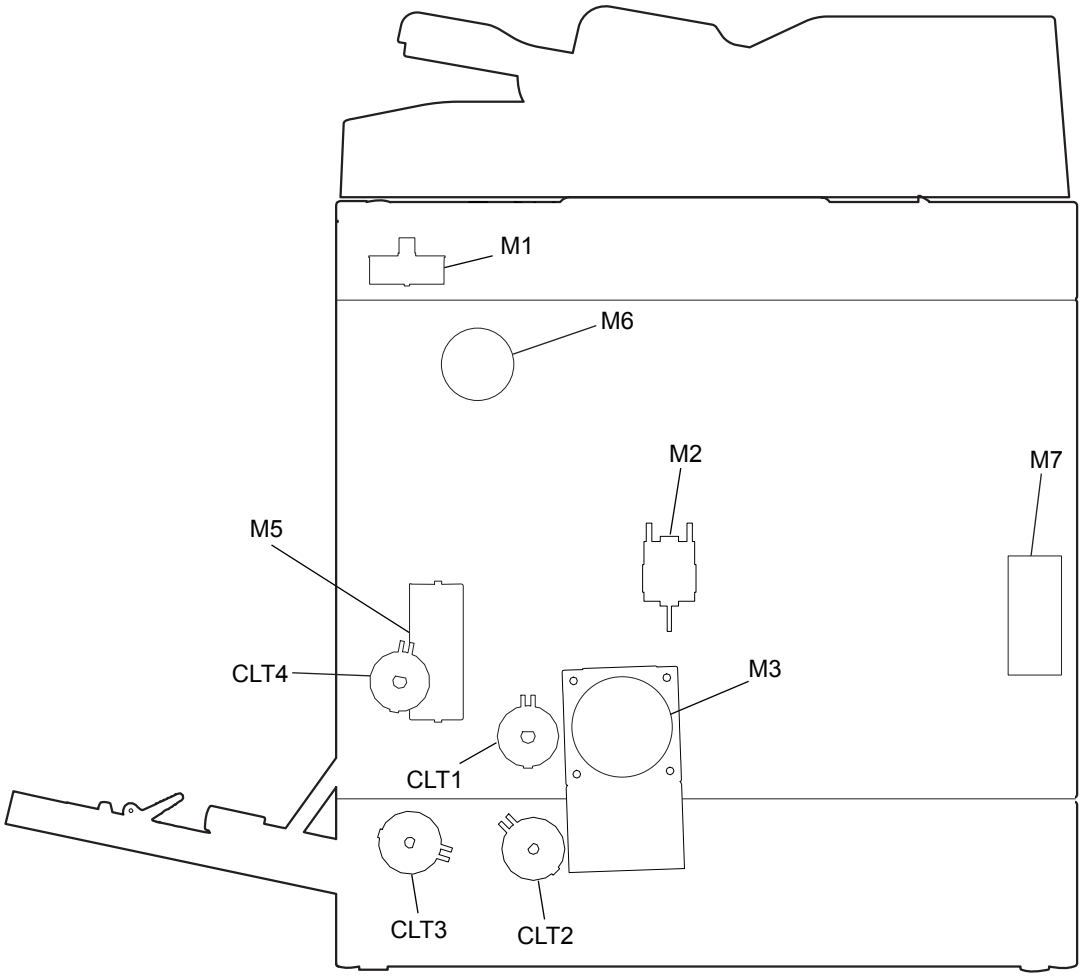


Fig. 3-3

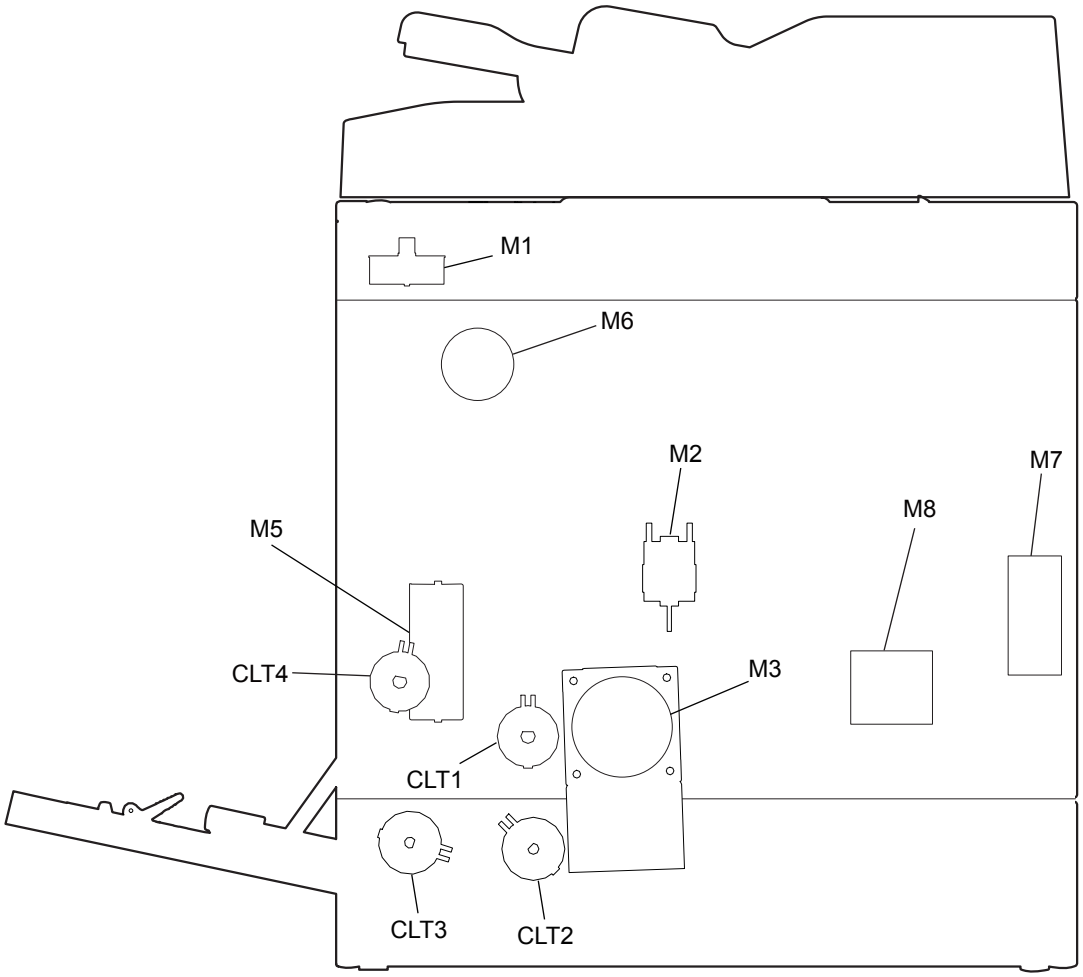


Fig. 3-4

M1	Scan motor
M2	Toner motor
M3	Main motor
M5	Suction fan
M6	Exit motor
M7	ADU fan
CLT1	Registration roller clutch
CLT2	Drawer feed clutch
CLT3	Bypass feed clutch
CLT4	ADU clutch

3.2 Electric Parts Layout

1. Scanner unit, control panel

<25S/25H/25F>

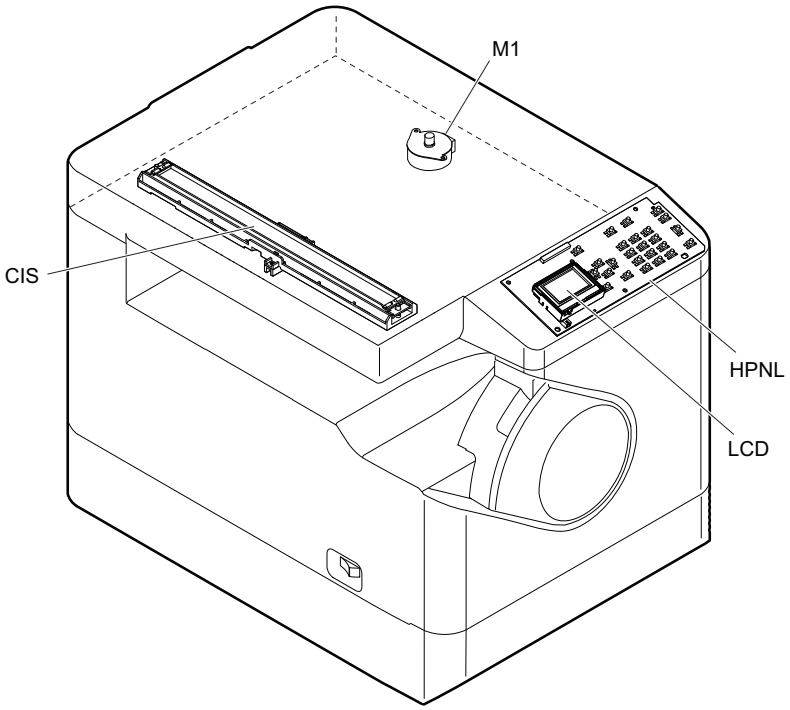


Fig. 3-5

<28A/28M/28F>

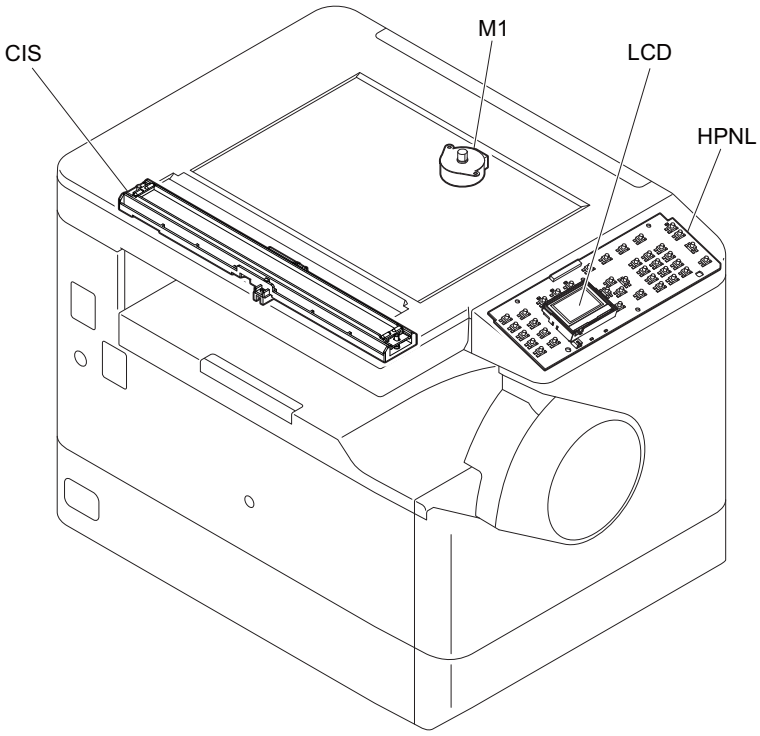


Fig. 3-6

2. Power supply

<25S/25H/25F>

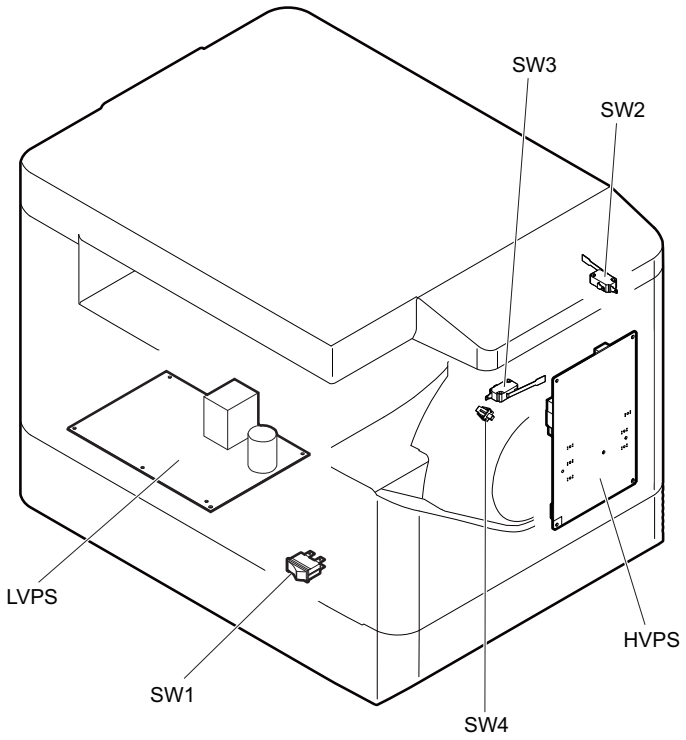


Fig. 3-7

<28A/28M/28F>

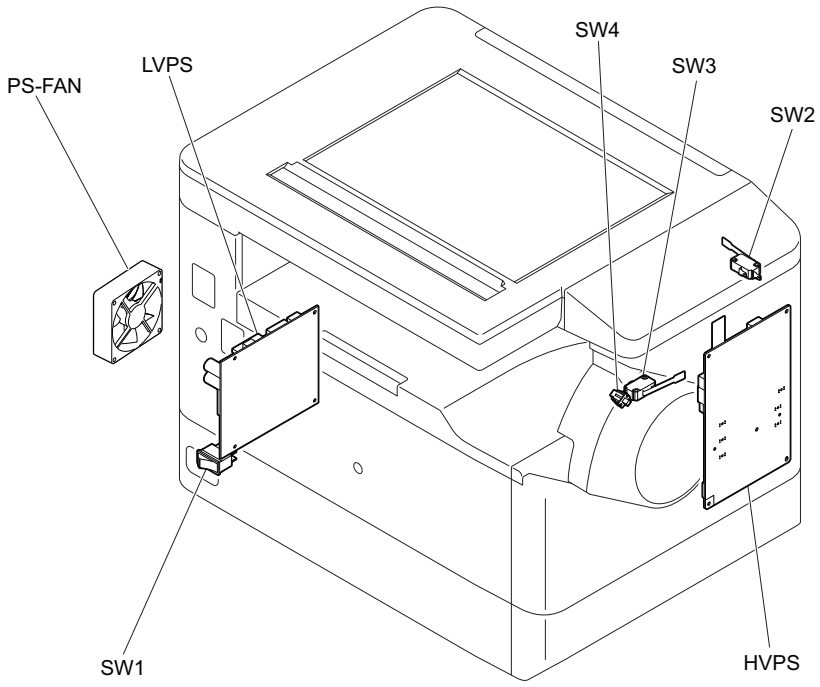


Fig. 3-8

3. Laser unit, fuser unit, toner cartridge

<25S/25H/25F>

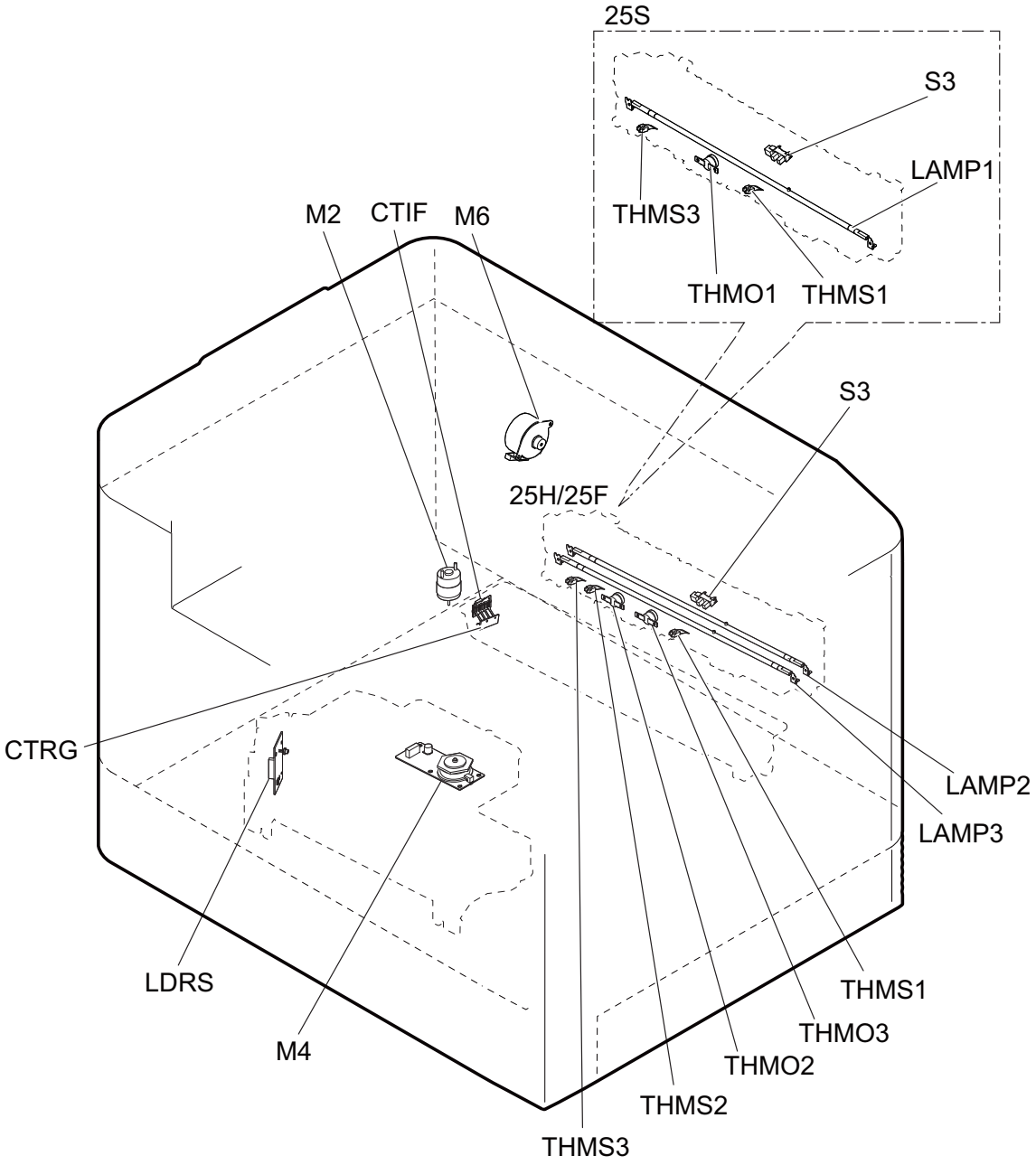


Fig. 3-9

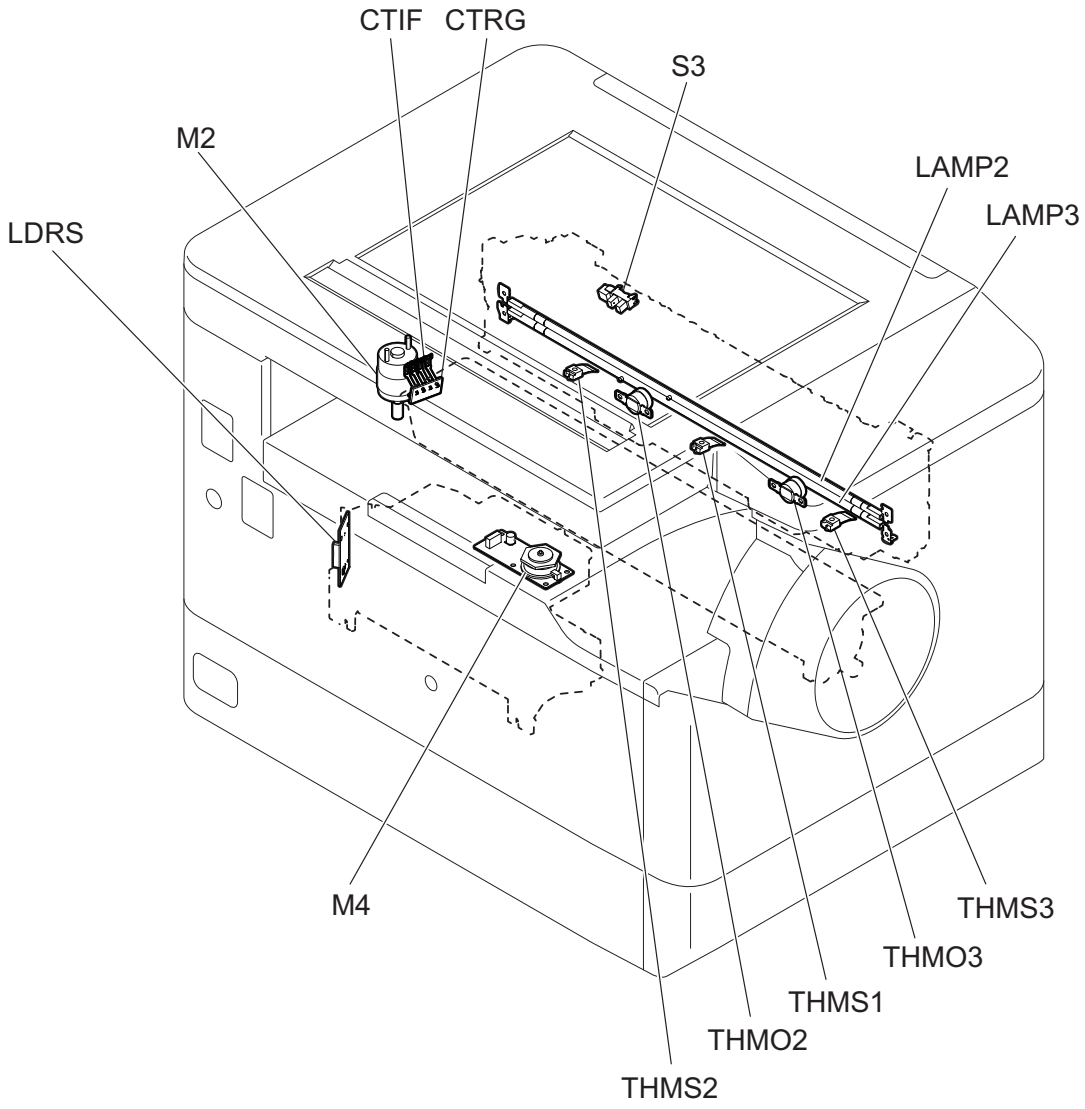


Fig. 3-10

4. Developer unit

<25S/25H/25F>

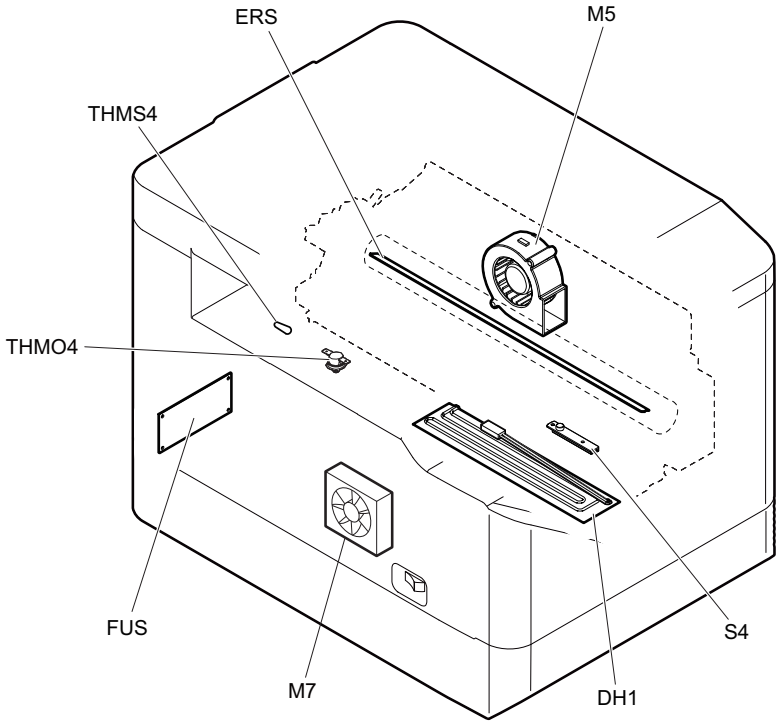


Fig. 3-11

<28A/28M/28F>

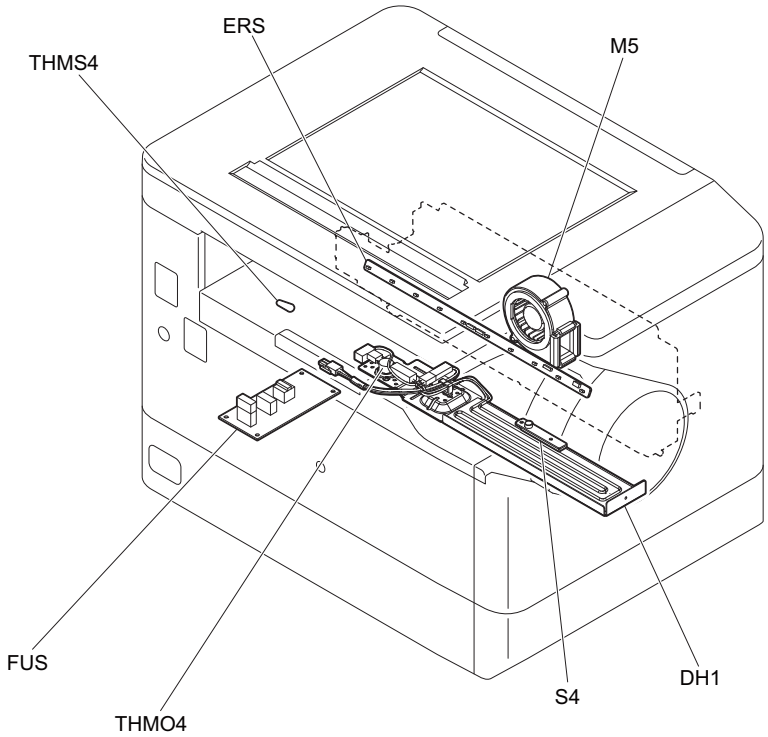


Fig. 3-12

5. Drive unit

<25S/25H/25F>

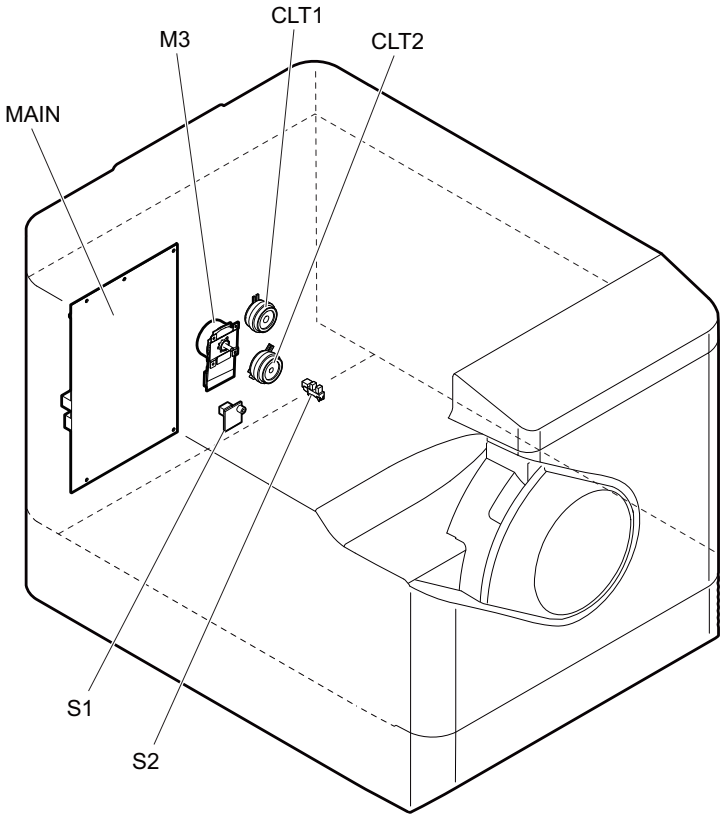


Fig. 3-13

<28A/28M/28F>

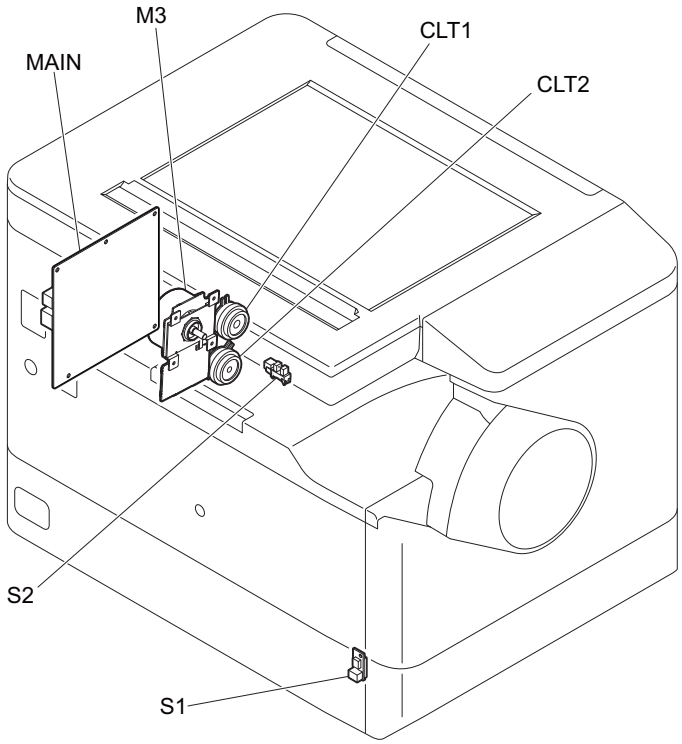


Fig. 3-14

6. Bypass feed unit

<25S/25H/25F>

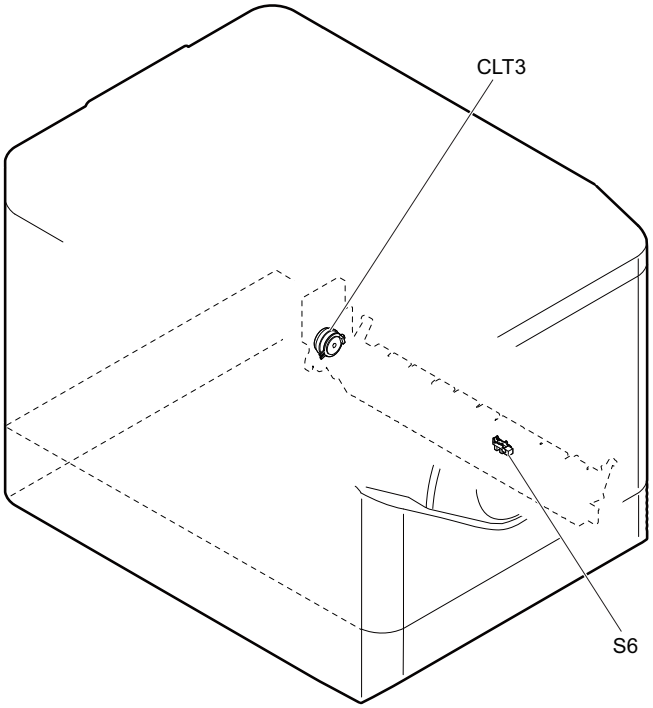


Fig. 3-15

<28A/28M/28F>

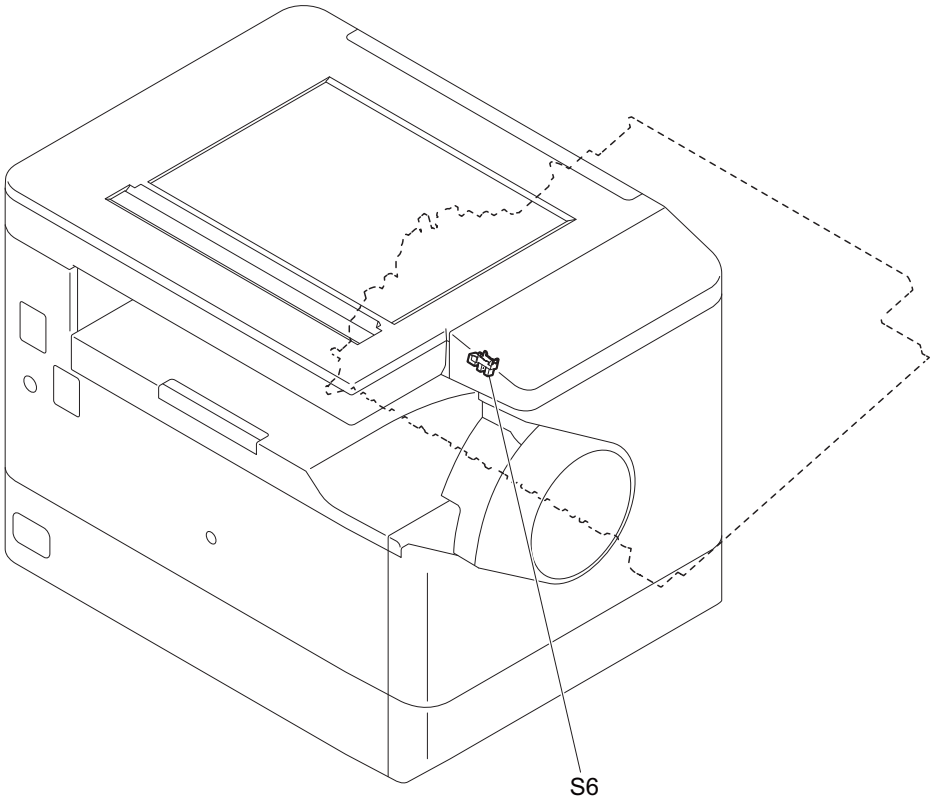


Fig. 3-16

7. Drawer unit

<25S/25H/25F>

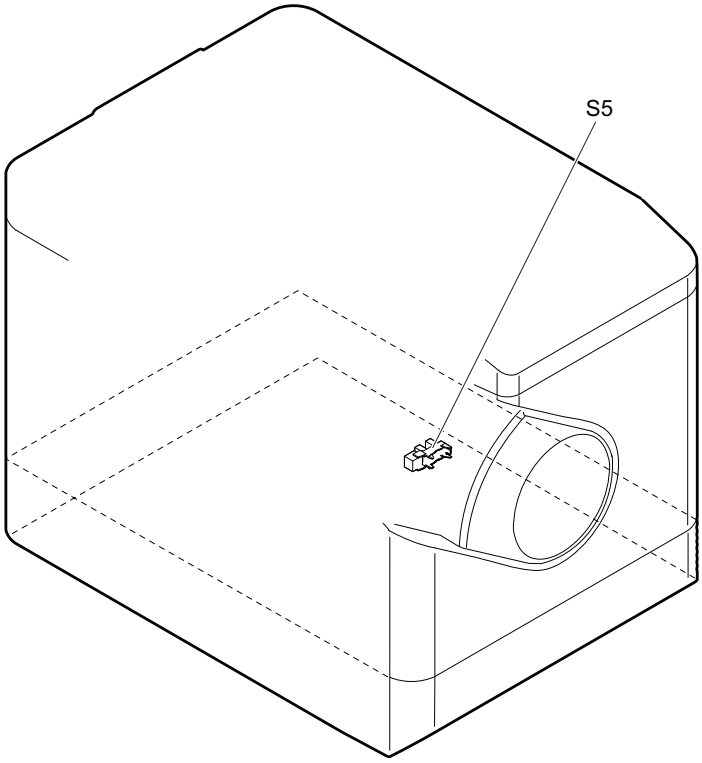


Fig. 3-17

<28A/28M/28F>

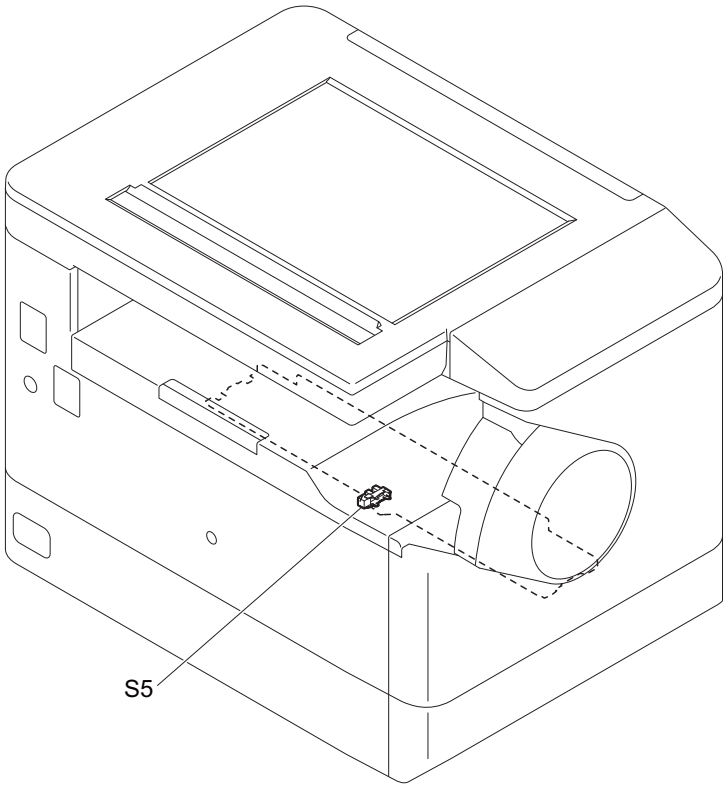


Fig. 3-18

8. Automatic duplexing unit, transfer unit, exit unit, FAX unit

<25S/25H/25F>

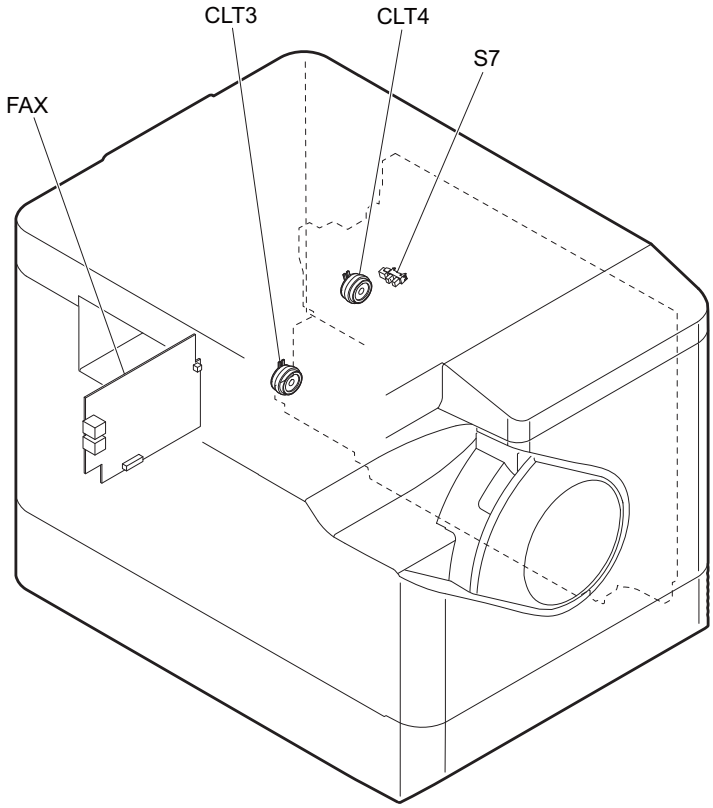


Fig. 3-19

<28A/28M/28F>

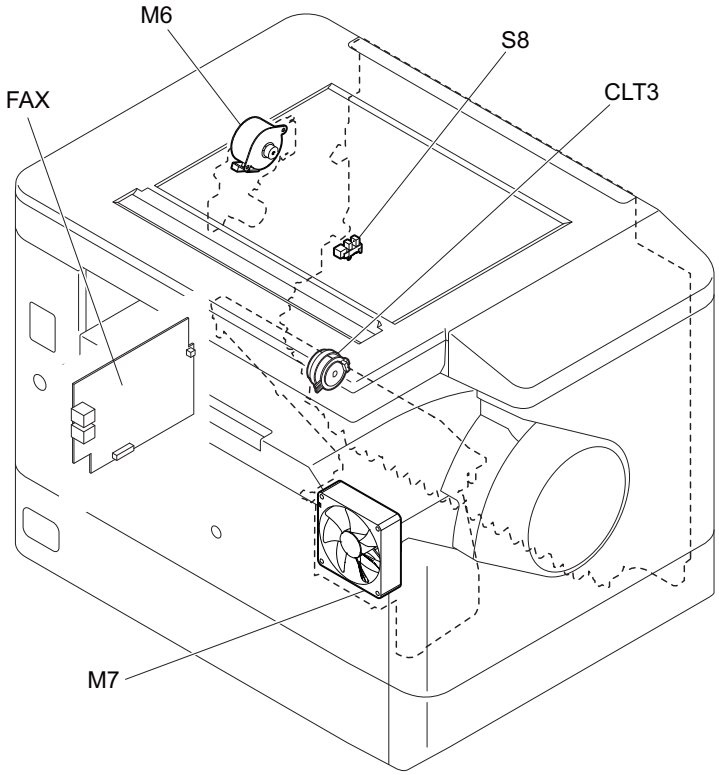


Fig. 3-20

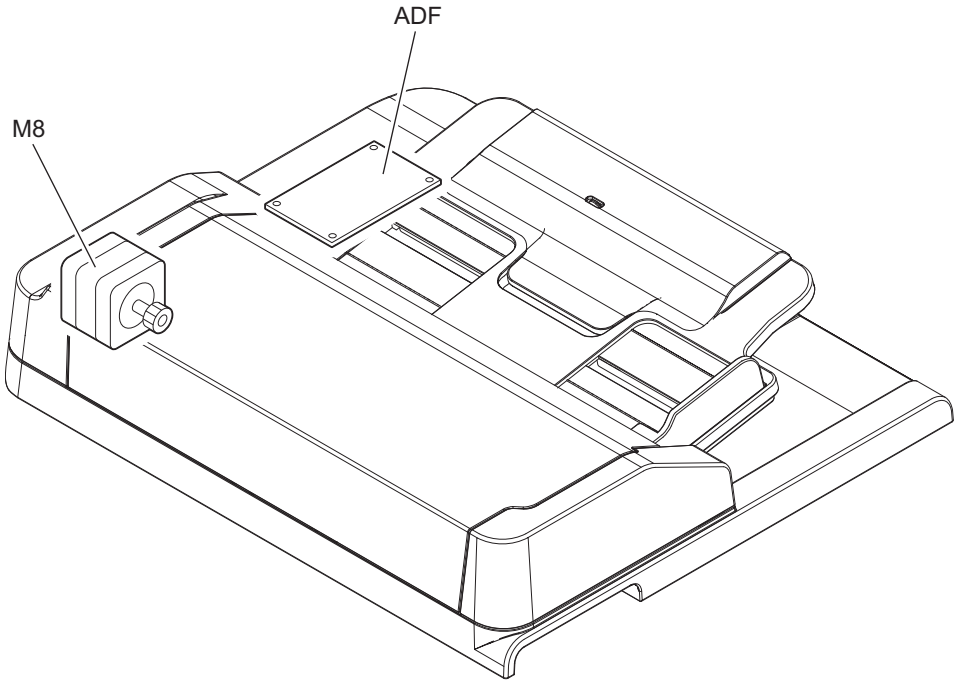


Fig. 3-21

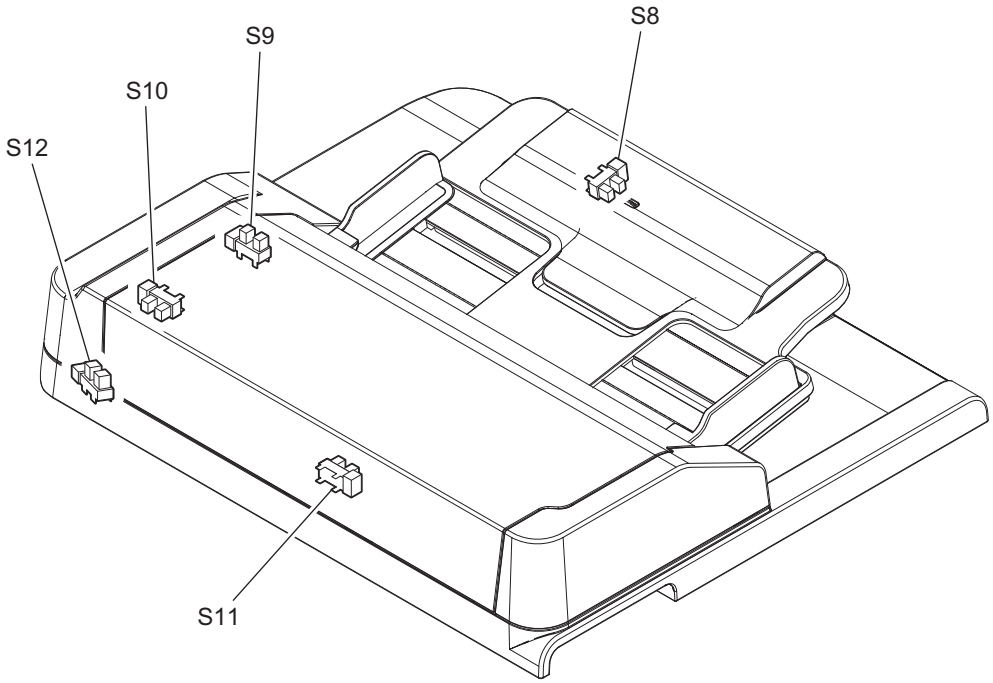


Fig. 3-22

10.Reversing automatic document feeder (RADF) <28M/28F>

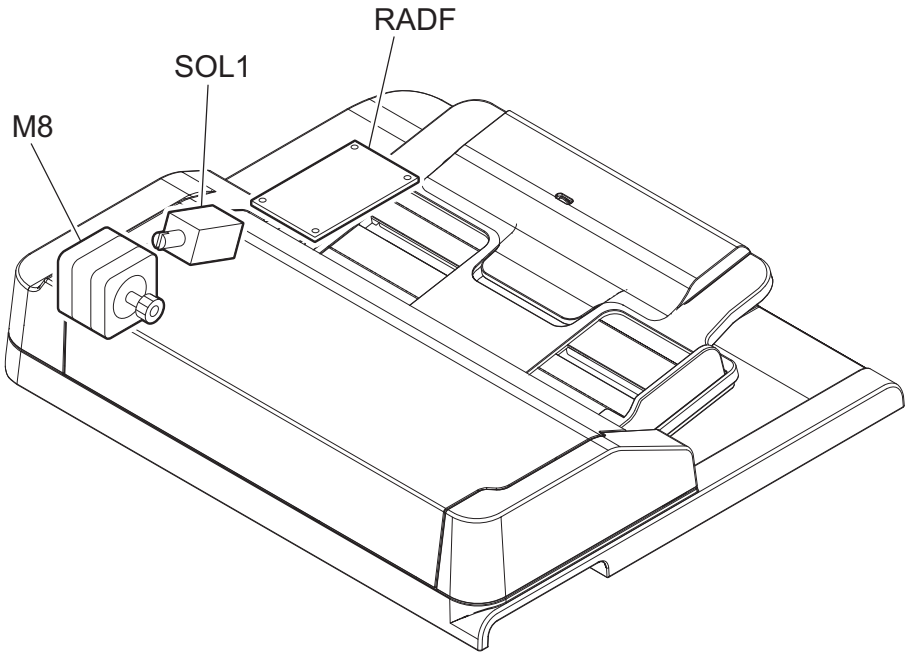


Fig. 3-23

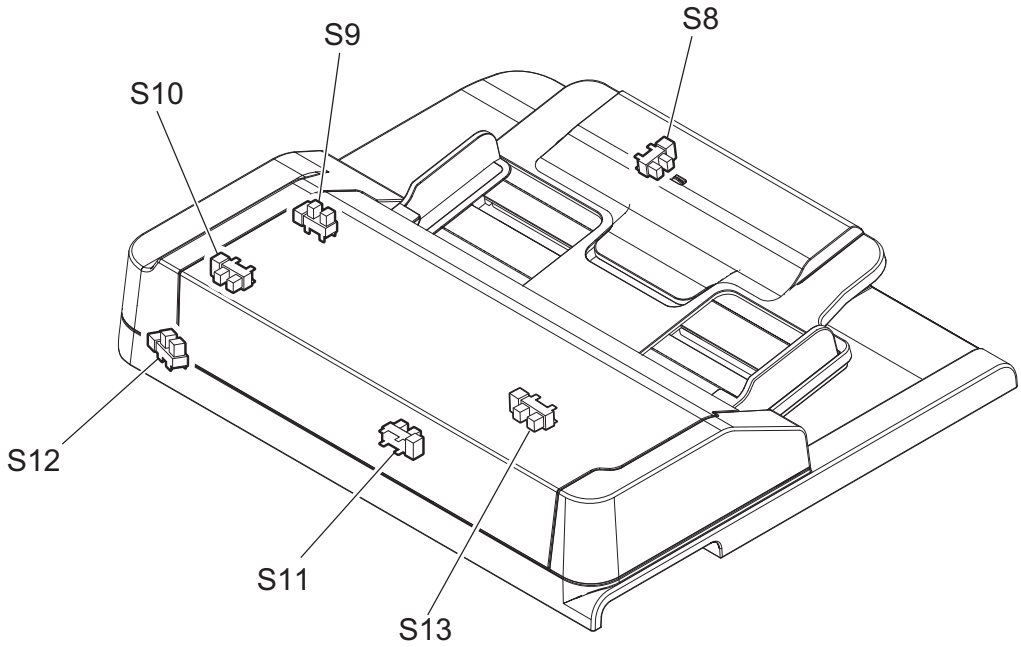


Fig. 3-24

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
M1	SCAN-MOT Scan motor	Driving the CIS	Fig. 3-5 Fig. 3-6	7-1
M2	TNR-MOT Toner motor	Supplying the toner	Fig. 3-9 Fig. 3-10	5-22
M3	MAIN-MOT Main motor	Driving the drum, developer unit, registration roller, Pickup roller, feed roller, cleaner unit	Fig. 3-13 Fig. 3-14	10-1
M4	M/DC-POL Polygonal motor	Driving the polygonal mirror	Fig. 3-9 Fig. 3-10	3-15
M5	SUC-FAN-MOT Suction fan	Exhausting ozone and cooling down the equipment inside	Fig. 3-11 Fig. 3-12	9-2
M6	EXIT-MOT Exit motor	Driving the exit roller. <25H/25F, 28M/28F only>	Fig. 3-9	23-13
M7	ADU-FAN ADU fan	Exhausts air near ADU. <25H/25F, 28M/28F only>	Fig. 3-11	9-2
M8	Original feed motor	Drives the original feed roller, pickup roller and transport roller. <25H/25F, 28M/28F only>	Fig. 3-21 Fig. 3-23	26-16
M9	PS-FAN Switching regulator cooling fan	Cooling down the switching regulator <28A/28M/28F only>	Fig. 3-8	1-29

3.3.2 Sensors and switches

Symbol	Name	Function	Remarks	P-I
S1	TEMP/HUMI-SNR Temperature/humidity sensor	Detecting the temperature and humidity inside the equipment	Fig. 3-13	5-14
			Fig. 3-14	5-40
S2	RGST-SNR Registration sensor	Detecting the transporting paper at the registration roller section	Fig. 3-13 Fig. 3-14	12-5
S3	EXIT-SNR Exit sensor	Detecting the transporting paper at the exit section	Fig. 3-9 Fig. 3-10	18-2
S4	ATTNR-SNR Auto-toner sensor	Detecting the density of toner in the developer unit	Fig. 3-11 Fig. 3-12	16-9
S5	EMP-SNR Paper empty sensor	Detecting presence/absence of paper in the drawer	Fig. 3-17 Fig. 3-18	6-6
S6	SFB-SNR Bypass paper sensor	Detecting presence/absence of paper on the bypass tray	Fig. 3-15 Fig. 3-16	8-14
S7	ADU-TR-SNR ADU sensor	Detecting the transporting paper in automatic duplexing unit. <25H/25F, 28M/28F only>	Fig. 3-19	21-14
S8	Original tray length sensor	Detects the length of the original set on the original tray. <25H/25F, 28M/28F only>	Fig. 3-22 Fig. 3-24	25-16
S9	Original empty sensor	Detects the original set on the original tray. <25H/25F, 28M/28F only>	Fig. 3-22 Fig. 3-24	26-26

Symbol	Name	Function	Remarks	P-I
S10	Jam access cover sensor	Detects opening/closing of the Jam access cover. <25H/25F, 28M/28F only>	Fig. 3-22 Fig. 3-24	26-26
S11	Original read sensor	Detects transport of the original at the transport roller section. <25H/25F, 28M/28F only>	Fig. 3-22 Fig. 3-24	26-26
S12	ADF/RADF opening/closing sensor	Detects opening/closing of the ADF/RADF. <25H/25F, 28M/28F only>	Fig. 3-22 Fig. 3-24	26-22
S13	Original intermediate transport sensor	Detects the reversed original transported to the scanning section. <28M/28F only>	Fig. 3-24	26-26
SW1	MAIN-SW Main switch	Turning ON/OFF of the equipment	Fig. 3-7 Fig. 3-8	SW1
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	Controlling cutoff and supply of the 24V voltage by opening/closing of the right cover	Fig. 3-7 Fig. 3-8	4-14
SW3	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	Controlling cutoff and supply of the 24V voltage by opening/closing of the toner supply cover	Fig. 3-7 Fig. 3-8	4-14
SW4	FRNT-COV-SW Toner supply cover opening/closing switch	Detecting the opening/closing of the toner supply cover	Fig. 3-7 Fig. 3-8	4-12

3.3.3 Electromagnetic clutches

Symbol	Name	Function	Remarks	P-I
CLT1	RGST-CLT Registration roller clutch	Driving the registration roller	Fig. 3-13 Fig. 3-14	17-8
CLT2	CST-L-FEED-CLT Drawer feed clutch	Driving the paper feed roller	Fig. 3-13 Fig. 3-14	10-24
CLT3	SFB-CLT Bypass feed clutch	Driving the bypass feed roller	Fig. 3-15 Fig. 3-19 Fig. 3-20	8-18
CLT4	ADU-CLT ADU clutch	Driving the transport roller of the automatic duplexing unit. <25H/25F, 28M/28F only>	Fig. 3-19	23-10

3.3.4 Solenoids

Symbol	Name	Function	Remarks	P-I
SOL1	Gate solenoid	Drives the reverse flap. (Switches the flap to the reverse side when turned to ON.) <28M/28F only>	Fig. 3-23	-

3.3.5 PC boards

Symbol	Name	Function	Remarks	P-I
MAIN	PWA-F-MAIN Main PC board (MAIN board)	Controlling the whole system and image processing	Fig. 3-13 Fig. 3-14	5-27
CTIF	PWA-F-CTIF Toner cartridge interface PC board (CTIF board)	Interface for detecting the toner cartridge (Detecting the CTRG board)	Fig. 3-9 Fig. 3-10	5-13

Symbol	Name	Function	Remarks	P-I
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	Storing the status of the toner cartridge (The CTRG board is installed in the toner cartridge.)	Fig. 3-9 Fig. 3-10	-
FUS	PWA-F-FUS Fuse PC board (FUS board)	Supplying the power to damp heater.	Fig. 3-11 Fig. 3-12	5-26
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	Detecting the button entry and controlling LED and LCD on the control panel	Fig. 3-5 Fig. 3-6	2-10
LDRS	PWA-F-LDRS Laser driving PC board (LDRS board)	Driving the laser diode	Fig. 3-9 Fig. 3-10	3-15
ADF	PWA-F-ADF ADF control PC board (ADF board)	Controls the ADF. <25H/25F only>	Fig. 3-21	26-18
RADF	PWA-F-RADF RADF control PC board (RADF board)	Controls the RADF. <28M/28F only>	Fig. 3-23	27-18
FAX	PWA-F-FAX FAX interface PC board (FAX board)	Controls the FAX function. <25F, 28F only>	Fig. 3-19 Fig. 3-20	24-1

3.3.6 Lamps and heaters

Symbol	Name	Function	Remarks	P-I
LAMP1	HTR-LAMP Fuser heater lamp	Heating the entire section of the fuser roller. <25S only>	Fig. 3-9	17-22
LAMP2	HTR-LAMP Center heater lamp	Heating the center section of the fuser roller. <25H/25F, 28A/28M/28F only>	Fig. 3-9 Fig. 3-10	17-22
LAMP3	SIDE-LAMP Side heater lamp	Heating the section of both sides of fuser roller. <25H/25F, 28A/28M/28F only>	Fig. 3-9 Fig. 3-10	17-33
ERS	LP-ERS Discharge LED	Removing the residual charge from the drum surface	Fig. 3-11 Fig. 3-12	13-2
DH1	DRM-DH Drum damp heater	Preventing condensation of the drum * Optional for NAD/MJD/CND model, standard for other models	Fig. 3-11 Fig. 3-12	6-11

3.3.7 Thermistors and thermostats

Symbol	Name	Function	Remarks	P-I
THMS1	THMS-C-HTR Center thermistor	Detecting the surface temperature at the center of the fuser roller (for controlling the center heater lamp)	Fig. 3-9 Fig. 3-10	17-23
THMS2	THMS-S-HTR Side thermistor	Detecting the surface temperature at the rear side of the fuser roller (for controlling the temperature of the side heater lamp)	Fig. 3-9 Fig. 3-10	17-23

Symbol	Name	Function	Remarks	P-I
THMS3	THMS-EDG-HTR Edge thermistor	Detecting the surface temperature at the edge of the rear side of the fuser roller (for preventing overheating) <25S/25H/25F>	Fig. 3-9	17-23
		Detecting the surface temperature at the edge of the front side of the fuser roller (for preventing overheating) <28A/28M/28F>	Fig. 3-10	
THMS4	THMS-DRM Drum thermistor	Detecting the temperature on the drum surface	Fig. 3-11 Fig. 3-12	5-30
THMO1	THRMO-FSR Fuser thermostat	Preventing overheating in the fuser unit <25S only>	Fig. 3-9 Fig. 3-10	17-6
THMO2	THRMO-FSR-C Center thermostat	Preventing overheating in the fuser unit	Fig. 3-9 Fig. 3-10	17-6
THMO3	THRMO-FSR-F Front thermostat	Preventing overheating in the fuser unit	Fig. 3-9 Fig. 3-10	17-35
THMO4	THRMST-CS-L Drum damp heater thermostat	Preventing overheating in the drum damp heater <25H/25F, 28M/28F only>	Fig. 3-11 Fig. 3-12	6-17

3.3.8 Others

Symbol	Name	Function	Remarks	P-I
CIS	CIS Contact image sensor unit	Reading originals	Fig. 3-5 Fig. 3-6	7-9
LVPS	PS-ACC Switching regulator	Generating DC voltage and supplying it to each section of the equipment	Fig. 3-7 Fig. 3-8	3-2
HVPS	PS-HVT High-voltage transformer	Generating high-voltage and supplying it to the following sections • Needle electrode • Main charger grid • Developer bias • Transfer bias • Separation bias • Transfer supporting bias	Fig. 3-7 Fig. 3-8	4-21

3.4 Copy Process

3.4.1 General Description of Copying Process

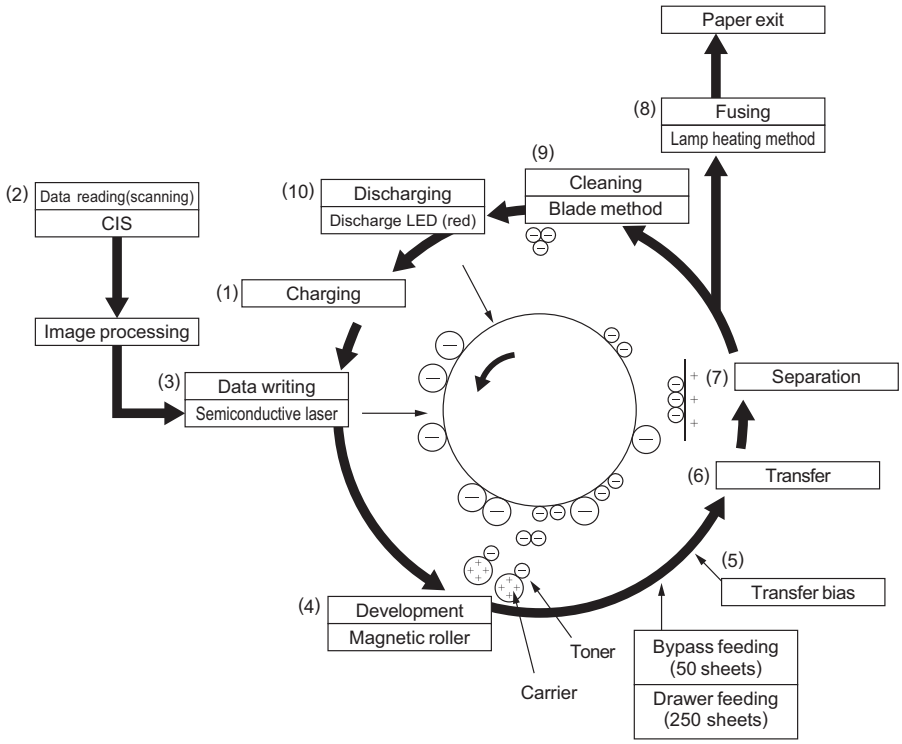


Fig. 3-25

(1) Charging: Applies negative charge on the surface of the photoconductive drum.
↓
(2) Data reading: The images on the original are converted into electrical signals.
↓
(3) Data writing: The electrical signals are converted into light signal (laser emission) which exposes the surface of the photoconductive drum.
↓
(4) Development: Negatively-charged toner adheres to the photoconductive drum and forms visible image.
↓
(5) Transfer bias: Improves transfer efficiency.
↓
(6) Transfer: Transfers the visible toner image on the photoconductive drum onto paper.
↓
(7) Separation: Separates paper with the toner image from the photoconductive drum.
↓
(8) Fusing: Fuses the toner image onto the paper by applying heat and pressure.
↓
(9) Cleaning: Scrapes off the residual toner from the drum.
↓
(10) Discharging: Eliminates the residual negative charge from the surface of the photoconductive drum.

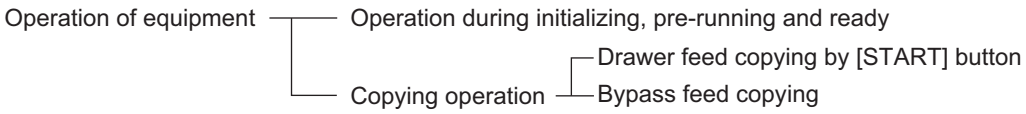
3.5 Comparison with e-STUDIO195

Process	e-STUDIO195	25S/25H/25F	28A/28M/28F
1. Photoconductive drum • Sensitivity	OD-2320 (OPC ø30) Highly sensitized/durable drum	OD-2505 (OPC ø30) ←	← ←
2. Charging	Scorotron method	←	←
3. Data writing • Light source	Semiconductor laser (Adjustment not required)	←	←
4. Development • Magnetic roller • Auto-toner • Toner supply • Toner-empty detection • Toner	One magnetic roller Magnetic bridge-circuit method Toner cartridge Density detection method PS-ZT2450U (1), PS-ZT2450A (1), PS-ZT2450D (1), PS-ZT2450D5k (1), PS-ZT2450CS10k (1), PS-ZT2450CS5k (1), PS-ZT2450T (1), PS-ZT2450T5k (1), PS-ZT2450E (1), PS-ZT2450E5K (1)	← ← ← ← PS-ZT2507D(1), PS-ZT2507T(1), PS-ZT2507JSS(1), PS-ZT2505E(1), PS-ZT2505U(1), PS-ZT2505A(1), PS-ZT2505P(1), PS-ZT2505PS(1), PS-ZT2505C(1), PS-ZT2505CS(1), PS-ZT2505C(12), PS-ZT2505CS(12)	← ← ← ← PS-ZT2802E(1), PS-ZT2802U(1), PS-ZT2802P(1), PS-ZT2802PS(1), PS-ZT2802C(1), PS-ZT2802CS(1), PS-ZT2802C(12), PS-ZT2802CS(12)
• Developer material	D-2320, D-2320C	D-2505, D-2505C	D-2309 *Cartridge type, D-2505, D-2505C *Pouch type
• Developer bias	DC- Adjustable output (during printing) AC (Adjustment not required, during printing) No DC+ (positive) output	← ← ←	← ← ←
5. Transfer	Scorotron transfer method Adjustable output (Constant current)	Transfer roller output ←	← ←
6. Separation	Wire (scorotron) separation method Adjustable output (Constant current)	Needle separation method ←	← ←
7. Discharge • Discharging position • Discharge LED	Exposure after cleaning Red LED	← ←	← ←
8. Cleaning • Method • Recovered toner	Cleaning blade Reuse (There is the recovered toner supply mechanism.)	← ←	← ←

Process	e-STUDIO195	25S/25H/25F	28A/28M/28F
9. Fusing			
• Method	Long-life fuser roller method	←	←
	Fuser roller:	←	←
	Thin roller coated with fluoroplastic (ø30)	Thin roller coated with fluoroplastic (ø23)	←
	Pressure roller:	Pressure roller:	←
	PFA tube roller (ø25)	PFA tube roller (ø22)	←
• Heater	Heater lamp Turned ON/OFF by thermistor	←	←

3.6 General Operation

3.6.1 Overview of Operation



3.6.2 Description of Operation

[1] Warming-up

1. Initialization
   Power ON
   → Heater lamp ON
   → "Please wait" is displayed
   → Fan motors ON
   → Initialization of scanning system
   - The CIS unit moves to the home position.
   - The CIS unit moves to the peak detection position.
   - The LED of CIS is turned ON.
   - Peak detection (white color is detected by the shading correction plate)
   - The LED of CIS is turned OFF.
   - The CIS unit moves to the home position.

   → "READY" is displayed

2. Pre-running operation (Only when the temperature is at fixed temperature)
   The pre-running operation is started when the temperature of the fuser roller surface reaches a certain temperature.
   → The main motor is turned ON
   - Fuser roller rotated.
   - Drum rotated.

   → Pre-running operation stops after specified time
3. When the surface temperature of the fuser roller becomes sufficient for fusing,
   → "READY" is displayed

[2] Ready state (ready for copying)

Buttons on the control panel enabled
→ When no button is pressed for a certain period of time,
- Set number "1" is displayed. Equipment returns to the normal ready state.

[3] Drawer feed copying (1st drawer paper feeding)

1. Press the [START] button
   → "READY" → "COPYING"
   → CIS LED ON
   → Scan motor ON → CIS unit move forward
   → Polygonal motor rotates
   → Main motor ON
   - The drum, fuser unit, developer unit and exit roller are driven.

2. Drawer paper feeding
   → Main charger, developer bias and discharge LED ON. Fans are rotated in high speed. Drawer feed clutch ON.
   - Paper feed roller start to rotate.
   → Paper reaches the registration roller
   - The registration sensor is turned ON and aligning is performed.
   → Drawer feed clutch OFF

3. After the scanning operation:
   → Registration roller clutch ON after a certain period of time → paper is transported to the transfer area
   → Copy counter operates

4. After the registration roller clutch is turned ON:
   → Transfer charger ON after a certain period of time
   → Copy counter operates

5. Completion of scanning
   → Scan motor OFF
   → CIS LED OFF
   → Registration roller clutch OFF (after the trailing edge of the paper passed the registration roller)
   → Ready state

6. Paper exit
   → Exit sensor detects the trailing edge of the paper
   → Main charger, developer bias and discharge LED OFF
   → Polygonal motor, main motor OFF
   → Drum, fuser unit and developer unit stop
   → Fans return to the ready rotation
   → "READY" is displayed and the equipment enters the ready state

[4] Bypass feed copying

1. Insert a sheet of paper into the bypass tray.
   → Bypass paper sensor ON
   - Bypass feed priority state.

2. Press the [START] button
   → “READY” → “COPYING”
   → CIS LED ON
   → Scan motor ON → CIS unit move forward
   → Polygonal motor rotates
   → Main motor ON
   - The drum, fuser unit, developer unit and exit roller are driven.

3. Bypass feeding
   → Main charger, developer bias and discharge LED ON. Fans are rotated in high speed.
   → Bypass feed clutch
   - The bypass feed roller start to rotate.
   → Paper reaches the registration roller
   → Aligning operation
   → After a certain period of time, the bypass feed clutch OFF

4. Hereafter, the operation 3) through 6) of 🕮 P. 3-26 "[3] Drawer feed copying (1st drawer paper feeding)" is repeated.

3.6.3 Detection of Abnormality

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

[1] Types of abnormality

1. Abnormality cleared without turning OFF the door switch
   (A) Add paper

2. Abnormality not cleared without turning OFF the door switch
   (B) Pick-up failure in bypass
   (C) Misfeed in equipment
   (D) Replace the toner cartridge
   (E) Developer unit not installed properly

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

[2] Description of abnormality

(A) Add paper

[In cases of the equipment drawer] (When drawer is not installed)

- Drawer empty sensor detects the presence or absence of paper.

No drawer detected

↓

"Add paper" is displayed
The LED on the control panel corresponding to the drawer blinks

↓

[START] button disabled

[In cases of the equipment drawer] (When the drawer is installed)

Drawer detected

↓

Paper empty sensor OFF

↓

"Add paper" is displayed
The LED on the control panel corresponding to the drawer blinks

↓

[START] button disabled

(B) Pick-up failure in bypass

- During bypass feeding
  Bypass feed clutch ON

  ↓

  Registration sensor is not turned ON in a fixed period of time

  ↓

  “Misfeed in bypass” is displayed: E120

  ↓

  Copying operation is disabled

  ↓

  Solution: Remove the paper from the bypass tray and open and close the right cover.

(C) Misfeed in equipment

- Exit sensor detects jamming of the leading edge of paper.

  ↓

  Registration roller clutch ON

  ↓ Less than regulation time

  Exit sensor ON
  If the exit sensor is not turned ON after regulation time

  ↓

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

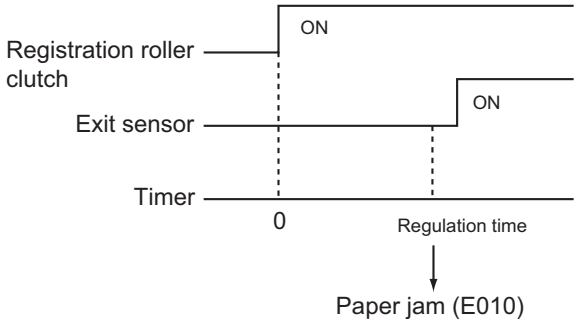


Fig. 3-26

- Exit sensor detects jamming of the tailing edge of paper.

  ↓

  Registration roller clutch OFF

  ↓ Less than regulation time

  Exit sensor OFF
  If the exit sensor is not turned OFF after regulation time

  ↓

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

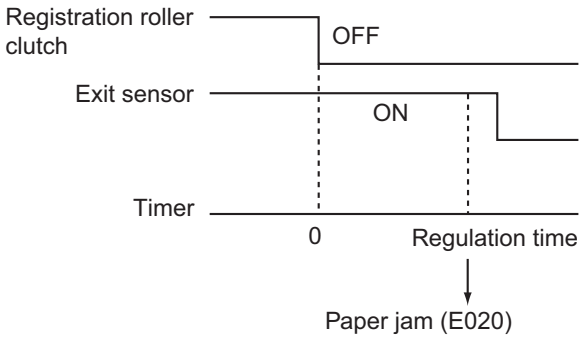


Fig. 3-27

- Immediately after the power ON

  ↓

  Any of all sensors on paper transport path detects paper (ON)

  ↓

  Paper jam (E030)

- Toner supply cover is opened during copying

  ↓

  Paper jam (E410)

- Registration sensor detects jamming of the leading edge of paper:
  Registration sensor is not turned ON in a fixed period of time after the feeding starts.

  ↓

  Paper jam (E120 and E130)

- During paper feeding from ADU:
  Registration sensor is not turned ON in a fixed period of time after the ADU motor is turned ON.

  ↓

  Paper jam (E110)

- During paper transporting from ADU:
  ADU entrance/exit sensors do not detect the paper at the fixed timing

  ↓

  Paper jam (E510)

(D) Replace the toner cartridge

- Toner density becomes low

  ↓

  Auto-toner sensor detects the absence of the toner

  ↓

  Control circuit → Displays the message: the copying operation disabled

  Solution: Open the toner supply cover and replace the toner cartridge with a new one.
  Toner is supplied → copying operation enabled.

(E) Developer unit not installed properly

- Disconnection of the connectors of the developer unit

  ↓

  “Set process unit” is displayed.
  [START] button disabled.

  ↓

  Solution: Connect the connectors of the developer unit and close the right 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. 8-7 "8.2 Error Code List"

3.7 Control Panel

3.7.1 General Description

The control panel consists of button switches to operate the equipment and select various modes, and LEDs and an LCD to display codes, values and the states (including each mode) of the equipment. The button switches, the LEDs and an LCD are mounted on the control panel PC board (HPNL) and are installed the inside of the control panel.
When the operator's attention is required, graphic symbols appear with messages explaining the condition of the equipment in the LCD panel.

[1] 25S/28A

For NAD and ARD, AUD

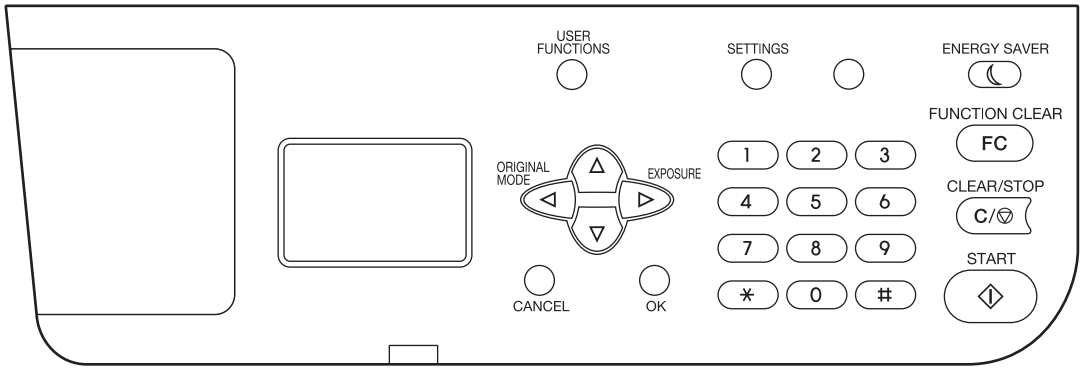


Fig. 3-28

For other models

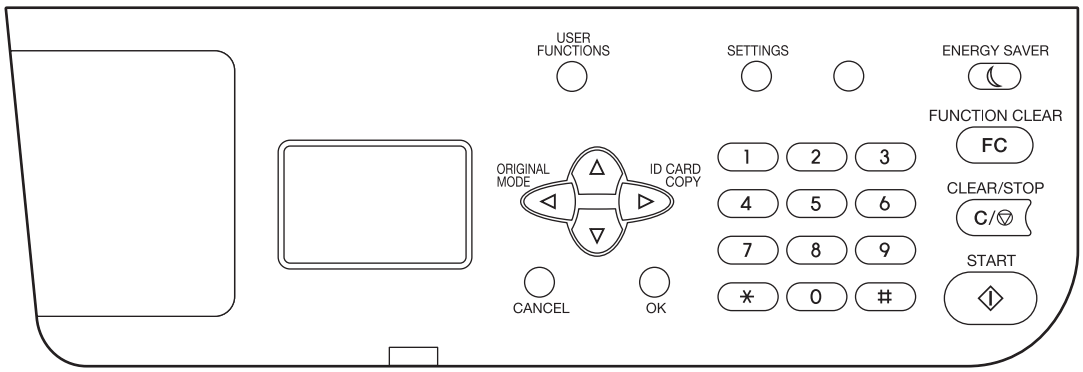


Fig. 3-29

[2] 25H/28M

For NAD and ARD, AUD

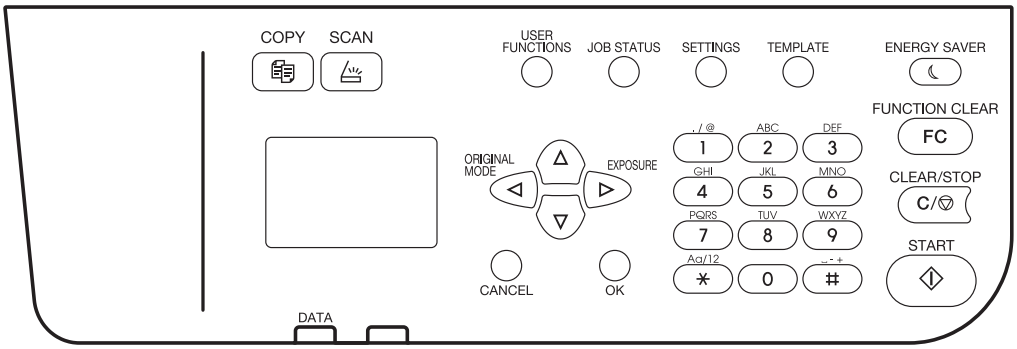


Fig. 3-30

For other models

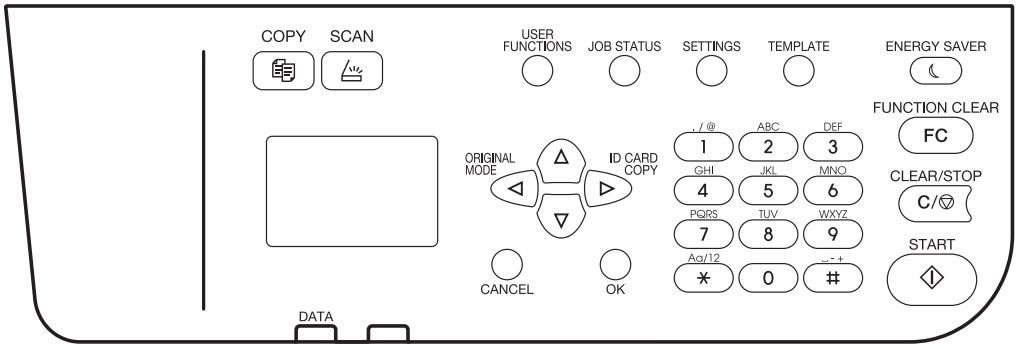


Fig. 3-31

[3] 25F

For NAD and ARD, AUD

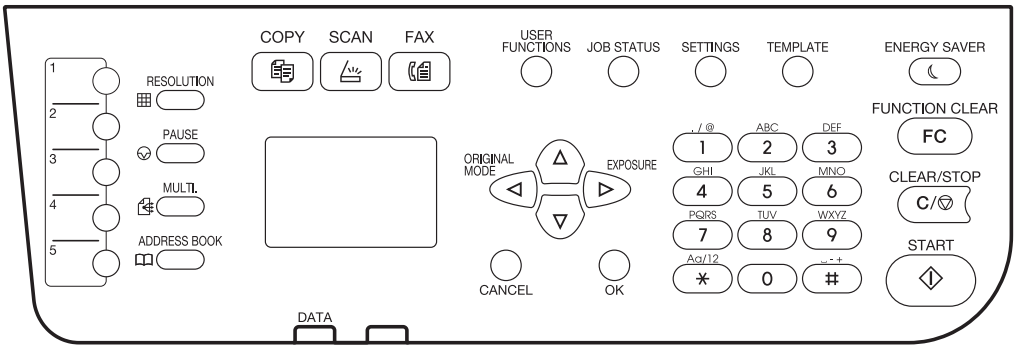


Fig. 3-32

For other models

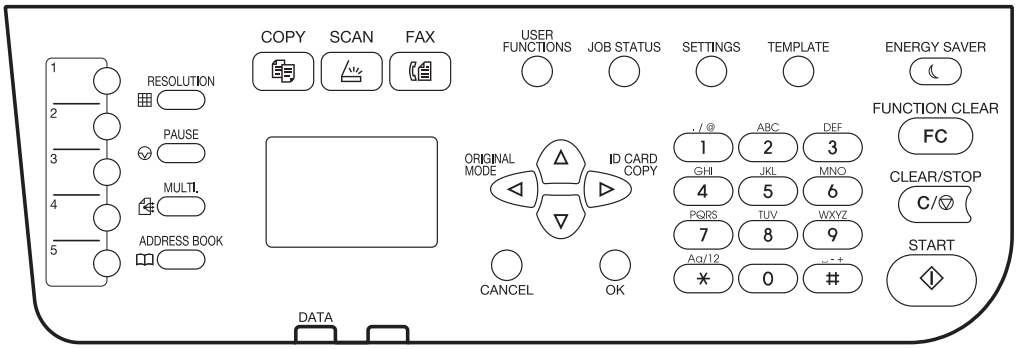


Fig. 3-33

[4] 28F

For NAD and MJD, ARD, AUD

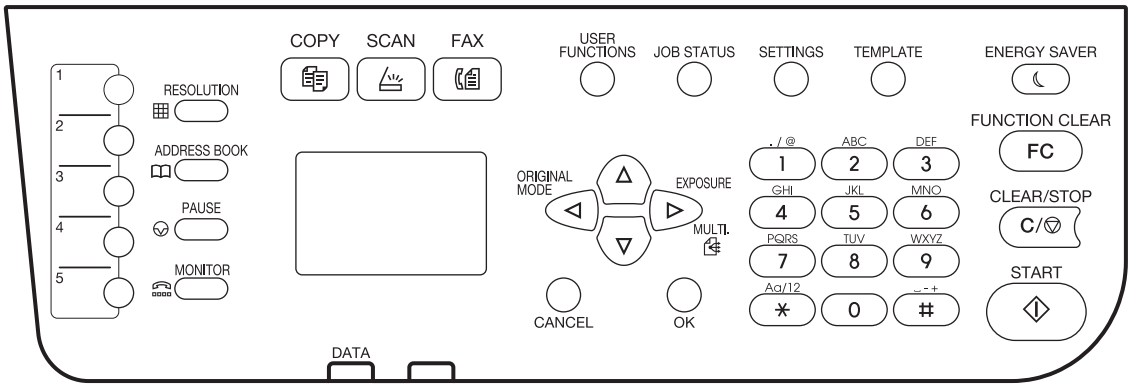


Fig. 3-34

For other models

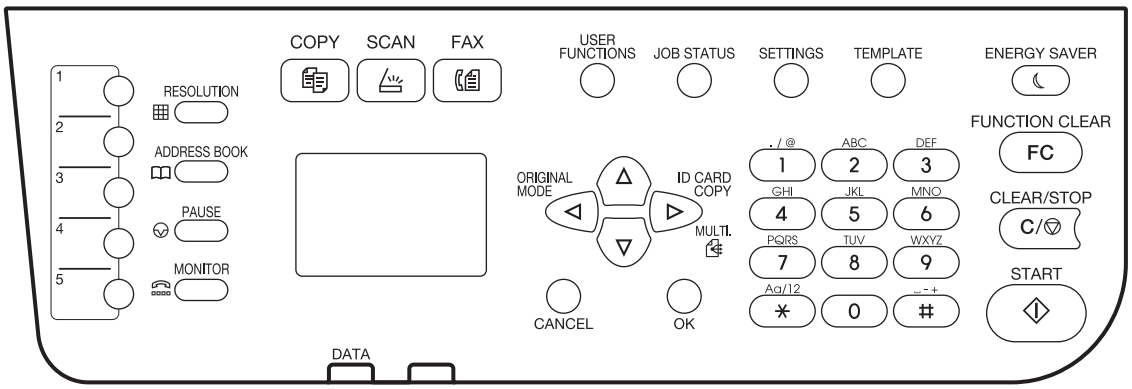


Fig. 3-35

3.7.2 Items shown on the display panel

[1] Display

1. Basic display
   Displays messages.

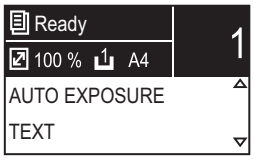


Fig. 3-36

2. Paper jam display
   When paper jam occurs, the error code and position of the jammed paper will be displayed.
   Pressing the right button shows the jam releasing guidance.

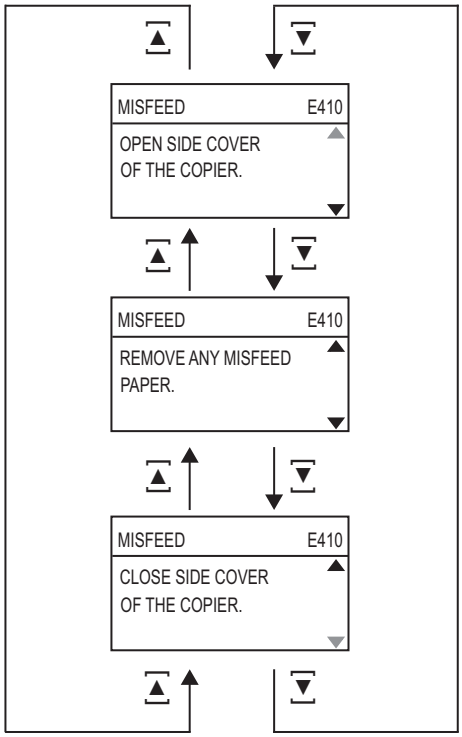


Fig. 3-37

3. Service call display
   Displays error code and service call message.

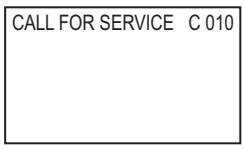


Fig. 3-38

3.8 Scanner

3.8.1 General Description

In the scanning section, this equipment uses a CIS (Contact Image Sensor) for scanning the image. The surface of an original is irradiated with light from the LED array mounted on the CIS unit and the reflected light is scanned by the CMOS sensor where the optical image data are converted into an analog electrical signal, and then transmitted to the MAIN board. After the binarization and the various image processing operations necessary for image formation are performed on the MAIN board, the data are transmitted to the writing section.

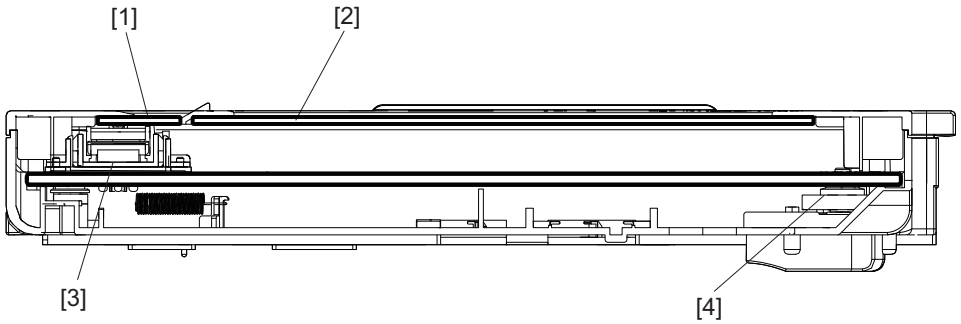


Fig. 3-39

[1] ADF original glass (* The MJD version of 25S is optional.)
[2] Original glass
[3] CIS
[4] Scan motor (M1)

3.8.2 Composition

Scanning section		
Original glass	Original glass	
	ADF original glass	* The MJD version of 25S is optional.
CIS unit (CIS)	CMOS	
	RGB light guiding tube (two lights)	
	Rod-lens array	
Drive section	Scan motor (M1)	

3.8.3 Functions

1. Original glass
   This is a glass for placing original. Original (image) placed on the original glass is scanned by the CIS.
   The RADF original glass is used when original is read with the Reversing Automatic Document Feeder. Original is transported on the RADF original glass by the Reversing Automatic Document Feeder, and the transported original is read under the RADF original glass by the CIS. Do not use such solvents as alcohol when cleaning the surface of the RADF original glass, because it is coated so as not to be scratched by originals.

2. CIS unit (CIS)
   The CIS unit (CIS) is a sensor unit which consists of an LED array, lens array and CMOS sensor array of the same length as that of the original width in the primary scanning direction closely attached and unified. The original is irradiated at one time with the LED light source which consists of LEDs of RGB colors (one for each color), light guiding tube to lead each light to the original, and then the reflected light is scanned by the CMOS sensor.
   In the CCD method (reduction optical method), the reflected light of the exposure lamp is LED through mirrors, lens and slit to the CCD where the optical-to-electrical conversion for scanned data is performed. In contrast, in the CIS method (close-contact sensor method), those operations are processed only by the CIS unit. The CIS has characteristics of shallow depth of focus and high light-sensitivity.

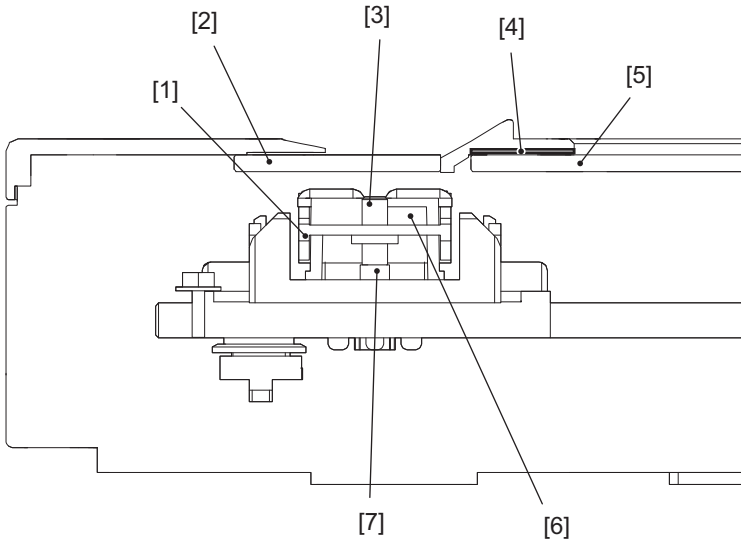


Fig. 3-40

[1] CIS unit [2] ADF original glass [3] Rod-lens array [4] Shading correction plate
[5] Original glass [6] RGB light guiding tube [7] CMOS sensor

- CMOS sensor
  Scans the light reflected from an original and converts it to an electrical signal.
  In order to realize the same-to-scale optical system of A3 width and 7344 image pixels, the equipment uses 17 CMOS sensors (each CMOS sensor has 432 image pixels per line) to make up a CMOS sensor of 600x600 dpi resolution for scanning.

- RGB light guiding tube
  A light from the LED array mounted on the CIS unit (CIS) goes through the original glass and lights the original. Then, the reflected light from the original is scanned by the CMOS sensor. By adjusting each amount of R, G and B-LED light, it is possible to attain a light color which has nearly the same color effect as that of the YG xenon light for the light sensitivity of the CMOS sensor.

3. Scan motor (M1)
   This is a pulse motor which drives the CIS unit (CIS). The rotation of the motor is transmitted to the CIS unit through the timing belt to move the unit in the secondary scanning direction.

3.8.4 Description of Operation

[1] Scanning operation

- Scanning an original on the original glass
  During the scanning operation, the rotation of the scan motor (M1) is transmitted to the timing belt to move the CIS unit (CIS).
  The CIS unit (CIS) makes the position of the shading correction plate, attached to the inside of the top cover, move left-to-right to carry out the initialization.
  At this time, the CIS unit (CIS) detects the black mark position on the shading correction plate and thus the home position is determined.
  When the [START] button is pressed, the CIS unit (CIS) starts scanning the originals.
  When scanning is finished, the CIS unit (CIS) carries out the initialization, returns to its home position and then stops.

- Scanning an original on the ADF/RADF
  When originals are scanned from the ADF/RADF, the CIS unit (CIS) moves to the position of the RADF original glass and then stops.
  The originals transferred from the ADF/RADF are scanned while they pass through the upper surface of the RADF original glass where the CIS unit (CIS) has stopped.

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 MAIN board. to create the latent image. Image signal is converted into the light emission signal of the laser diode on the laser driving PC board (LDRS), then radiated on the drum through the optical elements such as cylindrical lens, polygonal mirror and fθ lens.
These parts are adjusted very precisely using specialized equipment, if the adjustment is disrupted they cannot be readjusted by using a filter. They must also be handled very carefully, because fingerprints, dirt, or dust on them will distort the image.

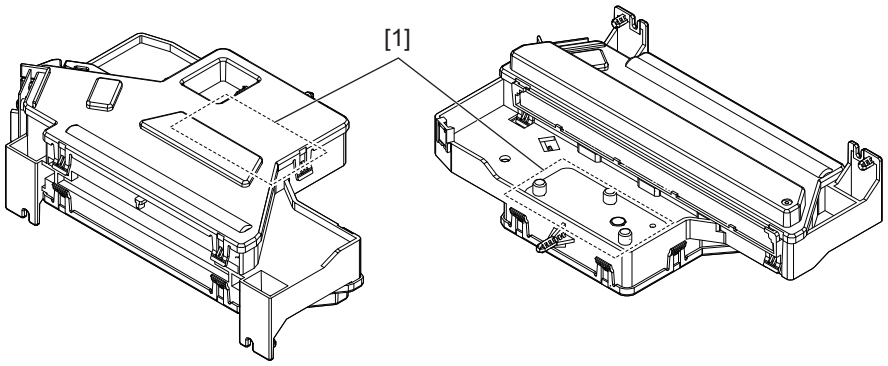


Fig. 3-41

[1] Polygonal motor

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 right cover.

  The following laser warning label is on the frame visible when the right cover and the toner supply cover are opened.

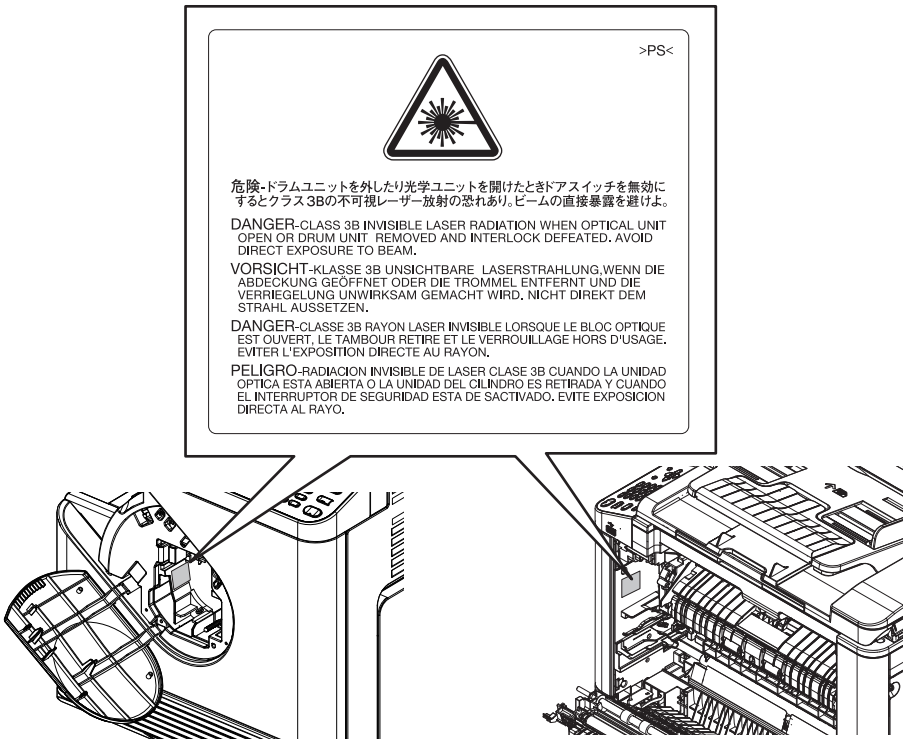


Fig. 3-42

The following laser warning label is on the laser optical unit.

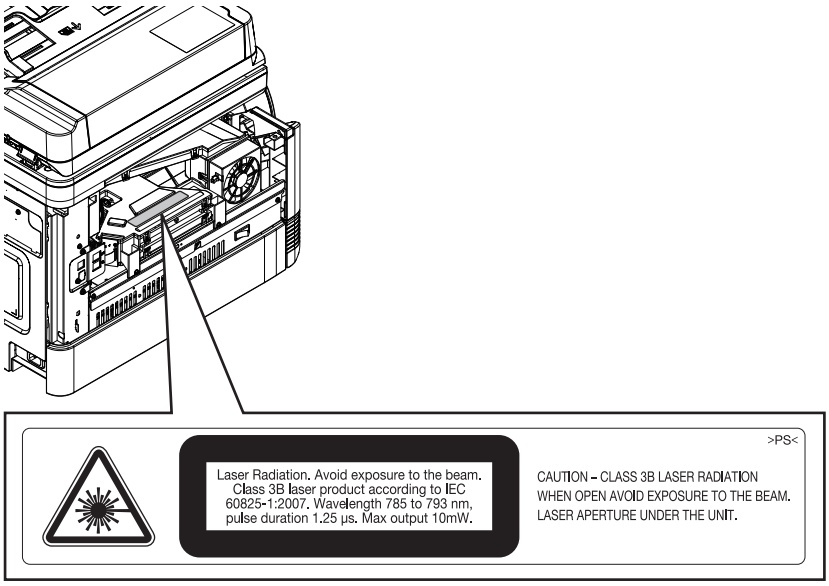


Fig. 3-43

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.

3.10 Drive System

3.10.1 General Description

The main motor (M3) drives the drum, developer unit, cleaner unit, fuser unit and transport rollers which transport paper (bypass feed roller, registration roller and paper feed roller).
The main motor (M3) is a brushless motor and is installed in the drive unit. The drive unit consists of gears and clutch, and transmits the driving force of the main motor (M3) to each unit. The toner motor (M2) which drives the toner cartridge is also installed in the drive unit.
The exit roller is driven by the main motor (M3). However, when the automatic duplexing unit (ADU) is installed, it is driven by the exit motor (M6).

25S, 28A	25H/25F, 28M/28F

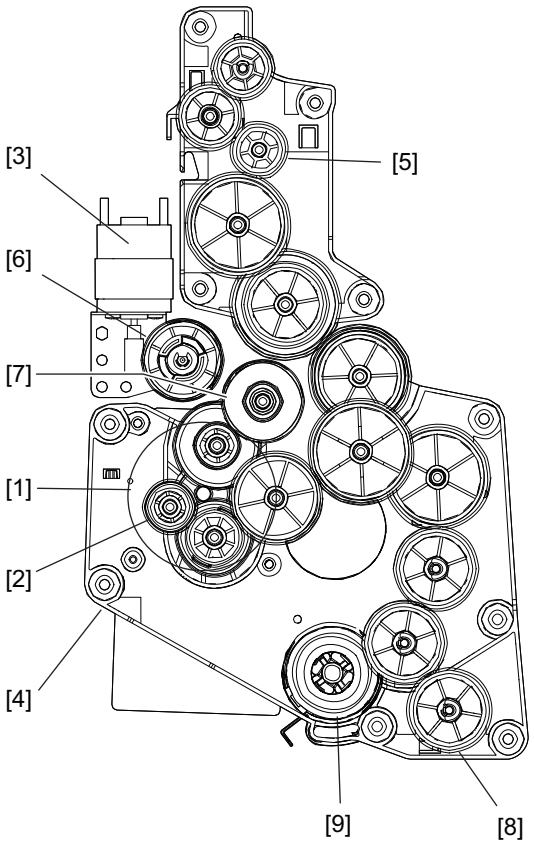


Fig. 3-44

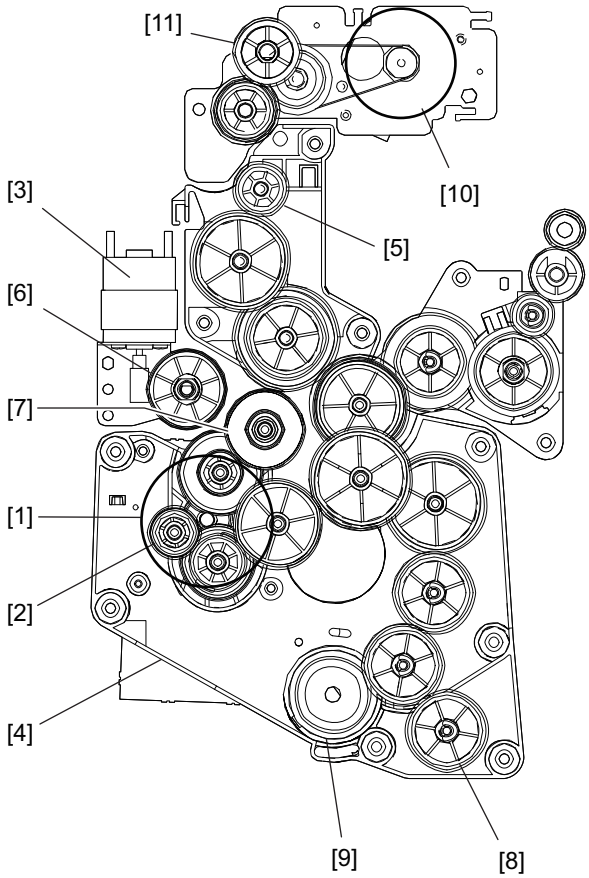


Fig. 3-45

[1] Main motor (M3)
[2] For mixer
[3] Toner motor (M2)
[4] Drive unit
[5] For fuser roller
[6] For toner cartridge auger
[7] For drum
[8] For bypass feed roller
[9] For paper feed roller
[10] Exit motor (M6)
[11] Exit roller

3.10.2 Composition

	Unit to be driven	Drive transmission
Main motor (M3)	Drum	Gears
	Developer unit (Mixer)	Gears
	Cleaner unit (Toner recovery auger)	Gears
	Fuser unit (Fuser roller)	Gears
	Rollers (Paper feed roller and Bypass feed roller.)	Gears, clutch
Toner motor (M2)	Toner cartridge	Gears

3.10.3 Functions

1. Main motor (M3)
   The main motor is a DC brushless motor which is controlled by control signals output from the MAIN board. The driving force of the main motor is transmitted to the drum, developer unit, cleaner unit, fuser unit and the rollers which transport the paper, via gears and clutch.

2. Toner motor (M2)
   The toner motor is a DC brush motor which is controlled by control signals output from the MAIN board. The driving force of the toner motor is transmitted to the toner cartridge via gears.

3.11 Paper Feeding System

3.11.1 General Descriptions

The purpose of this system is to pick up a sheet of paper from the drawer or bypass tray and transport it to the transfer position. The paper feeding system mainly consists of the paper feed roller, registration roller, bypass paper sensor, paper empty sensor, registration sensor and the drive system for these components.

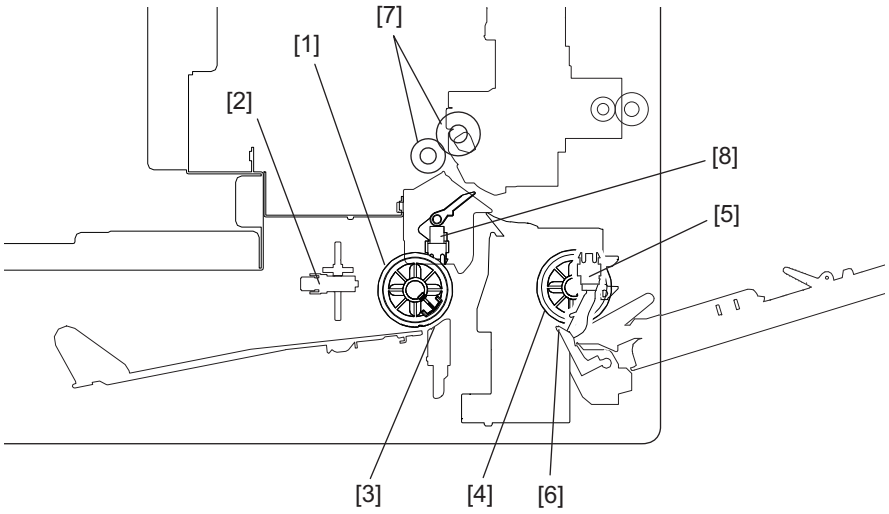


Fig. 3-46

[1] Drawer feed roller
[2] Paper empty sensor
[3] Drawer separation pad
[4] Bypass feed roller
[5] Bypass paper sensor
[6] Bypass separation pad
[7] Registration roller
[8] Registration sensor

3.11.2 Composition

Paper feeding system		
Drawer	Drawer feed roller	Periodic replacement part
	Drawer separation pad	Periodic replacement part
	Drawer feed clutch (CL2)	
	Paper empty sensor (S5)	
Bypass unit	Bypass feed roller	
	Bypass separation pad	
	Bypass paper sensor (S6)	
	Bypass feed clutch (CLT3)	
Registration roller		
Registration roller clutch (CLT1)		
Registration sensor (S2)		

3.11.3 Functions

1. Drawer feed roller
   Draws out paper on the paper feed drawer one by one and conveys to the registration roller. One sheet of paper is transported to the registration roller each time the drawer feed roller completes one rotation.

2. Drawer feed clutch (CL2)
   This is an electromagnetic clutch which drives the drawer feed roller. When the drawer feed clutch (CL2) is turned ON, the driving force from the main motor (M3) is transmitted to the drawer feed roller in the drawer to rotate it.

3. Paper empty sensor (S5)
   This is a transmissive-type sensor and detects the availability of paper in the drawer. 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.

4. Bypass feed roller
   Transports the paper from the bypass feed roller to the registration roller.

5. Bypass separation pad
   When two or more sheets of paper are transported from the bypass feed roller, since the resistance force of the bypass separation pad is larger than the frictional force between the sheets, the lower sheets are not transported any further.

6. Bypass paper sensor (S6)
   Detects whether paper is set in the bypass tray or not. When paper is set in the bypass tray, bypass feeding is performed in preference to drawer feeding. And it also detects whether paper has been transported from the bypass tray or not (i.e. whether the leading/trailing edge of the paper has passed the bypass feed roller or not.). The sensor is also used to detect jams such as paper missending in the bypass unit.

7. Bypass feed clutch (CLT3)
   This is an electromagnetic clutch which drives the bypass feed roller. When the bypass feed clutch(CLT3) is turned ON, the drive is transmitted from the main motor (M3) to rotate the bypass feed roller.

8. Registration roller
   Paper transported from the drawer feed roller or bypass feed 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 position.

9. Registration roller clutch (CLT1)
   This is an electromagnetic clutch which drives the registration roller. When the registration roller clutch (CLT1) is turned ON, the drive is transmitted from the main motor (M3) to rotate the registration roller.

10. Registration sensor (S2)
    It is used to detect that the leading edge of the paper has reached the registration roller and to control the aligning amount of the paper (the amount of the paper bend before it is transported to the registration roller). Also, it is used to detect the trailing edge of the paper has passed the registration roller.

3.11.4 Operation

[1] Drawer

[A] Operation of the drawer feed roller

When the drawer is inserted into the equipment, the lock located in the center of the drawer is released, and the tray in the drawer is lifted up by the spring. This makes the paper in the tray contact the drawer feed roller when it is rotated.
The driving force of the main motor (M3) is transmitted through the drawer feed clutch (CL2) to the drawer feed roller. The drawer feed roller is rotated by this driving force to pull out a sheet of paper from the drawer. When multiple sheets of paper are fed, the drawer feed clutch is turned ON at each rotation. One rotation of the feed roller can transport a sheet of paper to the registration roller.
This feeding system has no mechanism specific for detecting the transported paper. Therefore, whether the paper has been transported to the registration sensor (S2) within a specified period of time or not is substituted for the paper jam detection.

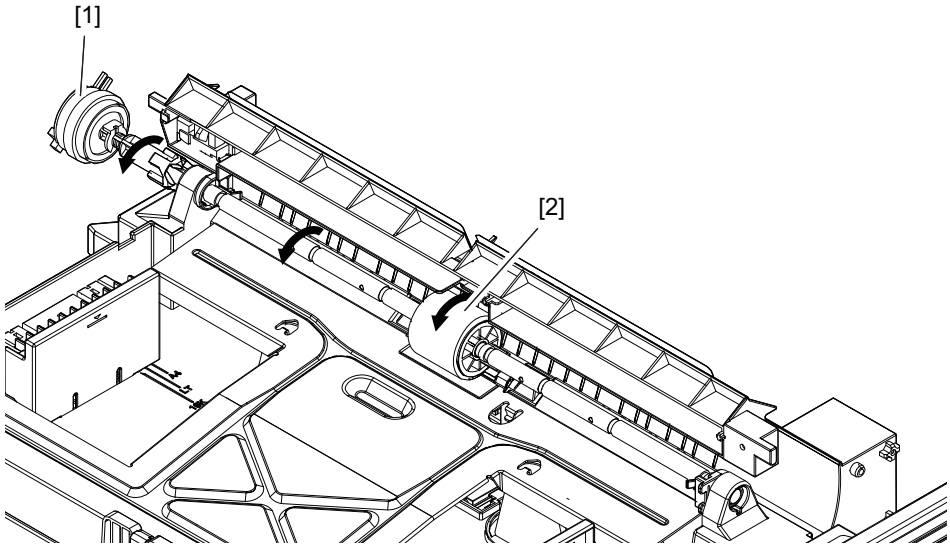


Fig. 3-47

[1] Drawer feed clutch
[2] Drawer feed roller

[B] Paper separation

This model is equipped with a drawer separation pad which works to prevent multiple paper feeding. The drawer separation pad is pushed to the drawer feed roller by the spring force.
When two or more sheets of paper are fed, since the friction between two sheets of paper is smaller than that between a sheet and the drawer separation pad, the lower sheets are not transported any further while the uppermost one is transported by the drawer feed roller.

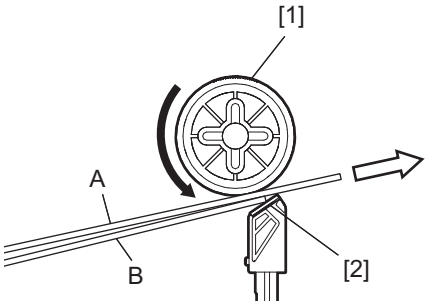


Fig. 3-48

[1] Drawer feed roller
[2] Drawer separation pad

[2] Bypass tray

[A] Operation of bypass feed roller

When the paper is set on the bypass tray, the bypass paper sensor (S6) detects it and judges that there is paper on the bypass tray, and the bypass feeding is performed in preference to drawer feeding. When the bypass feed clutch turns ON, the bypass feed roller rotates and transports the paper on the bypass tray to the registration roller.

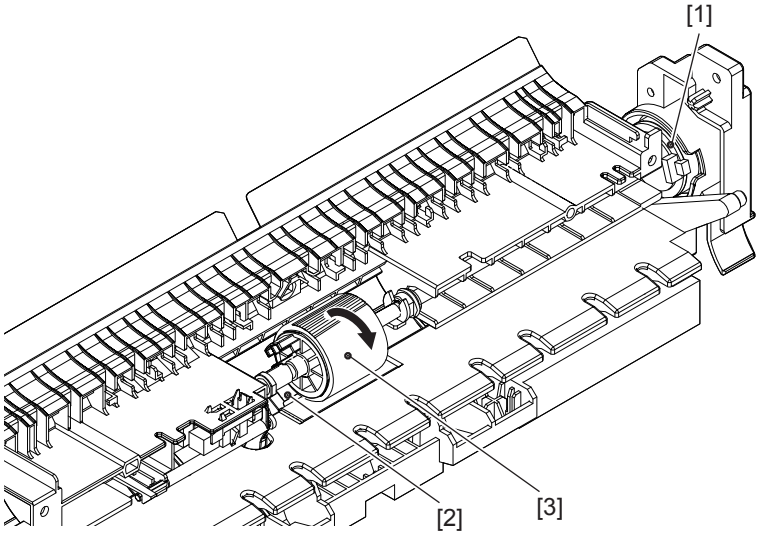


Fig. 3-49

[1] Bypass feed clutch
[2] Bypass separation pad
[3] Bypass feed roller

[B] Paper separation

This model separates the paper fed by the bypass feed roller using the bypass separation pad. The bypass separation pad is pressed again the bypass feed roller by the spring. When more than two sheets of paper are transported from the bypass feed roller, since the friction between the two sheets of paper is smaller than between a sheet and bypass separation pad, only the uppermost paper is transported by the bypass feed roller, and the paper below it are not transported due to the friction of the bypass separation pad.

The paper transported by the bypass feed roller arrives at the registration roller. After it is aligned by the registration roller, the bypass feed roller stops.

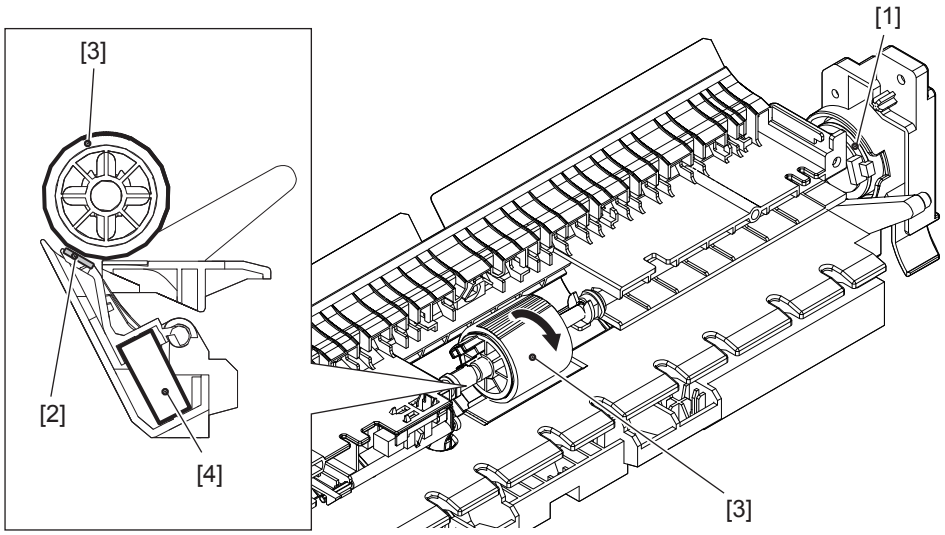


Fig. 3-50

[1] Bypass feed clutch
[2] Bypass separation pad
[3] Bypass feed roller
[4] Spring

[3] General operation

[A] From power ON to standby status

- When the equipment is turned ON, if the paper empty sensor (S5) is turned OFF (L), it is judged that there is no paper in the drawer. With the sensor (S5) being ON (H), it is judged that there is paper in the drawer.
- If either of the sensors; registration sensor (S2) or exit sensor (S3) is ON (meaning 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 jammed paper is removed.

[B] Standby status

- After the availability of paper is checked as described above, the equipment enters the standby state.

[C] Drawer feeding

- When the drawer feed clutch is turned ON, the driving force of the main motor (M3) is transmitted to rotate the paper feed roller. A sheet of paper is then fed and transported to the registration roller.
- The leading edge of the paper turns ON the registration sensor (S2), and then the paper stops at the registration roller.
- The registration roller clutch (CLT1) is turned ON and the paper aligned by the registration roller is transported to the transfer unit.

[D] Bypass feeding

- The bypass paper sensor (S6) detects the availability of paper.
- The drive from the main motor (M3) is transmitted to the paper feed clutch to rotate the bypass feed clutch.
- Feeding starts and a sheet of paper is transported to the registration roller. The leading edge of the paper turns ON the registration sensor (S2), and then the paper stops at the registration roller.
- The registration roller clutch (CLT1) is turned ON and the paper aligned by the registration roller is transported to the transfer unit.

3.12 Drum Related Section

3.12.1 Configuration

This chapter explains about the area around the drum, drum itself, image processing, their parts and control circuits.

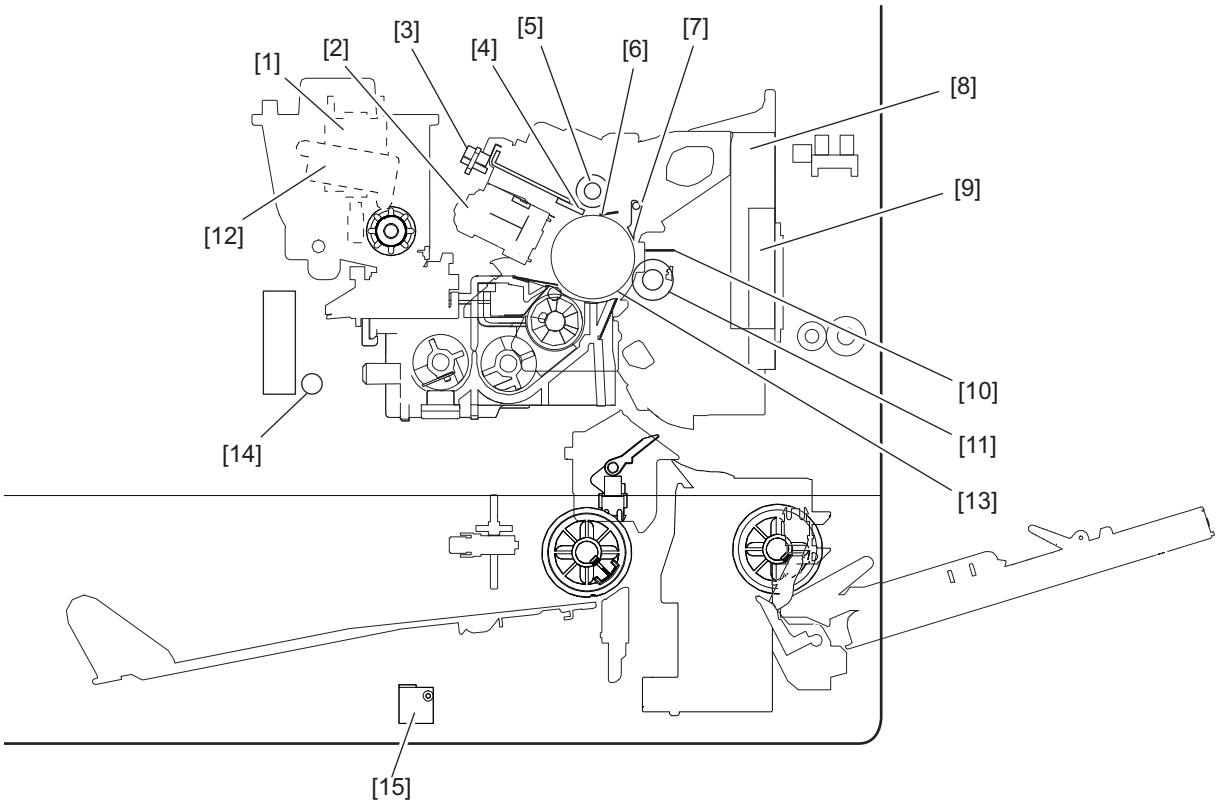


Fig. 3-51

[1] Toner motor
[2] Main charger
[3] Discharge LED
[4] Cleaning blade
[5] Toner recovery auger
[6] Recovery blade
[7] Separation finger
[8] Suction fan
[9] Ozone filter
[10] Separation needle
[11] Transfer roller
[12] Toner cartridge interface PC board (CTIF board)
[13] Drum
[14] Drum thermistor
[15] Temperature/Humidity sensor

3.12.2 Composition

Drum related section		
Drum cleaner unit	Drum	Periodic replacement part
	Drum separation finger	
	Cleaning blade	Periodic replacement part
	Recovery blade	
Transfer roller unit	Transfer roller	Periodic replacement part
	Separation needle	
Main charger	Needle electrode	
	Grid	Periodic replacement part
Other	High-voltage transformer	
	Temperature/humidity sensor (S1)	
	Suction fan (M5)	
	Ozone filter	
	Discharge LED	
	Drum thermistor (THMS4)	

3.12.3 Functions

1. Drum
   The drum is made of a cylindrical aluminum base coated with thin film of organic photoconductive substance.
   The photoconductive object becomes insulative (the electrical resistance is high) when it is not exposed to the light and electrically conductive (the electrical resistance is low) when it is exposed to the light. This object is called a photoconductor.

2. Main charger
   The main charger in this equipment consists of a metal rod with U-shaped section, insulated blocks at both ends of the rod 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 dust 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.

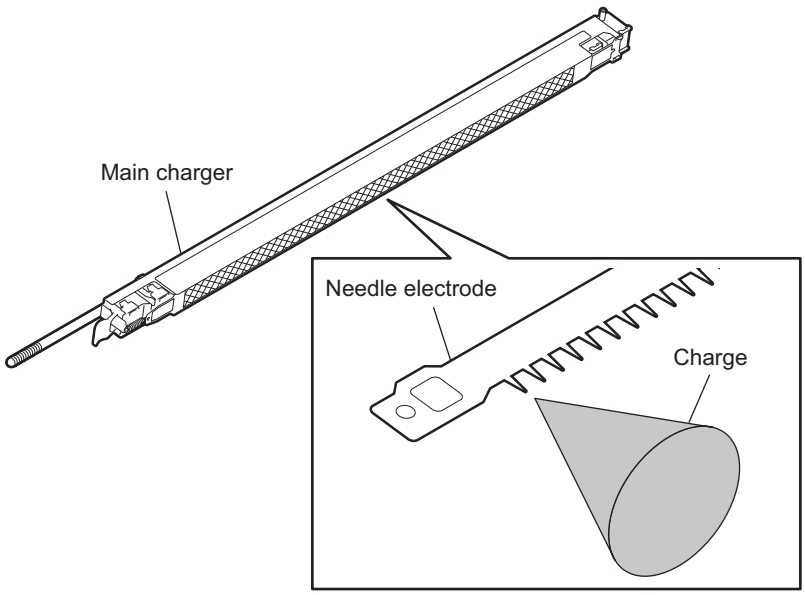


Fig. 3-52

3. Drum cleaner
   - Cleaning blade
     This blade is pressed against the drum surface and scrapes off the residual toner from the drum surface.
   - Recovery blade
     This blade catches the toner scraped off by the cleaning blade.
   - Toner recovery auger
     This auger carries the residual toner scraped off to the developer unit and reuses the toner.

4. Transfer roller unit
   - Transfer supporting bias
     Positive bias is applied to the registration rollers and the pressure roller in the fuser unit so as to prevent the transfer ability from lowering under high humidity environments.
   - Transfer roller (transfer charger)
     A transfer roller is used as the transfer charger for this equipment.
     With the transfer roller, dots are reproduced more clearly because the electric charge is concentrated on a contact point between the paper and the drum surface, and thus toner is less scattered at the time of transfer. Therefore user maintenance such as the cleaning of the main charger wire of the existing models adopting the corona discharge method can be omitted.
   - Separation needle (separation charger)
     This needle requires a smaller capacity of the high-voltage transformer than the existing charger wire does. This needs to be cleaned with a brush at PM.

5. Discharge LED
   Discharging is a process to decrease or eliminate the electrical potential of the drum surface. The electrical resistance of the photoconductive layer is decreased by the light irradiation, and the residual charge on the drum surface is neutralized and eliminated. The electrical potential of the drum surface is fixed to a certain amount before the drum is charged.

6. Drum thermistor (THMS4)
   The drum surface temperature is detected by the drum thermistor to control the rotation speed of the suction fan when the equipment is in the ready status.

7. High-voltage transformer
   This is a board to generate the output control voltage of the main charger, main charger grid, transfer charger, separation charger, developer bias and transfer supporting bias.

8. Temperature/humidity sensor (S1)
   This sensor and drum thermistor detect the temperature and humidity inside of the equipment since the drum, developer material and paper are affected by environmental elements such as temperature or humidity. Thus the main charger grid, transfer/separation output, transfer guide bias, developer bias, laser output and auto-toner output are controlled to be at their optimum states.

9. Suction fan (M5)
   The suction fan cools down the inside of the equipment. The air to exhaust includes the ozone generated by the corona discharge, and this ozone is removed by the ozone filter. The suction fan also helps the paper separation by absorbing the paper to post-transfer guide.

3.13 Development System

3.13.1 Configuration

Development is the process of converting electrostatic latent images into visible images. The developer material is supplied onto the photoconductive drum surface by the developer sleeve (magnet roller). Then the toner in the developer material adheres to this drum surface to form images. This process is performed in the developer unit.
This chapter explains about the units, parts and control circuits related to development.
The developer unit in this equipment has a recovered toner supply mechanism which recycles the recovered toner scraped off by the drum cleaning blade. The developer unit is driven by the main motor (M3) to rotate the mixers and the developer sleeve.

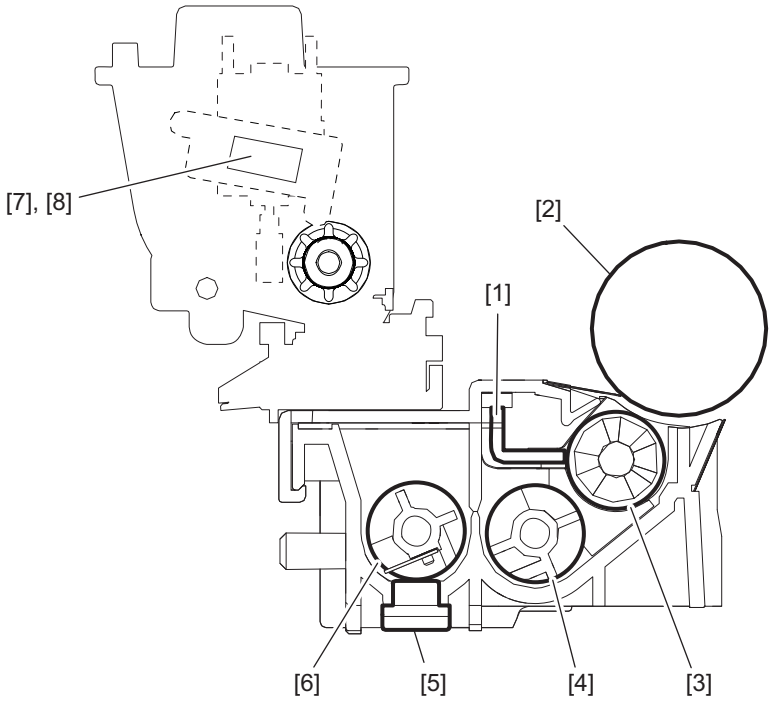


Fig. 3-53

[1] Doctor blade
[2] Drum
[3] Developer sleeve
[4] Mixer-1
[5] Auto-toner sensor
[6] Mixer-2
[7] Toner cartridge PC board (CTRG)
[8] Toner cartridge interface PC board (CTIF)

3.13.2 Composition

Development system		
Developer unit	Developer material	Periodic replacement part
	Mixers-1 and -2	
	Developer sleeve (Magnet roller)	
	Doctor blade	
	Auto-toner sensor (S4)	
Toner cartridge	Toner cartridge PC board (CTRG)	
	Toner cartridge interface PC board (CTIF)	
Toner motor (M2)		

3.13.3 Functions

[1] General description

1. Toner cartridge installation detection mechanism (IC chip)
   The toner cartridge is filled with toner. The toner motor drives the cartridge to supply the toner to the developer unit.
   The IC chip detects whether a toner cartridge is installed.

2. Developer unit
   - Developer material
     The developer material is made of a mixture of the carrier and toner.
     The carrier is an electrical conductive ferrite whose size is approx 44 µm. The toner is a resin particle whose size is approx 8.5 µm.
     The developer material needs periodic replacement since its quality is deteriorated by long use.

   - Mixers-1 and -2
     Friction is generated by mixing the developer material. The carrier is charged to (+) and the toner to (–), and the image is formed on the drum surface by the static electricity caused by the friction.

   - Developer sleeve (Magnetic roller)
     This is an aluminum roller with a magnet inside. The magnet works to absorb the developer material and forms the magnetic brush. The magnet is fixed and only the sleeve around is rotated. This rotation makes the magnetic brush of the developer sleeve sweep over the drum surface and perform development.

   - Doctor blade
     Doctor blade controls the amount of the developer material transported by the developer sleeve so that the magnetic brush of the developer material contacts with the drum surface properly.

   - Auto-toner sensor
     The carrier and the toner (toner density) in the developer material should be always fixed to a certain ratio to output normal images. The auto-toner sensor detects the inclusion ratio of the toner in the developer material by using a magnetic bridge circuit. When the quantity of toner becomes insufficient, the toner motor is driven to supply the toner from the toner cartridge.

   - Recovered toner supply mechanism
     The toner scraped off by the drum cleaning blade is transported by the toner recovery auger and returned to the developer unit to be recycled.

3. Toner cartridge
   This is filled with the toner and this supplies the toner to the developer unit by the drive of the toner motor (M2). The toner cartridge in this equipment mounts the toner cartridge PC board (CTRG), and the data identifying recommended TOSHIBA toner cartridges and the counter values determining that the cartridge is nearly empty are written in this board. These data are read out by the toner cartridge interface PC board (CTIF) in this equipment, and data related to toner supply are also written in the toner cartridge PC board (CTRG). The toner cartridge interface PC board (CTIF) also detects whether the toner cartridge is installed or not.

4. Toner motor (M2)
   P. 3-44 “3.10.3Functions 2.Toner motor (M2)

[2] 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 counter for period of toner cartridge rotation time (08-6246) 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 the power of this equipment is turned ON and the toner supply cover is closed.

[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 counter for period of toner cartridge rotation time
- Data for optimizing image quality

[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.

[Operations]

Toner cartridge	Recommended cartridge	Recommended cartridge refilled with new toner	Non-recommended cartridge
Cartridge detecting function	Enabled “Error: Toner” is displayed when no cartridge is installed.	Enabled “Error: Toner” is displayed when no cartridge is installed.	Disabled “Error: Toner” is displayed even when the cartridge is installed.
Toner remaining check function	Enabled “Toner is low” is displayed when the cartridge is nearly empty.	Disabled “Toner is low” is displayed even when a new cartridge is installed.	Disabled This function does not operate.
Toner remaining check notification function	Enabled	Disabled	Disabled
Image optimization function	Enabled	Enabled	Disabled

A sign of the status that the toner cartridge is nearly empty (= the behavior of the toner lamp) appears when the value of counter for period of toner cartridge rotation time has exceeded the thresholds previously written in the toner cartridge PC board (CTRG). When a used cartridge refilled with new toner is used, that is the value of counter for period of toner cartridge rotation time in the toner cartridge PC board (CTRG) had already exceeded the threshold to determine the near-empty status of the toner at this moment, the sign of the near-empty status appears immediately after the installation of this cartridge. When a non-recommended toner cartridge is used, the equipment may stop normal operations. The toner remaining check function, automatic remote supply order to TOSHIBA sales representatives and image optimization function may also be disabled.
The toner near-empty status threshold setting (08-5155) is provided to adjust the timing for displaying the toner near-empty status as follows.

The toner near-empty status threshold setting (08-5155)

0: The period from the appearance of the toner near-empty sign to the actual complete consumption of the toner is set 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 short.
3: The sign of the status that the cartridge is nearly empty does not appear.

Note that the shorter the period described above is set, the more frequently the toner in the cartridge may run out before the sign of the near-empty status of the toner appears because the way the toner remains in the cartridge differs every time.

When the value of the toner near-empty status threshold setting (08-5155) is set at “3”, the toner remaining check function is disabled.

[3] Recovered toner supply mechanism

The toner scraped off by the drum cleaning blade is transported by the toner recovery auger and returned to the developer unit to be recycled. When returned to the developer unit, the recovered toner is mixed with the developer material by the mixer-1 and mixer-2 in the developer unit.
On the other hand, the fresh toner transported to the developer unit from the toner cartridge is stirred by the mixer-2, then mixed with the recovered toner, and then further stirred and transported to the developer sleeve.

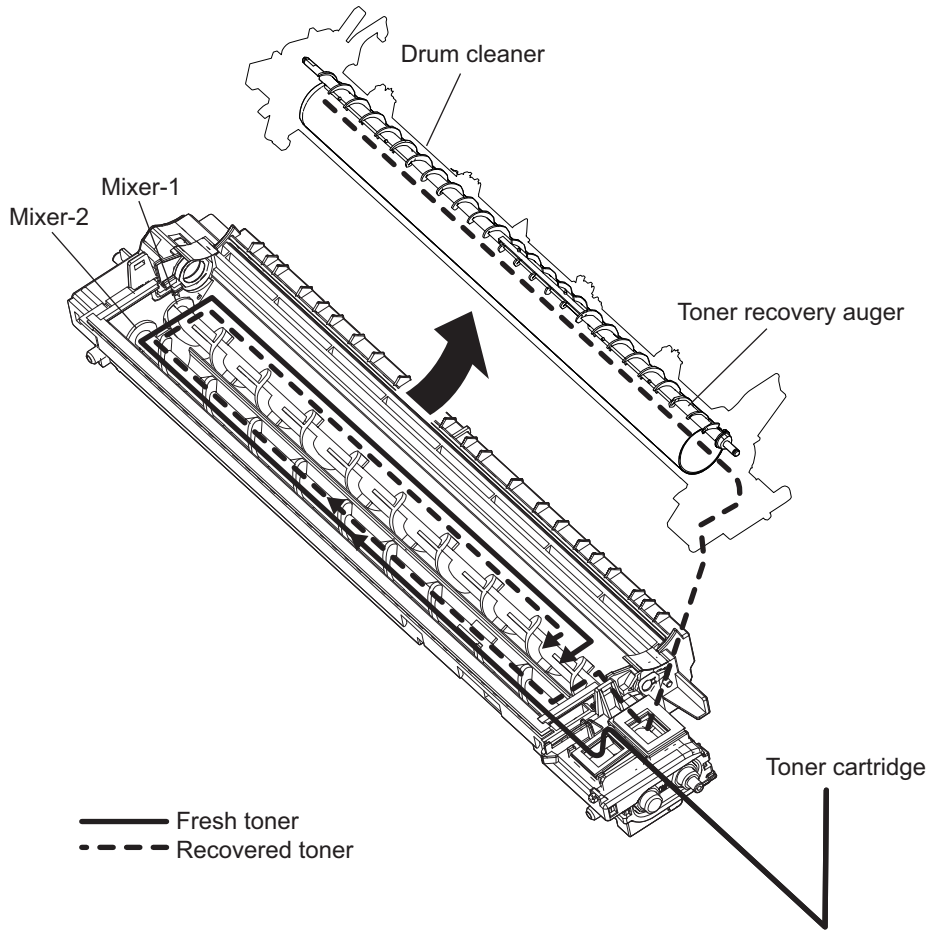


Fig. 3-54

3.14 Fuser / Exit Unit

3.14.1 General Description

In the fuser unit, toner is fused by applying heat and pressure on the transferred image on the transported paper. The paper is then transported to the inner tray after the completion of fusing. The fuser/exit unit is driven by the main motor (M3), and the fuser roller and exit roller are rotated by the main motor (M3).
When the automatic duplexing unit (ADU) is installed, it is driven by the exit motor (M6).
Other than the above rollers, the fuser/exit unit consists of the heater lamps, separation fingers, thermistors (THMS1/THMS2/THMS3), thermostats (THMO1/THMO2), paper transport guide and the exit sensor which detects the status of the paper transport, etc.

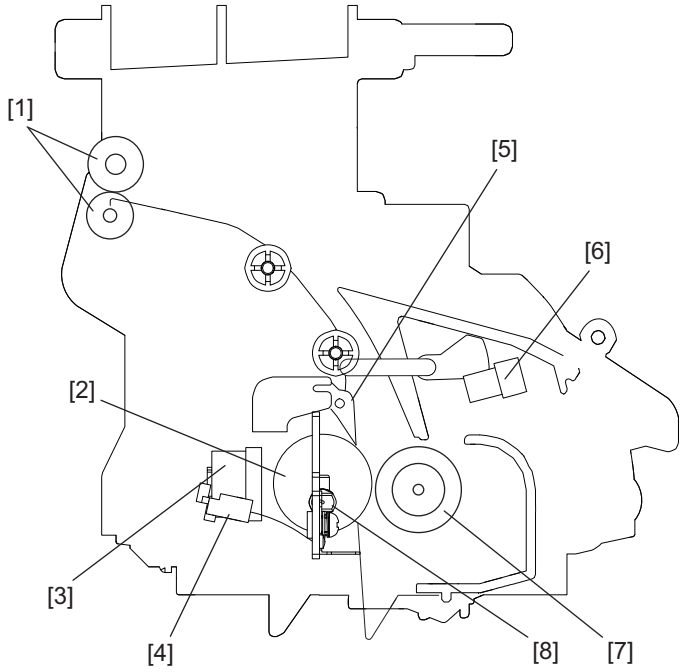


Fig. 3-55

[1] Exit roller
[2] Fuser roller
[3] Thermostats
[4] Thermistors
[5] Fuser separation finger
[6] Exit sensor
[7] Pressure roller
[8] Heater lamps

3.14.2 Composition

Fuser / Exit unit		25S	25H/25F, 28A/28M/ 28F	Remarks
Pressure roller		Y	Y	PFA tube sponge roller (ϕ22)
Fuser roller		Y	Y	PFA coated roller (ϕ23)
Separation finger		Y	Y	
Heater lamp	Fuser heater lamp (LAMP1)	Y	N	700W
	Center heater lamp (LAMP2)	N	Y	600W
	Side heater lamp (LAMP3)	N	Y	600W
Thermistor	Center thermistor (THMS1)	Y	Y	
	Edge thermistor (THMS2)	N	Y	
	Side thermistor (THMS3)	N	Y	
Thermostat	Fuser thermostat (THMO1)	Y	N	Non-contact type
	Center thermostat (THMO2)	N	Y	Non-contact type
	Front thermostat (THMO3)	N	Y	Non-contact type
Exit sensor (S3)		Y	Y	
Exit roller		Y	Y	

3.14.3 Functions

1. Pressure roller
   The pressure roller is a sponge roller which assures the nip amount of the fuser roller. The pressure from the spring presses the paper onto the fuser roller to fuse toner onto the paper efficiently.

2. Fuser roller
   The fuser roller applies heat onto the paper and is heated by the heater lamps installed inside of the fuser roller. The heat from this roller fuses toner onto the paper. The fuser roller in this equipment is a thin roller which enhances heat conduction, and thus the warming-up time is shortened.

3. Fuser heater lamp (LAMP1) <25S only>
   Halogen lamp for heating the fuser roller. The fuser unit of "25S" has one heater lamp (700W). The whole heater lamp is heated by a coil wound around it.
   The heater lamps are fixed on the inside of the fuser roller to heat it up. The heater lamps do not rotate even when the fuser roller is rotating.

4. Center heater lamp (LAMP2) / Side heater lamp (LAMP3) <25H/25F, 28A/28M/28F only>
   The heater lamps are halogen lamps to apply heat to the fuser roller. The fuser unit in “25H/25F” has 2 heater lamps (600W+600W) with different functions each other. One has a coil wound up on its center and this part generates heat. The other one has coils wound up on its both ends and these parts generate heat. The one has a coil on its center is called the center heater lamp (LAMP2) and the one has coils on its both ends is called the side heater lamp (LAMP3).The heater lamps are fixed on the inside of the fuser roller to heat it up. The heater lamps do not rotate even when the fuser roller is rotating.

5. Center thermistor (THMS1)
   This thermistor detects the temperature of the fuser roller to maintain it in a certain temperature range between the lower limit causing the poor fusing and the upper limit causing the high temperature offsetting. When the temperature of the fuser roller is lower than the preset temperature, it turns ON the power supply to the heater lamps, and when it is higher than the preset temperature, it cuts off the supply.
   The center thermistor (THMS1) detects the temperature of the center part of the fuser roller.

6. Side thermistor (THMS2) <25H/25F, 28A/28M/28F only>
   This thermistor detects the temperature of the fuser roller to maintain it in a certain temperature range between the lower limit causing the poor fusing and the upper limit causing the high temperature offsetting. When the temperature of the fuser roller is lower than the preset temperature, it turns ON the power supply to the heater lamps, and when it is higher than the preset temperature, it cuts off the supply.
   The side thermistor (THMS2) detects the temperature of one side of fuser roller and control the both sides.

7. Edge thermistor (THMS3) <25H/25F, 28A/28M/28F only>
   Both the ends of the fuser roller may be overheated without heat absorption by the paper since it does not pass through this area. The edge thermistor (THMS3) detects any temperature abnormality of this area caused by overheating of the fuser roller. Therefore this thermistor is not used for temperature control of the fuser roller.

8. Fuser thermostat (THMO1) <25S only>
   The fuser thermostat (THMO1) cuts off the power supply to the fuser heater lamp (LAMP1) by opening itself if the fuser roller becomes abnormally hot as a result of the problem such as thermistor malfunction. The fuser thermostat (THMO1) for this equipment is used to prevent abnormal operation. When the fuser thermostat (THMO1) detects any abnormality, it must be replaced as well as the other damaged parts in the fuser unit.

9. Center thermostat (THMO2) / Front thermostat (THMO3) <25H/25F, 28A/28M/28F only>
   The thermostats (THMO2/THMO3) cut off the power supply to the heater lamps (LAMP1/LAMP2) by opening itself if the fuser roller becomes abnormally hot as a result of the problem such as thermistor malfunction. The thermostats (THMO2/THMO3) for this equipment is used to prevent abnormal operation. When the thermostats (THMO2/THMO3) detects any abnormality, these must be replaced as well as the other damaged parts in the fuser unit.

10. Separation finger
    Five separation fingers are installed above the fuser roller, in order to separate paper adhering to each roller.

11. Exit roller
    The exit roller, which transports the paper to the inner tray, is driven by the main motor (M3).

12. Exit sensor (S3)
    The exit sensor detects if the leading or trailing edge of the paper is passing through the pressure roller and the fuser roller. This sensor is used for the detection of paper jams in the fuser/exit unit as well.

13. Exit motor (M6) <25H/25F, 28A/28M/28F only>
    The exit motor is a stepping motor which drives the exit roller. For this motor rotates exit roller reversely to switchback when the paper is transported to the ADU.

3.14.4 Operation

<25S>

The fuser roller is pressed by the pressure roller with the spring force. The fuser roller is rotated by the main motor drive, and the pressure roller is rotated by the rotation of the fuser roller. In addition, the heater lamp in the fuser roller do not structurally rotate.

The heater lamp heats the whole fuser roller. The thermistors control the temperature of the fuser roller and detect temperature abnormalities. If the temperature becomes excessively high, the thermostat is opened to stop the power supply to the heater lamp.

Then the paper transported to the fuser unit is held between the fuser roller and pressure roller, and toner is fused on the paper with heat and pressure. After this, the separation fingers separate the paper from the fuser roller. Then the paper is transported to the inner tray through the exit roller. The paper transport status of the fuser/exit unit is detected by the exit sensor.

When the power is turned ON, the warming up of the fuser unit is started: the heater lamps are turned ON. If the temperature of the fuser roller does not reach or exceeds a specified temperature within a specified period of time, it is judged that the heater is abnormal. When the specified temperature has been reached normally, the equipment goes into the ready state.

When printing is not performed within a specified period of time during ready, the equipment enters the Auto Power Save Mode and turns the heater lamp. OFF or lowers the control temperature to save power consumption. And if printing is not performed within another specified period of time after the equipment has entered the Auto Power Save Mode, the equipment then enters the Auto Shut Off mode to turn OFF the heater lamp.

<25H/25F, 28A/28M/28F>

The fuser roller is pressed by the pressure roller with the spring force. The fuser roller is rotated by the main motor drive, and the pressure roller is rotated by the rotation of the fuser roller. In addition, the heater lamps in the fuser roller do not structurally rotate.

2 heater lamps having different functions are installed; one applies heat to the center part of the fuser roller and the other applies heat to both ends of the roller. In this equipment, the surface temperature of the fuser roller at any paper size can be maintained by controlling the turning ON/OFF of the 2 heater lamps. The thermistors control the temperature of the fuser roller and detect temperature abnormalities.If the temperature becomes excessively high, the thermostat is opened to stop the power supply to the heater lamps.

Then the paper transported to the fuser unit is held between the fuser roller and pressure roller, and toner is fused on the paper with heat and pressure. After this, the separation fingers separate the paper from the fuser roller. Then the paper is transported to the inner tray through the exit roller. The paper transport status of the fuser/exit unit is detected by the exit sensor.

When the power is turned ON, the warming up of the fuser unit is started: the heater lamps are turned ON. If the temperature of the fuser roller does not reach or exceeds a specified temperature within a specified period of time, it is judged that the heater is abnormal. When the specified temperature has been reached normally, the equipment goes into the ready state.When printing is not performed within a specified period of time during ready, the equipment enters the Auto Power Save Mode and turns the heater lamp. OFF or lowers the control temperature to save power consumption. And if printing is not performed within another specified period of time after the equipment has entered the Auto Power Save Mode, the equipment then enters the Auto Shut Off mode to turn OFF the heater lamp.

3.14.5 Heater Control Circuit

[1] Configuration

<25S>

In this equipment, the surface temperature of the fuser roller is controlled by turning ON/OFF the heater lamp with the command from the engine-CPU on the main board.

The surface temperature of the fuser roller is detected by 2 thermistors (center and edge) and the information on the temperature is transmitted to the engine-CPU and each control circuit.

Based on the detected temperature, the engine-CPU transmits the control signal of the heater lamp to the control circuit (TRC: Triac) of each heater lamp on the power supply. The power supply to the fuser roller is controlled by driving the TRC.

When the fuser roller overheats abnormally, the relay OFF circuit sends the relay OFF signal to turn OFF the relay and the power supply forcibly. If these control circuits do not function due to the malfunction of the thermistor and the fuser roller overheats abnormally, the power supply to the heater lamp will be shut off by the thermostat to protect the equipment.

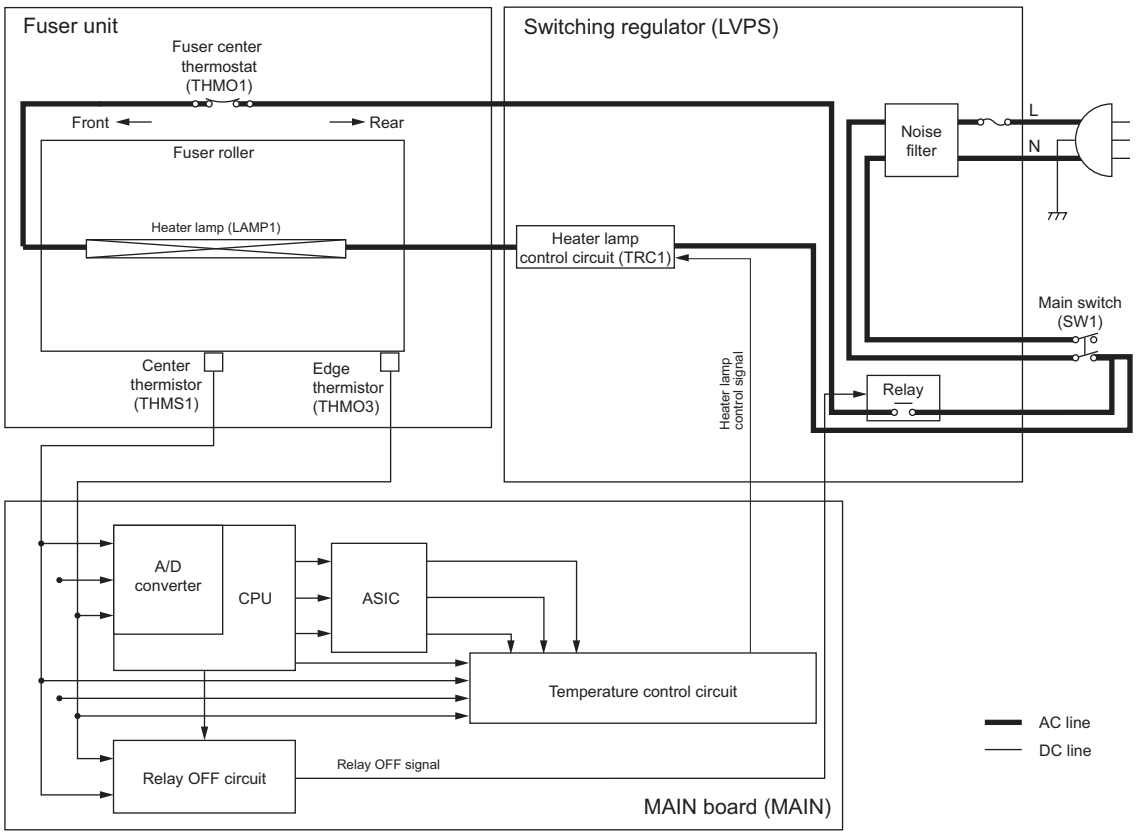


Fig. 3-56

<25H/25F, 28A/28M/28F>
In this equipment, the surface temperature of the fuser roller is controlled by turning ON/OFF the 2 heater lamps (center and side) which have different heat-generating positions with the command from the engine-CPU on the main board.
The surface temperature of the fuser roller is detected by 3 thermistors (center, side and edge) and then the information of the temperature is transmitted to the engine-CPU and each control circuit. Based on the detected temperature, the engine-CPU transmits the control signal of the heater lamp to the control circuit (TRC: Triac) of each heater lamp on the switching regulator via the temperature control circuit. The power supply to the fuser roller is thus controlled by driving TRC. The temperature control circuit detects the overheating of the fuser roller. In case that the surface temperature of the fuser roller has exceeded the specified temperature, the temperature control circuit turns the heater lamp OFF. If the temperature control circuit does not function for some reason and the fuser roller is abnormally overheated as the result, a relay OFF circuit transmits a relay OFF signal to turn off the relay, and to turn the power OFF forcibly.
If the temperature control circuit does not function for some reason and the fuser roller is abnormally overheated as the result, a forcible power-OFF circuit transmits a reset signal to the power switch to turn the power OFF forcibly. In addition, if these control circuits do not function with thermistor abnormality or other reasons and the fuser roller is abnormally overheated as the result, 2 thermostats (front and center ones in the fuser unit) shut off the power supply to the heater lamps to protect the equipment.

<25H/25F>

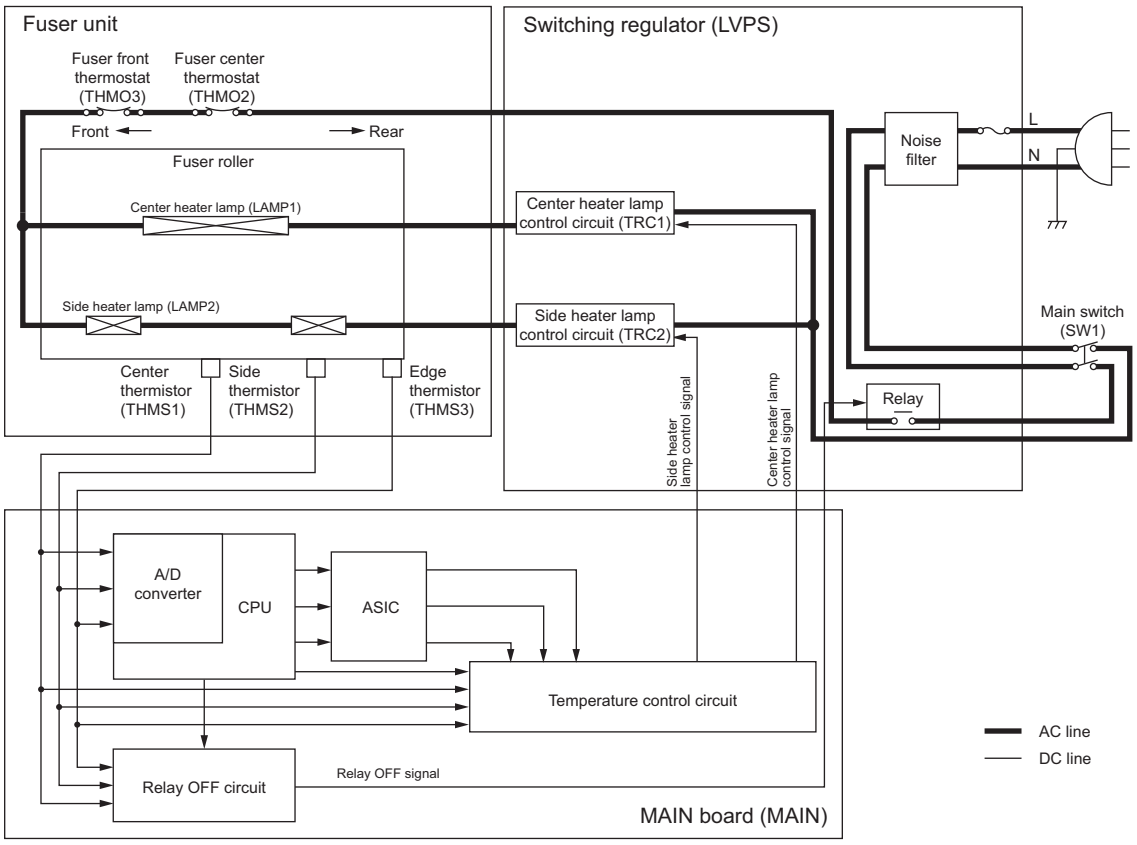


Fig. 3-57

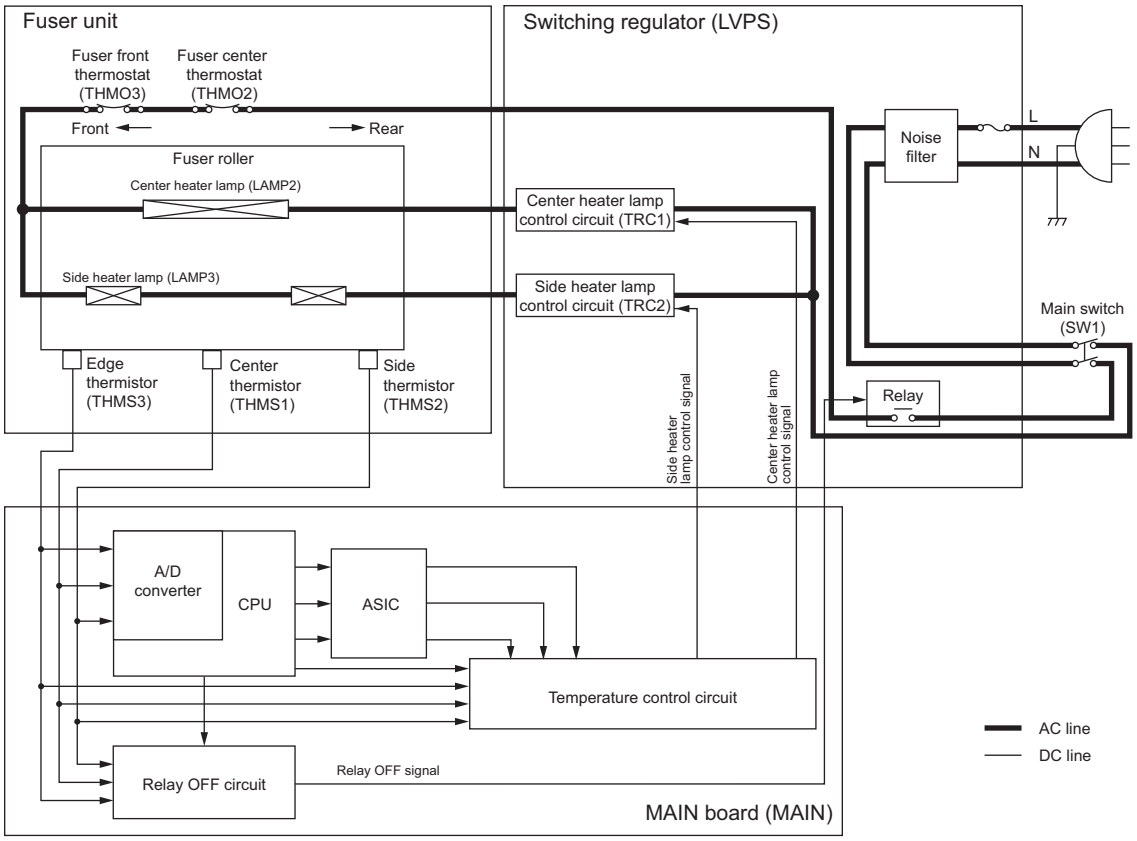


Fig. 3-58

[2] Temperature detection section

To maintain the surface temperature of the fuser roller at a certain level, thermistors detect the surface temperature of the fuser roller to turn ON/OFF and control the heater lamps.

1. Fuser unit error status counter control
   - To enhance the safety of the fusing section unit, SoC provides the following protection: When the second [C412] error has occurred after one consecutive [C411] error, the heater lamp is not turned ON and error [C412] is displayed immediately even if an operator turns OFF the power and back ON. However, if the equipment goes into a ready state normally with the fuser unit error status counter “1” or below, the counter is cleared to “0”.

   - If the error codes [C411] to [C452] are displayed and still not cleared even though the thermistor, thermostat and heater lamp have been repaired (and the power ON/OFF does not clear the error), check the Setting Mode (08-2002) to set the fuser unit error status counter to “0”.

   Remarks:
   - If the heater lamp does not turn ON and the service call [C411] is displayed immediately after the power is ON, ensure the fuser unit error status counter is “2” or over. If it is “2” or over, be sure to check the thermistor, thermostat and heater lamp. Reset the counter to “0” after repairing them, then turn ON the power.

   - If the fuser unit error status counter is “20” or over (e.g., 31), the data in main memory or Memory itself may possibly have been ruined due to causes such as leakage from the chargers. Check the bias, high-voltage transformers and charge wires to see if any of them is defective, and also look through all the data in the Memory.

   - When the thermistors detect overheating, the SoC decides the error code and counter value of the fuser unit error status, and turns OFF each output (the heater lamp, control panel display, motors and so on) to protect the fuser unit.

     Error code: [C449]
     Counter value of the fuser unit error status: 08-2002

     Thermistors continue detecting the abnormal temperature even after the error codes and counter values are decided. Even if the power is turned ON immediately, the heater lamp is automatically turned OFF again when the surface temperature of the fuser roller is still higher than the abnormal temperature detected.
     Wait until the surface temperature of the fuser roller is lowered enough, and turn ON the power to check the counter value. After confirming that it is the fuser unit abnormality, correct the abnormality and reset the counter value (08-2002) to “0” to start up the equipment normally.

2. Temperature detection configuration
   Thermistor is a device whose resistance decreases as it detects a higher temperature. Thus its input voltage to A/D converter changes and then SoC judges whether this change is normal or abnormal. If one of the fuser roller thermistors is broken, the control circuit judges that the fuser roller temperature is extremely low and keeps turning the heater lamp ON. As a result, the fuser roller temperature rises, and possibly activates the thermostat which is a safety protection device. To prevent this in advance, SoC works to detect whether each thermistor is broken or not.
   Also, the thermistors constantly check the temperature of heater lamp to prevent it from excessive heating by MAIN circuit abnormality or thermistor abnormality. The thermistors automatically turn OFF the power when the temperature of heater lamp exceeds the specified temperature.

3. Abnormality detection by the thermistors
   The following table shows the conditions judging the fuser roller temperature abnormality and detecting timing.

<25S>

Operating state		Error code	Error counter	Evaluation temperature		Check timing
				Center thermistor	Edge thermistor	
Power ON Ready	When power ON	C449	9 confirmed	240ºC≤	-	When power ON
				-	240ºC≤	
	When 40ºC detected	C449	19 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
		C411	1 unconfirmed	40ºC≤	-	C40
		C412	2 confirmed	40ºC≤	-	C40
	When 100ºC detected	C449	21 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
		C413	3 confirmed	100ºC≤	-	C100
	Ready temperature	C449	22 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
		C452	62 confirmed	Ready temperature	Center 50ºC	C-Ready S-Ready
		C414	4 confirmed	Ready temperature	-	
During operations/Self-diagnosis mode	Ready	C449	23 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
		C447	7 confirmed	40ºC≤	-	Constantly detected
				-	40ºC≤	
	During printing	C449	25 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
		C447	24 confirmed	40ºC≤	-	Constantly detected
				-	40ºC≤	
		C415	5 confirmed	Low temperature WAIT control 1 min. or above Constantly detected	-	Constantly detected
	During preheat	C449	27 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
	When jammed	C449	29 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	
	During self-diagnosis	C449	45 confirmed	240ºC≤	-	Constantly detected
				-	240ºC≤	

<25H/25F, 28A/28M/28F>

Operating state		Error code	Error counter	Evaluation temperature			Check timing
				Center thermistor	Side thermistor	Edge thermistor	
Power ON Ready	When power ON	C449	9 confirmed	240ºC≤	-	-	When power ON
				-	240ºC≤	-	
				-	-	240ºC≤	
	When 40ºC detected	C449	19 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
		C411	1 unconfirmed	40ºC≤	-	-	C40
				-	40ºC≤	-	S40
		C412	2 confirmed	40ºC≤	-	-	C40
				-	40ºC≤	-	S40
	When 100ºC detected	C449	21 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
		C413	3 confirmed	100ºC≤	-	-	C100
				-	100ºC≤		S100
	Ready temperature	C449	22 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
		C452	62 confirmed	Ready temperature	Center 70ºC	-	C-Ready S-Ready
				Center 70ºC	Ready temperature	-	
		C414	4 confirmed	Ready temperature	-	-	
				-	Ready temperature	-	
During operations/ Self-diagnosis mode	Ready	C449	23 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
		C447	7 confirmed	40ºC≤	-	-	Constantly detected
				-	40ºC≤	-	
				-	-	40ºC≤	

Operating state		Error code	Error counter	Evaluation temperature			Check timing
				Center thermistor	Side thermistor	Edge thermistor	
During operations/ Self-diagnosis mode	During printing	C449	25 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
		C447	24 confirmed	40ºC≤	-	-	Constantly detected
				-	40ºC≤	-	
				-	-	40ºC≤	
		C415	5 confirmed	Low temperature WAIT control 1 min. or above Constantly detected	-	-	Constantly detected
				-	Low temperature WAIT control 1 min. or above Constantly detected	-	
	During preheat	C449	27 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
	When jammed	C449	29 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	
	During self-diagnosis	C449	45 confirmed	240ºC≤	-	-	Constantly detected
				-	240ºC≤	-	
				-	-	240ºC≤	

3.15 Automatic Duplexing Unit <25H/25F, 28M/28F Only>

3.15.1 General Description

The Automatic Duplexing Unit (ADU) of this equipment is a unit to transport the paper, which is switchbacked at the paper exit section/ reverse section and transported reversed, to the registration roller again.

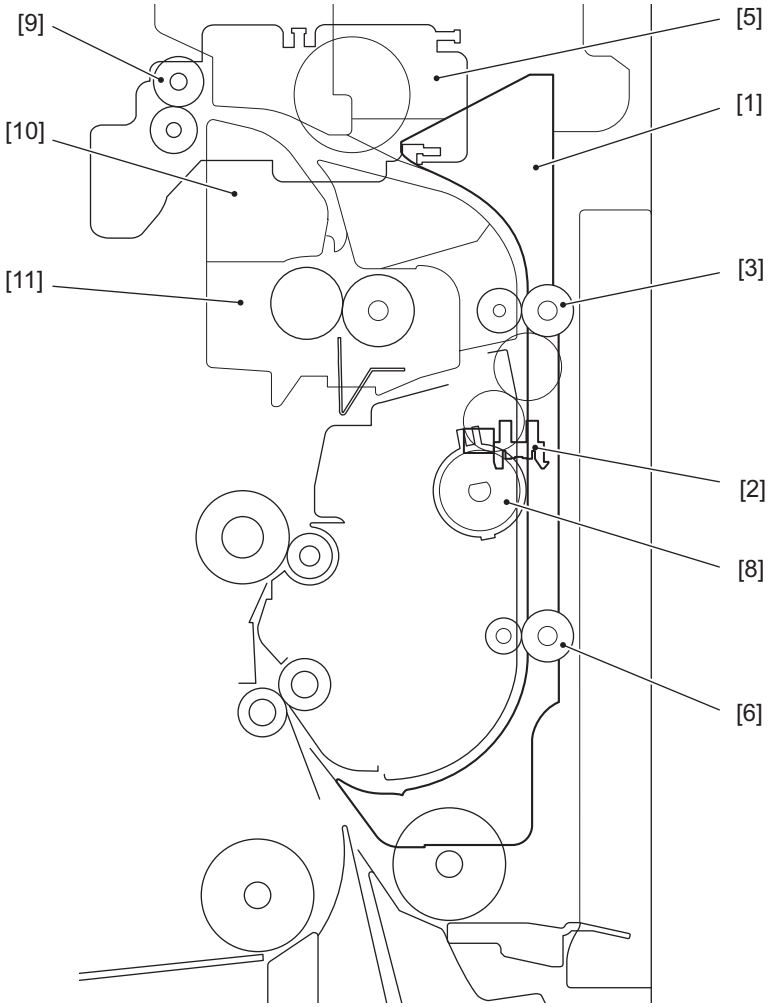


Fig. 3-59

[1] Guide
[2] ADU sensor
[3] ADU upper transport roller
[5] ADU motor
[6] ADU lower transport roller
[8] ADU clutch
[9] Exit roller
[10] Paper exit section
[11] Fuser section

3.15.2 Composition

Automatic Duplexing Unit (ADU)		
ADU clutch	CLT4	
ADU sensor	S7	
ADU upper transport roller		
ADU lower transport roller		
Exit motor	M6	

3.15.3 Drive of ADU

When the main motor rotates in the direction A, the ADU upper transport roller is rotated with the drive of the gears and belt, and thus the paper is transported. When the ADU clutch (CLT4) is turned ON, the ADU lower transport roller is rotated.

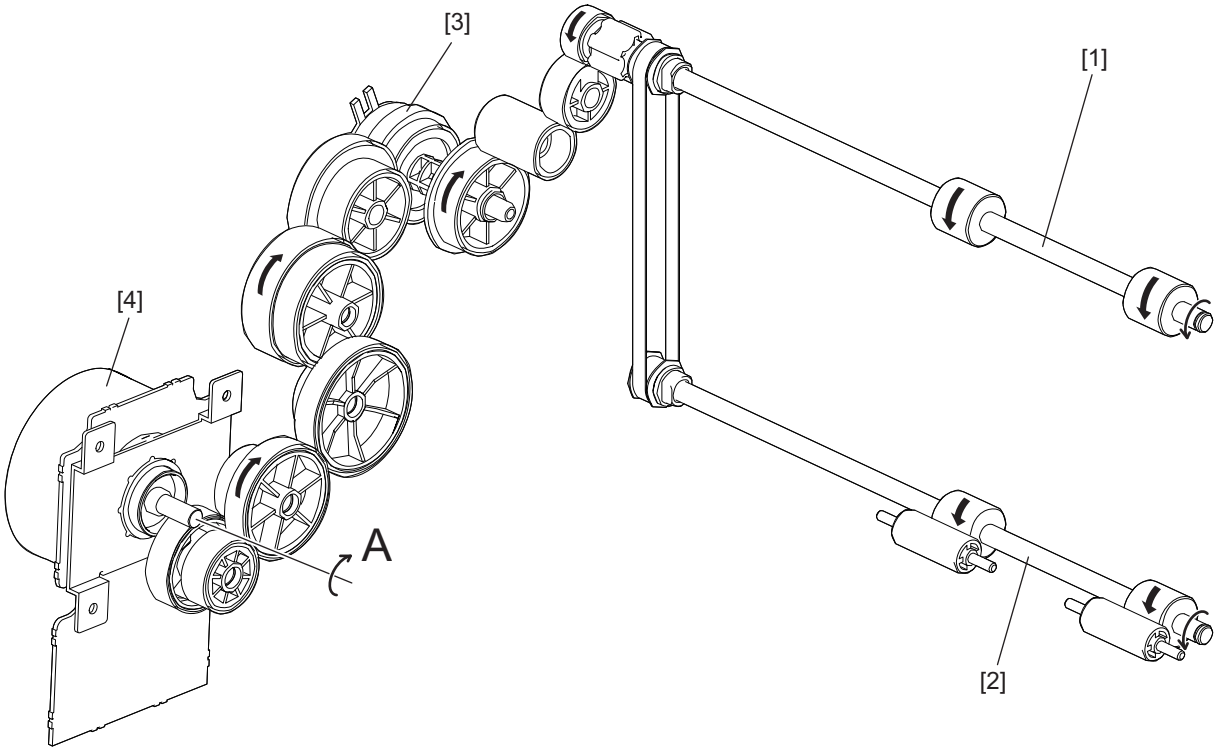


Fig. 3-60

[1] ADU upper transport roller
[2] ADU lower transport roller
[3] ADU clutch
[4] Main motor

3.15.4 Functions

1. Main motor (M3)
   Drives the ADU upper transport roller and the ADU lower transport roller.

2. ADU clutch (CLT4)
   Transmits the drive from the main motor (M3) to the ADU lower transport roller.

3. ADU sensor (S7)
   Detects the paper transported in the ADU.

4. ADU upper transport roller, ADU lower transport roller
   Transports the paper inside the ADU.

5. ADU fan (M7)
   Cooling down the process unit and the toner cartridge.

3.15.5 Description of Operations

The back side printing (recording data of the back side of paper) is performed first by selecting duplex printing mode and pressing the [START] button.
When the paper passed the exit sensor, the exit roller switchbacks to transport the paper into the ADU.

The switchbacked paper is transported with acceleration. The transportation decelerates in front of the ADU sensor. The front side printing (recording data of the front side of paper) is performed at the registration section. The paper passes through the exit gate again and is transported to the inner tray to complete duplex printing.

There are three methods of judging a paper jam: (1) whether the ADU sensor is turned ON or not in a specified period of time after the switchback to the ADU started (E510). (2) whether the registration sensor is turned ON or not in a specified period of time after the paper feeding from the ADU to the equipment (E110).

If the ADU is opened during duplex printing, the ADU motor and ADU clutch are stopped, namely, ADU open jam occurs (E430).
The equipment is never to be stopped during printing by interruption in any case except paper jam or service call.
The operation of the duplex printing differs depending on the size of the paper; single-paper circulation and alternateness circulation. The figures in the following pages show the circulating operations during duplex copying. The numbers in the figures indicate the page numbers.

1. Single-paper circulation
   With the paper larger than A4/LT size, duplex printing (back-side printing → front-side printing) is performed for one sheet at a time as shown below.

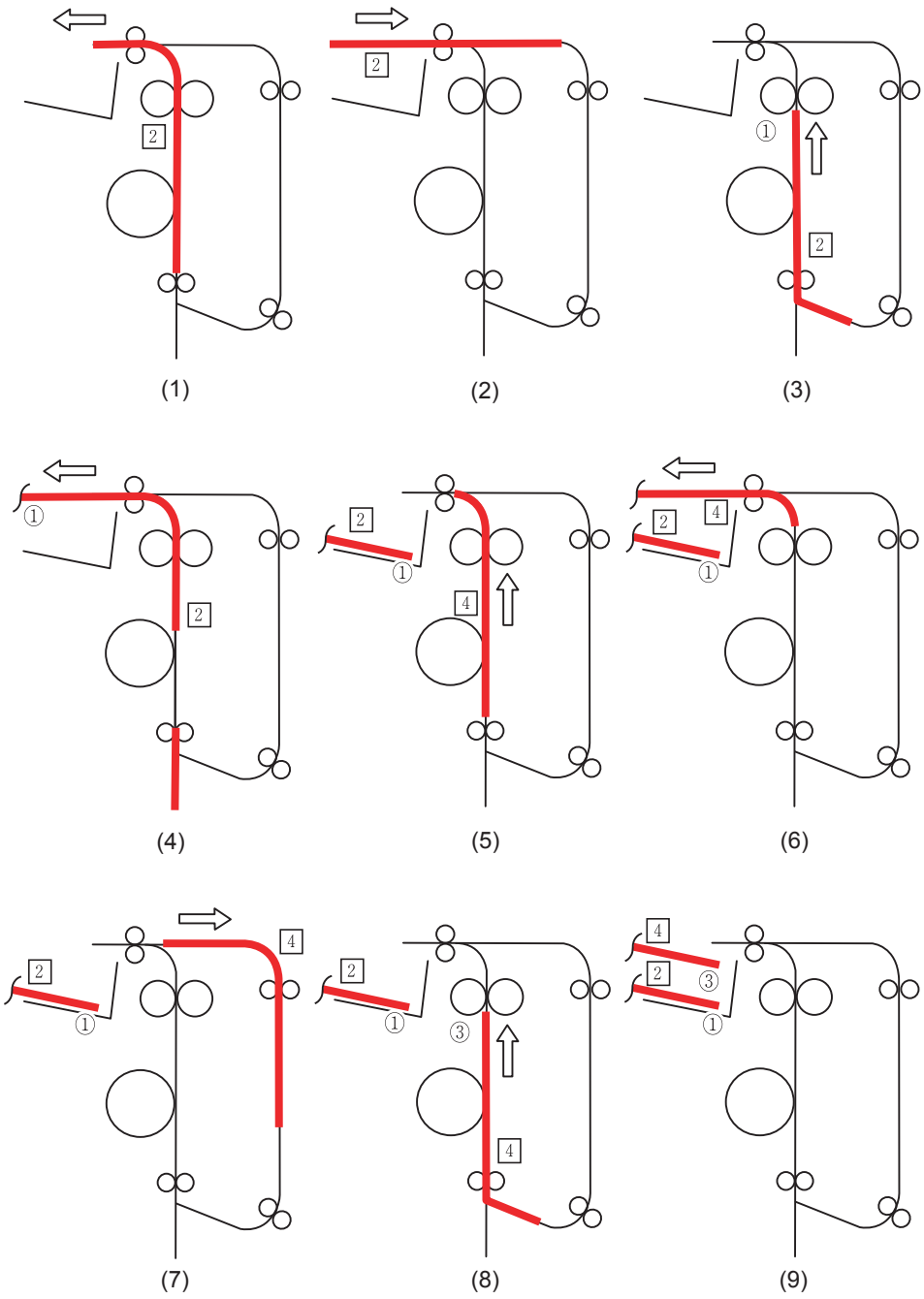


Fig. 3-61

3.16 Automatic Document Feeder (ADF)

3.16.1 Main components

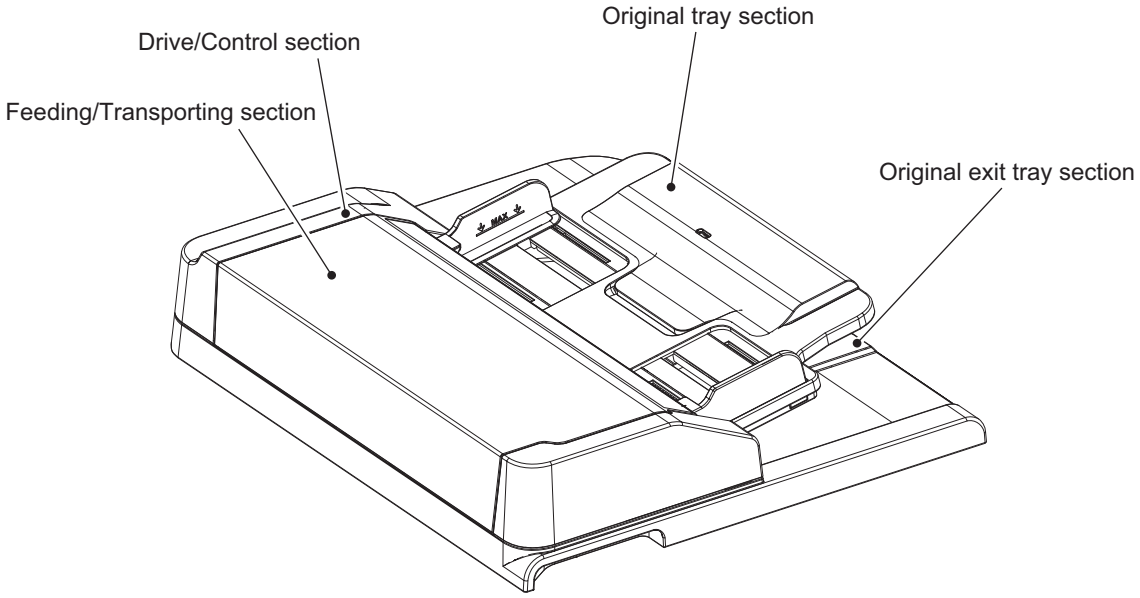


Fig. 3-62

Location	Components	Electric Parts
Feeding/ Transporting section	Pickup roller Feed roller Separation roller Transport roller Exit roller	Original empty sensor (S9) Jam access cover sensor (S10) Original read sensor (S11)
Original tray section	Original width guide Original tray Original reverse tray	Original tray length sensor (S8)
Original exit tray section	Original exit tray	
Drive / Control section		Original feed motor (M8) ADF opening/closing sensor (S12) ADF control PC board (ADF)

3.16.2 Diagram of signal blocks

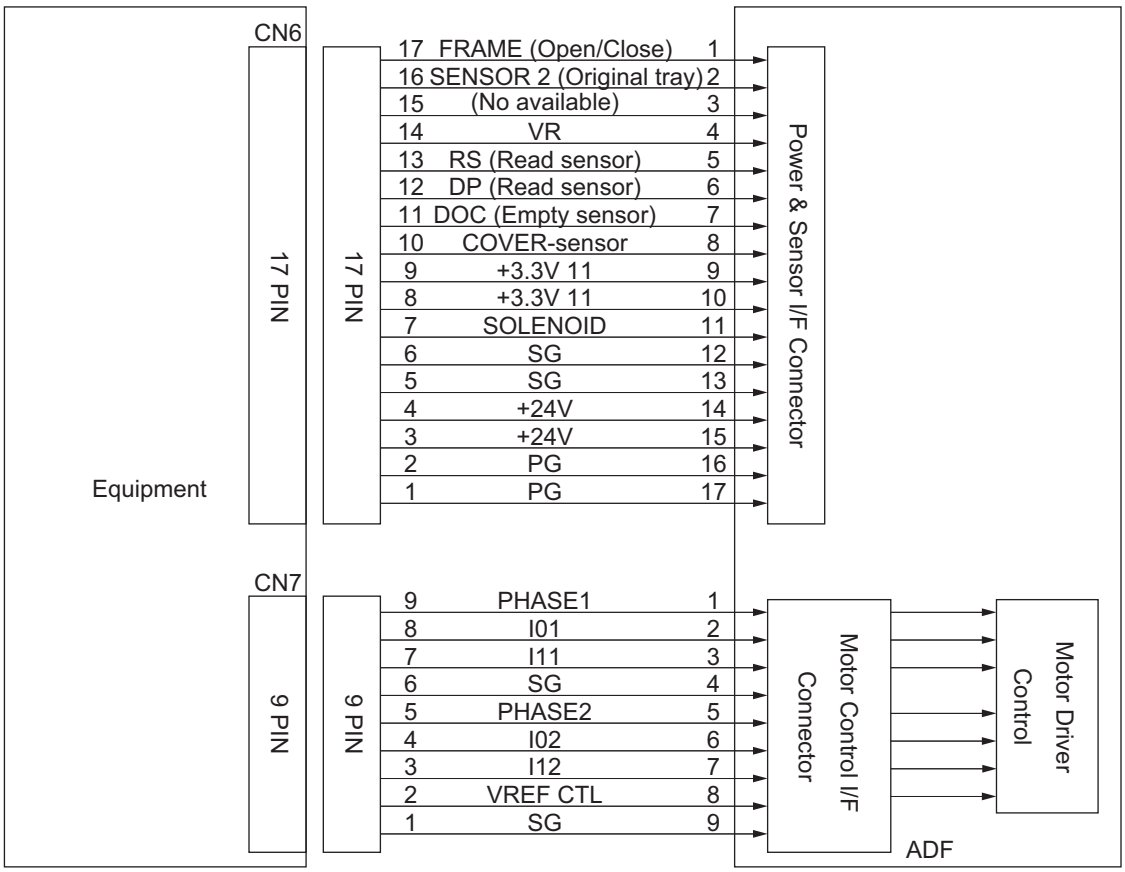


Fig. 3-63

3.16.3 Wire harness connection diagrams

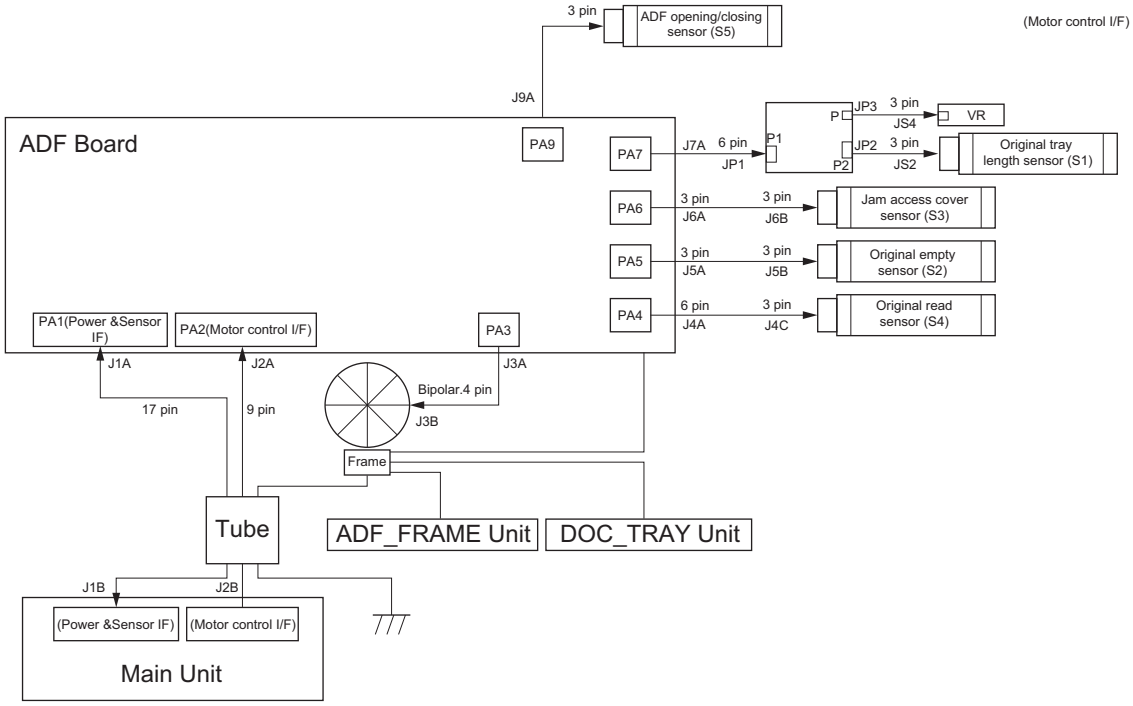


Fig. 3-64

3.16.4 Drive system

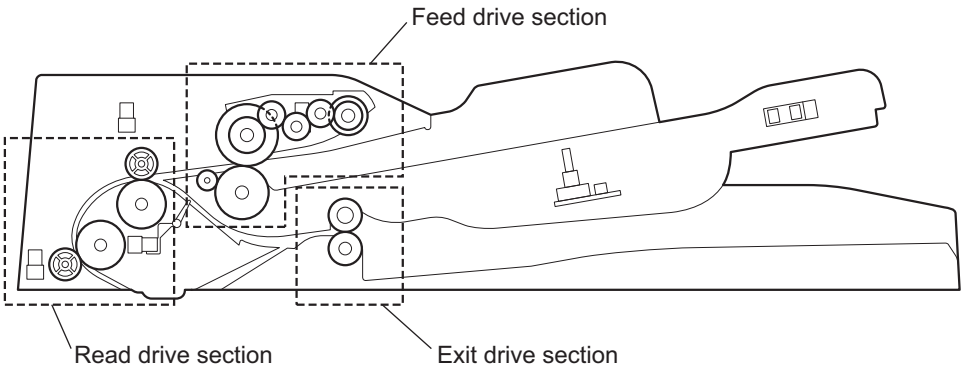


Fig. 3-65

[1] Outline

Originals are transported by the original feed motor.
Drive system:Drives the feed drive section, read drive section and exit drive section.

[2] Original feed drive section

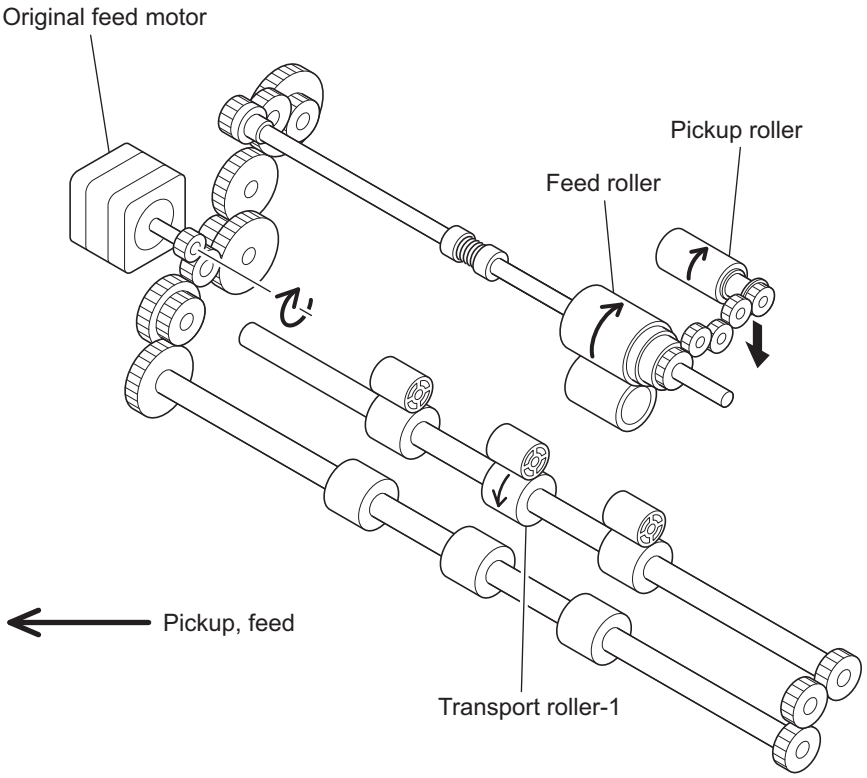


Fig. 3-66

When an original is placed on the original tray and the ADF receives a feed request signal from the equipment, the feeding of the original is started.
The original empty sensor detects the presence of the original, and then the pickup roller is lowered by the drive from the Original feed motor.
The Original feed motor rotates, and the pickup roller and the feed roller then rotate in a normal direction (shown in a solid line in the figure) to guide the original into the transport path. Then the original is transported to the transport roller-1.
When the original empty sensor detects that there is no original on the original tray, the Original feed motor is turned OFF and the pickup roller is raised.

[3] Read drive section

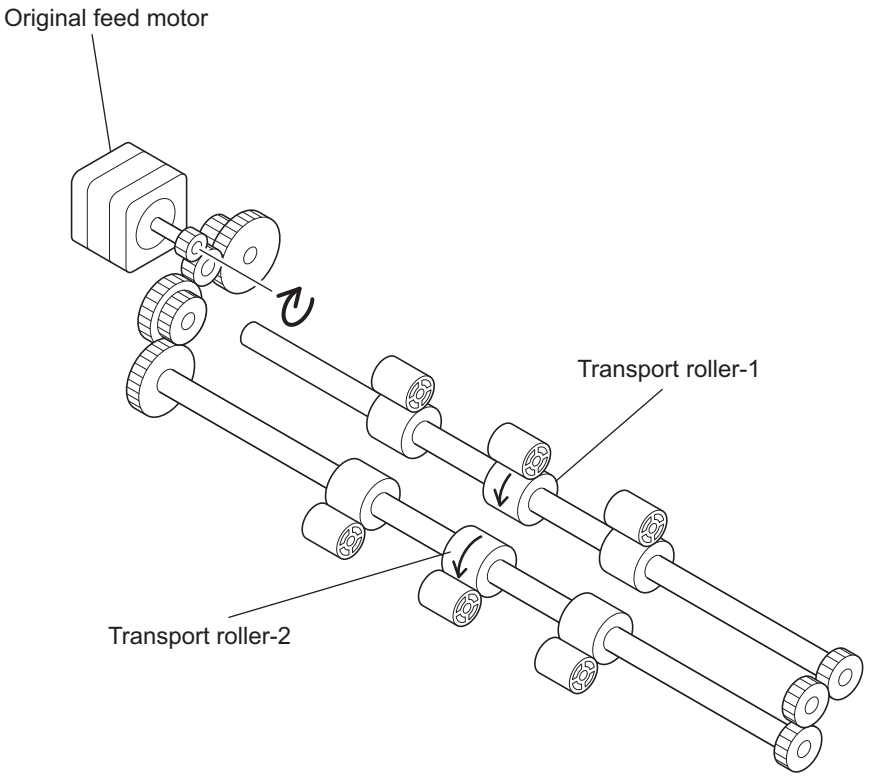


Fig. 3-67

The original being transported is transported to the position where scanning starts by transport roller-1 and transport roller-2, which are driven by the original transport motor.
The original transported to the scanning start position is then scanned in the scanner function of the equipment.
The original that is scanned is transported towards the output tray.

[4] Exit drive section

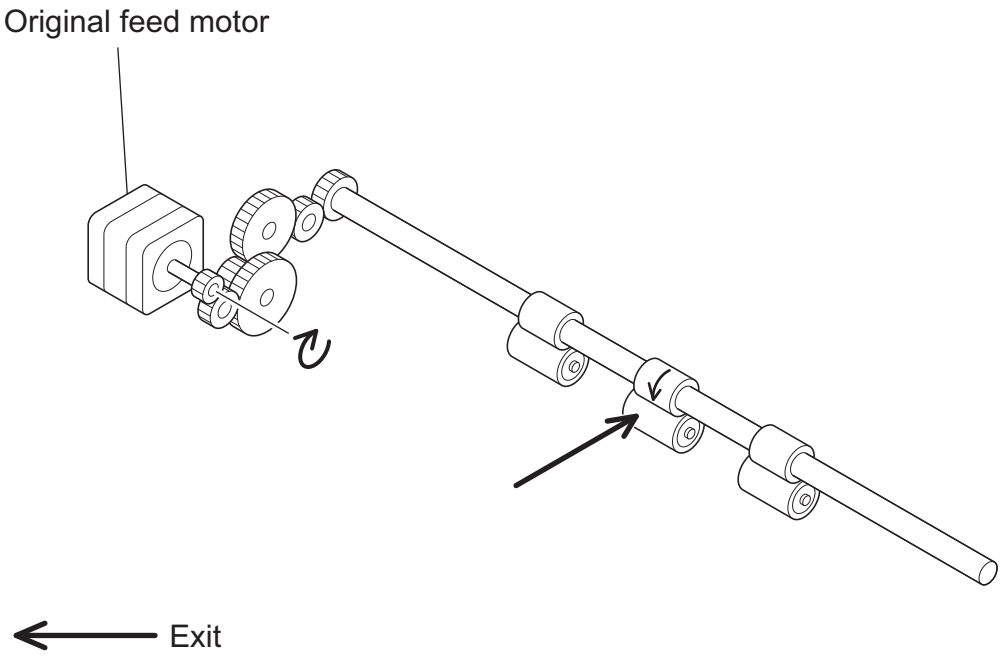


Fig. 3-68

When the data of the original have been scanned, the original is exited to the original exit tray by the exit roller driven by the feed motor.

3.16.5 Original Size Detection

The size of the original is detected by the original tray width and the original tray length sensor.

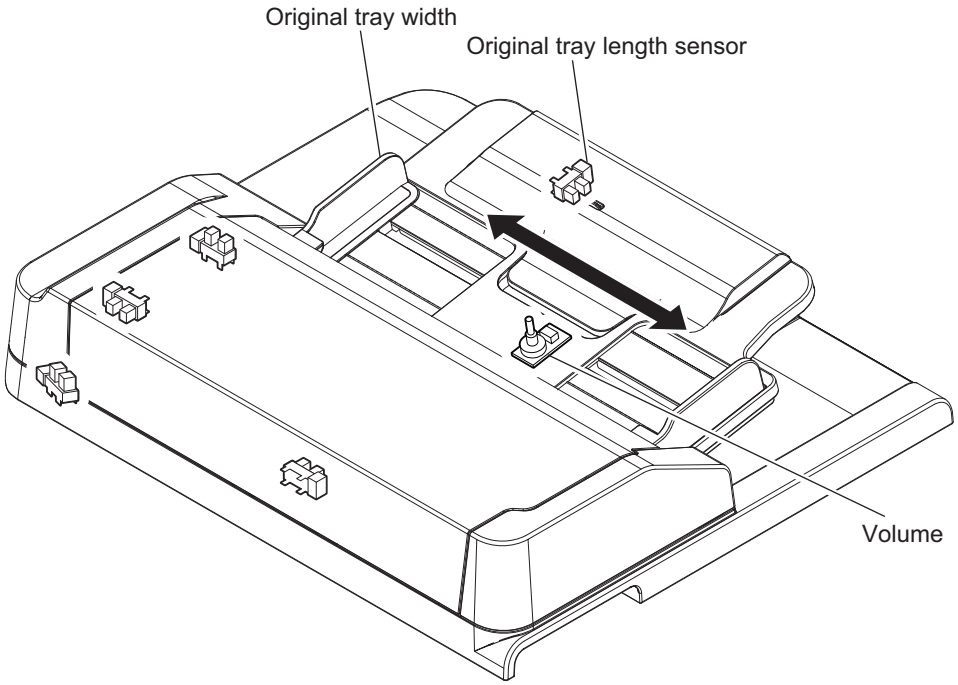


Fig. 3-69

[1] Outline

The final size of the original is determined by detecting the length of the original by the original tray length sensor and by detecting the width of the original by the original tray width position, the results of which are the final size of the original.
Detection of the width of the original is done by variation of the volume (variable resistance) in response to the position of the original tray width, this value is converted to voltage to identify the width of the original.

Size determined	Original tray length sensor	Original tray width
A5-R	0	A5-R
B5-R	0	B5-R
A4-R	1	A4-R
B5	0	B4/B5
B4	1	B4/B5
A4	0	A3/A4
A3	1	A3/A4

3.17 Reversing Automatic Document Feeder (RADF) <28M/28F>

3.17.1 Main components

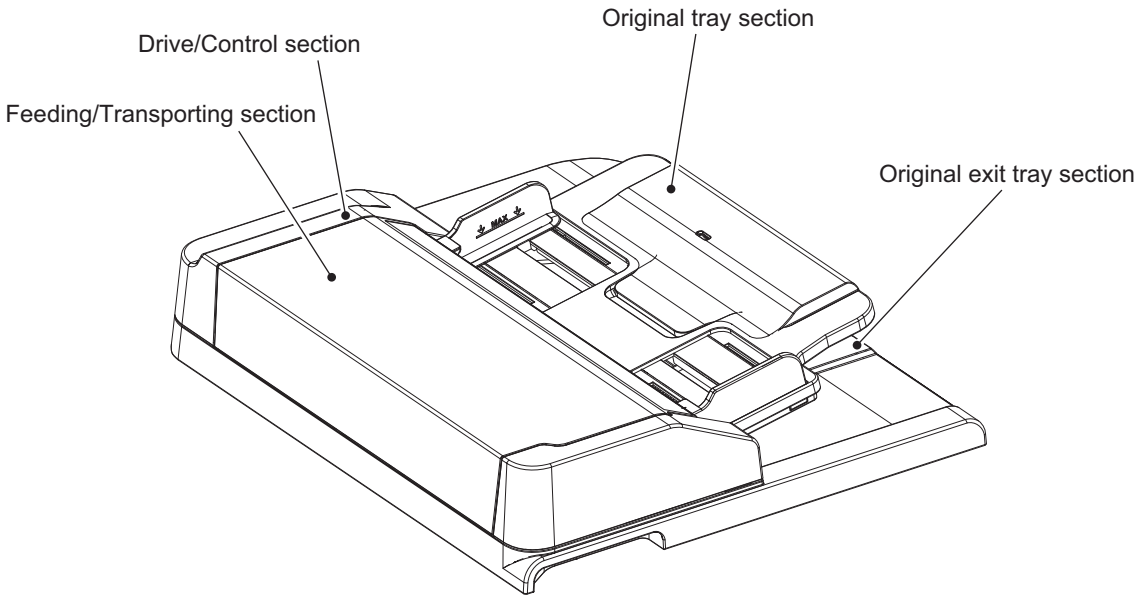


Fig. 3-70

Location	Components	Electric Parts
Feeding/ Transporting section	Pickup roller Feed roller Separation roller Transport roller Exit roller	Original empty sensor (S9) Jam access cover sensor (S10) Original read sensor (S11)
Original tray section	Original width guide Original tray Original reverse tray	Original tray length sensor (S8)
Original exit tray section	Original exit tray	
Drive / Control section		Original feed motor (M8) Gate solenoid (SOL1) RADF opening/closing sensor (S12) RADF control PC board (RADF)

3.17.2 Diagram of signal blocks

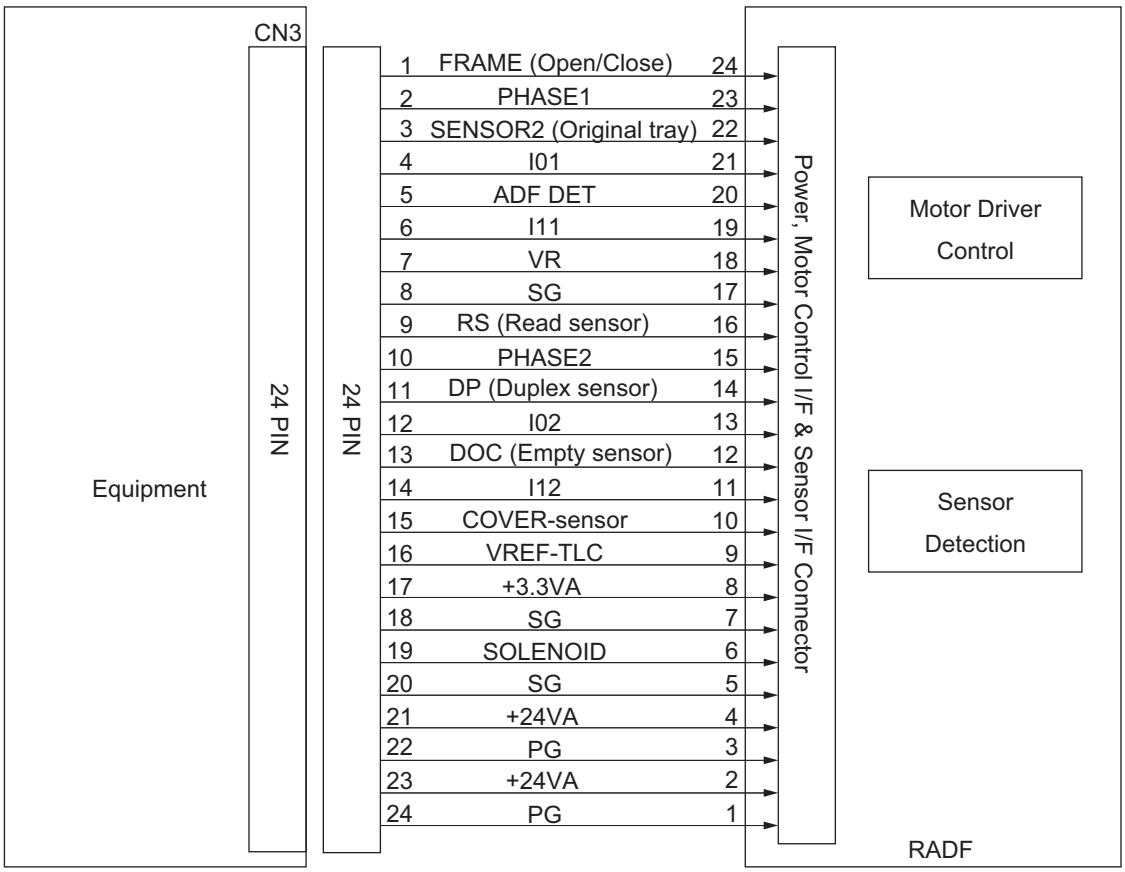


Fig. 3-71

3.17.3 Wire harness connection diagrams

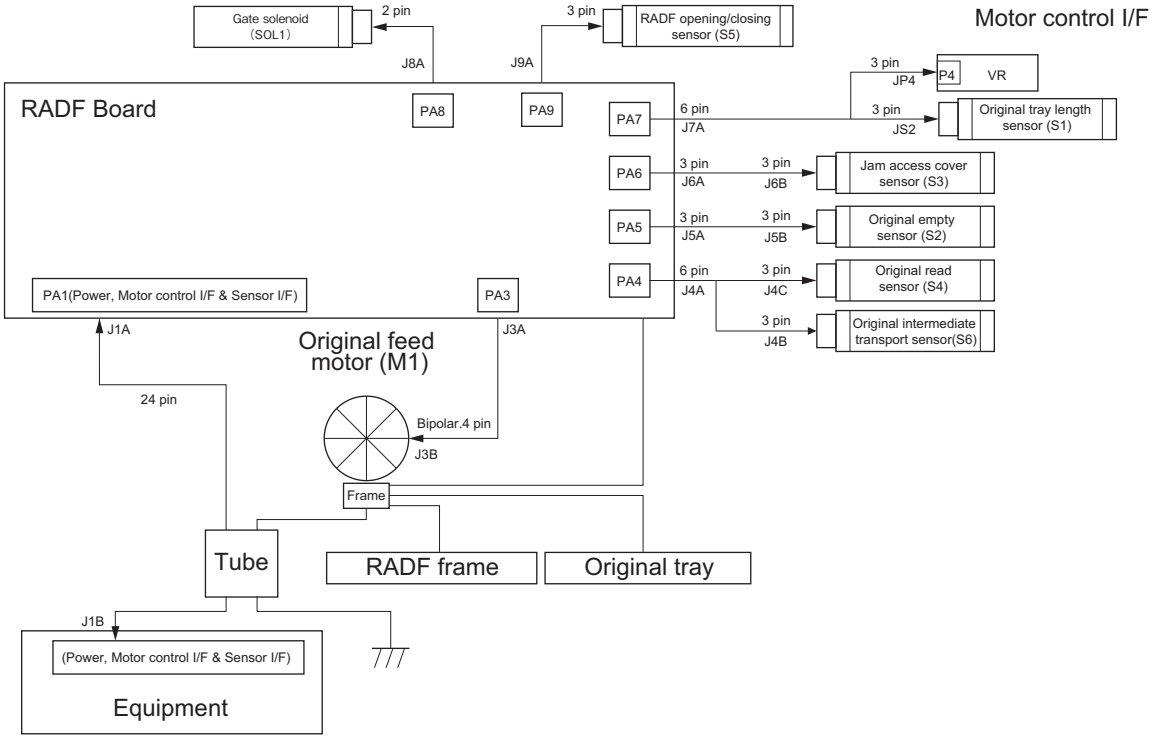


Fig. 3-72

3.17.4 Drive system

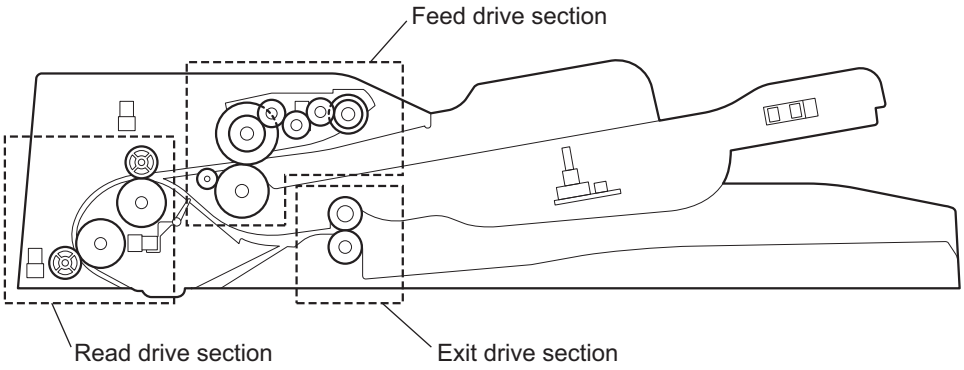


Fig. 3-73

[1] Outline

Originals are transported by the original feed motor.
Drive system:Drives the feed drive section, read drive section and exit drive section.

[2] Original feed drive section

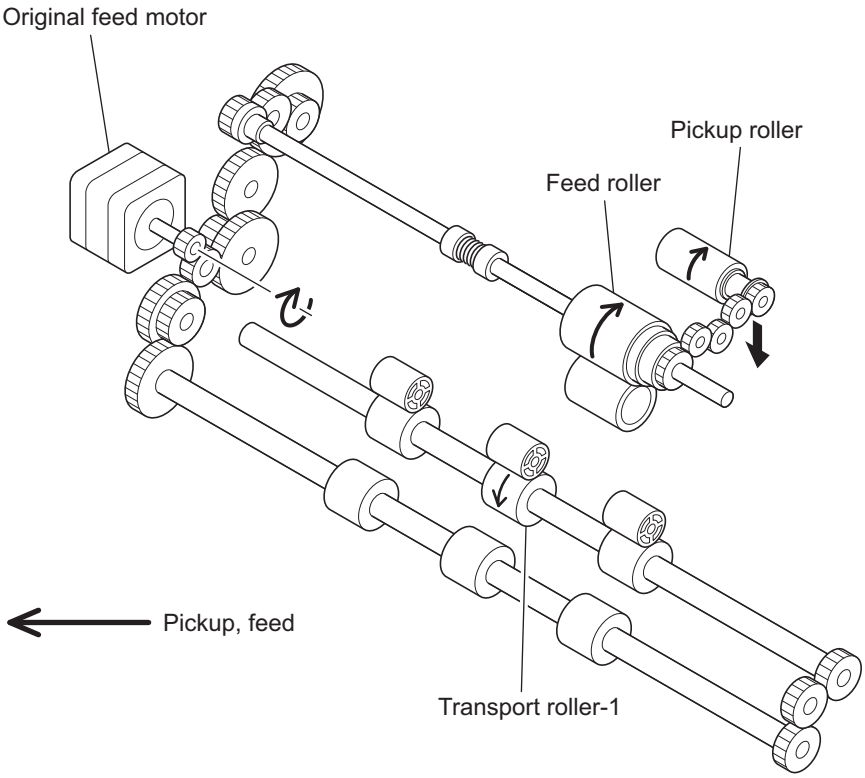


Fig. 3-74

When an original is placed on the original tray and the RADF receives a feed request signal from the equipment, the feeding of the original is started.
The original empty sensor detects the presence of the original, and then the pickup roller is lowered by the drive from the Original feed motor.
The Original feed motor rotates, and the pickup roller and the feed roller then rotate in a normal direction (shown in a solid line in the figure) to guide the original into the transport path. Then the original is transported to the transport roller-1.
When the original empty sensor detects that there is no original on the original tray, the Original feed motor is turned OFF and the pickup roller is raised.

[3] Read drive section

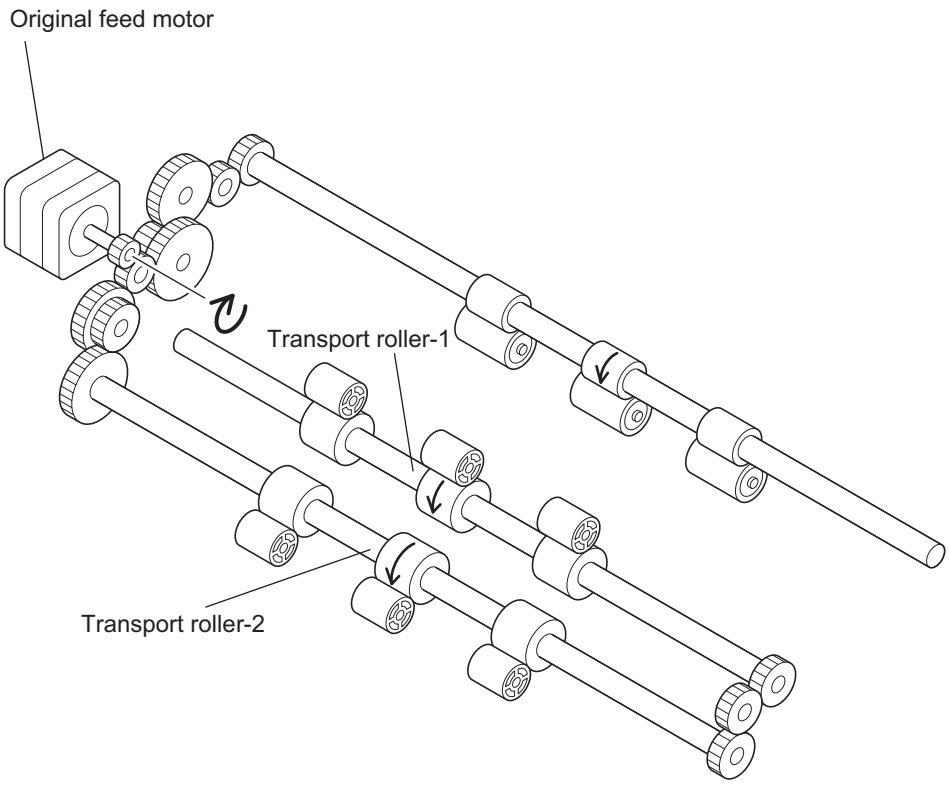


Fig. 3-75

The original being transported is transported to the position where scanning starts by transport roller-1 and transport roller-2, which are driven by the original transport motor.
The original transported to the scanning start position is then scanned in the scanner function of the equipment.
The original that is scanned is transported towards the output tray.

[4] Original exit/reverse motor drive section

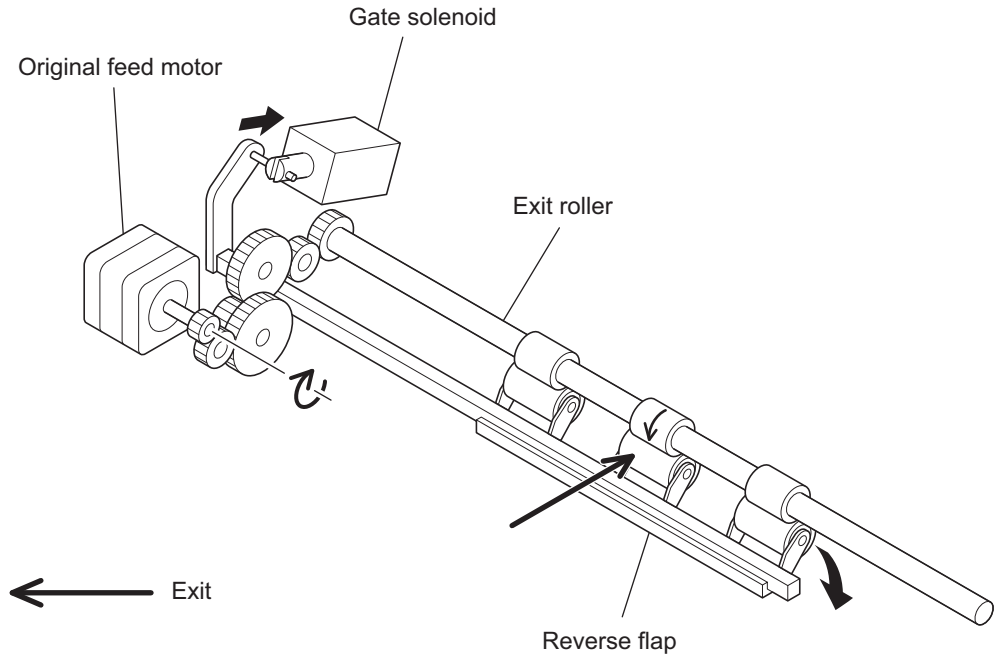


Fig. 3-76

When the data of the original have been scanned, the original is exited to the original exit tray by the exit roller driven by the original feed motor (shown in a solid line in the figure).
In the duplex scanning mode, the gate solenoid is turned ON and the reverse flap is lowered to switch the transport path to the reverse tray side when the scanning of one side of the original is completed. When the reverse flap is lowered, the original is temporarily transported to the exit tray, and then the original feed motor rotates reversely to return the original to the transport path switched for reverse operation.

3.17.5 Original Size Detection

The size of the original is detected by the original tray width and the original tray length sensor.

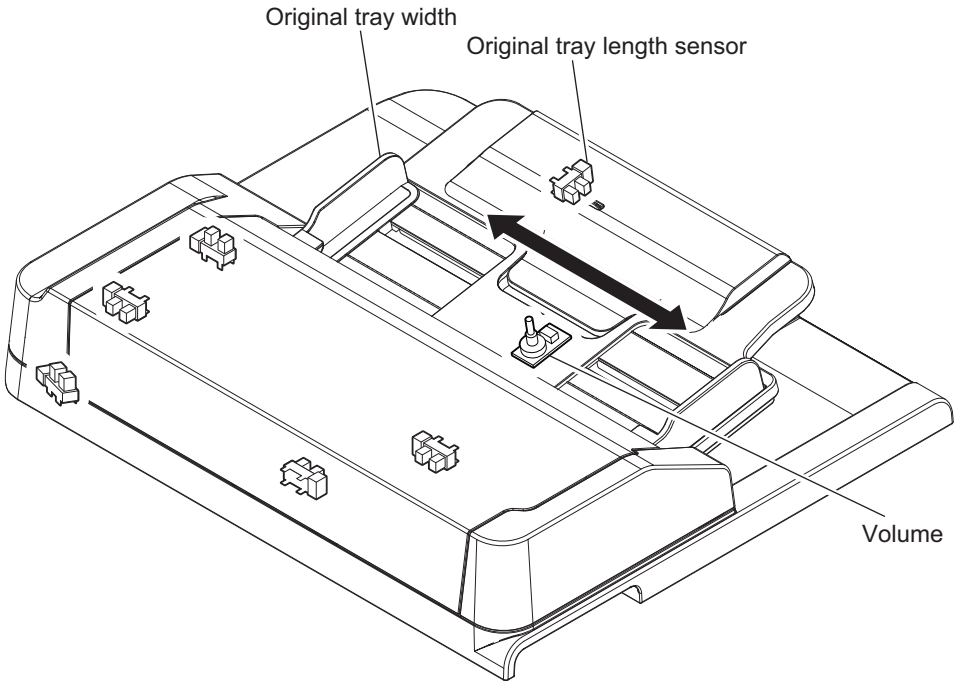


Fig. 3-77

[1] Outline

The final size of the original is determined by detecting the length of the original by the original tray length sensor and by detecting the width of the original by the original tray width position, the results of which are the final size of the original.

Detection of the width of the original is done by variation of the volume (variable resistance) in response to the position of the original tray width, this value is converted to voltage to identify the width of the original.

Size determined	Original tray length sensor	Original tray width
A5-R	0	A5-R
B5-R	0	B5-R
A4-R	1	A4-R
B5	0	B4/B5
B4	1	B4/B5
A4	0	A3/A4
A3	1	A3/A4

3.18 Power Supply Unit

3.18.1 Composition

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

1. AC filter
   Eliminates noise from the outside and prevents the noise generated by the equipment from leaking to the outside.

2. DC output circuits
   Converts AC voltage input from outside to DC voltage and supplies it to each electric part. The DC voltage is divided into the following two lines.

   a. Main switch line: Power supply used in the entire equipment during image forming process. Two kinds of voltage (+24VS, +24VA) are output when the main switch of the equipment is turned ON.

   b. Door switch line: Power supply used in the entire equipment during image forming process, being supplied via the interlock switch. One kind of voltage (+24VD) is output only when the main switch of the equipment is turned ON and two doors (toner supply cover and right cover) are closed.
   +5VD is generated for main board.

3. Heater lamp control circuit
   TRC (Triac) is driven by the heater control signal (HTR1ON) from the MAIN board and then AC power is supplied to each heater lamp in the fuser unit.

   Notes:
   The Power Supply Unit does not supply power to the Damp heater.
   Damp heater power is supplied from the FUS board.

3.18.2 Operation of DC Output Circuits

1. Starting line output
   When the main switch of the equipment is turned ON, power starts supplying to all the lines only when two doors (Toner supply cover and right cover) are closed.

2. Stopping line output
   When the main 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.
   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 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 (normal starting)
   When the [ENERGY SAVER] 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 MAIN board and then voltage starts being supplied to all the lines, if no error was detected.

5. Shifting to super sleep mode (normal stopping)
   While the main power supply switch is ON, holding down the control panel's [ENERGY SAVER] button for more than one second will cause a Super Sleep Mode Entry/Recovery signal (SYS-EN) to be output by the MAIN board after initialization is complete, and +24VS drops to approximately 12V and is output.

   The Super sleep mode is disabled under the following conditions.

   - When operation is being performed in the self-diagnosis mode (Disabled until the main switch is turned OFF)

6. State of the power supply
   - Power OFF
     The main 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 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 +24VS and +24VA DC voltage is supplied to the MAIN board and +24VD DC voltage is not supplied, the machine enters the power saving mode.

   - Super Sleep mode
     Only +5VS DC voltage is outputted from the power supply unit and the [ENERGY SAVER] button is monitored and turned on. The machine is in a sleep state at this time.

3.18.3 Output Channel

The outputs below are not linked with the door switch.

1. +24V
   - +24VS : CN107 Pin 1
     Output to the MAIN board
   - +24VA : CN107 Pin 4
     Output to the MAIN board
   - +24VD : CN107 Pin 8
     Output to the MAIN board
   - +24VD : CN107 Pin 9
     Output to the MAIN board

The outputs below are linked with the door switch.

1. +24V
   - +24VD-OUT : CN109 Pin 1
     Output to the MAIN board
   - +24VD-IN : CN109 Pin 3
     Output to the MAIN board

4. DISASSEMBLY AND REPLACEMENT

4.1 Disassembly and Replacement of Covers

Notes:

Be careful of the torque when tightening self-tapping screws. Also, do not use a power screwdriver.

Fig. 4-1

4.1.1 Platen cover

(1) Take off the Platen cover [1].

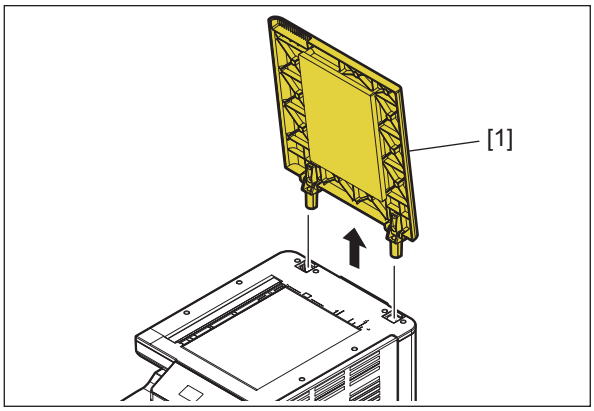


Fig. 4-2

4.1.2 Left cover <25S/25H/25F>

(1) Remove 1 screw and take off the left cover [1].

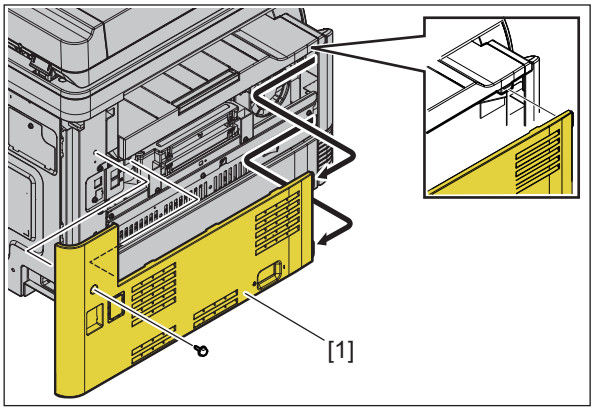


Fig. 4-3

4.1.3 Left cover <28A/28M/28F>

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

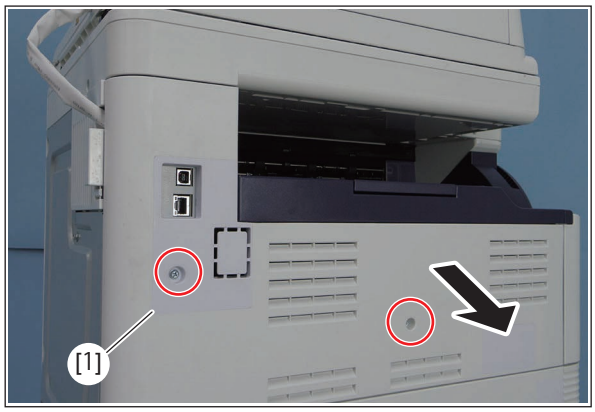


Fig. 4-4

4.1.4 Inner tray

(1) Take off the left cover.
<25S/25H/25F>
📖 P. 4-1 "4.1.2 Left cover <25S/25H/25F>"
<28A/28M/28F>
📖 P. 4-2 "4.1.3 Left cover <28A/28M/28F>"
(2) Take off the inner tray [1].

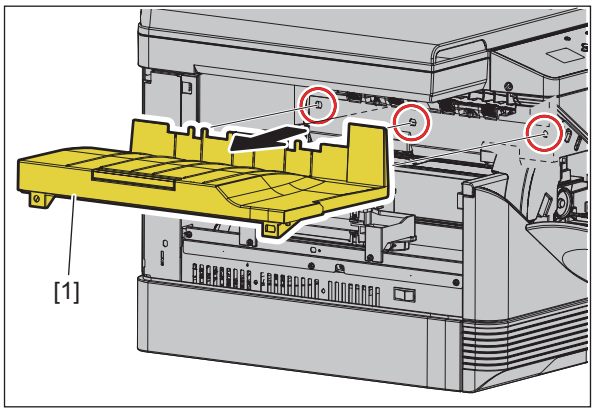


Fig. 4-5

4.1.5 Tray front cover 1

(1) Take off the inner tray.
📖 P. 4-2 "4.1.4 Inner tray"
(2) Take off the tray front cover 1 [1].

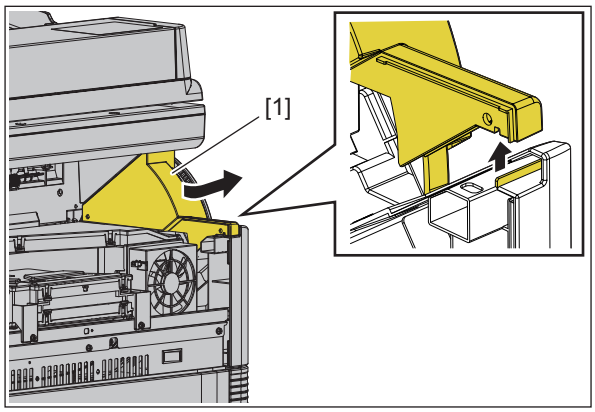


Fig. 4-6

4.1.6 Front cover

(1) Tack off the tray front cover 2.
P. 4-4 "4.1.8 Tray front cover 2"
(2) Take off the drawer.
(3) Open the toner supply cover [1].
(4) Remove 3 screws.

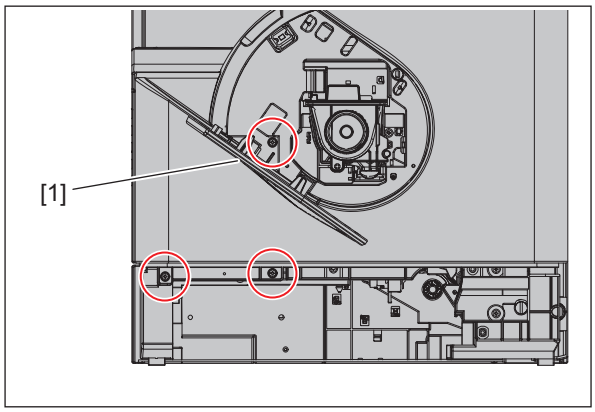


Fig. 4-7

(5) Open the right cover.
(6) Release 4 hooks and then take off the front cover [2].

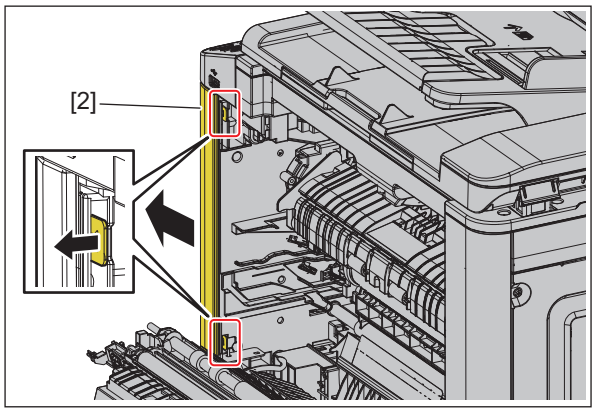


Fig. 4-8

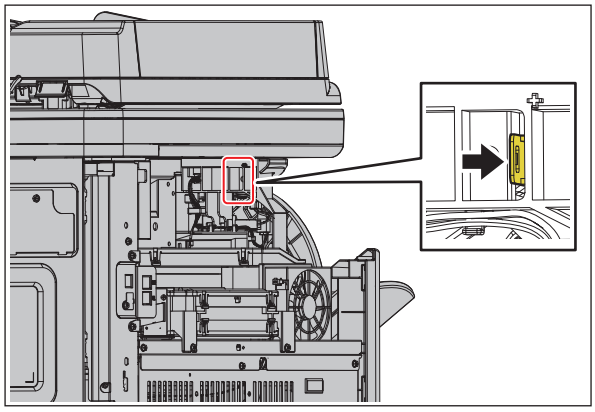


Fig. 4-9

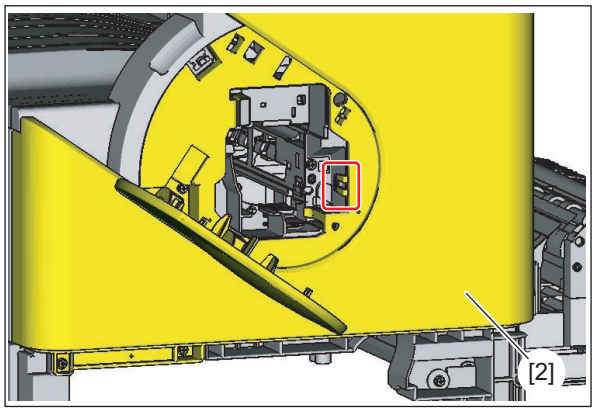


Fig. 4-10

4.1.7 Toner supply cover

(1) Take off the front cover.
🕮 P. 4-3 "4.1.6 Front cover"
(2) Release the boss while bending the arm, and then take off the toner supply cover [1].

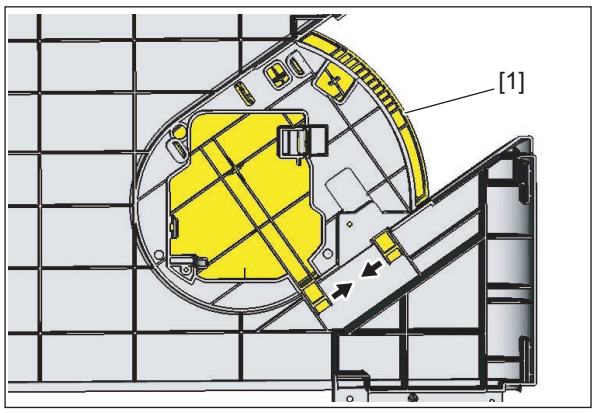


Fig. 4-11

4.1.8 Tray front cover 2

(1) Take off the control panel unit.
🕮 P. 4-10 "4.2.1 Control panel unit"
(2) Take off the tray front cover 1.
🕮 P. 4-2 "4.1.5 Tray front cover 1"
(3) Take off the tray front cover 2 [1].

Notes:
When installing the tray front cover 2, insert the 1 boss of it into the hole of the exit unit.

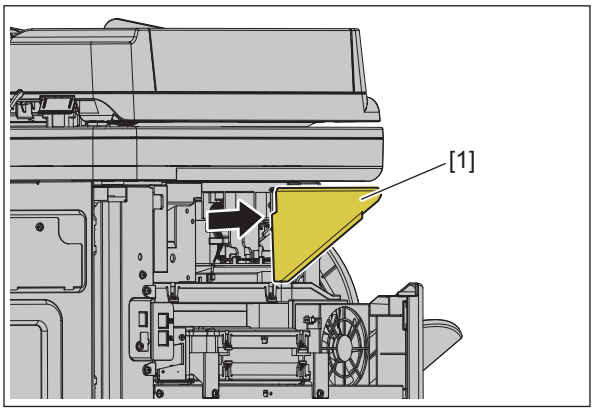


Fig. 4-12

4.1.9 Tray rear cover

(1) Take off the inner tray.
P. 4-2 "4.1.4 Inner tray"
(2) Take off the tray rear cover [1].

Notes:
When installing the tray rear cover, hook the hole of the tray rear cover on the hook of the frame.

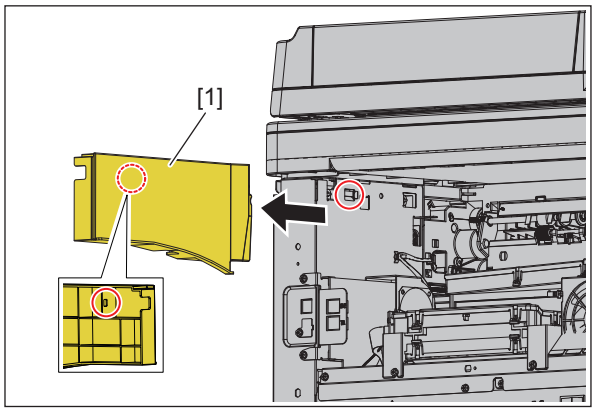


Fig. 4-13

4.1.10 Rear cover <25S/25H/25F>

(1) Turn the power OFF and unplug the power cable.
(2) Remove 1 screw and take off the connector cover [1].

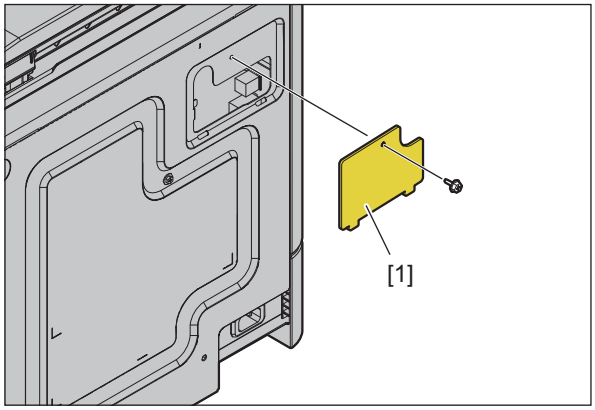


Fig. 4-14

(3) Disconnect the Faston terminal [3].
Disconnect 2 ADF interface connectors [4].

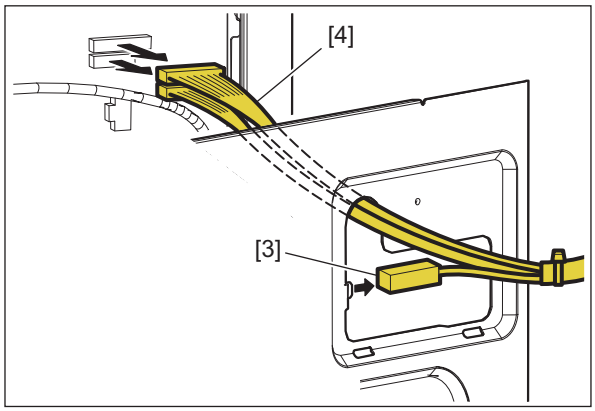


Fig. 4-15

(4) Remove 3 screws and take off the rear cover [2].

Notes:
When attaching the rear cover, be sure to insert the two hooks on its right side before tightening the screws.

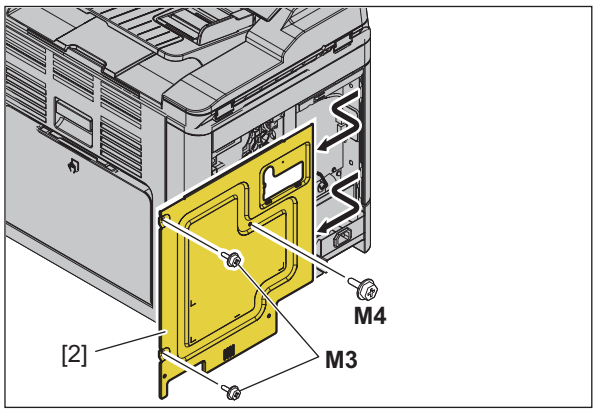


Fig. 4-16

4.1.11 Rear cover <28A/28M/28F>

(1) Turn the power OFF and unplug the power cable.
(2) Remove 1 screw and take off the connector cover [1].

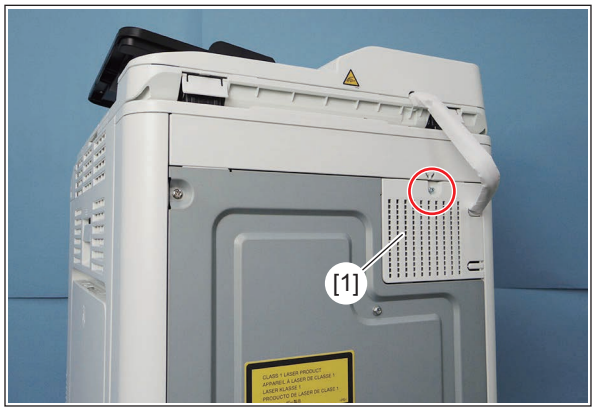


Fig. 4-17

(3) Disconnect 2 connectors.

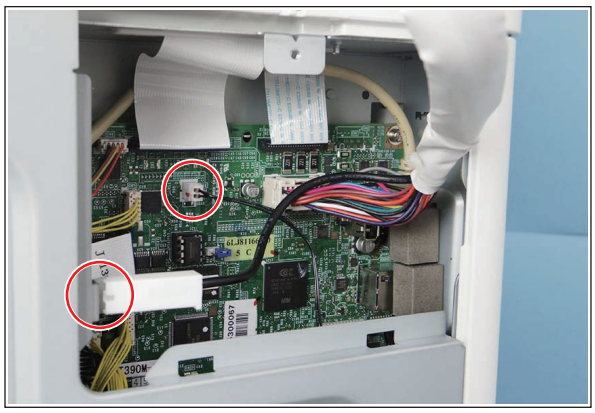


Fig. 4-18

(4) Remove 3 screws and take off the rear cover [2].

Notes:
When attaching the rear cover, be sure to insert the two hooks on its right side before tightening the screws.

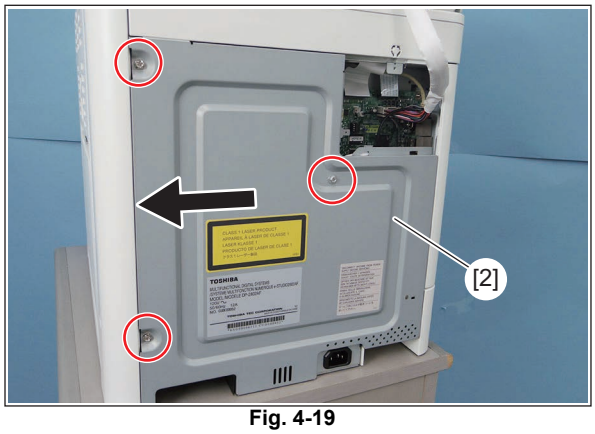


Fig. 4-19

4.1.12 Right rear cover

(1) Open the right cover.
(2) Remove 1 screw and take off the right rear cover [1].

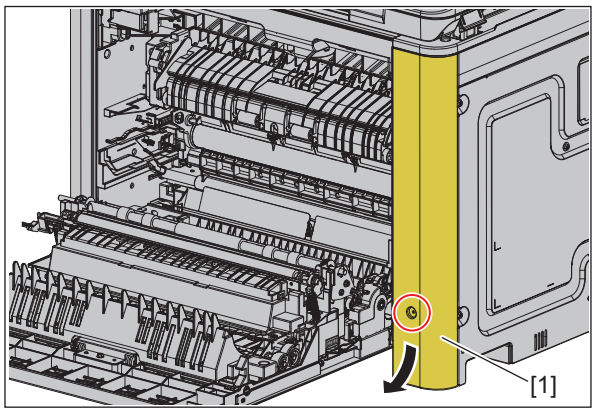


Fig. 4-20

4.1.13 Right cover

(1) Take off the rear cover.
<25S/25H/25F>
🕮 P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
🕮 P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Take off the right rear cover.
🕮 P. 4-8 "4.1.12 Right rear cover"
(3) Remove the ADU.
🕮 P. 4-150 "4.12.1 Automatic duplexing unit (ADU)"
(4) Disconnect 1 connector [1].
(5) Take off the arm plate.
🕮 P. 4-28 "4.6.1 Bypass unit"
(6) Open the right cover [2].
(7) Remove the shaft [3].

Notes:
Pull out a shaft while supporting the right cover by hand so that it may not fall.

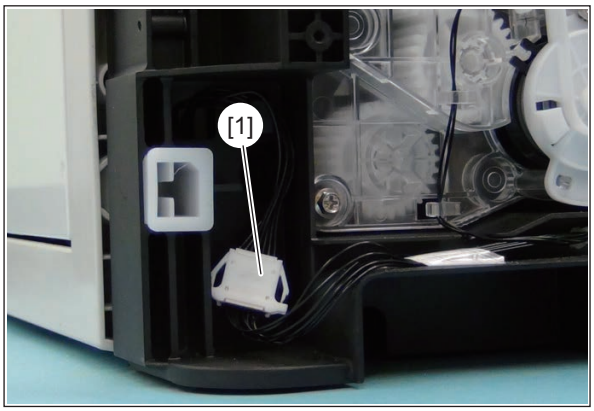


Fig. 4-21

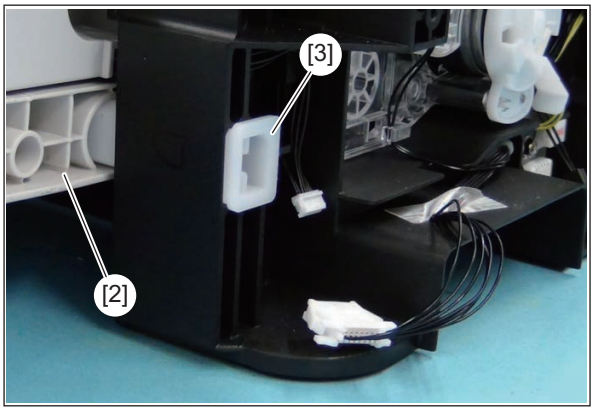


Fig. 4-22

(8) Remove the right cover [4].

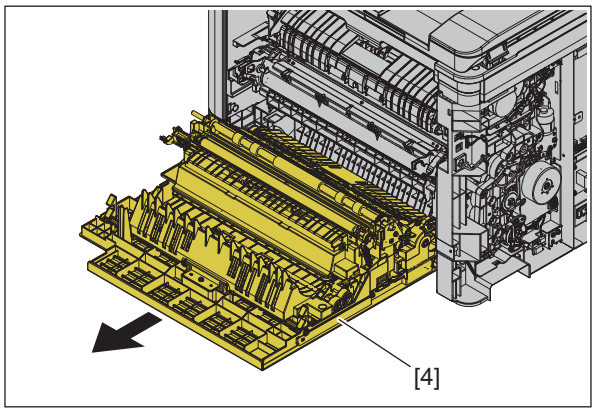


Fig. 4-23

4.1.14 Top cover

(1) Take off the platen cover or ADF.
(2) Take off the control panel unit.
P. 4-10 "4.2.1 Control panel unit"
(3) Remove 8 screws and take off the top cover [1].

Remarks:
The top cover is pasted with the original glass.

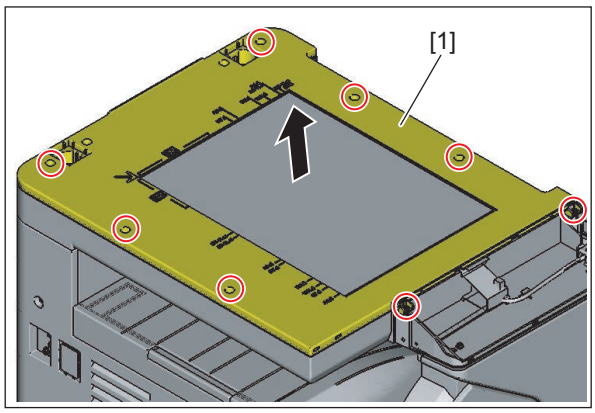


Fig. 4-24

4.2 Control Panel

4.2.1 Control panel unit

(1) Open the right cover.
(2) Remove 1 screw.

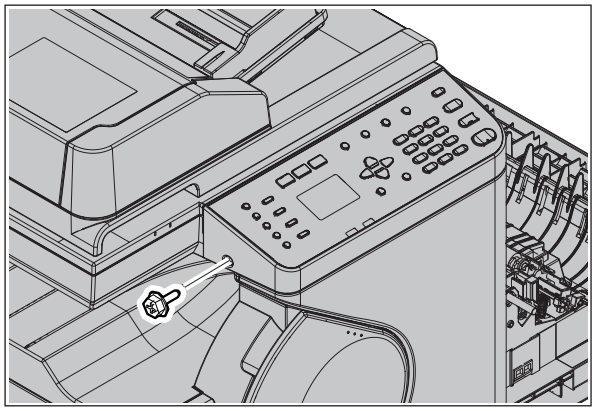


Fig. 4-25

(3) Release the 4 hooks and take off the control panel unit [1].

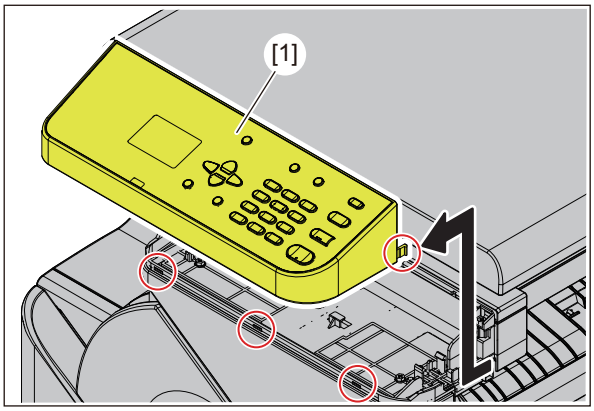


Fig. 4-26

(4) Disconnect 1 connector [2] on the bottom of the control panel unit.

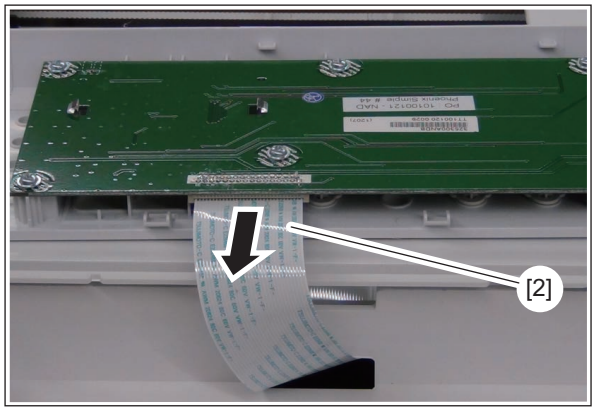


Fig. 4-27

4.2.2 Control panel PC board (HPNL)

(1) Take off the control panel unit.
🕮 P. 4-10 "4.2.1 Control panel unit"
(2) Remove 6 screws and take off the control panel PC board [1].

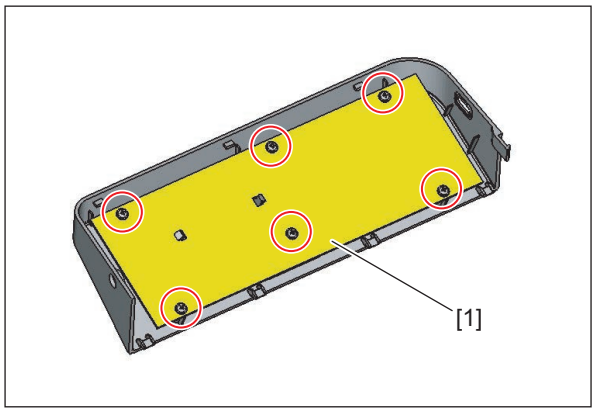


Fig. 4-28

4.2.3 LED panel

(1) Take off the control panel PC board.
🕮 P. 4-11 "4.2.2 Control panel PC board (HPNL)"
(2) Release 2 latches and take off the LED panel cover [1].

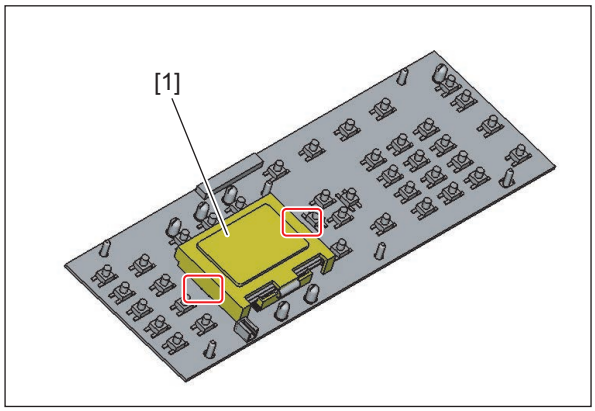


Fig. 4-29

(3) Disconnect 2 connectors and release 2 latches. Take off the LED panel [2].

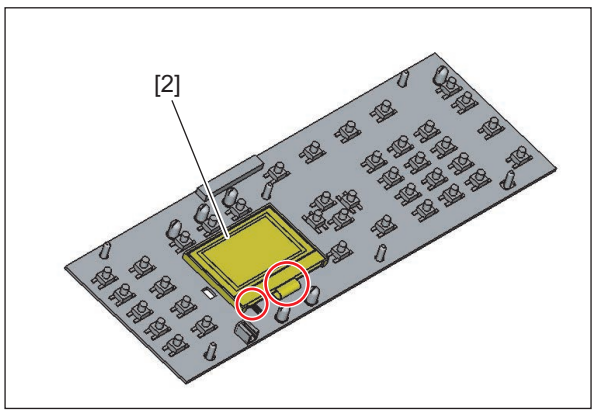


Fig. 4-30

4.2.4 USB cable <25H/25F only>

(1) Take off the control panel unit.
🕮 P. 4-10 "4.2.1 Control panel unit"
(2) Take off the original glass.
🕮 P. 4-14 "4.3.1 Original glass"
(3) Remove the USB cable [1] from the main board [2].

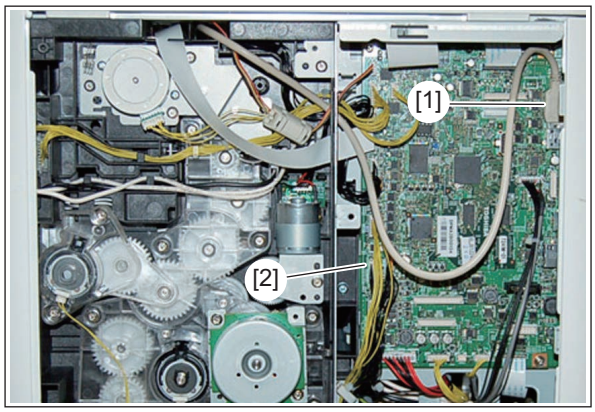


Fig. 4-31

(4) Remove 4 screws, lift the scanner unit [3] a little and then remove the USB cable [4].

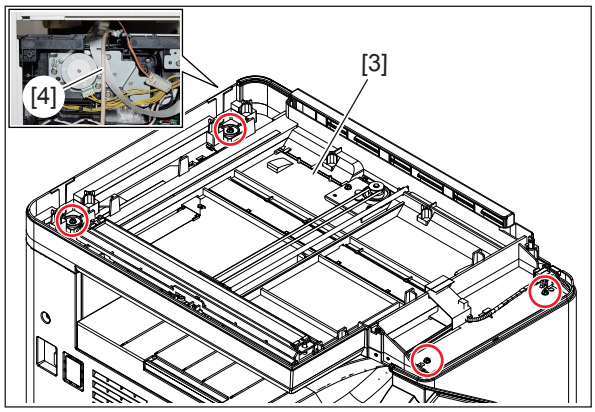


Fig. 4-32

(5) Release the latch [5] and remove the USB cable [6] from the cable hook [7].

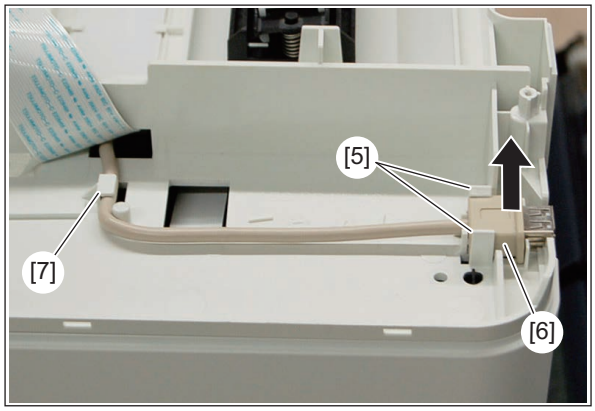


Fig. 4-33

4.2.5 USB cable <28M/28F only>

(1) Take off the control panel unit.
P. 4-10 "4.2.1 Control panel unit"
(2) Take off the original glass.
P. 4-14 "4.3.1 Original glass"
(3) Take off the rear cover.
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(4) Remove the USB cable [2] from the MAIN board [1].

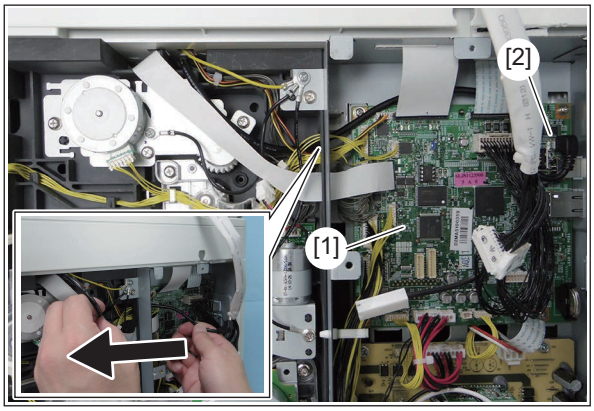


Fig. 4-34

(5) Remove 4 screws, lift the scanner unit [3] a little and then remove the USB cable [4].

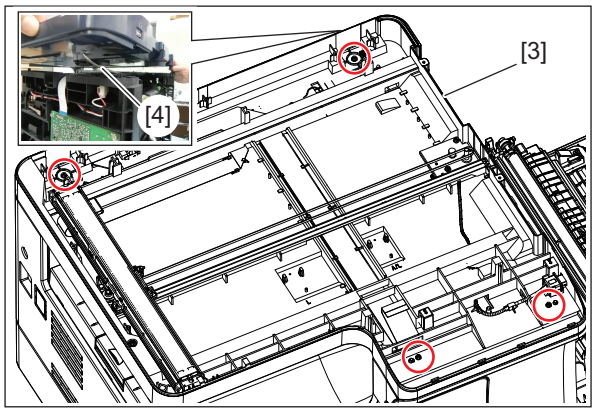


Fig. 4-35

(6) Release the latch [5] and remove the USB cable [7] from the cable hook [6].

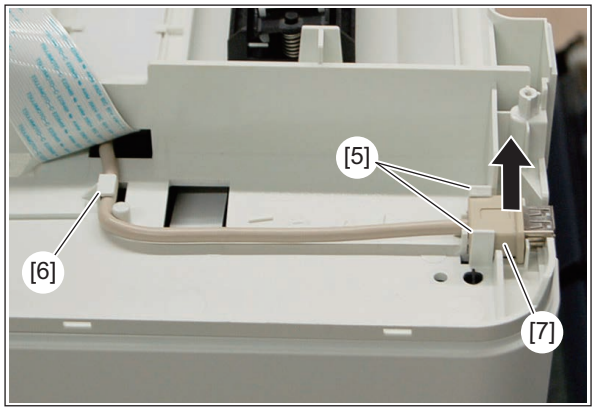


Fig. 4-36

4.3 Scanner

4.3.1 Original glass

(1) Open the right cover.
(2) Take off the control panel unit.
📖 P. 4-10 "4.2.1 Control panel unit"
(3) Remove 8 screws and take off the top cover [1].

Remarks:
The original glass is pasted on the top cover.

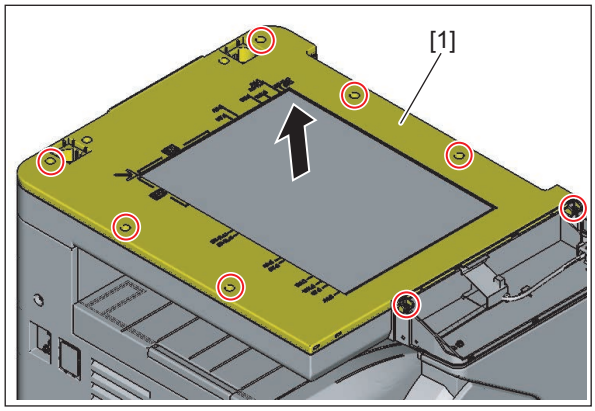


Fig. 4-37

4.3.2 Contact Image Sensor unit (CIS)

(1) Take off the top cover.
📖 P. 4-9 "4.1.14 Top cover"
(2) Move the CIS unit to the center position.

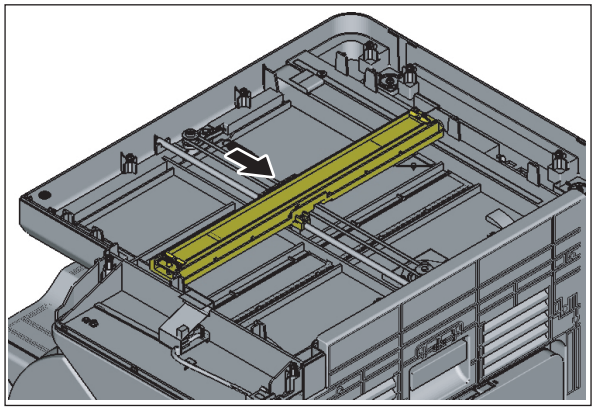


Fig. 4-38

Notes:
Since the pulley comes off easily, hold down the pulley with your finger as you move the CIS unit. (25S/25H/25F only)

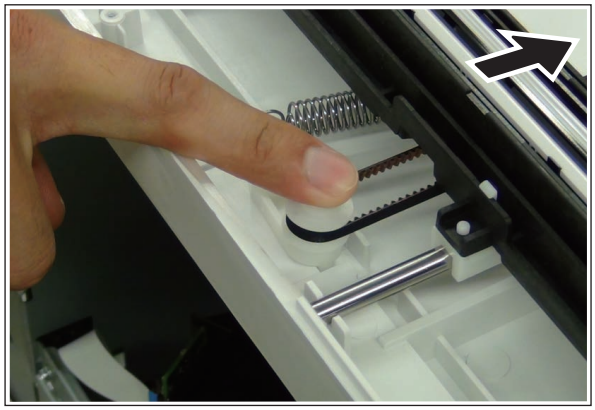


Fig. 4-39

(3) Lift up the CIS unit [1], disconnect 1 connector [2] on the bottom of the CIS unit, and then take off the CIS unit.

Notes:

1. Take care not to contaminate the CIS unit surface with fingerprints, dust or such.
2. Do not place the removed CIS unit upside down.
3. Be sure to perform “05-3219” with the platen cover or the ADF closed after replacing the CIS unit.
4. Be sure to unlock the connector before disconnecting it.

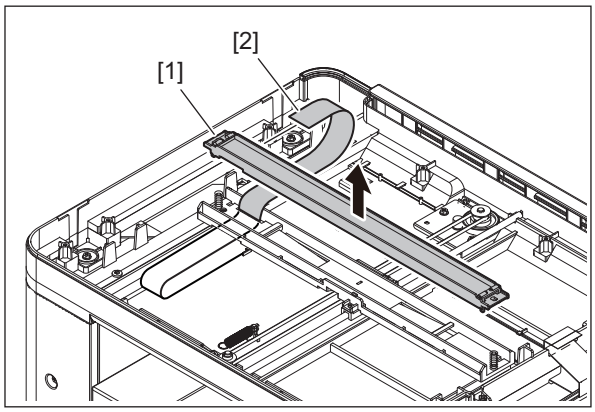


Fig. 4-40

5. When installing the CIS unit, be sure to pass the flat harness through the harness holder of the CIS case.

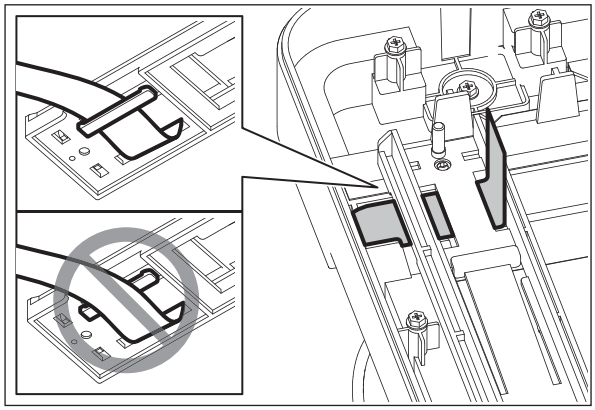


Fig. 4-41

6. After installing the CIS unit, move it to the left side of the equipment.

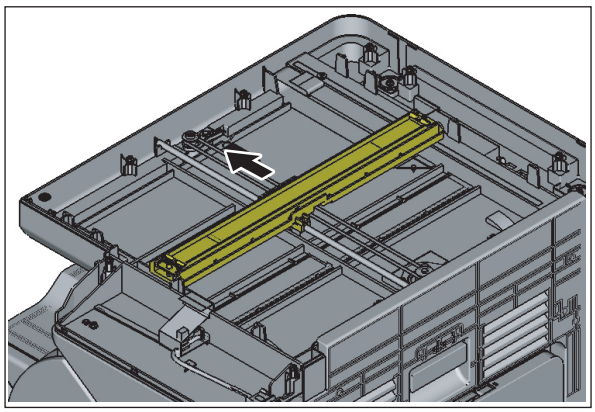


Fig. 4-42

Notes:

Since the pulley comes off easily, hold down the pulley with your finger as you move the CIS unit.(25S/25H/25F only)

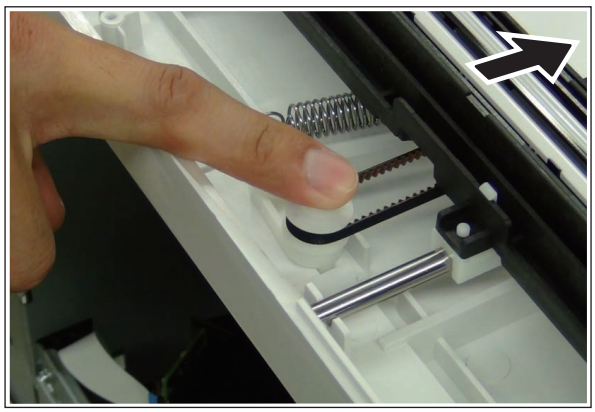


Fig. 4-43

4.3.3 CIS case

(1) Take off the CIS unit.
P. 4-14 "4.3.2 Contact Image Sensor unit (CIS)"
(2) Remove the tension spring [1].

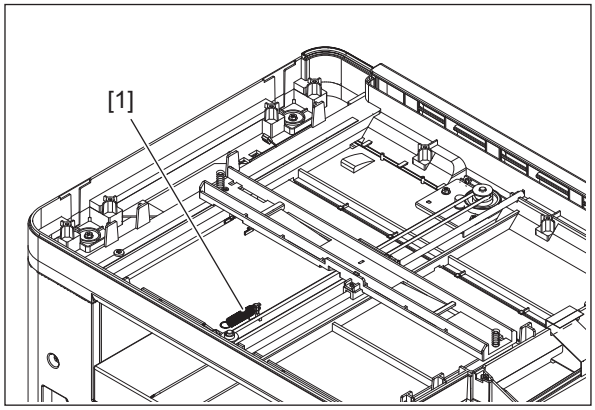


Fig. 4-44

(3) Take off 1 pulley [2] and CIS case [3].

Notes:
When replacing the pulley, apply Molykote (EM-30L) between the tensioner and pulley shaft.

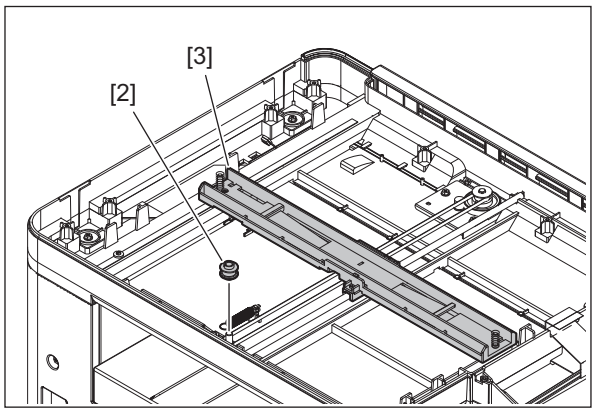


Fig. 4-45

(4) Remove the CIS unit drive belt [4].

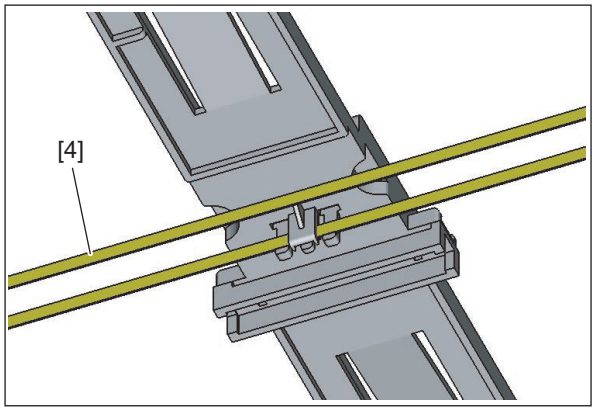


Fig. 4-46

4.3.4 Scan motor (M1) <25S/25H/25F>

Notes:

- The drive transmission system of the scan motor is classified into two types; a one-gear one and a two-gear one. That shown on the right is an example of the one-gear type.
  One-gear type: Applied from initial mass production
  Two-gear type: Applied from the middle of mass production
- If the one-gear type of drive transmission system is replaced with the two-gear one, change the value of 08-3134 accordingly.
  0: One-gear type
  1: Two-gear type

(1) Take off the rear cover.
📖 P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"

(2) Disconnect 1 connector [1] from the MAIN board (CN9).

Remarks:
This is the common step for both the one-gear and two-gear types.

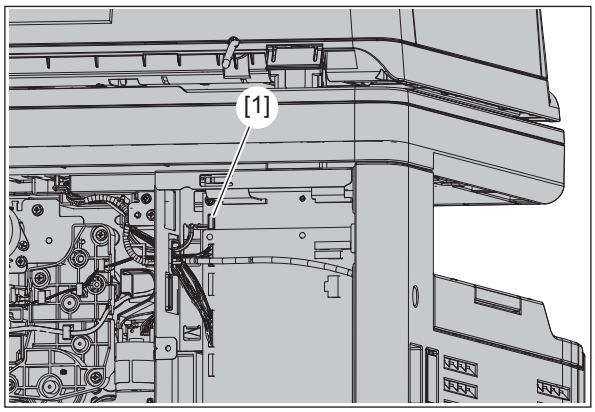


Fig. 4-47

(3) Take off the CIS case.
📖 P. 4-16 "4.3.3 CIS case"

(4) Remove the gear [2].

Notes:
When installing, be sure to check the color of gear and then place in the correct position.
📖 P. 4-18 "Fig. 4-52 "

Remarks:
That shown on the right is an example of the two-gear type. (Color of gear: white and black)

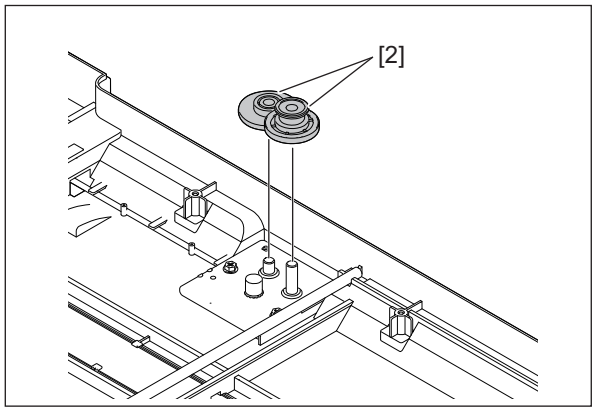


Fig. 4-48

Remarks:
That shown on the right is an example of the one-gear type. (Color of gear: white)

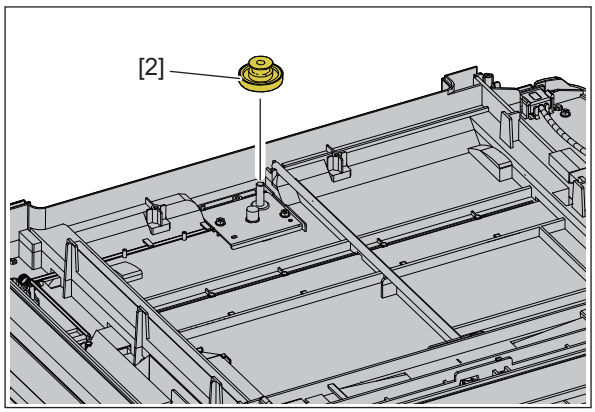


Fig. 4-49

(5) Remove 2 screws and take off the motor bracket [3].

Remarks:

- That shown on the right is an example of the two-gear type.
- This is the common step for both the one-gear and two-gear types.

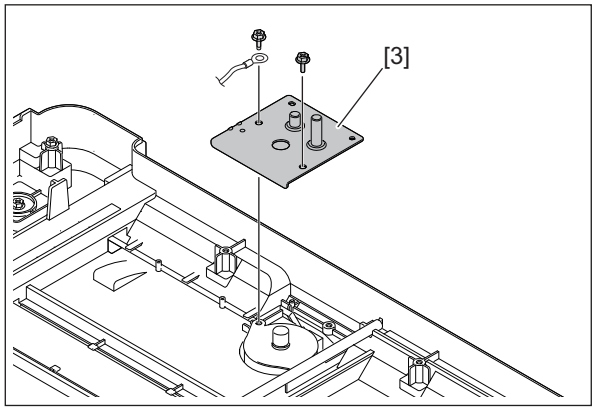


Fig. 4-50

(6) Release the harness from the harness guide, and take off the scan motor [4].

Remarks:

This is the common step for both the one-gear and two-gear types.

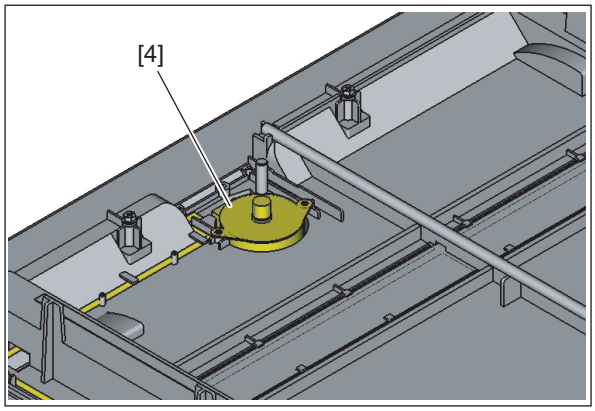


Fig. 4-51

Notes:

- When installing the scan motor, tighten the bracket fixing screw and the earth wire together.
- When installing the gears, be sure to check the color of gear and then place in the correct position shown in the figure.

Remarks:

- That shown on the right is an example of the two-gear type.
- This is the common step for both the one-gear and two-gear types.

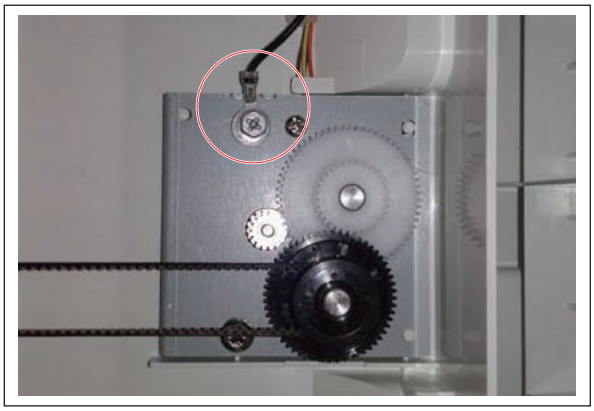


Fig. 4-52

Notes:

When installing the scan motor, install the harness in the harness guide as shown in the figure.

Remarks:

This is the common step for both the one-gear and two-gear types.

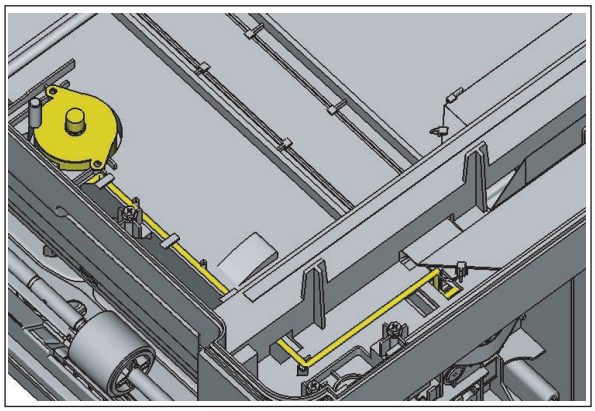


Fig. 4-53

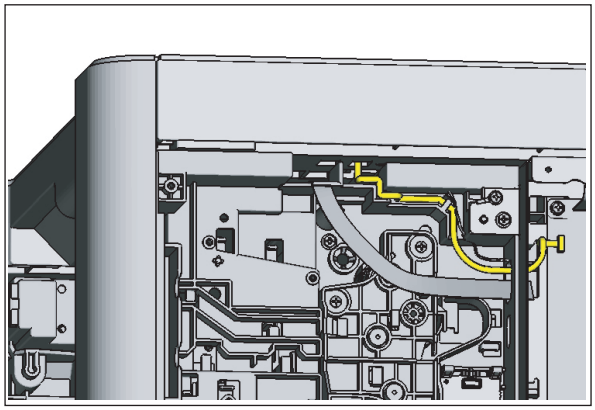


Fig. 4-54

4.3.5 Scan motor (M1) <28A/28M/28F>

(1) Take off the rear cover.
📖 P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Disconnect 1 connector [1] from the MAIN board (CN6).

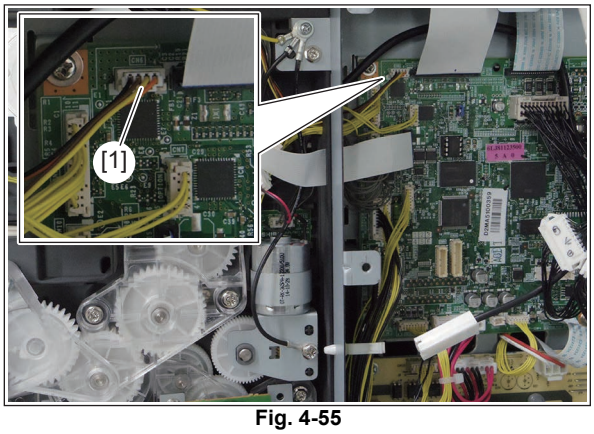


Fig. 4-55

(3) Take off the CIS case.
📖 P. 4-16 "4.3.3 CIS case"
(4) Remove the gear [2].

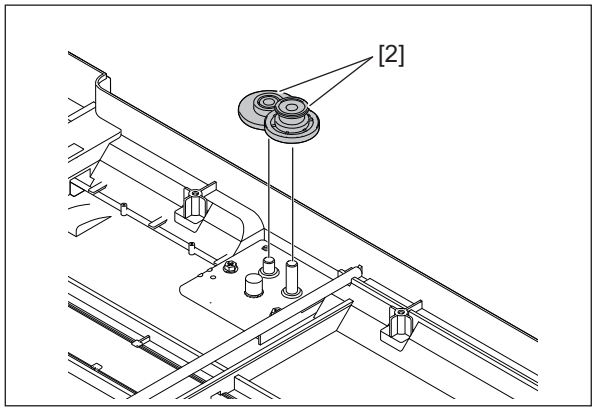


Fig. 4-56

(5) Remove 2 screws and take off the motor bracket [3].

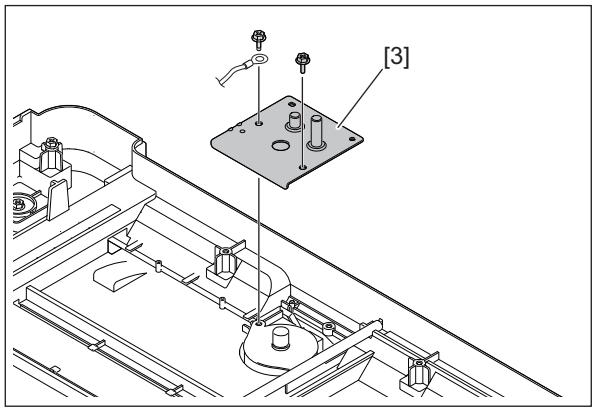


Fig. 4-57

(6) Release the harness from the harness guide, and take off the scan motor [4].

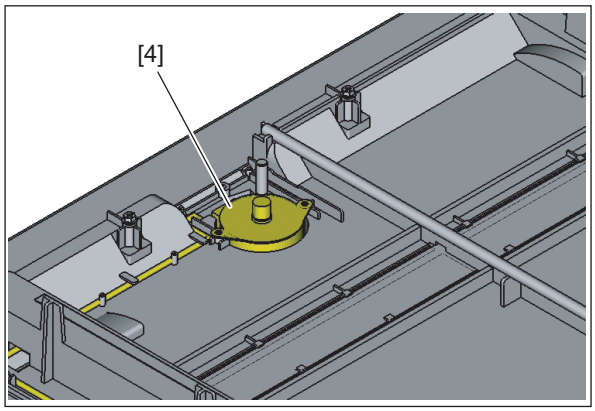


Fig. 4-58

Notes:

When installing the scan motor, tighten the bracket fixing screw and the earth wire together.

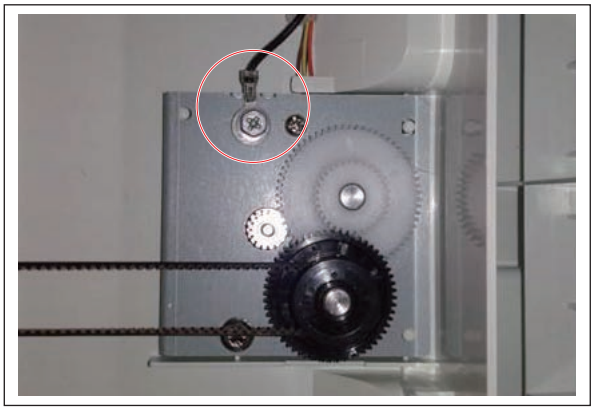


Fig. 4-59

Notes:

When installing the scan motor, install the harness in the harness guide as shown in the figure.

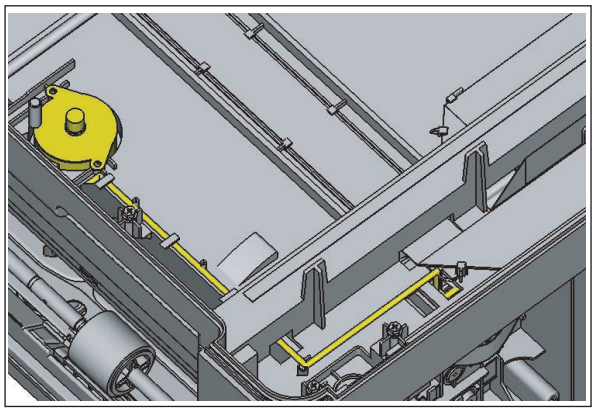


Fig. 4-60

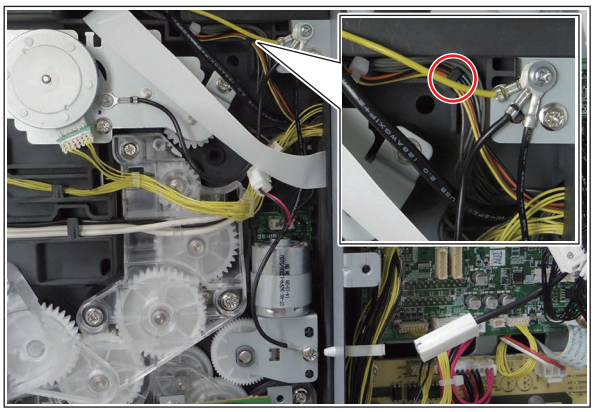


Fig. 4-61

4.4 Laser Optical Unit

4.4.1 Laser optical unit

(1) Take off the inner tray.
🕮 P. 4-2 "4.1.4 Inner tray"
(2) Take off the ADU fan duct unit. <25H/25F>
🕮 P. 4-154 "4.12.7 ADU fan duct unit"
(3) Disconnect 2 connectors [1].

Notes:

1. Connect the flat harness to the LDRS board with its electrode side inside the equipment.

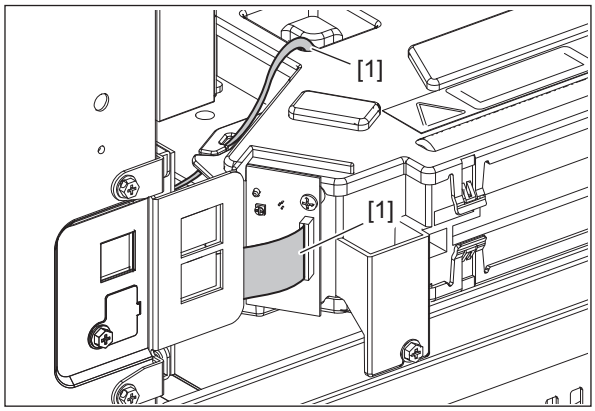


Fig. 4-62

2. Pull out the connector for the polygonal motor slantwise to the front side of the equipment. Be careful, if you forcefully pull it out to the rear side of the equipment, you may break it.

Fig. 4-63

(4) Remove 2 screws and raise the laser optical unit [2] to take it off.

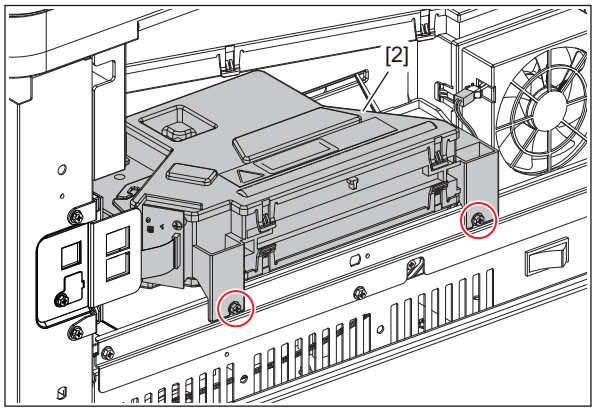


Fig. 4-64

Notes:

1. Be careful not to touch the LDRS board of the laser optical unit.
2. Be careful not to subject the laser optical unit to shock or vibration because it is a precise apparatus.
3. Place the removed laser optical unit in such a way that it does not become load to 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 stain.
5. Hold the laser optical unit vertically. Do not press the top of the unit where the polygonal motor is installed with your hands or other things.
6. It is difficult to remove dirt or scratches from the internal parts of the laser unit. Be careful to not let dirt into the laser unit or to touch it through the laser output aperture [3].
7. Do not allow dirt or foreign objects to touch the HSYNC mirror (interior) [4].

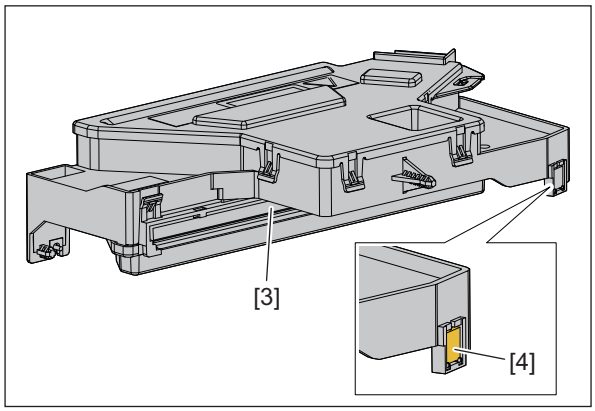


Fig. 4-65

4.5 Drive System

4.5.1 Main motor (M3)

(1) Take off the rear cover.
<25S/25H/25F>
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Disconnect 1 connector [1] and remove 2 screws. Take off the main motor [2].

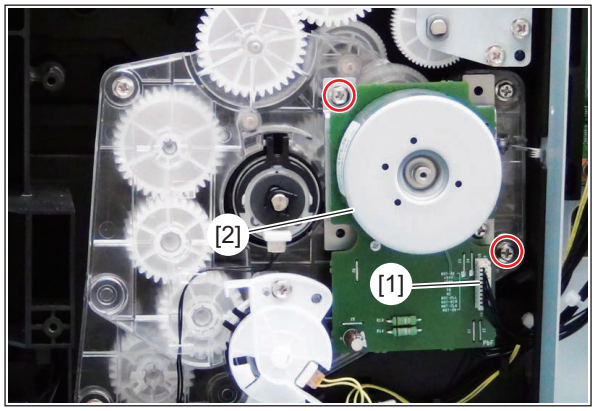


Fig. 4-66

4.5.2 Toner motor (M2)

(1) Take off the rear cover.
<25S/25H/25F>
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Remove the 1 screw and disconnect 1 connector [1].

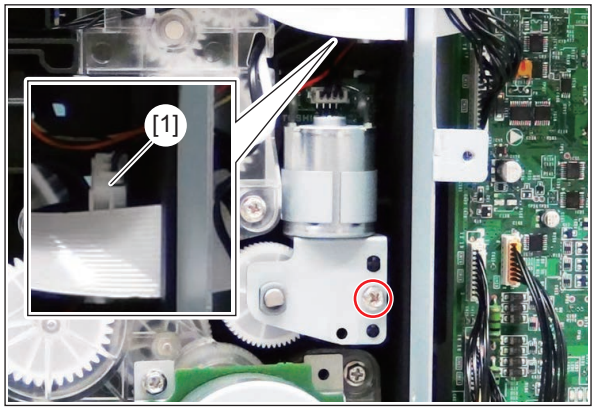


Fig. 4-67

(3) Take off the toner motor [2] with the bracket, and then remove 1 bushing [3] and 1 gear [4].

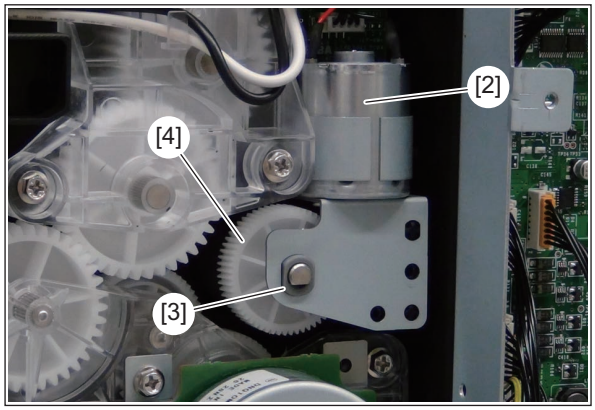


Fig. 4-68

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

Notes:

Pay attention to the size (length) of the screws. If incorrect ones are used, the motor could be damaged.

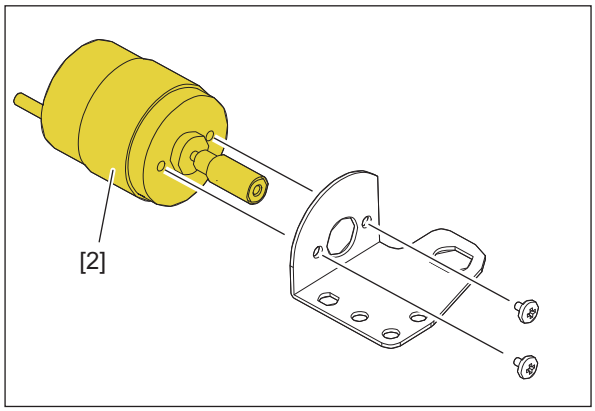


Fig. 4-69

4.5.3 Upper drive unit <25S>

(1) Take off the rear cover.
🕮 P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"

(2) Remove 4 screws (M3 x 10) and take off the upper drive unit [1].
🕮 P. 4-152 "4.12.4 Exit motor (M6) <25S/25H/25F>"

Notes:

Pay attention to the size (length) of the screws. If incorrect ones are used, the screw hole of frame could be damaged.

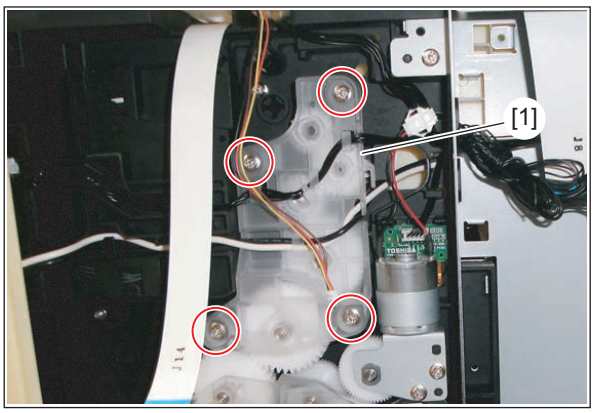


Fig. 4-70

4.5.4 Upper drive unit <25H/25F>

(1) Take off the rear cover.
🕮 P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"

(2) Take off the exit motor (M6) unit.
🕮 P. 4-152 "4.12.4 Exit motor (M6) <25S/25H/25F>"

(3) Take off the ADU clutch (CLT4).
🕮 P. 4-154 "4.12.6 ADU clutch (CLT4)"

(4) Remove 3 screws (M3 x 10) and take off the upper drive unit [1].

Notes:

Pay attention to the size (length) of the screws. If incorrect ones are used, the screw hole of frame could be damaged.

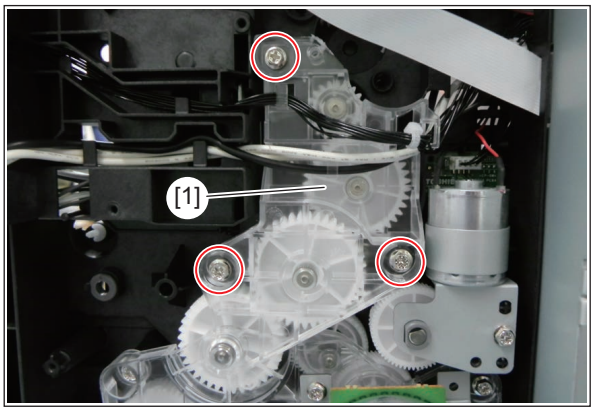


Fig. 4-71

4.5.5 Lower drive unit

(1) Take off the process unit.
<25S/25H/25F>
P. 4-44 "4.7.1 Process unit <25S/25H/25F>"
<28A/28M/28F>
P. 4-45 "4.7.2 Process unit <28A/28M/28F>"

(2) Take off the rear cover.
<25S/25H/25F>
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"

(3) Take off the drawer feed clutch.
P. 4-38 "4.6.12 Drawer feed clutch (CLT2)"

(4) Take off the registration roller clutch.
P. 4-39 "4.6.13 Registration roller clutch (CLT1)"

(5) Take off the main motor.
P. 4-25 "4.5.1 Main motor (M3)"

(6) Remove 4 screws (M3 x 10) and take off the lower drive unit [1].

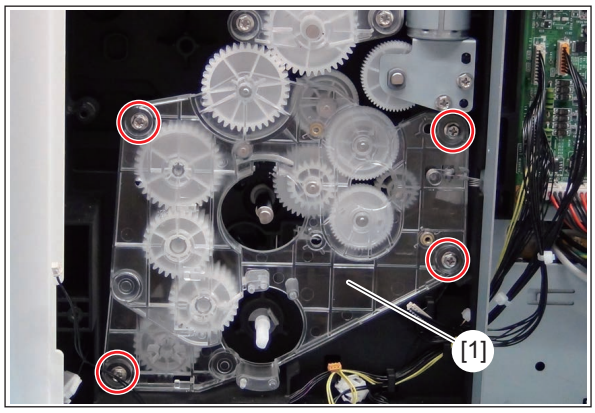


Fig. 4-72

Notes:
Pay attention to the size (length) of the screws. If incorrect ones are used, the screw hole of frame could be damaged.

4.6 Paper Feeding System

4.6.1 Bypass unit

(1) Open the bypass unit.
(2) Release the latch, and disengage the link lever [1].

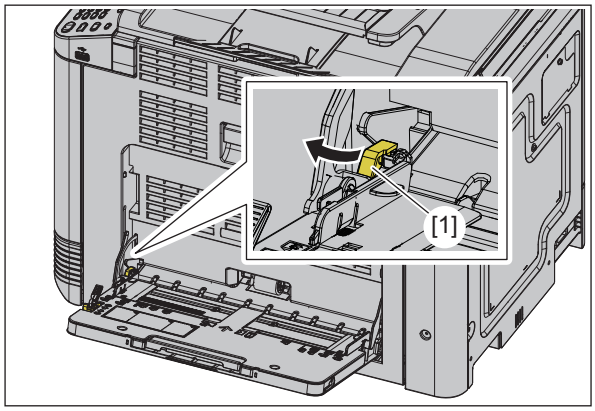


Fig. 4-73

(3) Release the 2 latches, and disengage the stopper (front/rear) [2] and bracket [3].

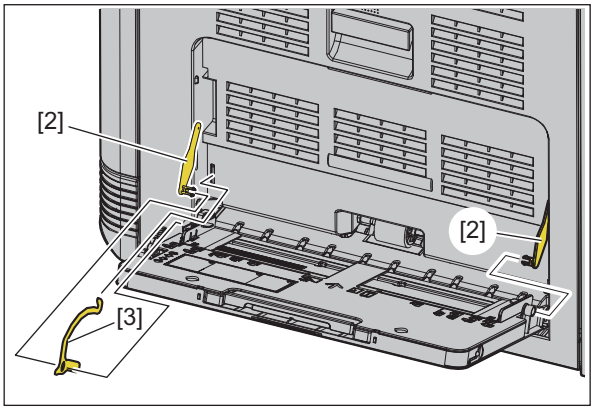


Fig. 4-74

(4) Take off the bypass unit [4].

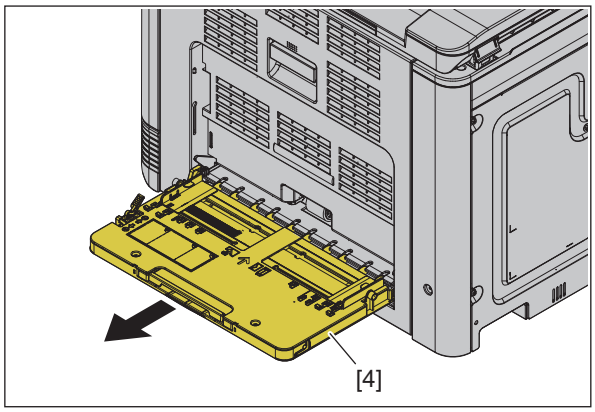


Fig. 4-75

4.6.2 Bypass feed clutch (CLT3)

(1) Take off the right cover.
P. 4-8 "4.1.13 Right cover"
(2) Remove 3 screws and take off the cover [1]. <25S>

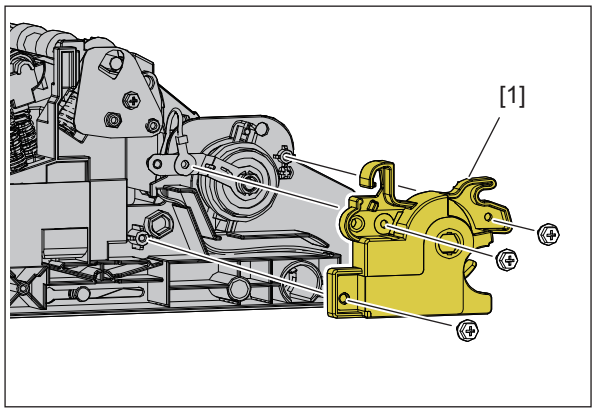


Fig. 4-76

Remove 4 screws and take off the cover [1]. <25H/25F>

Notes:
For routing of the ground wire during installation, pass it through the guide[7].

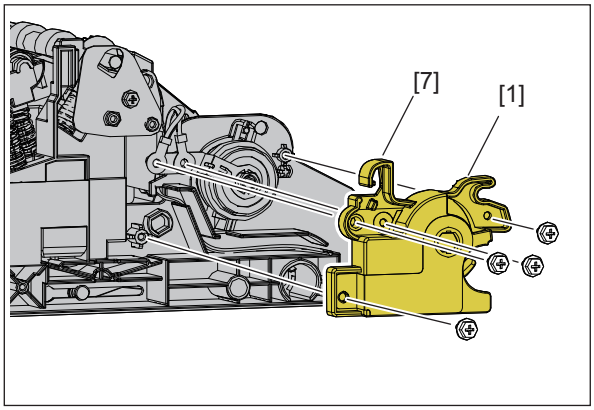


Fig. 4-77

(3) Remove 1 bushing [2], grounding plate [3] and take off the bypass feed clutch [4].

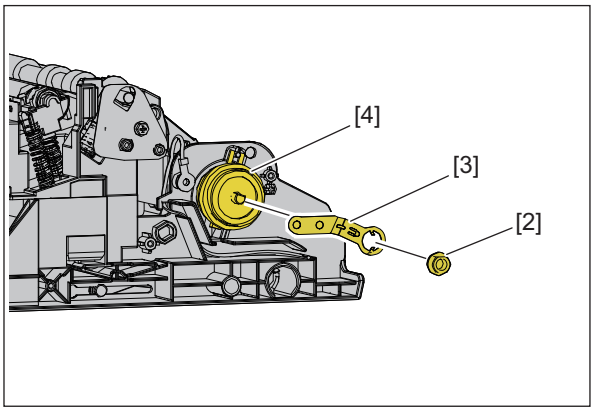


Fig. 4-78

(4) Disconnect 1 connector [5].

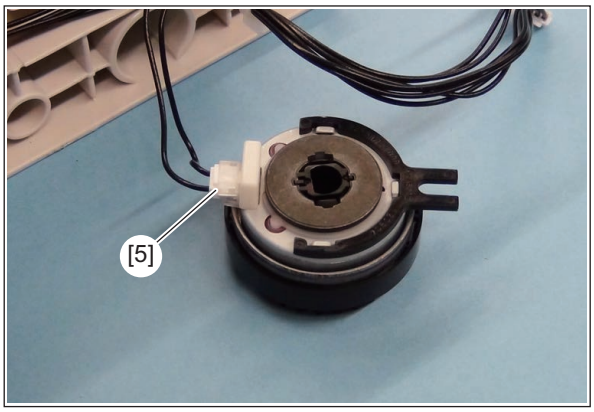


Fig. 4-79

Notes:

When attaching the bypass clutch, align the clutch with clutch stopper [6] when attaching it.

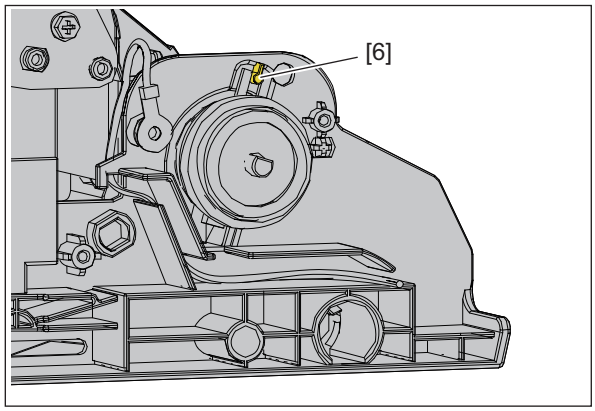


Fig. 4-80

4.6.3 Duct unit

(1) Open the right cover.
(2) While releasing 2 hooks, take off the duct unit [1].

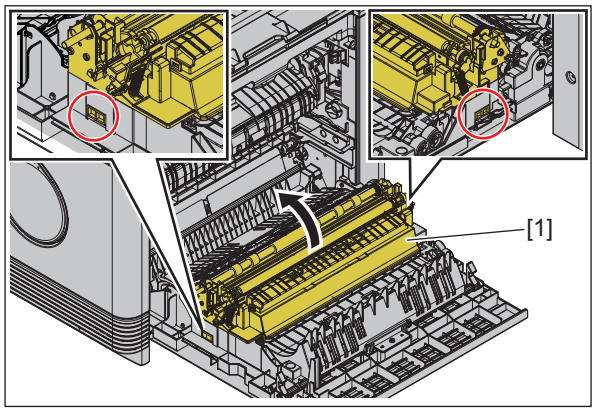


Fig. 4-81

(3) Disconnect 1 connector [2].

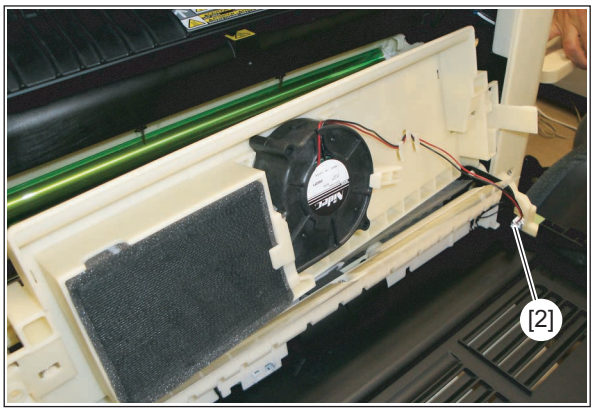


Fig. 4-82

4.6.4 Lower bypass feed guide

(1) Take off the right cover.
P. 4-8 "4.1.13 Right cover"
(2) Remove 3 screws and then take off the lower bypass feed guide [1].

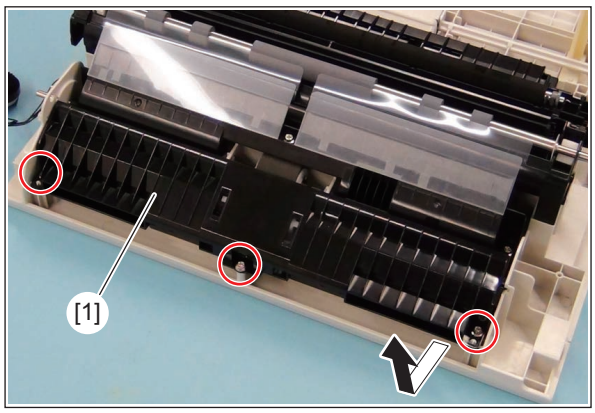


Fig. 4-83

4.6.5 Bypass feed roller <25S/25H/25F> PM

(1) Take off the right cover.
P. 4-8 "4.1.13 Right cover"
(2) Take off the bypass feed clutch.
P. 4-29 "4.6.2 Bypass feed clutch (CLT3)"
(3) Remove 3 screws and then remove the upper bypass feed guide [1].

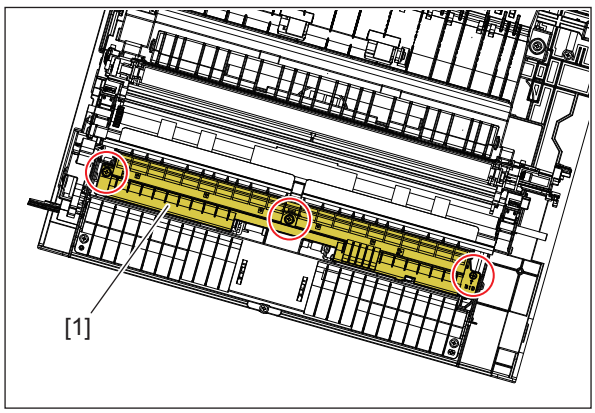


Fig. 4-84

(4) Take off the Lower bypass feed guide.
P. 4-31 "4.6.4 Lower bypass feed guide"
(5) Remove 1 clip [2] and then slide the shaft [3] to the rear side.

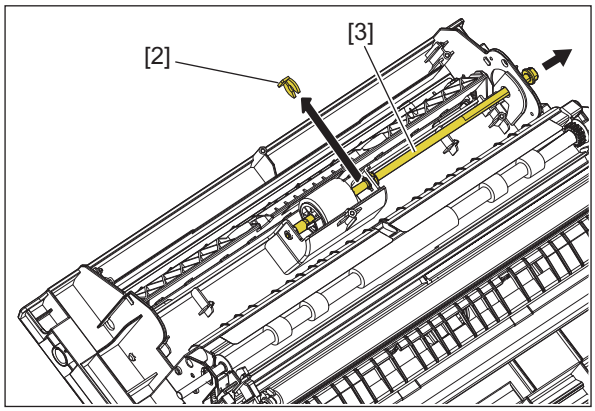


Fig. 4-85

(6) Remove 1 bushing [4], and remove the clip then take off the bypass feed roller [5].

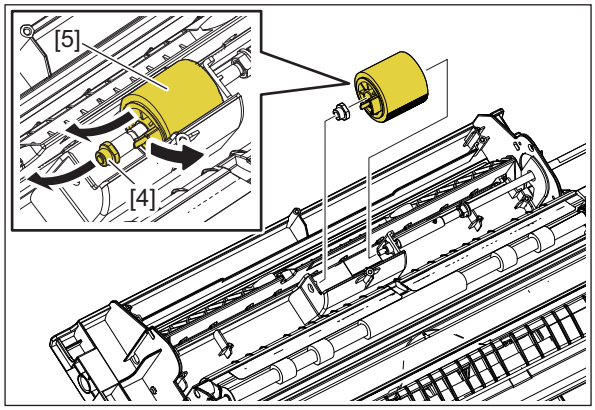


Fig. 4-86

4.6.6 Bypass feed roller <28A/28M/28F> PM

(1) Open the bypass feed roller [1].

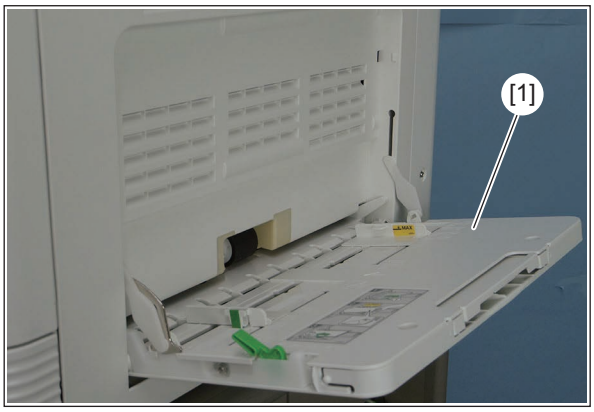


Fig. 4-87

(2) Remove the clip [2].

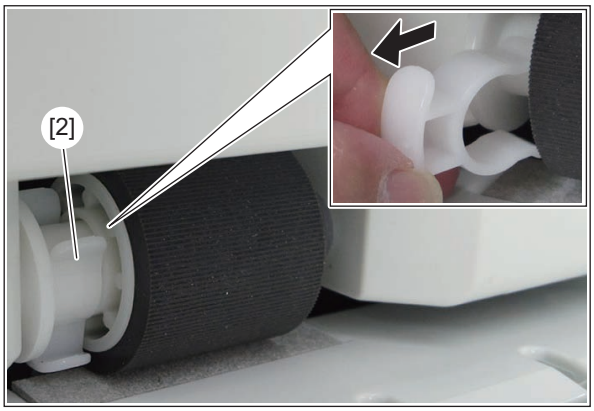


Fig. 4-88

(3) While pressing the stopper [3] to the rear side, take off the bypass feed roller [4].

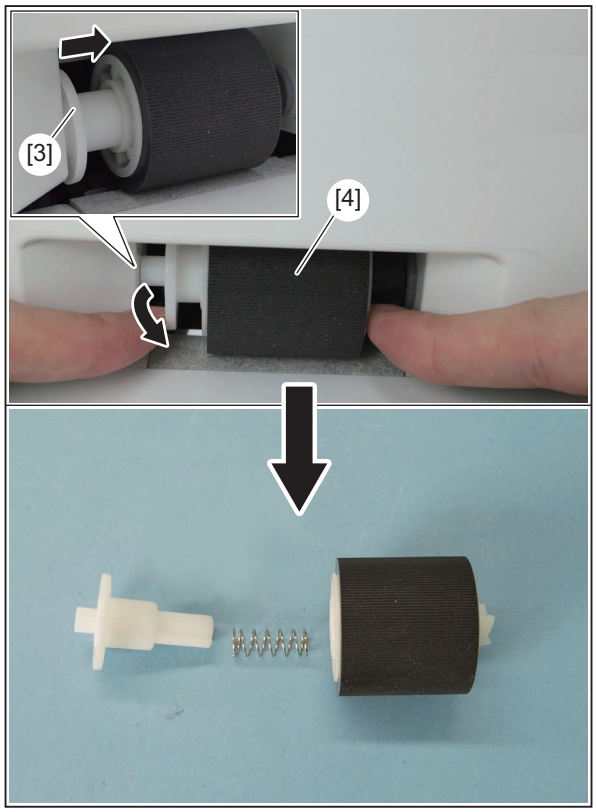


Fig. 4-89

Notes:

When attaching the bypass feed roller, align the convex part on the feed roller side with the concave part on the equipment side.

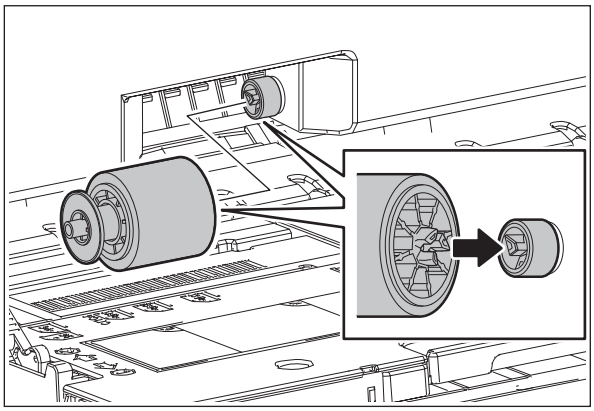


Fig. 4-90

4.6.7 Bypass separation pad PM

(1) Take off the right cover.
📖 P. 4-8 "4.1.13 Right cover"
(2) Take off the Lower bypass feed guide [1].
📖 P. 4-31 "4.6.4 Lower bypass feed guide"
(3) Take off the bypass separation pad [2].

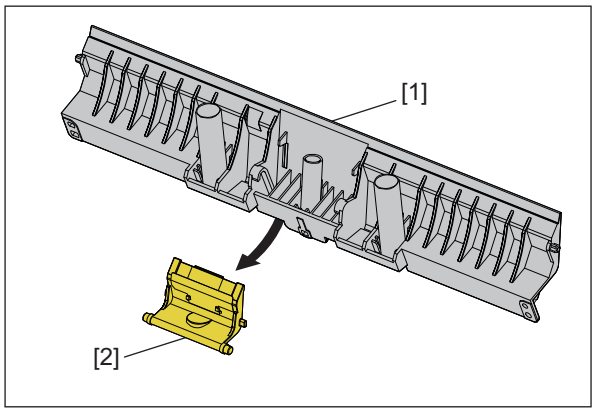


Fig. 4-91

4.6.8 Bypass paper sensor (S6)

(1) Open the right cover.
(2) Remove 3 screws and then remove upper bypass feed guide [1].

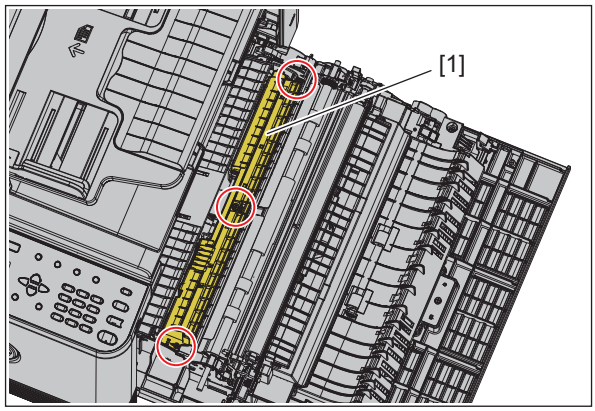


Fig. 4-92

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

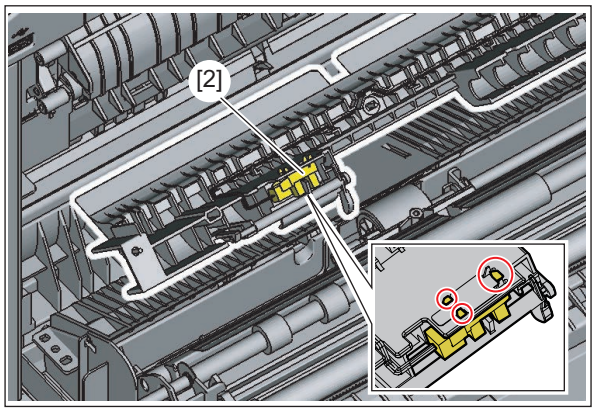


Fig. 4-93

4.6.9 Drawer feed roller <25S/25H/25F> PM

(1) Take off the drawer.
(2) Remove each 1 bushing [1] on both front and rear side, and slide the shaft [2] to the rear side.

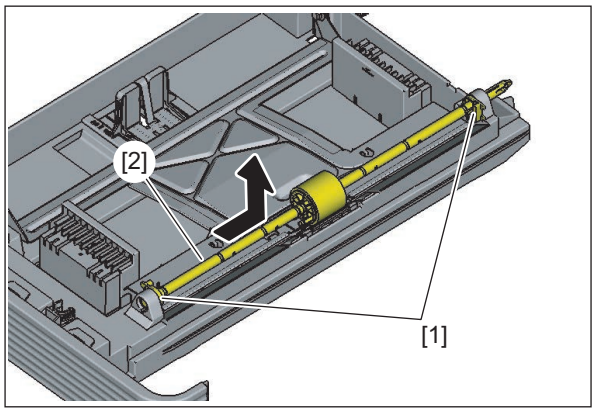


Fig. 4-94

(3) Remove the clip [3].

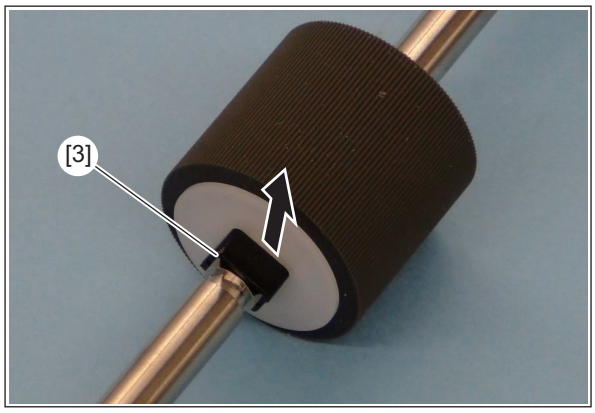


Fig. 4-95

(4) Take off the drawer feed roller [4].

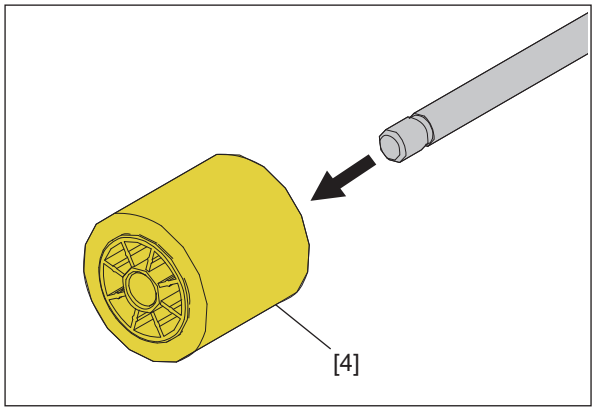


Fig. 4-96

4.6.10 Drawer feed roller <28A/28M/28F> PM

(1) Take off the drawer.
(2) Remove 2 clips [1] and slide the shaft [2] to the rear side.

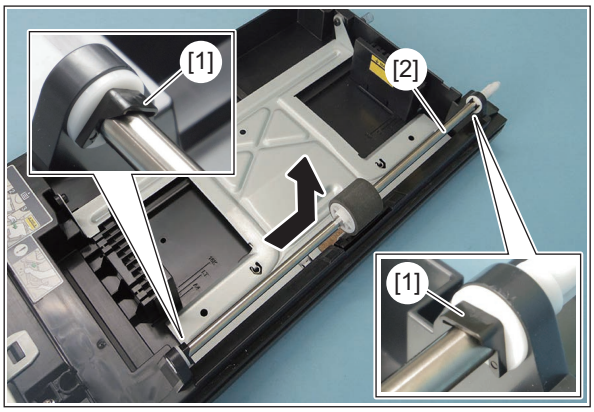


Fig. 4-97

(3) Release the hook and then take off the collar [3].

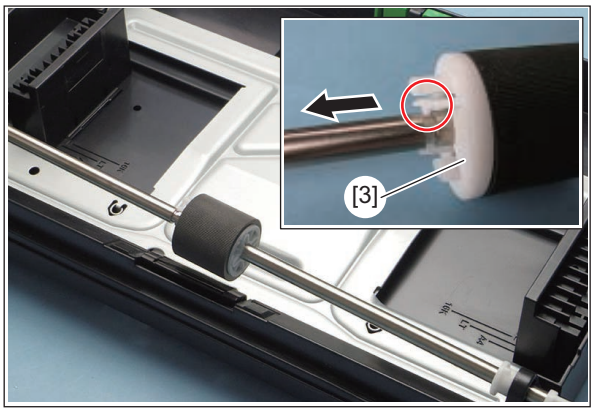


Fig. 4-98

(4) Release the hook and then take off the drawer feed roller [4].

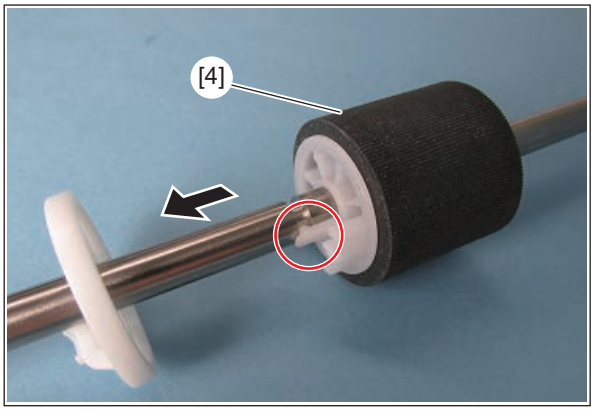


Fig. 4-99

4.6.11 Drawer separation pad PM

(1) Take off the drawer feed roller.
<25S/25H/25F>
P. 4-35 "4.6.9 Drawer feed roller <25S/25H/25F>"
<28A/28M/28F>
P. 4-36 "4.6.10 Drawer feed roller <28A/28M/28F>"

(2) Release 2 latches on the bottom of the drawer and take off the drawer separation pad [1].

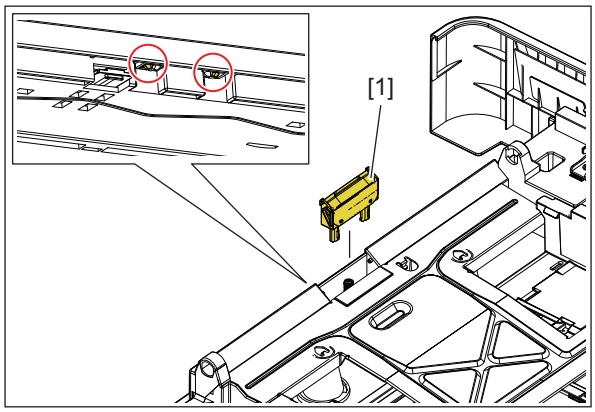


Fig. 4-100

4.6.12 Drawer feed clutch (CLT2)

(1) Take off the rear cover.
<25S/25H/25F>
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"

(2) Disconnect 1 connector [1].

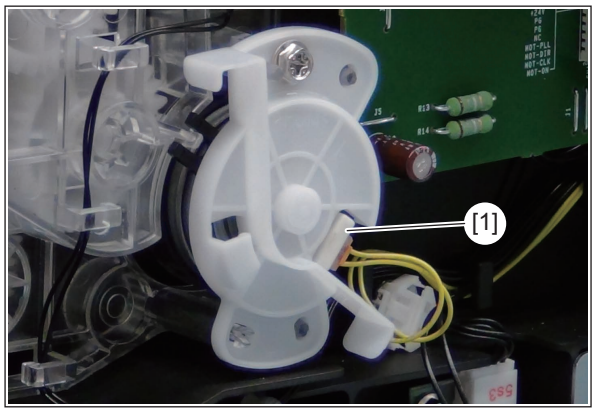


Fig. 4-101

(3) Remove 1 screw, release 1 latch and then take off the clutch cover [2].

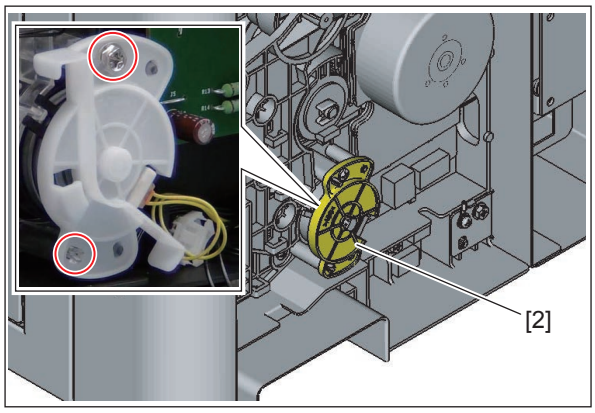


Fig. 4-102

(4) Take off the drawer feed clutch [3].

Notes:
When installing the drawer feed clutch [3], engage the arm of the clutch with the rotation stopper of the lower drive unit.

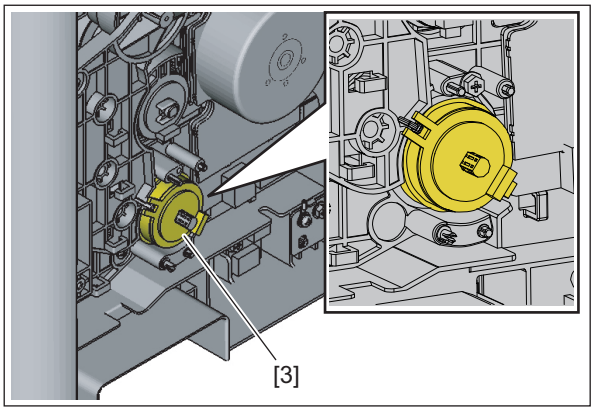


Fig. 4-103

4.6.13 Registration roller clutch (CLT1)

(1) Take off the rear cover.
<25S/25H/25F>
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
<28A/28M/28F>
P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Disconnect 1 connector [1].

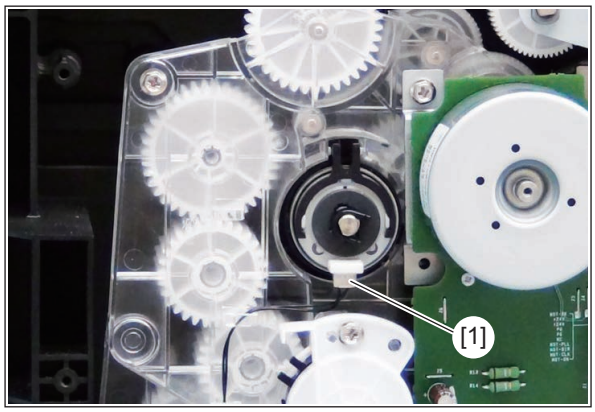


Fig. 4-104

(3) Remove 1 clip [2] and take off the registration roller clutch [3].

Notes:
When installing the registration roller clutch [3], engage the arm of the clutch with the rotation stopper of the lower drive unit.

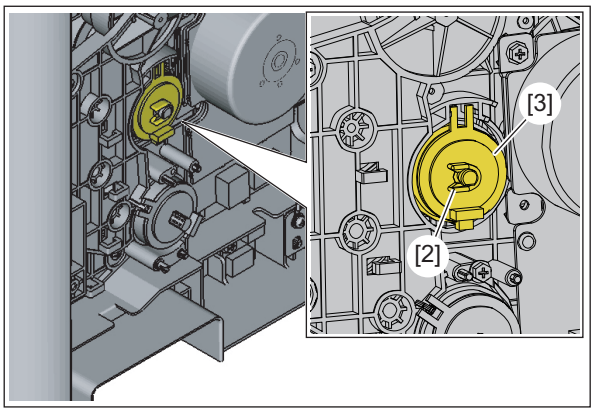


Fig. 4-105

4.6.14 Registration roller (metal)

(1) Open the right cover.
(2) Take off the process unit.
<25S/25H/25F>
P. 4-44 "4.7.1 Process unit <25S/25H/25F>"
<28A/28M/28F>
P. 4-45 "4.7.2 Process unit <28A/28M/28F>"
(3) Take off the registration roller clutch.
P. 4-39 "4.6.13 Registration roller clutch (CLT1)"
(4) Remove 1 clip [1].

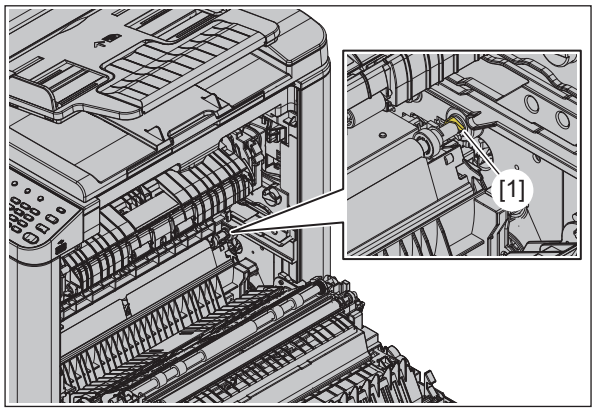


Fig. 4-106

(5) Slide the registration roller (metal) [2] to the rear side, and take it off.

Notes:

Each 1 bushing is attached on both front and rear side of the registration roller (metal), take care not to drop the bushings while removing the registration roller (metal).

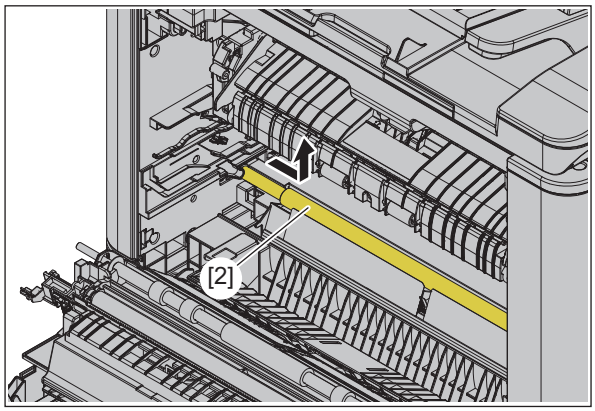


Fig. 4-107

(6) Remove 1 E-ring [3] and 1 gear [4].

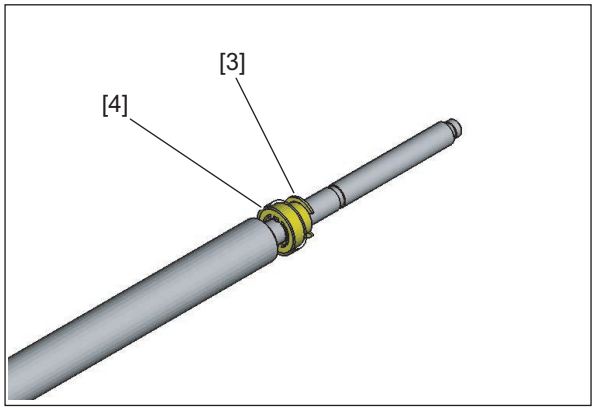


Fig. 4-108

4.6.15 Registration roller (rubber)

(1) Open the right cover.
(2) Take off the duct unit.
📖 P. 4-30 "4.6.3 Duct unit"
(3) Remove 1 screw and plate [1]. Slide the registration roller (rubber) [2] to the rear side, and take it off.

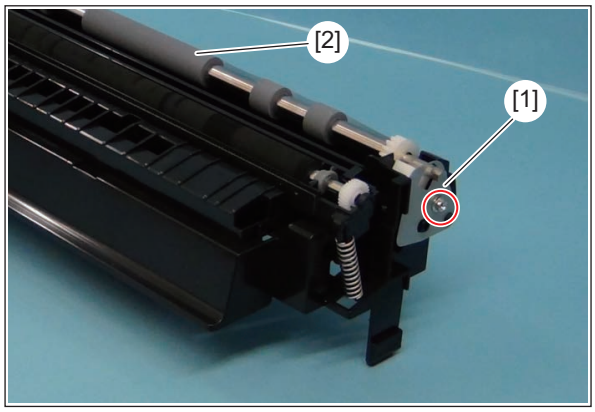


Fig. 4-109

(4) Remove 2 washers [3] and 1 gear [4].

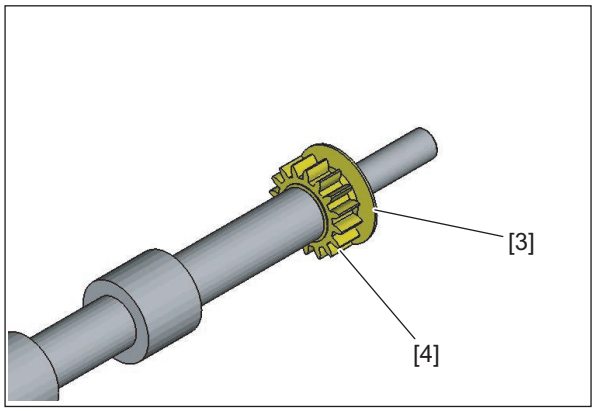


Fig. 4-110

Notes:

When installing the 2 washers [3], it attaches to the position of a figure.

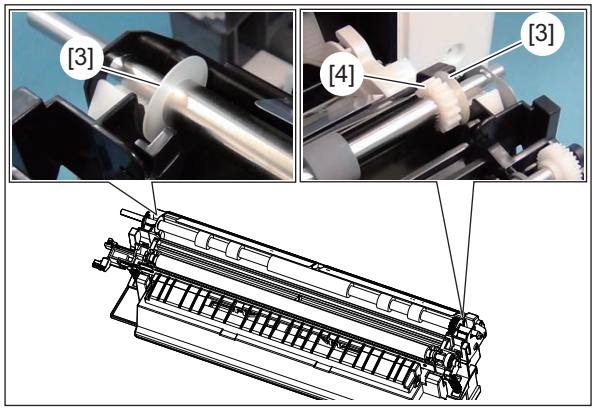


Fig. 4-111

4.6.16 Registration sensor (S2)

(1) Open the right cover.
(2) Take off the duct unit.
📖 P. 4-30 "4.6.3 Duct unit"
(3) Take off the registration roller (metal).
📖 P. 4-39 "4.6.14 Registration roller (metal)"
(4) Remove one screw and then slide the registration guide [1] towards the rear and remove it.

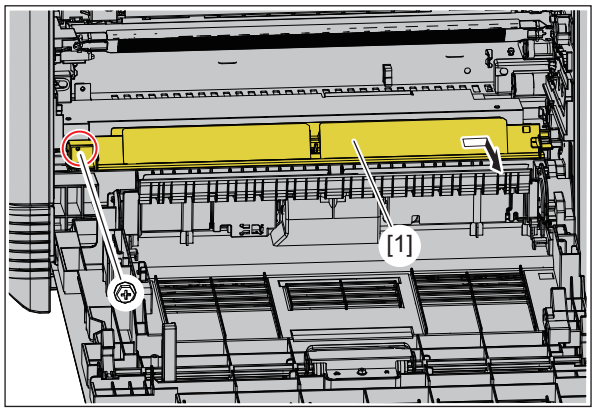


Fig. 4-112

Notes:

When installing the registration guide, insert the hook at the rear side into the damp heater bracket [2], slide it to the front side, and then insert the two bosses into the damp heater bracket.

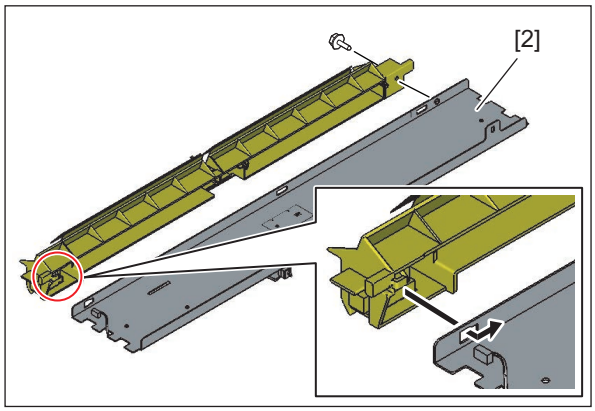


Fig. 4-113

(5) Turn over the registration guide.
(6) Remove the actuator [3], the spring [4] and then release 3 hooks to remove the registration sensor [5].
(7) Disconnect 1 connector [6].

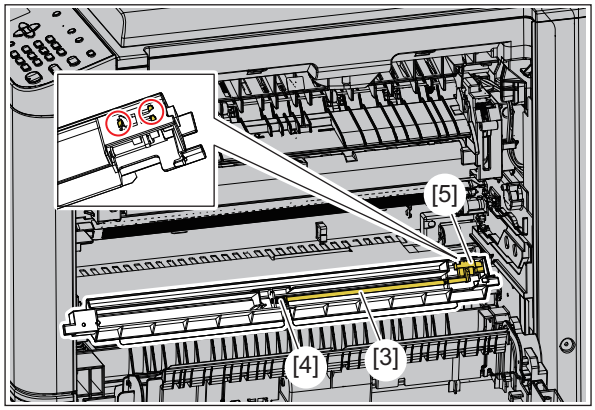


Fig. 4-114

4.6.17 Paper empty sensor (S5)

(1) Open the right cover.
(2) Take off the drawer.
(3) Take off the duct unit.
🕮 P. 4-30 "4.6.3 Duct unit"
(4) Take off the registration roller (metal)
🕮 P. 4-39 "4.6.14 Registration roller (metal)"
(5) Remove one screw and then slide the registration guide [1] towards the rear and remove it.

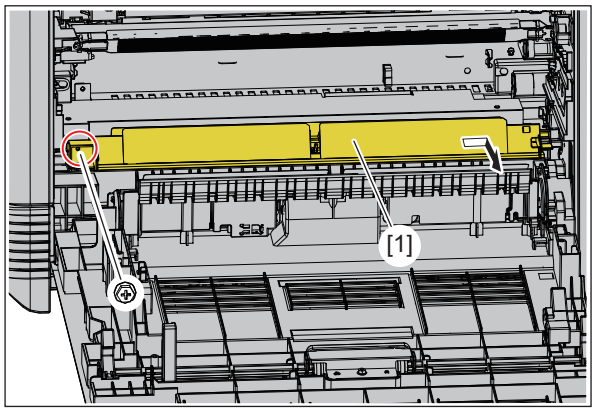


Fig. 4-115

Notes:

When installing the registration guide, insert the hook at the rear side into the damp heater bracket [2], slide it to the front side, and then insert the two bosses into the damp heater bracket.

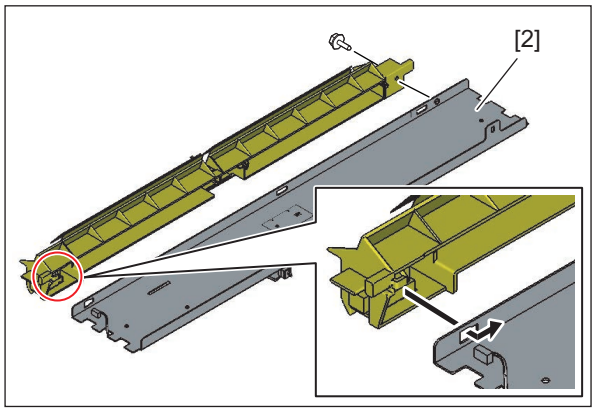


Fig. 4-116

(6) Remove 1 screw and then take off the damp heater unit or dummy plate [3] while sliding it to the rear and lifting it down.

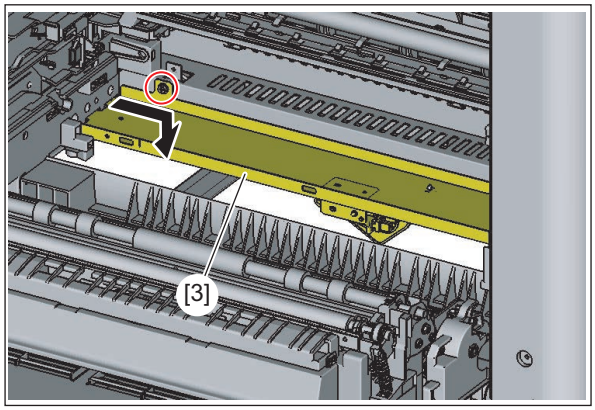


Fig. 4-117

(7) Turn over the damp heater unit or dummy plate.
(8) Disconnect 1 connector [4], release 3 latches. Take off paper empty sensor [5].

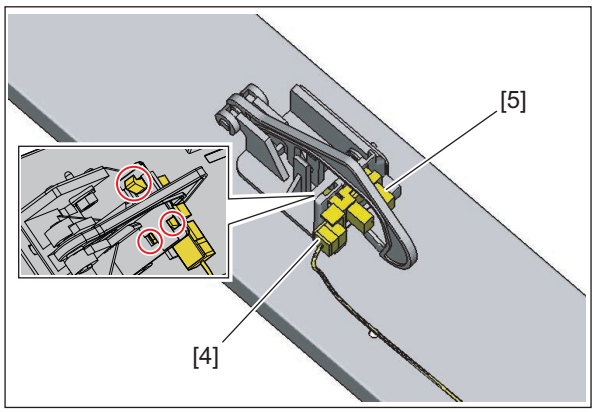


Fig. 4-118

4.7 Process Related Section

4.7.1 Process unit <25S/25H/25F>

Notes:

1. Immediately after power OFF, the fuser unit entrance guide is very hot and can cause burns. Wait for it to cool down before starting work.
2. Make sure to perform “05-2390” and take off the process unit before the developer material is replaced.

(1) Pull out the toner cartridge.
(2) Open the right cover.
(3) Disconnect 1 connector [1].

Notes:

When holding the process unit, do not touch the conveyance guide of the developer unit. Pushing the guide too strongly may damage the drum.

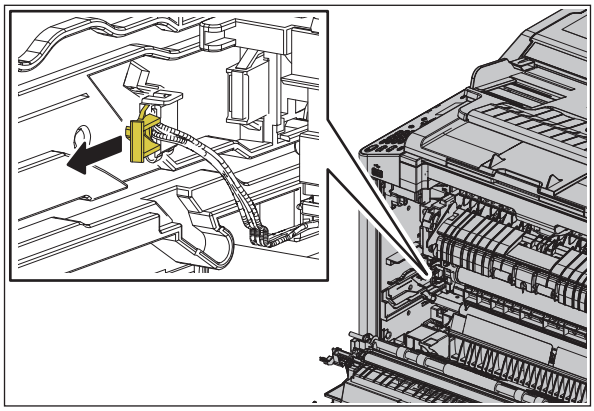


Fig. 4-119

(4) Holding the positions shown in the figure, pull out the process unit [2] slightly.

Notes:

Take care not to drop the process unit.

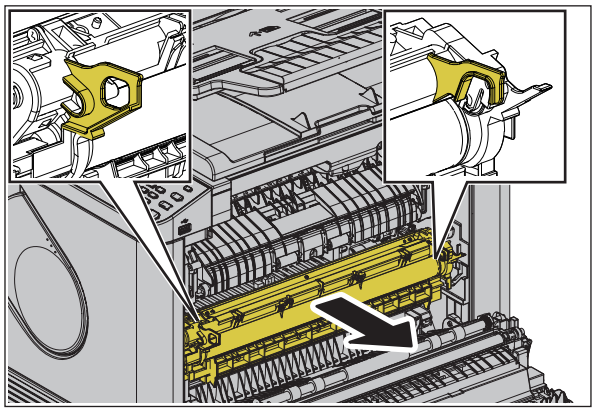


Fig. 4-120

(5) Holding the positions shown in the figure, take off the process unit.

Notes:

1. Be careful not to touch or scratch the drum surface.
2. Avoid direct light. Place the drum in a dark place immediately after taking off.

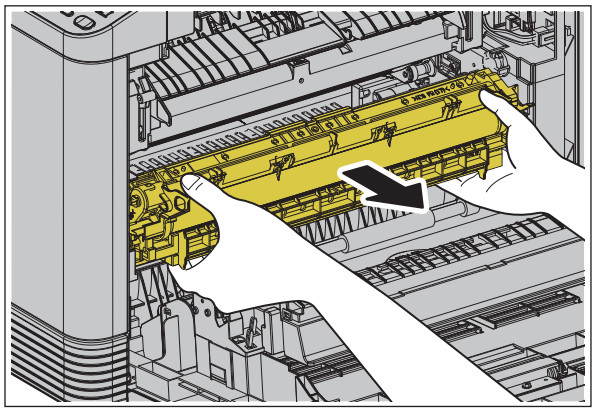


Fig. 4-121

4.7.2 Process unit <28A/28M/28F>

Notes:

1. Immediately after power OFF, the fuser unit entrance guide is very hot and can cause burns. Wait for it to cool down before starting work.
2. Make sure to perform “05-2390” and take off the process unit before the developer material is replaced.

(1) Pull out the toner cartridge.
(2) Open the right cover.
(3) Disconnect 1 connector [1].

Notes:

When holding the process unit, do not touch the conveyance guide of the developer unit. Pushing the guide too strongly may damage the drum.

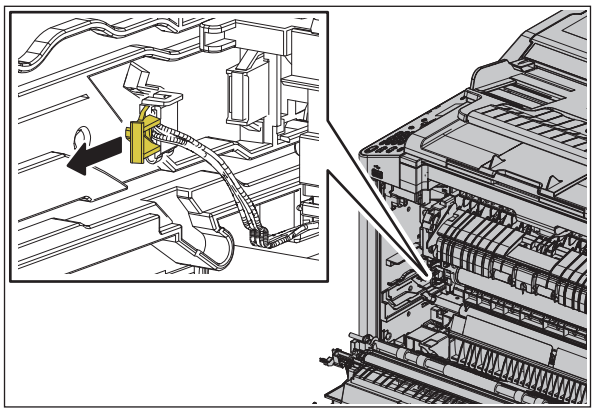


Fig. 4-122

(4) Push the lever [2] and release the lock.

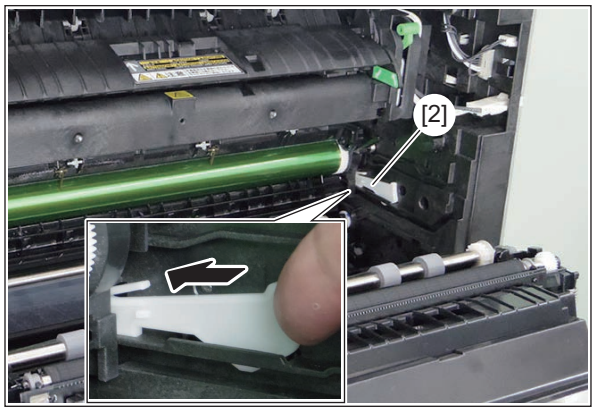


Fig. 4-123

Notes:

Check the marked lines and push the lever to the position shown in the figure.

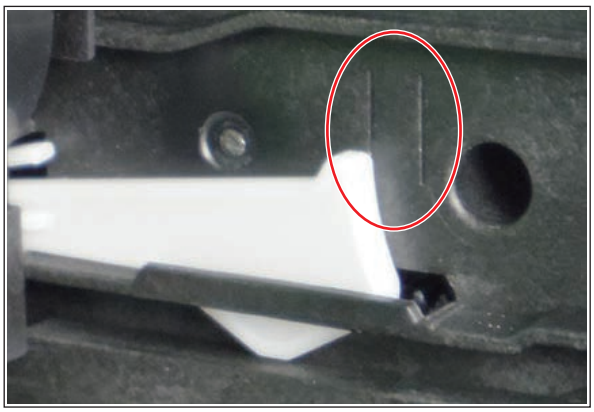


Fig. 4-124

(5) Holding the positions shown in the figure, pull out the process unit [3] slightly.

Notes:

1. Take care not to drop the process unit.
2. Be careful not to touch or scratch the drum surface.
3. Avoid direct light. Place the drum in a dark place immediately after taking off.

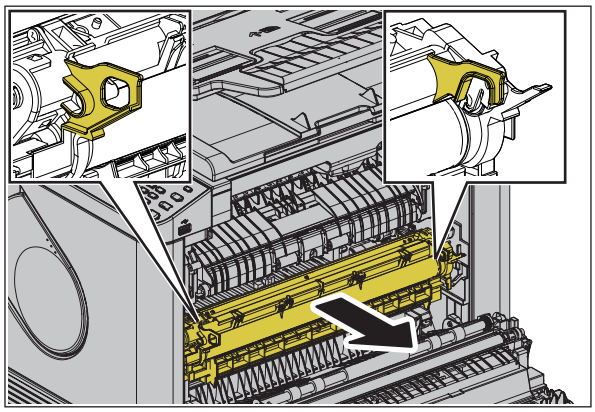


Fig. 4-125

4.7.3 Drum cleaner unit

(1) Take off the process unit.
<25S/25H/25F>
(📖 P. 4-44 "4.7.1 Process unit <25S/25H/25F>").
<28A/28M/28F>
(📖 P. 4-45 "4.7.2 Process unit <28A/28M/28F>").
(2) Take off the front side stopper [1].
(3) Take off the rear side stopper [3].

Notes:

When removing the front/rear stopper, make sure that the drum cleaner unit and developer unit do not move from their positions as this may damage the drum. Remove the front/rear stopper while holding the drum cleaner unit so that it does not move.

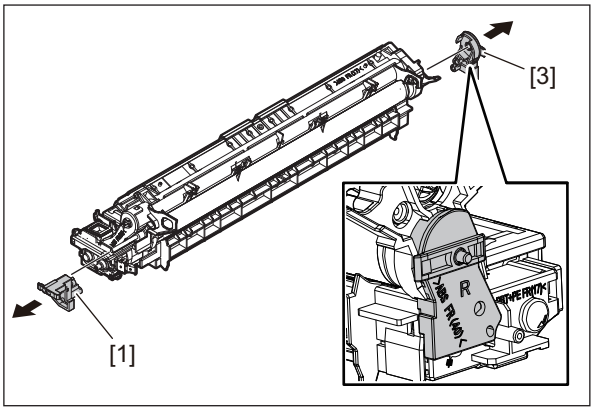


Fig. 4-126

(4) Take off the drum cleaner unit [3].

Notes:

1. Be careful not to touch or scratch the drum surface.
2. Avoid direct light. Place the drum in a dark place immediately after taking off.
3. Place the removed drum cleaner unit facing the direction shown in the figure.
4. Keep in mind that there is a possibility that a toner may fall, from the used toner discharge part of a drum cleaner unit.

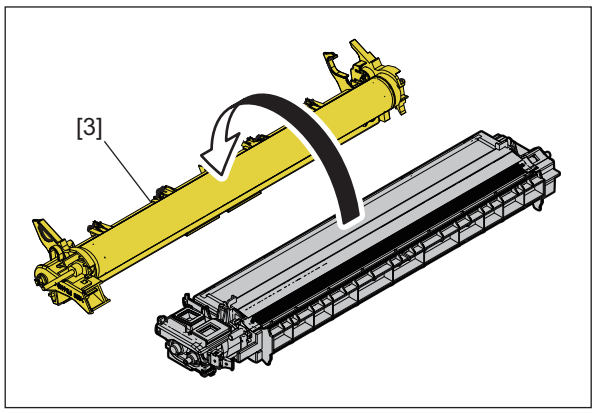


Fig. 4-127

4.7.4 Drum PM

(1) Take off the drum cleaner unit.
P. 4-46 "4.7.3 Drum cleaner unit"
(2) Pull out the drum shaft [1] and then take off the drum [2].

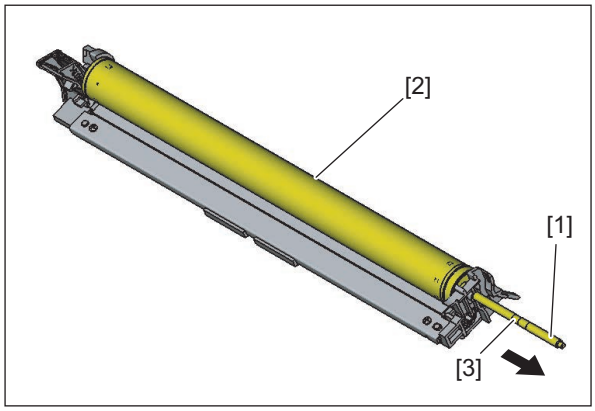


Fig. 4-128

Notes:

1. Be careful not to touch or scratch the drum surface.
2. Avoid direct light. Place the drum in a dark place immediately after taking off.
3. Be careful not to touch or scratch the edge of the cleaning blade.
4. When reinstalling the drum, eject the toner inside the drum cleaner unit first.
5. Be sure to apply patting powder (lubricant) to the entire surface of the drum when it is replaced or it is installed/ removed from the cleaner.

Notes:

When installing a new drum, apply conductive grease to the groove [3] of the drum shaft. After installing the drum and drum shaft, wipe off any grease (Floil (GE-334C)) on the parts of the drum shaft protruding outside (front and rear edges). Placing the drum on the rail with grease remaining on the shaft edges will cause black grease to stick on the rail and soil the user's hands or sleeves during jam removal.

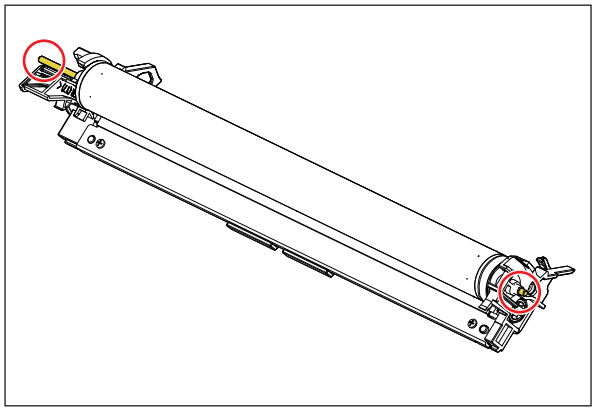


Fig. 4-129

4.7.5 Drum cleaning blade PM

(1) Take off the drum.
P. 4-47 "4.7.4 Drum"
(2) Remove 2 screws and then take off the drum cleaning blade [1].

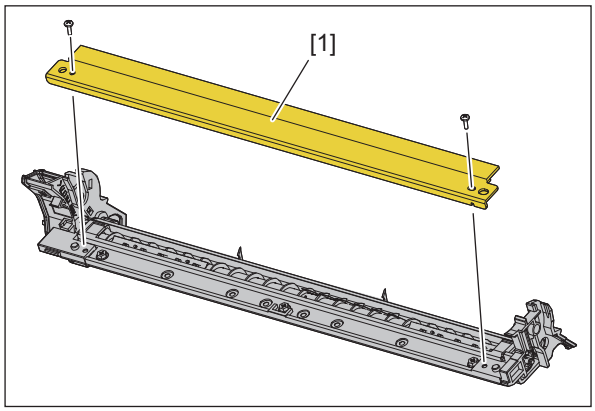


Fig. 4-130

Notes:

- Be careful not to touch or scratch the edge of the drum cleaning blade.
- Be sure to apply patting powder (lubricant) to the entire surface of the drum when the drum cleaning blade is replaced or it is cleaned.

4.7.6 Recovery Blade

(1) Take off the drum cleaner unit.
🕮 P. 4-46 "4.7.3 Drum cleaner unit"
(2) Take off the Drum.
🕮 P. 4-47 "4.7.4 Drum"
(3) Peel off the recovery blade [1].

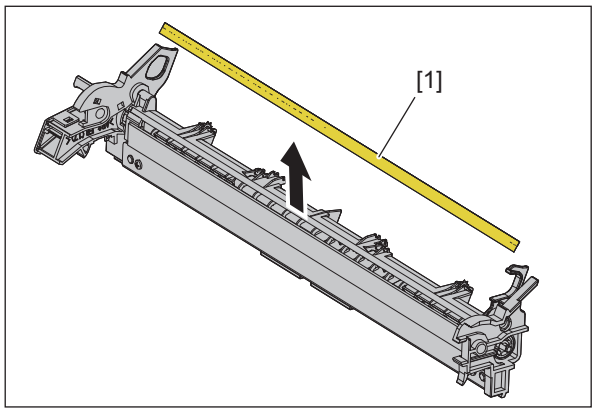


Fig. 4-131

Notes:

1. When attaching the recovery blade, clean the surface of the frame first. Be careful not to deform the blade.
2. When attaching the recovery blade, use the stepped area [2] at the rear of the cleaner unit as the reference for pasting the recovery blade in the front/ rear directions. Push the recovery blade forward to this stepped area and paste it. As for the left/ right directions, make sure that the recovery blade does not project out to the drum separation finger side.
3. Press the stuck part with your finger to attach the blade securely.

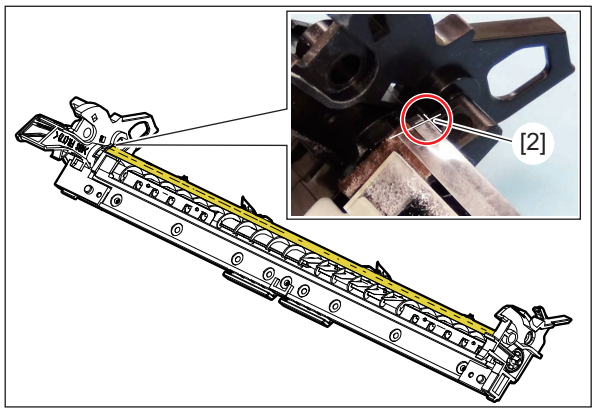


Fig. 4-132

4.7.7 Drum separation finger

(1) Take off the drum.
🕮 P. 4-47 "4.7.4 Drum"
(2) Take off 2 drum separation fingers [1].

Notes:

1. When replacing the drum separation fingers, make sure that the drum has been taken off first since the fingers may scratch the drum surface.
2. When the drum separation fingers have been replaced, check if the pressure movement is normal by moving them with your hands.

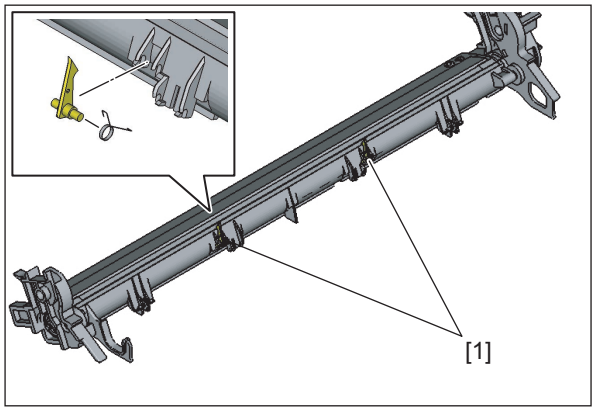


Fig. 4-133

4.7.8 Main charger

(1) Open the right cover.
(2) Take off the process unit.
<25S/25H/25F>
P. 4-44 "4.7.1 Process unit <25S/25H/25F>"
<28A/28M/28F>
P. 4-45 "4.7.2 Process unit <28A/28M/28F>"
(3) Holding (A) of the main charger [1], slide it to the front, and then pull out the rear side.
(4) After removing the rear side first, tilt the main charger, and pull out the cleaning rod from the front side.

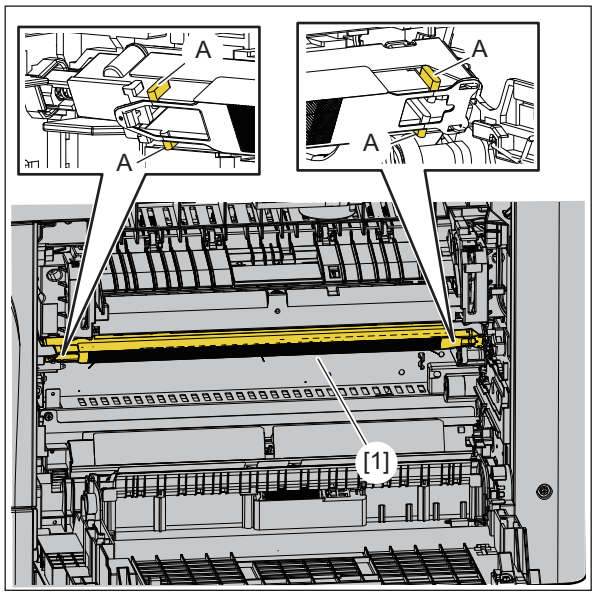


Fig. 4-134

Notes:
1. When installing/removing the main charger, do not touch the fuser unit as it may be hot.
2. When installing/removing the main charger, do not touch the mesh area of the grid.
3. When installing, insert the main charger cleaner into the hole in front of the frame first.

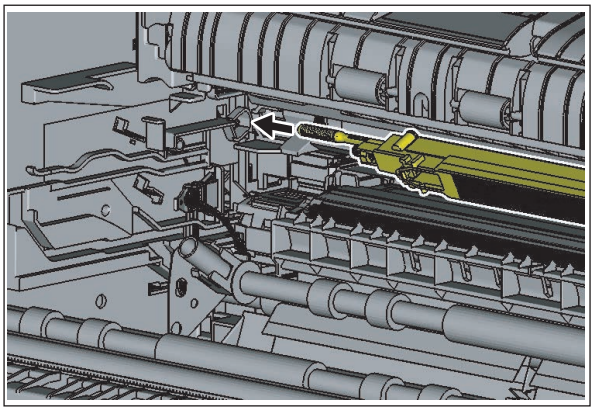


Fig. 4-135

4.7.9 Main charger grid PM

(1) Take off the main charger.
P. 4-49 "4.7.8 Main charger"
(2) Release the hook of the tensioner and take off the main charger grid [1].

Notes:
Do not touch the mesh area of the grid.

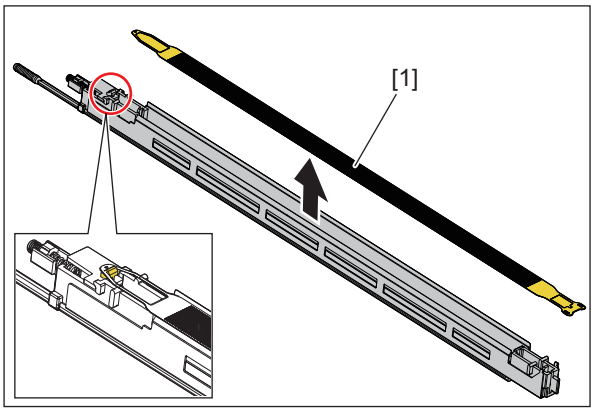


Fig. 4-136

4.7.10 Main charger cleaner

(1) Take off the main charger.
🕮 P. 4-49 "4.7.8 Main charger"
(2) Release the hook of the cleaning shaft [1]. Then rotate the shaft at 90 degrees to take it off.

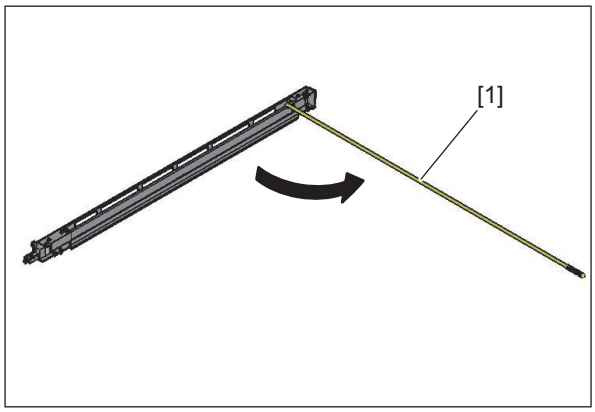


Fig. 4-137

4.7.11 Needle electrode

(1) Take off the main charger.
🕮 P. 4-49 "4.7.8 Main charger"
(2) Take off the main charger cleaner.
🕮 P. 4-50 "4.7.10 Main charger cleaner"
(3) Release the tensioner [1] and remove 2 springs [2]. Take off the needle electrode [3].

Notes:
1. Do not touch the needle electrode directly with bare hands.
2. Make sure not to hold or bend the needle electrode.

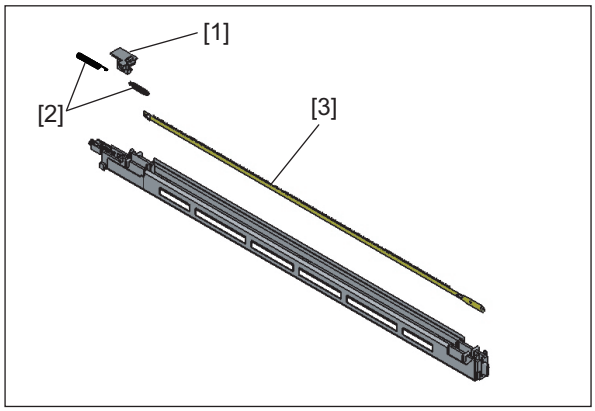


Fig. 4-138

4.7.12 Transfer roller PM

(1) Open the right cover.
(2) Take off the transfer roller [1].

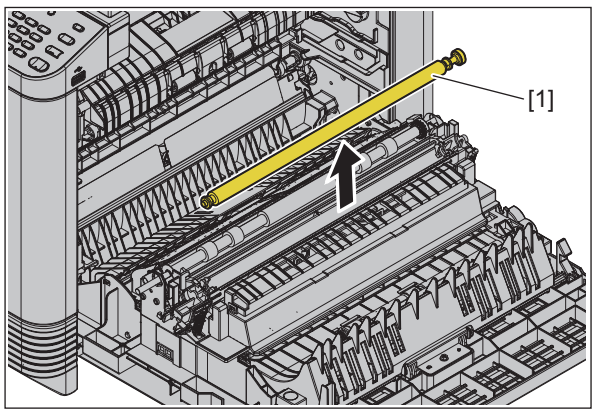


Fig. 4-139

4.7.13 Separation needle

(1) Open the right cover.
(2) Take off the duct unit.
🕮 P. 4-30 "4.6.3 Duct unit"
(3) Take off the registration roller (rubber).
🕮 P. 4-40 "4.6.15 Registration roller (rubber)"
(4) Take off the transfer roller unit [1].

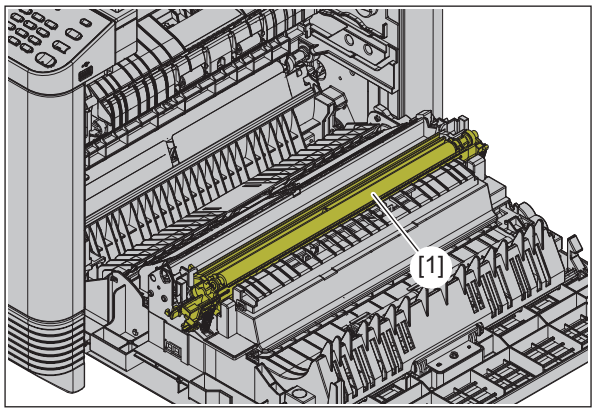


Fig. 4-140

(5) Peel off the separation needle protection sheet [2].
(6) Take off the separation needle [3].

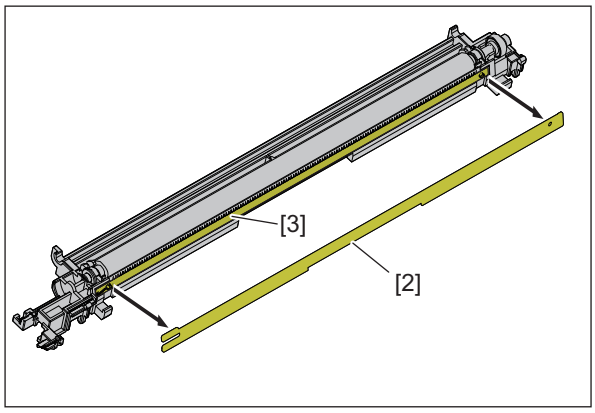


Fig. 4-141

4.7.14 Ozone filter

(1) Open the right cover.
(2) Take off the duct unit.
🕮 P. 4-30 "4.6.3 Duct unit"
(3) Take off the ozone filter [1].

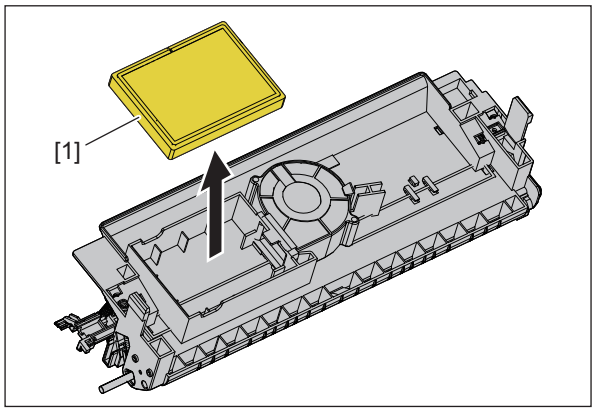


Fig. 4-142

4.7.15 Suction fan (M5)

(1) Open the right cover.
(2) Take off the duct unit.
P. 4-30 "4.6.3 Duct unit"
(3) Release the harness from the harness guide.
(4) Release 1 hook and then take off the suction fan [1].

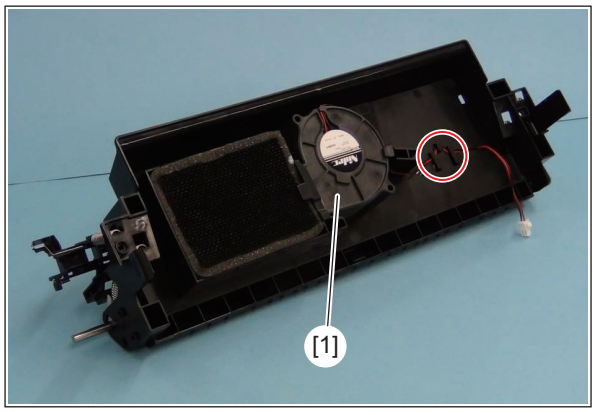


Fig. 4-143

4.7.16 Temperature/humidity sensor (S1) <25S/25H/25F>

(1) Take off the rear cover.
P. 4-6 "4.1.10 Rear cover <25S/25H/25F>"
(2) Disconnect 1 connector [1] and remove 1 screw. Take off the temperature/ humidity sensor [2].

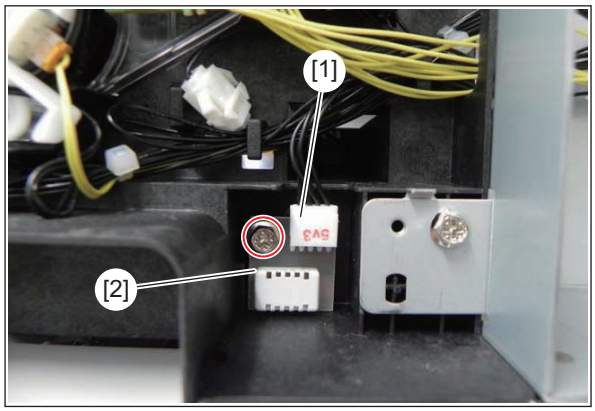


Fig. 4-144

4.7.17 Temperature/humidity sensor (S1) <28A/28M/28F>

(1) Take off the inner tray.
P. 4-2 "4.1.4 Inner tray"
(2) Disconnect 1 connector and remove the ADU fan duct unit [1].

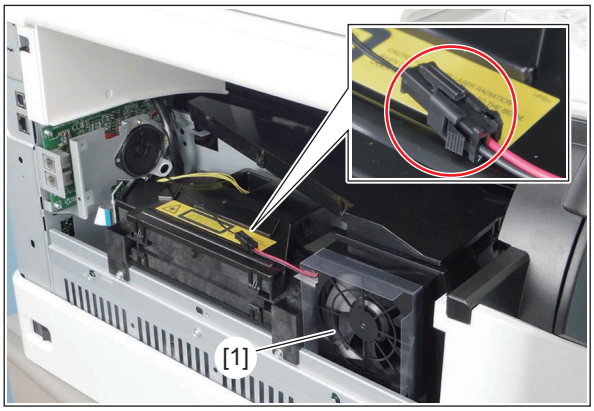


Fig. 4-145

(3) While pressing the lever [2], take off the temperature/humidity sensor [3] with the holder.

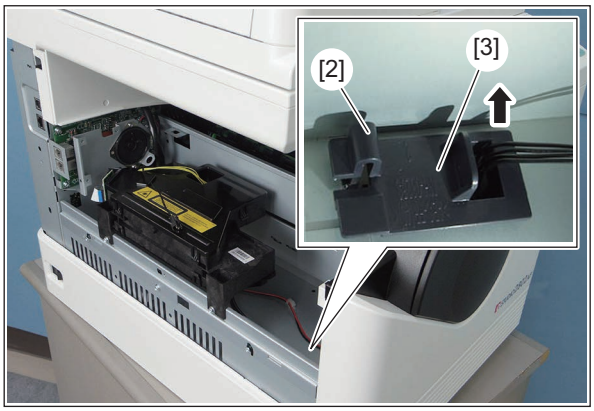


Fig. 4-146

(4) Disconnect 1 connector [4] and 2 latches [5] and take off the temperature/humidity sensor [6].

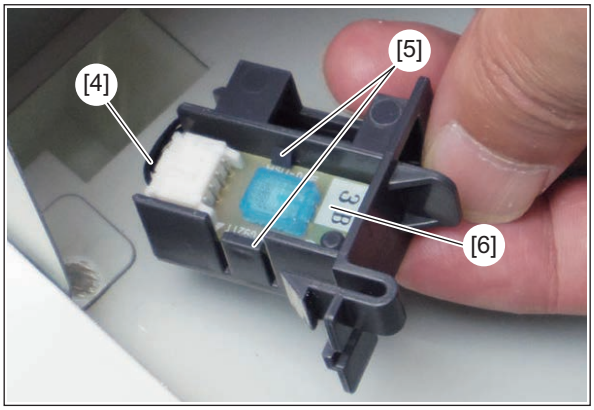


Fig. 4-147

4.7.18 Developer unit

Notes:

- Make sure to perform “05-2390” and take off the process unit before the developer material is replaced
- The developer units of 25S/25H/25F and 28A/28M/28F are different from each other. You can distinguish them by color of gear.
  - 25S/25H/25F: White
  - 28A/28M/28F: Gray

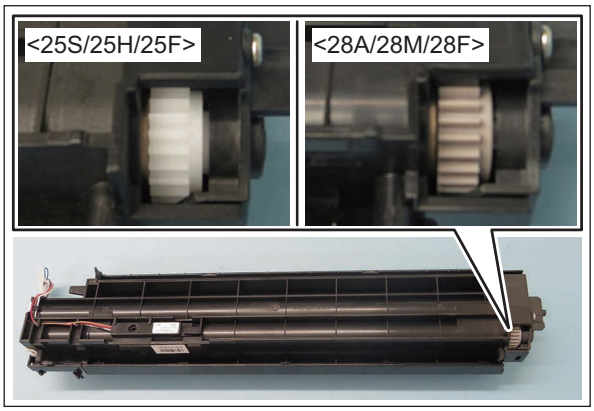


Fig. 4-148

(1) Take off the process unit.
<25S/25H/25F>
🕮 P. 4-44 "4.7.1 Process unit <25S/25H/25F>"
<28A/28M/28F>
🕮 P. 4-45 "4.7.2 Process unit <28A/28M/28F>"

(2) Take out the drum cleaner unit [1] from the process unit so that only the developer unit [2] will be left in it
🕮 P. 4-46 "4.7.3 Drum cleaner unit"

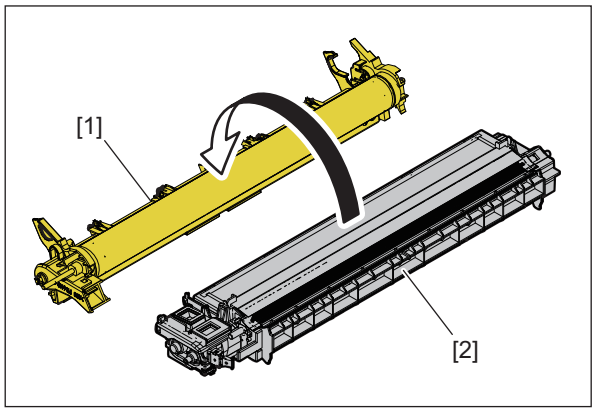


Fig. 4-149

Notes:

1. Be careful not to touch or scratch the drum surface.
2. Avoid direct light. Place the drum in a dark place immediately after taking off.
3. Place the removed drum cleaner unit facing the direction shown in the figure.

4.7.19 Removing developer material

(1) Take off the developer unit.
🕮 P. 4-53 "4.7.18 Developer unit"

(2) Release 2 latches and then take off the developer unit upper cover [1].

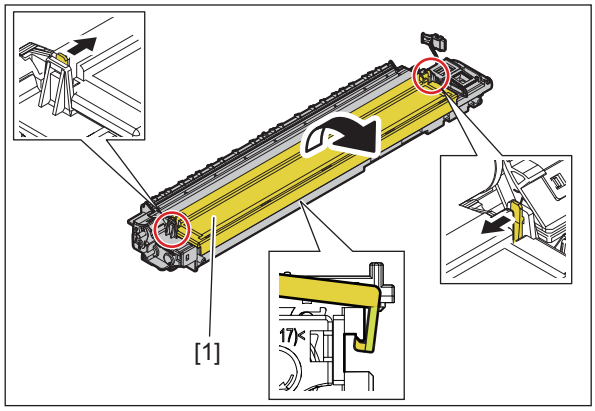


Fig. 4-150

Notes:

1. When installing the developer unit upper cover, make sure that the side seal comes between the developer unit upper cover and rubber seal on the cover.

   [1] Side seal
   [2] Developer unit upper cover
   [3] Rubber seal

2. Do not touch the developer sleeve directly with bare hands.

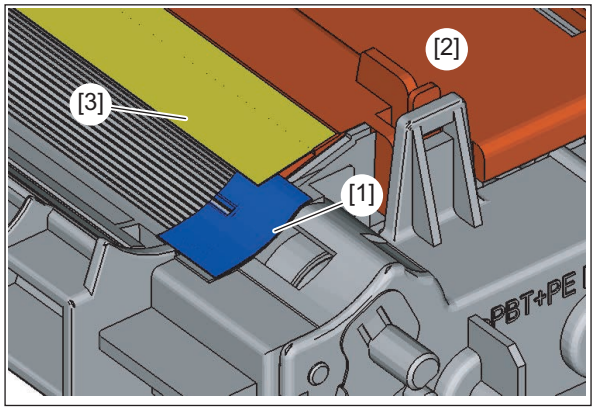


Fig. 4-151

(3) Remove the developer material from rear side.

Notes:
When removing the developer material, be careful not to drop the developer material on the gears of the developer unit.

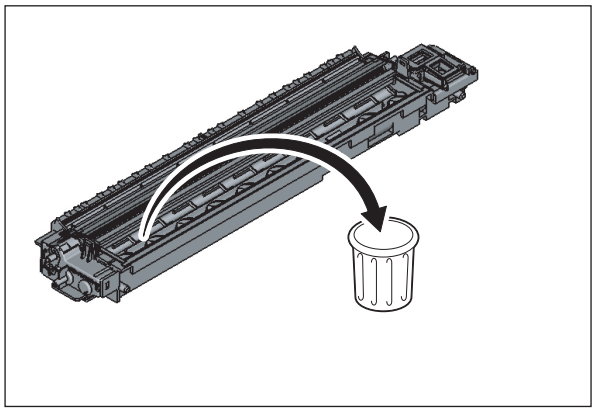


Fig. 4-152

4.7.20 Filling developer unit with developer material

(1) Rotate the gear on the rear side of the developer unit to the direction of the arrow while filling the developer unit with the developer material. Spread out the developer material over the developer sleeve.

Remarks:
Filling the developer material by replacing with the cartridge is also available for 28A/ 28M/28F.

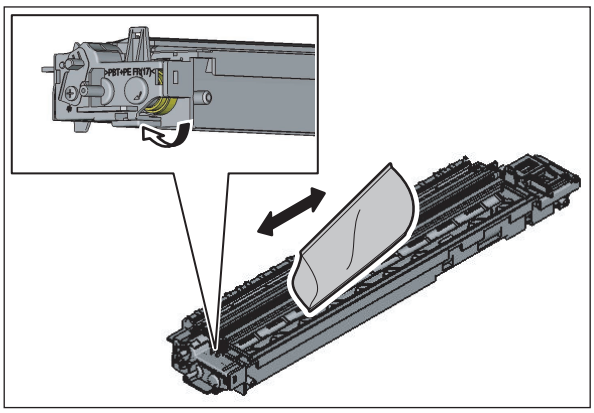


Fig. 4-153

4.7.21 Auto-toner sensor (S4)

(1) Remove the developer material.
P. 4-54 "4.7.19 Removing developer material"
(2) Place the developer unit upside down. Release the harness from the harness guide and then take off the auto-toner sensor [1] by rotating it.

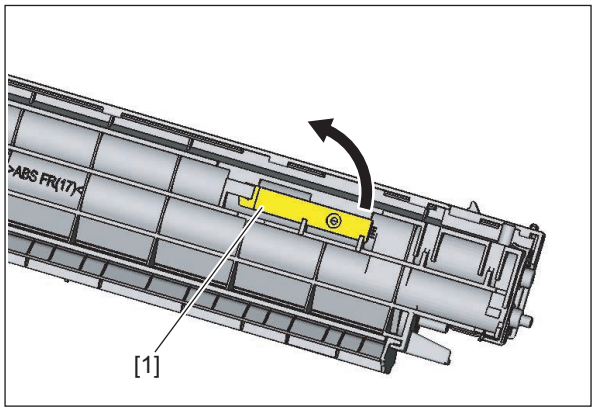


Fig. 4-154

4.7.22 Doctor blade <25S/25H/25F>

(1) Remove the developer material.
🕮 P. 4-54 "4.7.19 Removing developer material"
(2) Remove 2 springs [1] and then take off the doctor blade [2].

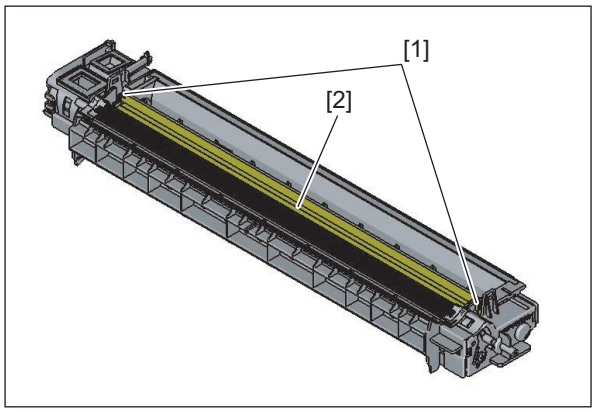


Fig. 4-155

4.7.23 Doctor blade <28A/28M/28F>

(1) Remove the developer material.
🕮 P. 4-54 "4.7.19 Removing developer material"
(2) Remove 1 spring [1] and 1 screw [2], and then take off the doctor blade [3].

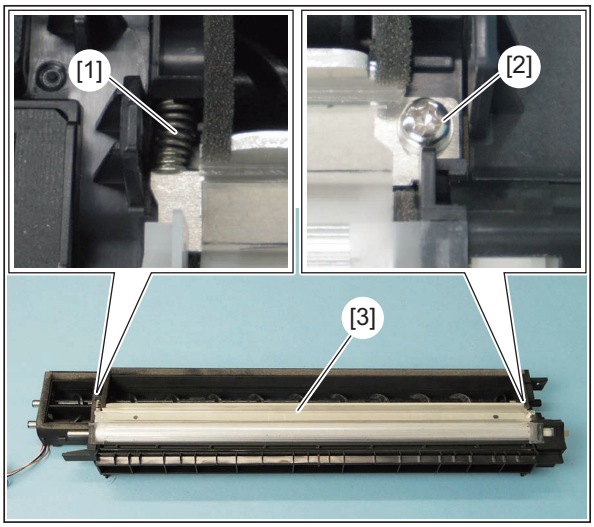


Fig. 4-156

4.7.24 Mixer <25S/25H/25F>

(1) Remove the developer material.
🕮 P. 4-54 "4.7.19 Removing developer material"
(2) Remove 1 screw and take off the polarity adjustment lever [1].

Notes:
Make a note of the position where the polarity adjustment lever is pointing. (Mark the position if needed.) When reassembling, match the polarity adjustment lever with the previously marked position on the scale.

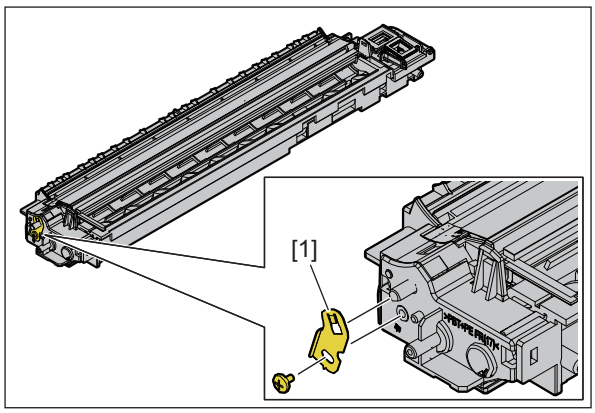


Fig. 4-157

(3) Release 1 latch and take off the recovered toner supply unit [2].

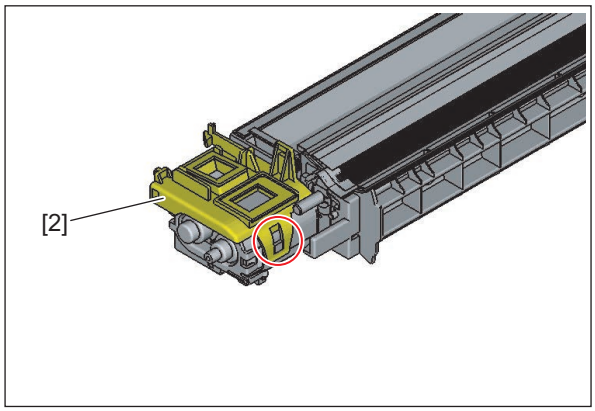


Fig. 4-158

(4) Release 2 latches and take off the holder [3].

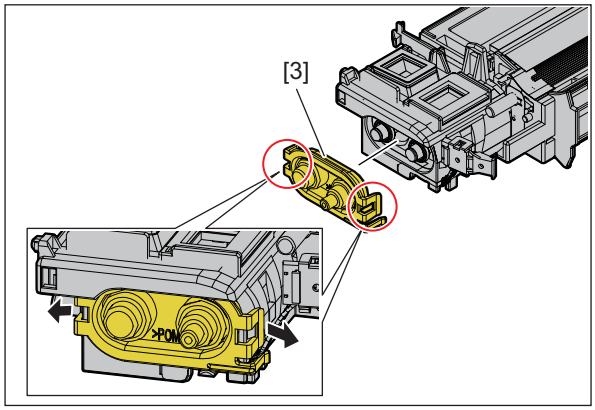


Fig. 4-159

(5) Take off 2 mixers [4].

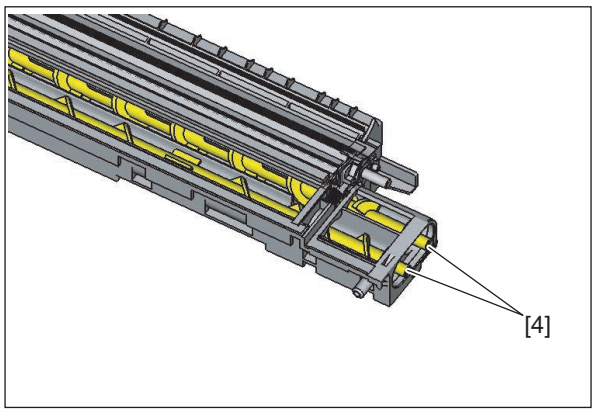


Fig. 4-160

(6) Remove 2 oil seals [5] from the holder. (Replacement of Oil Seal: 📖 P. 4-60 "4.7.26 Replacement of oil seal <25S/25H/25F>")

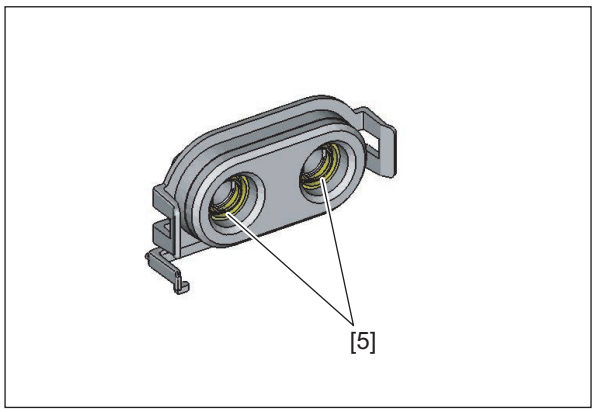


Fig. 4-161

(7) Release 3 latches and take off the gear box [6].

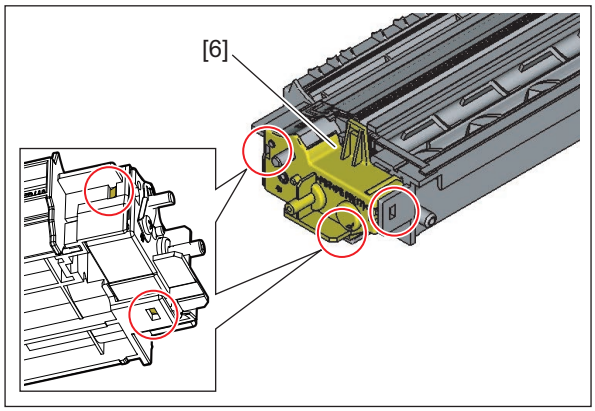


Fig. 4-162

(8) Remove 3 gears [7].

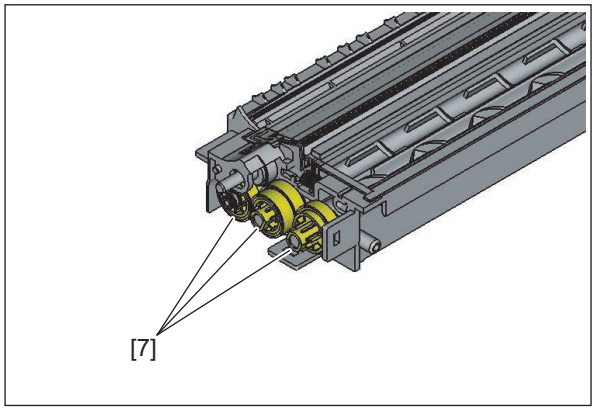


Fig. 4-163

(9) Remove 2 bushings [8] and 2 oil seals [9]. (Replacement of Oil Seal: P. 4-60 "4.7.26 Replacement of oil seal <25S/25H/25F>")

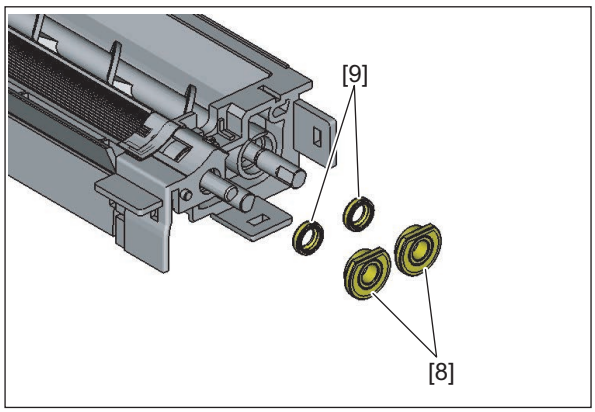


Fig. 4-164

4.7.25 Mixer <28A/28M/28F>

(1) Remove the developer material.
P. 4-54 "4.7.19 Removing developer material"

(2) Remove 1 screw and take off the polarity adjustment lever [1].

Notes:
Make a note of the position where the polarity adjustment lever is pointing. (Mark the position if needed.) When reassembling, match the polarity adjustment lever with the previously marked position on the scale.

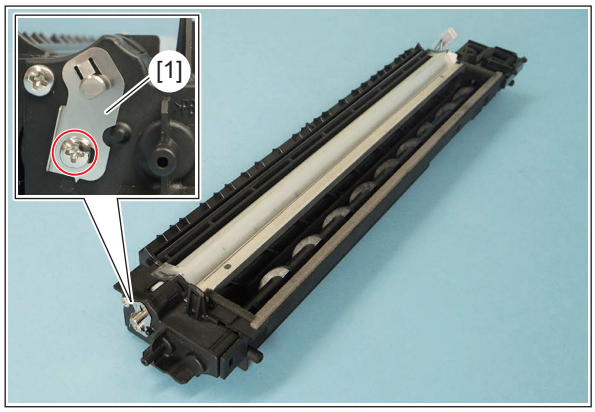


Fig. 4-165

(3) Release 1 latch and take off the recovered toner supply unit [2].

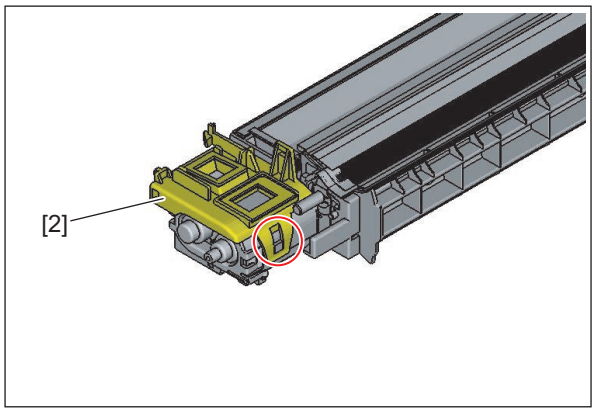


Fig. 4-166

(4) Release 2 latches and take off the holder [3].

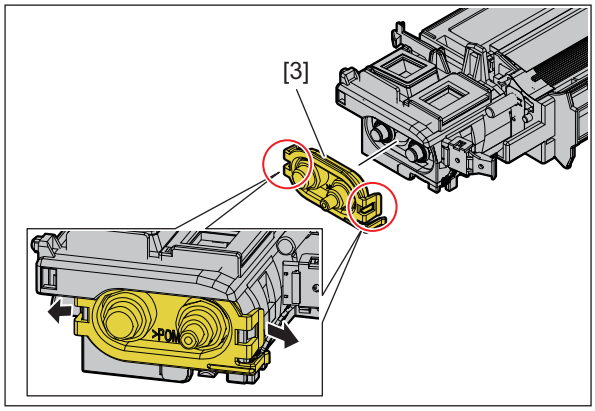


Fig. 4-167

(5) Take off 2 mixers [4].

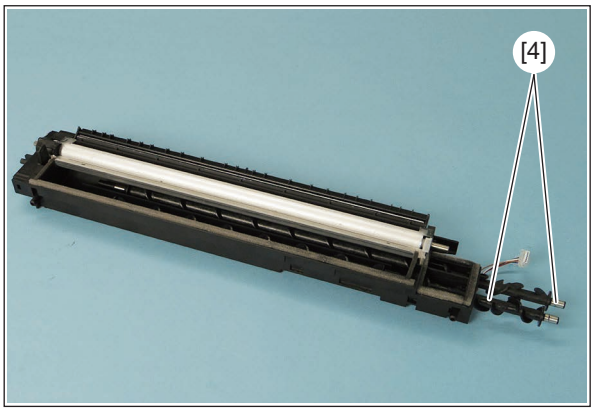


Fig. 4-168

4.7.26 Replacement of oil seal <25S/25H/25F>

(1) Insert a fine screwdriver into the depression of the oil seal to take it out.
(2) Push in a new oil seal parallel to the frame or bushing (Refer to Fig.4-168).
(3) Apply the grease (Alvania No.2; amount of 2 rice grains) on entire surface of the oil seal evenly.

Notes:
Wipe off the excessive grease.

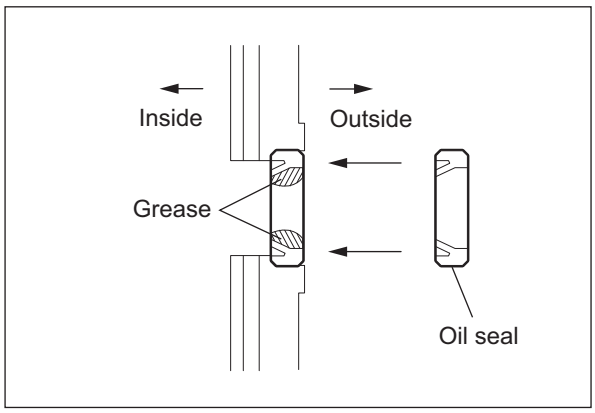


Fig. 4-169

4.7.27 Oil seal (front side) <28A/28M/28F>

(1) Remove the developer material.
📖 P. 4-54 "4.7.19 Removing developer material"
(2) Remove 1 screw and take off the polarity adjustment lever [1].

Notes:
Make a note of the position where the polarity adjustment lever is pointing. (Mark the position if needed.) When reassembling, match the polarity adjustment lever with the previously marked position on the scale.

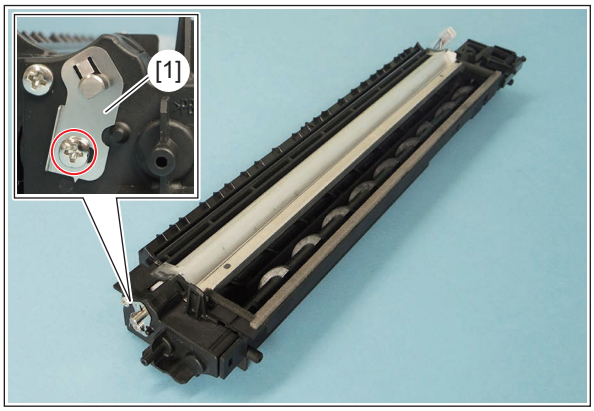


Fig. 4-170

(3) Release 1 latch and take off the recovered toner supply unit [2].

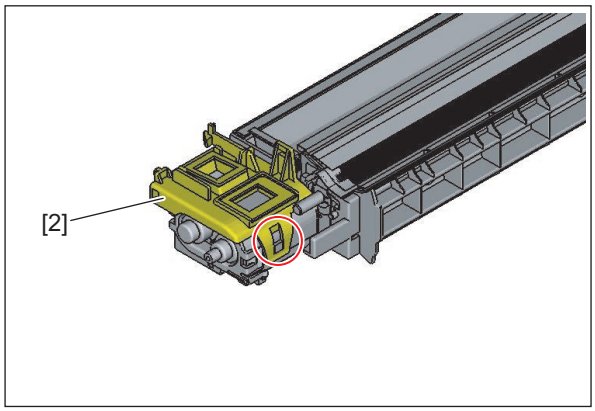


Fig. 4-171

(4) Release 2 latches and take off the holder [3].

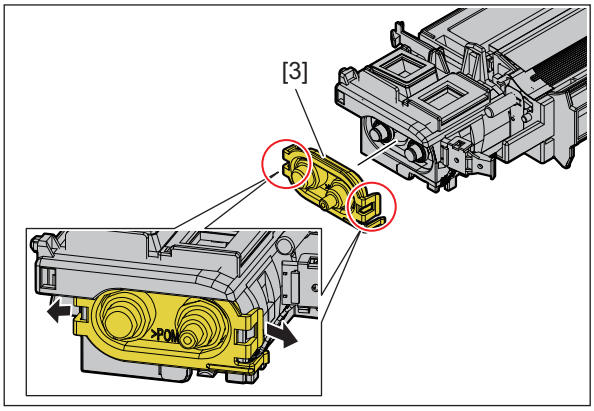


Fig. 4-172

(5) Insert a fine screwdriver into the depression of the oil seal to take it out.

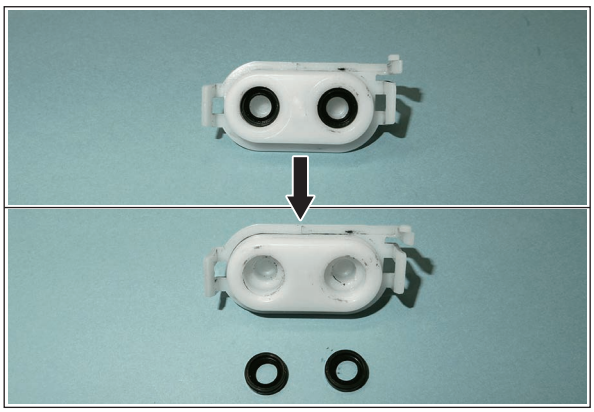


Fig. 4-173

(6) Push in a new oil seal parallel to the frame or bushing (Refer to Fig.4-173).
(7) Apply the grease (Alvania No.2; amount of 2 rice grains) on entire surface of the oil seal evenly.

Notes:
Wipe off the excessive grease.

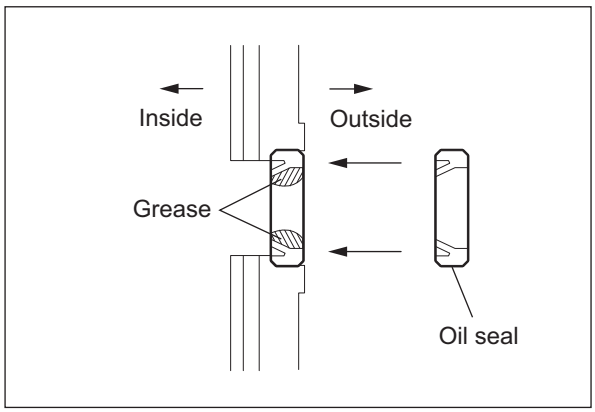


Fig. 4-174

4.7.28 Developer sleeve <25S/25H/25F>

(1) Remove the developer material.
P. 4-54 "4.7.19 Removing developer material"

(2) Remove 1 screw and take off the polarity adjustment lever [1].

Notes:
Make a note of the position where the polarity adjustment lever is pointing. (Mark the position if needed.) When reassembling, match the polarity adjustment lever with the previously marked position on the scale.

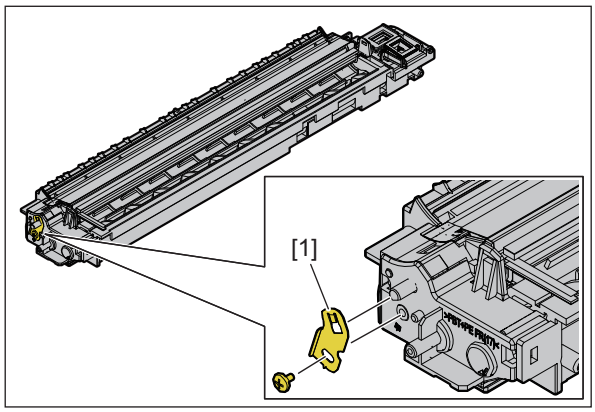


Fig. 4-175

(3) Release 1 latch and take off the recovered toner supply unit [2].

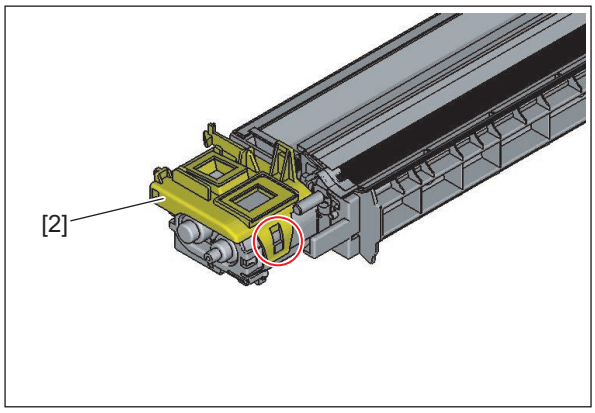


Fig. 4-176

(4) Release 2 latches and take off the holder [3].

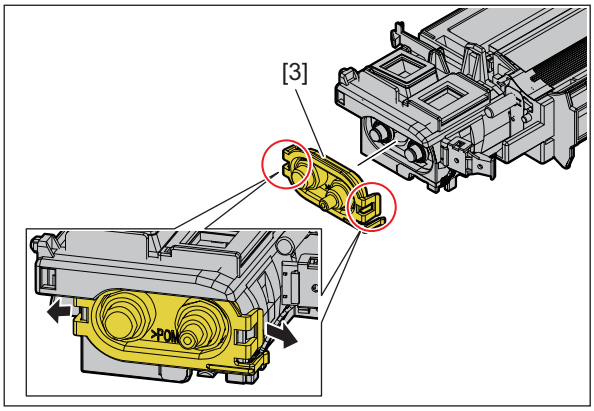


Fig. 4-177

(5) Remove the leaf spring [4].

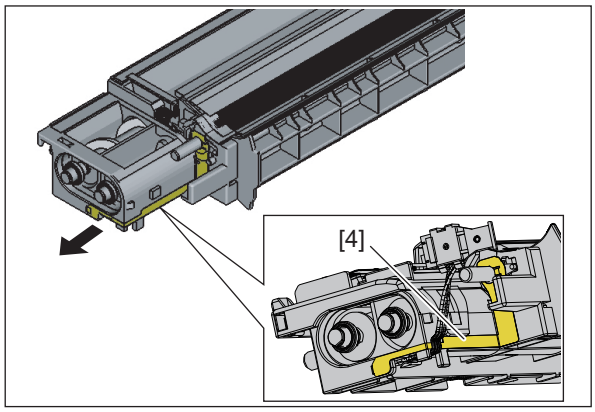


Fig. 4-178

(6) Release 3 latches and take off the gear box [5].

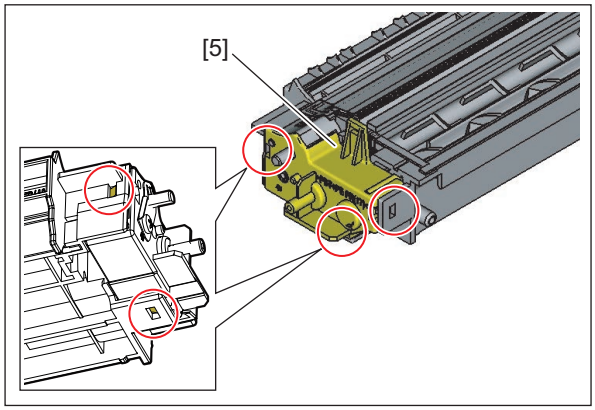


Fig. 4-179

(7) Remove 3 gears [6].

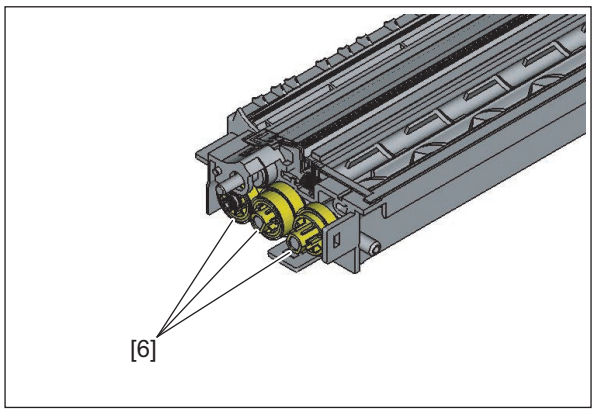


Fig. 4-180

(8) Peel off the side seal halfway (front side) [7], and then rotate the bushing [8] counterclockwise to take it off.

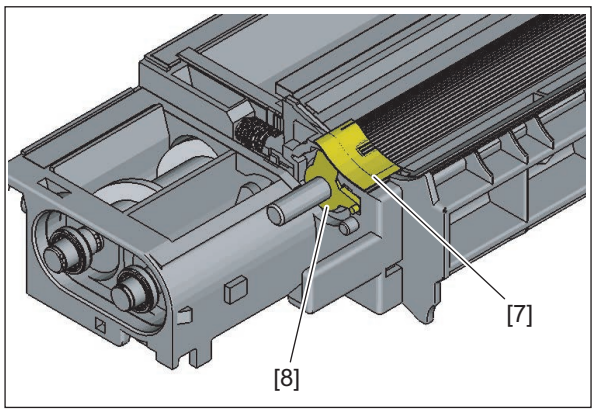


Fig. 4-181

(9) Take off the developer sleeve [9] and 1 gear [10].

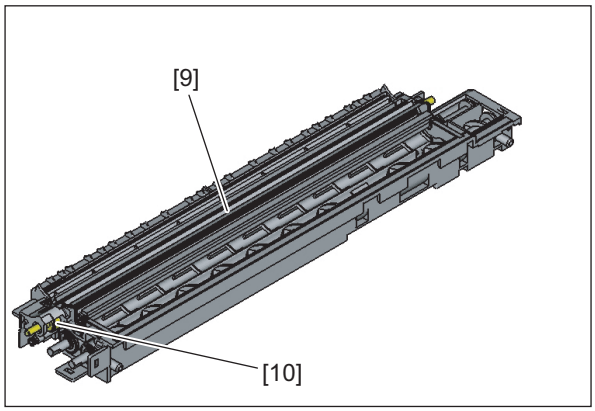


Fig. 4-182

4.7.29 Developer sleeve <28A/28M/28F>

(1) Remove the developer material.
📖 P. 4-54 "4.7.19 Removing developer material"
(2) Remove 1 screw and take off the polarity adjustment lever [1].

Notes:
Make a note of the position where the polarity adjustment lever is pointing. (Mark the position if needed.) When reassembling, match the polarity adjustment lever with the previously marked position on the scale.

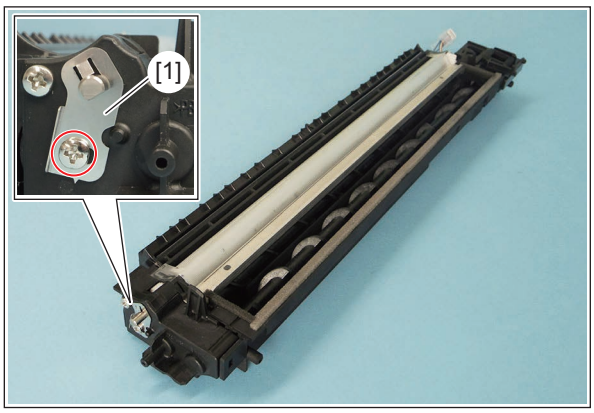


Fig. 4-183

(3) Release 1 latch and take off the recovered toner supply unit [2].

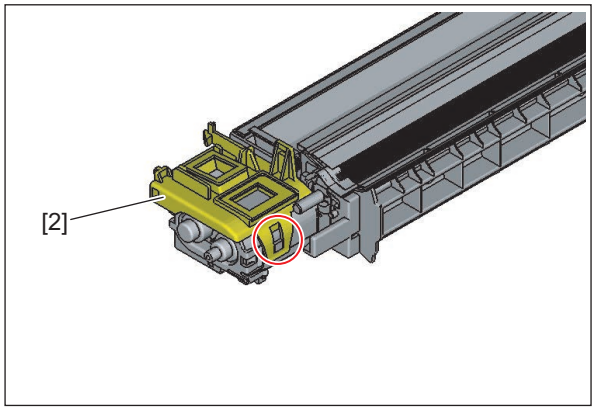


Fig. 4-184

(4) Release 2 latches and take off the holder [3].

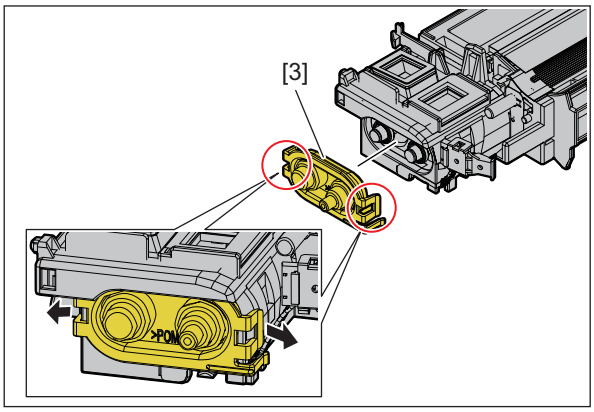


Fig. 4-185

(5) Remove the leaf spring [4].

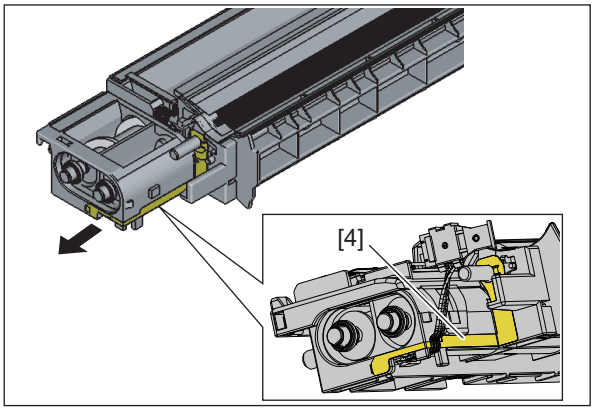


Fig. 4-186

(6) Release 1 latch, remove 2 screws, and take off the gear box [5].

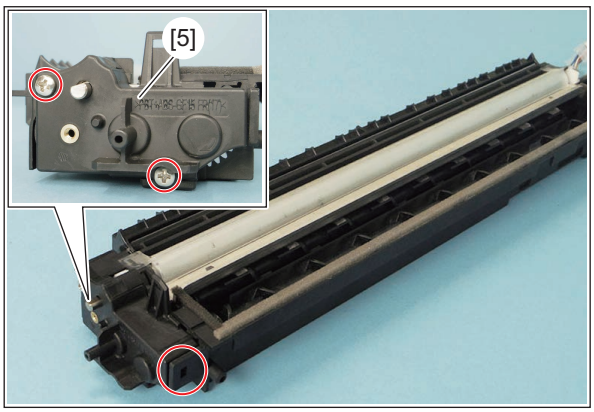


Fig. 4-187

(7) Remove 3 gears [6].

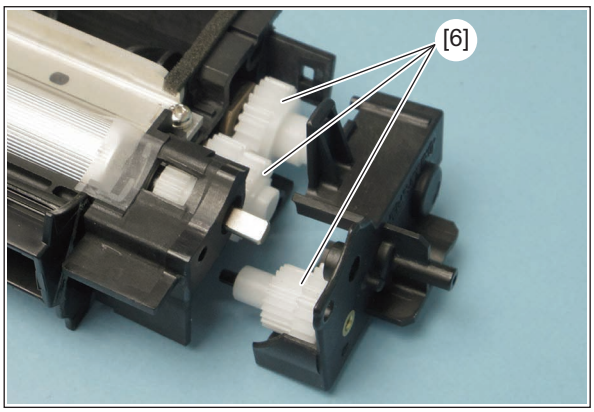


Fig. 4-188

(8) Remove 1 bushing [7] on the front side.

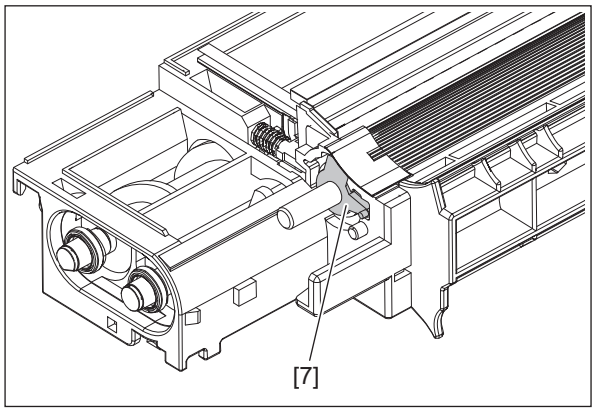


Fig. 4-189

(9) Remove 1 spring [8] and 1 screw [9], and take off the doctor blade [10].

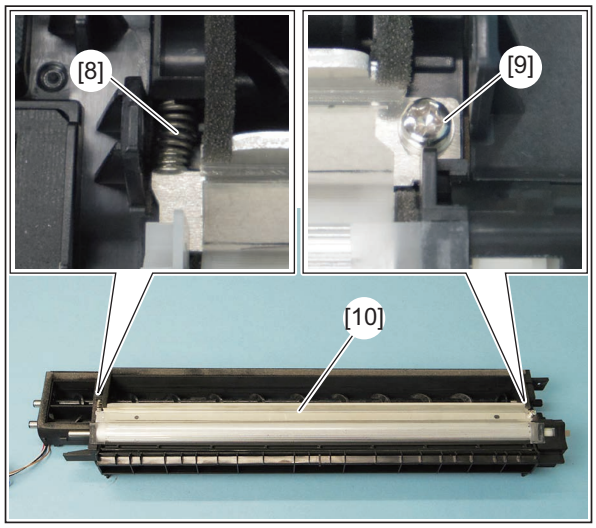


Fig. 4-190

(10) Take off the gear [11] on the rear side and then take off the developer sleeve [12].

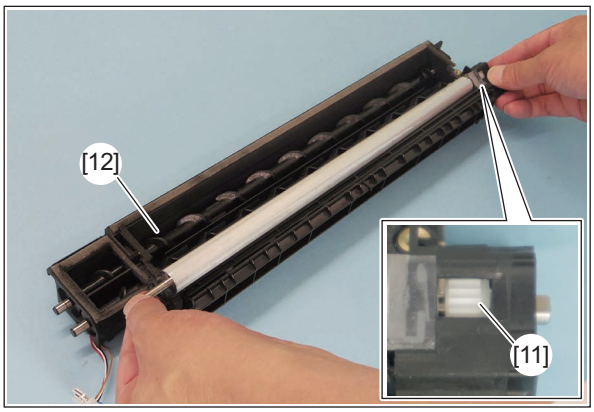


Fig. 4-191

4.7.30 Toner cartridge interface PC board (CTIF)

(1) Take off the toner motor.
🕮 P. 4-25 "4.5.2 Toner motor (M2)"
(2) Disconnect 1 connector [1].
(3) Release hooks and take off the toner cartridge interface PC board [2].

Notes:
When installing be careful not to bend the leaf spring.

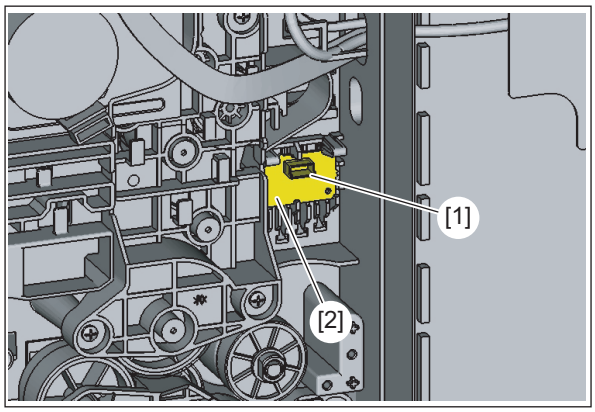


Fig. 4-192

4.8 Fuser/Exit Unit <25S/25H/25F>

Notes:

1. Be sure to turn the power OFF and unplug the power cable during service.
2. When disassembling the fuser unit or replacing any parts in it, be sure that the wire harness is correctly set, and also be careful not to catch it between other parts.
   a. Make sure that the terminal of the thermostat harness does not contact the metal plate.
   b. Route the harness of the thermostat so that it is hooked on the notches of the rib.
   c. Route the harnesses of the thermistor so that they are hooked on the housing as shown below.

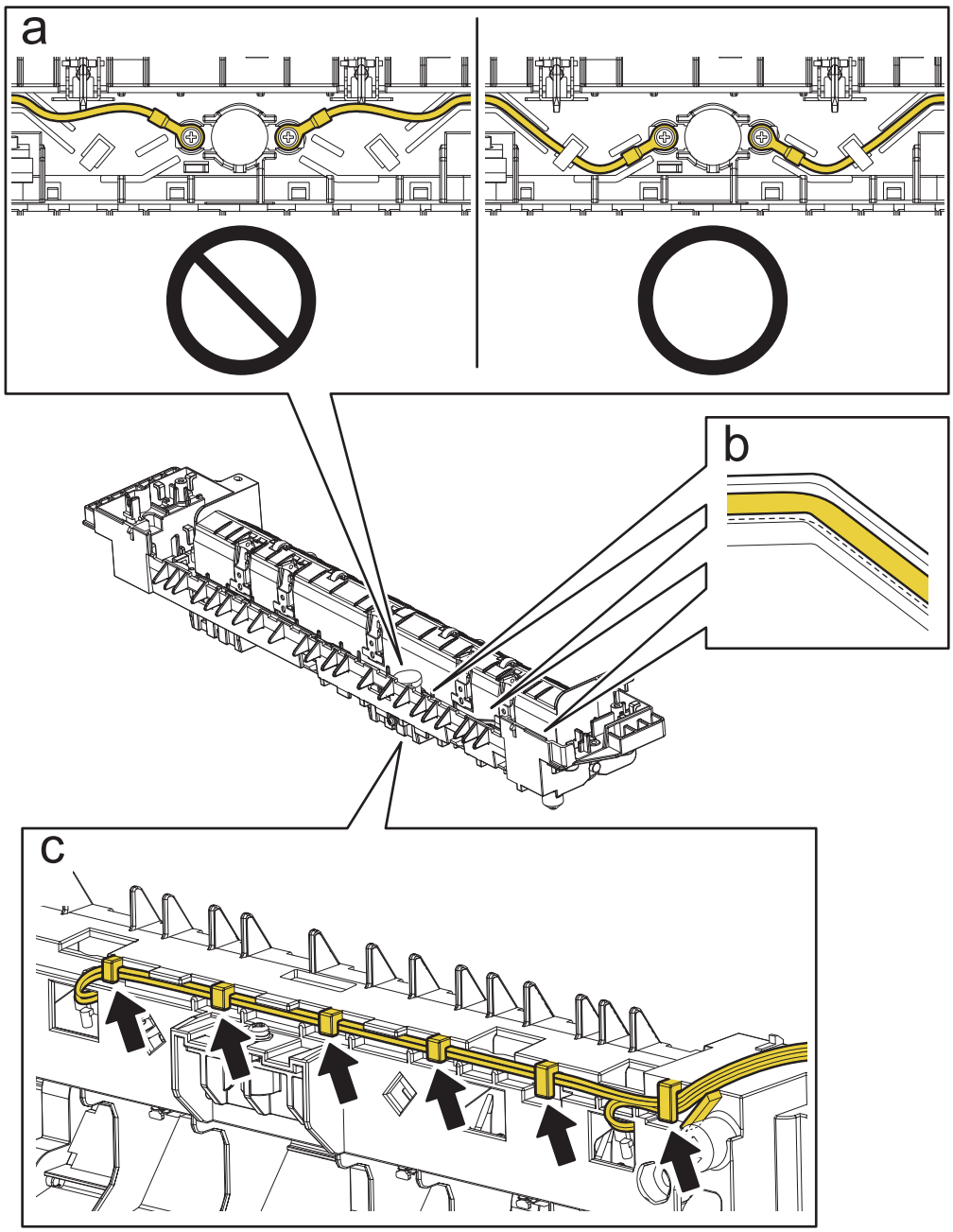


Fig. 4-193

d. Route the AC harnesses so that they are hooked on the housing as shown below.

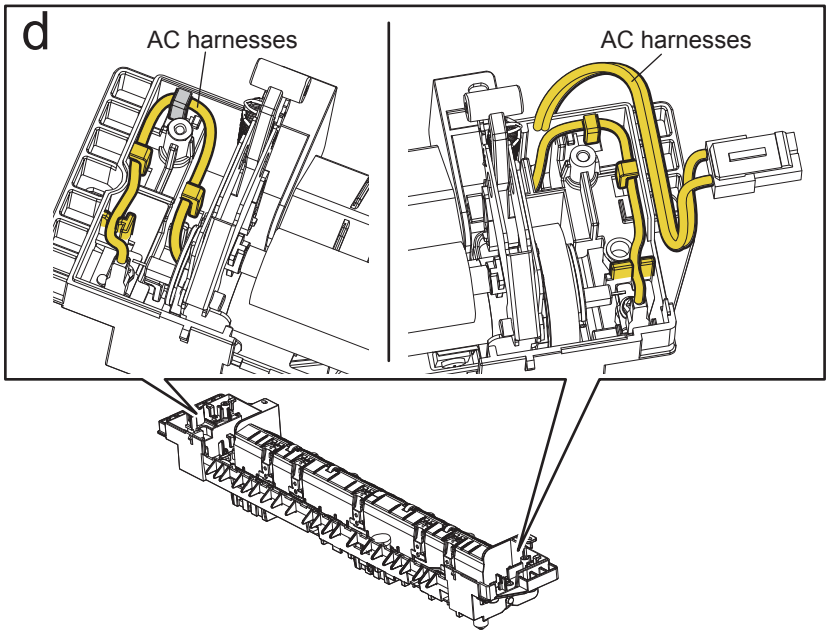


Fig. 4-194

e. When installing the cover of the fuser unit, make sure that the connector (harness) is not caught.
f. Route the harnesses of the fuser unit so that they are hooked on the frame as shown below.

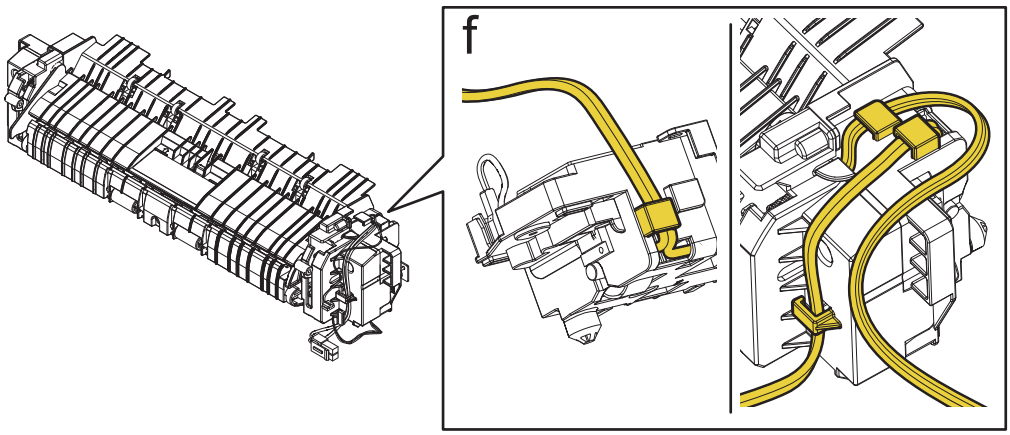


Fig. 4-195

g. Route the harness of the thermostat so that it is hooked on the notches of the rib.

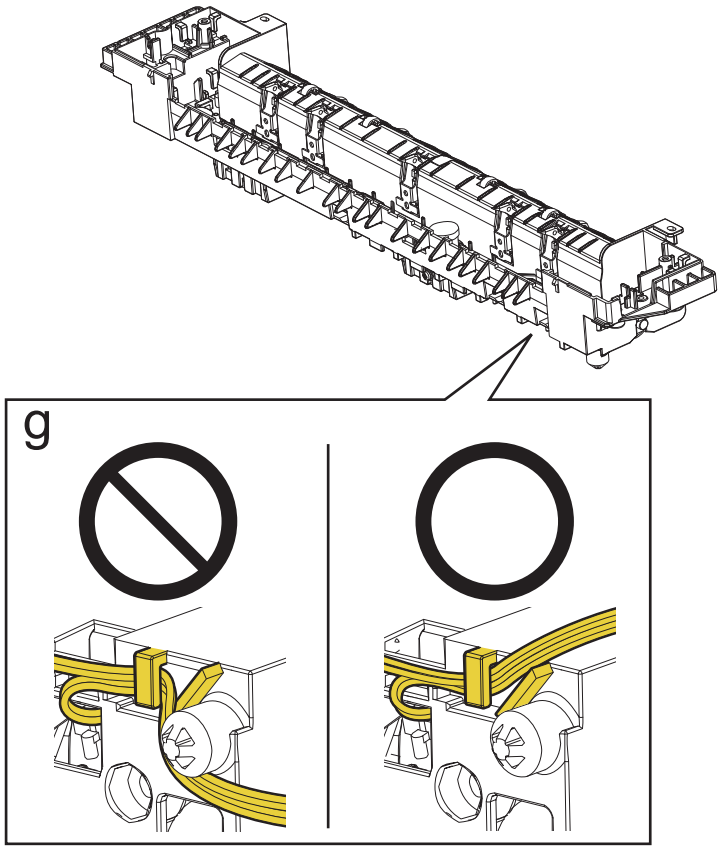


Fig. 4-196

4.8.1 Fuser unit

Notes:

As the fuser unit is hot, power OFF and make sure that the fuser unit has cooled down sufficiently before removing.
If removing it while still hot, use gloves.

(1) Take off the right rear cover.
P. 4-8 "4.1.12 Right rear cover"

(2) Disconnect 3 connectors [1] and release the harness from the harness guide.

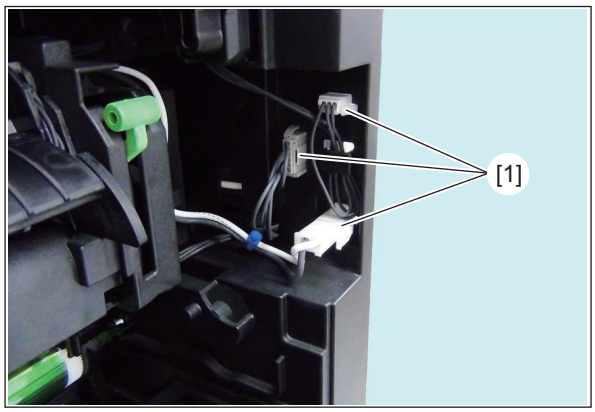


Fig. 4-197

(3) Remove 2 screws.

Notes:

Note that the front side and rear side screws are different from each other. Install the screws in their proper locations.
Front side: Shoulder screw M3 x 6
Rear side: M3 x 10

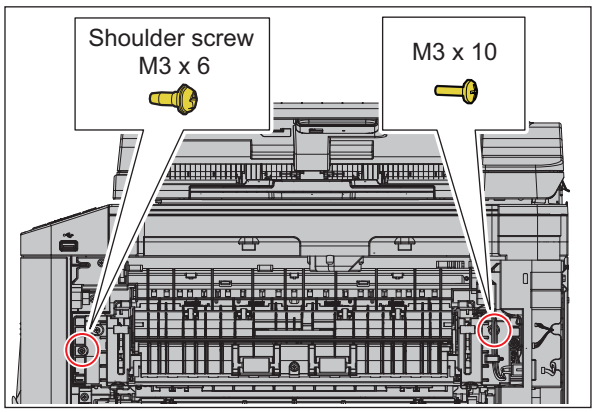


Fig. 4-198

(4) Take off the fuser unit [2].

Notes:

1. Take note that the fuser unit is hot. Particularly, the metal sheet of the entrance guide below the fuser unit is hot.
2. When removing the fuser unit, hold the positions shown in the figure.

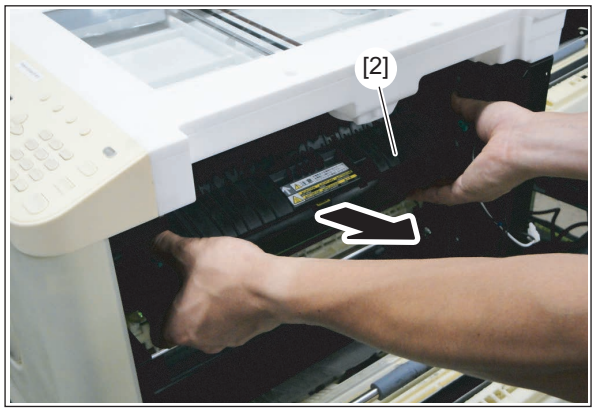


Fig. 4-199

3. When installing the fuser unit, hold the positions shown in the figure.

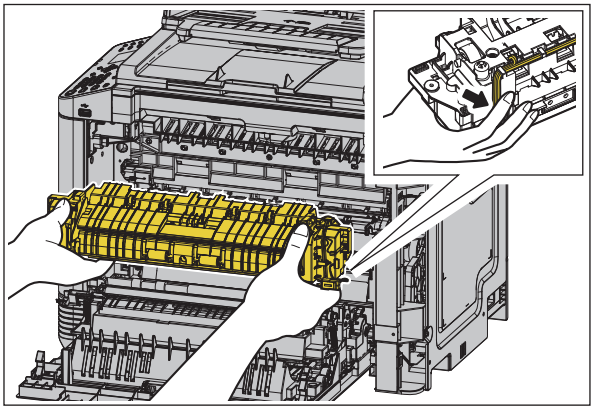


Fig. 4-200

4.8.2 Fuser unit cover/Fuser unit guide

(1) Take off the fuser unit.
📖 P. 4-71 "4.8.1 Fuser unit"

(2) Place the fuser unit upside down.
Remove 1 screw and release the latch, take off the bias plate [1].

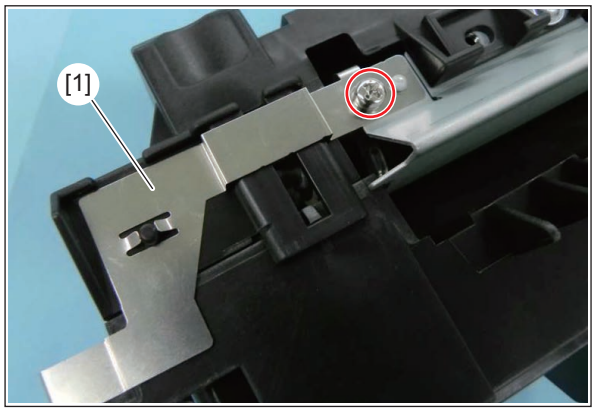


Fig. 4-201

(3) Remove 2 screws and then take off entrance guide [2].

Notes:

1. When removing the entrance guide, be careful not to scratch the fuser roller and pressure roller with the entrance guide edge.

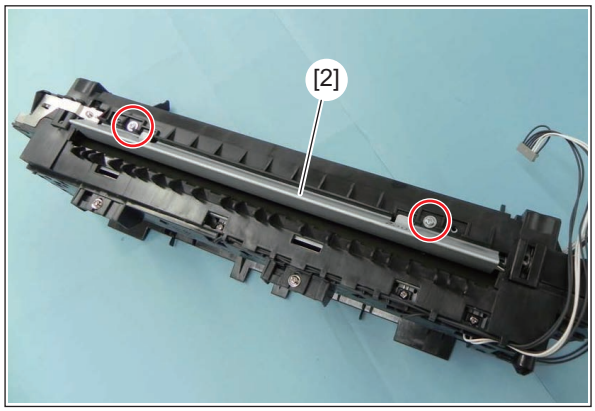


Fig. 4-202

2. When installing the entrance guide, make sure that the part of the entrance guide shown in the figure is outside the fuser unit cover.

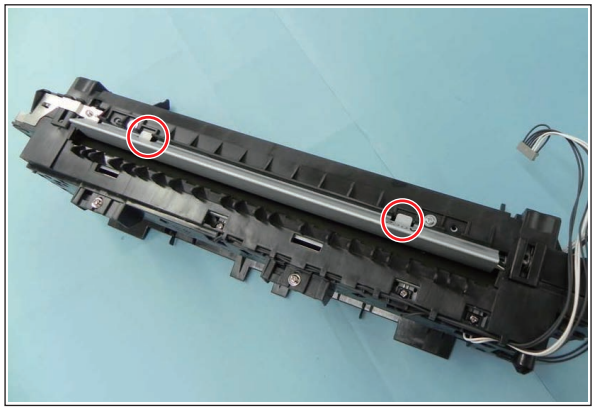


Fig. 4-203

3. Use the screw hole shown in the figure to attach the entrance guide.

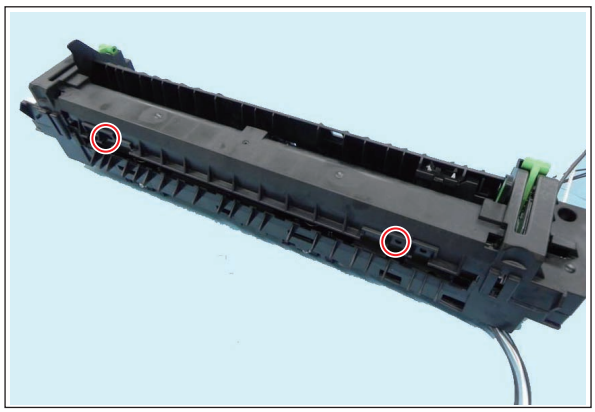


Fig. 4-204

(4) Place the fuser unit facing the original direction, and remove the 2 screws.

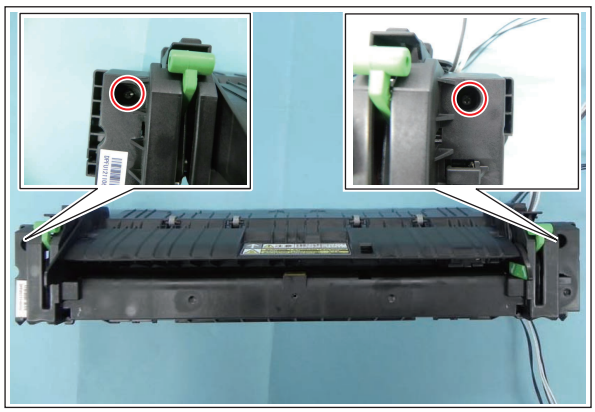


Fig. 4-205

(5) Release 2 latches and then take off the fuser unit cover/fuser unit guide [3].

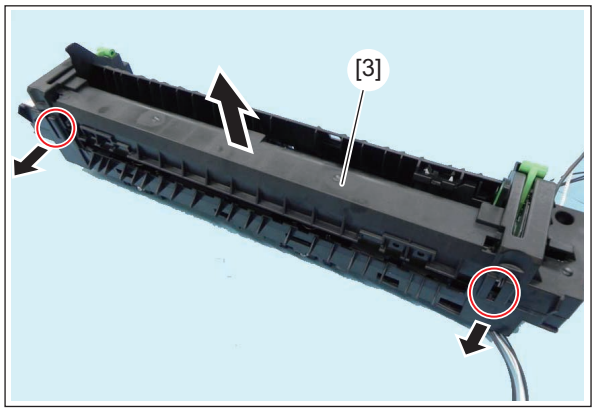


Fig. 4-206

4.8.3 Fuser heater lamp (LAMP1) <25S only>

(1) Take off the fuser unit cover/fuser unit guide. 📖 P. 4-72 "4.8.2 Fuser unit cover/Fuser unit guide"
(2) Disconnect 2 faston terminals [1].

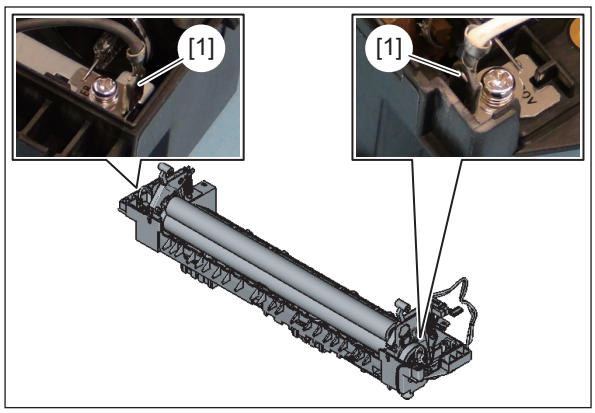


Fig. 4-207

Notes:
Do not remove the faston terminal by force, but pull it out while pressing its lock.

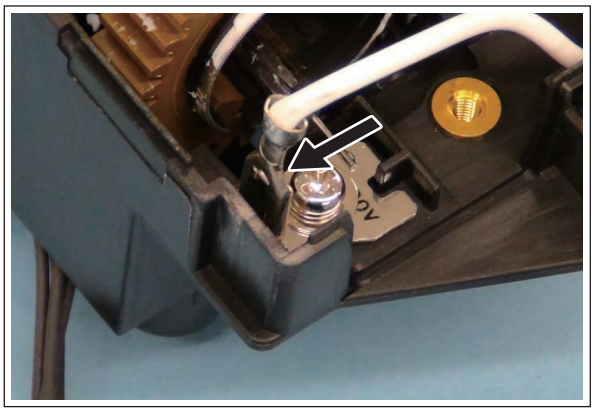


Fig. 4-208

(3) Remove 2 screws.
Front side: M3x5
Rear side: M3x8

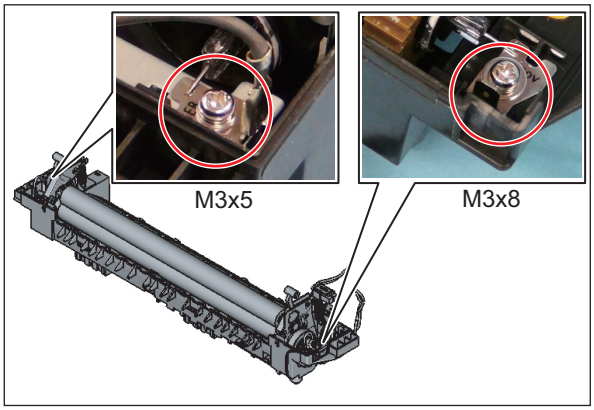


Fig. 4-209

(4) Take off the heater lamp [2] from the rear side.

Notes:

1. When removing the heater lamp, hold the heater lamp terminals.
2. Take care not to contaminate the heater lamp surface with fingerprints, dust or such.

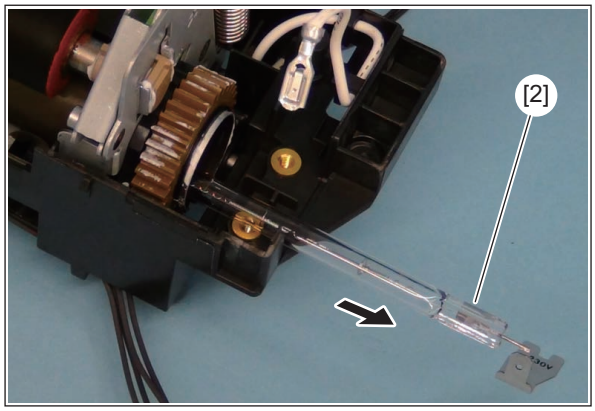


Fig. 4-210

3. When installing the heater lamp, face the side with the notch on the terminal to the rear side.

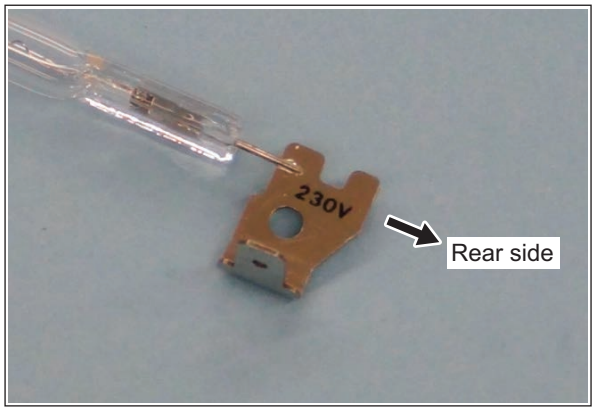


Fig. 4-211

4.8.4 Center heater lamp (LAMP2)

(1) Take off the fuser unit cover/fuser unit guide. P. 4-72 "4.8.2 Fuser unit cover/Fuser unit guide"
(2) Disconnect 2 faston terminals [1].

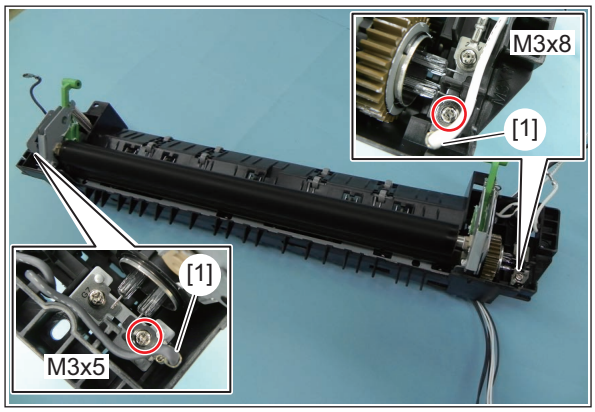


Fig. 4-212

Notes:
Do not remove the faston terminal by force, but pull it out while pressing its lock.

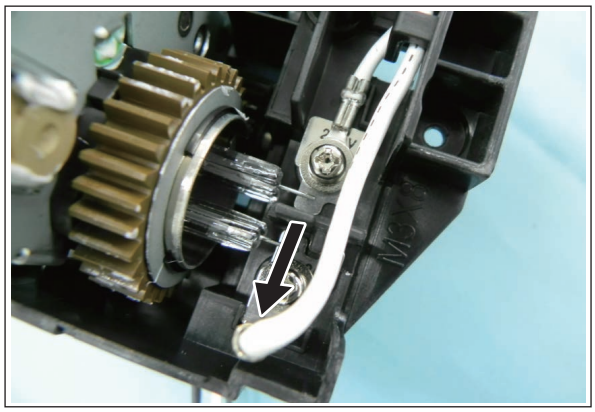


Fig. 4-213

(3) Remove 2 screws.
Front side: M3x5
Rear side: M3x8

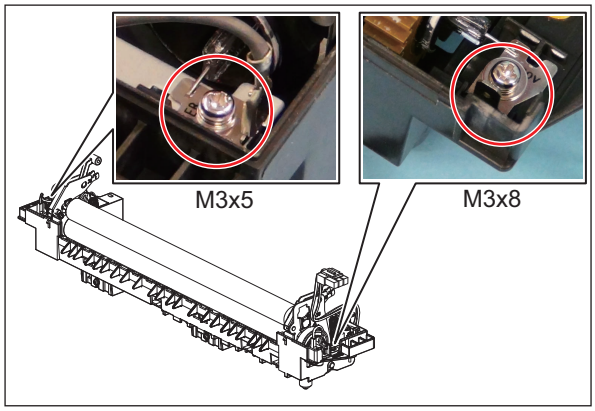


Fig. 4-214

(4) Take off the center heater lamp [2] from the rear side.

Notes:

1. When removing the center heater lamp, hold the center heater lamp terminals.
2. Take care not to contaminate the center heater lamp surface with fingerprints, dust or such.

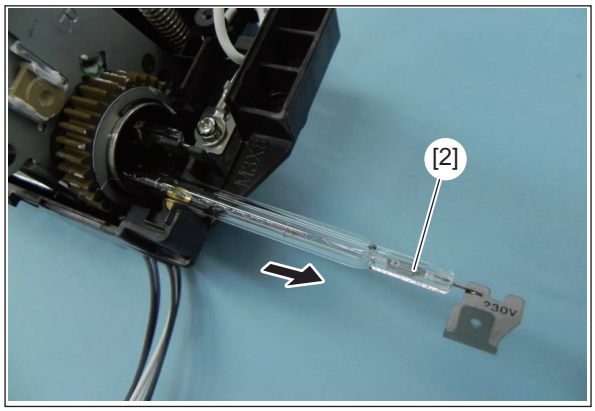


Fig. 4-215

3. When installing the center heater lamp, face the side with the notch on the terminal to the rear side.

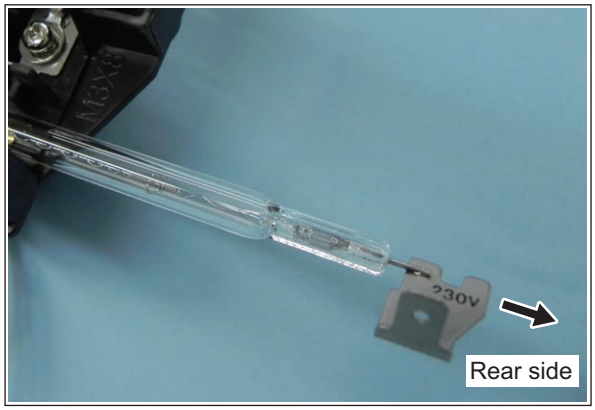


Fig. 4-216

4.8.5 Side heater lamp (LAMP3)

(1) Remove the fuser unit cover/fuser unit guide. P. 4-72 "4.8.2 Fuser unit cover/Fuser unit guide"
(2) Remove 2 installation screws.
Front side: M3x5
Rear side: M3x8

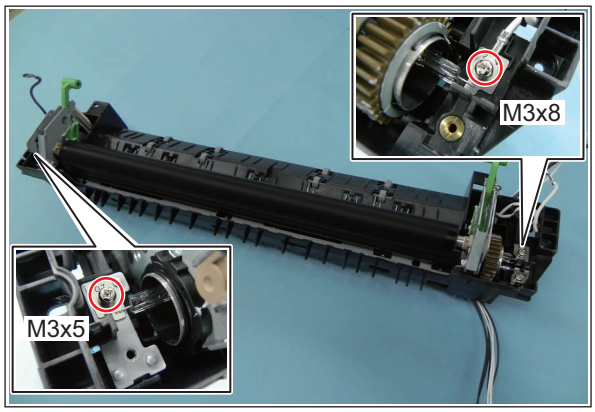


Fig. 4-217

(3) Remove the side heater lamp [2] from the rear.

Notes:

1. Hold the connector of the side heater lamp while you remove it.
2. Be careful that the glass surface of the side heater lamp has no fingerprints or dirt on it.

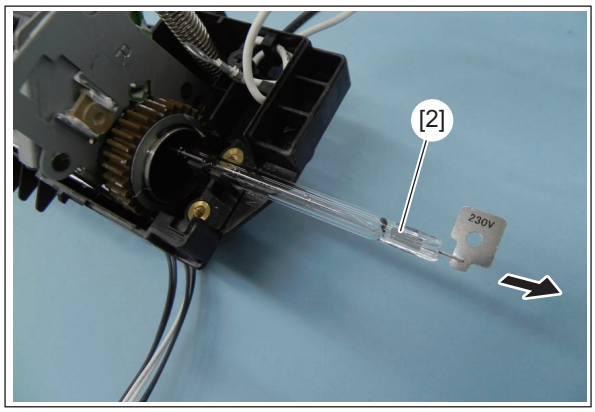


Fig. 4-218

3. When attaching the heater lamp, align the plug with the notch of the dowel plate.

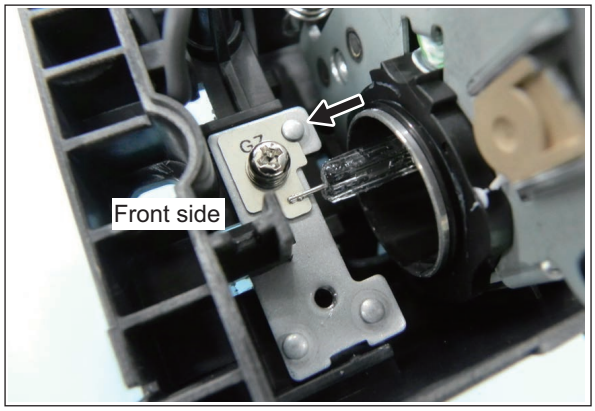


Fig. 4-219

4.8.6 Base unit

(1) Take off the heater lamps.
<25S>: Fuser heater lamp:
P. 4-74 "4.8.3 Fuser heater lamp (LAMP1) <25S only>"
<25H/25F>: Center heater lamp and side heater lamp:
P. 4-76 "4.8.4 Center heater lamp (LAMP2)"
P. 4-78 "4.8.5 Side heater lamp (LAMP3)"

(2) Take off the thermistors.
<25S>: Center thermistor:
P. 4-85 "4.8.11 Center thermistor (THMS1) / Side thermistor (THMS2) / Edge thermistor (THMS3)"
<25H/25F>: Center thermistor, side thermistor and edge thermistor:
P. 4-85 "4.8.11 Center thermistor (THMS1) / Side thermistor (THMS2) / Edge thermistor (THMS3)"

(3) Place the fuser unit upside down.
Remove 2 screws.

(4) Place the fuser unit facing the original direction, take off the base unit [1].

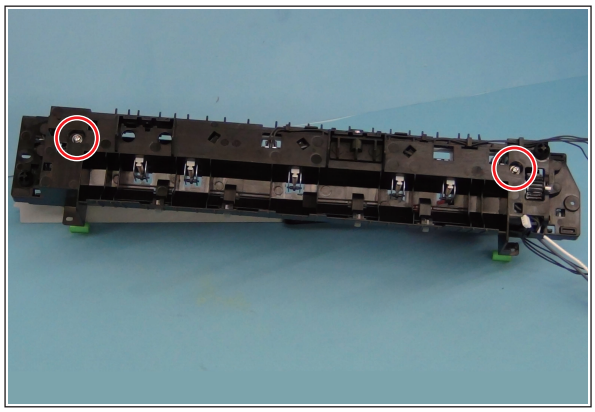


Fig. 4-220

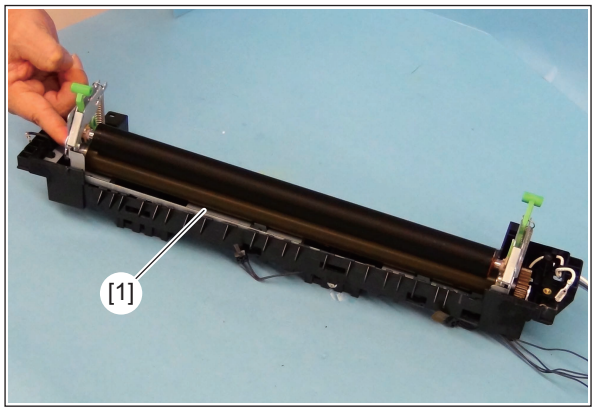


Fig. 4-221

Notes:
When installing the base unit, make sure that the sheets [1] are attached as references of the rib [2] and boss [3].

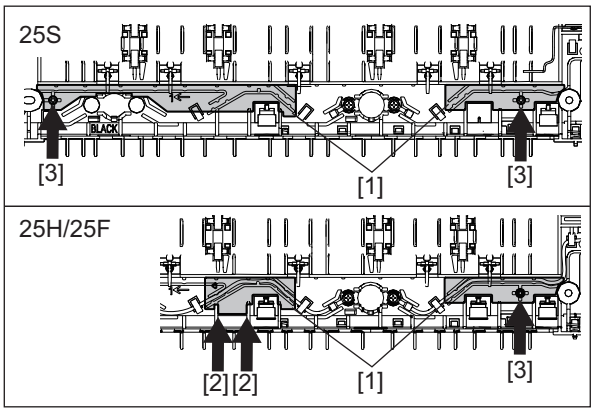


Fig. 4-222

4.8.7 Separation finger PM

(1) Take off the base unit.
P. 4-79 "4.8.6 Base unit"
(2) Pull out the separation finger [1] from the groove.
(3) Remove the spring [2].

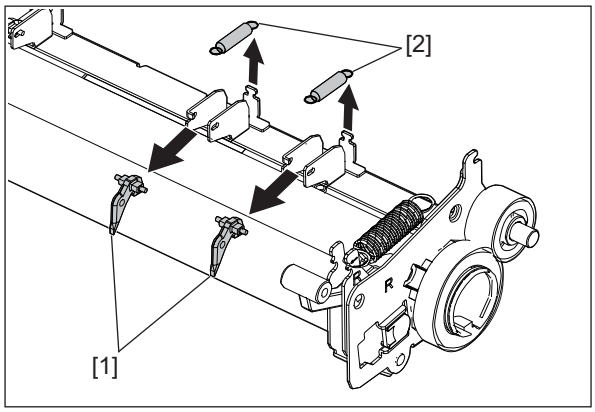


Fig. 4-223

Notes:
There is five separation finger.

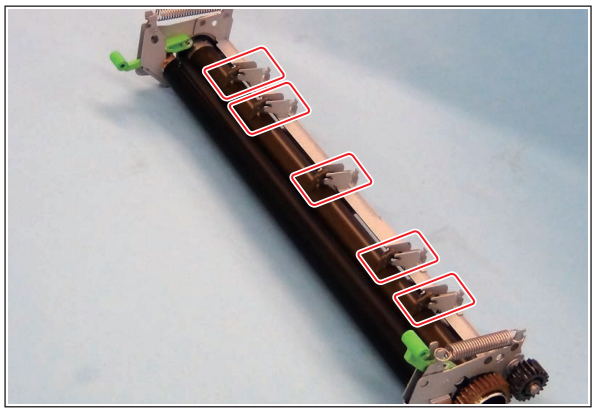


Fig. 4-224

4.8.8 Pressure roller PM

(1) Take off the base unit.
P. 4-79 "4.8.6 Base unit"
(2) Remove 2 springs [1].
(3) Take off 2 pressure levers [2].

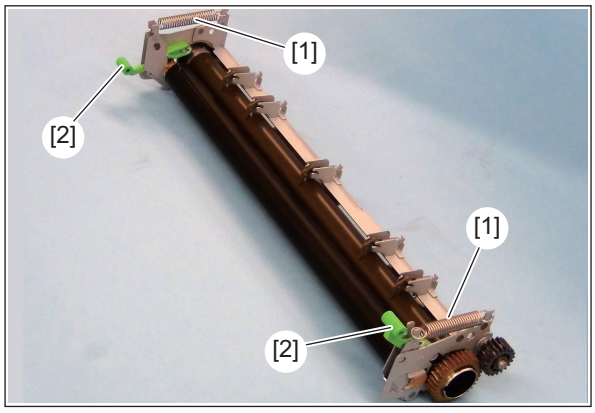


Fig. 4-225

(4) Take off 2 arms [3].

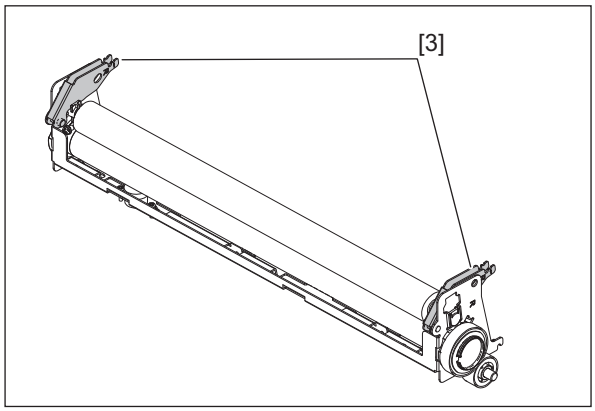


Fig. 4-226

(5) While lifting up the rear side of the pressure roller [4], remove the bushing [5].

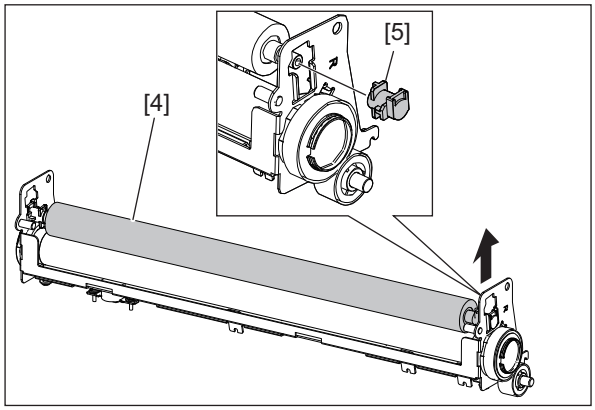


Fig. 4-227

(6) Take off the pressure roller [4] and bushing [6].

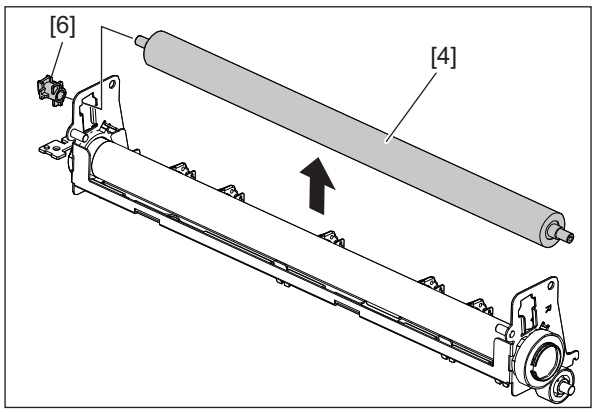


Fig. 4-228

4.8.9 Fuser roller/Fuser roller bushing PM

(1) Take off the separation fingers.
P. 4-80 "4.8.7 Separation finger"
(2) Take off the pressure roller.
P. 4-80 "4.8.8 Pressure roller"
(3) Remove 1 gear [1].

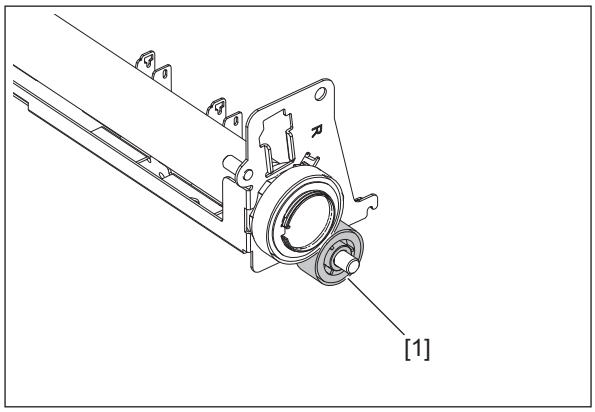


Fig. 4-229

(4) Remove 2 C-rings [2] and 1 gear [3].

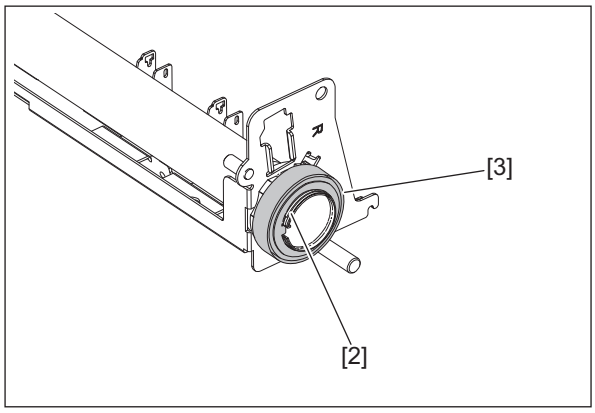


Fig. 4-230

(5) Remove 2 fuser roller bushings [4] and then take off fuser roller [5].

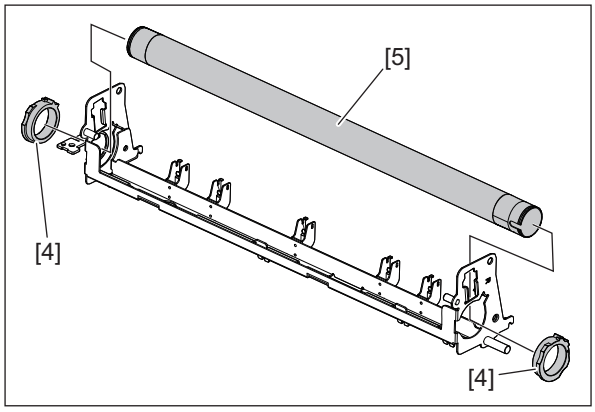


Fig. 4-231

4.8.10 Fuser thermostat (THMO1) / center thermostat (THMO2) / front thermostat (THMO3)

Notes: The installation positions of the thermostat

[1] Fuser thermostat <25S>
[2] Center thermostat <25H/25F>
[3] Front thermostat <25H/25F>

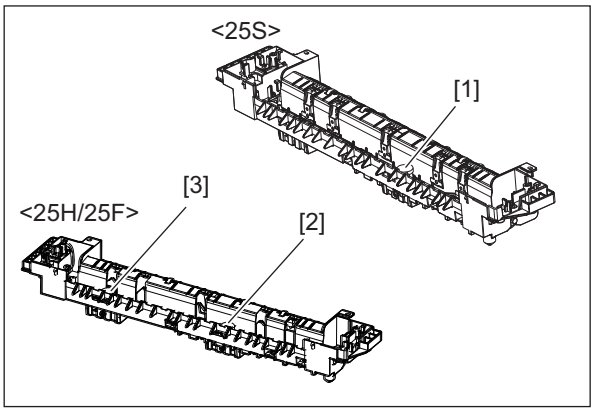


Fig. 4-232

(1) Take off the base unit.
P. 4-79 "4.8.6 Base unit"
(2) Remove 2 screws and then take off the thermostat [1].

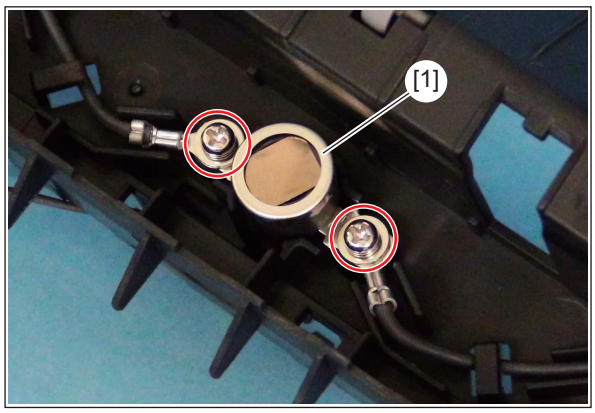


Fig. 4-233

Notes:

1. When attaching the fuser thermostat, place the round terminal of the cable above the thermostat terminal, and attach in the direction shown in the figure.

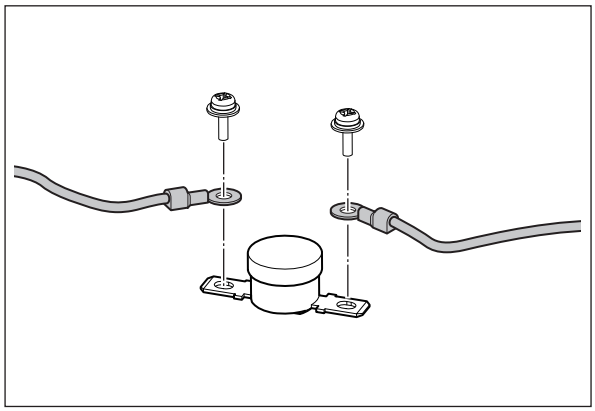


Fig. 4-234

2. Make sure that the terminal of the thermostat harness does not contact the metal plate.

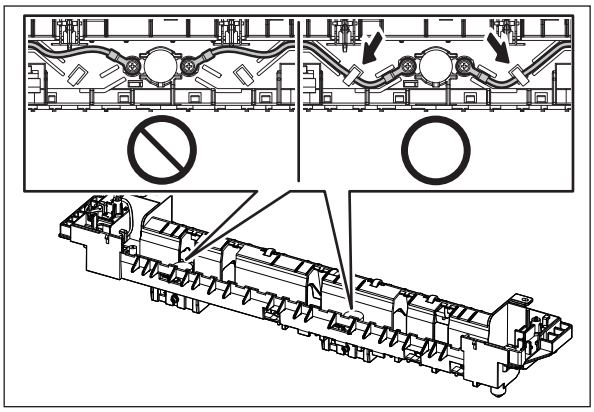


Fig. 4-235

3. Do not loosen the screw with the white markings that is holding the thermostat.

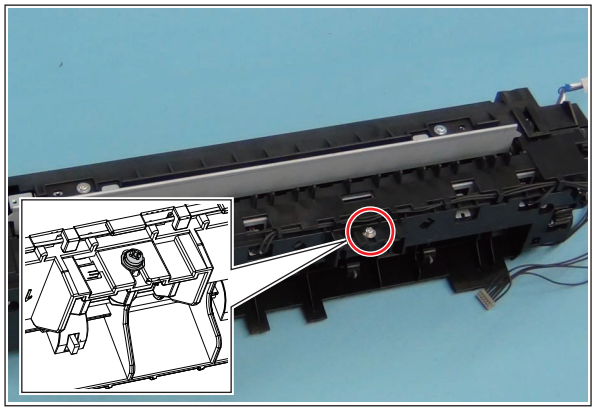


Fig. 4-236

4.8.11 Center thermistor (THMS1) / Side thermistor (THMS2) / Edge thermistor (THMS3)

(1) Take off the fuser unit.
P. 4-71 "4.8.1 Fuser unit"
(2) Remove each 1 screw of the thermistors, and then take off each thermistor [1] by releasing its harness out of the harness guide.

<25S>

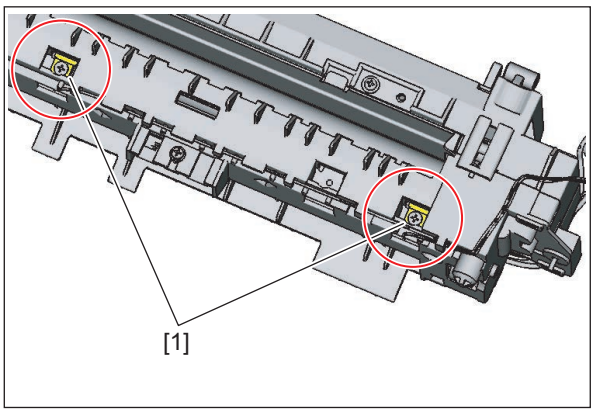


Fig. 4-237

<25H/25F>

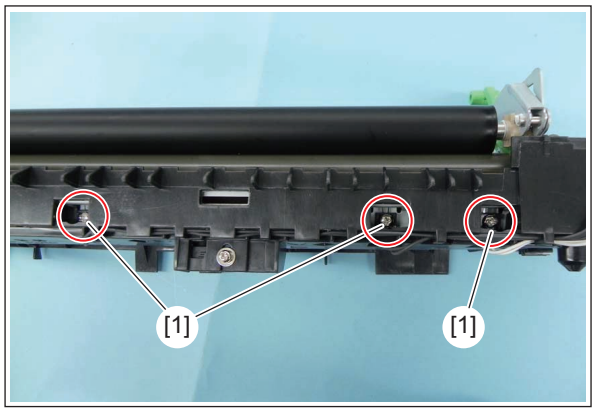


Fig. 4-238

Notes:

1. When installing the thermistors, do not mix up the installation positions of the center thermistor, the side thermistor and the edge thermistor by telling them apart by the length of their harnesses.
2. The thermistors have different front and back sides. When installing them, face the shiny side inside and insert the boss into the attaching fixture and install them.

<25S>

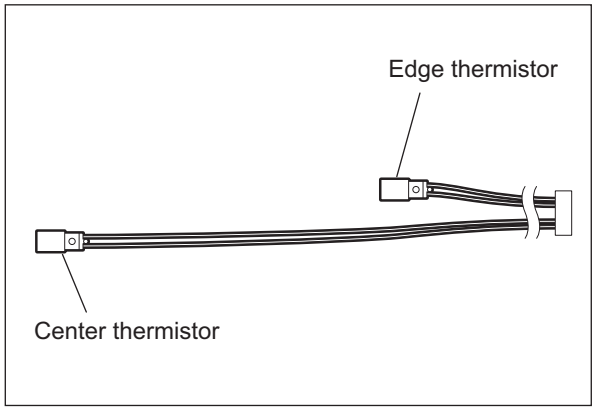


Fig. 4-239

<25H/25F>

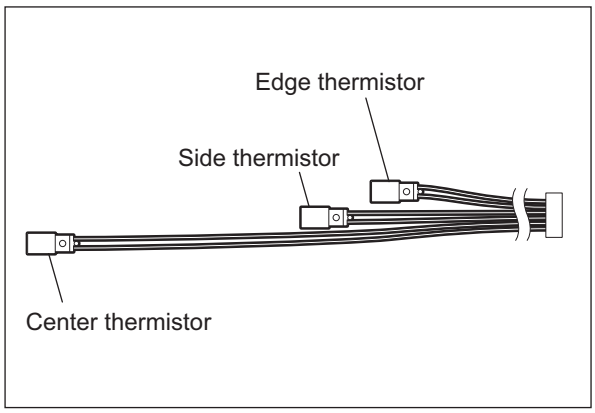
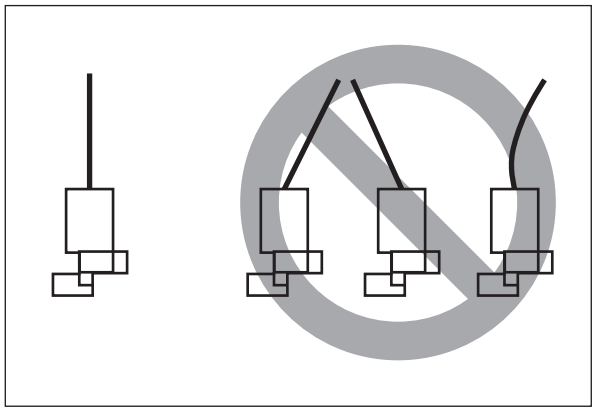


Fig. 4-240

Notes:

Check if the thermistors are deformed. If so, do not use them.



Notes:

Make sure that the installation direction of the thermistors is correct.

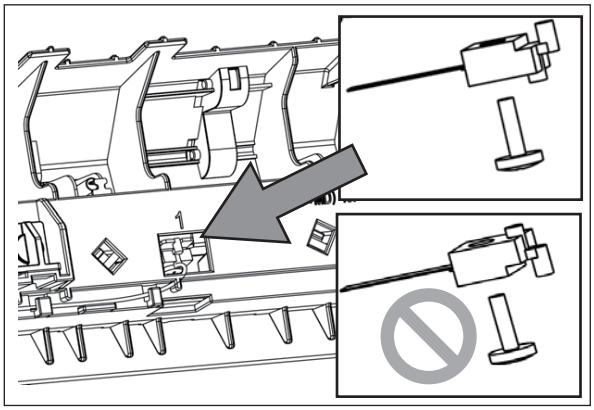


Fig. 4-241

Notes:

Be sure to install the thermistors so that their bosses are securely inserted into the frames.

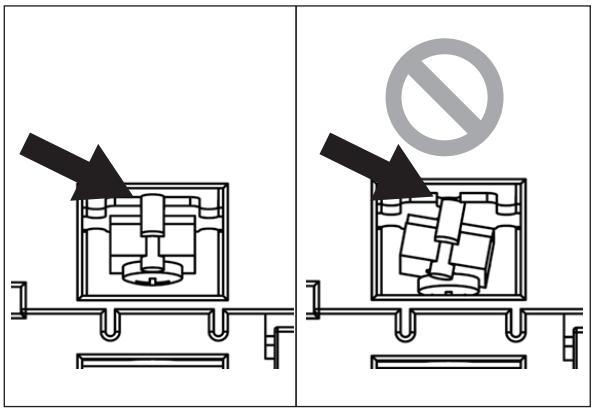
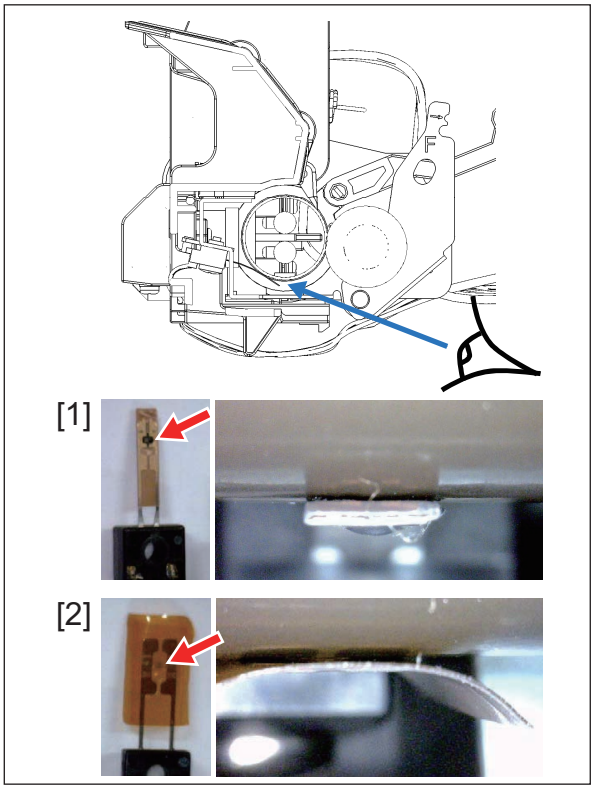


Fig. 4-242

Notes:

Look at the thermistors in the direction of the blue arrow after they are installed in the fuser unit, and check that their gauge heads (indicated by the red arrow) contact the fuser roller. If there are gaps between them or the thermistors are tilted, reinstall them.
[1] Center/Side thermistor
[2] Edge thermistor



4.8.12 Exit sensor (S3)

(1) Take off the fuser unit cover/fuser unit guide. 📖 P. 4-72 "4.8.2 Fuser unit cover/Fuser unit guide"
(2) Take off the guide [1].

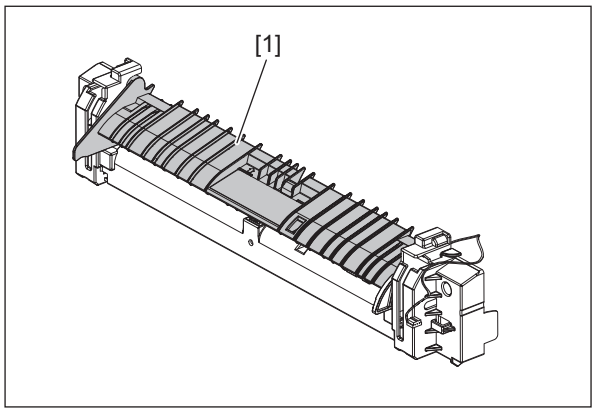


Fig. 4-243

(3) Remove the cover [2].
(4) Take off the actuator [3] and spring [4].

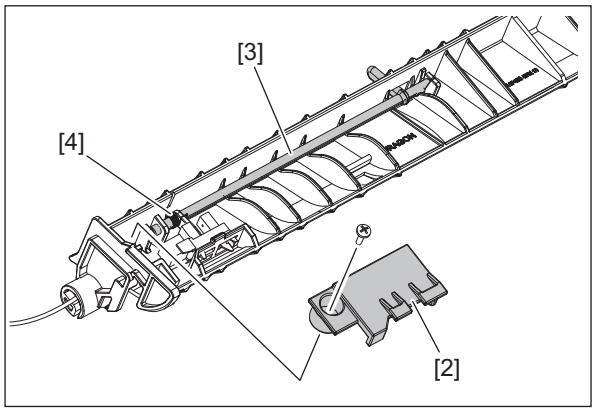


Fig. 4-244

Notes:

When installing the actuator, hook the spring as shown in the figure.

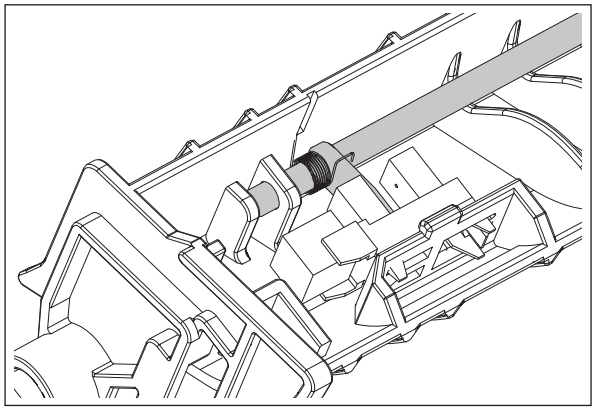


Fig. 4-245

(5) Release 3 latches and take off the exit sensor [5].
(6) Disconnect the connector.

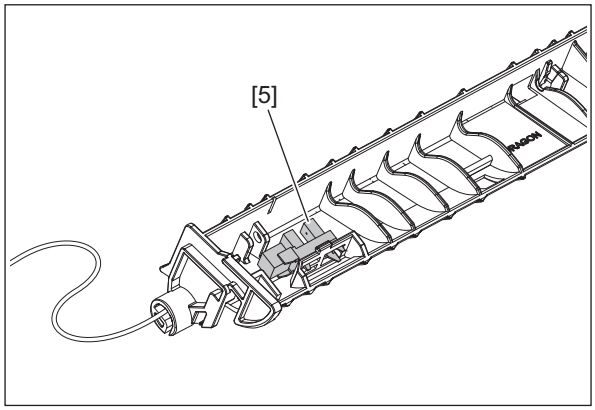


Fig. 4-246

4.8.13 Exit roller

(1) Take off the tray rear cover.
🕮 P. 4-5 "4.1.9 Tray rear cover"
(2) Remove 1 clip [1] and take off 1 bushing [2].

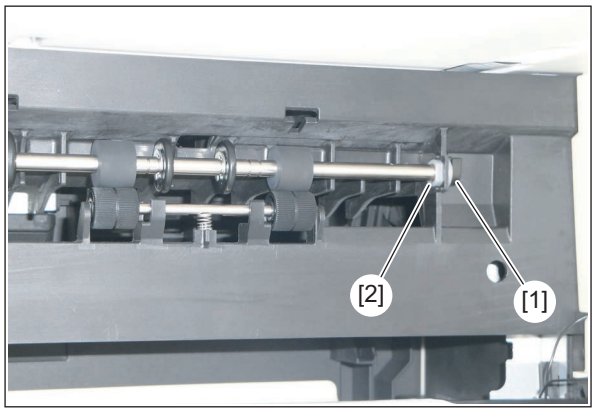


Fig. 4-247

(3) Unhook the grounding spring [3].

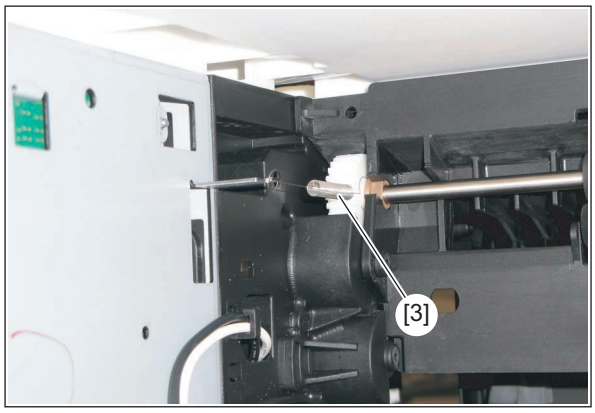


Fig. 4-248

(4) Slide the exit roller [4] to the rear side, and remove the bushing [5] from the frame.

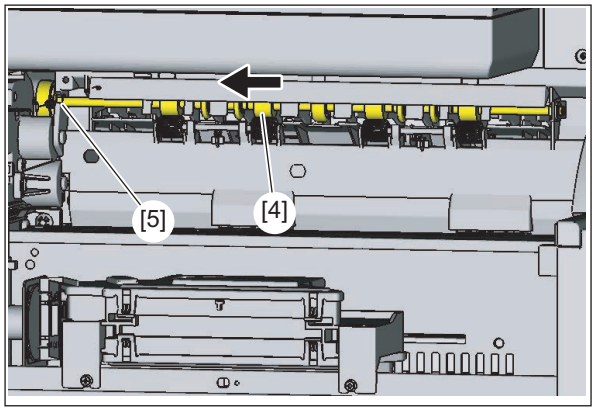


Fig. 4-249

(5) Remove 2 springs [6].

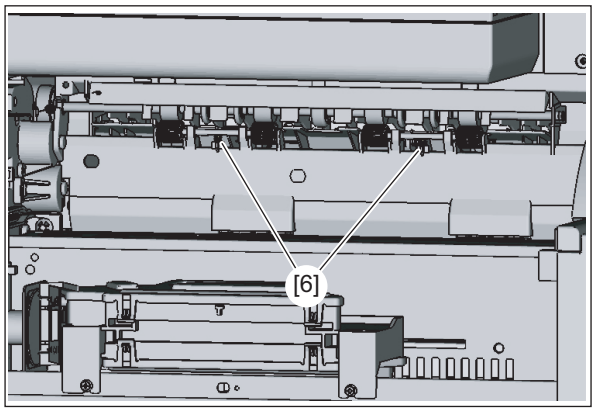


Fig. 4-250

(6) Take off the exit roller [4].

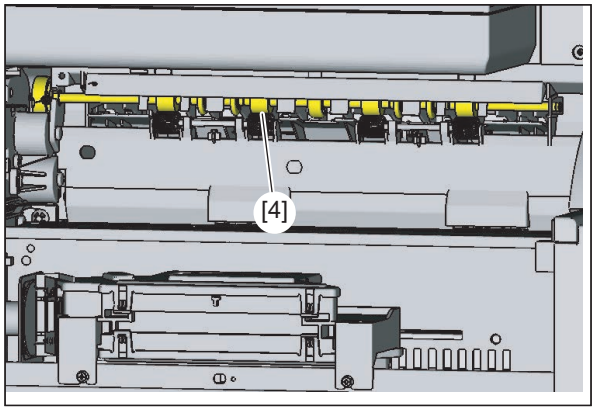


Fig. 4-251

(7) Remove 1 E-ring [7] and then take off 1 gear [8], 1 grounding spring [3] and 1 bushing [5].

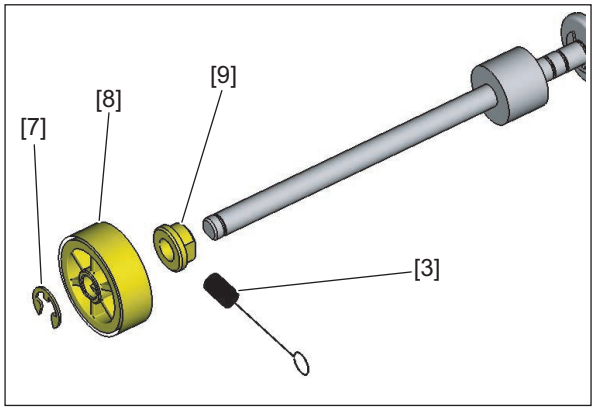


Fig. 4-252

4.9 Fuser/Exit Unit <28A/28M/28F>

Notes:

1. Be sure to turn the power OFF and unplug the power cable during service.
2. When disassembling the fuser unit or replacing any parts in it, be sure that the wire harness is correctly set, and also be careful not to catch it between other parts.
   a. Route the harnesses of the thermostat so that they are hooked on the frame as shown below.
   b. Route the harnesses of the thermistor so that they are hooked on the housing as shown below.

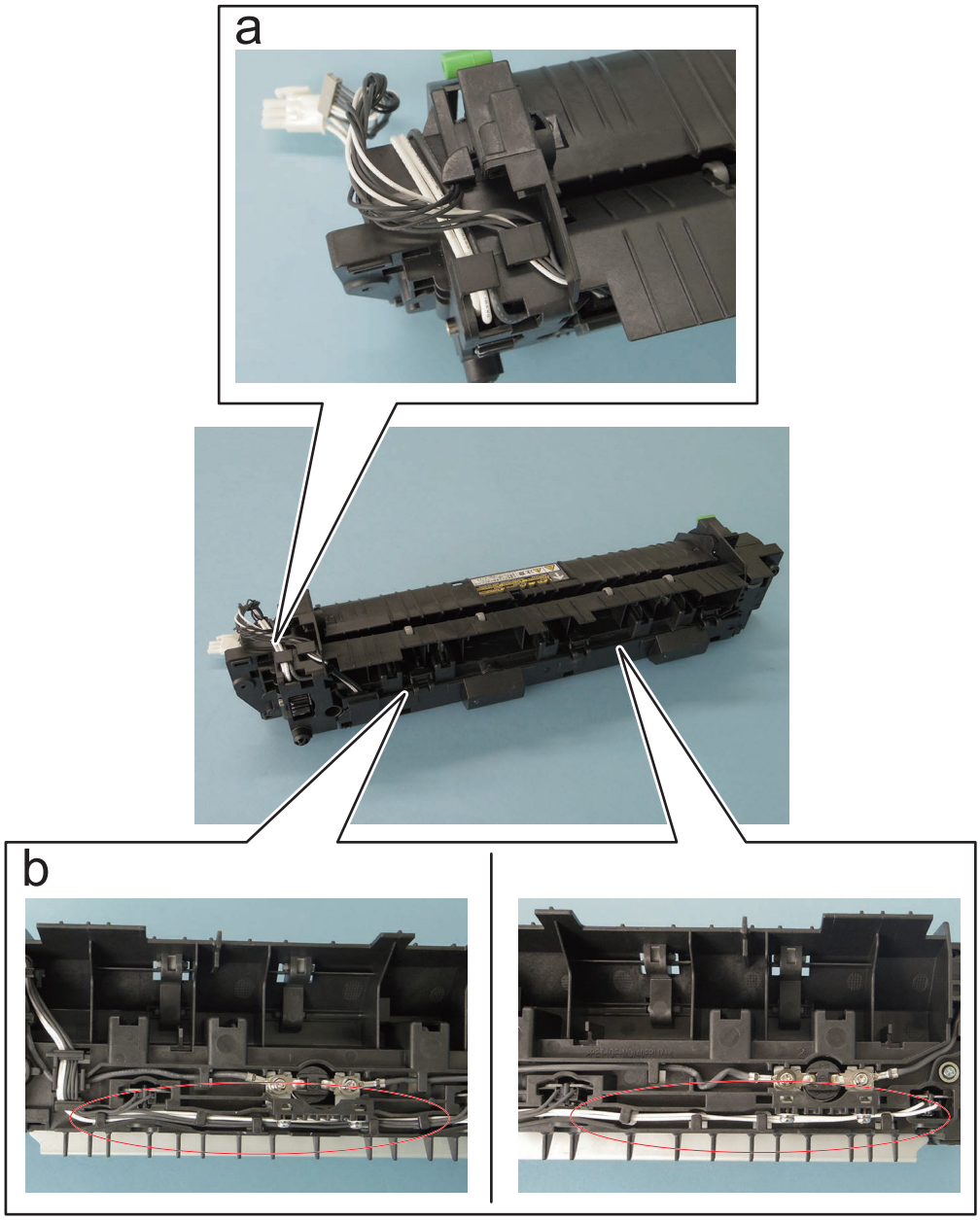


Fig. 4-253

c. Route the AC harnesses so that they are hooked on the housing as shown below.

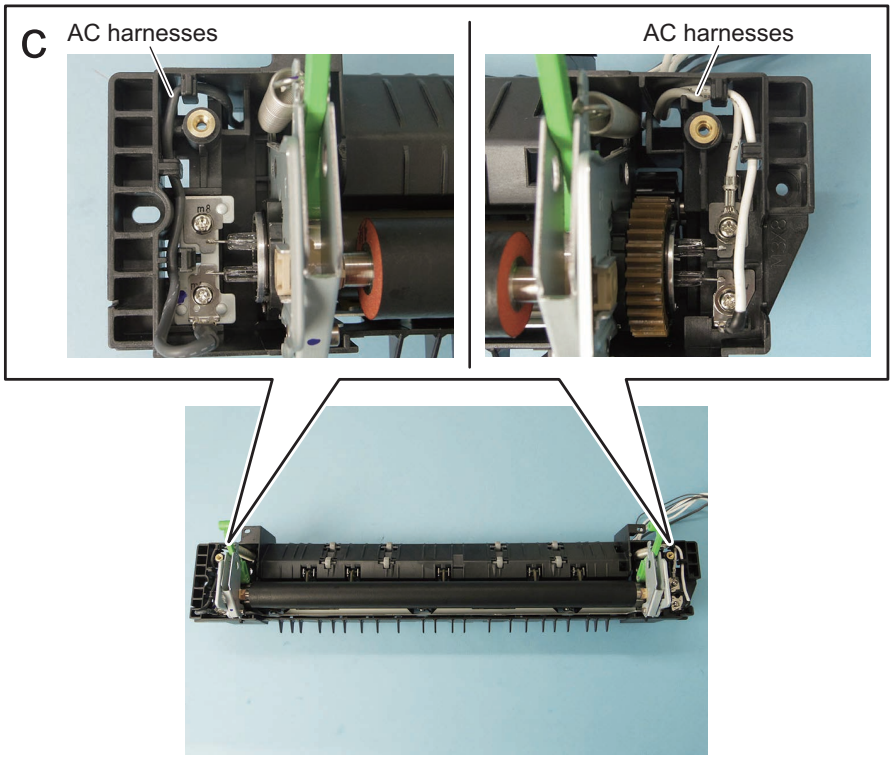


Fig. 4-254

d. When installing the cover of the fuser unit, make sure that the connector (harness) is not caught.
e. Route the harnesses of the fuser unit so that they are hooked on the frame as shown below.

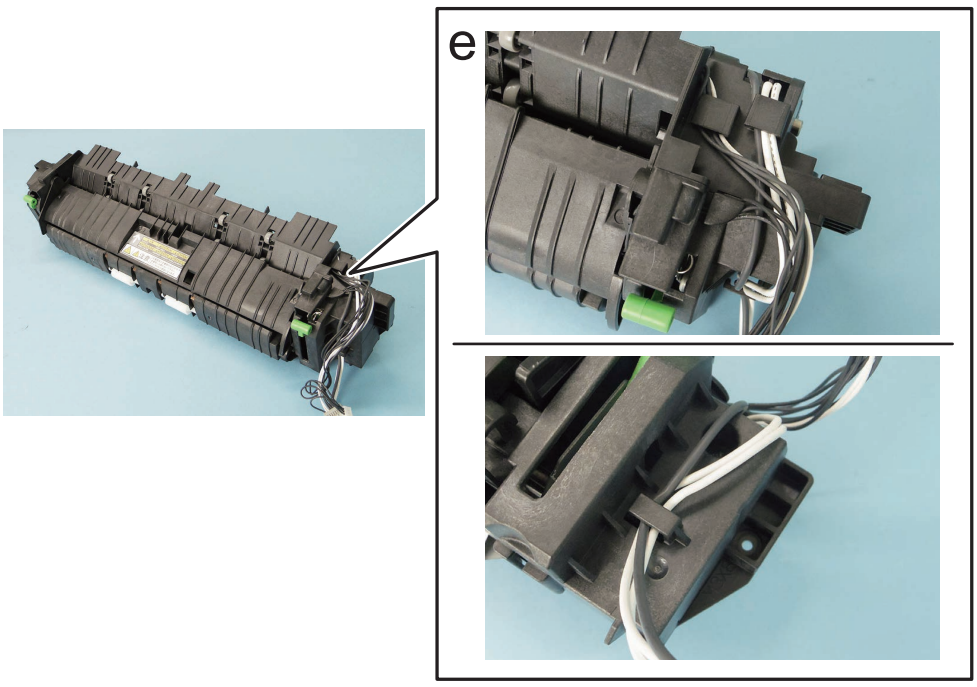


Fig. 4-255

3. The fuser units of 25S/25H/25F and 28A/28M/28F are different from each other. The harness cover [1] is attached to the fuser unit <28A/28M/28F>.

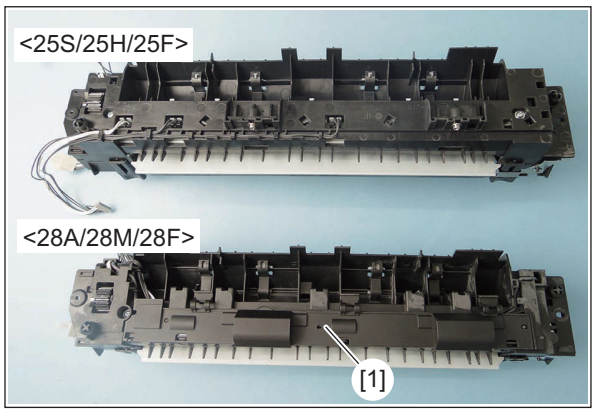


Fig. 4-256

4.9.1 Fuser unit

Notes:

As the fuser unit is hot, power OFF and make sure that the fuser unit has cooled down sufficiently before removing.
If removing it while still hot, use gloves.

(1) Take off the right rear cover.
🕮 P. 4-8 "4.1.12 Right rear cover"

(2) Disconnect 3 connectors [1] and release the harness from the harness guide.

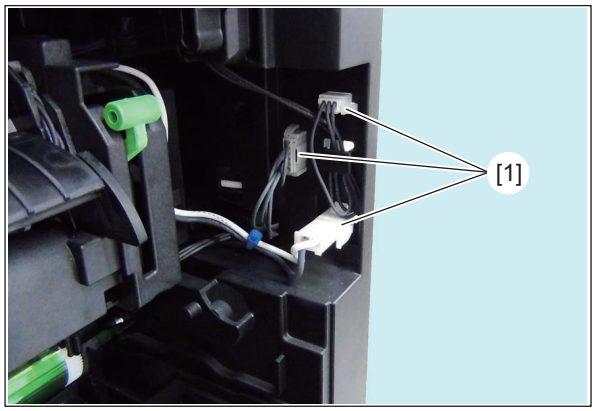


Fig. 4-257

(3) Remove 2 screws.

Notes:

Note that the front side and rear side screws are different from each other. Install the screws in their proper locations.
Front side: Shoulder screw M3 x 6
Rear side: M3 x 10

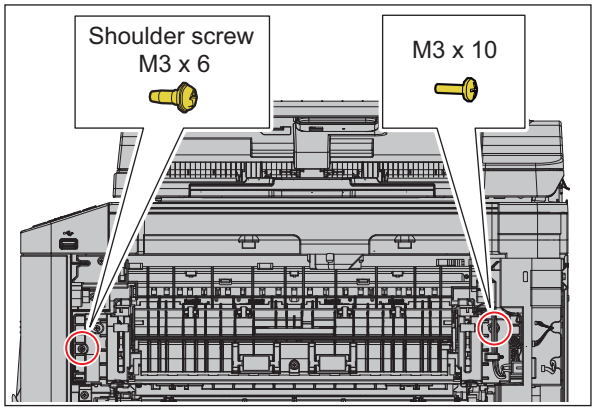


Fig. 4-258

(4) Take off the fuser unit [2].

Notes:

1. Take note that the fuser unit is hot. Particularly, the metal sheet of the entrance guide below the fuser unit is hot.
2. When removing the fuser unit, hold the positions shown in the figure.

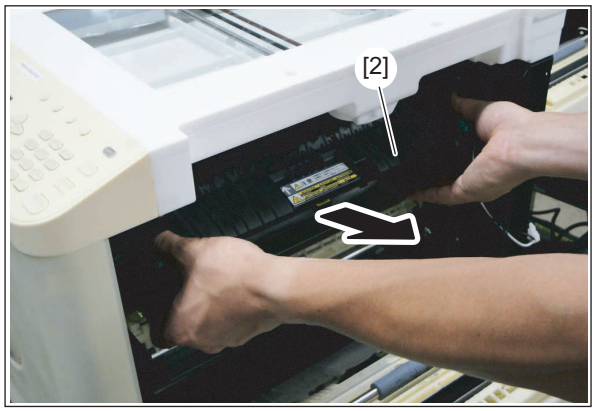


Fig. 4-259

3. When installing the fuser unit, hold the positions shown in the figure.

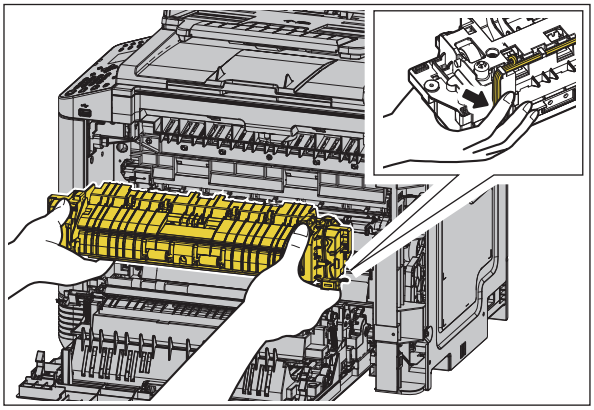


Fig. 4-260

4.9.2 Exit sensor (S3)

(1) Take off the fuser unit.
📖 P. 4-94 "4.9.1 Fuser unit"
(2) Open the fuser unit guide [1].

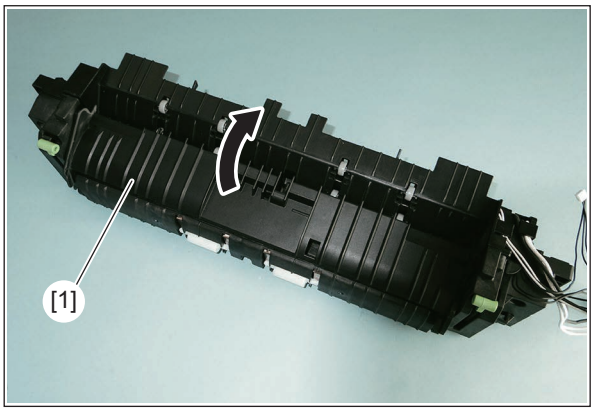


Fig. 4-261

(3) Remove 1 screw and take off the guide [2].

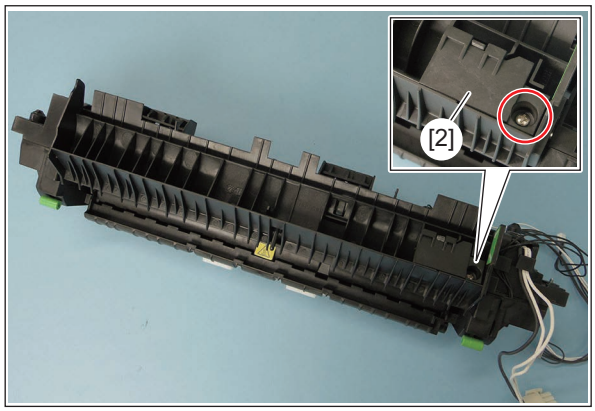


Fig. 4-262

(4) Take off the actuator [3] and spring [4].

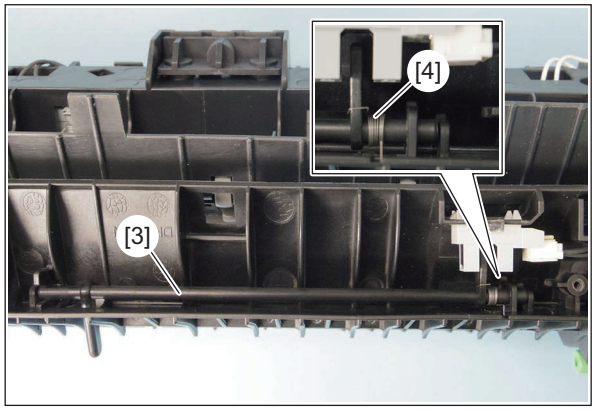


Fig. 4-263

Notes:
When installing the actuator, hook the spring as shown in the figure.

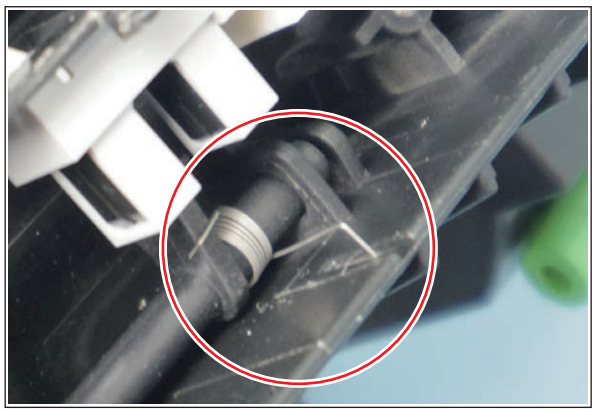


Fig. 4-264

(5) Release 3 latches and take off the exit sensor [5].
(6) Disconnect the connector.

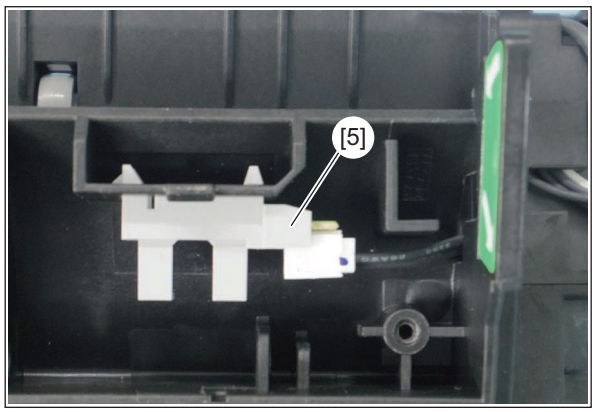


Fig. 4-265

4.9.3 Fuser unit cover/Fuser unit guide

(1) Take off the fuser unit.
P. 4-94 "4.9.1 Fuser unit"

(2) Place the fuser unit upside down.
Remove 1 screw and release the latch, take off the bias plate [1].

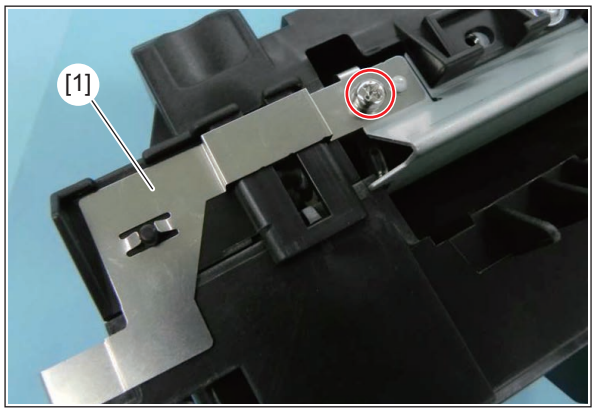


Fig. 4-266

(3) Remove 2 screws and then take off entrance guide [2].

Notes:

1. When removing the entrance guide, be careful not to scratch the fuser roller and pressure roller with the entrance guide edge.

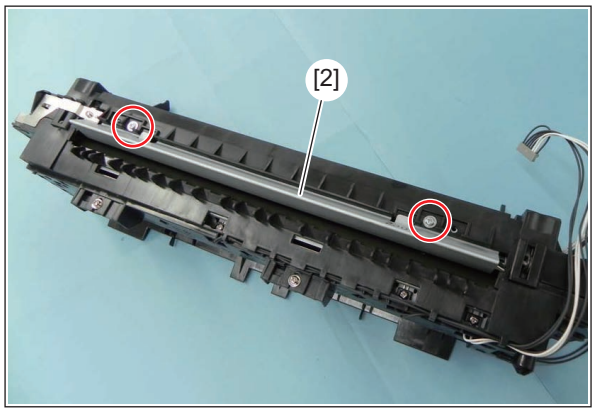


Fig. 4-267

2. When installing the entrance guide, make sure that the part of the entrance guide shown in the figure is outside the fuser unit cover.

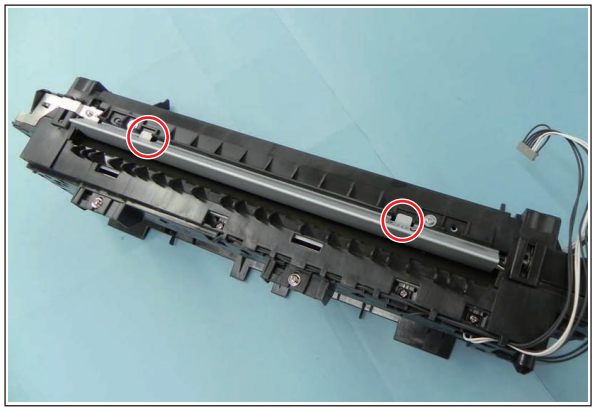


Fig. 4-268

3. Use the screw hole shown in the figure to attach the entrance guide.

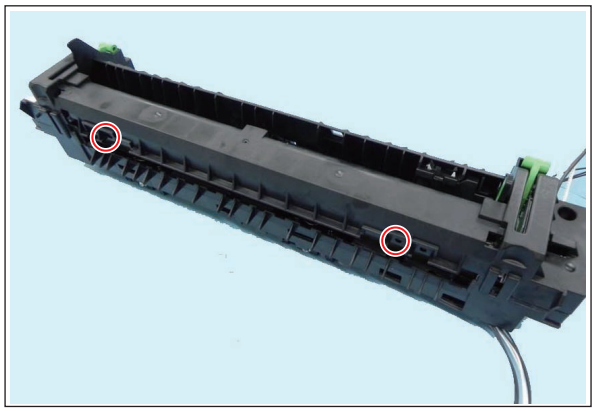


Fig. 4-269

(4) Release 1 clamp [3] and remove the harness.

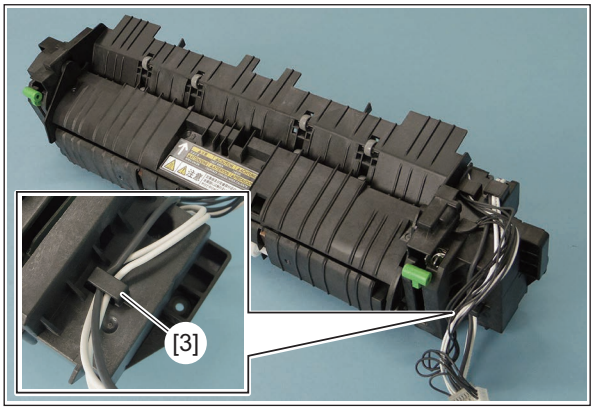


Fig. 4-270

(5) Release 3 clamps [4] and remove the harness.

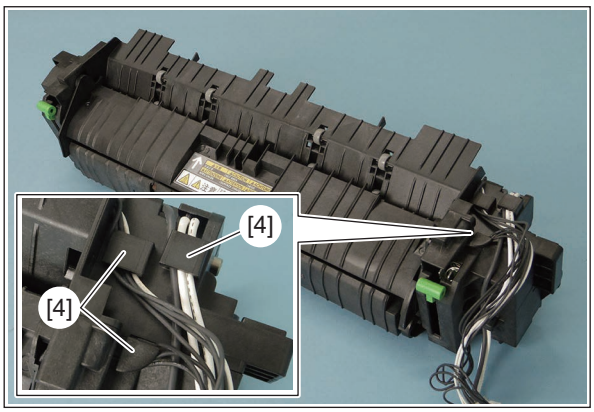


Fig. 4-271

(6) Place the fuser unit facing the original direction, and remove the 2 screws.

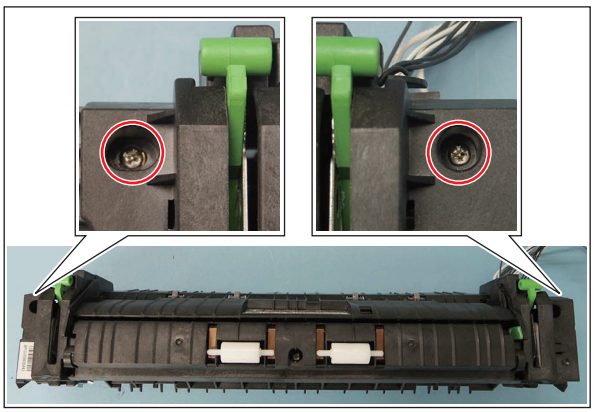


Fig. 4-272

(7) Release 2 latches and then take off the fuser unit cover [3] and the fuser unit guide [4].

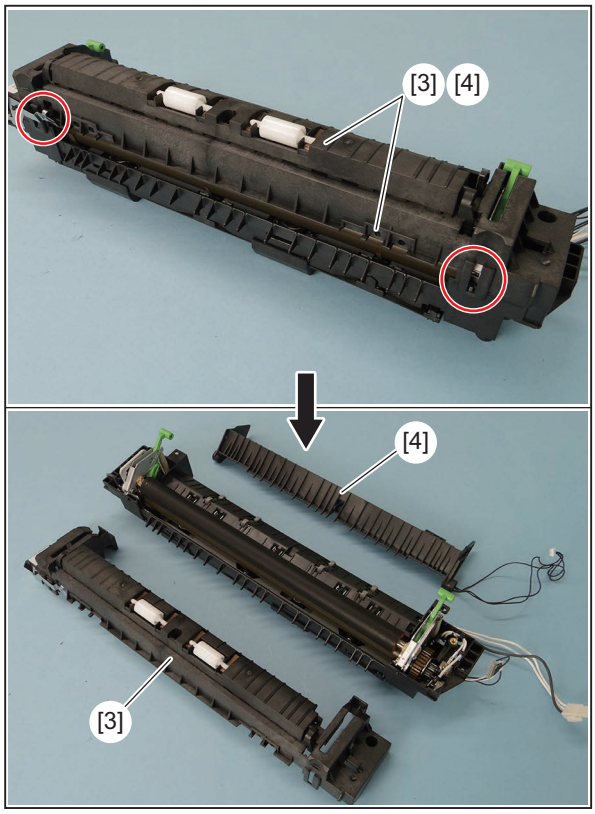


Fig. 4-273

4.9.4 Center heater lamp (LAMP2)

(1) Take off the fuser unit cover/fuser unit guide 📖 P. 4-97 "4.9.3 Fuser unit cover/Fuser unit guide"
(2) Disconnect 2 faston terminals [1].

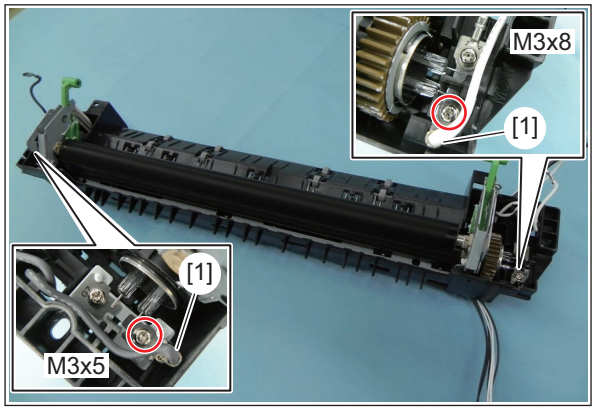


Fig. 4-274

Notes:

Do not remove the faston terminal by force, but pull it out while pressing its lock.

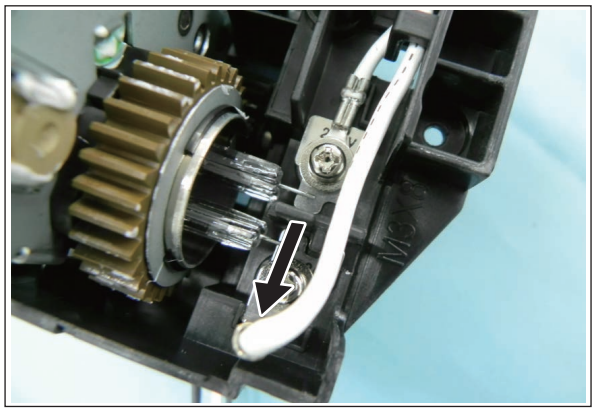


Fig. 4-275

(3) Remove 2 screws.
Front side: M3x5
Rear side: M3x8

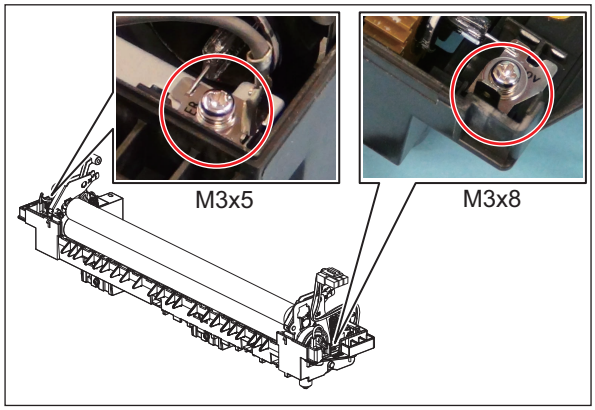


Fig. 4-276

(4) Take off the center heater lamp [2] from the rear side.

Notes:

1. When removing the center heater lamp, hold the center heater lamp terminals.
2. Take care not to contaminate the center heater lamp surface with fingerprints, dust or such.

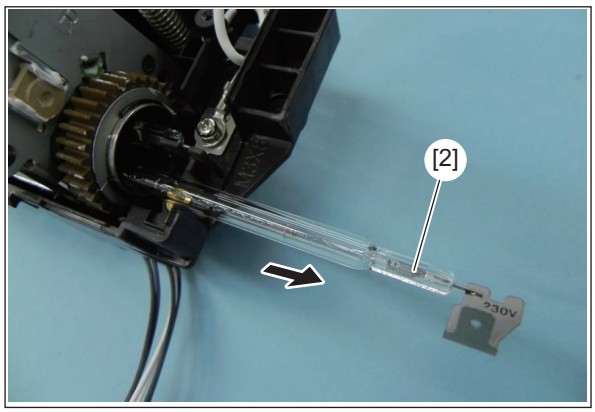


Fig. 4-277

3. When installing the center heater lamp, face the side with the notch on the terminal to the rear side.

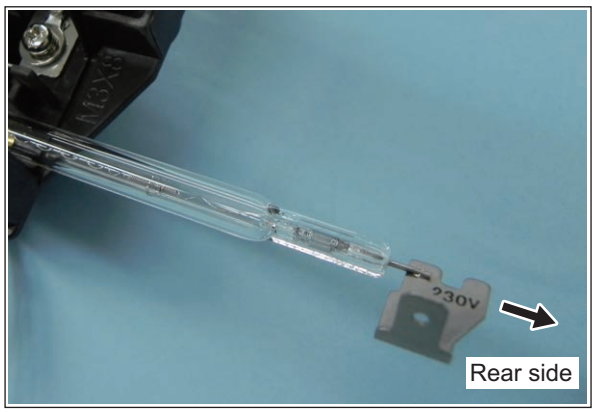


Fig. 4-278

4.9.5 Side heater lamp (LAMP3)

(1) Remove the fuser unit cover/fuser unit guide. P. 4-97 "4.9.3 Fuser unit cover/Fuser unit guide"
(2) Remove 2 installation screws.
Front side: M3x5
Rear side: M3x8

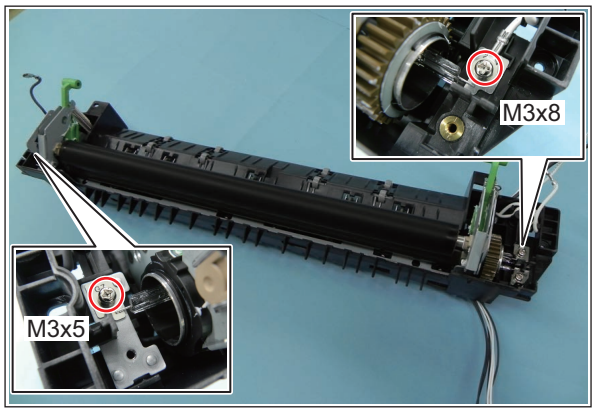


Fig. 4-279

(3) Remove the side heater lamp [2] from the rear.

Notes:

1. Hold the connector of the side heater lamp while you remove it.
2. Be careful that the glass surface of the side heater lamp has no fingerprints or dirt on it.

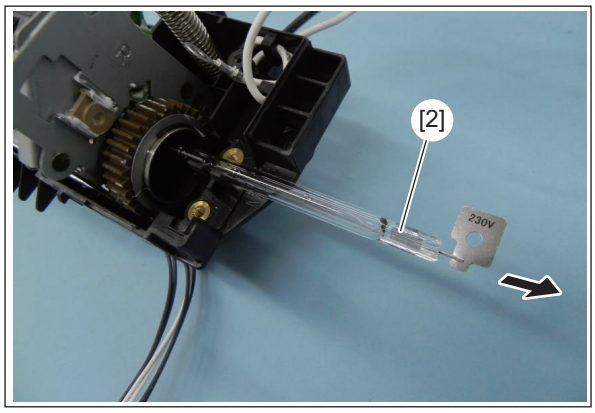


Fig. 4-280

3. When attaching the heater lamp, align the plug with the notch of the dowel plate.

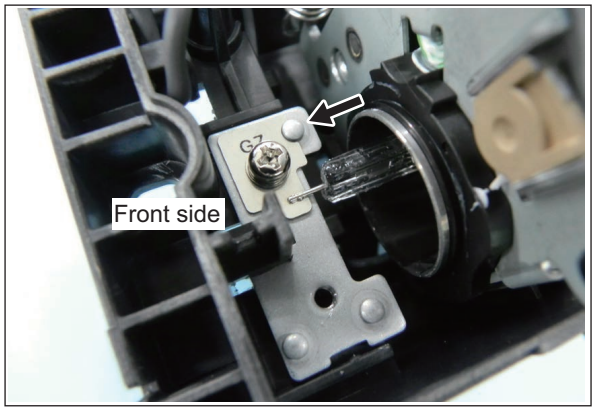


Fig. 4-281

4.9.6 Base unit

(1) Take off the Center heater lamp.
P. 4-99 "4.9.4 Center heater lamp (LAMP2)"
(2) Take off the Side heater lamp.
P. 4-101 "4.9.5 Side heater lamp (LAMP3)"
(3) Take off the center thermistor, side thermistor, and edge thermistor.
P. 4-107 "4.9.11 Center thermistor (THMS1) / Side thermistor (THMS2) / Edge thermistor (THMS3)"
(4) Place the fuser unit upside down. Remove 2 screws.

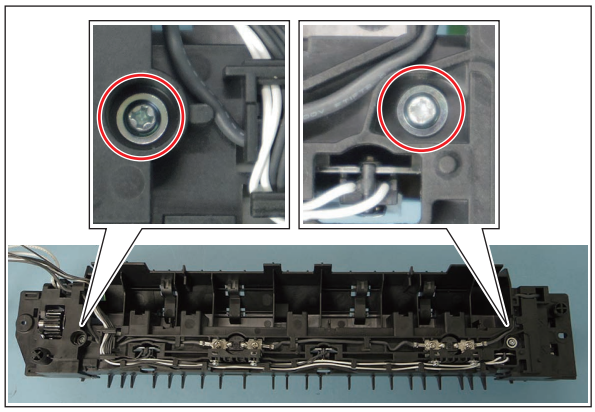


Fig. 4-282

(5) Place the fuser unit facing the original direction, and then take off the base unit [1] from the front side.

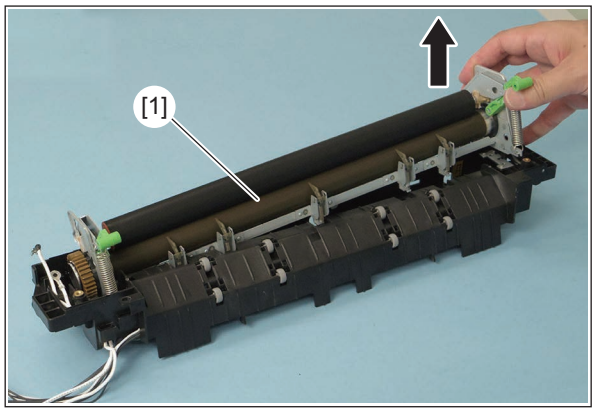


Fig. 4-283

4.9.7 Pressure roller PM

(1) Take off the base unit.
P. 4-102 "4.9.6 Base unit"
(2) Remove 2 springs [1].
(3) Take off 2 pressure levers [2].

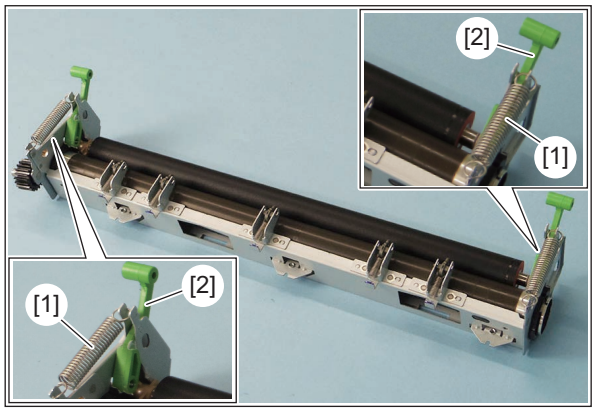


Fig. 4-284

(4) Take off 2 arms [3].

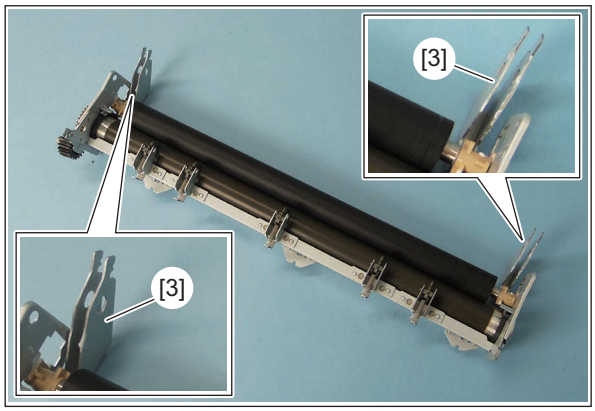


Fig. 4-285

(5) Release 2 bushings [4], and take off the pressure roller [5].

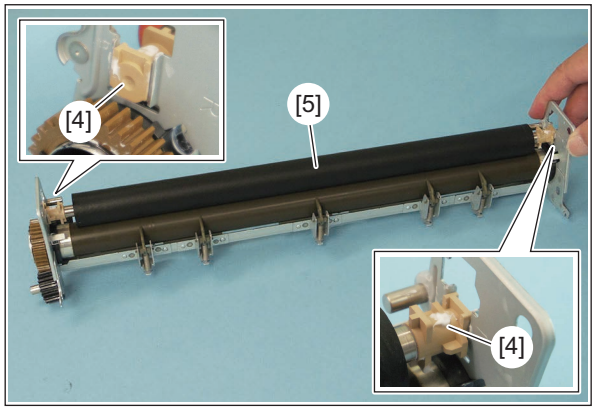


Fig. 4-286

4.9.8 Separation finger PM

(1) Take off the base unit.
P. 4-102 "4.9.6 Base unit"
(2) Remove each 1 spring [1].

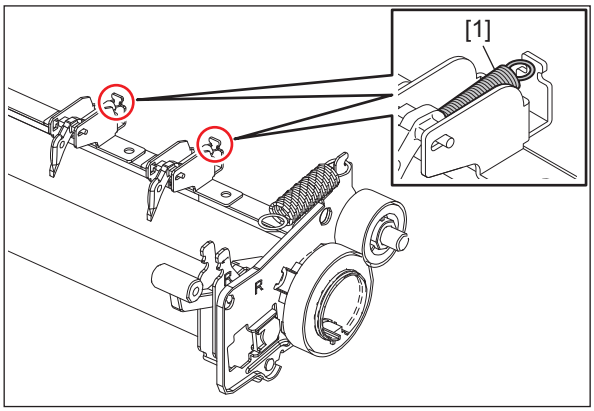


Fig. 4-287

(3) Take off 5 separation fingers in the following order.

[1] Lift the separation finger upward, and then slide it forward.
[2] Slide the separation finger to the front side, and then rotate it in a twisted manner.
[3] Remove the separation finger from the groove.

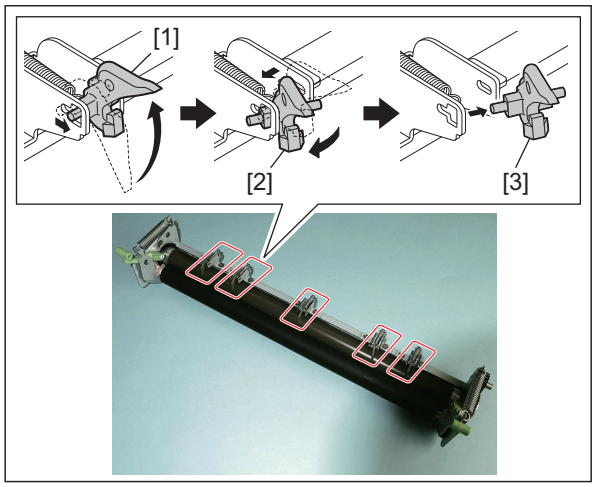


Fig. 4-288

Notes:

When attaching the separation fingers, set them to the groove in the following order.

[1] Insert the separation finger to the groove at front side.
[2] Rotate the separation finger in a twisted manner, and then insert it to the groove at rear side.
[3] Slide the separation finger to the depth side, and then press it down.

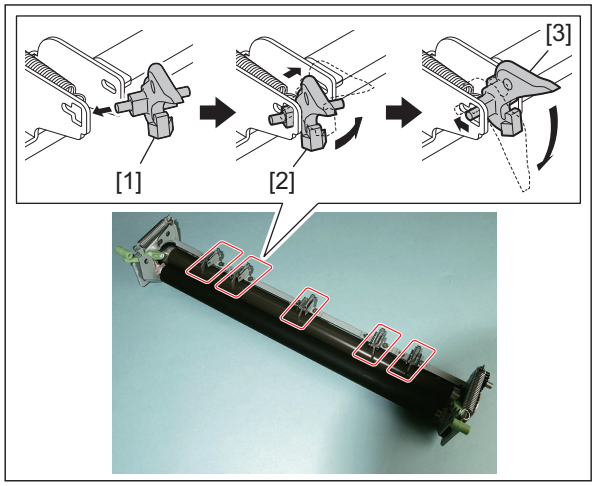


Fig. 4-289

4.9.9 Fuser roller/Fuser roller bushing PM

(1) Take off the pressure roller.
P. 4-102 "4.9.7 Pressure roller"
(2) Take off the separation fingers.
P. 4-103 "4.9.8 Separation finger"
(3) Remove 1 gear [1].

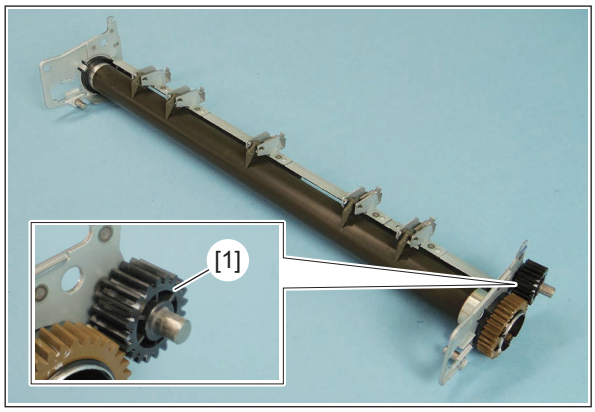


Fig. 4-290

(4) Remove 2 C-rings [2] and 1 gear [3].

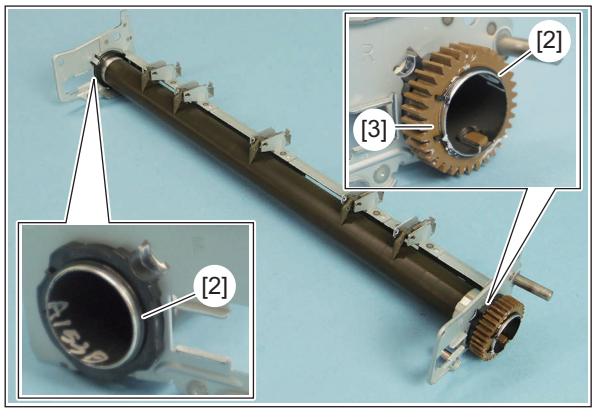


Fig. 4-291

(5) Remove 2 fuser roller bushings [4].

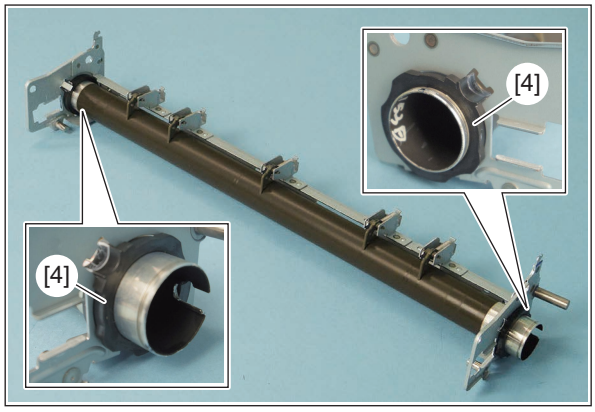


Fig. 4-292

(6) Take off the fuser roller [5].

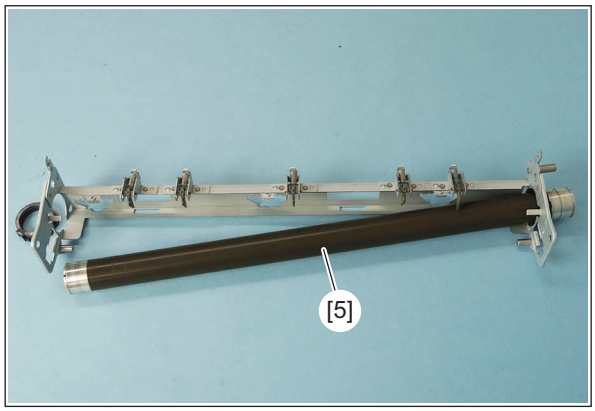


Fig. 4-293

4.9.10 Fuser center thermostat (THMO1) / Fuser front thermostat (THMO2)

(1) Take off the fuser unit.
📖 P. 4-94 "4.9.1 Fuser unit"
(2) Release 3 latches and take off the harness cover [1].

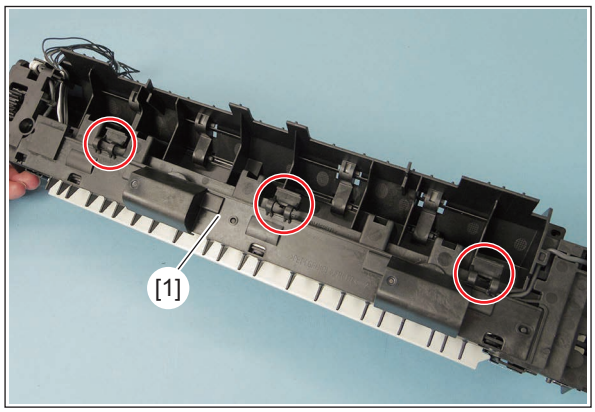


Fig. 4-294

(3) Remove 2 screws and take off the fuser center thermostat (THMO1) [2].
(4) Remove 2 screws and take off the fuser front thermostat (THMO2) [3].

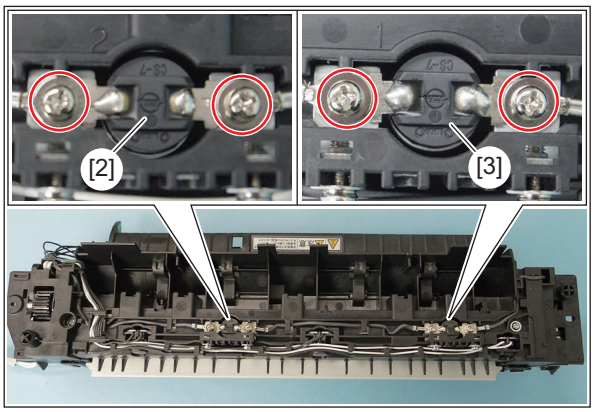


Fig. 4-295

Notes:

1. Do not remove 4 screws shown in the figure.

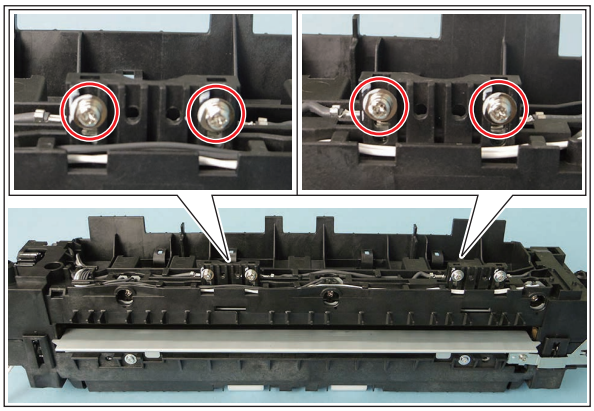


Fig. 4-296

2. When attaching the fuser thermostat, place the round terminal of the cable above the thermostat terminal, and attach in the direction shown in the figure.

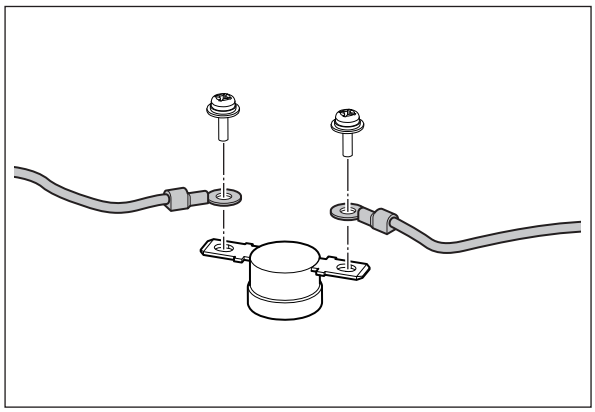


Fig. 4-297

4.9.11 Center thermistor (THMS1) / Side thermistor (THMS2) / Edge thermistor (THMS3)

(1) Take off the fuser unit.
📖 P. 4-94 "4.9.1 Fuser unit"

(2) Release 3 latches and take off the harness cover [1].

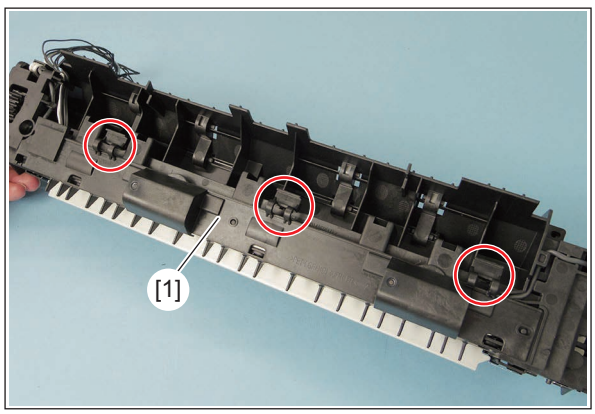


Fig. 4-298

(3) Remove each 1 screw of the thermistors, and then take off each thermistor [2] by releasing its harness out of the harness guide.

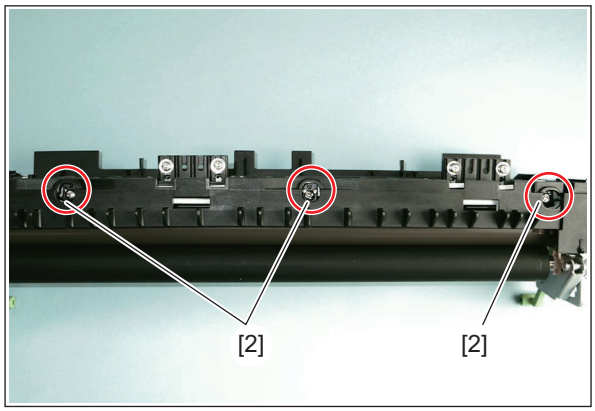


Fig. 4-299

Notes:

1. When installing the thermistors, do not mix up the installation positions of the center thermistor, the side thermistor and the edge thermistor by telling them apart by the length of their harnesses.
2. The thermistors have different front and back sides. When installing them, face the shiny side inside and insert the boss into the attaching fixture and install them.

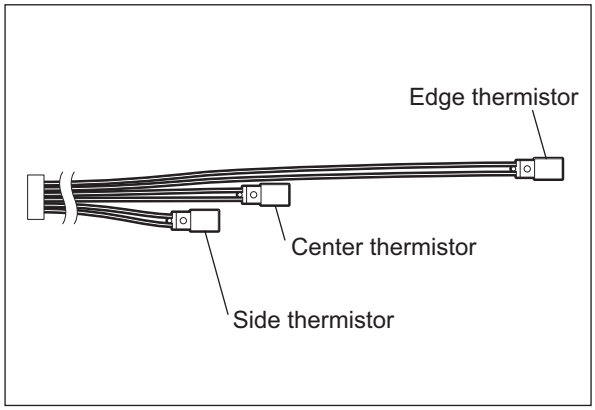
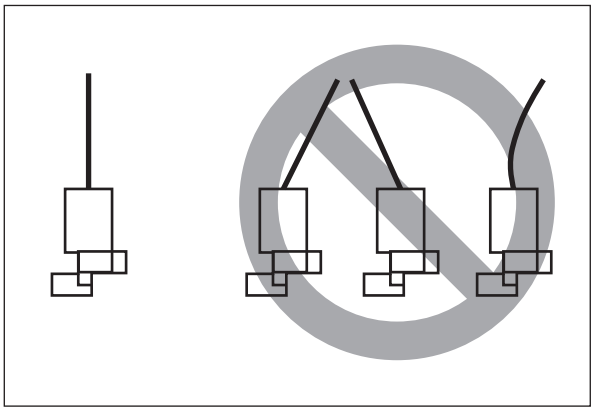


Fig. 4-300

Notes:

Check if the thermistors are deformed. If so, do not use them.



Notes:

Make sure that the installation direction of the thermistors is correct.

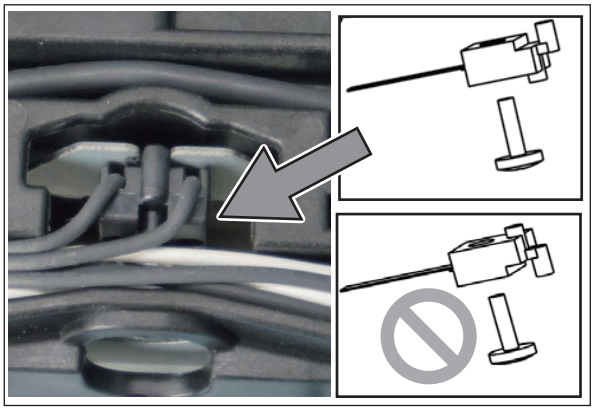


Fig. 4-301

Notes:

Be sure to install the thermistors so that their bosses are securely inserted into the frames.

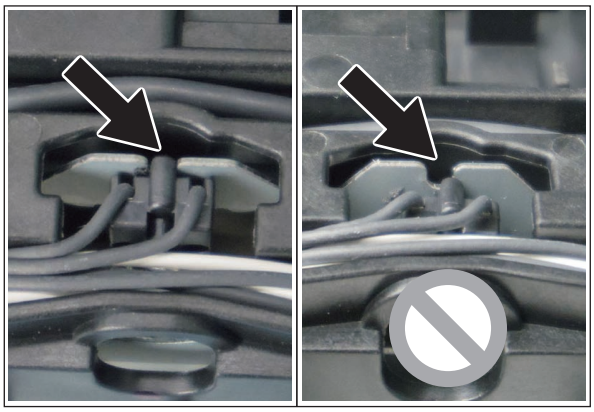


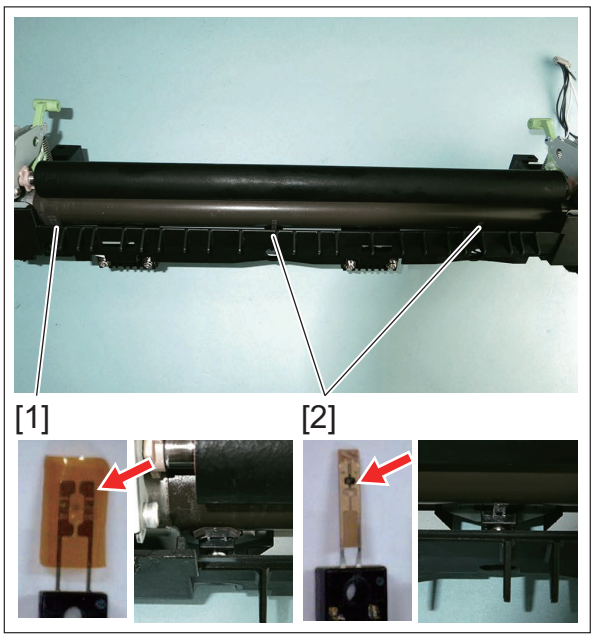
Fig. 4-302

Notes:

After the thermistors after they are installed in the fuser unit, check that their gauge heads (indicated by the red arrow) contact the fuser roller. If there are gaps between them or the thermistors are tilted, reinstall them.

[1] Center/Side thermistor

[2] Edge thermistor



4.9.12 Exit roller

(1) Take off the tray rear cover.
🕮 P. 4-5 "4.1.9 Tray rear cover"
(2) Remove 1 clip [1] and take off 1 bushing [2].

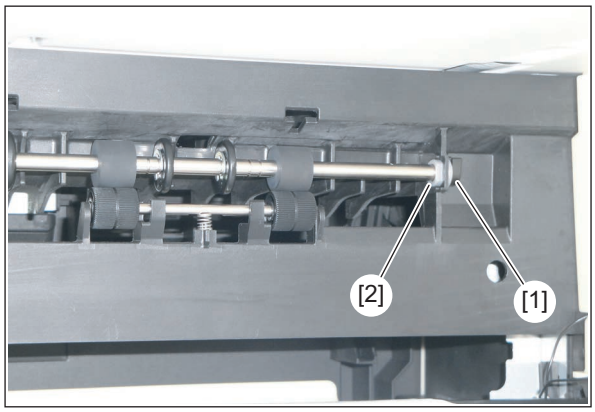


Fig. 4-303

(3) Unhook the grounding spring [3].

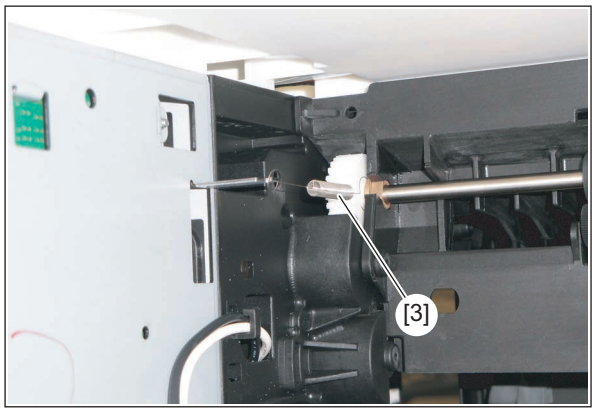


Fig. 4-304

(4) Slide the exit roller [4] to the rear side, and remove the bushing [5] from the frame.

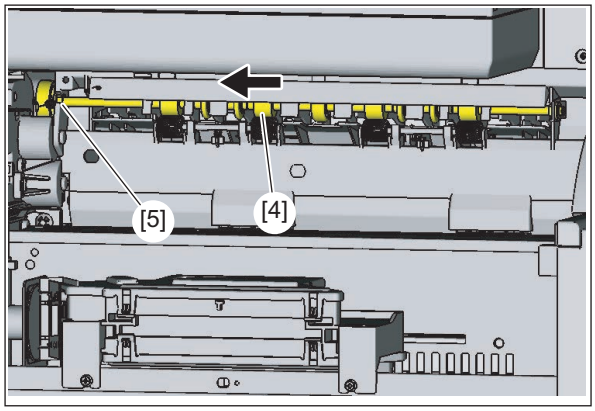


Fig. 4-305

(5) Remove 2 springs [6].

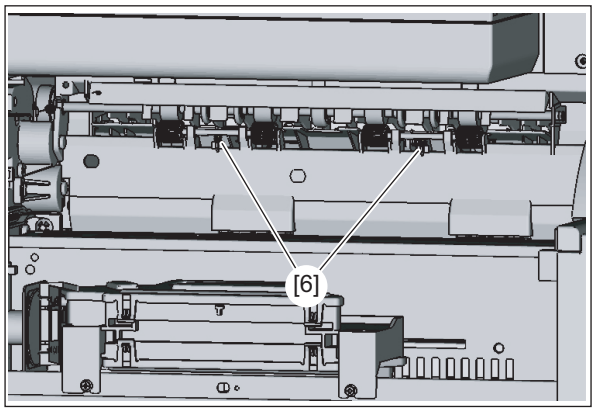


Fig. 4-306

(6) Take off the exit roller [4].

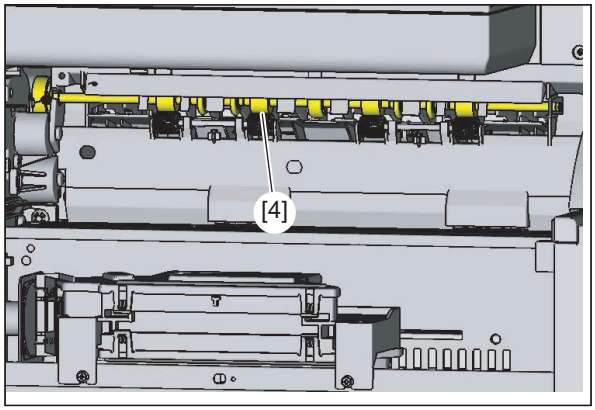


Fig. 4-307

(7) Remove 1 E-ring [7] and then take off 1 gear [8], 1 grounding spring [3] and 1 bushing [5].

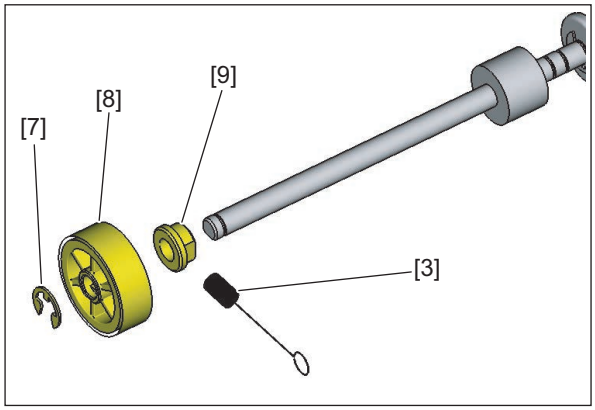


Fig. 4-308

4.10 Disassembly and Replacement of the Auto Document Feeder (ADF) <25S/25H/25F>

Important:

- Be sure to turn the power OFF and unplug the power cable before installing and removing of options.

4.10.1 Auto Document Feeder (ADF)

(1) Turn the power OFF and unplug the power cable.
(2) Remove 1 screw and take off the connector cover [1].

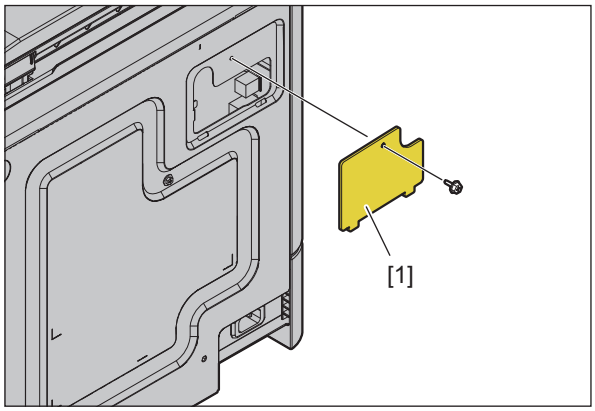


Fig. 4-309

(3) Remove 3 screws and take off the back cover [2].

Notes:

When attaching the rear cover, be sure to insert the two hooks on its right side before tightening the screws.

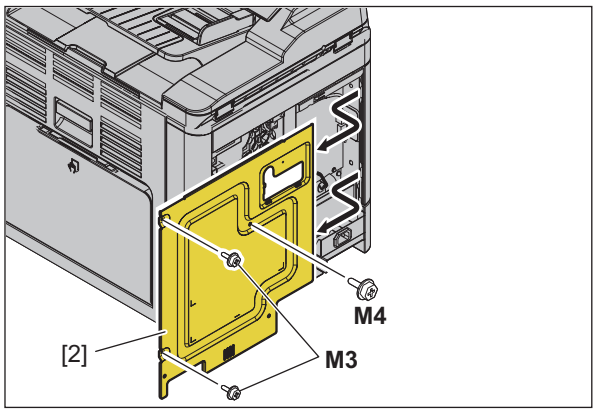


Fig. 4-310

(4) Disconnect the ground wire [3] and the 2 connectors [4].

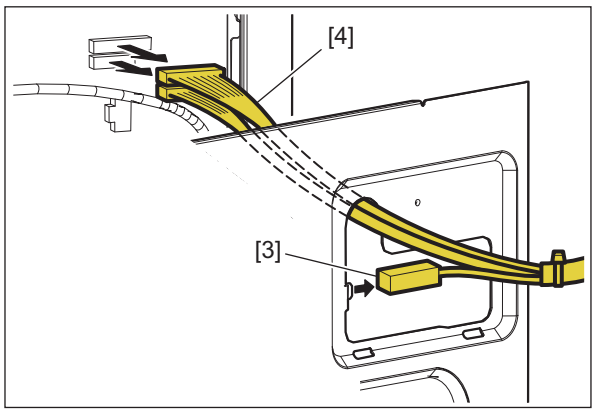


Fig. 4-311

(5) Take off the ADF [5].

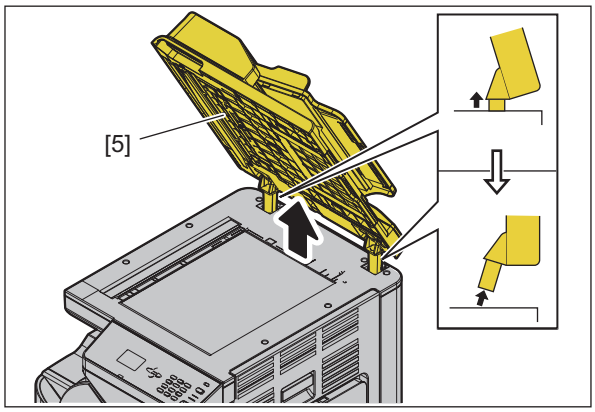


Fig. 4-312

4.10.2 Cover

[A] Front cover

(1) Open the jam access cover [1] and remove the 2 screws.

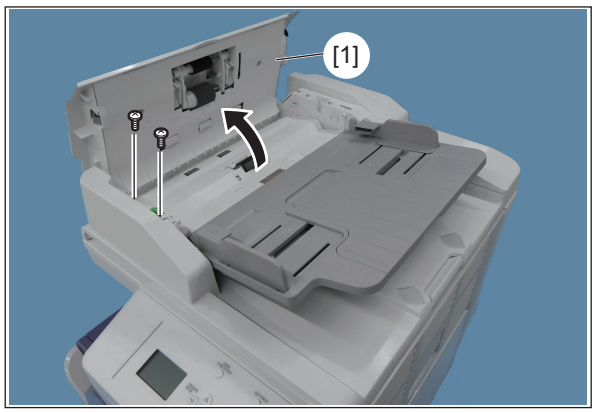


Fig. 4-313

(2) Unhook the 2 hooks from the front cover [2], and remove it upward.

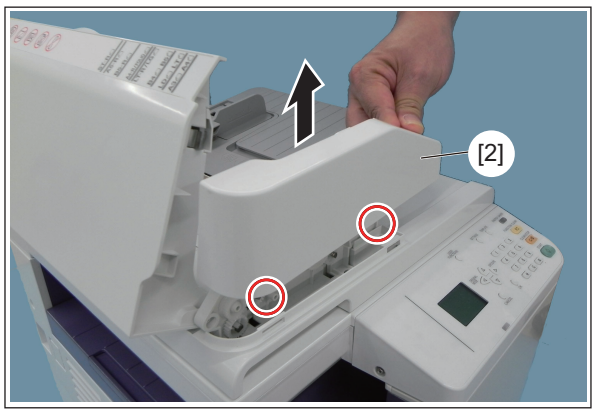


Fig. 4-314

[B] Jam access cover

(1) Open the ADF and remove the 2 screws.

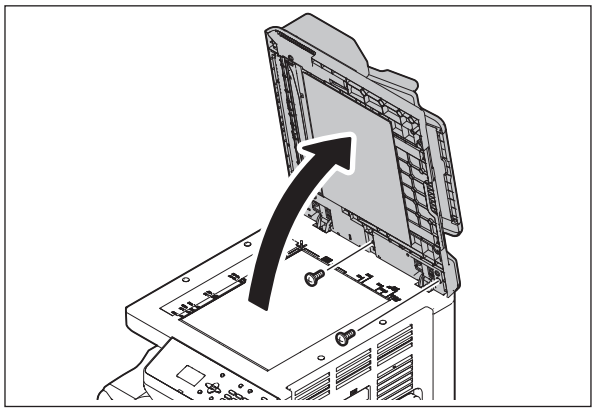


Fig. 4-315

(2) Close the ADF.

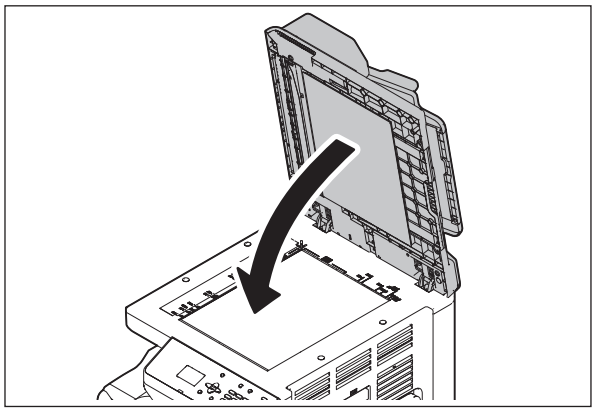


Fig. 4-316

(3) Open the jam access cover [1] and remove the 2 screws from the rear cover [2].

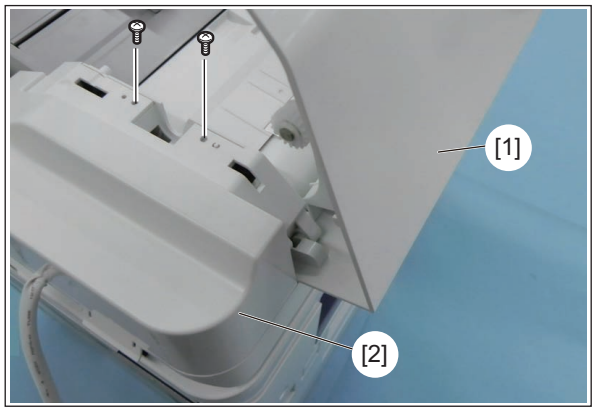


Fig. 4-317

(4) Lift up the rear cover [2] a little, slide the jam access cover [1] to the rear and remove it.

Notes:

Be careful, the jam access cover may fall off if it is open when the rear cover is removed.

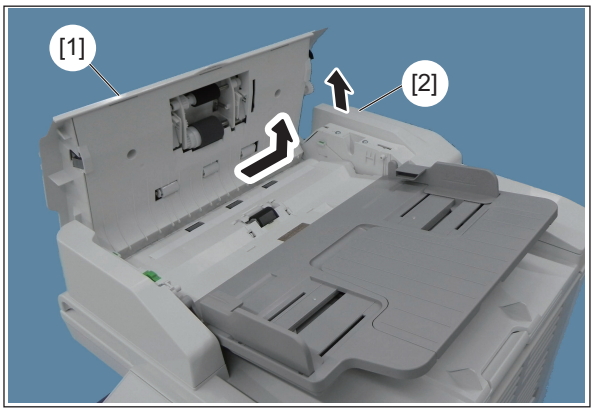


Fig. 4-318

[C] Rear cover

(1) Remove the jam access cover.
(P. 4-114 "[B] Jam access cover")

(2) Unhook the 3 hooks from the rear cover [1], and remove it upward.

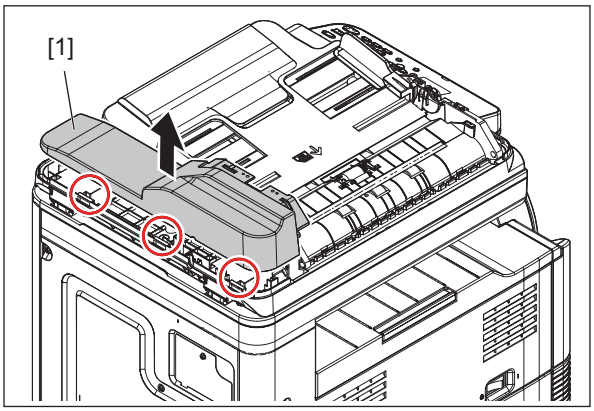


Fig. 4-319

[D] Original tray

(1) Remove the front cover.
(📖 P. 4-113 "[A] Front cover")

(2) Remove the jam access cover.
(📖 P. 4-114 "[B] Jam access cover")

(3) Remove the rear cover.
(📖 P. 4-115 "[C] Rear cover")

(4) Peel off the film [1] covering the ADF control board [2] and pull out 1 connector [3].

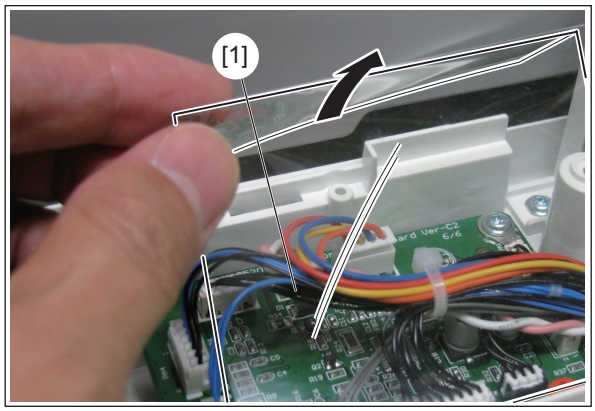


Fig. 4-320

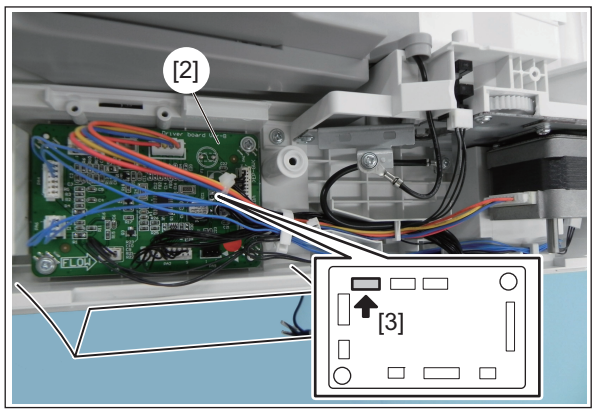


Fig. 4-321

(5) Remove 1 screw and remove the original tray [4].

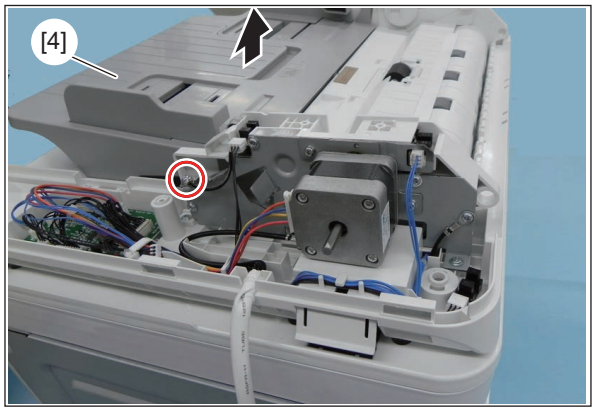


Fig. 4-322

4.10.3 Rollers

[A] Separation roller PM

(1) Open the jam access cover [1].

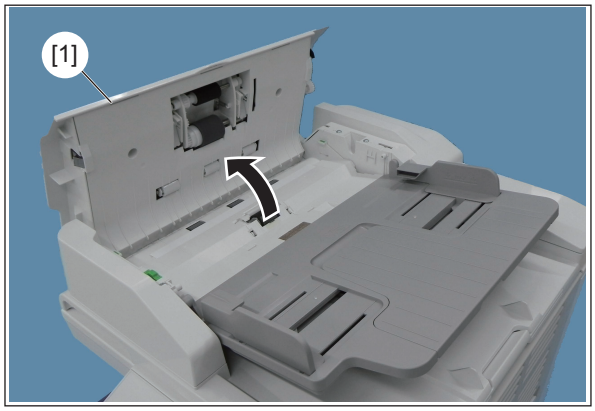


Fig. 4-323

(2) Unhook the 2 hooks and remove the separation roller cover [2].

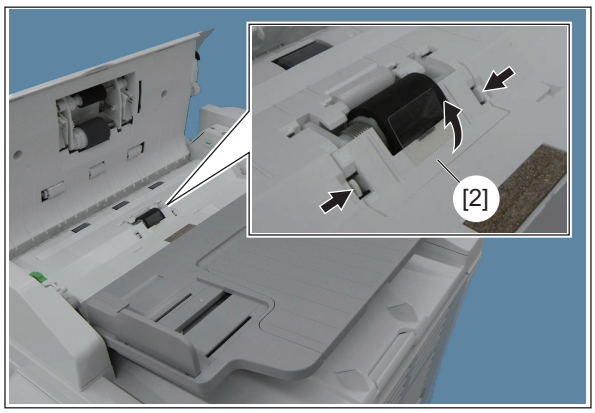


Fig. 4-324

(3) Remove the separation roller unit [3].

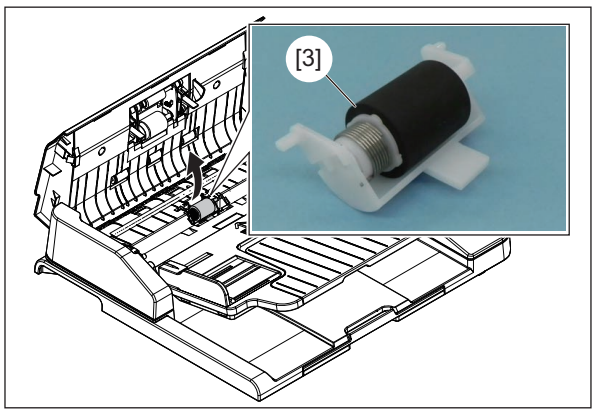


Fig. 4-325

Fig. 4-326

[B] Paper feed/exit unit

(1) Remove the original tray.
(📖 P. 4-116 "[D] Original tray")

(2) Unplug 3 connectors for each of the original feed motor [1], original empty sensor [2], and the ADF open/close sensor [3].

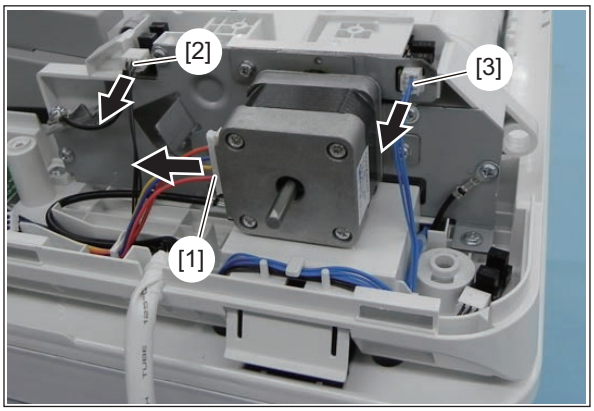


Fig. 4-327

(3) Remove 4 screws, remove the paper feed/exit unit [4] upwards.

Notes:
Be careful to not pull too strongly on the harness.

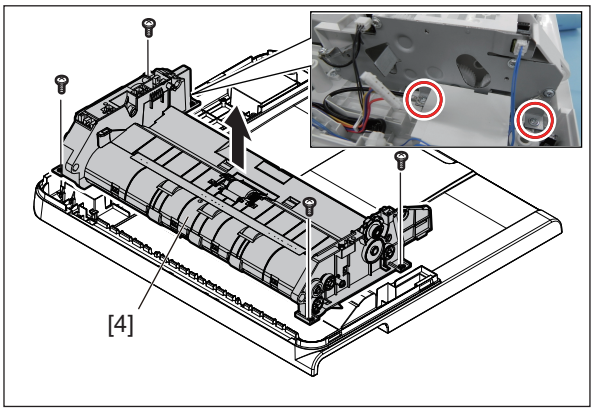


Fig. 4-328

[C] Paper feed roller unit

(1) Remove the paper feed/exit unit.
(📖 P. 4-118 "[B] Paper feed/exit unit")
(2) Remove 8 screws and remove the bracket [1] and original feed motor (M8) [2].

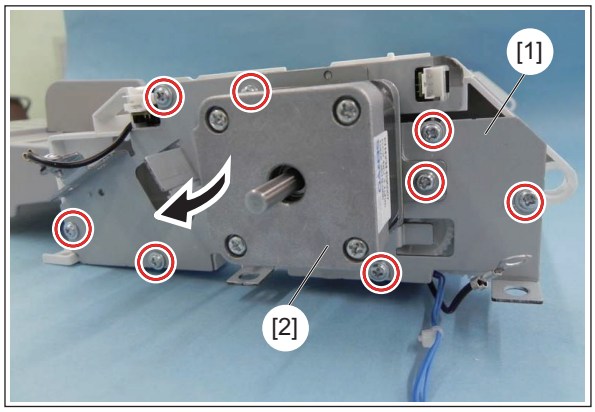


Fig. 4-329

(3) Remove 2 screws and remove the paper feed roller unit [3].

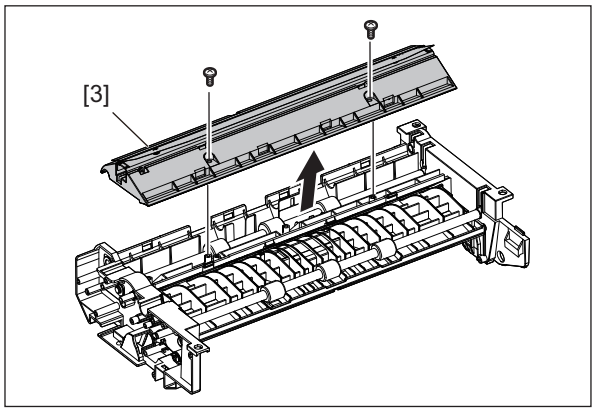


Fig. 4-330

[D] Transport roller-1

(1) Remove the jam access cover.
(📖 P. 4-114 "[B] Jam access cover")
(2) Remove 2 screws and 6 hooks, and remove the jam access cover [1].

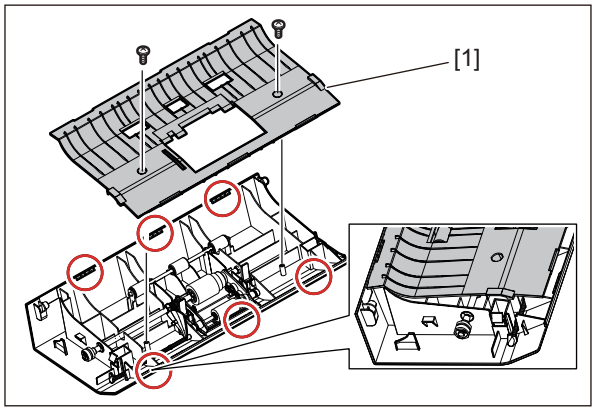


Fig. 4-331

(3) Remove the transport roller-1 [2].

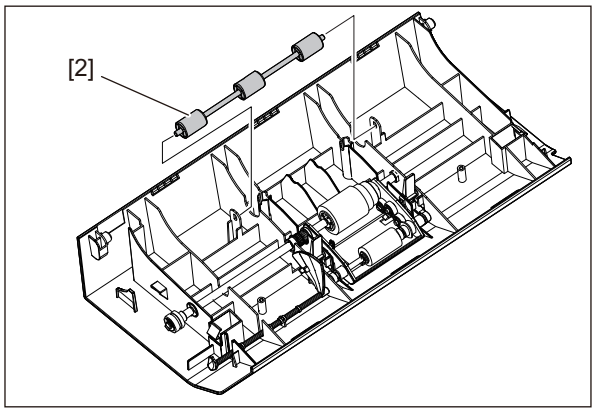


Fig. 4-332

[E] Feed roller

(1) Remove the paper feed/exit unit.
(📖 P. 4-118 "[B] Paper feed/exit unit")
(2) Remove 4 clips [1].

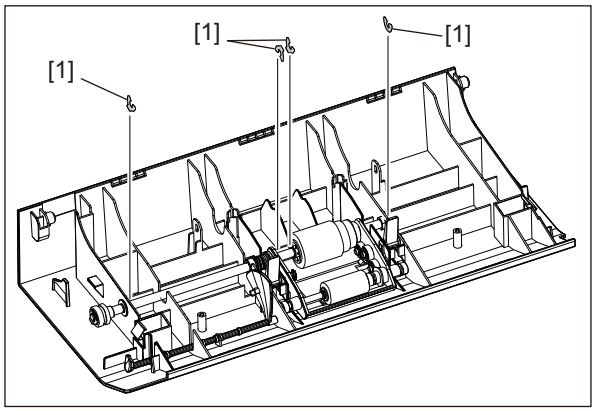


Fig. 4-333

(3) Slide the shaft [2] to the rear, remove 1 bushing [3], and remove the feed roller [4].

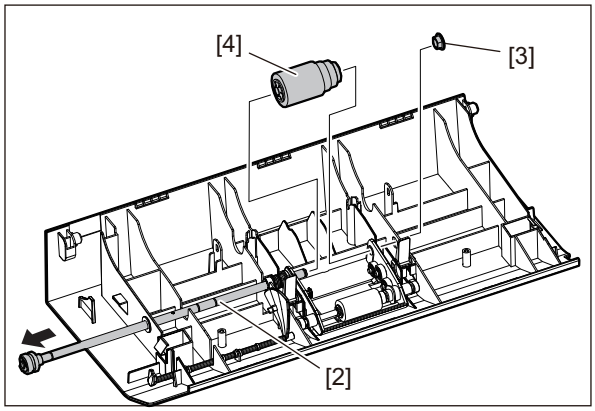


Fig. 4-334

Notes:

When the shaft is removed the pin [1] may come off, be careful to not drop it.

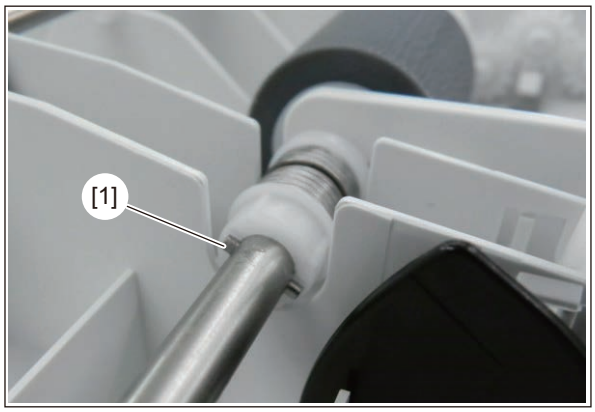


Fig. 4-335

[F] Pickup roller

(1) Remove the paper feed roller unit.
(📖 P. 4-119 "[C] Paper feed roller unit")

(2) Remove the spring [1].

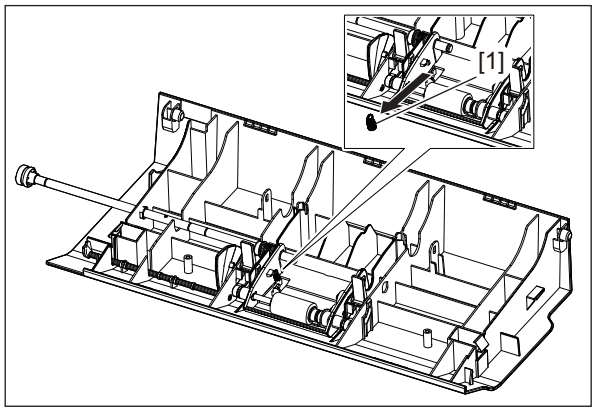


Fig. 4-336

(3) Remove 2 clips [2], and remove 2 stopper arms [3].

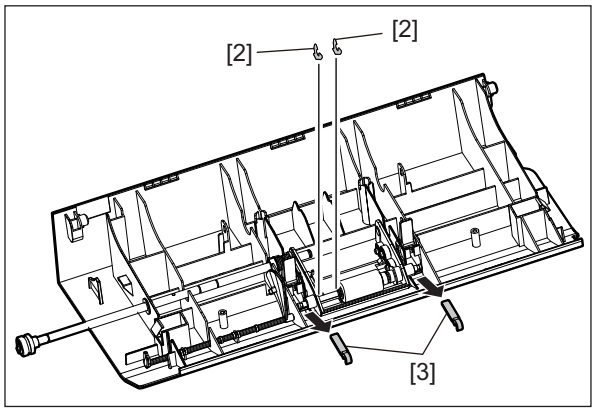


Fig. 4-337

(4) Slide the shaft [4] to the rear, and remove the pickup roller [5].

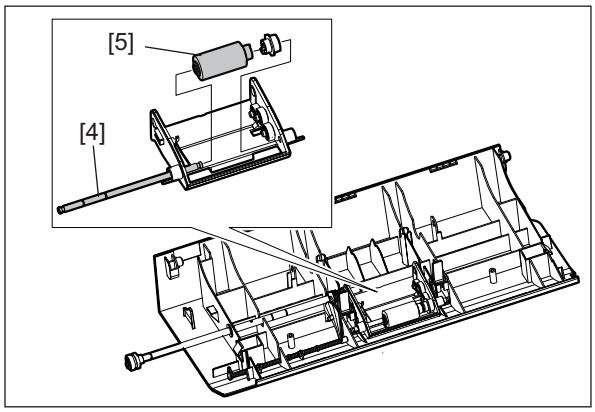


Fig. 4-338

[G] Exit roller

(1) Remove the paper feed roller unit. (📖 P. 4-118 "[B] Paper feed/exit unit")
(2) Remove 1 clip [1], 2 gears [2], and 2 bushings [3].

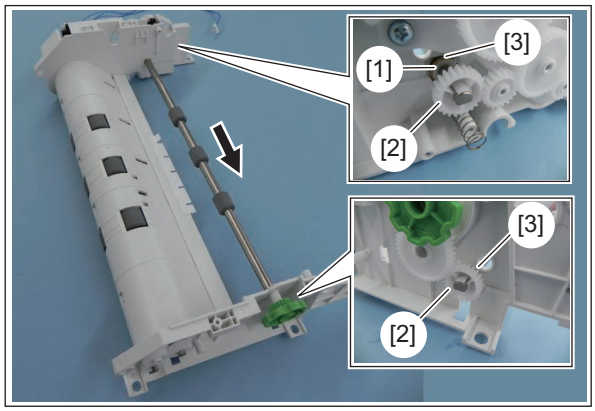


Fig. 4-339

(3) Slide the exit roller [4] to the front and remove it.

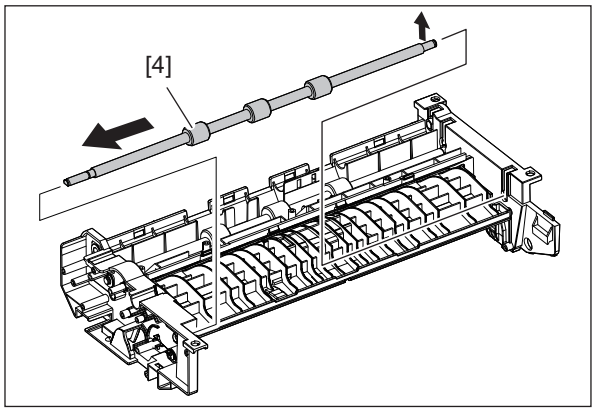


Fig. 4-340

[H] Transport roller-1 / -2

(1) Remove the paper feed roller unit.
(📖 P. 4-118 "[B] Paper feed/exit unit")
(2) Remove 2 clips [1] and 4 gears [2].

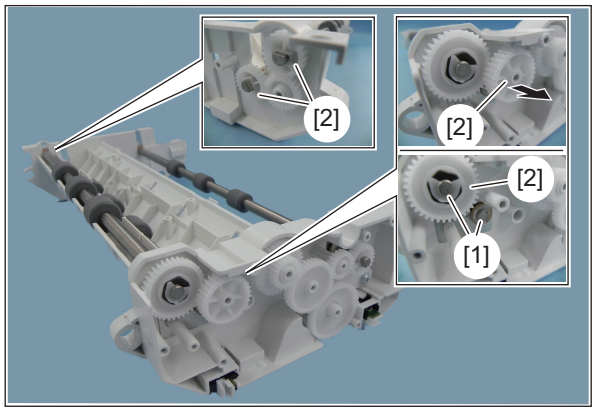


Fig. 4-341

(3) Remove 4 bushing [3], transport roller-2 [5] from the bottom.
(4) Remove the transport roller-1 [4] from the top.

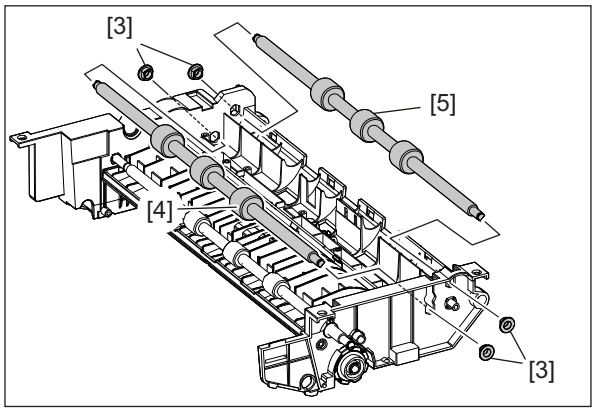


Fig. 4-342

Notes:

Assemble the transport roller-1 [4] first when assembling.
The top transport roller-1 [4] and the transport roller-2 [5] are different lengths, be careful during assembly.

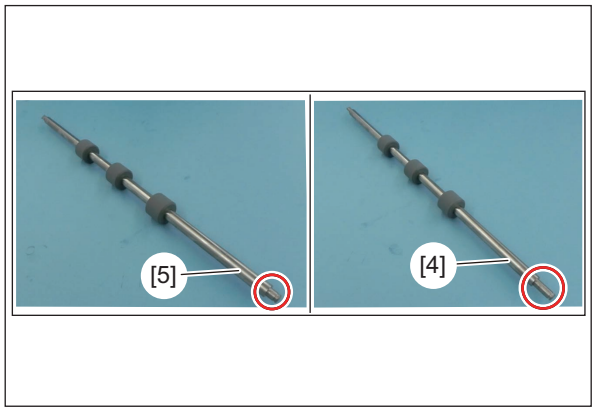


Fig. 4-343

[I] Exit roller unit

(1) Open the ADF.

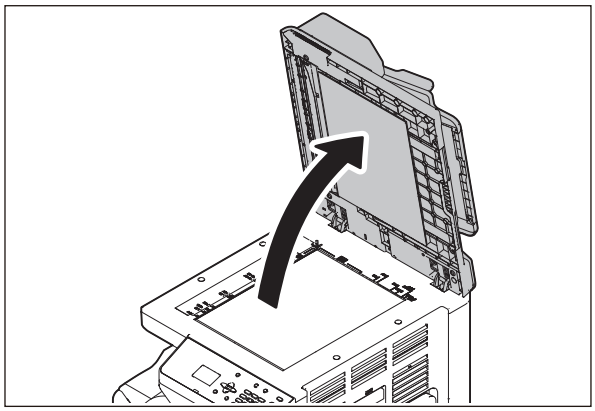


Fig. 4-344

(2) Remove the platen sheet.

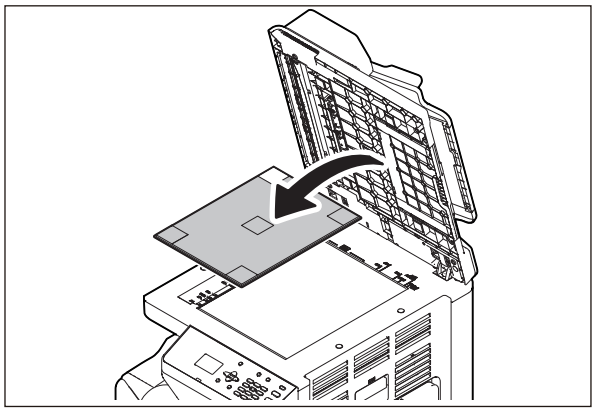


Fig. 4-345

Notes:

When installing the platen sheet, set the white Velcro [1] in the position shown in the diagram, close the ADF, and install it.

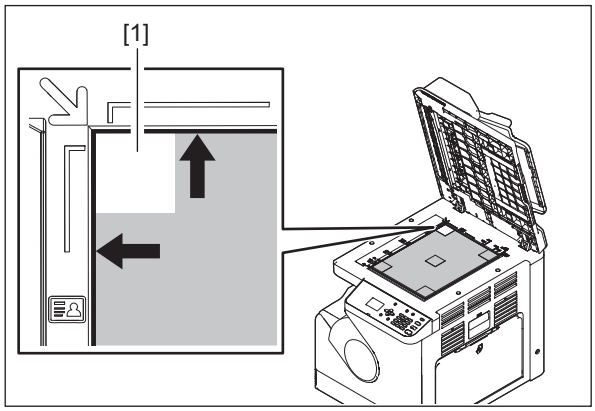


Fig. 4-346

(3) Remove 2 screws and 2 bushings [1], 2 springs [2] and remove the exit roller [3].

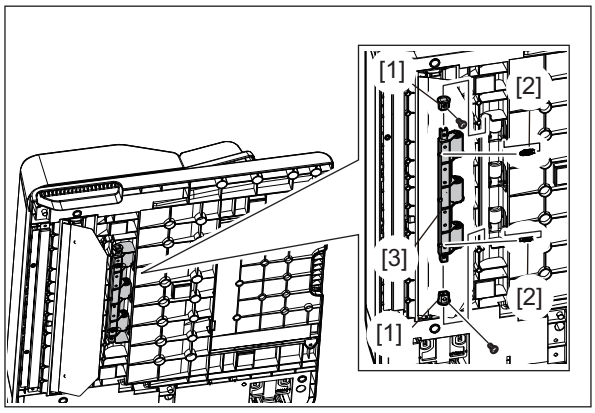


Fig. 4-347

[J] Front read roller

(1) Open the ADF.

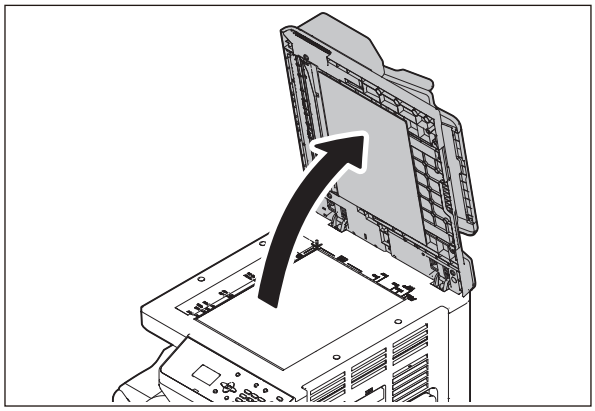


Fig. 4-348

(2) Remove 4 screws and the Plate [1], and remove the front read roller [2].

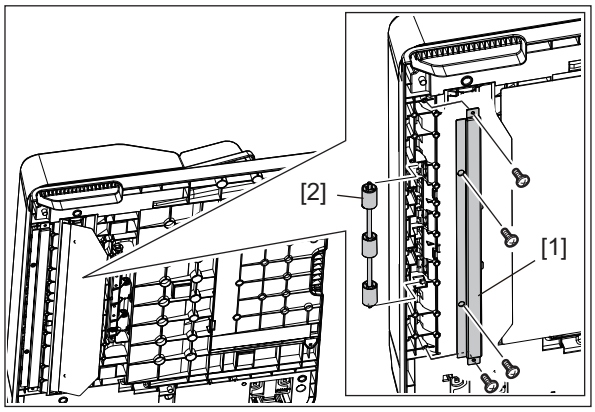


Fig. 4-349

4.10.4 Motor

[A] Original feed motor (M8)

(1) Remove the rear cover.
(📖 P. 4-115 "[C] Rear cover")
(2) Remove 1 connector [1] and 2 screws and remove the original feed motor (M8) [2].

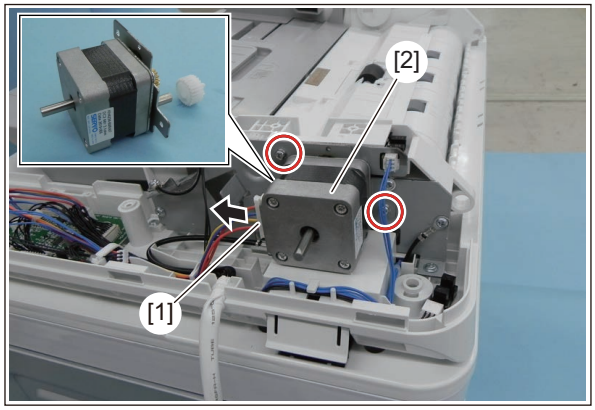


Fig. 4-350

4.10.5 Sensor/switch

[A] Original tray length sensor (S8)

(1) Remove the original tray.
(📖 P. 4-116 "[D] Original tray")
(2) Open the extender tray [1].

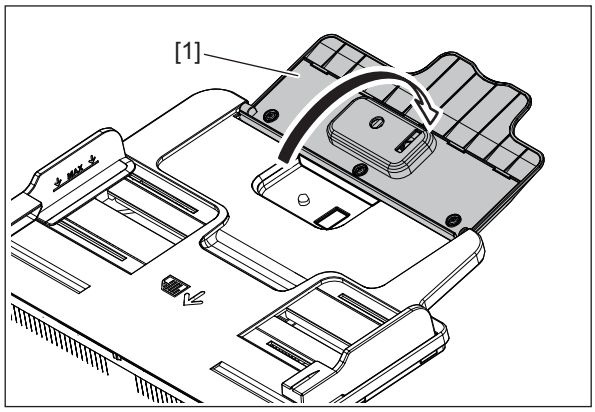


Fig. 4-351

(3) Remove the 3 screws and cover [2].

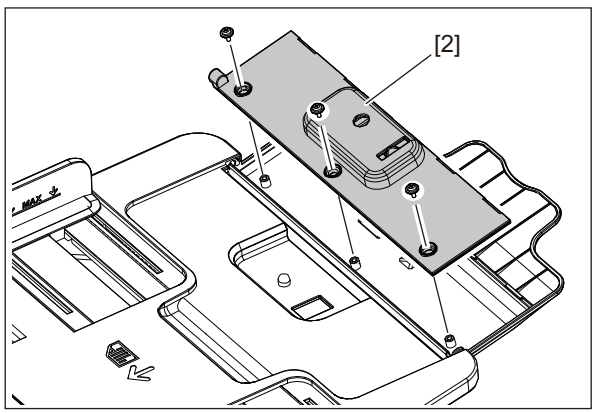


Fig. 4-352

(4) Remove 1 connector [3]. Remove the 3 hooks and remove the original tray length sensor (S8) [4].

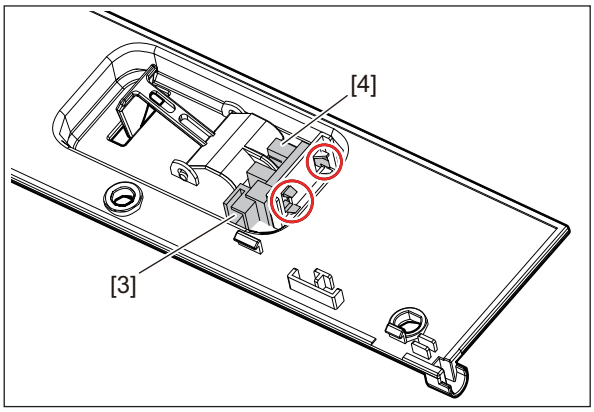


Fig. 4-353

[B] Original empty sensor (S9)

(1) Remove the rear cover.
(P. 4-115 "[C] Rear cover")
(2) Unplug 1 connector [1]. Remove the 2 hooks and remove the original empty sensor (S9) [2].

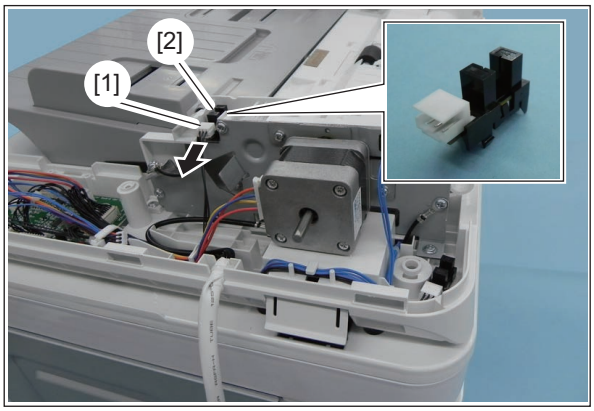


Fig. 4-354

[C] Jam access cover sensor (S10)

(1) Remove the paper feed roller unit.
(P. 4-119 "[C] Paper feed roller unit")
(2) Remove the original feed motor.
(P. 4-126 "[A] Original feed motor (M8)")
(3) Remove 6 screws and remove the bracket [1].

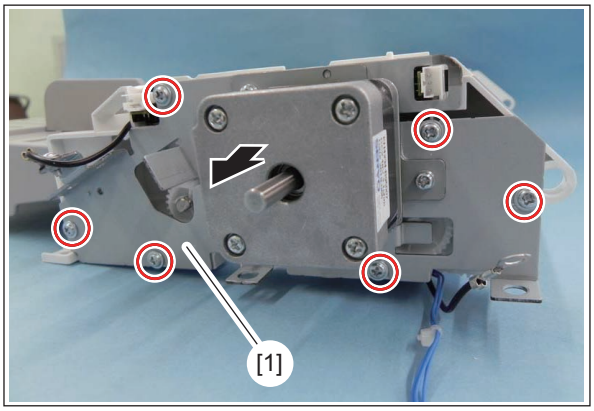


Fig. 4-355

(4) Remove the jam access cover sensor (S10) [2].

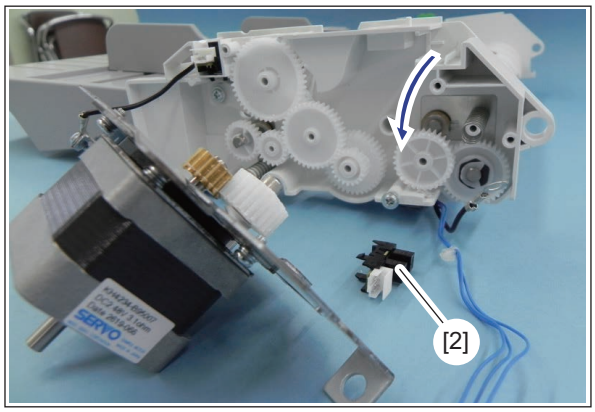


Fig. 4-356

[D] Original read sensor (S11)

(1) Remove the paper feed roller unit.
(📖 P. 4-119 "[C] Paper feed roller unit")
(2) Unplug 1 connector [1]. Remove the 2 hooks and remove the original read sensor (S11) [2].

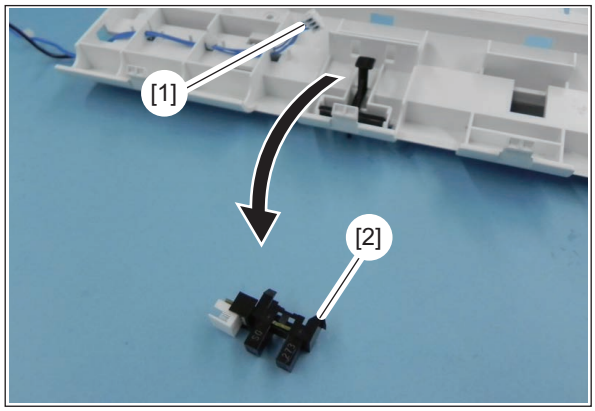


Fig. 4-357

[E] ADF opening/closing sensor (S12)

(1) Remove the rear cover.
(📖 P. 4-115 "[C] Rear cover")
(2) Remove 1 screw and remove the actuator [1].

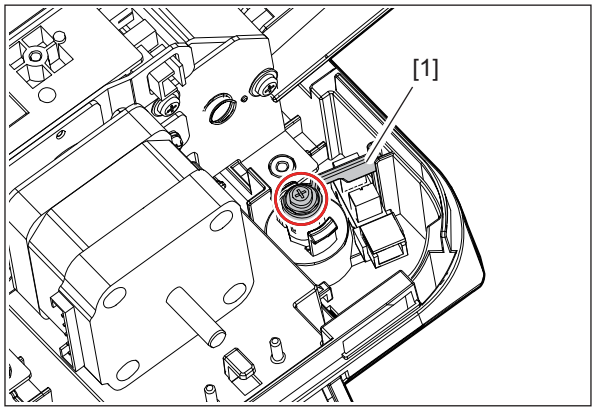


Fig. 4-358

(3) Unplug 1 connector [2]. Remove the 3 hooks and remove the ADF opening/closing sensor (S12) [3].

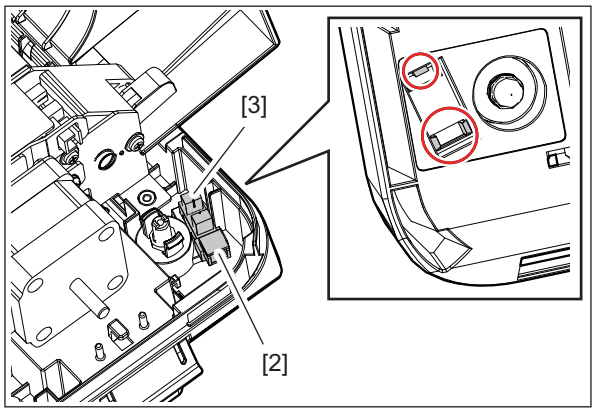


Fig. 4-359

4.10.6 PC board

[A] ADF control PC board (ADF board)

(1) Remove the rear cover.
(📖 P. 4-115 "[C] Rear cover")

(2) Peel off the film [1] covering the ADF control board [2] and pull out 8 connectors.

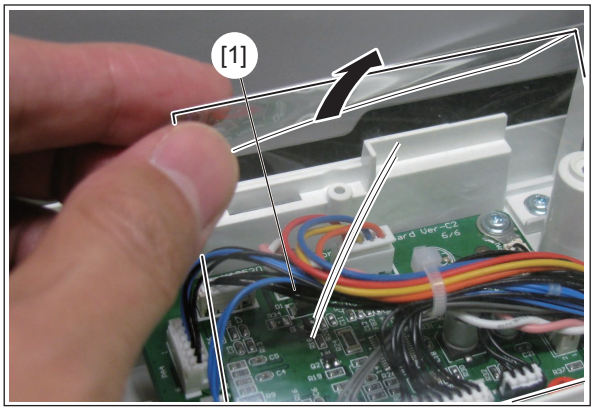


Fig. 4-360

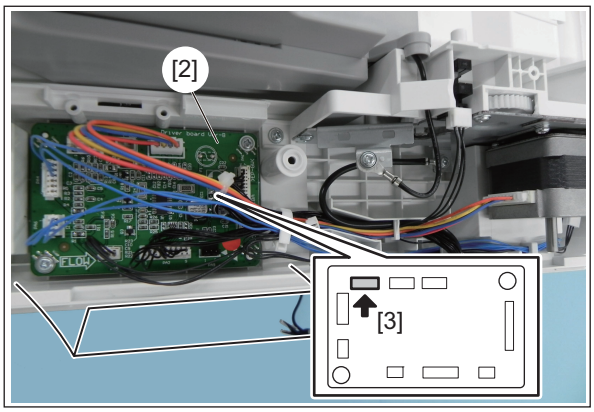


Fig. 4-361

(3) Remove the 2 screws and then remove the ADF control PC board.

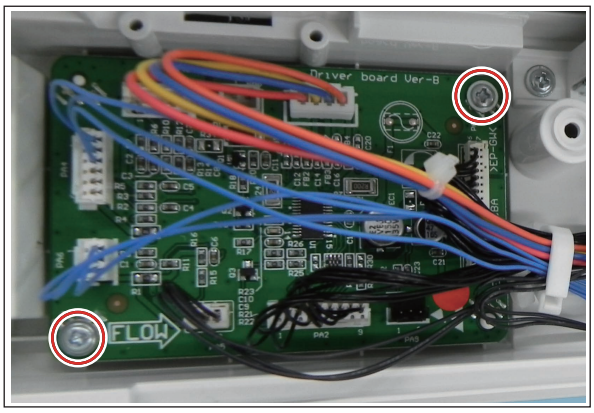


Fig. 4-362

4.11 Disassembly and Replacement of the Reversing Auto Document Feeder (RADF) <28M/28F>

Important:

- Be sure to turn the power OFF and unplug the power cable before installing and removing of options.

4.11.1 Reversing Auto Document Feeder (RADF)

(1) Turn the power OFF and unplug the power cable.
(2) Remove 1 screw and take off the connector cover [1].

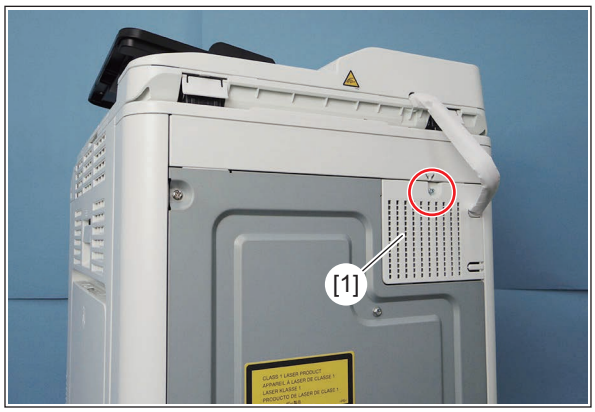


Fig. 4-363

(3) Disconnect 2 connectors.

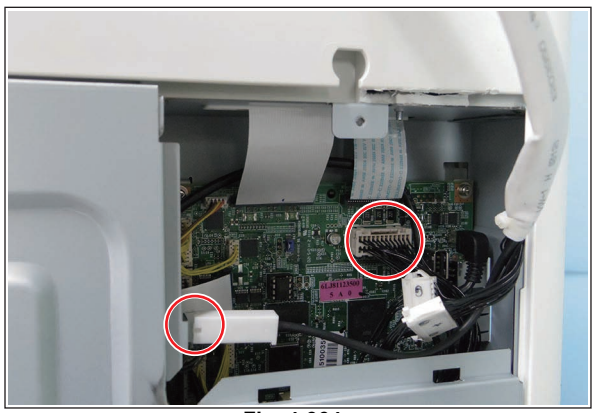


Fig. 4-364

(4) Take off the RADF [2].

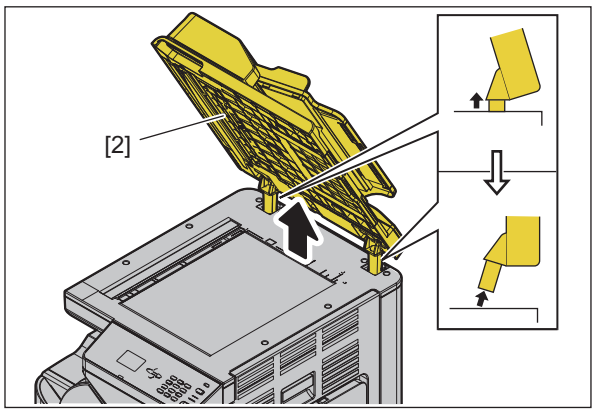


Fig. 4-365

4.11.2 Cover

[A] Front cover

(1) Open the jam access cover [1] and remove the 2 screws.

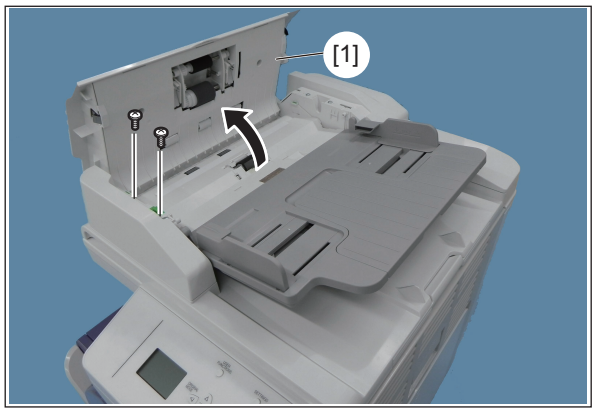


Fig. 4-366

(2) Unhook the 2 hooks from the front cover [2], and remove it upward.

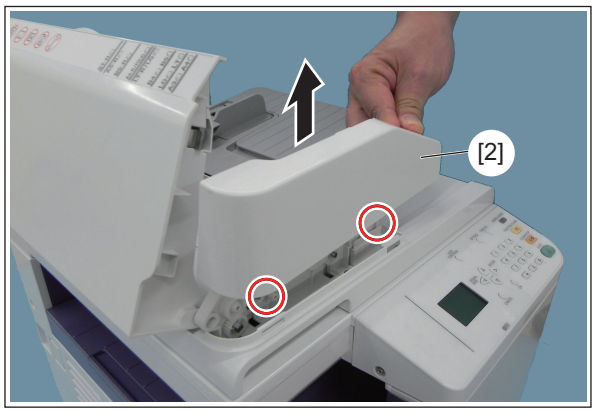


Fig. 4-367

[B] Jam access cover

(1) Open the RADF and remove the 2 screws.

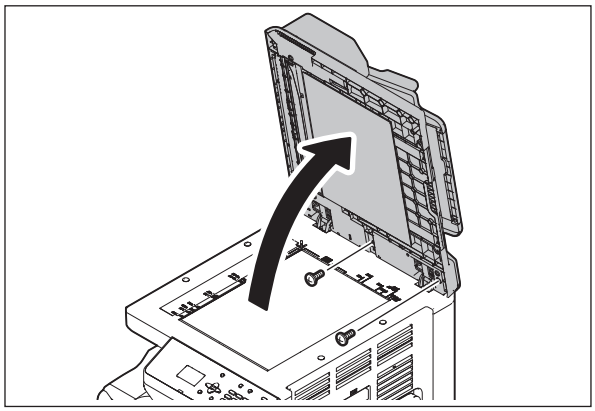


Fig. 4-368

(2) Close the RADF.

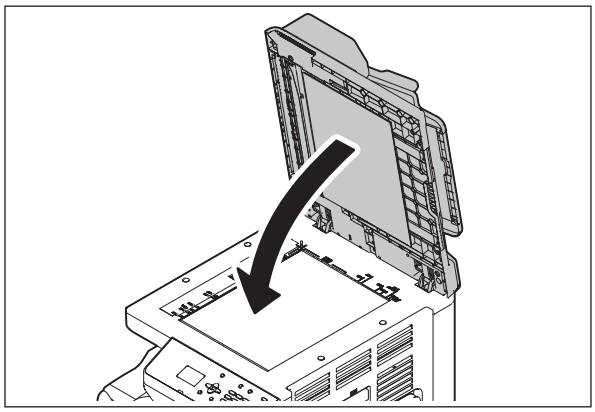


Fig. 4-369

(3) Open the jam access cover [1] and remove the 2 screws from the rear cover [2].

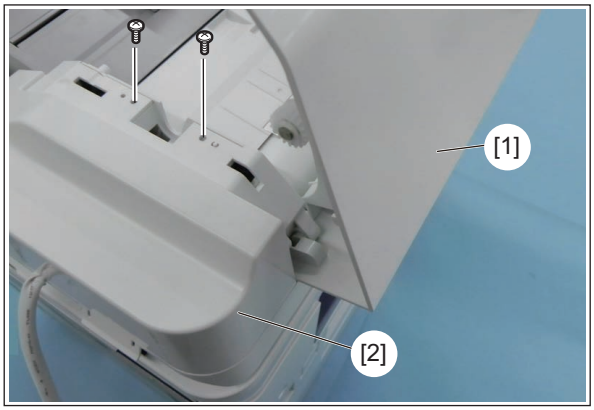


Fig. 4-370

(4) Lift up the rear cover [2] a little, slide the jam access cover [1] to the rear and remove it.

Notes:
Be careful, the jam access cover may fall off if it is open when the rear cover is removed.

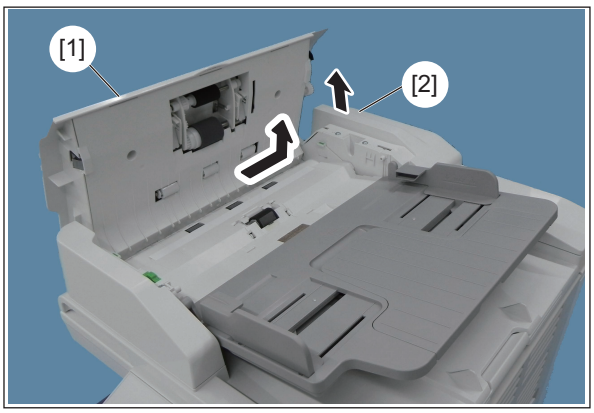


Fig. 4-371

[C] Rear cover

(1) Remove the jam access cover.
(📖 P. 4-132 "[B] Jam access cover")
(2) Unhook the 3 hooks from the rear cover [1], and remove it upward.

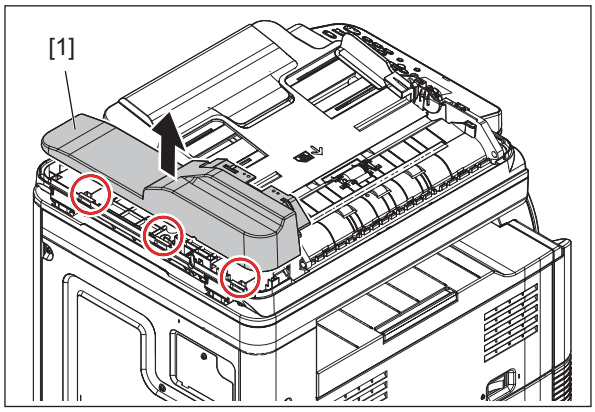


Fig. 4-372

[D] Original tray

(1) Remove the front cover.
(📖 P. 4-132 "[A] Front cover")
(2) Remove the jam access cover.
(📖 P. 4-132 "[B] Jam access cover")
(3) Remove the rear cover.
(📖 P. 4-134 "[C] Rear cover")
(4) Peel off the film [1] covering the RADF control board [2] and pull out 1 connector [3].

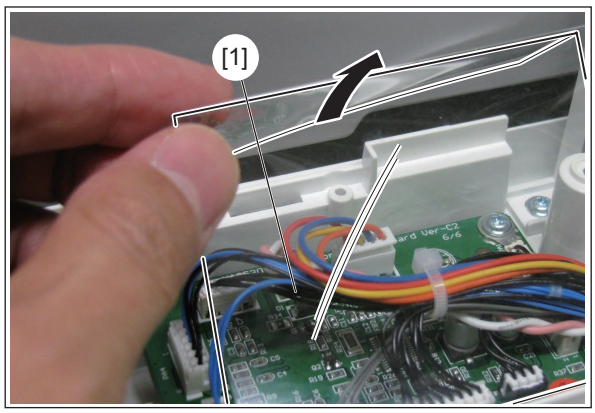


Fig. 4-373

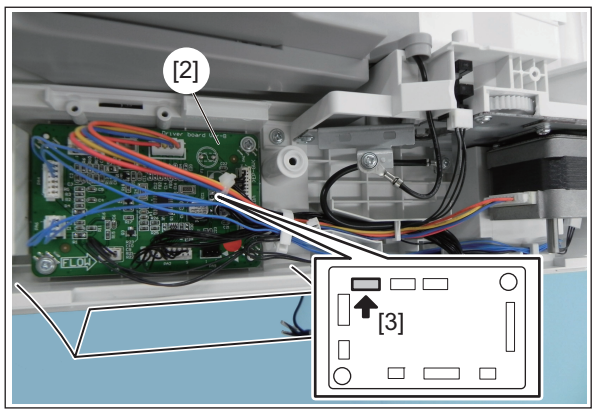


Fig. 4-374

(5) Remove 1 screw and remove the original tray [4].

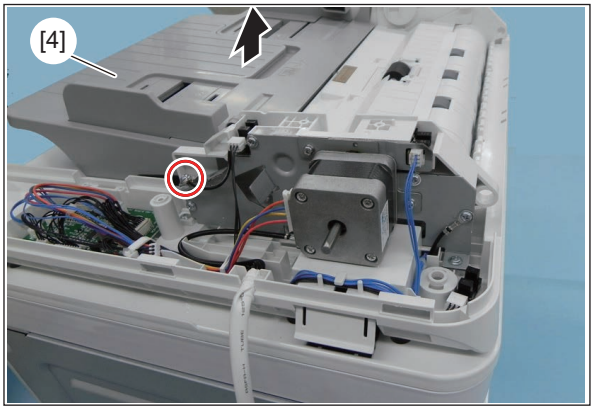


Fig. 4-375

4.11.3 Rollers

[A] Separation roller PM

(1) Open the jam access cover [1].

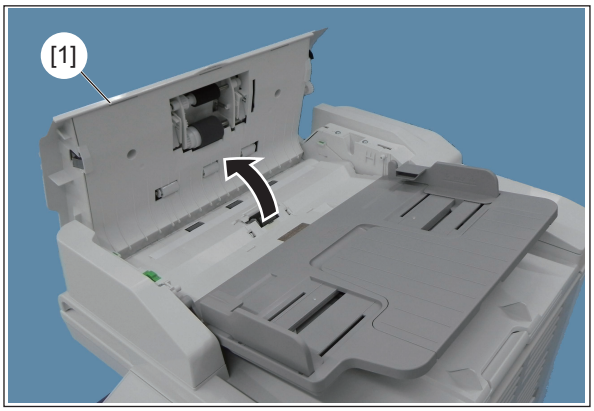


Fig. 4-376

(2) Unhook the 2 hooks and remove the separation roller cover [2].

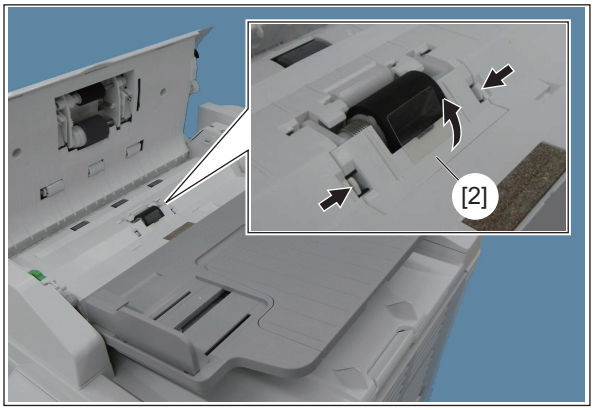


Fig. 4-377

(3) Remove the separation roller unit [3].

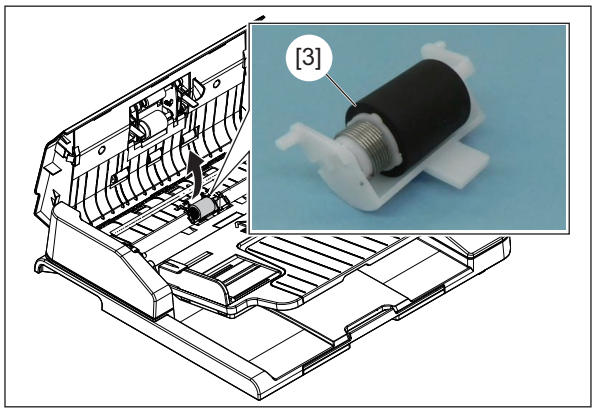


Fig. 4-378

Fig. 4-379

[B] Paper feed/exit unit

(1) Remove the original tray.
(📖 P. 4-134 "[D] Original tray")
(2) Unplug 3 connectors for each of the original feed motor [1], original empty sensor [2], and the RADF open/close sensor [3].

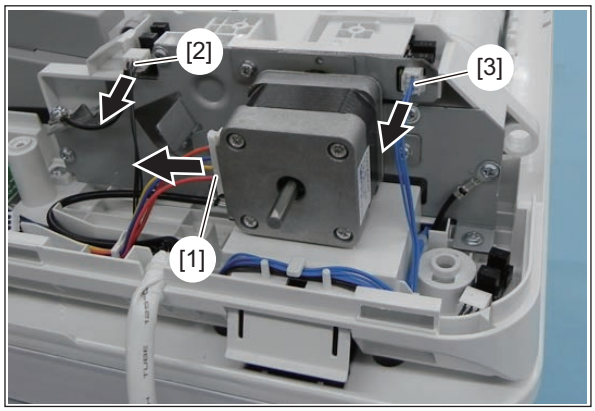


Fig. 4-380

(3) Remove 4 screws, remove the paper feed/ exit unit [4] upwards.

Notes:

Be careful to not pull too strongly on the harness.

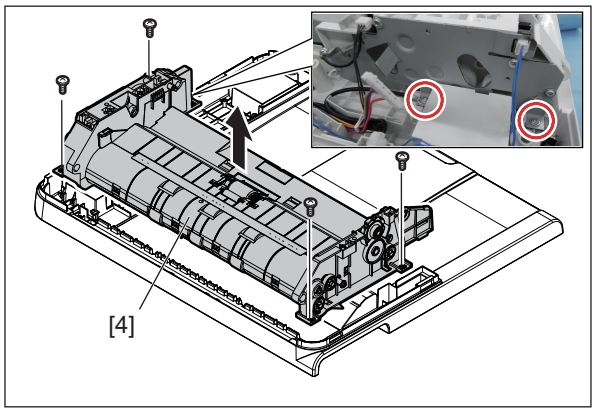


Fig. 4-381

[C] Paper feed roller unit

(1) Remove the paper feed/exit unit.
(📖 P. 4-136 "[B] Paper feed/exit unit")

(2) Remove 8 screws and remove the bracket [1] and original feed motor (M8) [2].

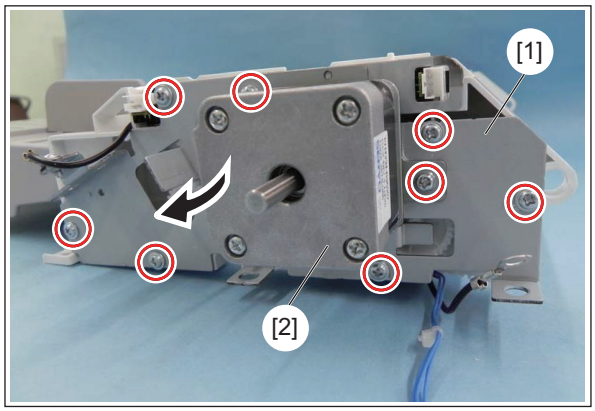


Fig. 4-382

(3) Remove 2 screws and remove the paper feed roller unit [3].

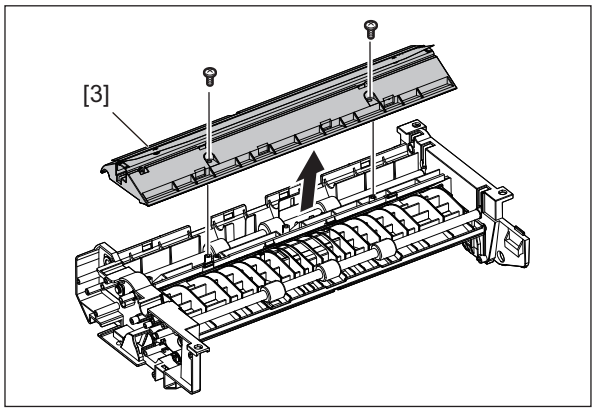


Fig. 4-383

[D] Transport roller-1

(1) Remove the jam access cover.
(📖 P. 4-132 "[B] Jam access cover")
(2) Remove 2 screws and 6 hooks, and remove the jam access cover [1].

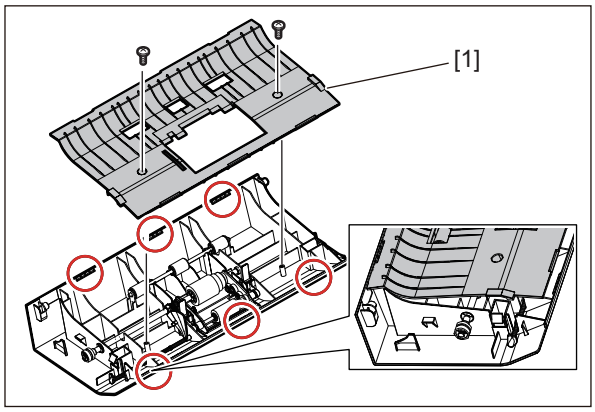


Fig. 4-384

(3) Remove the transport roller-1 [2].

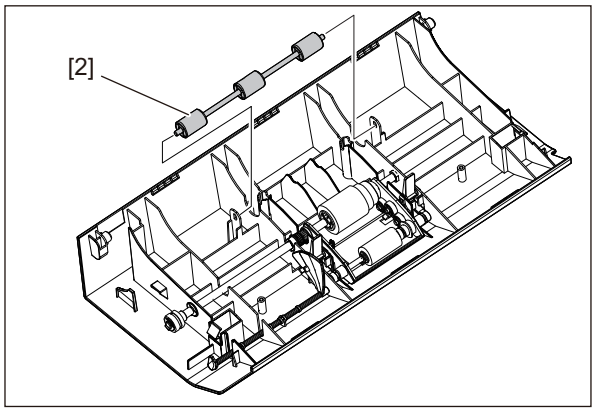


Fig. 4-385

[E] Feed roller

(1) Remove the paper feed/exit unit.
(📖 P. 4-136 "[B] Paper feed/exit unit")
(2) Remove 4 clips [1].

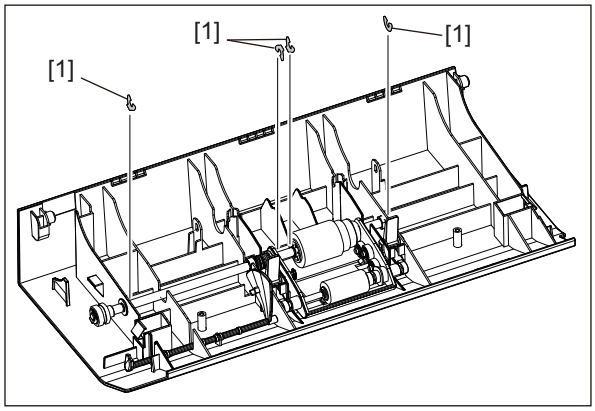


Fig. 4-386

(3) Slide the shaft [2] to the rear, remove 1 bushing [3], and remove the feed roller [4].

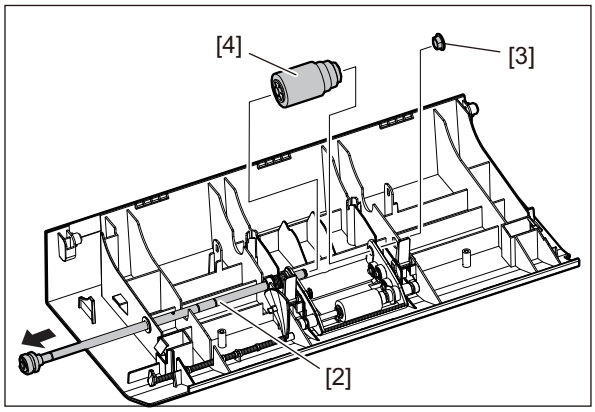


Fig. 4-387

Notes:

When the shaft is removed the pin [1] may come off, be careful to not drop it.

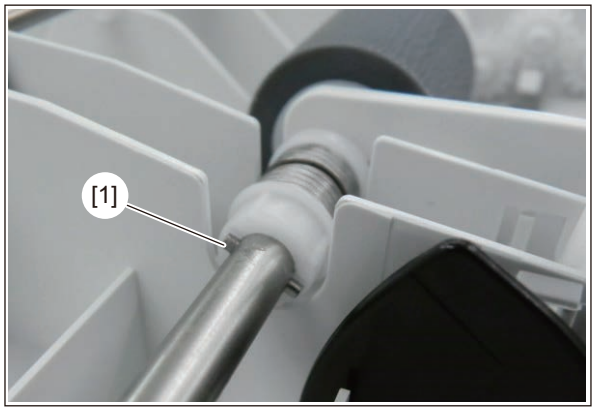


Fig. 4-388

[F] Pickup roller

(1) Remove the paper feed roller unit. (📖 P. 4-119 "[C] Paper feed roller unit")
(2) Remove the spring [1].

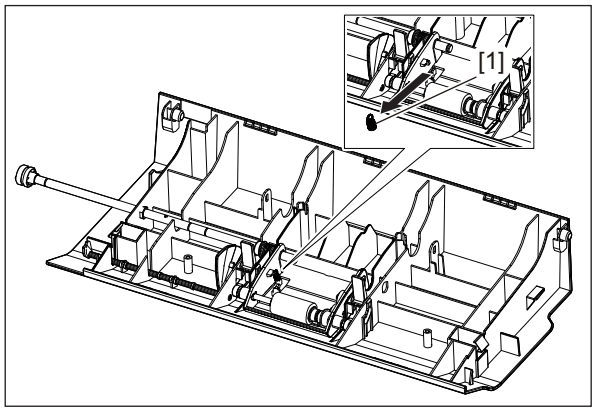


Fig. 4-389

(3) Remove 2 clips [2], and remove 2 stopper arms [3].

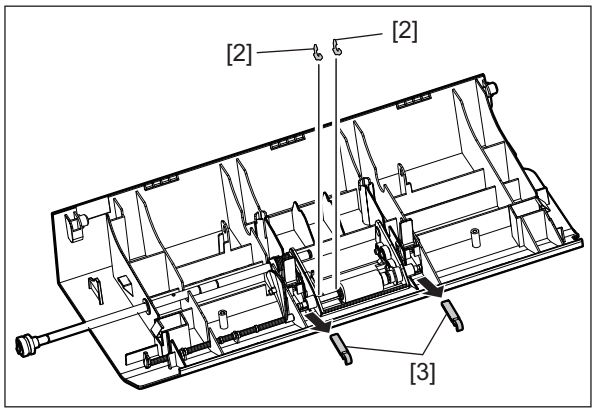


Fig. 4-390

(4) Slide the shaft [4] to the rear, and remove the pickup roller [5].

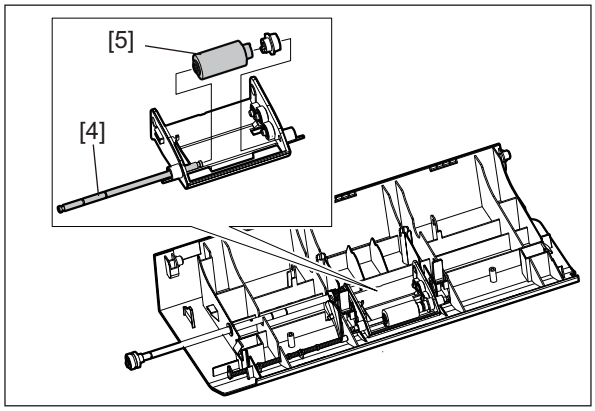


Fig. 4-391

[G] Exit roller

(1) Remove the paper feed roller unit. (📖 P. 4-136 "[B] Paper feed/exit unit")
(2) Remove 1 clip [1], 2 gears [2], and 2 bushings [3].

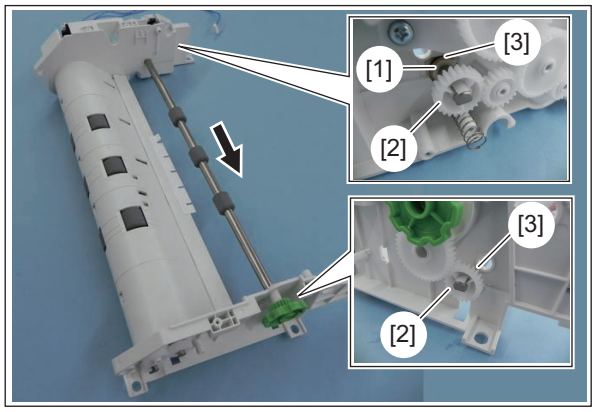


Fig. 4-392

(3) Slide the exit roller [4] to the front and remove it.

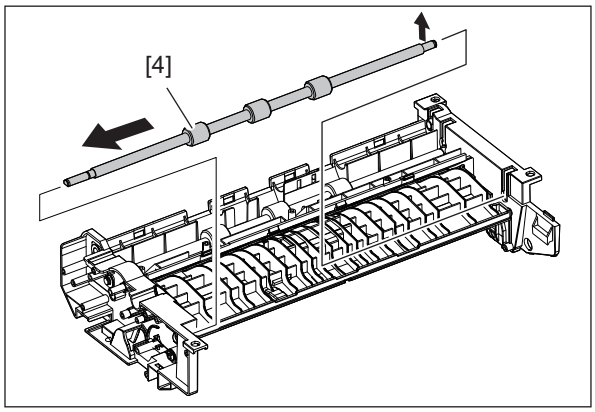


Fig. 4-393

[H] Transport roller-1 / -2

(1) Remove the paper feed roller unit. (P. 4-136 "[B] Paper feed/exit unit")
(2) Remove 2 clips [1] and 4 gears [2].

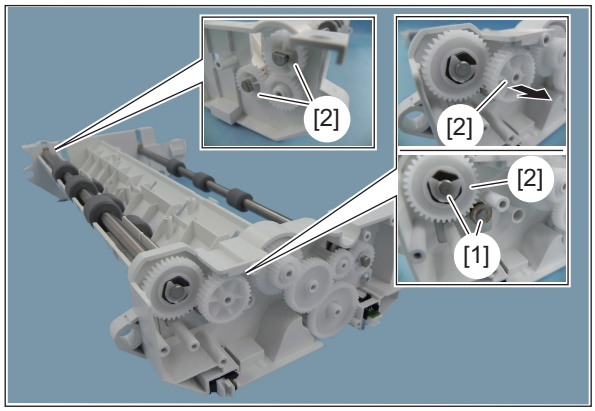


Fig. 4-394

(3) Remove 4 bushing [3], transport roller-2 [5] from the bottom.
(4) Remove the transport roller-1 [4] from the top.

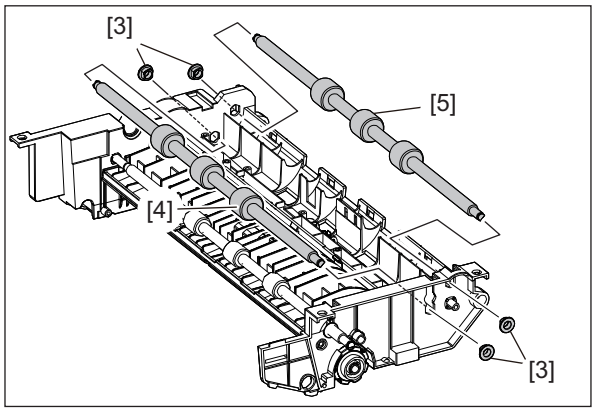


Fig. 4-395

Notes:

Assemble the transport roller-1 [4] first when assembling.

The top transport roller-1 [4] and the transport roller-2 [5] are different lengths, be careful during assembly.

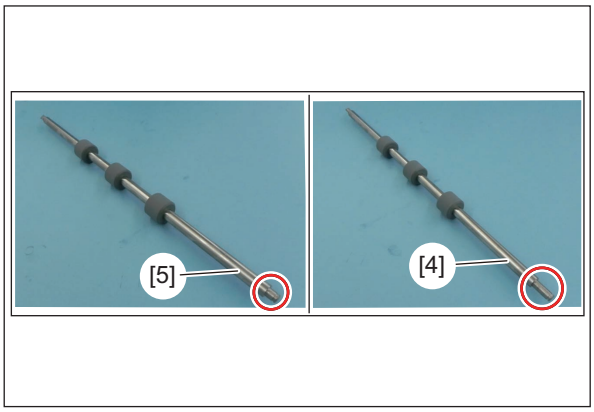


Fig. 4-396

[I] Exit roller unit

(1) Open the RADF.

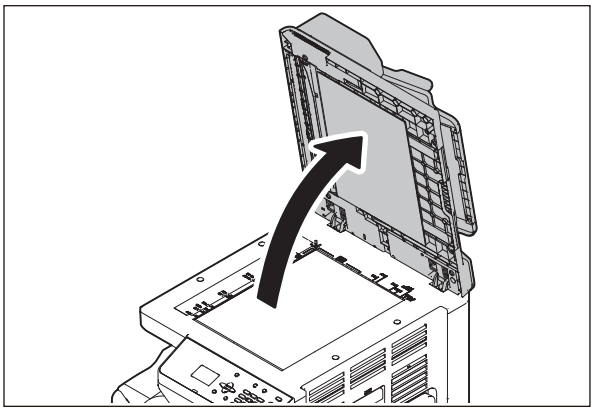


Fig. 4-397

(2) Remove the platen sheet.

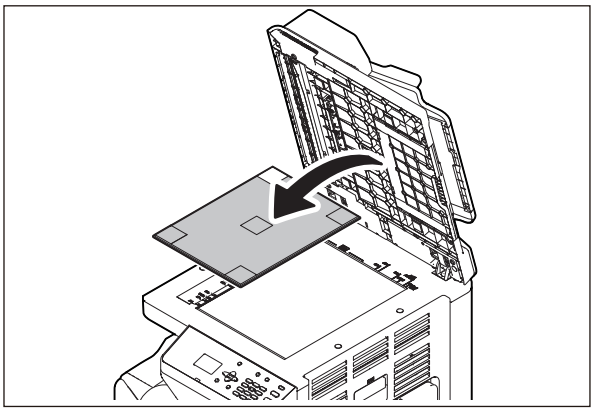


Fig. 4-398

Notes:

When installing the platen sheet, set the white Velcro [1] in the position shown in the diagram, close the RADF, and install it.

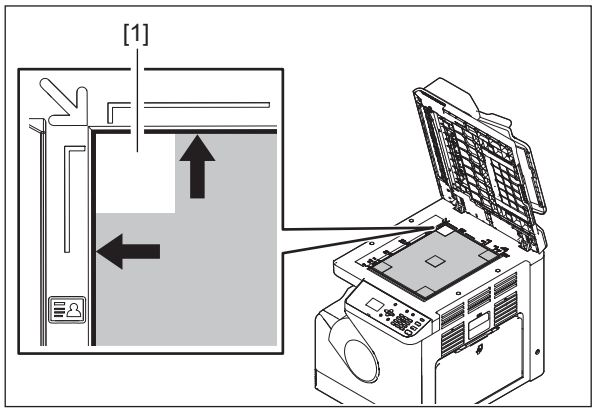


Fig. 4-399

(3) Remove 2 screws and 2 bushings [1], 2 springs [2] and remove the exit roller [3].

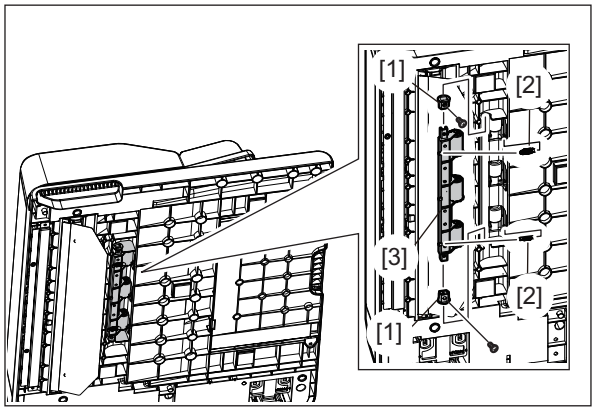


Fig. 4-400

[J] Front read roller

(1) Open the RADF.

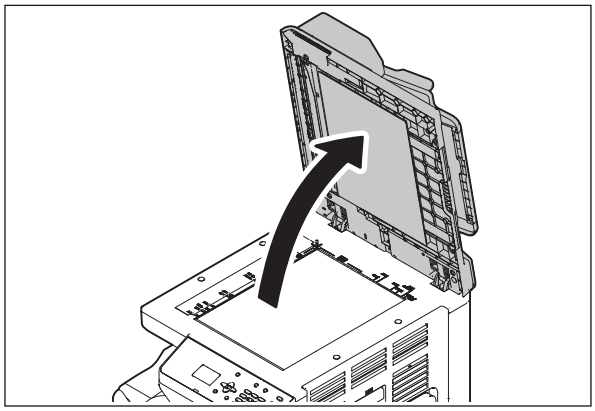


Fig. 4-401

(2) Remove 4 screws and the Plate [1], and remove the front read roller [2].

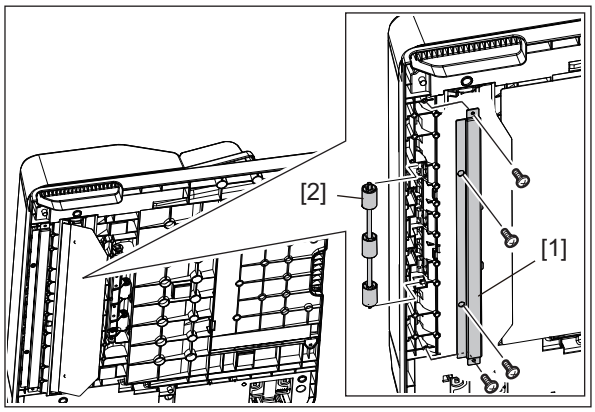


Fig. 4-402

4.11.4 Motor

[A] Original feed motor (M8)

(1) Remove the rear cover.
(P. 4-134 "[C] Rear cover")
(2) Remove 1 connector [1] and 2 screws and remove the original feed motor (M8) [2].

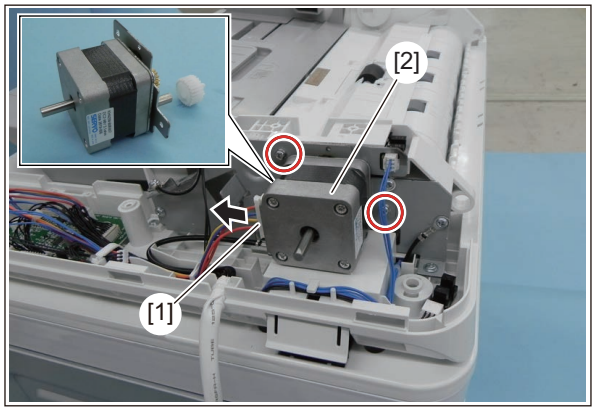


Fig. 4-403

4.11.5 Solenoid

[A] Gate solenoid (SOL1)

(1) Remove the paper feed/exit unit.
(P. 4-136 "[B] Paper feed/exit unit")
(2) Peel off the film covering the RADF board [1] and pull out 1 connector [2].

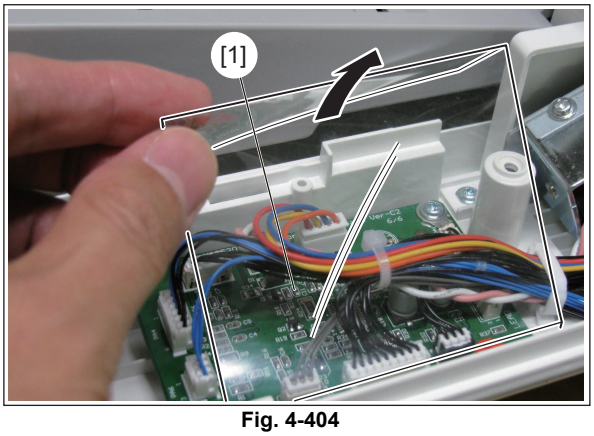


Fig. 4-404

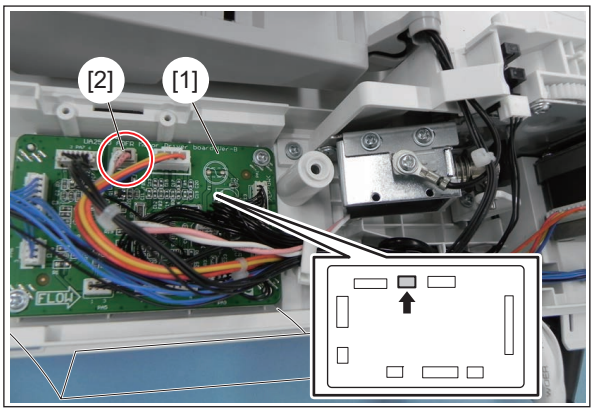


Fig. 4-405

(3) Remove the 2 screws and then remove the solenoid.

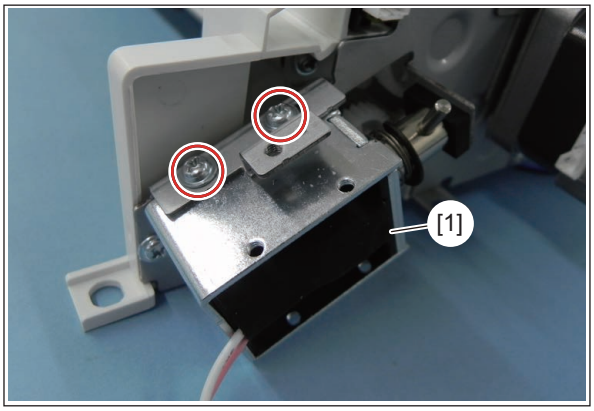


Fig. 4-406

Notes:

When you attach a solenoid, attach the pin [2] of a solenoid to the hole [3] of an arm.

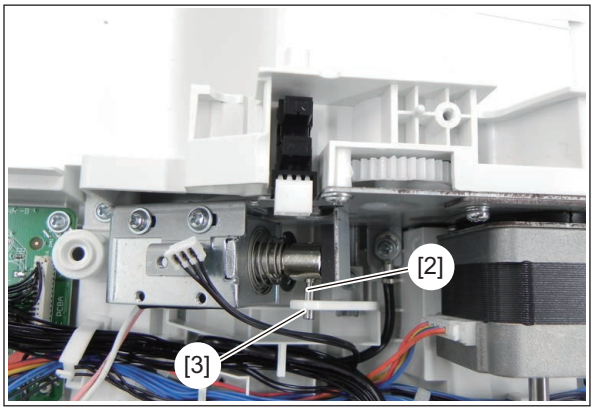


Fig. 4-407

4.11.6 Sensor/switch

[A] Original tray length sensor (S8)

(1) Remove the original tray.
(📖 P. 4-134 "[D] Original tray")
(2) Open the extender tray [1].

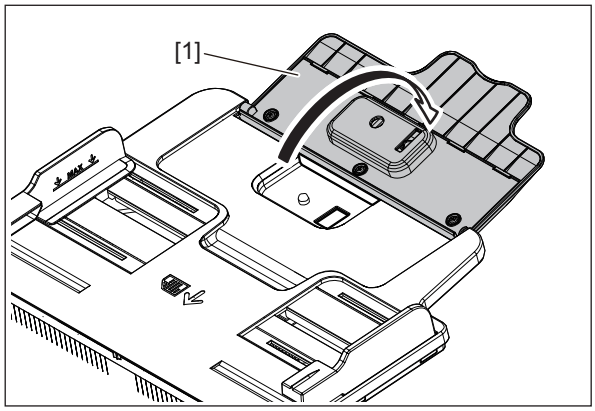


Fig. 4-408

(3) Remove the 3 screws and cover [2].

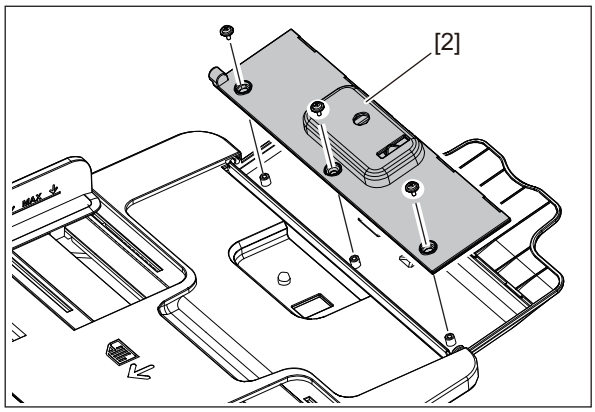


Fig. 4-409

(4) Remove 1 connector [3]. Remove the 3 hooks and remove the original tray length sensor (S8) [4].

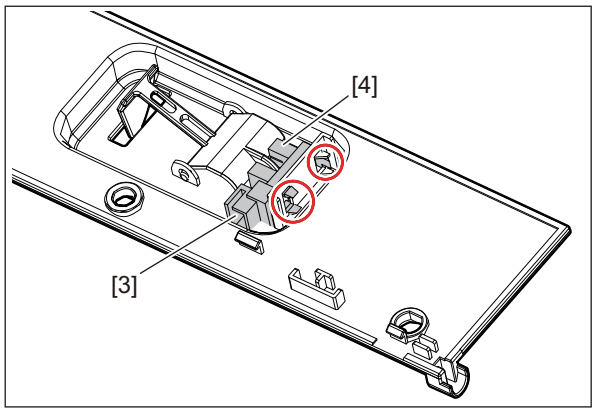


Fig. 4-410

[B] Original empty sensor (S9)

(1) Remove the rear cover.
(📖 P. 4-134 "[C] Rear cover")
(2) Unplug 1 connector [1]. Remove the 2 hooks and remove the original empty sensor (S9) [2].

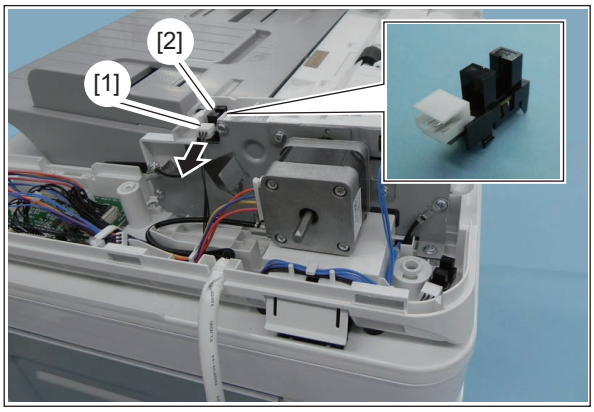


Fig. 4-411

[C] Jam access cover sensor (S10)

(1) Remove the paper feed roller unit.
(📖 P. 4-137 "[C] Paper feed roller unit")
(2) Remove the original feed motor.
(📖 P. 4-144 "[A] Original feed motor (M8)")
(3) Remove 6 screws and remove the bracket [1].

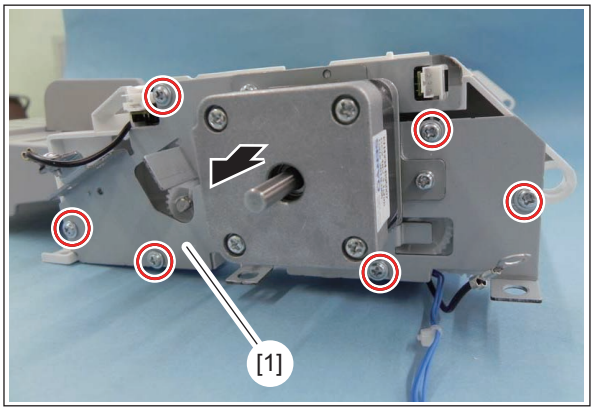


Fig. 4-412

(4) Remove the jam access cover sensor (S10) [2].

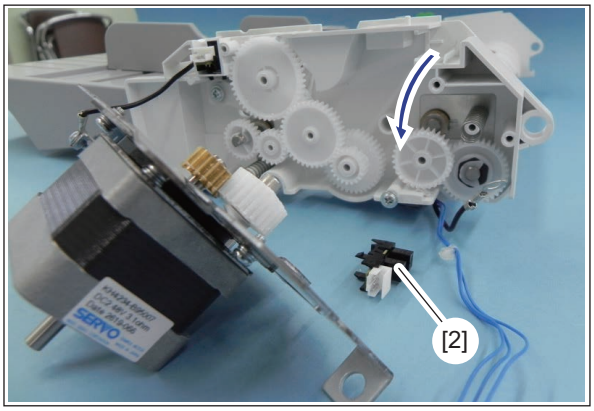


Fig. 4-413

[D] Original read sensor (S11)

(1) Remove the paper feed roller unit.
(📖 P. 4-137 "[C] Paper feed roller unit")
(2) Unplug 1 connector [1]. Remove the 2 hooks and remove the original read sensor (S11) [2].

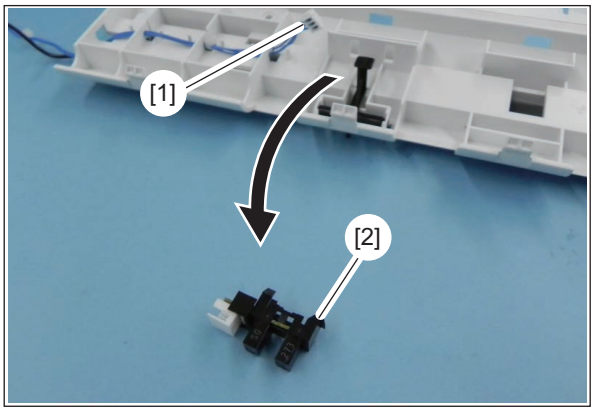


Fig. 4-414

[E] RADF opening/closing sensor (S12)

(1) Remove the rear cover.
(📖 P. 4-134 "[C] Rear cover")
(2) Remove 1 screw and remove the actuator [1].

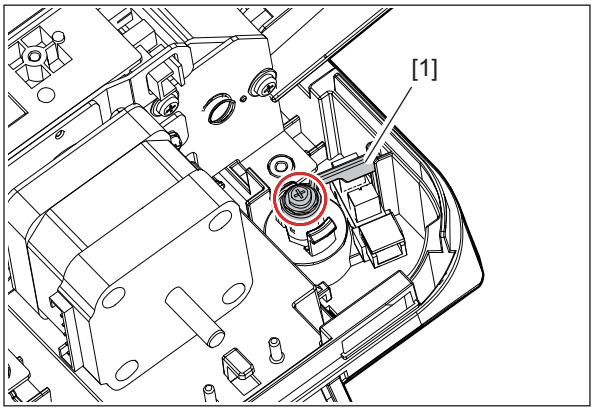


Fig. 4-415

(3) Unplug 1 connector [2]. Remove the 3 hooks and remove the RADF opening/closing sensor (S12) [3].

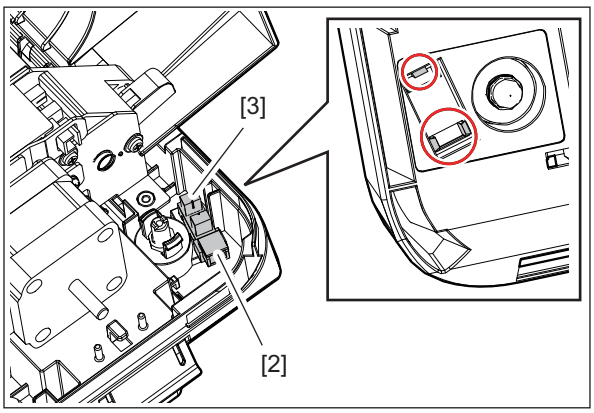


Fig. 4-416

4.11.7 PC board

[A] RADF control PC board (RADF board)

(1) Remove the rear cover.
(📖 P. 4-134 "[C] Rear cover")

(2) Peel off the film [1] covering the RADF control board [2] and pull out 8 connectors.

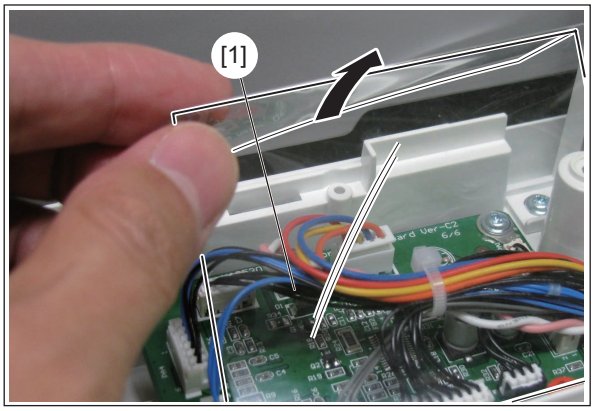


Fig. 4-417

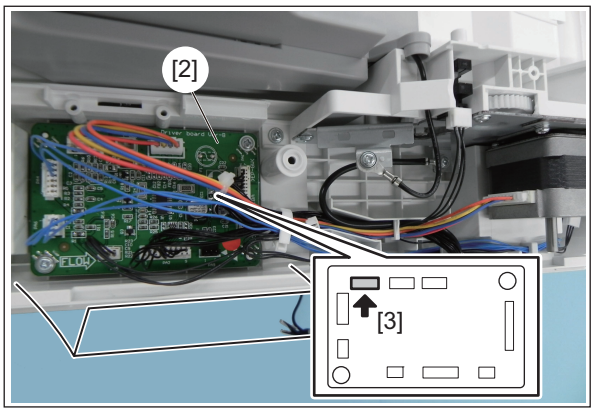


Fig. 4-418

(3) Remove the 2 screws and then remove the RADF control PC board.

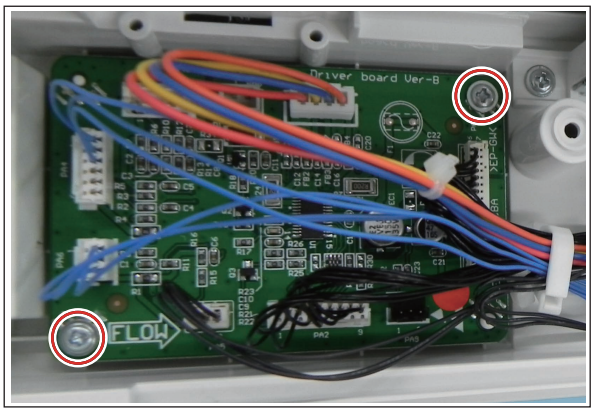


Fig. 4-419

4.12 Automatic duplexing unit (ADU) <25H/25F, 28M/28F only>

4.12.1 Automatic duplexing unit (ADU)

(1) Turn off the main power switch and unplug the power cable from the outlet.
(2) Open the right cover.
(3) Unplug 1 connector [1] of the ADU.

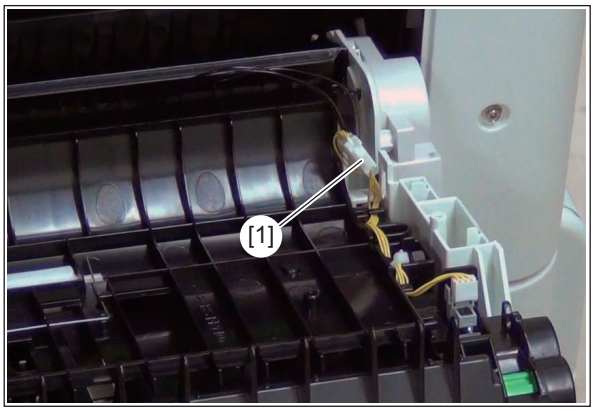


Fig. 4-420

(4) Remove 1 screw.
When attaching the earth, run the earth wire around [2] as shown in the figure.

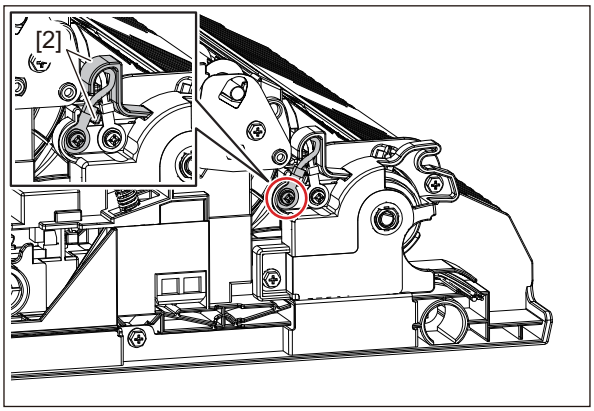


Fig. 4-421

(5) Remove 2 screws and remove the ADU [3].

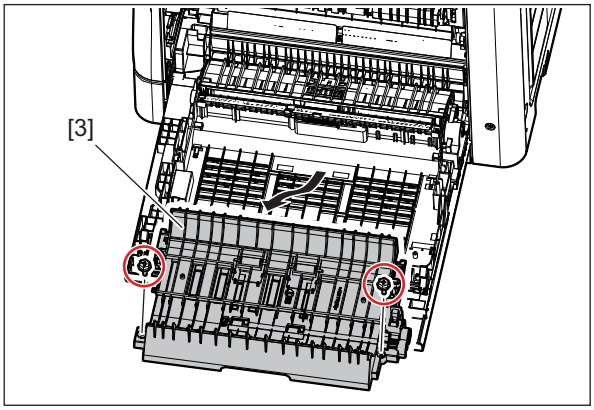


Fig. 4-422

4.12.2 ADU sensor (S7)

(1) Remove the ADU.
🕮 P. 4-150 "4.12.1 Automatic duplexing unit (ADU)"
(2) Unplug 1 connector and release 3 latches and remove the ADU sensor (S7) [1].

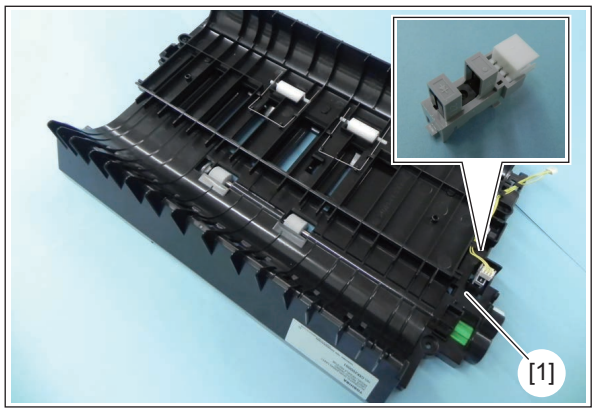


Fig. 4-423

4.12.3 Fuser guide unit

(1) Remove 1 screw and remove the “fuser guide unit” [1] that is attached to the fuser.

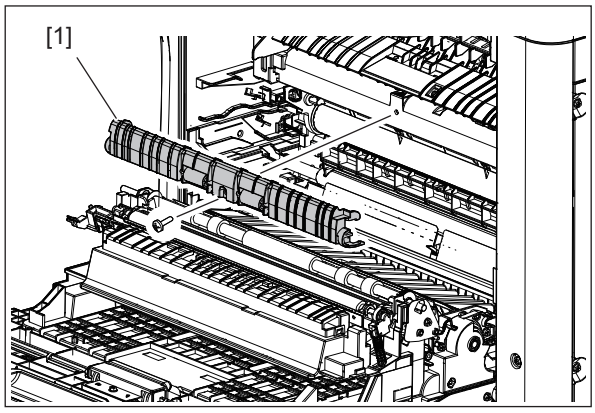


Fig. 4-424

4.12.4 Exit motor (M6) <25S/25H/25F>

(1) Remove 1 screw and remove the connector cover [1].

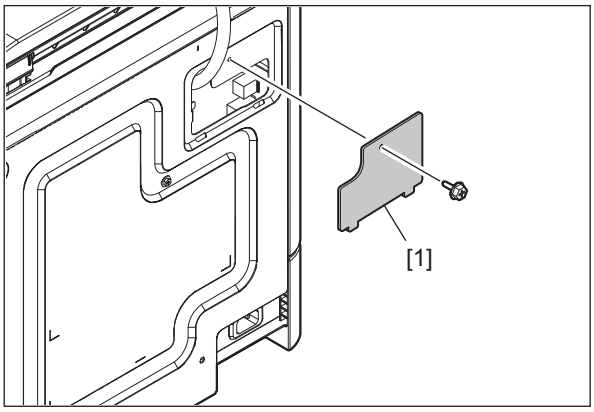


Fig. 4-425

(2) Remove 3 screws and remove the rear cover [2].

Notes:

When attaching the rear cover, be sure to insert the two hooks on its right side before tightening the screws.

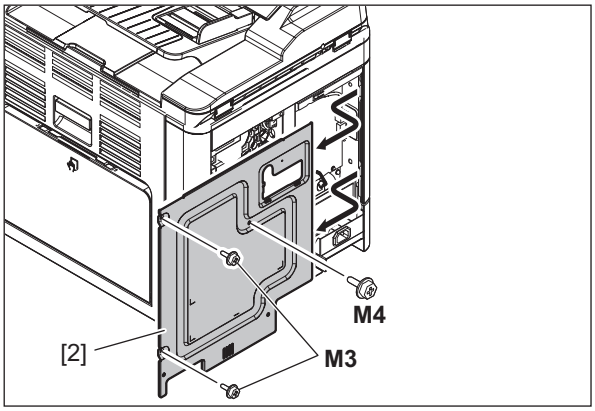


Fig. 4-426

(3) Disconnect the ground wire [3] and the 2 connectors [4].

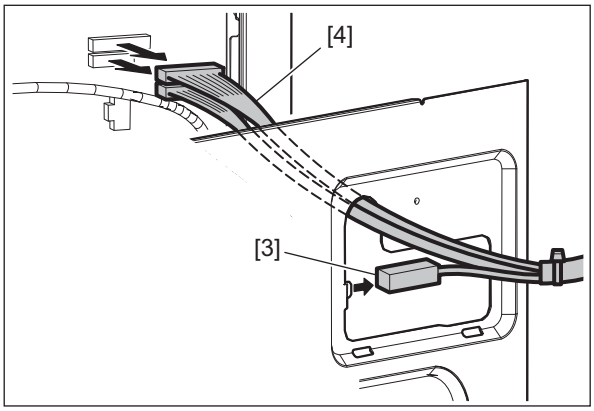


Fig. 4-427

(4) Disconnect 1 connector [3], remove 4 screws and take off the exit motor bracket [4].

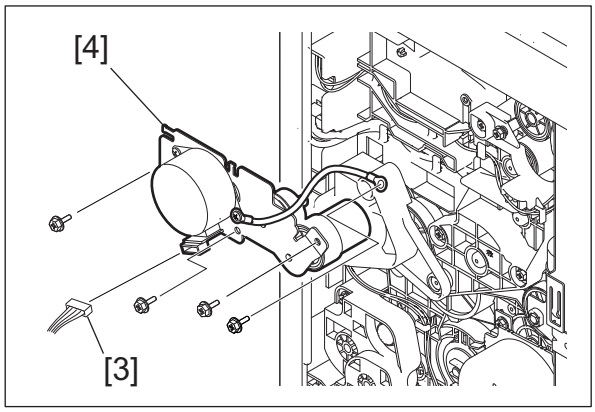


Fig. 4-428

(5) Remove 2 screws and take off the exit motor (M6) [5].

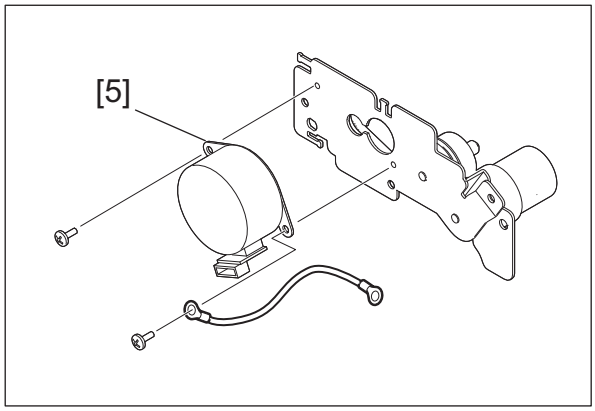


Fig. 4-429

4.12.5 Exit motor (M6) <28A/28M/28F>

(1) Take off the rear cover.
📖 P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"
(2) Disconnect 1 connector [1], remove 4 screws and take off the exit motor bracket [2].

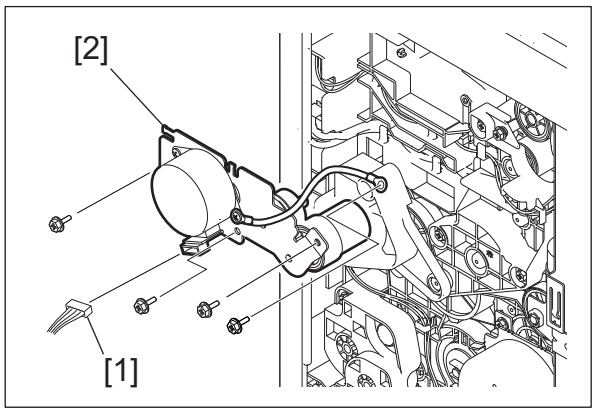


Fig. 4-430

(3) Remove 2 screws and take off the exit motor (M6) [3].

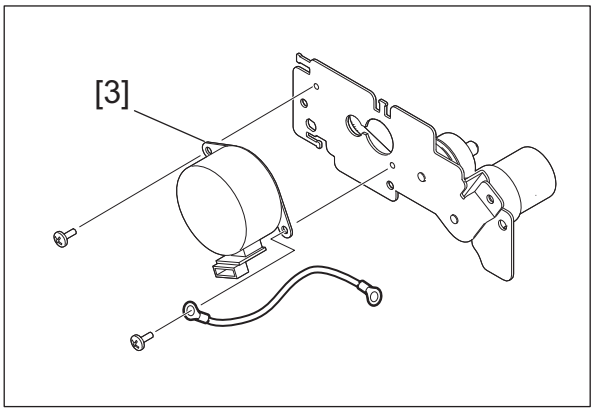


Fig. 4-431

4.12.6 ADU clutch (CLT4)

(1) Remove 1 connector [1] and 2 screws and then remove the “ADU clutch (CLT4)” [2].

Notes:
Be sure the bush is securely in the hole during installation.

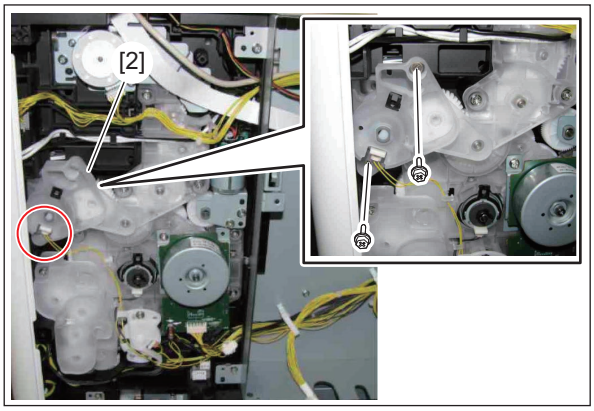


Fig. 4-432

4.12.7 ADU fan duct unit

(1) Remove the inner tray.
📖 P. 4-2 "4.1.4 Inner tray"
(2) Remove 1 connector [1] and remove the ADU fan duct unit [2].

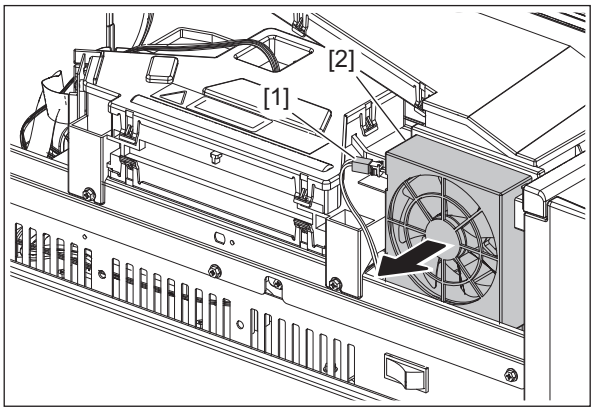


Fig. 4-433

4.12.8 ADU lower transport roller

(1) Remove the automatic duplexing unit (ADU). P. 4-150 "4.12.1 Automatic duplexing unit (ADU)"
(2) Remove 2 E rings [1], 1 pulleys [2], and 1 pins [3].

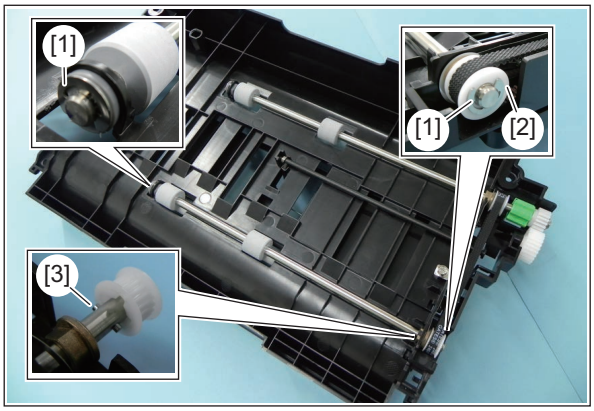


Fig. 4-434

(3) 2 bushings [5] and then remove the ADU lower transport roller [6].

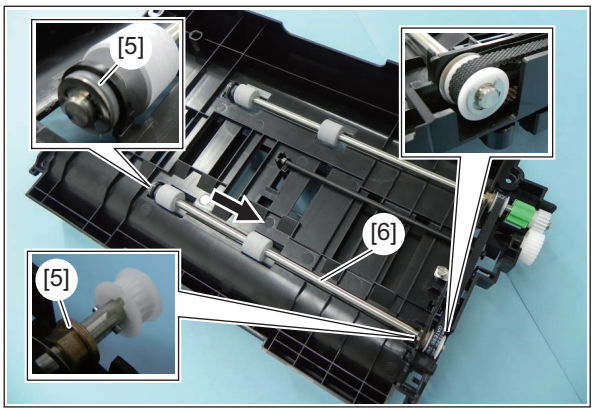


Fig. 4-435

4.12.9 ADU upper transport roller

(1) Remove the automatic duplexing unit (ADU). 🕮 P. 4-150 "4.12.1 Automatic duplexing unit (ADU)"
(2) Remove the ADU lower transport roller. 🕮 P. 4-155 "4.12.8 ADU lower transport roller"
(3) Remove 4 E rings [1], 2 gears [2], 2 pins [3], 2 pulleys [4], 2 bushings [5], 1 timing belt [6], and the earth board [7], and then remove the transport upper roller [8].

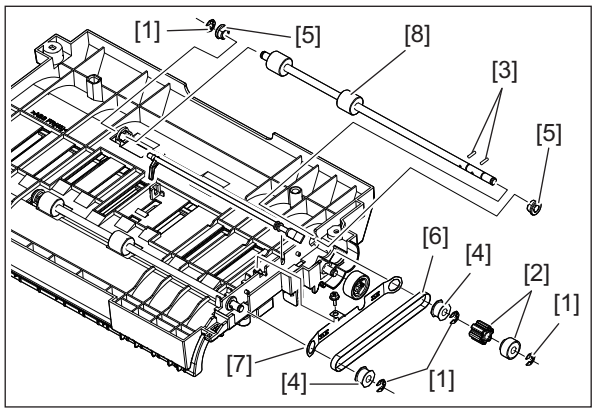


Fig. 4-436

Notes:
Be careful of the orientation of the gears [9] when assembling them.

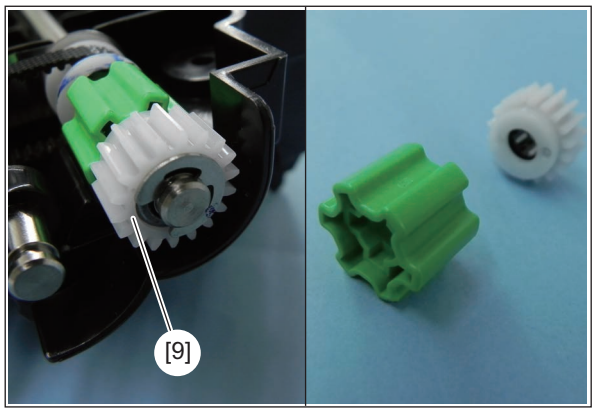


Fig. 4-437

4.12.10 ADU transport roller

(1) Remove the automatic duplexing unit (ADU). 🕮 P. 4-150 "4.12.1 Automatic duplexing unit (ADU)"
(2) Remove 2 springs [1] and then remove 2 ADU transport rollers [2].

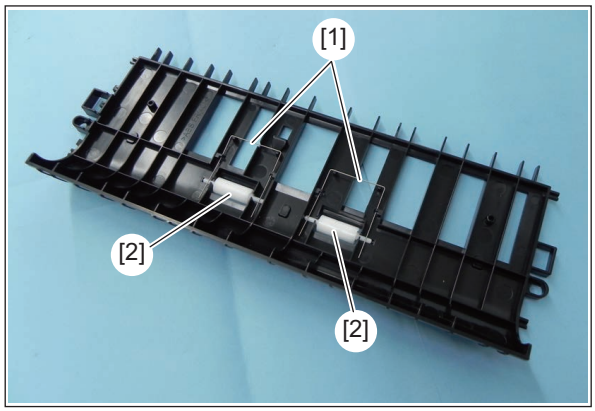


Fig. 4-438

4.13 FAX board <25F only>

4.13.1 FAX board

(1) Remove the modular cord.

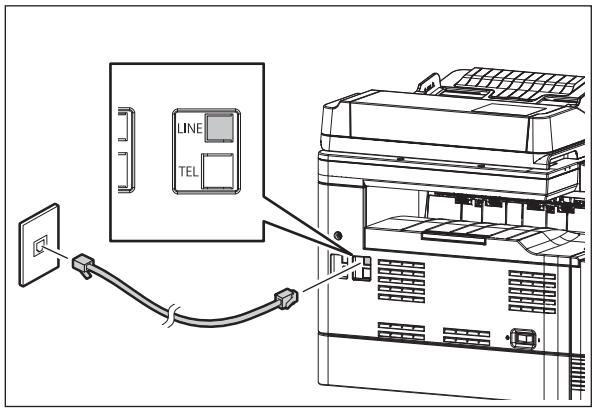


Fig. 4-439

(2) Remove the screw and then remove the connector cover [1].

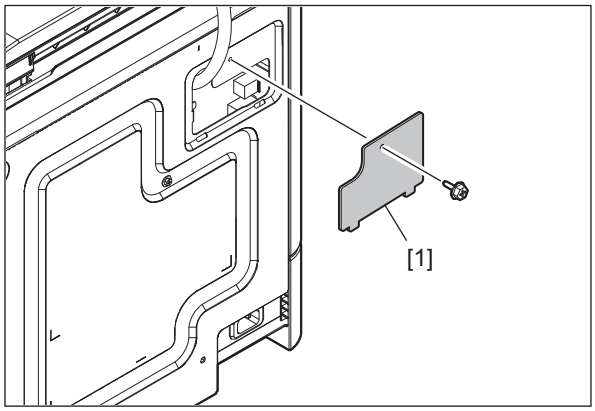


Fig. 4-440

(3) Remove the screws and then remove the rear cover [2].

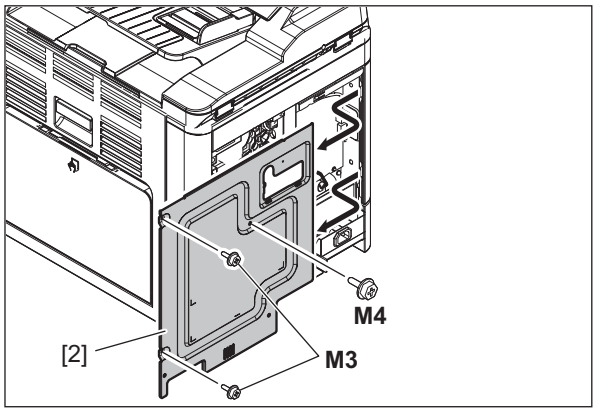


Fig. 4-441

(4) Remove the Faston terminal [3] and [4].

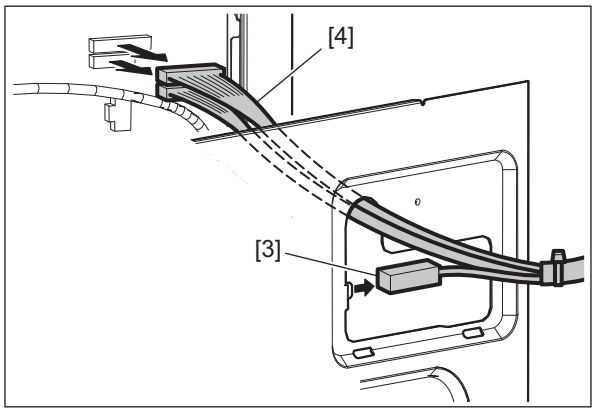


Fig. 4-442

(5) Remove the screws and then remove the cover [5].

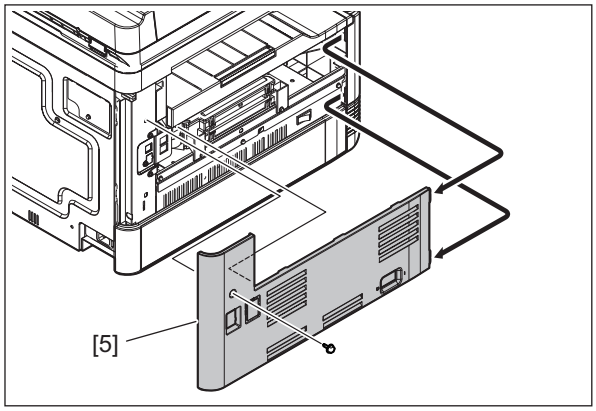


Fig. 4-443

(6) Remove the inner tray [6].
Lift (A) as shown in the figure and remove the hooked part then remove it.

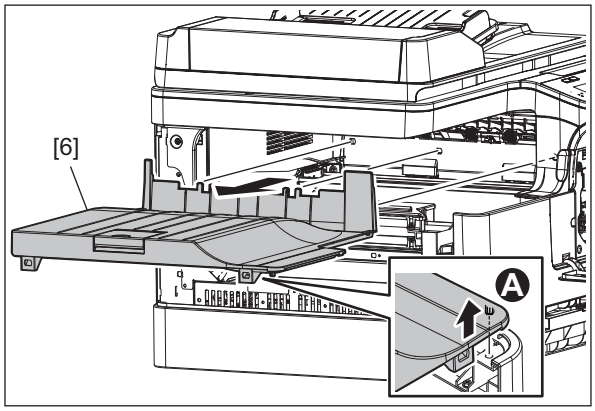


Fig. 4-444

(7) Remove the cable.

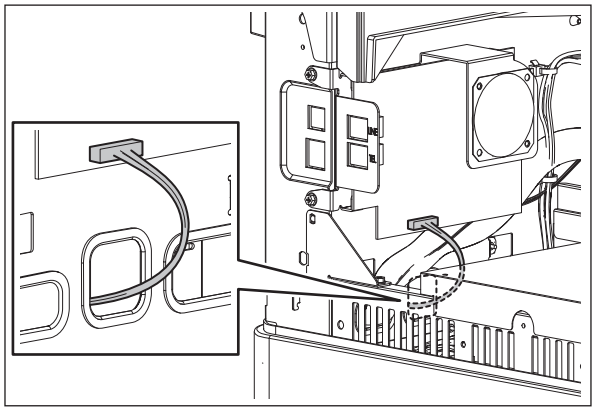


Fig. 4-445

(8) Remove the screws and then remove the FAX board [7].

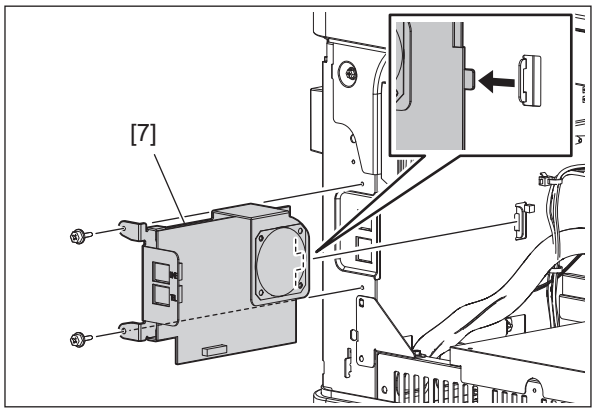


Fig. 4-446

Notes:

As shown in the figure, install the harness along the right side so that the harness [8] is not pinched by the circuit board when you install the FAX board [7].

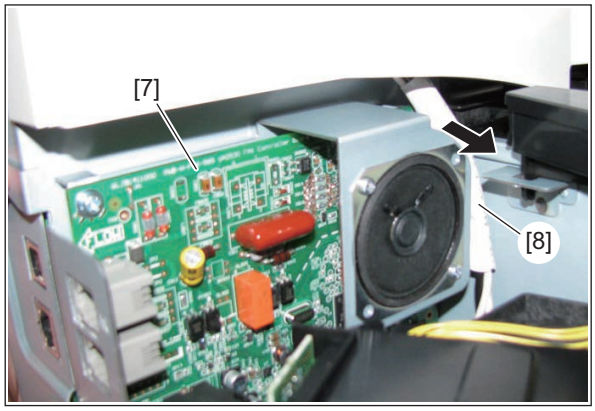


Fig. 4-447

4.13.2 Lithium battery (FAX board)

(1) Take off the inner tray.
📖 P. 4-2 "4.1.4 Inner tray"

(2) Remove the lithium battery [1].

Notes:

1. There is a danger of explosion if the battery is replaced with the incorrect type. Replace it only with the same type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
2. To insert a new battery, slide it into the socket so that the positive (+) side of the battery faces up.

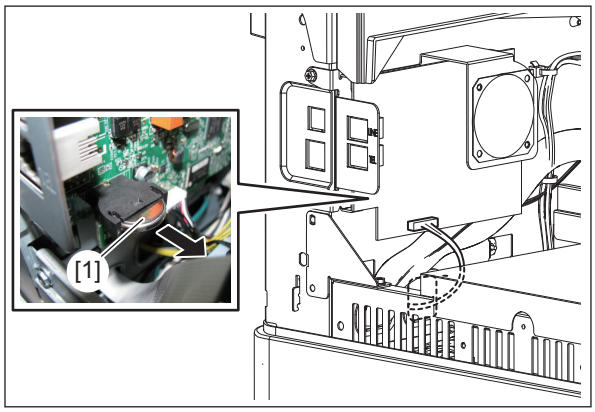


Fig. 4-448

4.14 FAX board <28F only>

4.14.1 FAX board

(1) Remove the modular cord.

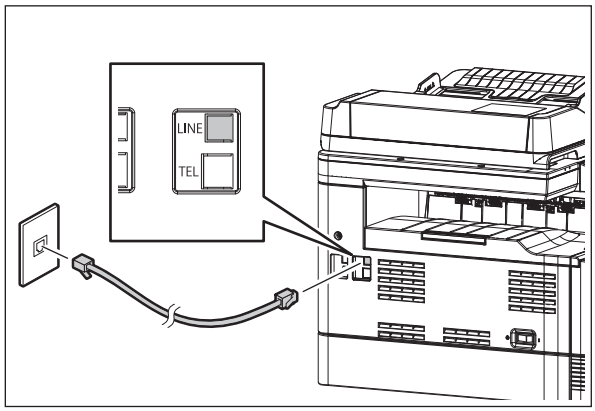


Fig. 4-449

(2) Remove 1 screw and take off the connector cover [1].

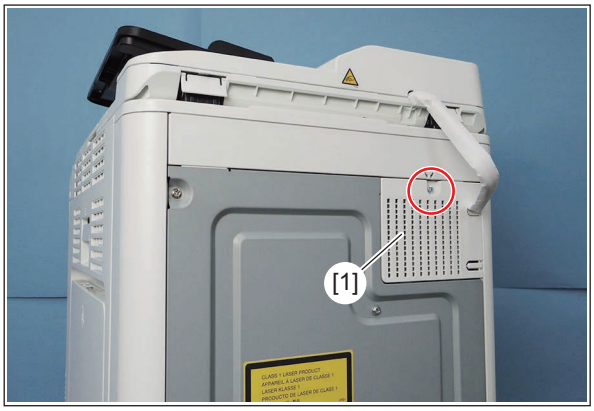


Fig. 4-450

(3) Disconnect 1 connector.

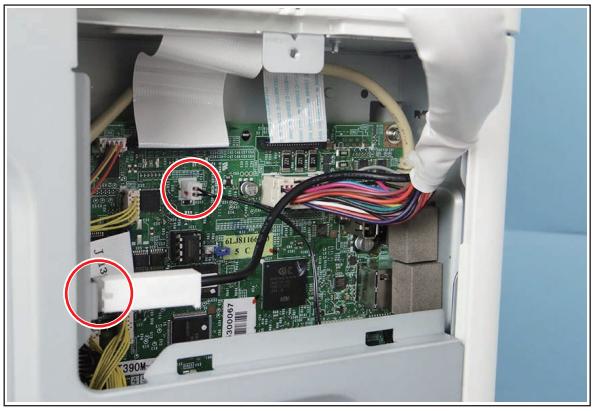


Fig. 4-451

(4) Remove 3 screws and take off the rear cover [2].

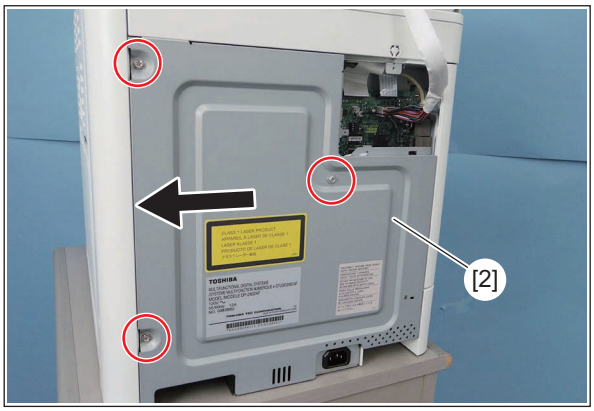


Fig. 4-452

(5) Remove 2 screws and take off the left cover [3].

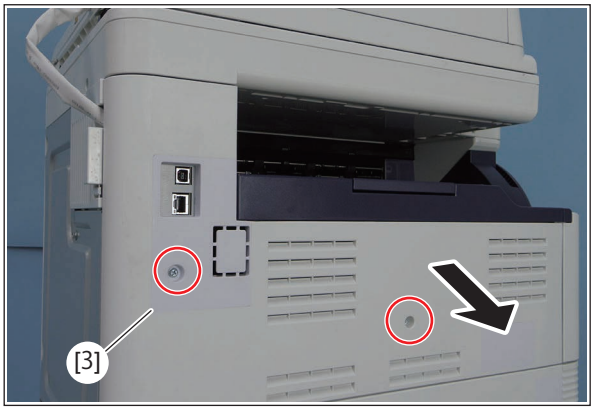


Fig. 4-453

(6) Remove the inner tray [4].
Lift (A) as shown in the figure and remove the hooked part then remove it.

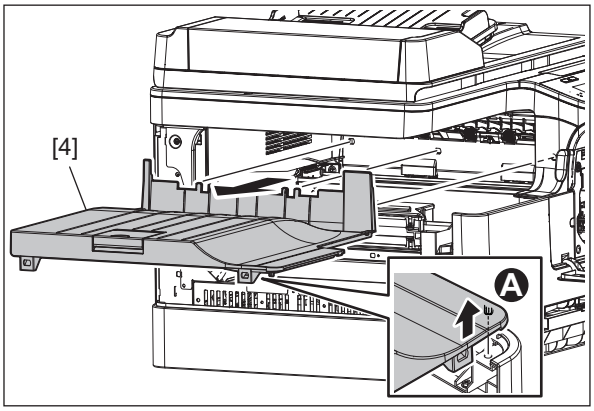


Fig. 4-454

(7) Remove the tray rear cover [5].

Fig. 4-455

(8) Remove 1 screw and then remove the FAX board [6] .

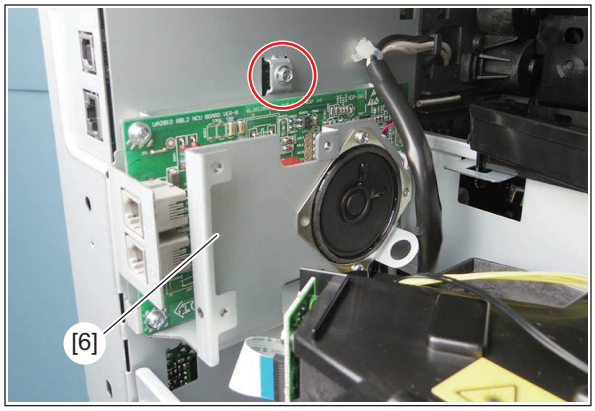


Fig. 4-456

Notes:

1. When removing the FAX board, disconnect 1 connector [7].

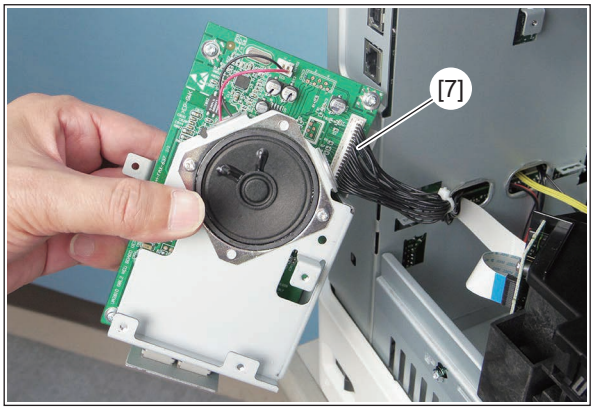


Fig. 4-457

2. When installing FAX board, be sure to insert 2 hooks on its lower side into the frames [8].

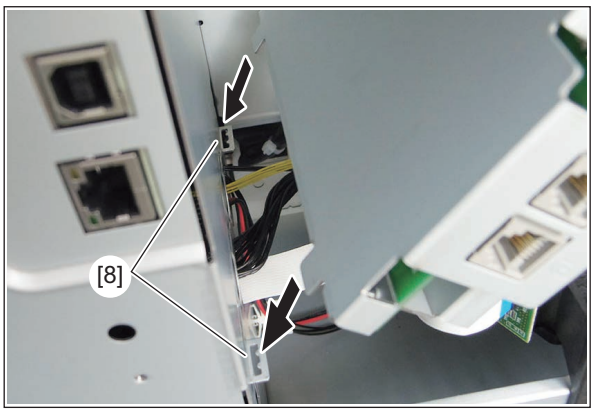


Fig. 4-458

3. As shown in the figure, install the harness along the right side so that the harness [9] is not pinched by the circuit board when you install the FAX board [10].

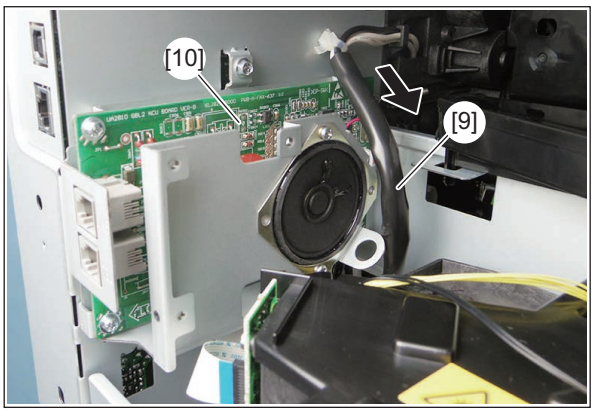


Fig. 4-459

5. SELF-DIAGNOSIS MODES

5.1 Overview

[A] Starting each mode

To enter the desired mode, turn the power ON while pressing two digital keys designated to each mode (e.g. [0] and [5]) simultaneously. Press the 2 key until the text in the “Display” line of the following table appears.

On the authentication screen displayed after starting up each mode, enter the service password, and then press [OK]. The password is not set by default.

[B] Exiting from each mode

Turn off the main switch to exit the self diagnosis mode.

[C] List of modes

Mode	For start	Contents	For exit	Display	Model					
					25S	25H	25F	28A	28M	28F
Control panel check mode	[0] + [1] + [POWER]	All LEDs on the control panel are lit, and all the LCD pixels blink.	[POWER] OFF/ON	All the LCD pixels blink.	Y	Y	Y	Y	Y	Y
Test mode	[0] + [3] + [POWER]	Checks the status of input/ output signals.	[POWER] OFF/ON	TEST_MODE_ C MC=	Y	Y	Y	Y	Y	Y
Test print mode	[0] + [4] + [POWER]	Outputs the test patterns.	[POWER] OFF/ON	TEST_MODE_ P ENTER THE CODE DRAWER PAPER TYPE	Y	Y	Y	Y	Y	Y
Adjustme nt mode	[0] + [5] + [POWER]	Adjusts various items.	[POWER] OFF/ON	TEST_MODE_ A MC=	Y	Y	Y	Y	Y	Y
Setting mode	[0] + [8] + [POWER]	Sets various items.	[POWER] OFF/ON	TEST_MODE_ D MC=	Y	Y	Y	Y	Y	Y
Assist mode	[3] + [CLEAR] + [POWER]	When replacing the MAIN circuit board, the assistance mode can be used to configure memory clear.	[POWER] OFF/ON	FIWMWARE ASSIST MODE CLEAR SRAM ERASE SRAM SECURELY	Y	Y	Y	Y	Y	Y
List print mode	[9] + [START] + [POWER]	Prints various lists.	[POWER] OFF/ON	TEST_MODE_ L ENTER THE CODE DRAWER	Y	Y	Y	Y	Y	Y
PM support mode	[6] + [START] + [POWER]	Clears each counter.	[POWER] OFF/ON	PM SUPPORT MODE ENTER THE CODE	Y	Y	Y	Y	Y	Y

Mode	For start	Contents	For exit	Display	Model					
					25S	25H	25F	28A	28M	28F
Flash memory clear mode	[6] + [CLEAR] + [POWER]	Mode for clearing the flash memory and setting the MFP Serial No.	[POWER] OFF/ON	SRAM CLEAR MODE SET SERIAL NUMBER CLEAR SRAM ENGINE SPEED INIT.	Y	Y	Y	Y	Y	Y
Flash memory backup/ restore mode	[5] + [9] + [POWER]	Backup and restore the flash memory data to USB device.	[POWER] OFF/ON	SRAM COPY MODE BACKUP SRAM DATA RESTORE SRAM DATA	Y	Y	Y	Y	Y	Y
Firmware update mode	[4] + [9] + [POWER]	Performs firmware update with USB device.	[POWER] OFF/ON	FW Update Mode SYSTEM FW ENGINE FW ALL	Y	Y	Y	Y	Y	Y
Password reset mode	[4] + [8] + [9] + [POWER]	Resets the administrator password and service password.	[POWER] OFF/ON	PASSWORD RESET MODE RESET PASSWORD= OK	N	Y	Y	N	Y	Y
FAX Function Mode	[1]+[3]+[POWER]	Setting functions of the various items	[POWER] OFF/ON	TEST_MODE F MC=	N	N	Y	N	N	Y
FAX clear mode	[1] + [*] + [POWER]	Initialization of the various memory areas (user registration area, system setting area, image data area)	[POWER] OFF/ON	TEST_MODE CL MC=	N	N	Y	N	N	Y
Job clear mode	[1] + [7] + [POWER]	Clear all the jobs stored in MFP	[POWER] OFF/ON	No special display. After clearing, normal screen will be displayed.	N	N	Y	N	N	Y
BIOS mode	[OK] + [POWER]	Starts the equipment with the BIOS mode	[POWER] OFF/ON	*BIOS MODE* 20XX/XX/XX V0.XX	Y	Y	Y	Y	Y	Y
EPU mode	[FC] + [START] + [POWER]	Performs a series of operations from the auto toner initial adjustment, supplying of the developer material to the automatic gamma adjustment	[POWER] OFF/ON	EPU MODE OPEN FRONT COVER REMOVE DEV. CARTRIDGE	N	N	N	Y	Y	Y

[D] State transition diagram of self-diagnosis modes

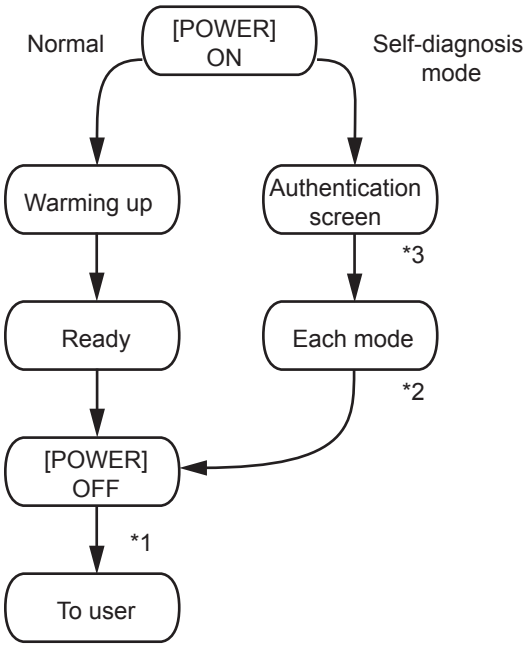


Fig.5-1

*1. Turn OFF the power after using the self-diagnosis modes, and leave the equipment to the user.
*2. Mode shown in the table “[C] List of modes”
*3. If a password has been set to log into the following self-diagnostic modes in 08-8919, enter it after the startup.
Test mode (03), Test print mode (04), Adjustment mode (05), Setting mode (08), Fax clearing mode (*1), Fax function mode (13), Assist mode (3C), Firmware update mode (49), Flash memory backup / restore mode (59), PM support mode (6S) and List print mode (9S)

[E] About each mode

- Control panel check mode (01)

  Operation procedure

  [0][1] [POWER] → (LCD blinking) → [START] → (Button check) → [POWER] OFF/ON (Exit)

  Notes:
  - The mode can be canceled by [POWER] OFF/ON.
  - **Button Check**
    Press the buttons to display the message on the control panel.

- Test mode (03)
  Refer to the following.
  📖 P. 5-6 "5.2 Input Check (Test Mode 03)"
  📖 P. 5-7 "5.3 Output Check (Test Mode 03)"

- Test print mode (04)
  Refer to the following.
  📖 P. 5-8 "5.4 Test Print Mode (Test Mode 04)"

- Adjustment mode (05)
  Refer to the following.
  📖 P. 5-9 "5.5 Operation Procedure in Adjustment Mode (05)"

- Setting mode (08)
  Refer to the following.
  📖 P. 5-12 "5.7 Operation Procedure in Setting Mode (08)"

- Assist mode (3C)
  Refer to the following.
  📖 P. 5-15 "5.8 Assist Mode (3C)"

- List print mode (9S)
  Refer to the following.
  📖 P. 5-17 "5.9 List Print Mode (9S)"

- Flash memory clear mode (6C)
  📖 P. 5-32 "5.10 Flash Memory Clear Mode (6C)".

- PM support mode (6S)
  Refer to the following.
  📖 P. 7-2 "7.2 PM Support Mode (6S)"

  Operation procedure

  [6][START] [POWER] → (Code) → [START] → [POWER] OFF/ON (Exit)
  [CANCEL]
  1: Auto-toner adjustment
  2: PM Support Screen
  (Operation started)

- Flash memory backup/restore mode (59)
  Refer to the following.
  📖 P. 5-34 "5.11 Flash Memory Backup/Restore Mode (59)"

- Firmware update mode (49)
  Refer to the following.
  📖 P. 11-1 "11. FIRMWARE UPDATING"

- Password reset mode (489)
  This mode resets the administrator password and service password.
  The user data is erased when resetting the passwords.

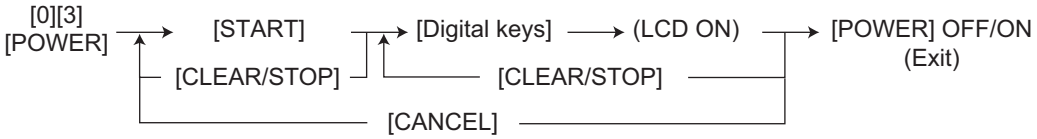
  Operation procedure

[4][8][9] + [POWER] → [OK] (Operation started) → [POWER] OFF/ON (Exit)

5.2 Input Check (Test Mode 03)

The status of each input signal can be checked by pressing the digital keys in the test mode (03).

Operation procedure



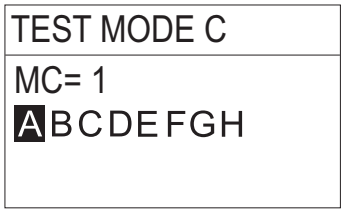


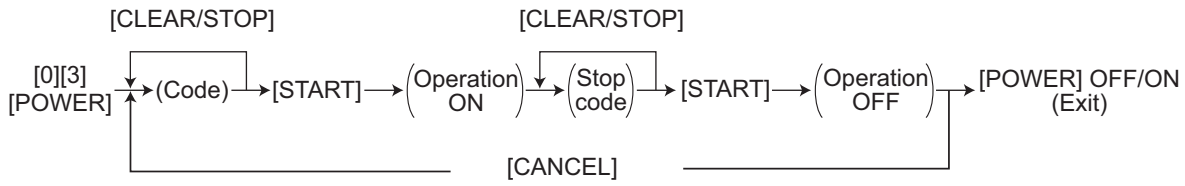
Fig.5-2 Example of display during input check

5.3 Output Check (Test Mode 03)

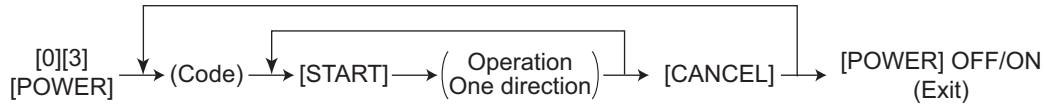
Status of the output signals can be checked by inputting in the following codes in the test mode 03.

Operation procedure

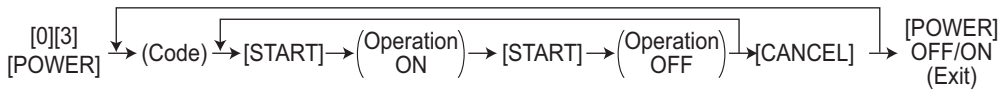
Procedure 1



Procedure 2



Procedure 3

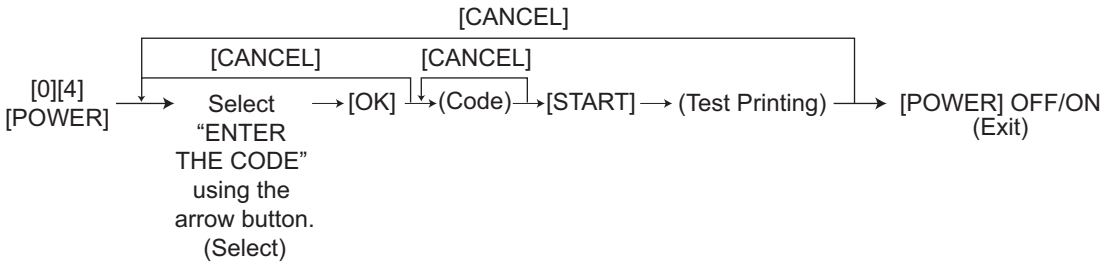


5

5.4 Test Print Mode (Test Mode 04)

The embedded test pattern can be printed out by keying in the following codes in the test print mode (04).

Operation procedure



Notes:

1. When an error occurs, it is indicated on the panel, but the recovery operation is not performed. Turn OFF the power and then back ON to clear the error.
2. During test printing, the [CLEAR/STOP] button is disabled when "Wait adding toner" is displayed.

Remarks:

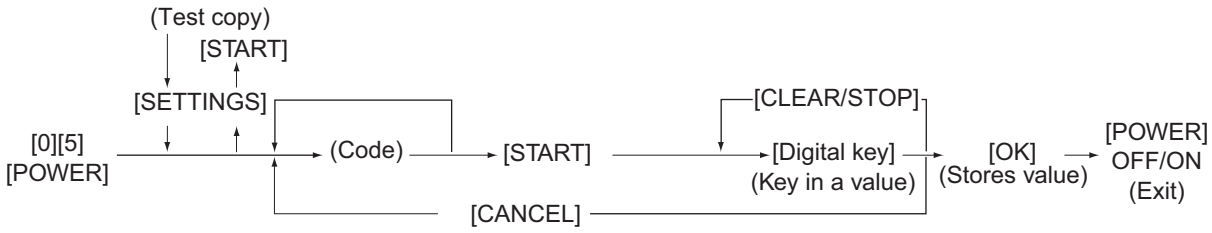
Select the paper type for test printing and a cassette.
<Procedure>
Example: Selecting the paper type

1. [0]+[4]+[POWER]
2. Use the [Arrow] button to select "PAPER TYPE" and then press [OK].
3. Use the [Arrow] button to select a paper type ("PLAIN" or "THICK") and then press [OK].

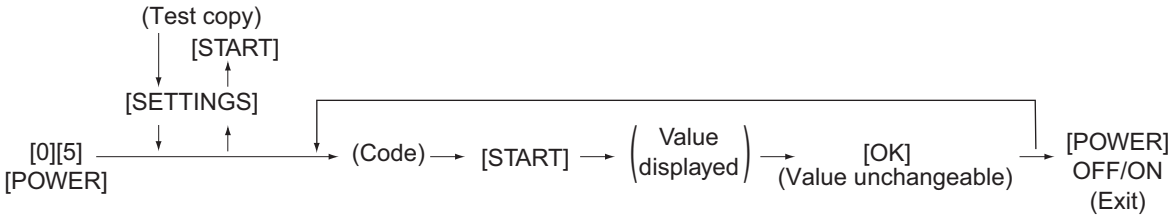
5.5 Operation Procedure in Adjustment Mode (05)

Operation procedure

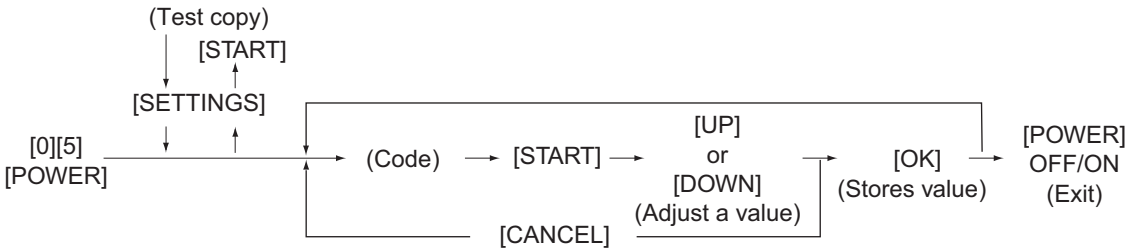
Procedure 1



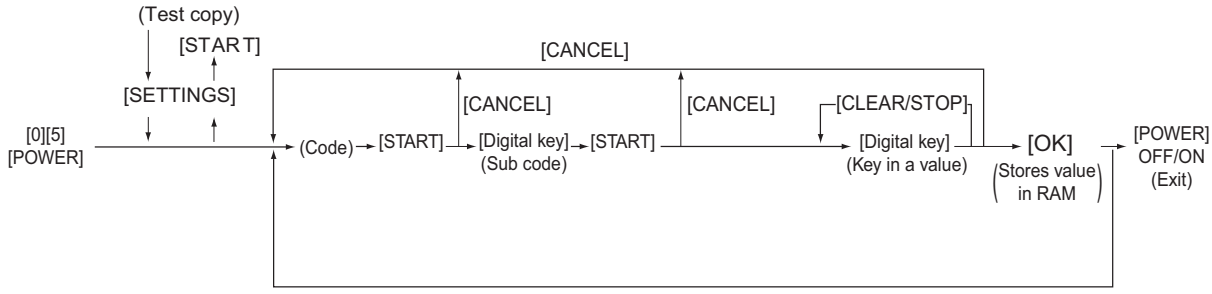
Procedure 2



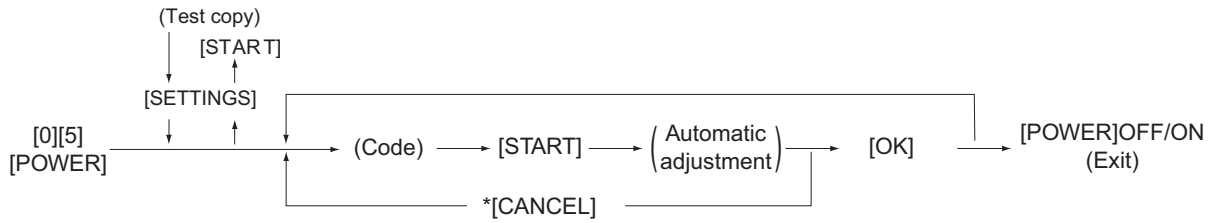
Procedure 3



Procedure 4

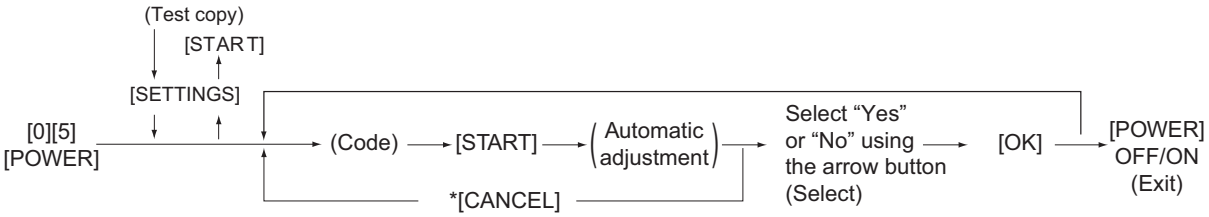


Procedure 6



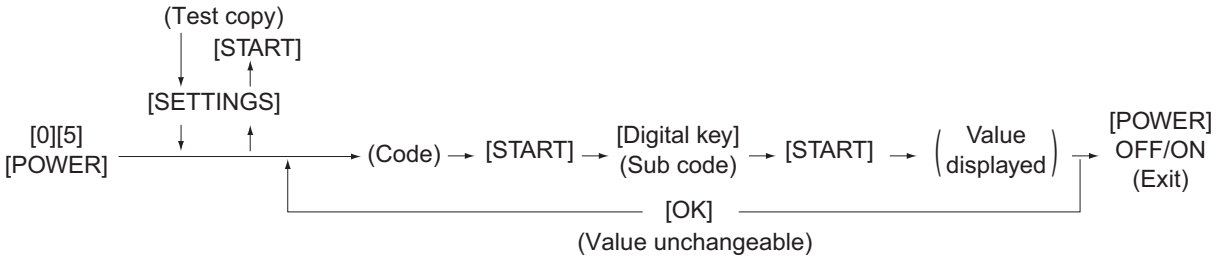
* When the automatic adjustment ends abnormally, error message is displayed. Return to “TEST MODE A” screen by pressing the [CANCEL] button.

Procedure 7

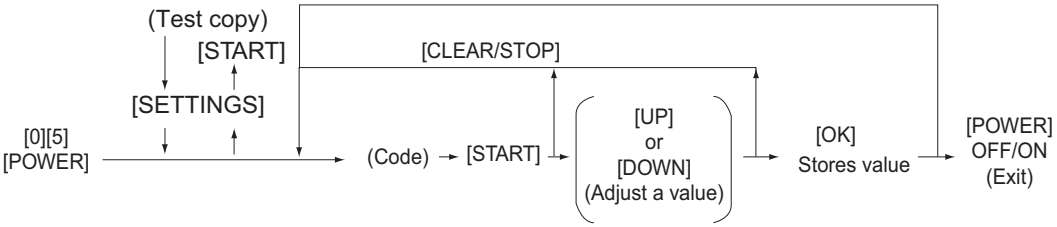


When the automatic adjustment ends abnormally, error message is displayed. Return to “TEST MODE A” screen by pressing the [CANCEL] button.

Procedure 10



Procedure 17



* The automatic adjustment starts when 2 minutes have passed after the [START] button is pressed.

Notes:

The fuser roller temperature control at the adjustment mode is different from that at the normal state.

Therefore, the problem of fusing efficiency may be occurred in the test copy at the adjustment mode. In that case, turn ON the power normally, leave the equipment for approx. 3 minutes after it has become ready state and then start up the adjustment mode again.

5.6 Test print pattern in Adjustment Mode (05)

The test print pattern is printed by inputting the following code in adjustment mode (05) and then pressing the [SETTINGS] button and then the [START] button.

Code	Types of test pattern	Remarks	Model					
			25S	25H	25F	28A	28M	28F
1	Grid pattern	Refer to 🕮 P. 6-8 "6.3.4 Printer related adjustment".	Y	Y	Y	Y	Y	Y
3	Grid pattern (Duplex printing)	Refer to 🕮 P. 6-8 "6.3.4 Printer related adjustment".	N	Y	Y	N	Y	Y
6	Copier gamma confirmation pattern	For confirming the reproduction of gradation.	Y	Y	Y	Y	Y	Y
10	Copier gamma adjustment pattern	Refer to 🕮 P. 6-21 "6.4.1 Automatic gamma adjustment".	Y	Y	Y	Y	Y	Y
20	Copier gamma adjustment pattern (Black; binary dithering)	For confirming the reproduction of gradation. (05-7167) Refer to 🕮 P. 6-21 "6.4.1 Automatic gamma adjustment".	Y	Y	Y	Y	Y	Y

Remarks:

Select DRAWER (DRAWER1/BYPASS) and then you can print.

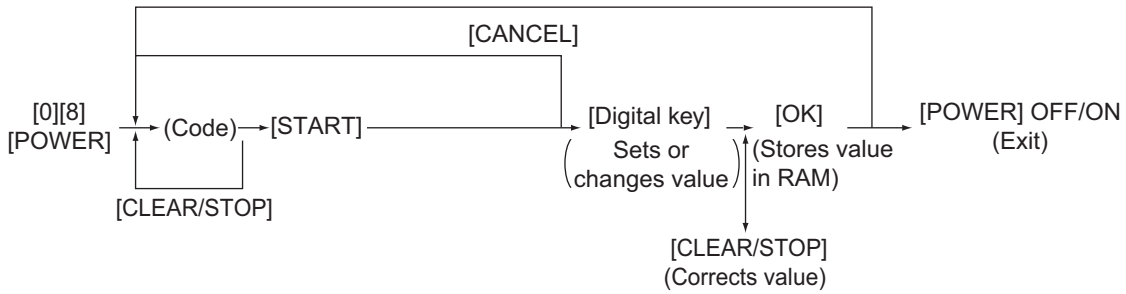
<Procedure>

1. [0]+[5]+[POWER].
2. Input the code.
3. Press [SETTINGS].
4. Use the [Arrow] buttons to select “Paper Source” and then press [START].

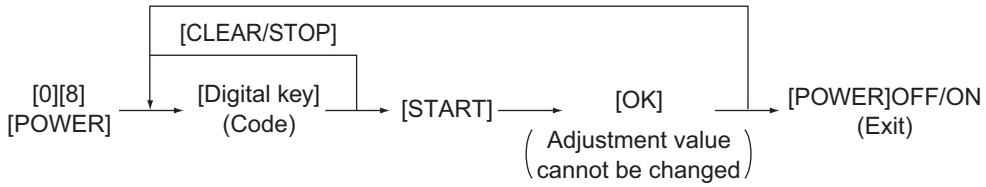
5.7 Operation Procedure in Setting Mode (08)

5.7.1 Operation procedure

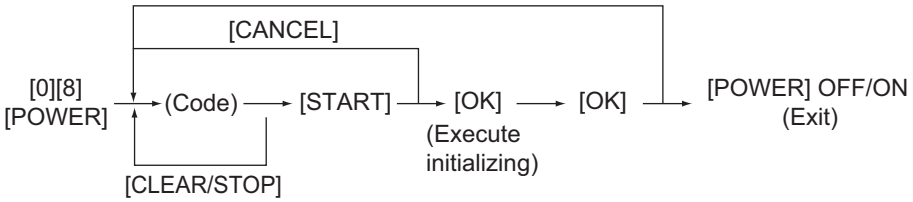
Procedure 1 and 12



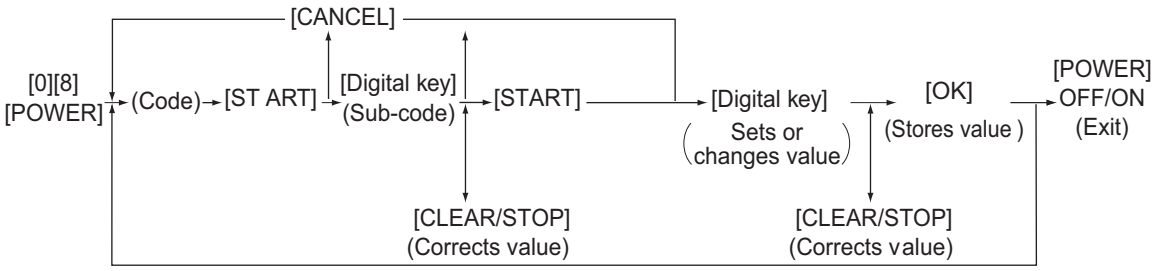
Procedure 2



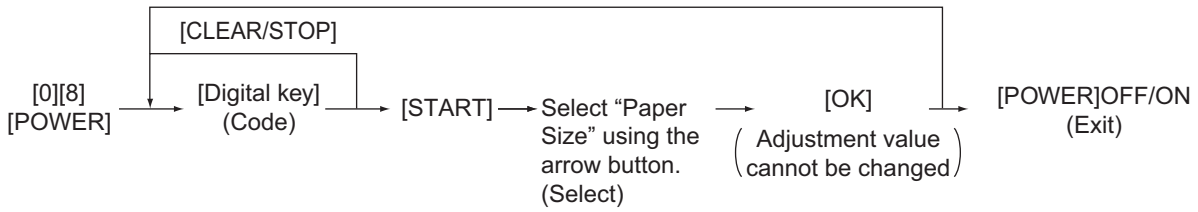
Procedure 3



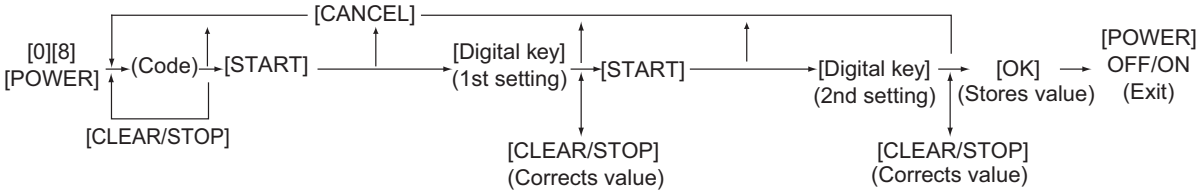
Procedure 4



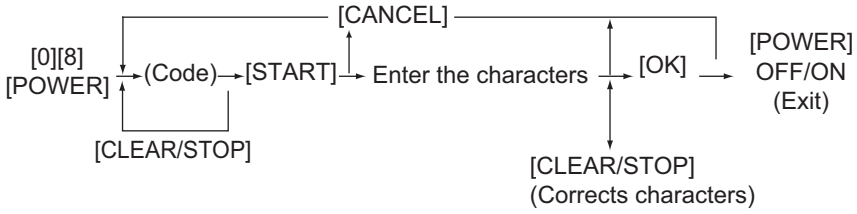
Procedure 9



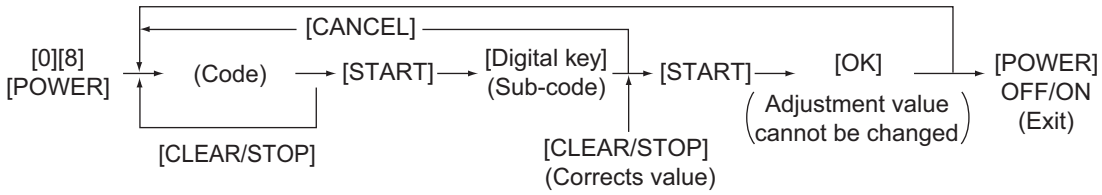
Procedure 10



Procedure 11



Procedure 14



5.7.2 Regarding the date setting for setting mode (08) <25S only>

The codes shown below are required to set the date that the events occur.

Code	Details	Procedure
6251	Photoconductive drum (date when it was replaced last time)	11
6259	Drum blade cleaner (K) (date when it was replaced last time)	
6273	Drum separation finger (date when it was replaced last time)	
6275	Charger grid (K) (date when it was replaced last time)	
6283	Charger (wire/needle) (K) (date when it was replaced last time)	
6299	Ozone filter (date when it was replaced last time)	
6301	Developer (K) (date when it was replaced last time)	
6315	Transfer (wire/belt/roller) (date when it was replaced last time)	
6347	Upper fuser roller (date when it was replaced last time)	
6351	Press roller (date when it was replaced last time)	
6369	Upper fuser roller separation finger (date when it was replaced last time)	
6383	P/U roller (ADF) (date when it was replaced last time)	
6385	Paper feed roller (ADF) (date when it was replaced last time)	
6387	Separation roller (ADF) (date when it was replaced last time)	
6399	Paper feed roller (1st CST) (date when it was replaced last time)	
6407	Separation roller (1st CST) (date when it was replaced last time)	
6417	Separation roller (SFB) (date when it was replaced last time)	
6425	Paper feed roller (SFB) (date when it was replaced last time)	
6437	Recovery blade (date when it was replaced last time)	
6471	FUSER ROLLER BUSH (date when it was replaced last time)	
7051	Latest date and time of updated calibration data (Monochrome PPC)	

5.8 Assist Mode (3C)

5.8.1 Functions

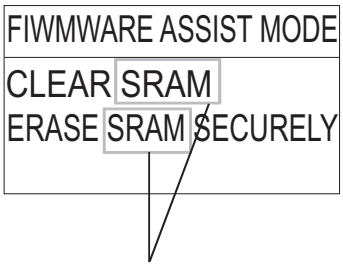
This equipment has the Assist Mode to enable the following functions.

(1) Memory data format (CLEAR SRAM)
When main memory is replaced with a new one, abnormal values may be written in the new Memory.
Memory data must be formatted with this function for such case.

Notes:
- This function is required only when a new main memory is installed.
- Do not perform this function in cases other than the installation of a new main memory because all data in the Memory will be deleted with this function.

(2) Memory securely erasing (ERASE SRAM SECURELY)
It overwrites all the used areas on the main memory with the selected data, and makes it unusable.
Immediately after selecting this function, the processing starts and is completed.

Remarks:



Though the menu includes an "SRAM" item, the machine is actually equipped with Flash memory, not SRAM.

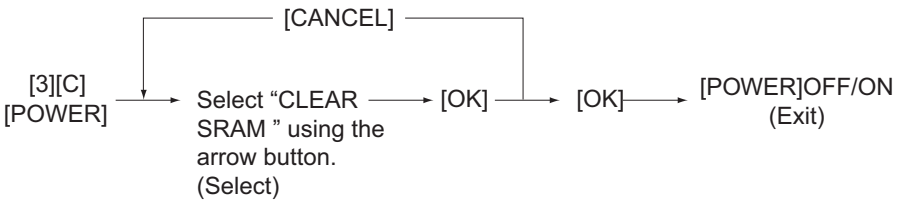
(3) When an F104 error has occurred, it can be removed with this function. <28A/28M/28F only>

Notes:
When the memory has been cleared in the Assist Mode (3C), check the items below and change the value of the following codes accordingly:

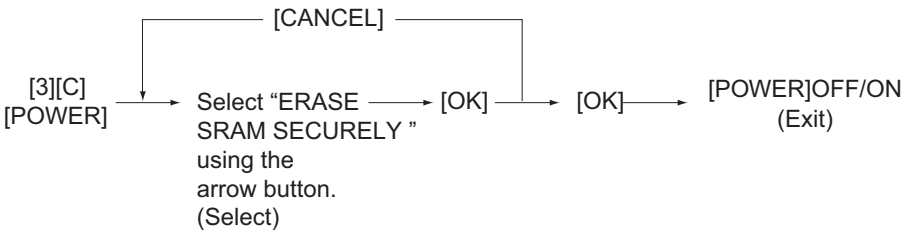
- 08-3134 (Scan motor gear) <25S/25H/25F only>
  0: One-gear
  1: Two-gear
- 08-9063 (Installation of the fax function)
  0: Not installed
  1: Installed

5.8.2 Operating Procedure of Assist Mode

Procedure: SRAM Clear



Procedure: Erase SRAM Securely

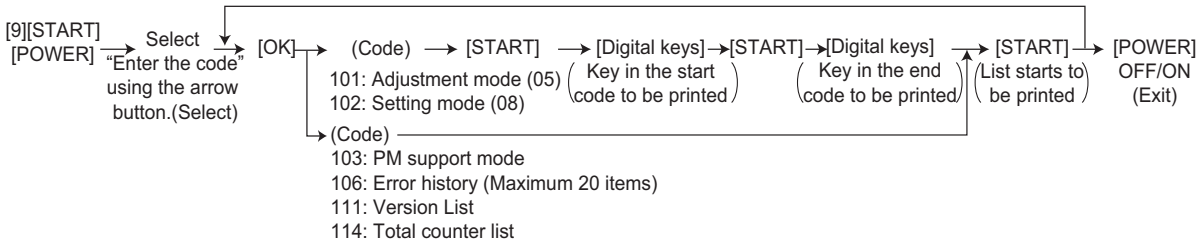


5.9 List Print Mode (9S)

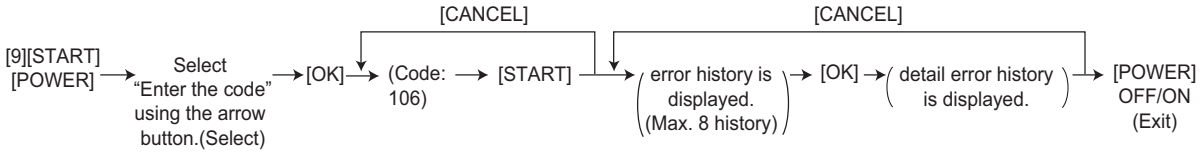
5.9.1 Operation procedure

[1] Print out <25S/28A>

Procedure 1: 101-103, 106, 111, 114



Procedure 2: 106



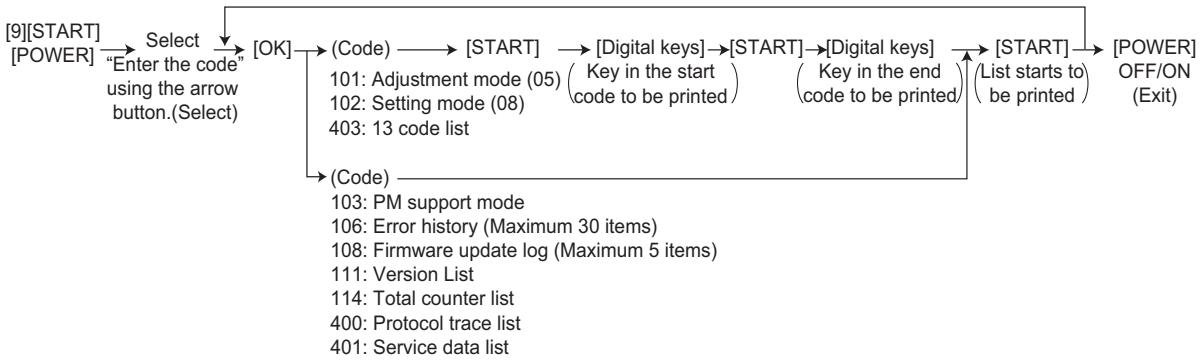
Remarks:

You can select the cassette from which to print a list.

<Procedure>

1. [9]+[START]+[POWER].
2. Use the [Arrow] buttons to select "DRAWER" and then press [OK].
3. Use the [Arrow] buttons to select "DRAWER 1" and then press [OK].

[2] Print out <25H/25F/28M/28F>

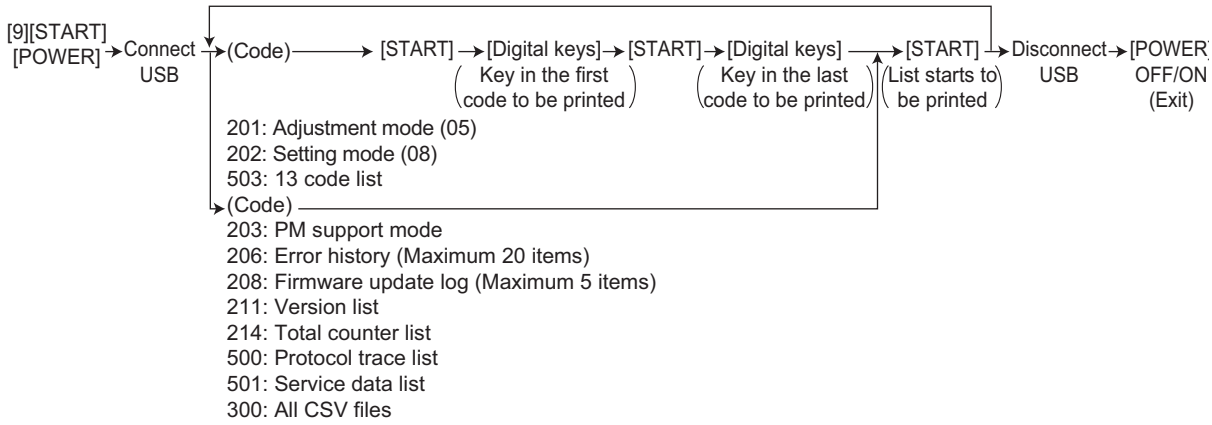


You can select the cassette from which to print a list.

<Procedure>

1. [9]+[START]+[POWER].
2. Use the [Arrow] buttons to select “DRAWER” and then press [OK].
3. Use the [Arrow] buttons to select “DRAWER 1” and then press [OK].

[3] 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.

Remarks:

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 number_date and time(YYYYMMDDHHMMSS).csv
202: SETTING_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv
203: PM_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv
206: ERROR_LOG_serial number_date and time(YYYYMMDDHHMMSS).csv
208: FW_UPGRADE_LOG_serial number_date and time(YYYYMMDDHHMMSS).csv
211: VERSION_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv
214: TOTAL_COUNTER_LIST_serial number_14-digit counter value(YYYYMMDDHHMMSS).csv <25S>
: TOTAL_COUNTER_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv <25H/25F>
500: PROTOCOL_MONITOR_serial number_date and time(YYYYMMDDHHMMSS).pdf
501: SERVICE_DATA_LIST_serial number_date and time(YYYYMMDDHHMMSS).pdf
503: 13CODE_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv
300: TOTAL_COUNTER_LIST_serial number_date and time(YYYYMMDDHHMMSS).csv

Notes:

- Only in 25S, the sequential number from 01 to 99 and the total counter value (14 digits) are entered instead of the date and time.
E.g.: 201: ADJUSTMENT_LIST_serial number_sequential number (01-99)_total counter.csv
- DD-MM-YYYY HH:MM is displayed for the date and time on the header in a CSV file.

5.9.2 List printing

Lists below are output in the list print mode.
Printing can be done on A4, A4-R, LT, and LT-R sizes of paper. This section introduces a sample of each list.
Starting the list print mode: [9] + [START] + [ON/OFF]

Lists	List code		Model					
	Printout	CSV file output	25S	25H	25F	28A	28M	28F
Adjustment mode (05) data list	101	201	Y	Y	Y	Y	Y	Y
Setting mode (08) data list	102	202	Y	Y	Y	Y	Y	Y
PM support mode data list	103	203	Y	Y	Y	Y	Y	Y
Error history list	106 (Maximum 20 items)	206	Y	Y	Y	Y	Y	Y
Firmware upgrade log	108 (Maximum 5 items)	208	N	Y	Y	Y	Y	Y
Version list	111	211	Y	Y	Y	Y	Y	Y
Total counter list	114	214	Y	Y	Y	Y	Y	Y
Protocol trace list	400	500	N	N	Y	N	N	Y
Service data list	401	501	N	N	Y	N	N	Y
13 code list	403	503	N	N	Y	N	N	Y
Output all CSV files	-	300	Y	Y	Y	Y	Y	Y

- Adjustment mode (05)

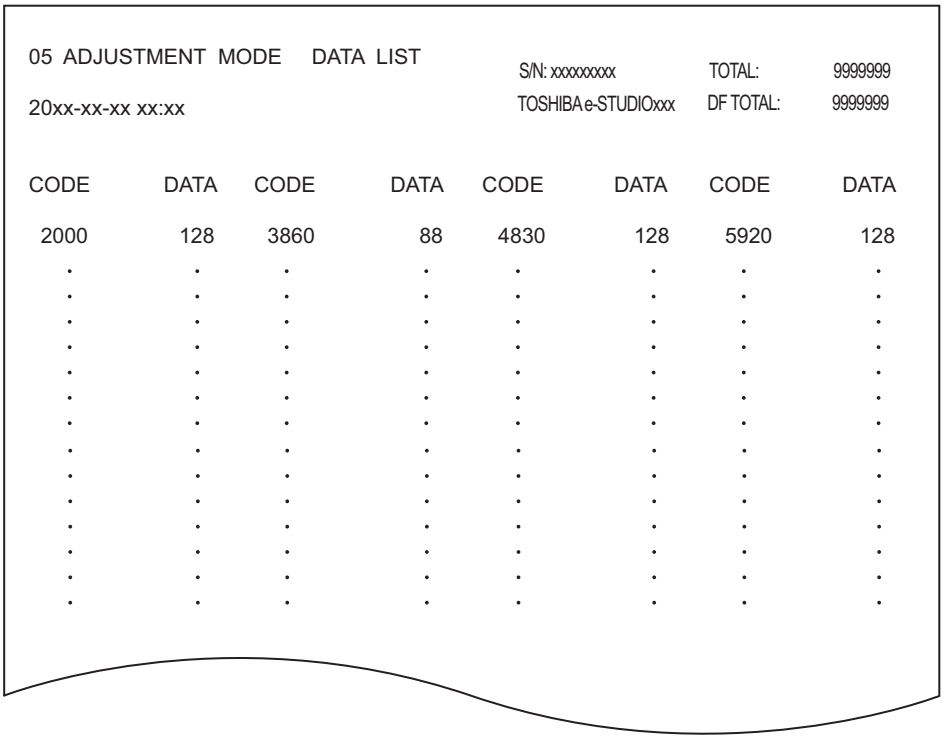
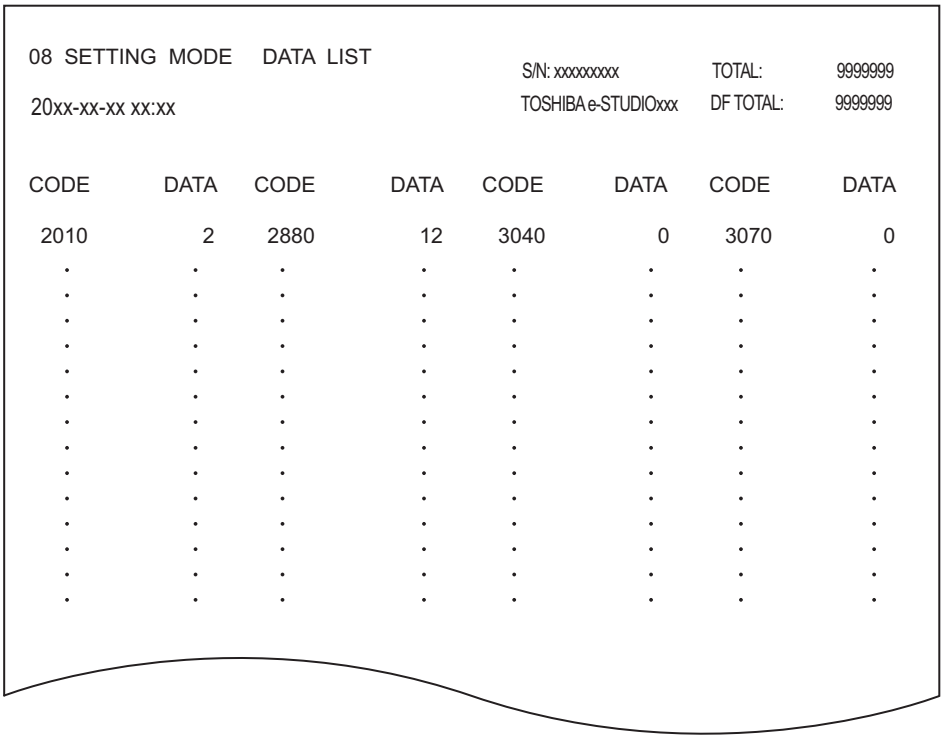


Fig.5-3

The selected adjustment codes and the current adjustment value for each code are output in a list.
See the following page for the adjustment code (05):
Refer to chapter 14 - “Adjustment Code (05).”

- Setting mode (08)



08 SETTING MODE DATA LIST

20xx-xx-xx xx:xx

S/N: xxxxxxxx TOTAL: 9999999

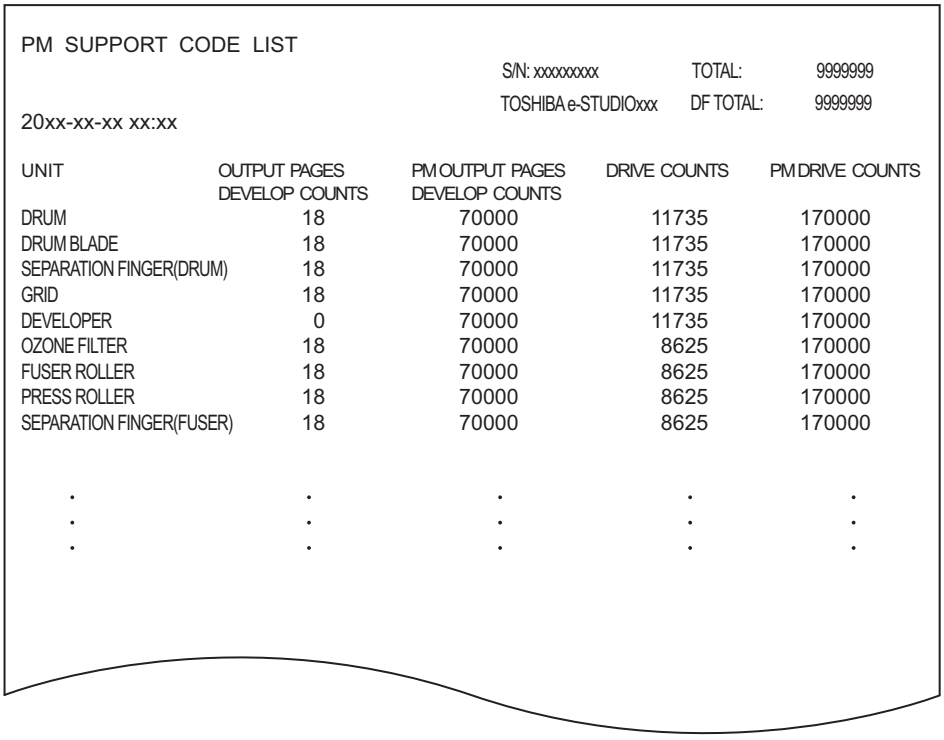
TOSHIBA e-STUDIOxxx DF TOTAL: 9999999

CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
2010	2	2880	12	3040	0	3070	0

Fig.5-4

The selected setting codes and the current setting value for each code are output in a list. See the following page for the setting code (08):
Refer to chapter 14 -"Setting Code (08)"

- PM support mode



PM SUPPORT CODE LIST

S/N: xxxxxxxxx TOTAL: 9999999

TOSHIBA e-STUDIOxxx DF TOTAL: 9999999

20xx-xx-xx xx:xx

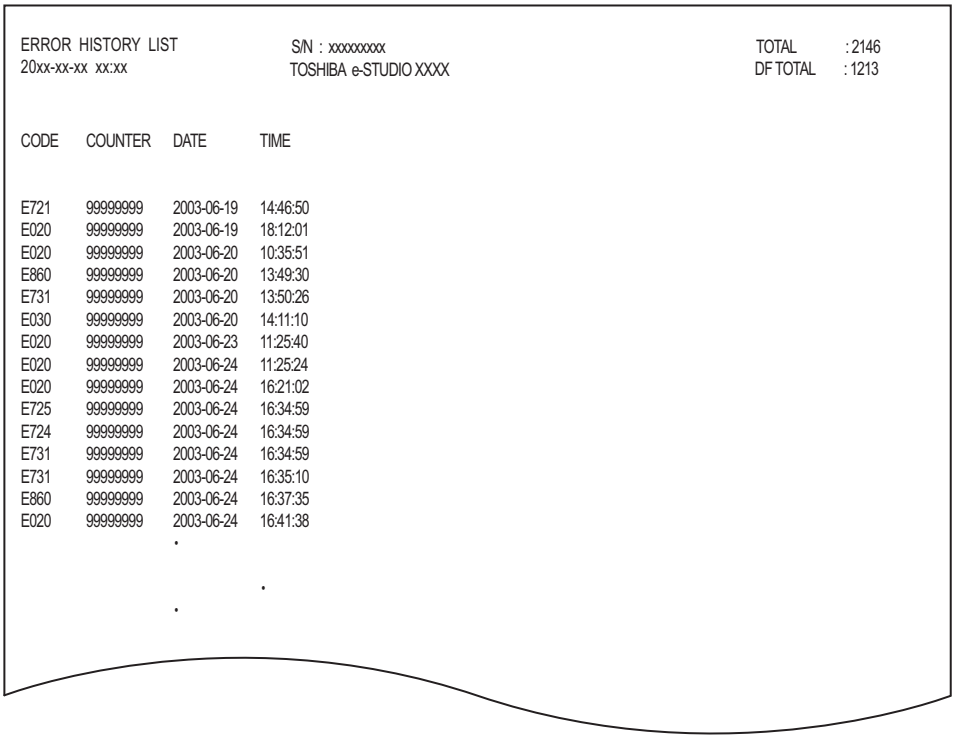
UNIT	OUTPUT PAGES DEVELOP COUNTS	PM OUTPUT PAGES DEVELOP COUNTS	DRIVE COUNTS	PM DRIVE COUNTS
DRUM	18	70000	11735	170000
DRUM BLADE	18	70000	11735	170000
SEPARATION FINGER(DRUM)	18	70000	11735	170000
GRID	18	70000	11735	170000
DEVELOPER	0	70000	11735	170000
OZONE FILTER	18	70000	8625	170000
FUSER ROLLER	18	70000	8625	170000
PRESS ROLLER	18	70000	8625	170000
SEPARATION FINGER(FUSER)	18	70000	8625	170000
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

Fig.5-5

The number of pages currently output (OUTPUT PAGES/DEVELOP COUNTS), the recommended number of output pages for PM (PM OUTPUT PAGES/DEVELOP COUNTS), the current drive count (DRIVE COUNTS) and the recommended drive count for PM (PM DRIVE COUNTS) are output together with PM units. Use this list for confirming the PM units to be replaced at each PM. See the following page for PM:

Refer to 🕮 P. 7-1 "7. PREVENTIVE MAINTENANCE (PM)".

- Error history



ERROR HISTORY LIST
20xx-xx-xx xx:xx

S/N : xxxxxxxxx
TOSHIBA e-STUDIO XXXX

TOTAL : 2146
DF TOTAL : 1213

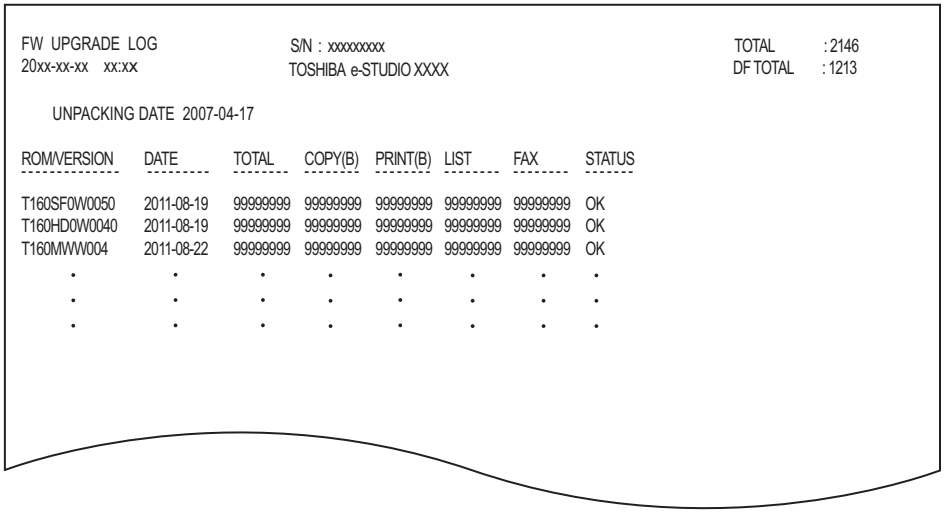
CODE	COUNTER	DATE	TIME
E721	99999999	2003-06-19	14:46:50
E020	99999999	2003-06-19	18:12:01
E020	99999999	2003-06-20	10:35:51
E860	99999999	2003-06-20	13:49:30
E731	99999999	2003-06-20	13:50:26
E030	99999999	2003-06-20	14:11:10
E020	99999999	2003-06-23	11:25:40
E020	99999999	2003-06-24	11:25:24
E020	99999999	2003-06-24	16:21:02
E725	99999999	2003-06-24	16:34:59
E724	99999999	2003-06-24	16:34:59
E731	99999999	2003-06-24	16:34:59
E731	99999999	2003-06-24	16:35:10
E860	99999999	2003-06-24	16:37:35
E020	99999999	2003-06-24	16:41:38

Fig.5-6

The error history is output. See the following page for the parameters for each error:
Refer to 🕮 P. 8-11 "8.2.4 Error history".

Notes:
In 25S, the columns of DATE and TIME in the Error history list are not printed out.

- Firmware update log



FW UPGRADE LOG
20xx-xx-xx xx:xx

S/N : xxxxxxxxx
TOSHIBA e-STUDIO XXXX

TOTAL : 2146
DF TOTAL : 1213

UNPACKING DATE 2007-04-17

ROM/VERSION	DATE	TOTAL	COPY(B)	PRINT(B)	LIST	FAX	STATUS
T160SF0W0050	2011-08-19	99999999	99999999	99999999	99999999	99999999	OK
T160HD0W0040	2011-08-19	99999999	99999999	99999999	99999999	99999999	OK
T160MWW004	2011-08-22	99999999	99999999	99999999	99999999	99999999	OK
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.

Fig.5-7

Firmware upgrade logs are output.
- The MANUFACTURE field shows the date of manufacture. The UNPACKING field shows the date that the equipment was unpacked.
- Only displayed if updated using USB device.

Item	Content
STATE	Version name of ROM downloaded
DATE	Date that the ROM was downloaded
TOTAL	Total counter data when the ROM was downloaded
COPY (B)	Copier counter data (black) when the ROM was downloaded
PRINT (B)	Printer counter data (black) when the ROM was downloaded
LIST	List print counter data when the ROM was downloaded
STATUS	Result of download

- Version list

<25S/25H/25F>

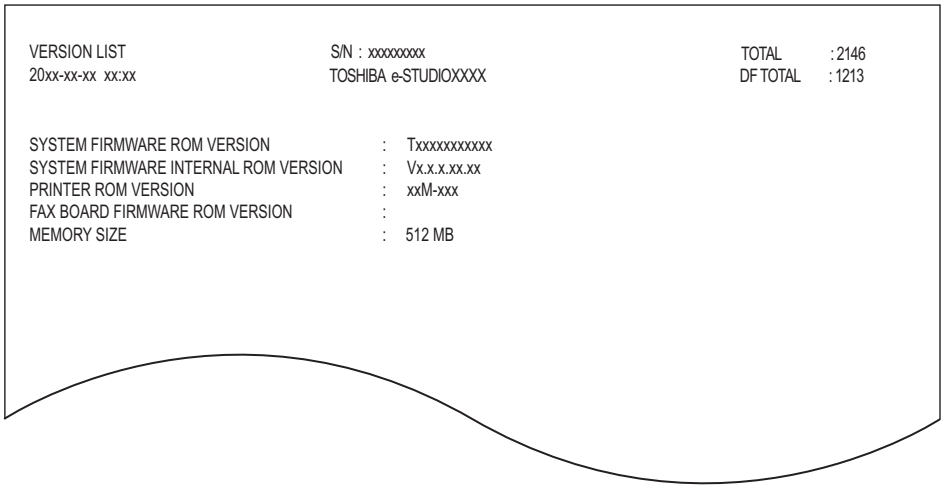


Fig.5-8

<28A/28M/28F>

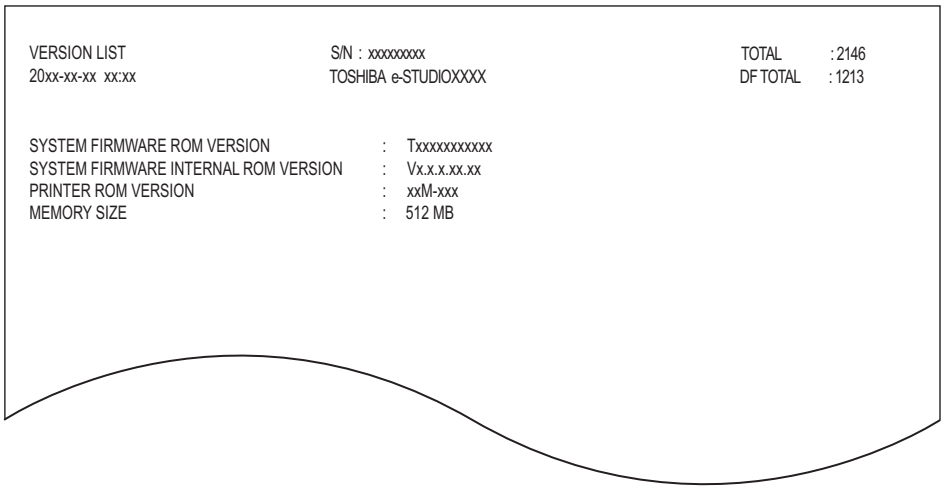


Fig.5-9

The list of versions is output.

- Total counter list

TOTAL COUNTER LIST
20xx-xx-xx xx:xx

S/N: xxxxxxxxx
TOSHIBA e-STUDIOxxx

TOTAL : 9999999
DF TOTAL : 9999999

PRINT COUNTER

	COPY	FAX	PRINTER	LIST	TOTAL
SMALL	999999999	999999999	999999999	999999999	999999999
LARGE	999999999	999999999	999999999	999999999	999999999
TOTAL	999999999	999999999	999999999	999999999	999999999

SCAN COUNTER

TOTAL

	FUL COLOR	BLACK	TOTAL
COPY	999999999	999999999	999999999
FAX	999999999	999999999	999999999
NETWORK	999999999	999999999	999999999
TOTAL	999999999	999999999	999999999

COPY

	BLACK	TOTAL
SMALL	999999999	999999999
LARGE	999999999	999999999
TOTAL	999999999	999999999

FAX

	BLACK	TOTAL
SMALL	999999999	999999999
LARGE	999999999	999999999
TOTAL	999999999	999999999

NETWORK

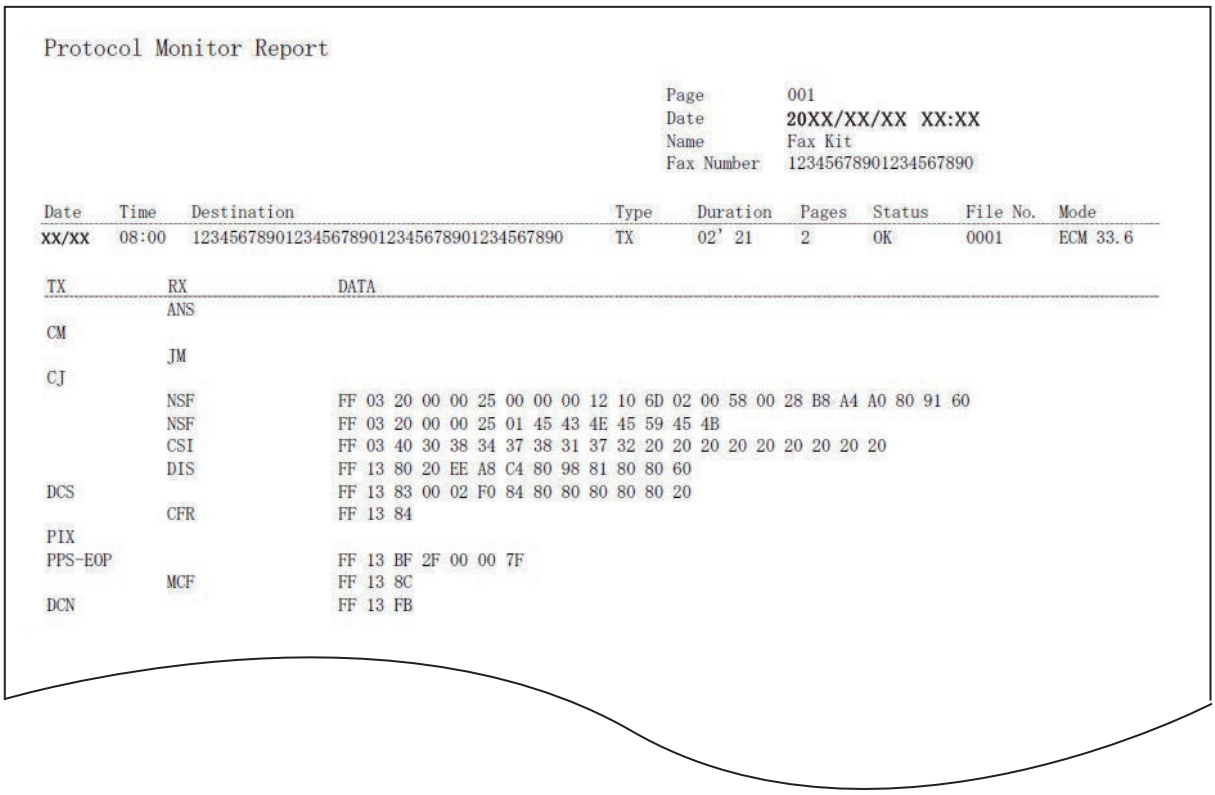
	FULL COCOR	BLACK	TOTAL
SMALL	999999999	999999999	999999999
LARGE	999999999	999999999	999999999
TOTAL	999999999	999999999	999999999

Fig.5-10

The list of total counter is output.

- Protocol trace list <25F, 28F only>

  <Transmission list>



Protocol Monitor Report

Page 001
Date 20XX/XX/XX XX:XX
Name Fax Kit
Fax Number 12345678901234567890

Date	Time	Destination	Type	Duration	Pages	Status	File No.	Mode
XX/XX	08:00	12345678901234567890123456789012345678901234567890	TX	02' 21	2	OK	0001	ECM 33.6

TX	RX	DATA
	ANS	
CM		
	JM	
CJ		
	NSF	FF 03 20 00 00 25 00 00 00 12 10 6D 02 00 58 00 28 B8 A4 A0 80 91 60
	NSF	FF 03 20 00 00 25 01 45 43 4E 45 59 45 4B
	CSI	FF 03 40 30 38 34 37 38 31 37 32 20 20 20 20 20 20 20 20 20
	DIS	FF 13 80 20 EE A8 C4 80 98 81 80 80 60
DCS		FF 13 83 00 02 F0 84 80 80 80 80 80 20
	CFR	FF 13 84
PIX		
PPS-EOP		FF 13 BF 2F 00 00 7F
	MCF	FF 13 8C
DCN		FF 13 FB

Fig.5-11

The list of protocol trace is output.
The output report is changed due to last-minutes FAX communication status.

<Reception list>

Protocol Monitor Report

Page 001
Date 20XX/XX/XX XX:XX
Name Fax Kit
Fax Number 12345678901234567890

Date	Time	Destination/Sender	Type	Duration	Pages	Status	File No.	Mode
XX/XX	08:00	12345678901234567890123456789012345678901234567890	RX	02' 21	2	OK	0001	ECM 33.6

RING	DATA
ON Time (ms)	1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200 1200
OFF Time (ms)	3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000 3000

TX	RX	DATA
ANS		
	CM	
JM		
	CJ	
NSF		FF 03 20 64 00 00 00 A0 88 CB 04 00 18 20 00 00 10 01 00
NSF		FF 03 20 64 00 00 00 a0 88 cb 00 00 00 00 00 00 10 01 00 00 01 06
DIS		FF 13 80 20 EE AA c4 80 91 80 80 80 20
	NSS	FF 03 23 64 00 00 00 A0 88 CB 04 00 00 00 00 00 00 02 0B 41 42B43B5F 41 42 43 5F 41 42 43
	NSS	FF 03 23 64 00 00 00 A0 88 CB 00 00 00 00 00 00 0010 01 00 00
	TSI	FF 03 43 35 33 35 33 35 33 35 33 35 33 35 33 35 33 35 33 35 33
CFR	DCS	FF 13 83 00 02 F0 84 80 80 80 80 80 20
		FF 13 84
	PIX	
	RCP	
MCF	PPS-EOP	FF 13 BF 2F 00 00 52
		FF 13 8C
	DCN	FF 13 FB

Fig.5-12

The list of protocol trace is output.
The output report is changed due to last-minutes FAX communication status.

- Service data list <25F only>

Service Data List

Page 001
Date 2013/XX/XX XX:XX
Name Fax Kit
Fax Number 12345678901234567890

Common Setting		Function Setting	
User Name	TIS	Resolution	203x98
User Fax number	4733507	Quick Memory TX	ON
		Memory RX Mode	ON-0000-20:00-08:00
		ALL Day	Sat-Sun
Data and Time	2013/XX/XX XX:XX	Setting	Mon-Tue-Wed-Thu-Fri
Time Zone	+08:00		
Daylight Save Time	OFF	Printing Setting	
Start Time		Fax Printing	BW-RAW-600x600
End Time		Printing Mode	QUICKMEM
		Reduction	ON-90
Buzzer		Discard	ON-10
Line Monitor - Volume	OFF		
Line Monitor - Stage	B	Report	
RBT	3	Activity Report	ON
Completed Fax Comm.	2	TX Result Report	ONERROR-With image
		T.30 Protocol	OFF
Communication			
TX Mode	Direct	Redial	ON-4-2
Line Mode	PBX-25		
Header	ON		
Dial Mode	PULSE-20PPS		
No. of Ring	5		
Footer	OFF		
Caller ID	OFF		
RX Mode	FAXTEL-6-10-DISCONNECT		
Call Transfer	OFF		

Service Setting		
Region Code	26	00 20 80 0C 00 00 07 61 00 81
Paper Size	A3	00 80 10 00 01 03 00 00 68 00
Fax Max. Resolution	406x393	80 06 00 00 00 28 00 A7 14 68
Image Start Position	LEFTTOP-5-5	00 00 C0 82 10 8A 00 C1 00 08
TX Max. Speed	V34-33.6	00 00 00 04 00 06 00 89 01 00
RX Max. Speed	V34-33.6	00 00 00 00 B0 00 00 00 00 00
TX Level	-5dBm	21 0F 00 80 00 00 00 00 00 00
DTMF High Freq. Level	-7dBm	00 00 00 00 00 00 00 00 00 00
FTMF Low Freq. Level	-9dBm	00 00 00 00 00 00 00 00 00 00
CNG Level	-4dBm	00 00 00 00 00 00 00 00 00 00
CED Level	-5dBm	
ECM	ON	
Coding Scheme	JBIG	

FaxKit Version V001

Fig.5-13

- Service data list <28F only>

Service Data List

Page	001
Date	001
Name	Name Fax Kit
Fax Number	1234567890123456789O

Common Setting

User Name	TIS
User Fax number	4733507
Data and Time	2013/XX/XX XX:XX
Time Zone	+08:00
Daylight Save Time	OFF
Start Time	
End Time	

Buzzer

Line Monitor - Volume	OFF
Line Monitor - Stage	B
RBT	3
Completed Fax Comm	2

Communication

TX Mode	Direct
Line Mode	PBX-25
Header	ON
Dial Mode	PULSE-20PPS
No. of Ring	5
Footer	OFF
Caller ID	OFF
RX Mode	FAXTEL-6-10-DISCONNECT
Call Transfer	OFF

Service Setting

Region Code	26
Paper Size	A3
Fax Max. Resolution	406x393
Image Start Position	LEFTTOP-5-5
TX Max. Speed	V34-33.6
RX Max. Speed	V34-33.6
TX Level	-5dBm
DTFM High Freq. Level	-7dBm
FTMF Low Freq. Level	-9dBm
CNG Level	-4dBm
CED Level	-5dBm
ECM	ON
Coding Scheme	JBIG

Function Setting

Resolution	203x98
Quick Memory TX	ON
Memory RX Mode	ON-0000-20:00-08:00
ALL Day	Sat-Sun
Setting	Mon-Tue-Wed-Thu-Fri

Printing Setting

Fax Printing	BW-RAW-600x600
Reduction	ON-90
Discard	ON-10

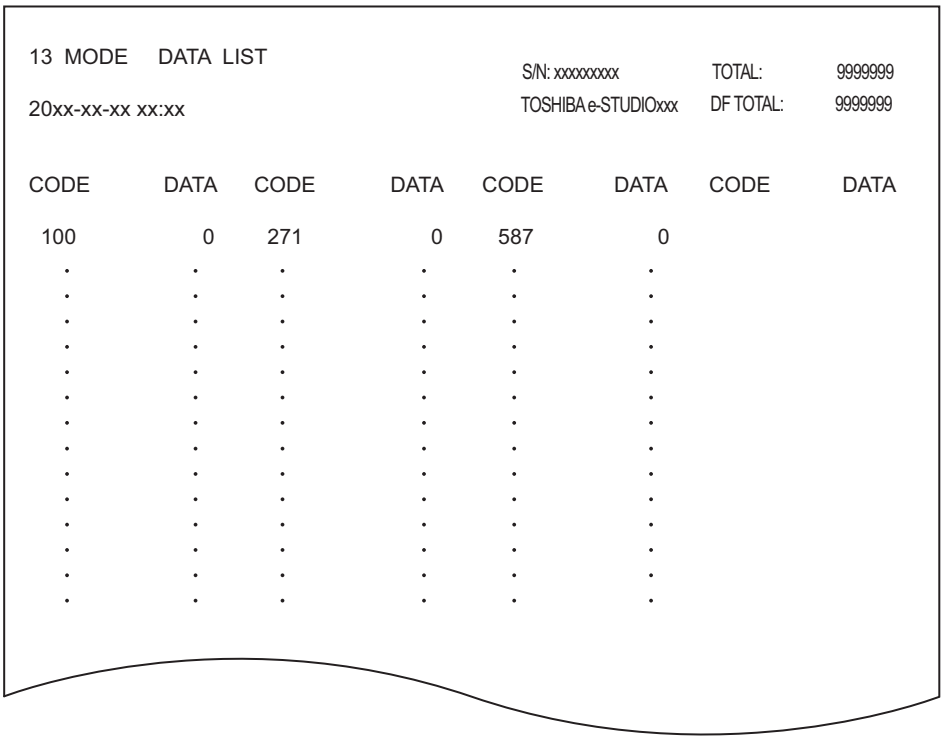
Report

Activity Report	ON
TX Result Report	ONERROR- With image
T.30 Protocol	OFF
Redial	ON-4-2

00 20 80 0C 00 00 07 61 00 81
00 80 10 00 01 03 00 00 68 00
80 06 00 00 00 28 00 A7 14 68
00 00 C0 82 10 8A 00 C1 00 08
00 00 00 04 00 06 00 89 01 00
00 00 00 00 B0 00 00 00 00 00
21 0F 00 80 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

Fig.5-14

- 13 code list <25F, 28F only>



13 MODE DATA LIST

20xx-xx-xx xx:xx

S/N: xxxxxxxxx
TOSHIBA e-STUDIOxxx

TOTAL: 9999999
DF TOTAL: 9999999

CODE	DATA	CODE	DATA	CODE	DATA	CODE	DATA
100	0	271	0	587	0		

Fig.5-15

5.10 Flash Memory Clear Mode (6C)

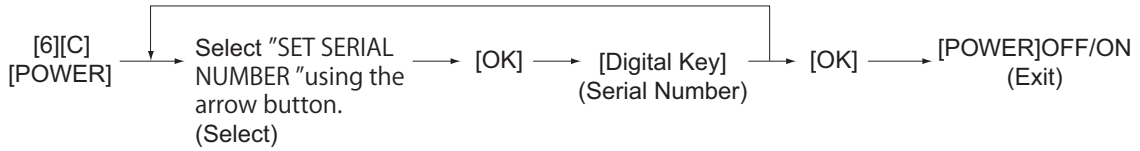
5.10.1 General description

This function (6C mode) is a mode that can be used without entering the service technician's password. For example, when the memory IC fails or is replaced, if it is not possible even to login in 3C mode, in 6C mode it is possible to initialize by using “CLEAR SRAM”.
The process of the “CLEAR SRAM” in the 6C mode is the same as the “CLEAR SRAM” in the 3C mode.

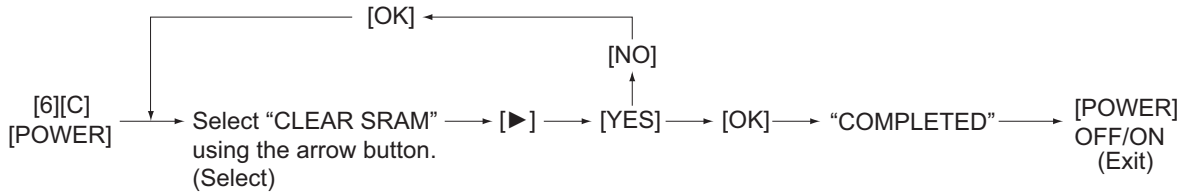
Functions
- Sets the serial number of this equipment.
- Clears flash memory data when the 3C mode cannot be used.
- When an F104 error has occurred, it can be removed with this function. <28A/28M/28F only>

5.10.2 Operation procedure

Procedure: **Set Serial Number**



Procedure: **Clear SRAM**



5.10.3 Functions

[A] Set Serial Number

When replacing MAIN board, select this to set the serial number of the equipment since it must be done in advance of recovery from flash memory backup data.

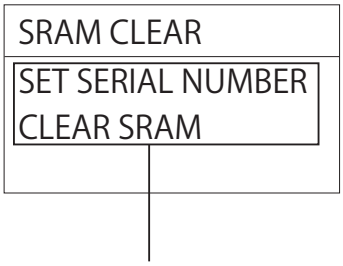
- Clear flash memory first and then set the serial number in this mode.

[B] Clear SRAM

Select this to clear all flash memory data when replacing SYS-SRAM.

- Replace the MAIN board and then clear the flash memory data.
- After clearing the flash memory data, initialize flash memory following its replacement procedure.

Remarks:



Though the menu includes an "SRAM" item, the machine is actually equipped with Flash memory, not SRAM.

Notes:

When the memory has been cleared in the Assist Mode (6C), check the items below and change the value of the following codes accordingly:

- 08-3134 (Scan motor gear) <25S/25H/25F only>
  0: One-gear
  1: Two-gear
- 08-9063 (Installation of the fax function)
  0: Not installed
  1: Installed

5.11 Flash Memory Backup/Restore Mode (59)

5.11.1 General description

This is a mode to backup and restore the setting value and counter value in the flash memory. This function backs up or restores the data of the same equipment (same serial number), which is used when the data in the old flash memory are backed up in a USB device and they are restored in the new flash memory.

Important:

- The USB device for the backup/restore must meet the following conditions. A backup/restore 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 FAT or FAT32. (Correct operation cannot be guaranteed if it is formatted in NTFS/exFAT.)
- Most of the common USB devices are compliant with the above specifications and are therefore applicable to this backup/restore. 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.
- A USB device compliant with both USB 1.1 and USB 2.0 can be used for this backup/restore.
- Backup/restore 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 backup/restore.
- Data can be backed up / restored only for the same model and version. If the version is different, update the firmware and backup / restore data in the same version.
- Restore data to any equipment which has the same options as when the data are backed up.
- Delete the backed up data in the USB device after backup/restore.

5.11.2 Backup files

The following files are saved in the root directory of the USB device by backing up.

File name	Remarks
Product code_Serial number_Year-Month-Day_Hour-Minute	E.g.: T240_123456789_2014-01-23_01-23 Product code: T240: 25S T396: 28A T246: 25H/25F T394: 28M/28F

5.11.3 Backup procedure

[1] Backup procedure

(1) Turn the power OFF.
(2) Connect the USB device to the USB port.
(3) Turn the power ON while pressing the [5] and [9] buttons simultaneously.
(4) Enter the password set in 08-8919, and then press the [OK] button. (If the password is not set, skip this step.)
(5) When “SRAM_COPY MODE” appears on the LCD screen, select “BACKUP SRAM DATA” and press the arrow [►] button.
(6) Enter a password (max. 12 characters) and press the [OK] button.

Notes:
This password will be used for restoring.

(7) Enter the year/month/day/hour/minute (YYYYMMDDHHMM) and press the [OK] button. <25S only>
(8) When “START BACKUP=OK” appears, press the [OK] button.
(9) “WAIT” appears.
(10) When “BACKUP SUCCESSFULLY” and “RESTART THE MFP” appear, turn the power OFF.
(11) Disconnect the USB device.

[2] Confirmation of errors

If the data have not been properly backed up, the following messages will appear on the LCD screen. In this case, turn the power OFF, and then check the items below. After confirming and solving the problem, back up the data again.

Display content	Error content	Measures
USB DEVICE NOT DETECTED	A USB device has not been connected.	Reconnect the USB device.
BACKUP NOT_CREATED	Creating the backup file of the flash memory has failed.	Perform the backup procedure again.
MFP SERIAL_NUMBER NOT SET	No serial number has been set.	Set the correct serial number.

5.11.4 Restore procedure

[1] Restore procedure

(1) Turn the power OFF.
(2) Connect the USB device to the USB port.
(3) Turn the power ON while pressing the [5] and [9] button simultaneously.
(4) Enter the password set in 08-8919, and then press the [OK] button. (If the password is not set, skip this step.)
(5) When “SRAM_COPY MODE” appears on the LCD screen, select “RESTORE_ SRAM DATA” and press the arrow [►] button.
(6) Enter a password (max. 12 characters) and press the [OK] button.

Notes:
This password was used for backing up.

(7) Enter the serial number and press the [OK] button.
(8) When “START RESTORE=OK” appears, press the [OK] button.
(9) “WAIT” appears.
(10) When “RESTORE SUCCESSFULLY” and “RESTART THE MFP” appear, turn the power OFF.
(11) Disconnect the USB device.

[2] Confirmation of errors

If the data have not been properly restored, the following messages will appear on the LCD screen. In this case, turn the power OFF, and then check the items below. After confirming and solving the problem, restore the data again from the beginning.

Display content	Error content	Measures
USB DEVICE NOT DETECTED	A USB device has not been connected.	Reconnect the USB device.
INVALID BACKUP FILE	No backup file is stored in the USB device.	Check the USB device and perform the backup procedure again.
INVALID MFP SERIAL NUMBER	The entered serial number is not the same as that of the backup data.	Check if the serial number is correct.
NO BACKUP FILE EXISTS	The backup data (product code) in the USB device are not the same as the model.	Check the backup data (product code) and the model name.
BACKUP FILE CORRUPTED	The backup file has been damaged.	Perform the backup procedure again.
INVALID PASSWORD	The entered password differs from that for the backup.	Check if the password is correct.
RESTORE FAILED RESTART THE MFP	Restoring the data has failed.	Perform the restore procedure again.

5.12 PM support mode related code

The management items at PM support mode can also be operated at setting mode (08).
The following items are displayed or set by using sub-codes at PM management setting in the table below.

5.12.1 Setting

Sub-codes

0: Present number of output pages
- Means the present number of output pages.

1: Recommended number of output pages for replacement
- Means the recommended number of output pages for replacement.

2: Number of output pages at the last replacement
- Means the number of output pages at the last replacement.

3: Present driving counts
- Means the present drive counts (1 count = 2 seconds).

4: Recommended driving counts to be replaced
- Means the recommended drive counts for replacement (1 count = 2 seconds).

5: Driving counts at the last replacement
- Means the drive counts at the last replacement.

6: Present output pages for control
- Means the present number of output pages for controlling.

7: Present driving counts for control
- Means the present drive counts for controlling (1 count = 2 seconds).

8: Number of times replaced
- Counts up when clearing the counter of each unit in the PM Support Mode Screen.

Notes:
- Sub-code 3 is equivalent to sub-code 7.
- When the value of sub-code 3 is changed, the value of sub-code 7 is also updated and vice versa.
- When “0” is set at one of sub-codes 0, 3, 6 and 7, the rest of them are automatically updated to “0”.

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Photoconductive drum	6250-0 to 8	6251	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 55,000 Sub-code 4: 115,000
Drum cleaning blade	6258-0 to 8	6259	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 55,000 Sub-code 4: 115,000
Drum separation finger	6272-0 to 8	6273	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 165,000 Sub-code 4: 345,000
Charger grid	6274-0 to 8	6275	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code1: 55,000 Sub-code 4: 115,000
Charger (Needle)	6282-0 to 8	6283	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code1: 165,000 Sub-code 4: 345,000
Ozone filter	6298-0 to 8	6299	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code1: 165,000 Sub-code 4: 345,000
Developer material	6300-0 to 8	6301	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 55,000 Sub-code 4: 115,000
Transfer (roller)	6314-0 to 8	6315	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 55,000 Sub-code 4: 115,000
Fuser roller	6346-0 to 8	6347	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 165,000 Sub-code 4: 345,000
Pressure roller	6350-0 to 8	6351	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 165,000 Sub-code 4: 345,000
Fuser roller separation finger	6368-0 to 8	6369	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 165,000 Sub-code 4: 345,000
Separation roller (RADF)	6386-0,1,2,8	6387	< Default values> Sub-codes 0, 2, 8: 0 Sub-code1: 150,000
Paper feed roller (1st drawer)	6398-0,1,2,8	6399	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Paper feed roller 2nd drawer (PFU)	6400-0,1,2,8	6401	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Paper feed roller 3rd drawer (PFP)	6420-0,1,2,8	6421	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Paper feed roller 4th drawer (PFP)	6422-0,1,2,8	6423	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Separation pad (1st drawer)	6406-0,1,2,8	6407	< Default values> Sub-codes 0, 2, 8: 0 Sub-code1: 80,000
Separation pad 2nd drawer (PFU)	6408-0,1,2,8	6409	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Separation roller 3rd drawer (PFP)	6412-0,1,2,8	6413	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Separation roller 4th drawer (PFP)	6414-0,1,2,8	6415	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Separation pad (Bypass unit)	6416-0,1,2,8	6417	< Default values> Sub-codes 0, 2, 8: 0 Sub-code 1: 80,000
Feed roller (Bypass unit)	6424-0,1,2,8	6425	< Default values> Sub-codes 0, 2, 8: 0 Sub-code1: 80,000
Recovery blade	6436-0 to 8	6437	< Default values> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0 Sub-code 1: 165,000 Sub-code 4: 345,000

5.12.2 Restrictions for the PM counter-related self-diagnosis codes

As for the following PM counter-related self-diagnosis codes, when their sub code 0 (present number of output pages) is initialized from the setting mode (08), the numbers of sub code 8 (number of times replaced) are not counted up.

<PM counter-related self-diagnosis codes>
- 6250: Photosensitive drum (K)
- 6258: Drum blade cleaner (K)
- 6272: Drum separation claw
- 6274: Charger grid (K)
- 6282: Charger (wire/needle) (K)
- 6298: Ozone filter
- 6300: Developer (K)
- 6314: Transfer (Wire/Belt/Roller)
- 6346: Upper heat roller
- 6350: Press roller
- 6368: Upper heat roller separation claw
- 6382: P/U roller (ADF)
- 6384: Paper feed roller (ADF)
- 6386: Separation roller (ADF)
- 6398: Paper feed roller (1st CST)
- 6406: Separation roller (1st CST)
- 6408: Separation pad (2nd CST)
- 6416: Separation pad (SFB)
- 6424: Paper feed roller (SFB)
- 6436: Drum recovery blade
- 6470: Fuser roller bushing

[Procedure to be restricted]
The below procedure is described taking the PM counter for the developer material (08-6300) as an example.
1. Confirm the value of the sub code 8 of 08-6300.
2. Replace the developer material.
3. Restart the equipment with the setting mode (08) and set "0" in the sub code 0 of 08-6300.

[Countermeasure]
Clear the PM counter in the PM support mode (6S).

<Procedure>
(1) Start the equipment with the PM support mode (6S).
📖 P. 7-2 "7.2 PM Support Mode (6S)"
(2) Key in "2" and press the [START] button.
(3) Select the part to be replaced and press the [Right] arrow button.
(4) Select "RESET" listed in the lowest part of the menu and press the [Right] arrow button.
(5) Press the [OK] button.

6. SETTING / ADJUSTMENT

6.1 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.

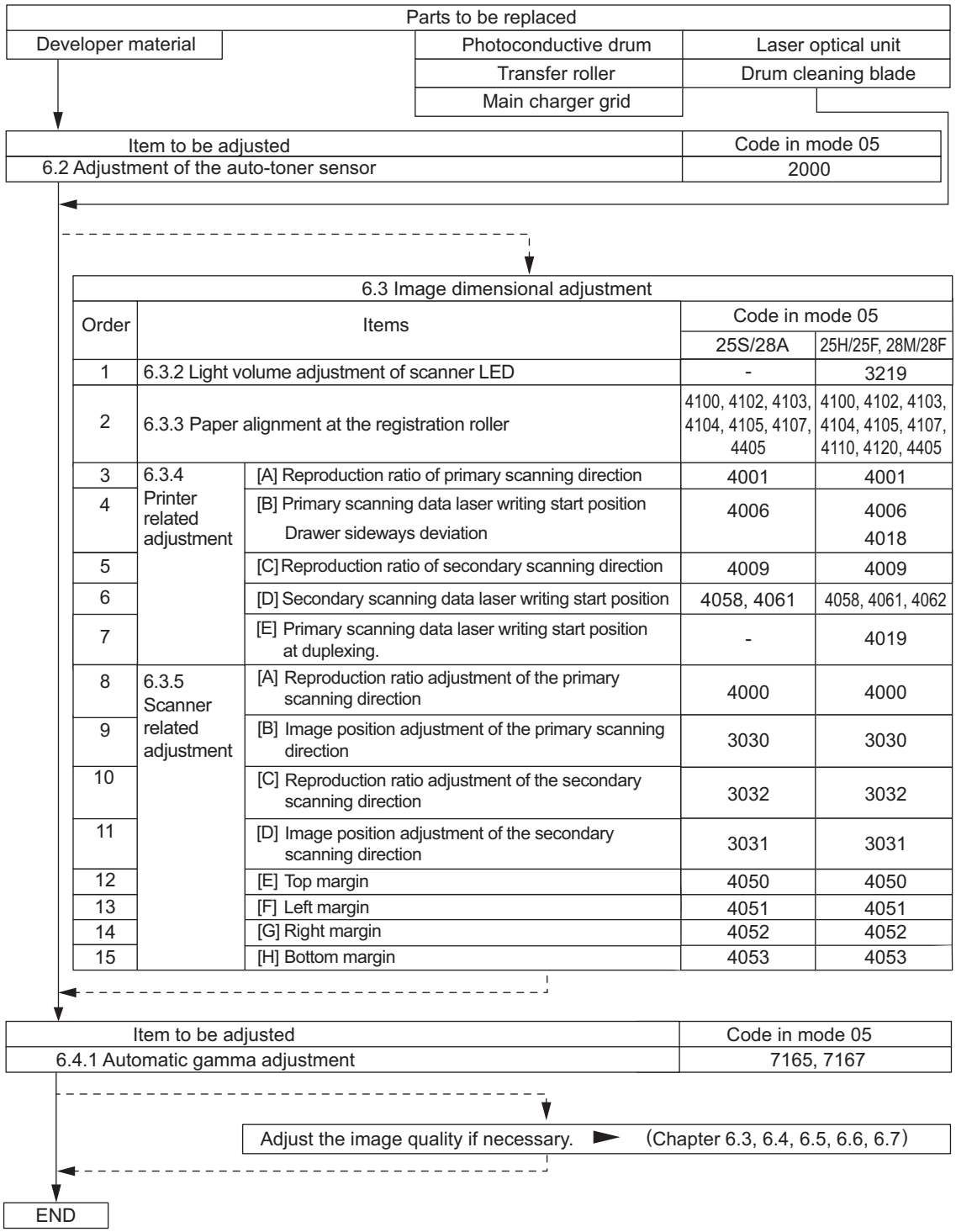


Fig.6-1

6.2 Adjustment of Auto-Toner Sensor

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

<Procedure> (Adjustment Mode (05-2000))

(1) Install the developer unit into the equipment.

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

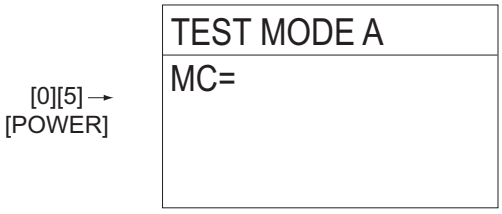


Fig.6-2

(3) Key in code [2000] and press the [START] button.
The display changes as follows.

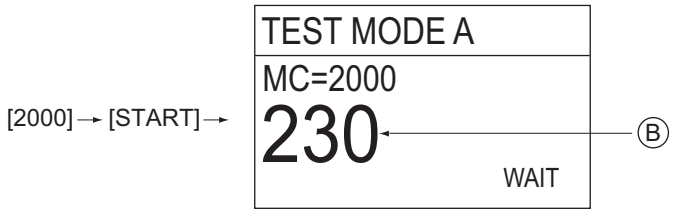


Fig.6-3

Notes:
B indicates the output voltage of the auto-toner sensor (2.30 V in the above case).
The drum, developer unit, etc. are in operation.

(4) After about two minutes, the value B automatically starts changing.

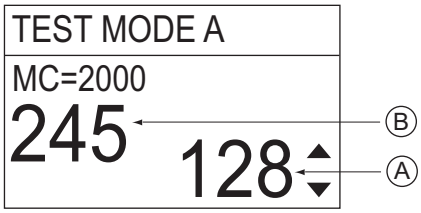


Fig.6-4

Notes:
A indicates the controlled value of the auto-toner sensor output. Press the Up or Down button to change the value.

(5) Check if the value B is within the range of 234 to 246 (the output voltage range of the auto-toner sensor is 2.34 V to 2.46 V).

(6) If the value B is not within the range of 234 to 246, press the Up or Down button to adjust the value manually.

Notes:
The relation between the button and the values A and B is as follows.

Button to be pressed	Value A	Value B
Up	Increased	Increased
Down	Decreased	Decreased

(7) Press the [OK] button.
The drum, developer unit, etc. are stopped and the following is displayed.

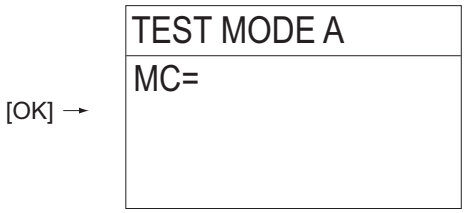


Fig.6-5

(8) Turn the power OFF.

(9) Install the toner cartridge.

6.3 Image Dimensional Adjustment

6.3.1 General description

There are several adjustment items in the image dimensional adjustment, as listed below. When adjusting these items, the following adjustment order should strictly be observed.

Item to be adjusted		Code in mode 05	
		25S/28A	25H/25F, 28M/28F
1 Light volume adjustment of scanner LED		-	3219
2 Paper alignment at the registration roller		4100, 4102, 4103, 4104, 4105, 4107, 4405	4100, 4102, 4103, 4104, 4105, 4107, 4110, 4120, 4405
3 Printer related adjustment	(a) Reproduction ratio of primary scanning direction (Fine adjustment of image writing frequency/PRT)	4001	4001
	(b) Primary scanning data laser writing start position Drawer sideways deviation	4006	4006, 4018
	(c) Reproduction ratio of secondary scanning direction (Fine adjustment of main motor rotation speed)	4009	4009
	(d) Secondary scanning data laser writing start position	4058, 4061	4058, 4061, 4062
	(e) Primary scanning data laser writing start position at duplexing	-	4019
4 Scanner related adjustment	(a) Reproduction ratio of primary scanning direction	4000	4000
	(b) Image location of primary scanning direction	3030	3030
	(c) Reproduction ratio of secondary scanning direction	3032	3032
	(d) Image location of secondary scanning direction	3031	3031
	(e) Top margin	4050	4050
	(f) Left margin	4051	4051
	(g) Right margin	4052	4052
	(h) Bottom margin	4053	4053

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

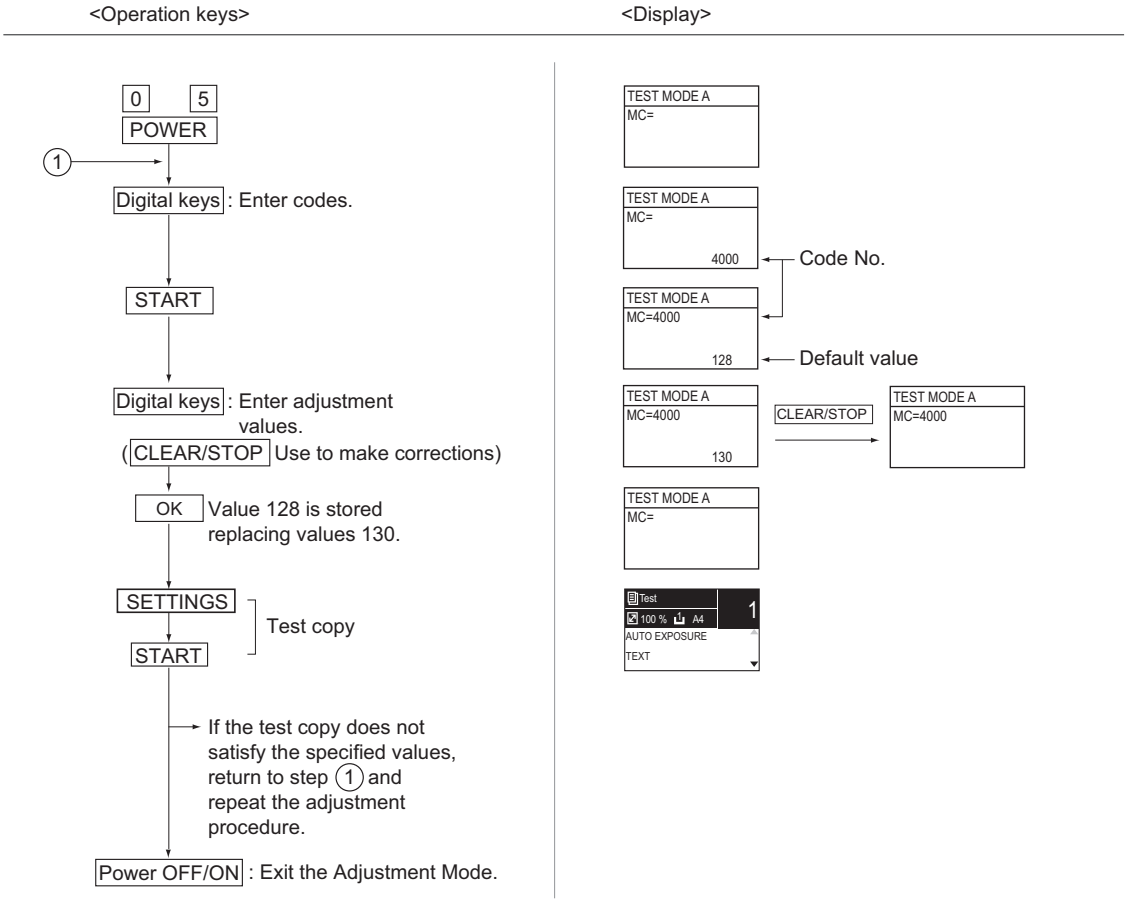


Fig.6-6

6.3.2 Light volume adjustment of scanner LED

Perform the light volume adjustment of scanner LED according to the following procedure.

<Procedure>

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

(2) Key in a code “7167” and press the [START] button. The automatic adjustment starts. When the adjustment is completed, “COMPLETED” appears.

6.3.3 Paper alignment at the registration roller

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

Paper type	Weight	1st drawer	Bypass feed	ADU <25H/25F, 28M/28F>
Plain paper	64 - 80 g/m^2 17 - 20 lb. Bond	4100 (*1)	4103 (*1)	4110 (*1)
Thick paper 1	81 - 105g/m^2 21 - 28 lb. Bond	-	4104 (*1)	4120 (*1)
Thick paper 2	106 - 163g/m^2 29 lb. Bond - 90 lb. Index	-	4105 (*1)	-
Thin paper	52 - 63 g/m^2	-	4102 (*2)	-
OHP	-	-	4107 (*3)	-
Envelope	-	-	4405 (*4)	-

Sub-code

(*1) 0: Long size 1: Middle size 2: Short size
(*2) 0: Long size 1: Middle size 2: Short size 3: Post card
(*3) 0: Long size of OHP film 1: Middle size of OHP film 2: Short size of OHP film
(*4) 0: Long size of Envelope 1: Middle size of Envelope 2: Short size of Envelope

Notes:

Long size: 330 mm or longer (13.0 inches or longer)
Middle size: 220-239 mm (8.7-12.9 inches)
Short size: 219 mm or shorter (8.6 inches or shorter)

<Procedure>

(1) Perform the test print according to the following procedure.

[0][5] [Power] → (Code) → [START] → (Sub Code) → [START] → (Current value displayed)
→ (Enter new value) → [OK] (Stored in memory) → [1](*5) (Test print) → [SETTINGS]
→ Select [DRAWER1] or [BYPASS] → [START]

(*5) 1: Single-sided grid pattern

(2) Check if any transfer void is occurring. If there is a transfer problem, try the values in descending order as “31” → “30” → “29”··· until the transfer void disappears. At the same time, confirm if any paper jam occurs. Also, when the aligning amount has been increased, this may increase the scraping noise caused by the paper and the film sheet as it is transported by the registration roller. If this scraping noise is annoying, try to decrease the value.

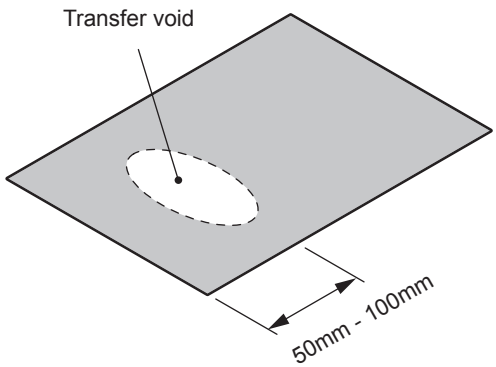


Fig.6-7

(3) Perform the same procedure for all paper sources.

Notes:

When paper thinner than specified is used, paper jams may occur frequently at the registration section. In this case, it is advisable to change (or reduce) the aligning amount.
However, if the aligning amount is reduced too much, this may cause the shift of leading edge position. So, when adjusting the aligning amount, try to choose the appropriate amount while confirming the leading edge position is not shifted.

* As a tentative countermeasure, the service life of the feed roller can be extended by increasing the aligning amount.

6.3.4 Printer related adjustment

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

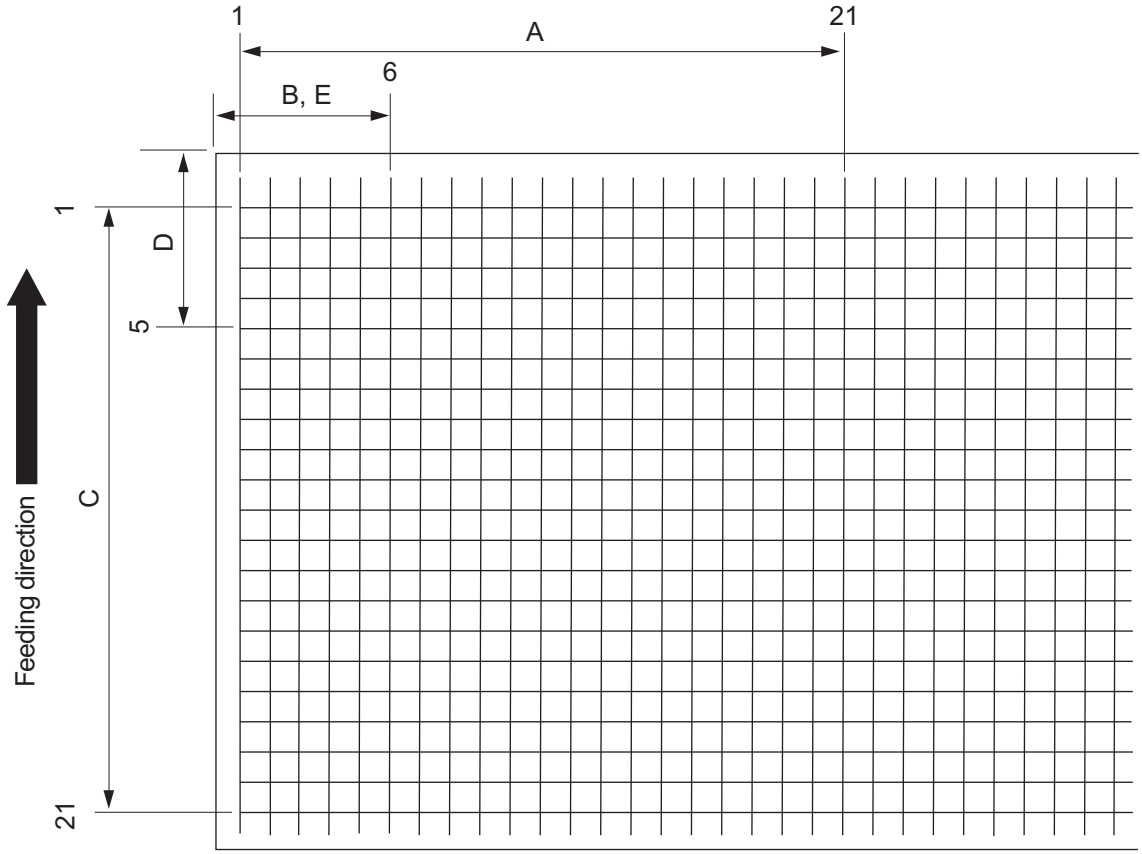


Fig.6-8 Grid pattern

	Adjustment Tolerance	Detail of adjustment
A	200 ± 0.5mm	🕮 P. 6-9 "[A] Reproduction ratio of primary scanning direction (Fine adjustment of image writing frequency/PRT)"
B	52 ± 0.5mm ([B-1]) 52 ± 1.0mm ([B-2])	🕮 P. 6-9 "[B-1] Primary scanning data laser writing start position (Printer)" 🕮 P. 6-10 "[B-2] Drawer sideways deviation"
C	200 ± 0.5mm	🕮 P. 6-10 "[C] Reproduction ratio of secondary scanning direction (Fine adjustment of main motor rotation speed (Copier/Printer))"
D	52 ± 0.5mm	🕮 P. 6-11 "[D] Secondary scanning data laser writing start position"
E	52 ± 0.5mm	🕮 P. 6-12 "[E] Primary scanning data laser writing start position at duplexing" <25H/25F>

[A] Reproduction ratio of primary scanning direction (Fine adjustment of image writing frequency/PRT)

<Procedure>

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

(2) Press [1] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the Bypass feed.)

(3) Check the grid pattern on the test chart printed out and measure the distance A from the 1st line to the 21st line of the grid pattern.

(4) Check if the distance A is within 200±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance A again.

(Adjustment Mode) → (Key in code [4001]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ Press [1] → Press [SETTINGS] → Select [BYPASS] → [START] → (A grid pattern is printed out.)

* The larger the adjustment value is, the longer the distance A becomes (approx. 0.1 mm/step).

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

[B-1] Primary scanning data laser writing start position (Printer)

<Procedure>

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

(2) Press [1] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the Bypass feed.)

(3) Check the grid pattern on the test chart printed out and measure the distance B from the left edge of the paper to the 6th line of the grid pattern.

(4) Check if the distance B is within 52±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance B again.

(Adjustment Mode) → (Key in the code [4006]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ Press [1] → Press [SETTINGS] → Select [BYPASS] → [START] → (A grid pattern is printed out.)

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

(6) After the adjustment for the code 4006 is completed, apply the same adjustment value for the code 4005.

(Adjustment Mode) → (Key in the code [4005]) → [START]
→ (Key in the same value in the step 5 above)
→ Press [OK] (Stored in memory).

[B-2] Drawer sideways deviation

<Procedure>

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

(2) Press [1] → [SETTINGS] → Select [DRAWER] → [START]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the 1st drawer.)

(3) Check the grid pattern on the test chart printed out and measure the distance B from the left edge of the paper to the 6th line of the grid pattern.

(4) Check if the distance B is within 52±1.0 mm.

(5) If not, use the following procedure to change values and measure the distance B again.

(Adjustment Mode) → (Key in the code [4018]) → [START] → [0] → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory).
→ Press [1] → Press [SETTINGS] → Select [DRAWER] → [START]. → (A grid pattern 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 is printed out since the line is occasionally vanished.

[C] Reproduction ratio of secondary scanning direction (Fine adjustment of main motor rotation speed (Copier/Printer))

<Procedure>

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

(2) Press [1] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the Bypass feed.)

(3) Check the grid pattern on the test chart printed out and measure the distance C from the 1st line at the leading edge of the paper to the 21st line of the grid pattern.
* Normally, the 1st line of the grid pattern is not printed.

(4) Check if the distance C is within 200±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance C again.

(Adjustment Mode) → (Key in code [4009]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ Press [1] → Press [SETTINGS] → Select [BYPASS] → [START] → (A grid pattern is printed out.)

* The larger the adjustment value is, the longer the distance C becomes (approx. 0.14 mm/step).

[D] Secondary scanning data laser writing start position

This adjustment has to be performed for each paper source. (If there is no paper source, skip this step.)
The following table shows the order of the paper source to be adjusted, code, paper size and acceptable values.

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	Drawer	4058	A4/LT	0 to 40	
2	Bypass feed	4061	A4/LT	0 to 15	
3	ADU	4062	A4/LT	0 to 15	<25H/25F, 28M/28F only>

Notes:
Since the laser writing start position for Bypass feed is determined on basis of the one for Drawer, the adjustment for Drawer must be performed beforehand.

<Procedure>

- Drawer, Bypass feed

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

(2) Press [1] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out.)

(3) Check the grid pattern on the test chart printed out and measure the distance D from the leading edge of the paper to the 5th line of the grid pattern.
* Normally, the 1st line of the grid pattern is not printed.

(4) Check if the distance D is within 52±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance D again.

(Adjustment Mode) → (Key in the code shown above) → [START]
→ (Key in an acceptable value shown above)
→ [OK] (Stored in memory)
→ Press [1] → Press [SETTINGS] → Select [BYPASS] → [START] → (A grid pattern is printed out.)
* The larger the adjustment value is, the shorter the distance D becomes and the blank area becomes narrower (approx. 0.54 mm/step).

- ADU

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

(2) Press [3] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out on both sides of the paper.)

(3) Check the grid pattern printed on the reverse side of test chart and measure the distance D from the leading edge of the paper to the 5th line of the grid pattern.
* Normally, the 1st line of the grid pattern is not printed.

(4) Check if the distance D is within 52±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance D again.
(Adjustment Mode) → (Key in code [4062]) → [START]
→ (Key in an acceptable value shown above)
→ [OK] (Stored in memory)
→ Press [3] → Press [SETTINGS] → Select [BYPASS] → [START] → (A grid pattern is printed out on both sides of the paper.)
* The larger the adjustment value is, the shorter the distance D becomes and the blank area becomes narrower (approx. 0.54 mm/step).

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

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

<Procedure>

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

(2) Press [3] → Press [SETTINGS] → Select [BYPASS] → [START]. (A grid pattern with 10 mm squares is printed out on both sides of the paper. Use A4/LT from the Bypass feed.)

(3) Check the grid pattern printed on the reverse side of test chart and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.

(4) Check if the distance E is within 52±0.5 mm.

(5) If not, use the following procedure to change values and measure the distance E again.
(Adjustment Mode) → (Key in code [4019]) → [START] → [0] → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ Press [3] → Press [SETTINGS] → Select [BYPASS] → [START]. → (A grid pattern is printed out on both sides of the paper.)
* The larger the adjustment value is, the larger the distance E becomes (approx. 0.05 mm/step).

(6) After the adjustment for the code 4019-0 is completed, apply the same adjustment value for the code 4019-1.
(Adjustment Mode) → (Key in the code [4019]) → [START] →[1] → [START]
→ (Key in the same value in the step 5 above)
→ Press [OK] (Stored in memory).

<Adjustment procedure summarization for A to E>

When the value is 1.
[0] [5] [Power ON] → [1] ([3](05-4062, 4019) for duplexing) → [SETTINGS] → Select [BYPASS] → [START]

A:		05-4001 (Bypass feed, A4/LT)	→ 200±0.5 mm (0.1 mm/step)
B:	[B-1]	05-4006 (Bypass feed, A4/LT)	→ 52±0.5 mm (0.04 mm/step) → Key in the same value for 05-4005.
	[B-2]	05-4018 (Drawer feed, A4/LT)	→ 52±1.0 mm (0.04 mm/step)
C:		05-4009 (Bypass feed, A4/LT)	→ 200±0.5 mm (0.14 mm/step)
D:		05-4058 (Bypass feed, A4/LT), 05-4061 (Bypass feed, A4/LT), 05-4062 (Duplexing, A4/LT)	→ 52±0.5 mm(0.54 mm/step)
E:		05-4019-0 (Bypass feed, A3/LD),	→ 52±0.5 mm (0.04 mm/step) → Key in the same value for 05-4019-1.

6.3.5 Scanner related adjustment

[A] Reproduction ratio adjustment of the primary scanning direction

<Procedure>

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

(2) Place a ruler on the original glass (along the direction from the rear to the front of the equipment).

(3) [SETTINGS] → Select a paper tray ([1]) → [►] → Bypass ([✋]) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the distance A from 10 mm to 270 mm of the copied image of the ruler.

(5) Check if the distance A is within the range of 260±0.5 mm.

(6) If not, use the following procedure to change values and measure the distance A again.

[SETTINGS] → (Key in the code [4000]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ([1]) → [►] → Bypass ([✋]) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the higher the reproduction ratio and the longer the distance A become (approx. 0.15 mm/step).

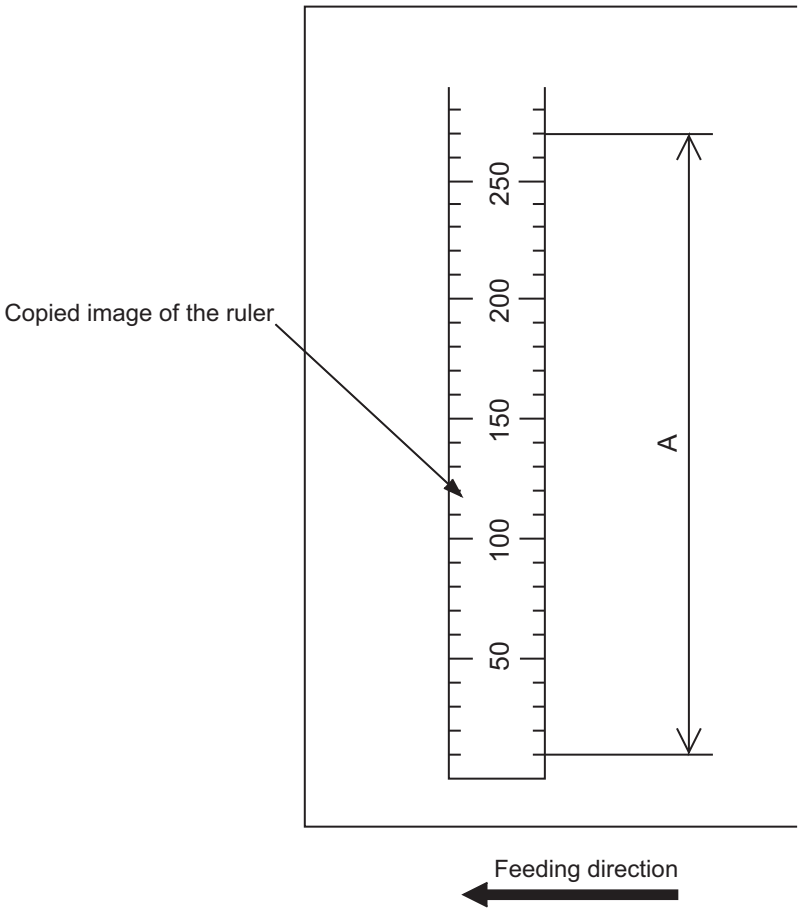


Fig.6-9

[B] Image position adjustment of the primary scanning direction

<Procedure>

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

(2) Place a ruler on the original glass with its leading edge pushed against the rear side and its side along the original scale on the left.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the distance B from the left edge of the paper to 10 mm of the copied image of the ruler.

(5) Check if the distance B is within the range of 10±0.5 mm.

(6) If not, use the following procedure to change values and measure the distance B again.

[SETTINGS] → (Key in the code [3030]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The smaller the adjustment value is, the more the image is shifted to the left and the distance B becomes narrower (approx. 0.04 mm/step).

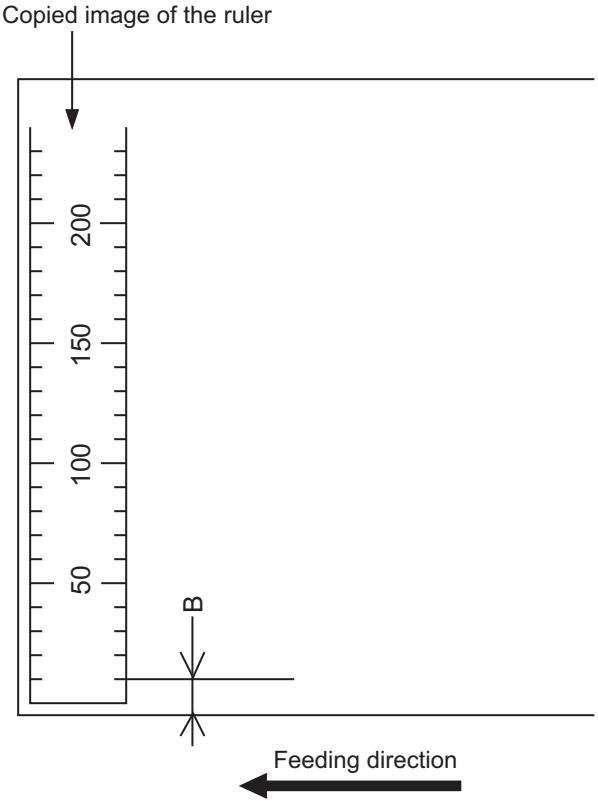


Fig.6-10

[C] Reproduction ratio adjustment of the secondary scanning direction

<Procedure>

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

(2) Place a ruler on the original glass with its leading edge pushed against the original scale on the left.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the distance C from 5 mm to 205 mm of the copied image of the ruler.

(5) Check if the distance C is within the range of 200±0.5 mm.

(6) If not, use the following procedure to change values and measure the distance C again.

[SETTINGS] → (Key in the code [3032]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The smaller the adjustment value is, the lower the reproduction ratio becomes (approx. 0.03 mm/step).

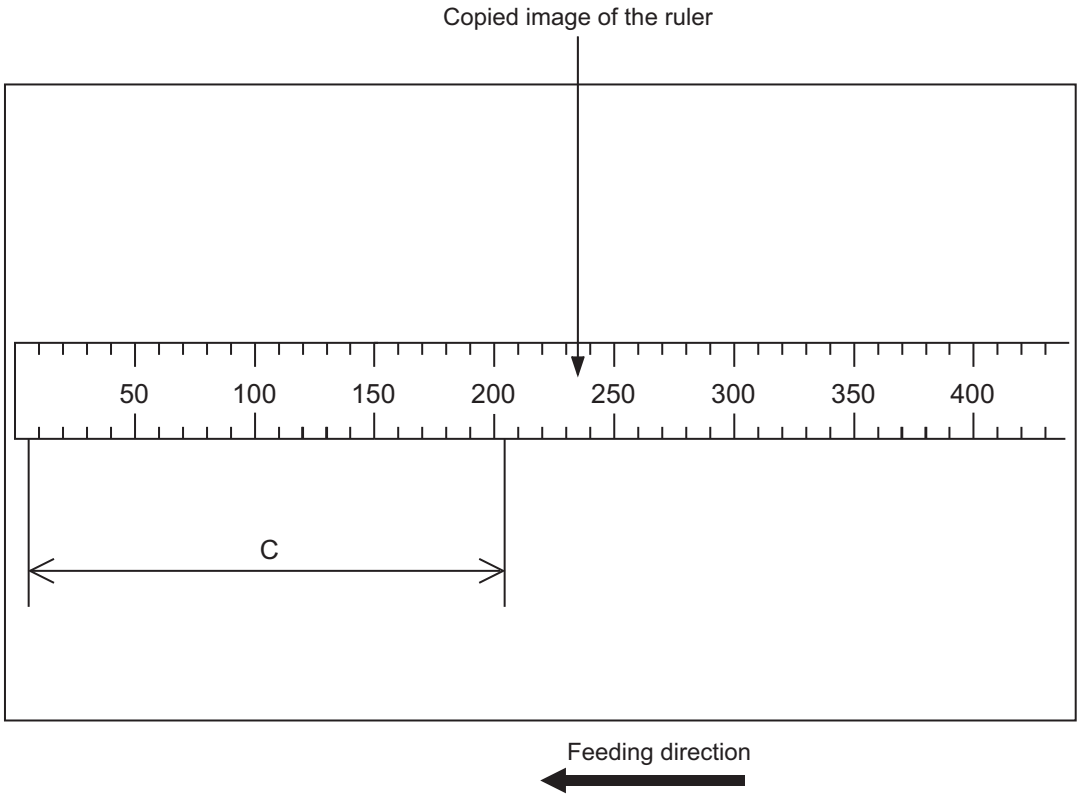


Fig.6-11

[D] Image position adjustment of the secondary scanning direction

<Procedure>

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

(2) Place a ruler on the original glass with its leading edge pushed against the original scale on the left.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the distance D from the leading edge of the paper to 10 mm of the copied image of the ruler.

(5) Check if the distance D is within the range of 10±0.5 mm.

(6) If not, use the following procedure to change values and measure the distance D again.

[SETTINGS] → (Key in the code [3031]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the more the image is shifted to the trailing edge (approx. 0.13 mm/step).

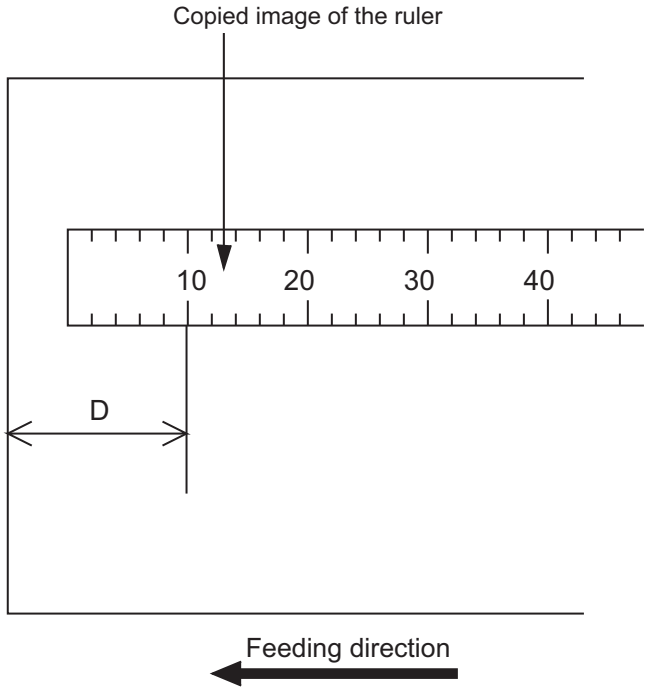


Fig.6-12

[E] Top margin

<Procedure>

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

(2) Open the original cover or ADF.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the blank area E at the leading edge of the copied image.

(5) Check if the blank area E is within the range of 3 ± 0.5 mm.

(6) If not, use the following procedure to change values and measure the distance E again.

[SETTINGS] → (Key in the code [4050]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the wider the blank area becomes (approx. 0.04 mm/ step).

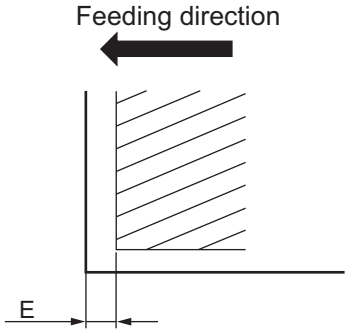


Fig.6-13

[F] Left margin

<Procedure>

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

(2) Open the original cover or ADF.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(4) Measure the blank area F at the left side of the copied image.

(5) Check if the blank area F is within the range of 2±1.0 mm.

(6) If not, use the following procedure to change values and measure the distance F again.

[SETTINGS] → (Key in the code [4051]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the wider the blank area at the left side becomes (approx. 0.04 mm/step).

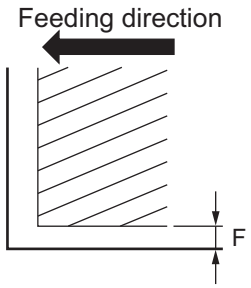


Fig.6-14

[G] Right margin

<Procedure>

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

(2) Open the original cover or ADF.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(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 of 2±1.0 mm.

(6) If not, use the following procedure to change values and measure the distance G again.

[SETTINGS] → (Key in the code [4052]) → [START]
→ (Key in a value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the wider the blank area at the right side becomes (approx. 0.04 mm/step).

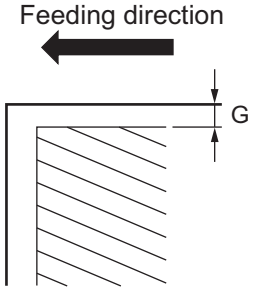


Fig.6-15

[H] Bottom margin

<Procedure>

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

(2) Open the original cover or ADF.

(3) [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

(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 of 2±1.0 mm.

(6) If not, use the following procedure to change values and measure the distance H again.

[SETTINGS] → (Key in the code [4053]) → [START]
→ (Key in value (acceptable values: 0 to 255))
→ [OK] (Stored in memory)
→ [SETTINGS] → Select a paper tray ( ) → [►] → Bypass ( ) → [OK] → Set A4/LT paper in Bypass → Select A4/LT → [OK] → Select the type of paper → [OK] → Press [START] to make copies

* The larger the adjustment value is, the wider the blank area at the trailing edge becomes (approx. 0.04 mm/step).

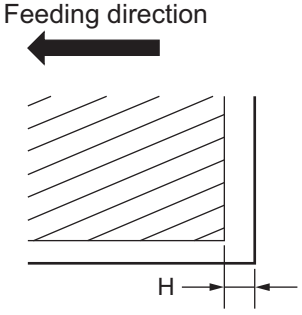


Fig.6-16

6.4 Image Quality Adjustment (Copying Function)

6.4.1 Automatic gamma adjustment

When the reproduction of gradation is not appropriate, it can be corrected by performing this automatic gamma adjustment. At the parts replacement and in case the gradation reproduction of the image is not satisfactory, make this adjustment as described below.

(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 roller
- Drum cleaning blade
- Main charger grid
- Memory IC

Code	Item to be adjusted	Contents
05-7165	Automatic gamma adjustment	When the reproduction of gradation is not appropriate, it can be corrected by performing this automatic gamma adjustment.
05-7167	Automatic gamma adjustment (binary dithering)	

<Procedure>

(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode
(2) To output a gamma adjustment patch chart: Press [10] → Press [SETTINGS] → Select [DRAWER] → Press [START].
(3) Place the patch chart for adjustment printed in step (2) face down on the original glass. Place the chart aligning its black side of the gradation pattern against the original scale.
(4) Key in a code “7165” and press the [START] button.
(5) If process finishes successfully, select “Yes” and press the [OK] button to apply the adjustments. (To cancel the reflection of adjustment results, press the [CANCEL] button.)
In the case of an abnormal ending, “Error” is shown.
Press the [CANCEL] button to clear the error display. Next, confirm that the patch chart is oriented correctly on the platen and not at an angle, then do the process from step (3) again.
(6) To output a gamma adjustment patch chart (Black; binary dithering): Press [20] → Press [SETTINGS] → Select [DRAWER] → Press [START].

Notes:
- Compare with chart output in step (2), there should be no differences in patterns and no faint colors.

(7) Place the patch chart for adjustment printed in step (6) face down on the original glass. Place the chart aligning its black side of the gradation pattern against the original scale.
(8) Key in a code “7167” and press the [START] button.
(9) If process finishes successfully, select “Yes” and press the [OK] button to apply the adjustments. (To cancel the reflection of adjustment results, press the [CANCEL] button.)
In the case of an abnormal ending, “Error” is shown. After cancelling, press the [SETTINGS] button to be able to print again. Next, confirm that the patch chart is oriented correctly on the platen and not at an angle, then do the process from step (8) again.
(10) Turn the power OFF.

6.4.2 Density adjustment

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

< Adjustment Mode (05) >

Original mode			BackGround Erase	Item to be adjusted	Remarks
Text/Photo	Photo	Text			
7114	7116	7115	7143	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
7123	7125	7124	7142	Automatic density mode	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

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

<Procedure>

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

(2) Key in a code and press the [START] button.

(3) Key in an adjustment value.

(To correct the keyed-in value, press the [CLEAR/STOP] button.)

(4) Press the [OK] button to store the value. → The equipment goes back to the test mode A screen.

(5) Press the [SETTINGS] button and then the [START] button. Then perform test copying.

(6) If the desired image density has not been attained, repeat step (1) to (5).

6.4.3 Background adjustment

The density of the background can be adjusted as follows.

< Adjustment Mode (05) >

Original mode			BackGround Erase	Item to be adjusted	Remarks
Text/Photo	Photo	Text			
7033	7043	7034	7107	Automatic density mode	The larger the value is, the lighter the background becomes. Acceptable values:0 to 255 (Default: 128)

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

<Procedure>

Procedure is same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.4.4 Sharpness adjustment

If you want to make copy images look softer or sharper, perform the following adjustment.

< Adjustment Mode (05) >

Original mode			BackGround Erase	Item to be adjusted	Remarks
Text/Photo	Photo	Text			
7056	7058	7057	7063	Sharpness adjustment	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)

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

<Procedure>

Procedure is same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.4.5 Gamma balance adjustment

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

< Adjustment Mode (05) >

Language and screen			BackGround Erase	Item to be adjusted	Remarks
Text/Photo	Photo	Text			
7190-0	7192-0	7191-0	7195-0	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	7192-1	7191-1	7195-1	Medium density	
7190-2	7192-2	7191-2	7195-2	High density	

Notes:

Changing the adjustment setting influences the adjacent density area slightly.
E.g.: When the value of the medium density is larger, the adjacent areas in the low density and high density range will become slightly darker.

<Procedure>

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

(2) Key in the code for an item to be adjusted and then press the [START] button.

(3) Key in a number for the density area to be adjusted (0, 1 or 2), and then press the [START] button.
0: Low density, 1: Medium density, 2: High density

(4) Key in an adjustment value.
(To correct the keyed-in value, press the [CLEAR/STOP] button.)

(5) Press the [OK] button to store the value in memory. The equipment goes back to the test mode A screen.

(6) For resetting the value, repeat step (2) to (5).

(7) Press the [SETTINGS] button and then the [START] button. Then perform test copying.

(8) If the desired image density has not been attained, repeat step (2) to (7).

6.4.6 Adjustment of image density

The image density level can be set at the following codes.

< Adjustment Mode (05) >

Code			BackGround Erase	Item to be adjusted	Remarks
Text/photo	Text	Photo			
7218-0 to 4	7219-0 to 4	7220-0 to 4	7223-0 to 4	Adjustment of image density	When the value is decreased, text becomes lighter. Acceptable values: 0 to 10 **Notes:** 1. Set not to reverse the large and small number of the setting value corresponding to the sub code. Ex.) When the image density level for 7218-0, 7218-1, 7218-2, 7218-3, and 7218-4 is assumed to be “A”, “B”, “C”, “D”, and “E” respectively, they should have the following correlation: A ≤ B ≤ C ≤ D ≤ E 2. Remember that 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>

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

(2) Key in a code and press the [START] button.

(3) Key in the sub code (0, 1, 2, 3 or 4), and press the [START] button.

(4) Key in an adjustment value.
(To correct the keyed-in value, press the [CLEAR/STOP] button.)

(5) Press the [OK] button to store the value in memory. The equipment goes back to the test mode A screen.

(6) For resetting the value, repeat step (2) to (5).

(7) Press the [SETTINGS] button and then select an original mode. Then press the [START] button to perform test copying.

(8) If the desired image density has not been attained, repeat step (2) to (7).

6.4.7 Background offsetting adjustment for ADF <25S/25H/25F> / RADF <28M/28F>

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

< Adjustment Mode (05) >

Code	Item to be adjusted	Remarks
7025	Background offsetting adjustment for ADF/RADF PPC(black)	The smaller the adjustment value is, the lighter the background becomes. The larger the adjustment value is, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)
7026	Background offsetting adjustment for ADF/RADF Scan / Network scan (Color)	The smaller the adjustment value is, the lighter the background becomes. The larger the adjustment value is, the darker the background becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>
Procedure is same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.5 Image Quality Adjustment (Printing Function)

6.5.1 Adjustment of image density

The image density level can be set at the following codes.

< Adjustment Mode (05) >

Toner mode		Item to be adjusted	Remarks
Test Print	Toner save (PCL/GDI)		
7355-0 to 4	7352-0 to 4	Adjustment of image density	When the value is decreased, text becomes lighter. Acceptable values: 0 to 10 **Notes:** 1. Set not to reverse the large and small number of the setting value corresponding to the sub code. Ex.) When the image density level for 7355-0, 7355-1, 7355-2, 7355-3, and 7355-4 is assumed to be “A”, “B”, “C”, “D”, and “E” respectively, they should have the following correlation: A ≤ B ≤ C ≤ D ≤ E 2. Remember that 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. 3. <25S/28A>:GDI, <25H/25F, 28M/28F>:PCL

<Procedure>

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

(2) Key in a code and press the [START] button.

(3) Key in the sub code (0, 1, 2, 3 or 4), and press the [START] button.

(4) Key in an adjustment value.
(To correct the keyed-in value, press the [CLEAR/STOP] button.)

(5) Press the [OK] button to store the value in memory. The equipment goes back to the test mode A screen.

(6) For resetting the value, repeat step (2) to (5).

(7) Turn the power OFF and then back ON to perform printing job.

(8) If the desired image density has not been attained, repeat step (2) to (7).

6.5.2 Gamma balance adjustment <25H/25F, 28M/28F>

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

<Adjustment Mode (05)>

Color mode	Smooth (PCL)	Detail (PCL)	Item to be adjusted	Remarks
Black (600dpi)	7317-0	7318-0	Low density	<25H/25F, 28M/28F> The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
	7317-1	7318-1	Medium density	
	7317-2	7318-2	High density	

Notes:

Changing the adjustment setting influences the adjacent density area slightly.
E.g.: When the value of the medium density is larger, the adjacent areas in the low density and high density range will become slightly darker.

<Procedure>

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

(2) Key in the codes to be adjusted (language and screen) and press the [START] button.

(3) Key in the value corresponding to the density area to be adjusted (0, 1 or 2) and press the [START] button.
0: Low density 1: Medium density 2: High density

(4) Key in an adjustment value. (To correct the value once keyed in, press the [CLEAR/STOP] button.)

(5) Press the [OK] button to store the value in memory. → The equipment goes back to the test mode A screen.

(6) For resetting the value, repeat step (2) to (5).

(7) Turn the power OFF and then back ON. Then perform printing.

(8) If the image density has not been attained, repeat step (2) to (7).

6.6 Image Quality Adjustment (Scanning Function)

6.6.1 Gamma balance adjustment

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

<Adjustment Mode (05)>

Black			Gray Scale	Item to be adjusted	Remarks
Original mode					
Text/Photo	Text	Photo			
7485-0	7486-0	7487-0	7488-0	Low density	<25H/25F, 28M/28F> The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255 (Default: 128)
7485-1	7486-1	7487-1	7488-1	Medium density	
7485-2	7486-2	7487-2	7488-2	High density	

Notes:

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>

Procedure is same as that of 📖 P. 6-24 "6.4.5 Gamma balance adjustment".

6.6.2 Density adjustment

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

<Adjustment Mode (05)>

Color Mode	Original mode			Item to be adjusted	Remarks
	Text /Photo	Text	Photo		
Color	8339	8340	8341	Manual density center value	<25H/25F, 28M/28F> The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

<Adjustment Mode (05)>

Black			Gray Scale	Item to be adjusted	Remarks
Original mode					
Text/ Photo	Text	Photo			
7444	7445	7446	7447	Manual density center value	<25H/25F, 28M/28F> The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
7456	7457	7458	7459	Automatic density	

<Procedure>

Procedure is same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.6.3 Sharpness adjustment

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

<Adjustment Mode (05)>

Code	Color mode	Original mode	Contents
8335	Full Color	Text	<25H/25F, 28M/28F> The larger the value is, the sharper the image becomes; while the smaller the value is, the softer the image becomes. The smaller the value is, the less moire tends to appear. The acceptable values are 0 to 255 (Default: 128)
8336		Photo	
8354		Text/Photo	
7430	Black	Text/Photo	
7431		Text	
7432		Photo	
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. 6-22 "6.4.2 Density adjustment".

6.6.4 Background adjustment

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

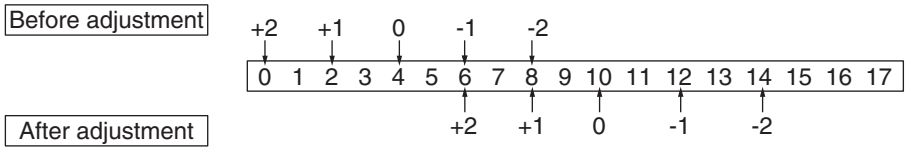


Fig.6-17

<Adjustment Mode (05)>

Code	Original mode	Remarks
8309	Text/Photo	<25H/25F, 28M/28F> The smaller the value is, the background becomes lighter. Acceptable values: 0 to 50 (Default: 50)
8310	Text	
8311	Photo	

<Procedure>

The procedure is the same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.6.5 Fine adjustment of black density

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

<Adjustment Mode (05)>

Code	Original mode	Remarks
8314	Text / Photo	<25H/25F, 28M/28F> The larger the value is, the black side of the image becomes darker. Acceptable values: 0 to 4 Default: 8314:1 other: 0
8315	Text	
8316	Photo	

Notes:

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

<Procedure>

The procedure is the same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.6.6 RGB conversion method selection

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

<Adjustment Mode (05)>

Code	Original mode	Remarks
8319	Text /Photo	<25H/25F, 28M/28F> 0: sRGB, 1: AppleRGB, 2: ROMMRGB, 3: AdobeRGB (Default: 0)
8320	Text	
8321	Photo	

<Procedure>

The procedure is the same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.6.7 Adjustment of saturation

The saturation of the scanned image is adjusted for color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
8324	Text / Photo	<25H/25F, 28M/28F> 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	

<Procedure>

The procedure is the same as that of 📖 P. 6-22 "6.4.2 Density adjustment".

6.6.8 Background processing offset adjustment

The density of background is adjusted.

<Adjustment Mode (05)>

Black			Item to be adjusted	Remarks
Original mode				
Text/ Photo	Photo	Gray Scale		
8400	8402	8403	Background density adjustment / Automatic density adjustment	<25H/25F, 28M/28F> The smaller the value is, the lower the density of the image background (low density section) becomes. The larger the value is, the higher the density of the image background (low density section) becomes. Acceptable values: 0 to 255 (Default: 128)

<Procedure>

The procedure is the same as that of 🕮 P. 6-22 "6.4.2 Density adjustment".

6.7 Adjustment of the Scanner Section

6.7.1 CIS unit

[A] Replacing the CIS unit

- The CIS unit must not be readjusted and some part of its components must not be replaced in the field since the unit is precisely adjusted. If any of the components is defective, replace the whole unit.
- Handle the CIS unit with care not to contaminate the lens with fingerprints or such.
- Take off 2 original glass guides from the CIS unit, and then install a new CIS unit.
- Be sure to perform “05-3219” with the platen cover or the ADF/RADF closed after replacing the CIS unit.

6.8 Adjustment of Developer Unit <28A/28M/28F>

6.8.1 Doctor-to-sleeve gap

(1) Perform the adjustment code “05-2390”.
(2) Take out the process unit from the equipment.
🕮 P. 4-45 "4.7.2 Process unit <28A/28M/28F>"
(3) Take out the drum cleaner unit from the process unit so that only the developer unit will be left in it.
🕮 P. 4-46 "4.7.3 Drum cleaner unit"

Notes:
1. Be careful not to touch or scratch the drum surface.
2. Avoid direct light. Place the drum in a dark place immediately after taking off.
3. Place the removed drum cleaner unit facing the direction shown in the figure.

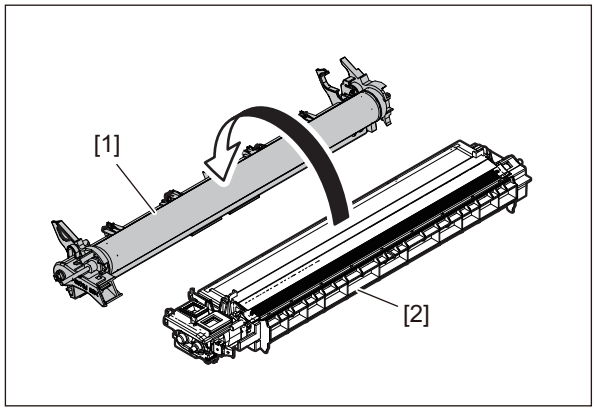


Fig.6-18

(4) Remove the developer material.
🕮 P. 4-54 "4.7.19 Removing developer material"
(5) Turn the adjustment screw to widen the gap so that the jig can be inserted in it.(The front side of the developer unit is fixed by means of the spring's weight.)

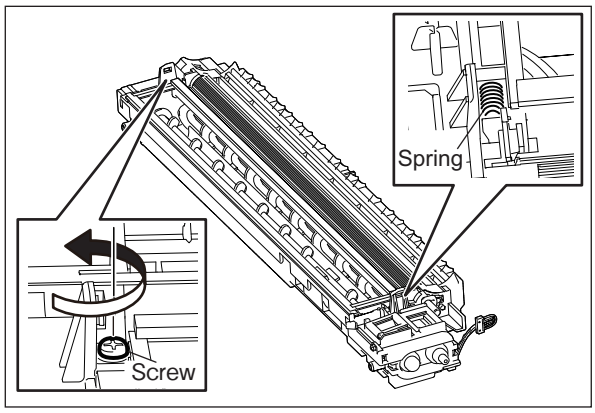


Fig.6-19

(6) Insert the gauge with the thickness "0.45" of the doctor sleeve jig into the gap between the developer sleeve and doctor blade after lifting up the toner scattering prevention sheet.
Adjust the screws with the doctor blade to push the doctor sleeve jig lightly.

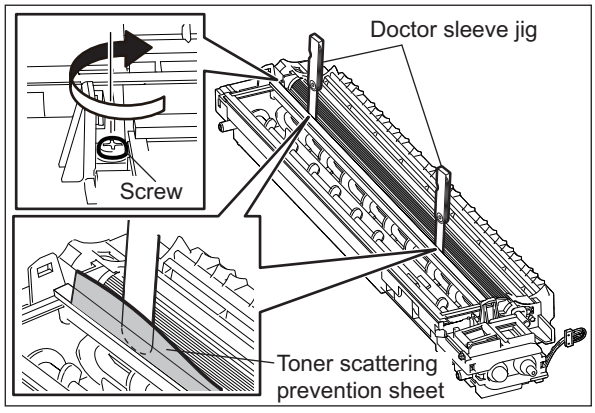


Fig.6-20

(7) Insert the gauge “0.40” of the doctor sleeve jig into the gap between the developer sleeve and doctor blade. Confirm that the jig moves smoothly to the front and rear side, and the gauge “0.50” cannot be inserted into the gap.

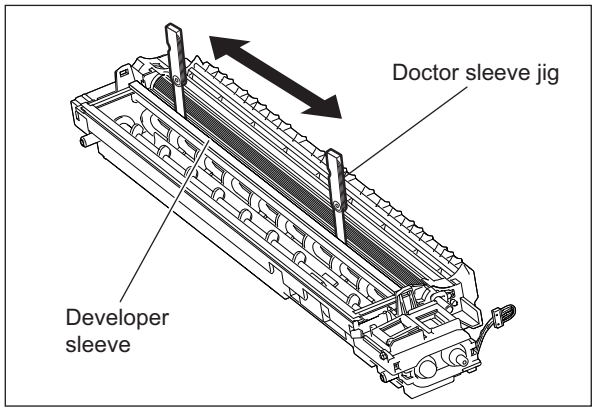


Fig.6-21

(8) Confirm that the side seals are attached on the toner scattering prevention sheet.

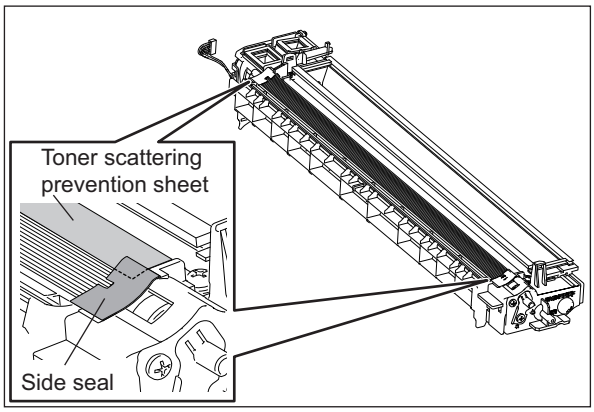


Fig.6-22

6.9 Adjustment of the ADF <25S/25H/25F>

6.9.1 Tray volume adjustment

[A] General description

Perform this adjustment when the original tray (volume) or the ADF board is replaced.

[B] Adjustment Method

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Minimize the width of the side guide of the tray.
(3) [3050] → [START]
The tray volume adjustment starts. When the adjustment is completed properly, the adjustment value (100 or less) and "COMPLETED" are displayed.

Notes:
If the adjustment value is out of the appropriate range, "ERROR" is displayed on the screen. In this case, press the [CANCEL] button and confirm that the width of the side guide is minimized. Then reattempt the procedure from step (2).

(4) Press the [OK] button.
(5) Maximize the width of the side guide of the tray.
(6) [3051] → [START]
The tray volume adjustment starts. When the adjustment is completed properly, the adjustment value (200 or more) and "COMPLETED" are displayed.

Notes:
If the adjustment value is out of the appropriate range, "ERROR" is displayed on the screen. In this case, press the [CANCEL] button and confirm that the width of the side guide is maximized. Then reattempt the procedure from step (5).

(7) Press the [OK] button.
(8) Turn the power OFF with the main power switch.

6.9.2 Adjustment of the leading edge position

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the ADF.

[A] Checking

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

(1) Place the chart on the ADF original tray with the image face up.
(2) Press the [START] button.
(3) Place the copy on top of the chart, and check the displacement of the margin of the copied image.

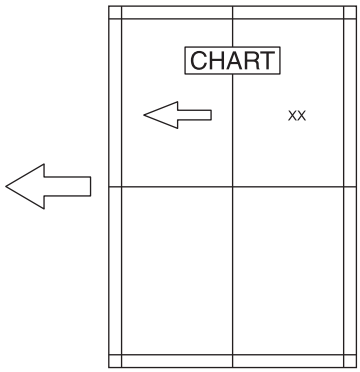


Fig.6-23

[B] Adjustment

(1) Turn the power ON with the main power switch while pressing [0] and [5] simultaneously.
(2) Press [3044] → [START] → [CLEAR/STOP] button.
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 0.2 mm.

(3) Press the [OK] button.

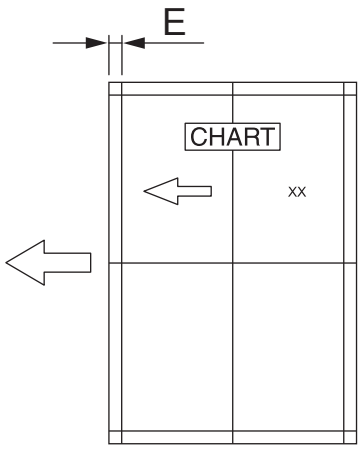


Fig.6-24Chart (Original)

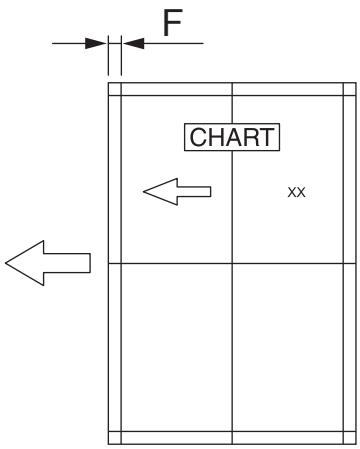


Fig.6-25Copy

6.9.3 Adjustment of horizontal position

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the ADF.

[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 ADF.
(2) Press the [START] button.
(3) Fold the copy in half and check if the center line is misaligned.

[B] Adjustment

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Key in [3043] and then press the [START] button.
(3) Press the [CLEAR/STOP] button and then enter the value.
- 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 0.042 mm.

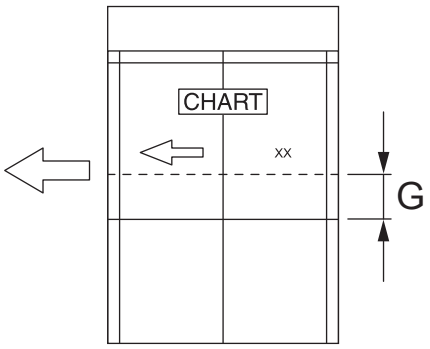


Fig.6-26

- 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 0.042 mm.

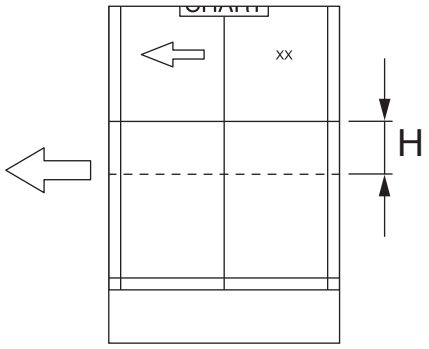


Fig.6-27

(4) Press the [OK] button.

6.9.4 Adjustment of copy ratio

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the ADF.

[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 ADF.
(2) Press the [START] button.
(3) Superimpose the chart on the copy and check the image dimension “I”.

[B] Adjustment

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Key in [3042] and then press the [START] button.
(3) Press the [CLEAR/STOP] button and then enter the value.
- If the copy image dimension “I” is larger than the chart dimension, enter a value smaller than the current one.
- If the copy image dimension “I” is smaller than the chart dimension, enter a value larger than the current one.

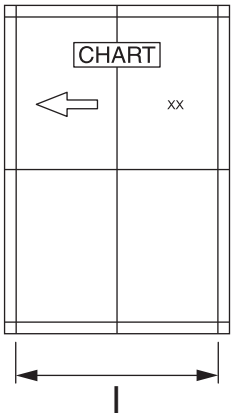


Fig.6-28

(4) Press the [OK] button.

6.10 Adjustment of the RADF <28M/28F>

6.10.1 Tray volume adjustment

[A] General description

Perform this adjustment when the original tray (volume) or the RADF board is replaced.

[B] Adjustment Method

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Minimize the width of the side guide of the tray.
(3) [3050] → [START]
The tray volume adjustment starts. When the adjustment is completed properly, the adjustment value (100 or less) and "COMPLETED" are displayed.

Notes:
If the adjustment value is out of the appropriate range, "ERROR" is displayed on the screen. In this case, press the [CANCEL] button and confirm that the width of the side guide is minimized. Then reattempt the procedure from step (2).

(4) Press the [OK] button.
(5) Maximize the width of the side guide of the tray.
(6) [3051] → [START]
The tray volume adjustment starts. When the adjustment is completed properly, the adjustment value (200 or more) and "COMPLETED" are displayed.

Notes:
If the adjustment value is out of the appropriate range, "ERROR" is displayed on the screen. In this case, press the [CANCEL] button and confirm that the width of the side guide is maximized. Then reattempt the procedure from step (5).

(7) Press the [OK] button.
(8) Turn the power OFF with the main power switch.

6.10.2 Adjustment of Skew

Notes:

- Check if the image adjustment for the equipment has been performed properly before this adjustment of the RADF.
  (See the Service Manual of the applicable equipment.)
  Also, the tray volume has been adjusted properly.
- After this adjustment is performed, be sure to carry out the leading edge position, horizontal position and copy ratio adjustments.
- The skew volume sometimes does not become "0" even if this adjustment mechanism using the hinge is adopted.
  Moreover, a problem such as damage to parts may occur if an attempt to adjust the volume is made by exceeding the recommended adjustment width of the hinge.

[A] Checking

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

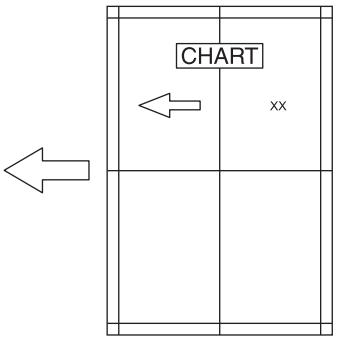


Fig.6-29

(1) Place the chart provided as an original with its face up on the original tray of the RADF and press the [START] button.
(2) Superimpose the chart on the copy and check the inclination of the copy image.

[B] Adjustment

(1) Turn the screw shown in the figure below to adjust the skew.

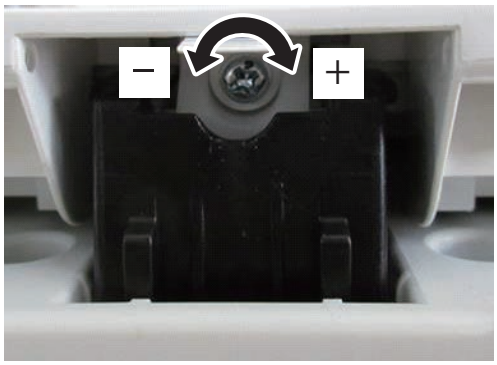


Fig.6-30

(2) Turn the screw while checking the scale position of the label [1].

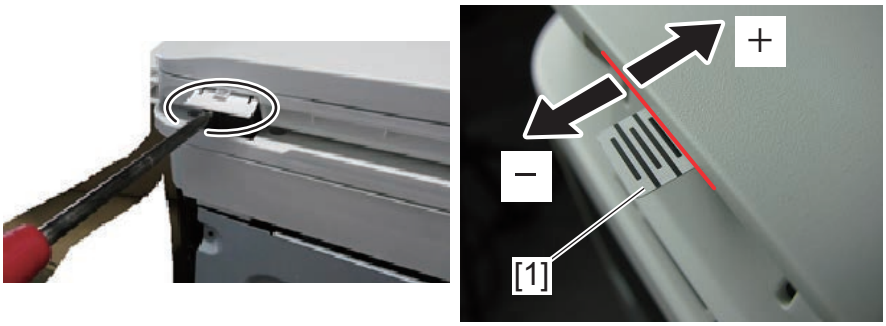


Fig.6-31

- 1 scale: 1.0 mm
- Recommended adjustment range of the hinge: ±1.5 mm (when "a" is taken as a center)

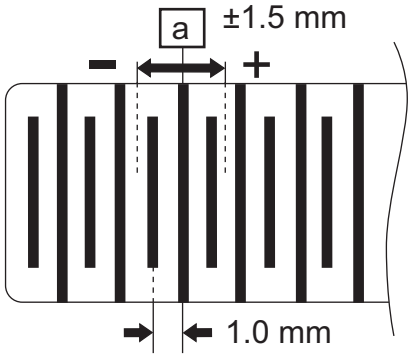


Fig.6-32

- The label position when the screw is turned by + or - 1.5 mm scales
  * The line [2] indicates the edge of the RADF cover.

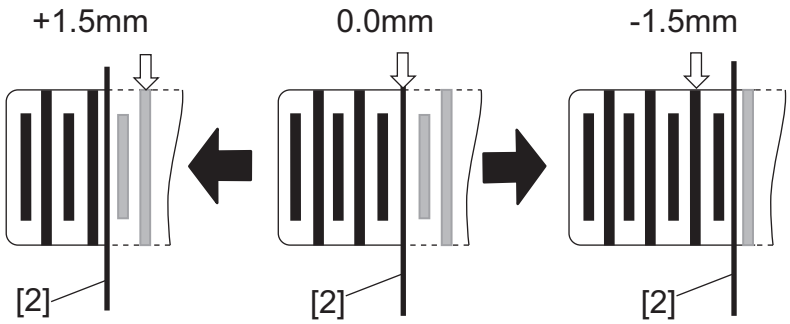


Fig.6-33

(3) If the image skew is "C" as shown in the figure below, turn the screw in the direction of "-", and if "D", turn it to "+".

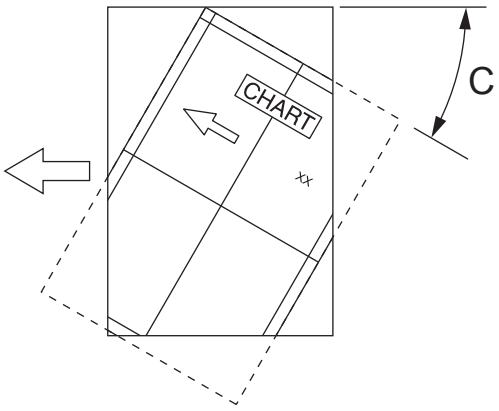


Fig.6-34

Turn the screw in the direction of "-".

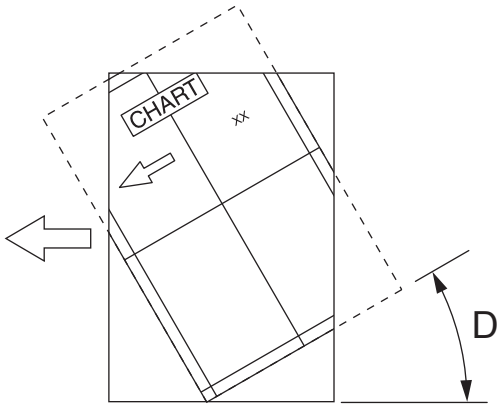


Fig.6-35

Turn the screw in the direction of "+".

Notes:
Turning the screw exceeding 1.5 scales or more in the "+" or "-" direction may cause a paper jam.

(4) When the adjustment is finished, reattach the platen sheet.
(5) After the RADF is closed, visually check that there is no gap between the top cover of the scanner and the foot portions of the RADF.
If the gap is not appropriate, the adjustment range may be exceeded. In this case, turn the screw in the "+" direction until the gap becomes appropriate.

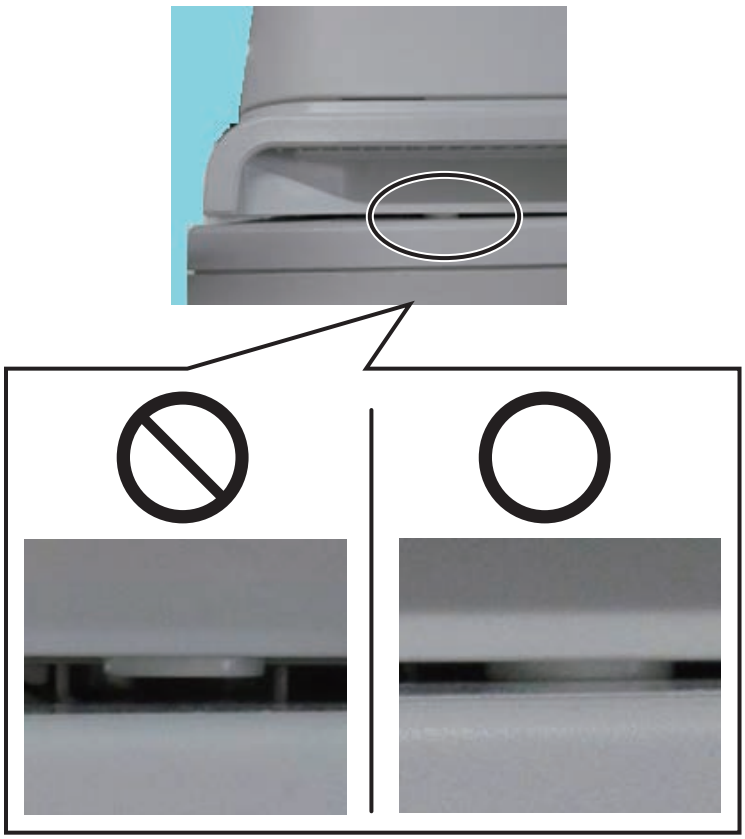


Fig.6-36

Notes:
Be sure to reattach the platen sheet at any time after turning the screw.

6.10.3 Adjustment of the leading edge position

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the RADF.

[A] Checking

Check the image using the chart (original) with vertical and horizontal lines in the following procedure.

Simplex copy

(1) Place the chart on the RADF original tray with the image face up.
(2) Select [1 → 1 SIMPLEX] and press the [START] button.
(3) Place the copy on top of the chart, and check the displacement of the margin of the copied image.

Duplex copy

(1) Place the chart on the RADF original tray with the image face down (Fig.6-37).
(2) Select [2 → 2 DUPLEX] and press the [START] button.

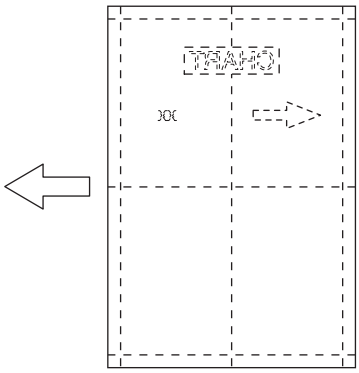


Fig.6-37

[B] Adjustment

Simplex copy

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Press [3044] → [START]
When the margin of the copied image (Fig.6-39Copy) is larger than that of the chart (Fig.6-38 Chart (Original)): Enter a value lower than the current one.
When the margin of the copied image (Fig.6-39Copy) is smaller than that of the chart (Fig.6-38 Chart (Original)): Enter a value larger than the current one.
* Changing the value by 1 point moves the margin by 0.2 mm.
(3) Press the [OK] button.

Duplex copy

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Press [3045] → [START]
When the margin of the copied image (Fig.6-39Copy is larger than that of the chart (Fig.6-38 Chart (Original)): Enter a value lower than the current one.
When the margin of the copied image (Fig.6-39Copy) is smaller than that of the chart (Fig.6-38 Chart (Original)): Enter a value larger than the current one.
* Changing the value by 1 point moves the margin by 0.2 mm.
(3) Press the [OK] button.

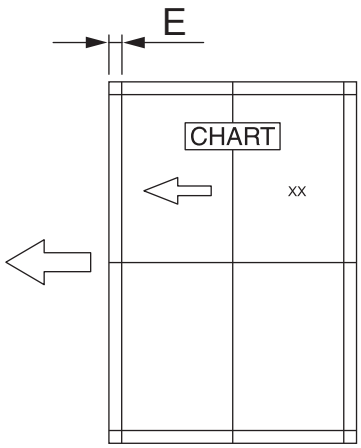


Fig.6-38Chart (Original)

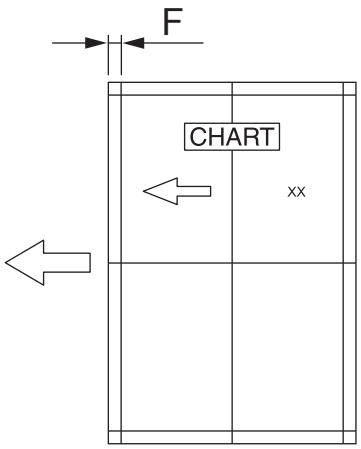


Fig.6-39Copy

6.10.4 Adjustment of horizontal position

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the RADF.

[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 RADF.
(2) Press the [START] button.
(3) Fold the copy in half and check if the center line is misaligned.

[B] Adjustment

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Key in [3043] and then press the [START] button.
(3) Enter the value.
- 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 0.04 mm.

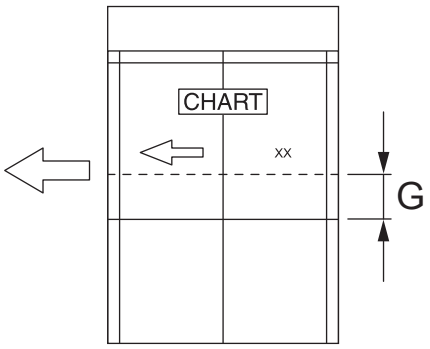


Fig.6-40

- 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 0.04 mm.

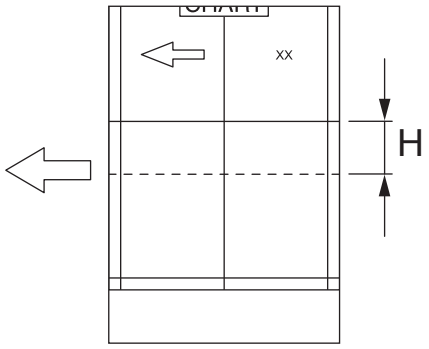


Fig.6-41

(4) Press the [OK] button.

6.10.5 Adjustment of copy ratio

Notes:

Check if the image adjustment for the equipment is performed properly before this adjustment of the RADF.

[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 RADF.
(2) Press the [START] button.
(3) Superimpose the chart on the copy and check the image dimension “I”.

[B] Adjustment

(1) Turn the power ON while pressing [0] and [5] simultaneously.
(2) Key in [3042] and then press the [START] button.
(3) Press the [CLEAR/STOP] button and then enter the value.
- If the copy image dimension “I” is larger than the chart dimension, enter a value smaller than the current one.
- If the copy image dimension “I” is smaller than the chart dimension, enter a value larger than the current one.

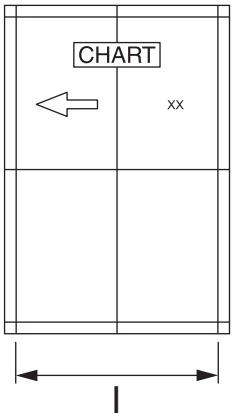


Fig.6-42

(4) Press the [OK] button.

7. PREVENTIVE MAINTENANCE (PM)

7.1 General Description

Perform the preventive maintenance in the following timing.

every 55,000 sheets <25S/25H/25F>
every 64,000 sheets <28A/28M/28F>

(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.
- 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.

(4) After preventive maintenance, set the value of 08-6194 (Current value of PM counter Display) to "0".
* This deletes the message "Time for maintenance".

7.2 PM Support Mode (6S)

7.2.1 General description

The timing for the parts replacement usually depends on the number of output pages ever printed after they were replaced before. However, the life span of them changes depending on the general use of users and the environment in which the equipment is placed. Therefore, it is necessary to consider not only the number of output pages but also the drive counts when deciding the timing for the parts replacement in order to utilize the parts and materials effectively.
This equipment has a PM support mode, which displays information on the state of use (number of pages printed, drive time) of each replacement part, and enables the counter to be cleared more efficiently during replacement.
The replacement record can be printed out in the list printing mode (9S-103).

7.2.2 Operational flow and operational screen

[1] Operational flow

<25S/25H/25F>

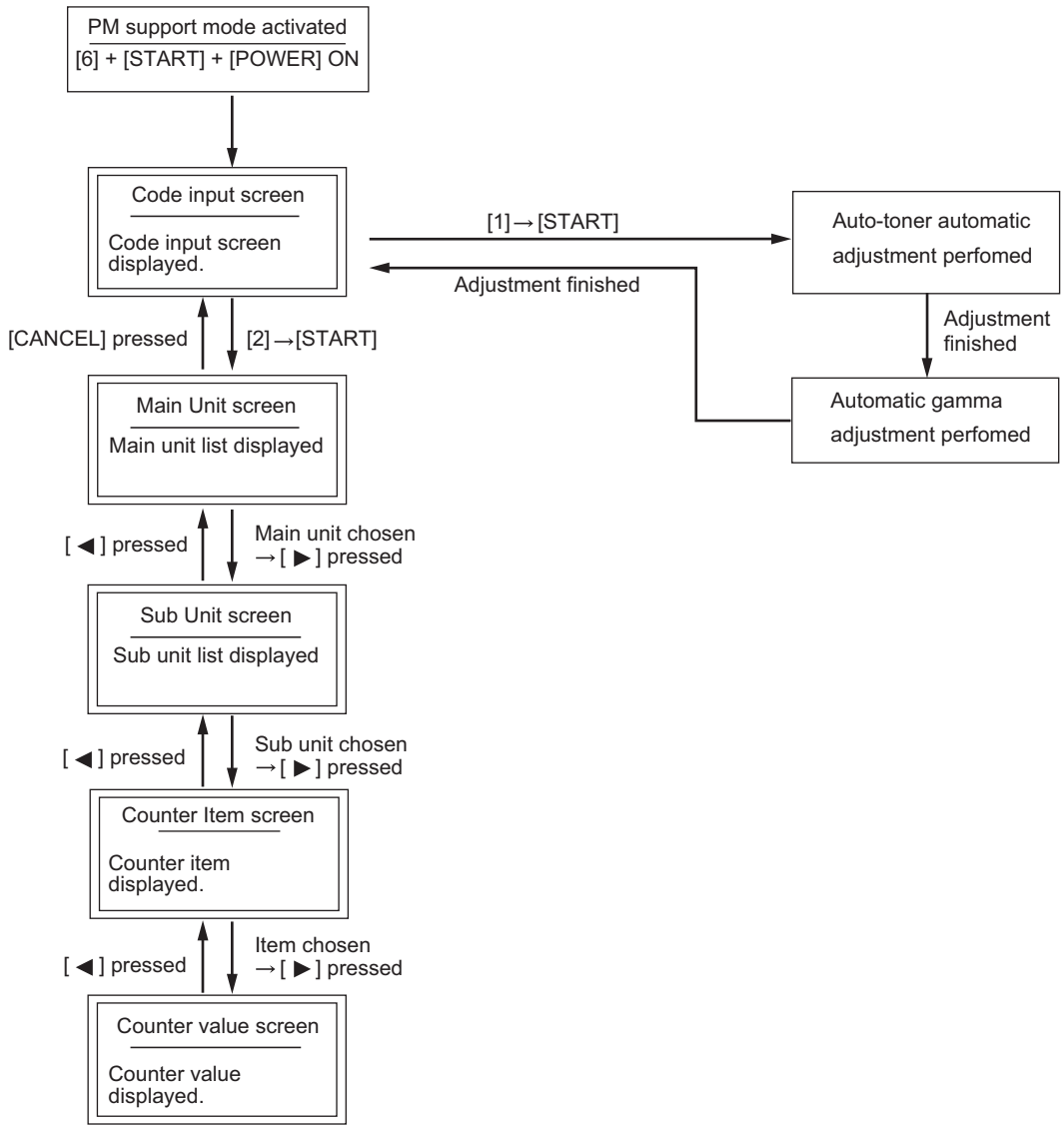


Fig. 7-1

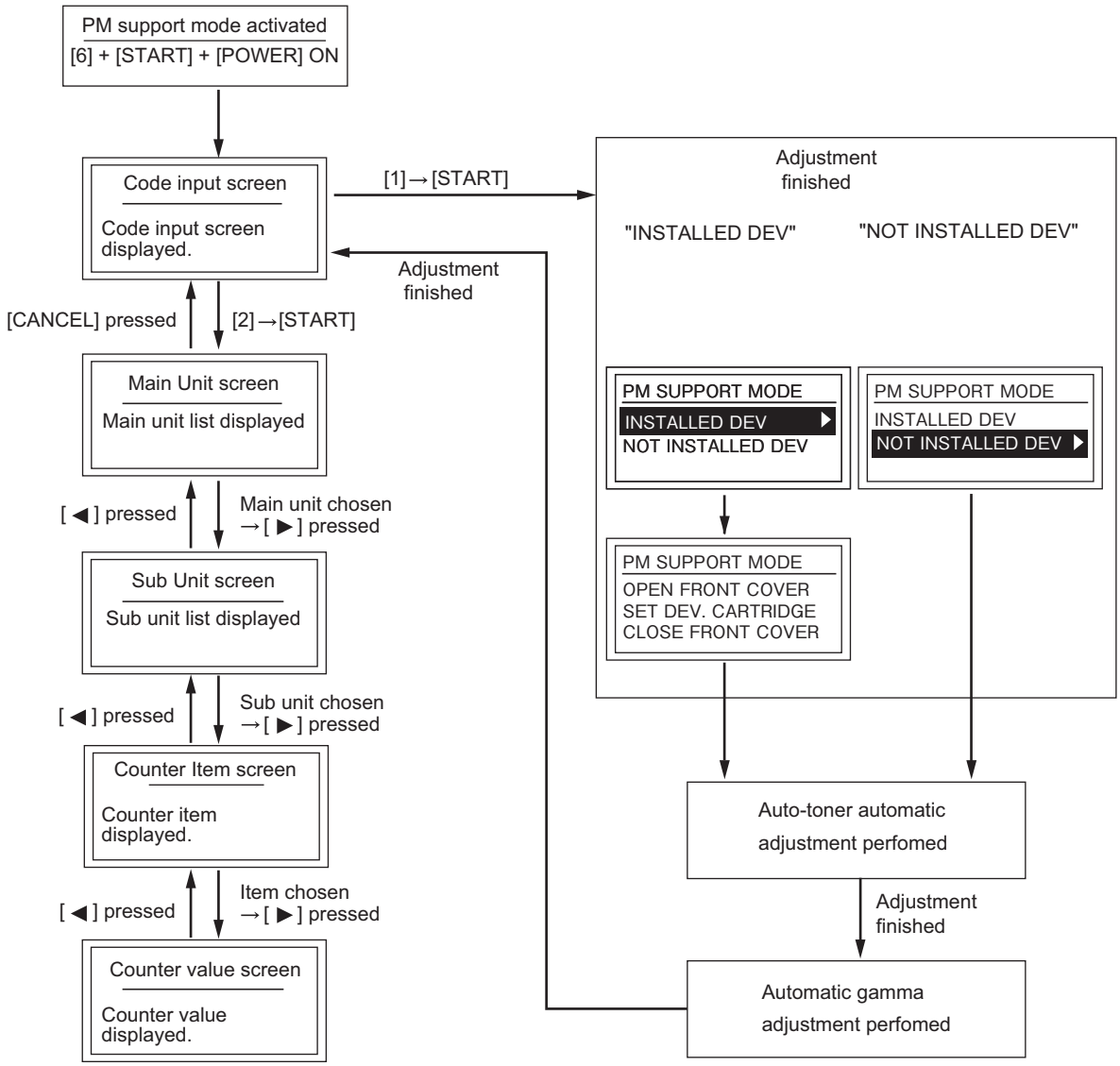


Fig. 7-2

7

[2] Basic operation procedure

Example) Checking the Drum OUTPUT PAGE

1. Turn ON the power while pressing [START] and [6] simultaneously.
   The screen for entering the code will be displayed.

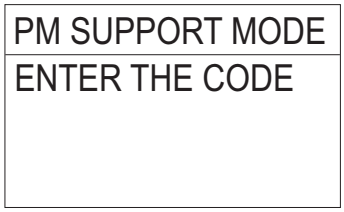


Fig. 7-3

2. Press the [2] button and then the [START] button.
   The Main Unit screen will be displayed.

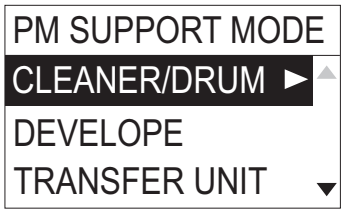


Fig. 7-4

3. Select [CLEANER/DRUM] with the arrow button and press the [►] button.
   The Sub Unit screen will be displayed.

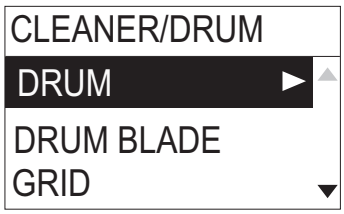


Fig. 7-5

4. Select [DRUM] with the arrow button and press the [►] button.
   The Counter item screen will be displayed.

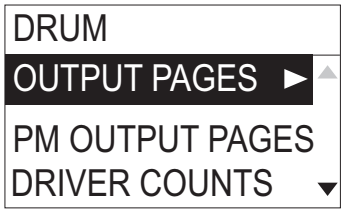


Fig. 7-6

5. Select [OUTPUT PAGES] with the arrow button and press the [►] button.
   The Drum OUTPUT PAGE will be displayed.

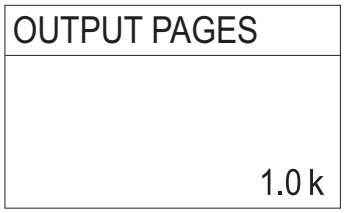


Fig. 7-7

[3] Counter reset procedure

1. Select [RESET] at the unit to be counter-reset or at one of the screens (Main Unit screen, Sub Unit screen, or Counter item screen), and press the [►] button.

   Notes:

   Select [RESET ALL COUNTER] on the main unit screen.

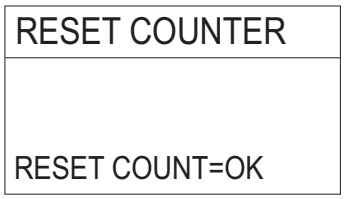


Fig. 7-8

2. Press the [OK] button.
   The counter of all the parts and items will be reset.

   Notes:

   Press [◄] cancel the reset.

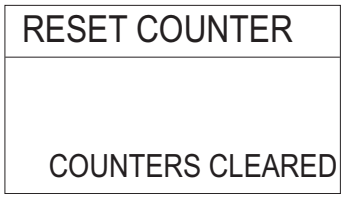


Fig. 7-9

[4] Menu list

Main screen	Sub screen	Counter Item screen
CLEANER DRUM	DRUM	OUTPUT PAGES PM OUTPUT PAGES DRIVER COUNTS PM DRIVER PAGES RESET
	DRUM BLADE	
	GRID	
	NEEDLE ELECTRODE	
	SEPARATION FINGER (DRUM)	
	RECOVERY BLADE	
	RESET	
DEVELOPER	DEVELOPER	
TRANSFER UNIT	TRANSFER ROLLER	
FILTER	OZONE FILTER	
FUSER	FUSER ROLLER	
	PRESS ROLLER (FUSER)	
	SEPARATION FINFER	
	FUSERROLLER BUSHING	
1st CST.	MAIN FEED ROLLER (1st CST.)	
	SEP PAD (1st CST.)	
SFB	FEED ROLLER (SFB)	
	SEP PAD (SFB)	
RESET ALL COUNTER		

7.3 EPU Mode ([FUNCTION CLEAR] + [START] Buttons) <28A/28M/28F Only>

7.3.1 General description

As this equipment complies with the ERU (Easy Replacement Unit) rules, an all-in-one drum cleaner unit and developer unit (the EPUs) are used, resulting in easy removal and reinstallation. In addition to this, the auto-fill function of the developer material with the cartridge is adopted.
This EPU mode allows smooth performance in the series of operations (from the counter reset for the supply items in the EPUs, auto-toner sensor initial adjustment, developer material filling through automatic gamma adjustment) required at the replacement of the unit.

Notes:

- Be sure to apply this mode only when the replacement is carried out with EPUs.
- Once this mode is carried out, the counters for the supply items in the EPUs are all reset. Therefore, do not perform this mode when the supply items in the EPUs are replaced as single ones.
- If the supply items in the EPUs are replaced as single ones at PM (preventive maintenance) as usual, perform the PM support mode (6S) described in this chapter to reset the life counter for each supply item. If the developer material is replaced, perform auto-toner sensor adjustment and automatic gamma adjustment.

[1] Operation flow

The operation flow is shown below.

Advance preparation
A4/LT size paper needs to be placed in the drawer for automatic gamma adjustment to be performed. Before executing the EPU mode, place A4/LT size paper and then set the paper size of the drawer.

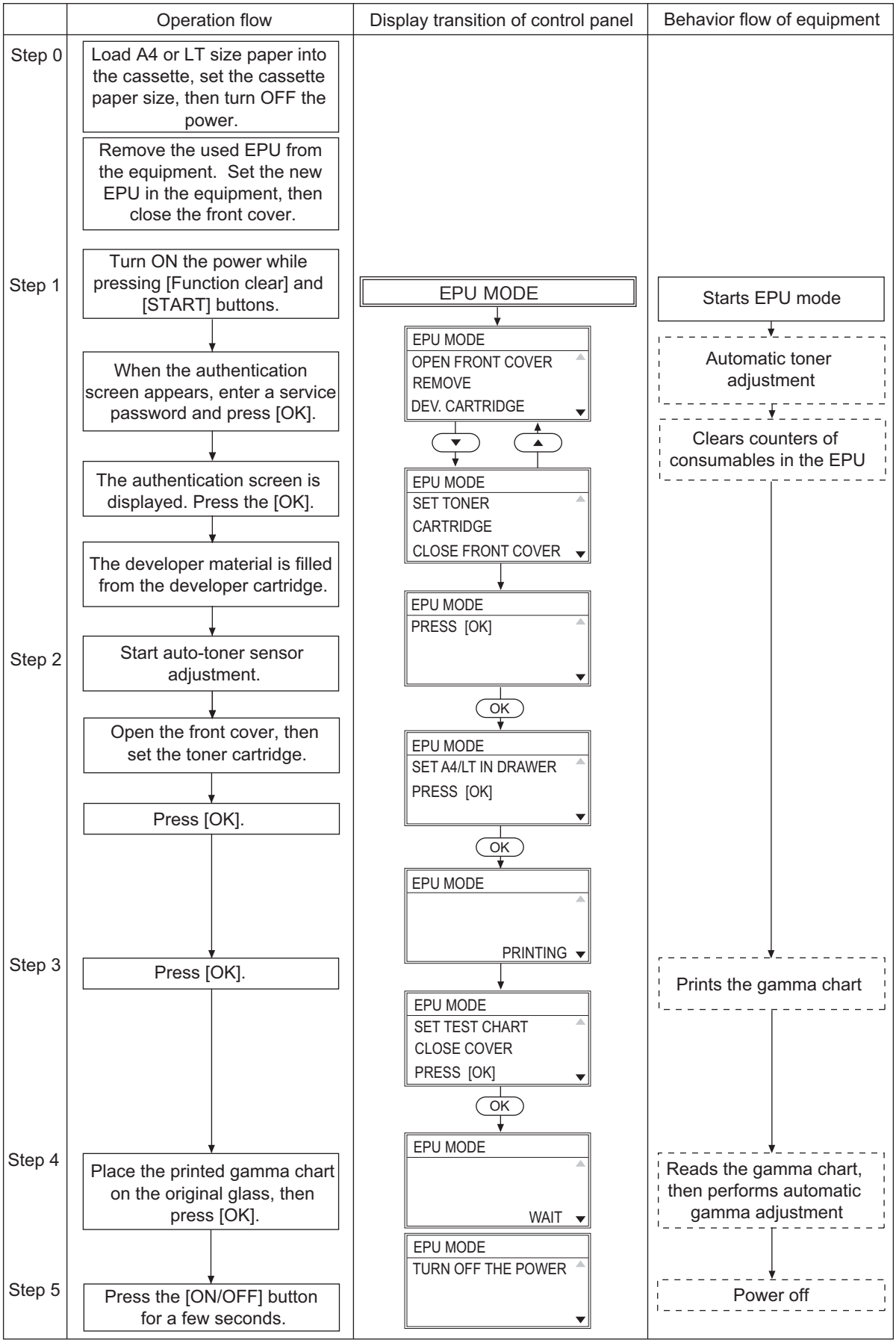


Fig. 7-10

7.4 Preventive Maintenance Checklist

The following is the check items of each unit at preventive maintenance.

Symbols/Values used in the checklist

Cleaning	Lubrication/Coating	Replacement	Operation check
A: Clean with alcohol B: Clean with soft pad, cloth or vacuum cleaner	L: Launa 40 SI: Silicon oil W1: White grease (Molykote EM-30L) W2: White grease (Molykote HP-300) AV: Alvania No.2 FL: Floil (GE-334C)	Value: Replacement cycle R: Replace if deformed or damaged	○ After cleaning or replacement, confirm there is no problem.

[Preventive Maintenance checklist]

Notes:

1. Perform cleaning and lubricating in the following timing.
   Exceptionally, the lubrication for the drum unit, main charger, developer unit and transfer unit must follow the PM cycle of each unit.
   every 55,000 sheets
2. Value under “Replacement” indicates the replacement cycle.
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. Page-Item (P-I) is described in the column of the Parts list.

7.4.1 Scanner

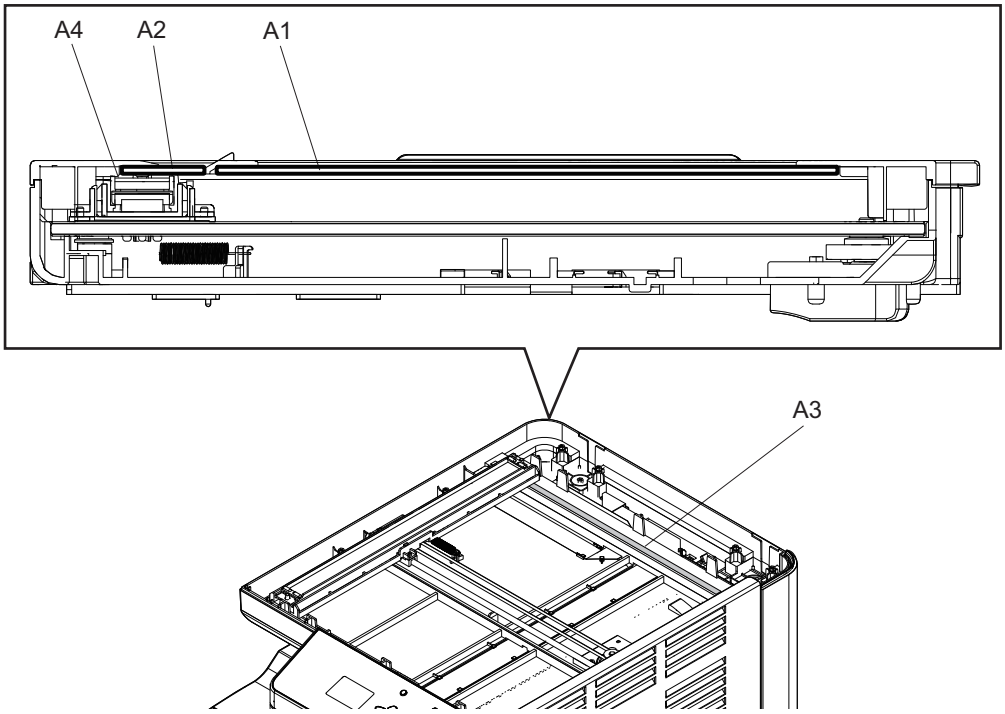


Fig. 7-11

Items to check		Cleaning	Lubrication	Replacement (x 1,000 sheets)	Operation check	Parts list <P-I>	Remarks
A1	Original glass	A or B				7-11	*a1
A2	ADF original glass	B				7-11	*a1
A3	Carriage rail	B				7-12	
A4	Original glass guide	B		R		7-9	

* a1. Original glass / ADF original glass
Clean both sides of the original glass and ADF original glass.
Make sure that there is no dust after cleaning. Then install the original glass and ADF 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.

7.4.2 Feed unit

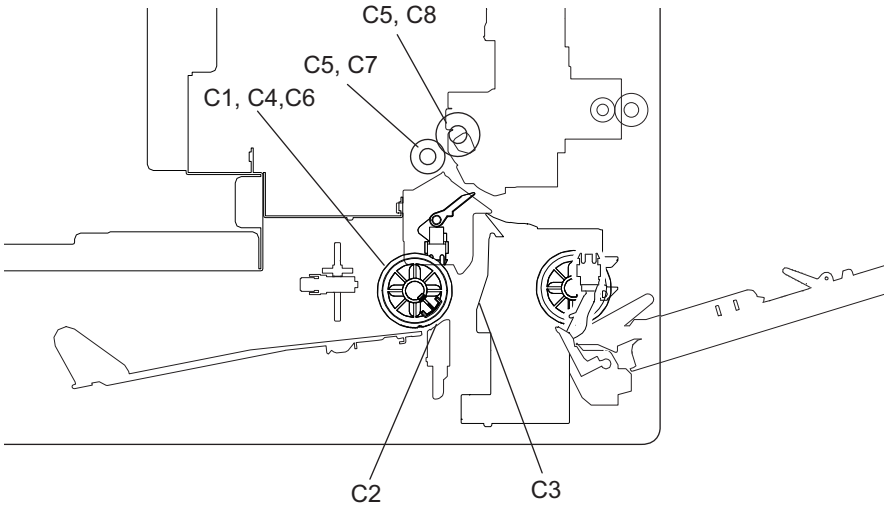


Fig. 7-12

Items to check		Cleaning	Lubrication	Replacement (x 1,000 sheets)	Operation check	Parts list <P-I>	Remarks
C1	Drawer feed roller	A		80		19-2	
C2	Drawer separation pad			80		19-10	
C3	Paper guide	B				12-15	
C4	Drive gear (tooth face and shaft)		W1			12-9	*c1
C5	GCB bushing bearing		L			12-8	
C6	Plastic bushing		W1			19-13	
C7	Registration roller (metal)	A		R		12-11	
C8	Registration roller (rubber)	A		R		9-16	

* c1. Drive gears in the paper feeding section (teeth of gears and shafts)
Apply some white grease (Molykote EM-30L) to the teeth of gears and shafts of the drive gears.
When disassembling the driving section and applying grease at PM, follow the notes as below.

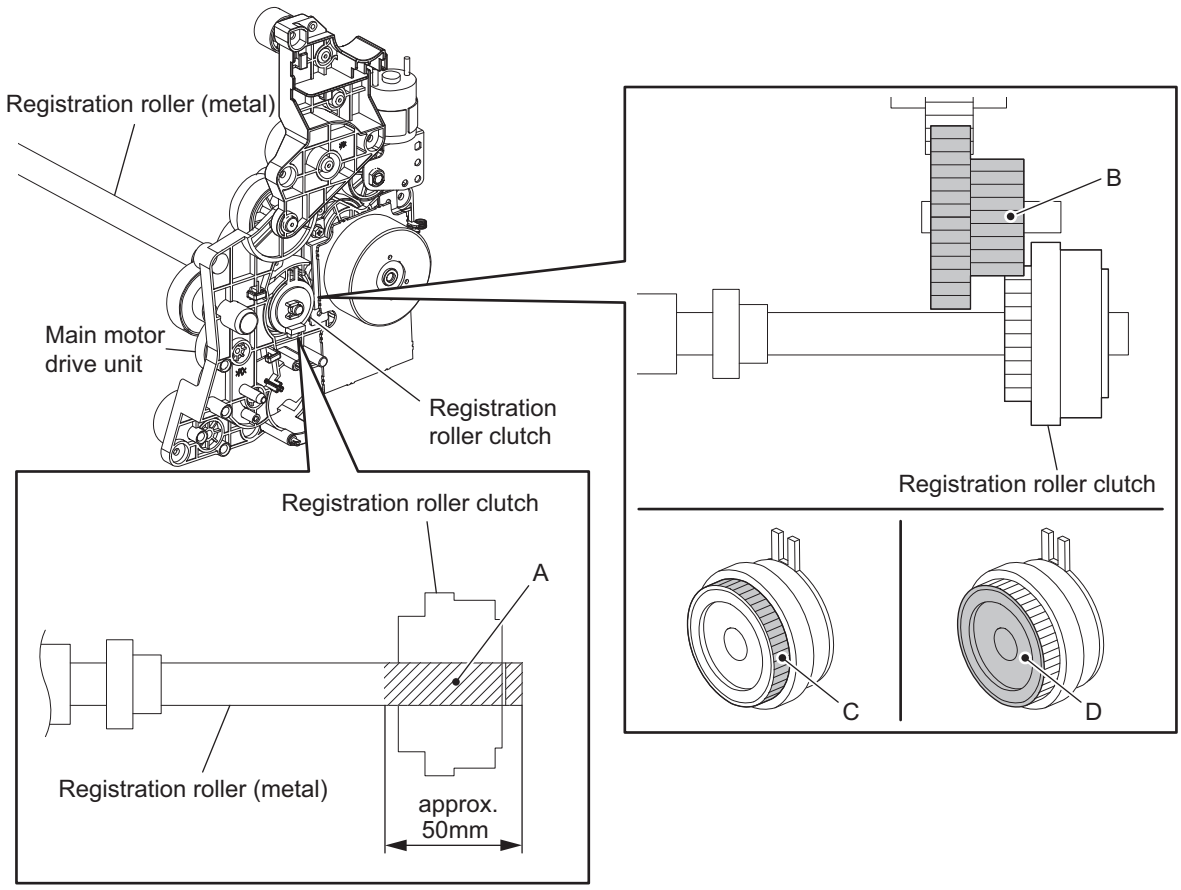


Fig. 7-13

A: Do not apply grease to the installation section of the registration roller clutch. Wipe off any grease.
B: Do not apply grease to gear teeth which contact the registration roller clutch gear.
C: Apply a blob of grease (the size of a rice grain) to the gear teeth of the registration roller clutch. Be careful not to use too much.
D: Do not apply grease to the side of the registration roller clutch gear. Wipe off any grease.

Note:

Make sure that oil is not running over or scattered around as the gear is rotated coming into the clutch after applying Molykote to the gear which is located near the clutch. The quantity of Molykote should be smaller than that to be applied to the other parts.

7.4.3 Bypass feed unit

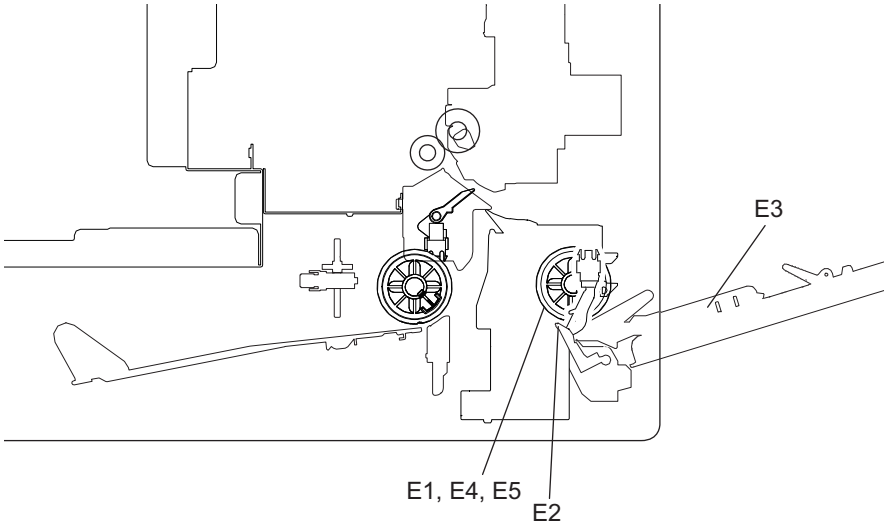


Fig. 7-14

Items to check		Cleaning	Lubrication	Replacement (x 1,000 sheets)	Operation check	Parts list <P-I>	Remarks
E1	Bypass Feed roller			80		8-19	
E2	Bypass separation pad			80		8-10	
E3	Bypass tray	B				11-5	
E4	GCB bushing bearing		L			8-4	
E5	Plastic bushing		W1			8-6	

7.4.4 Main charger

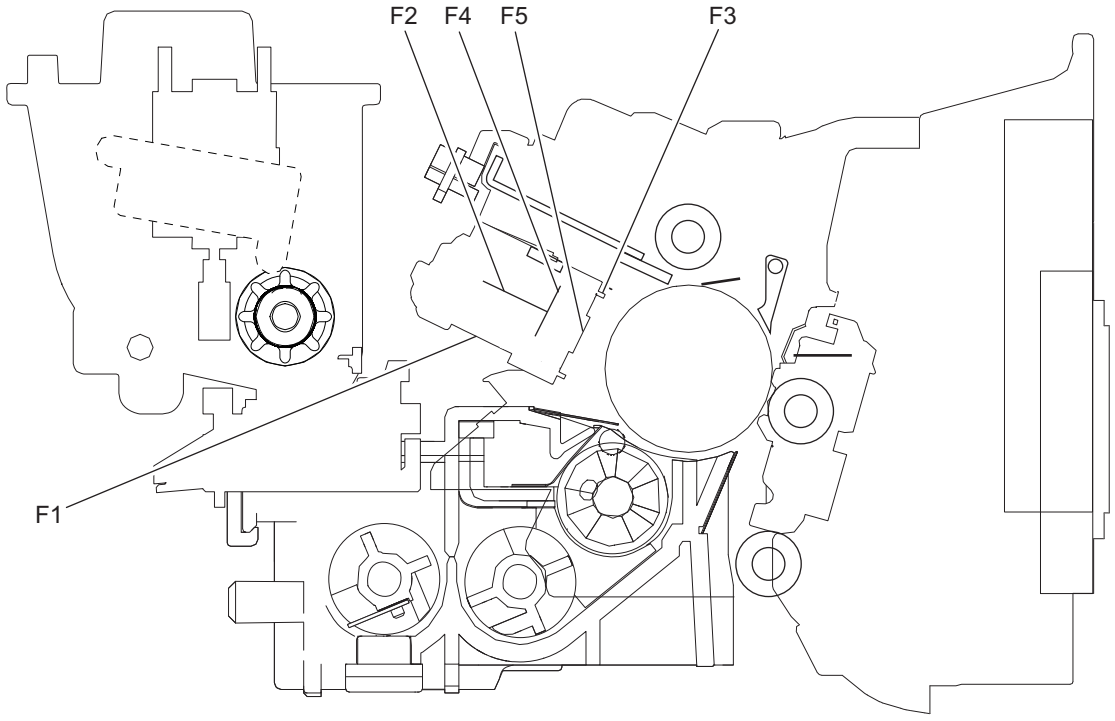


Fig. 7-15

<25S/25H/25F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
F1	Main charger case	B					13-6	*f1
F2	Needle electrode			165	345		13-15	*f1
F3	Contact point of terminals	B					13-7 13-8	
F4	Main charger needle electrode cleaner			R		O	13-10	
F5	Main charger grid			55	115		13-14	

<28A/28M/28F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
F1	Main charger case	B					13-6	*f1
F2	Needle electrode			192	345		13-15	*f1

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
F3	Contact point of terminals	B					13-7 13-8	
F4	Main charger needle electrode cleaner			R		O	13-10	
F5	Main charger grid			64	115		13-14	

* f1. Main charger case / Needle electrode
Clean the main charger case with a cloth soaked in water and squeezed tightly, and then wipe them with a dry cloth.
Clean the needle electrode only with the main charger cleaner.
Replace the needle electrode with a new one if it is damaged regardless of the number of output pages which have been made.

Note:
Do not touch the needle electrode with your bare hand when attaching the needle electrode.

7.4.5 Transfer / Separation charger

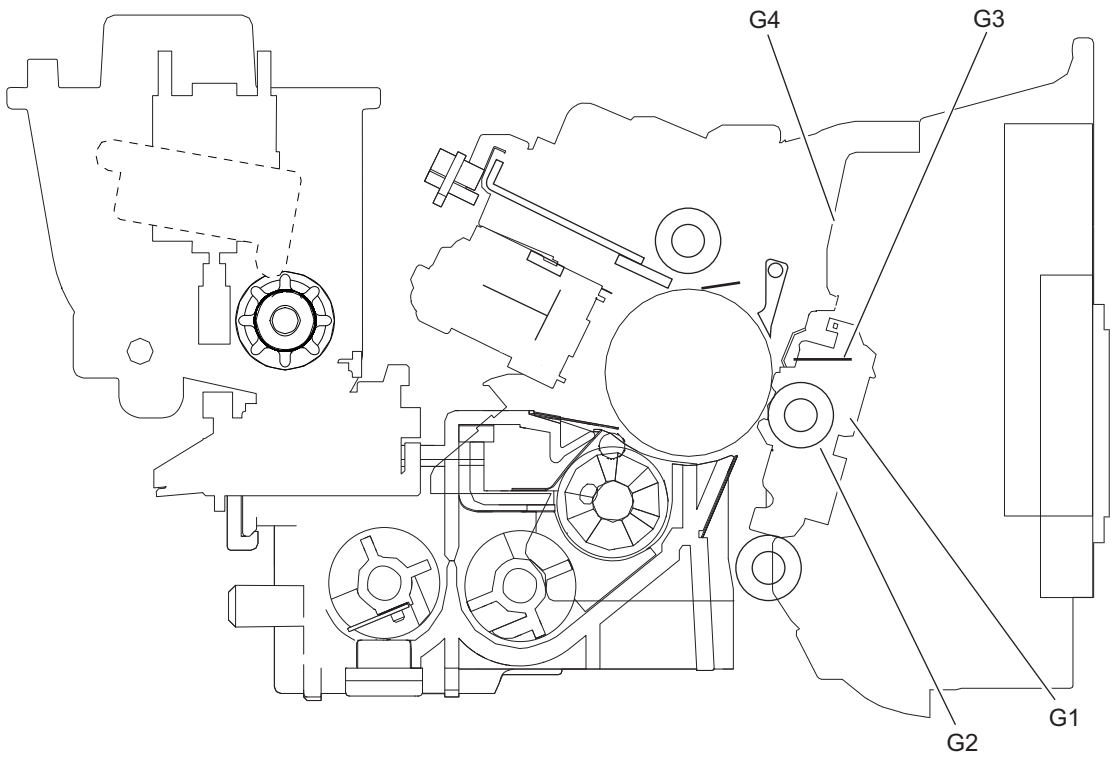


Fig. 7-16

<25S/25H/25F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
G1	Transfer roller case	B					9-6	
G2	Transfer roller			55	115	O	9-11	*g1
G3	Separation needle	B					9-7	
G4	Post-transfer guide	B or A					9-4	

<28A/28M/28F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
G1	Transfer roller case	B					9-6	
G2	Transfer roller			64	115	O	9-11	*g1
G3	Separation needle	B					9-7	
G4	Post-transfer guide	B or A					9-4	

* g1. Transfer roller
If there is damage on the roller, replace it even if the replacement time has not come.

7.4.6 Drum/Cleaner related section

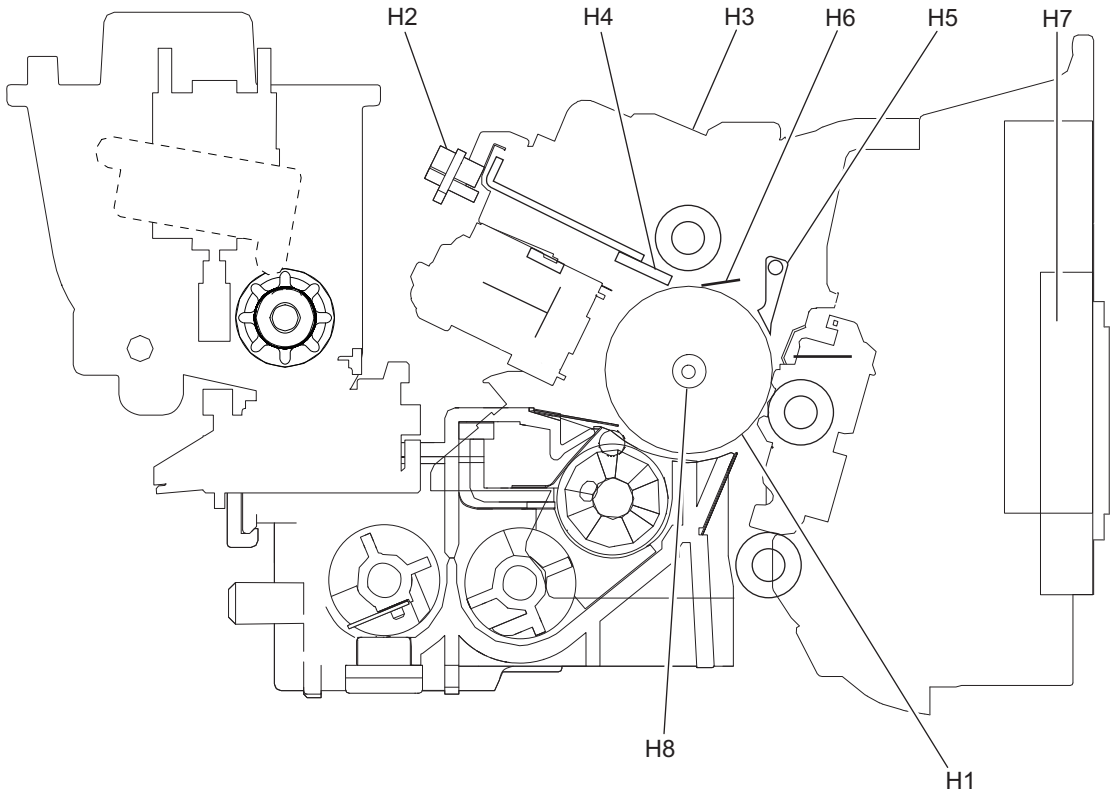


Fig. 7-17

<25S/25H/25F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
H1	Photoconductive drum			55	115		15-20	Ch.7.8.2
H2	Discharge LED	B					13-2	
H3	Whole cleaner unit	B						
H4	Drum cleaning blade			55	115		15-5	*h1
H5	Drum separation finger			165	345		15-17	*h2
H6	Recovery blade	B		165	345		15-6	*h3
H7	Ozone filter			165	345		9-3	
H8	Drum Shaft		FL				15-21	

<28A/28M/28F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
H1	Photoconductive drum			64	115		15-20	Ch.7.8.2
H2	Discharge LED	B					13-2	

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
H3	Whole cleaner unit	B						
H4	Drum cleaning blade			64	115		15-5	*h1
H5	Drum separation finger			192	345		15-17	*h2
H6	Recovery blade	B		192	345		15-6	*h3
H7	Ozone filter			192	345		9-3	
H8	Drum Shaft		FL				15-21	

* h1. Drum cleaning blade
Since the edge of the blade is vulnerable and can be easily damaged by factors such as the adherence of paper dust. Replace the cleaning blade with new ones if poor images are printed due to the damaged blade regardless of the number of output pages if which have been made.

* h2. Separation fingers for drum
The paper jam may be caused if the tip of the separation finger is damaged or deformed. If there is any problem with it, replace the finger with a new one regardless of the number of output pages which have been made.
If any mark which was made by the finger appears on the printed image, clean the tip of the finger.

Notes:
1. Wipe the tip of the finger lightly with a dry cloth trying not to deform it.
   Do not leave the lint on the tip.
2. Apply patting powder to the tip of the fingers and drum surface after replacing or cleaning them to reduce the load on the drum surface by the finger.

* h3. Recovery blade
Replace the recovery blade regardless the number of output pages if the edge of the blade get damaged.

7.4.7 Developer unit / Toner cartridge related section

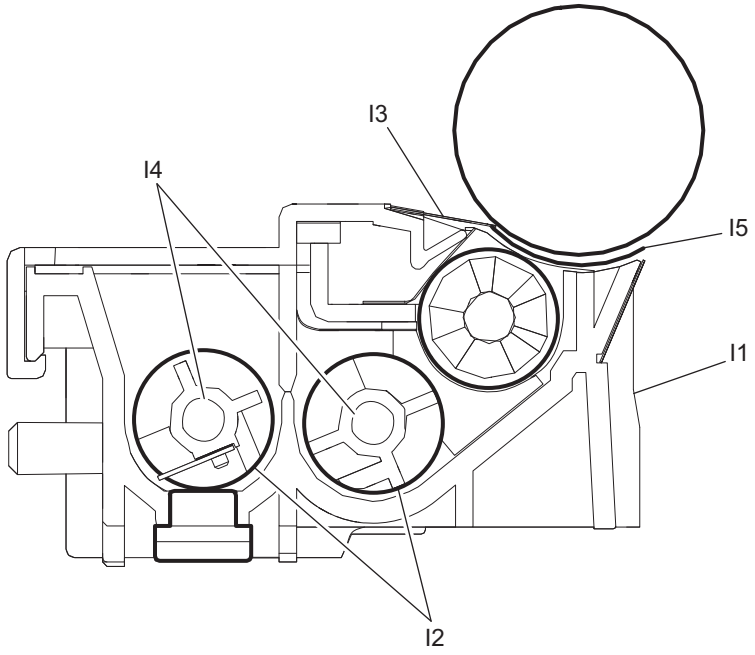


Fig. 7-18

<25S/25H/25F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
I1	Whole developer unit	B					16-1	
I2	Developer material			55	115		16-3 16-4	*i1
I3	Front shield	B		R			16-23	
I4	Oil seal (4 pcs.)		AV				16-2	*i2
I5	Side shield	B		R			16-1	

<28A/28M/28F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
I1	Whole developer unit	B					16-1	
I2	Developer material			64	115		16-3 16-4	*i1
I3	Front shield	B		R			16-23	
I4	Oil seal (4 pcs.)		AV				16-2	*i2
I5	Side shield	B		R			16-1	

* i1. Developer material
Make sure to perform “05-2390” and take off the process unit before the developer material is replaced.
After replacing the developer material, be sure to perform the auto-toner adjustment.
📖 P. 6-2 "6.2 Adjustment of Auto-Toner Sensor"

* i2. Oil seal (Developer unit)
Mixer unit (Shafts of mixers-1, -2) 4 pcs.

Note:
Lubricate the oil seal only when the oil seal is replaced.

During replacement, coat the oil seal with grease (Alvanian No.2).

(1) Push in a new oil seal parallel to the mounting hole section of the developer frame or outside of the holder.
* Pay attention to the direction in which the oil seal is attached. (Refer to Fig. 7-17)
(2) Apply an even coat of grease to the inside of the oil seal.
• Amount: About two small drops
(3) Wipe off any grease the exudes from the inside.

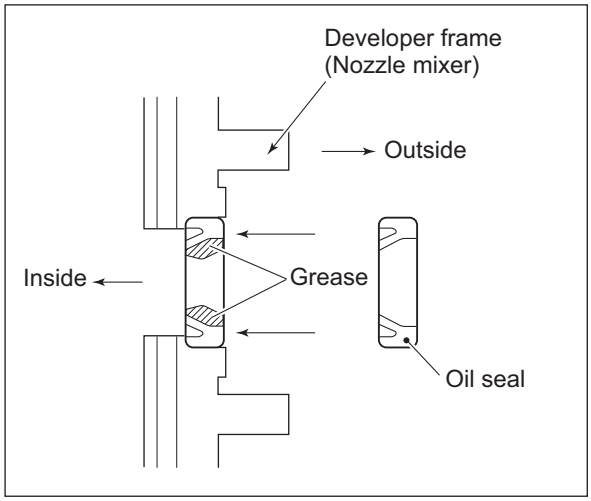


Fig. 7-19

7.4.8 Fuser/Paper exit unit

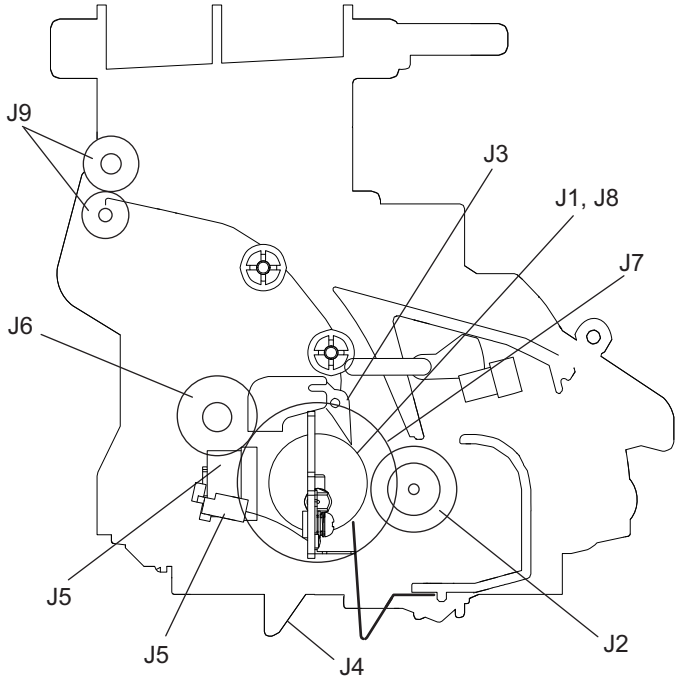


Fig. 7-20

<25S/25H/25F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
J1	Fuser roller			165	345		17-11	
J2	Pressure roller			165	345		17-17	
J3	Fuser roller separation finger			165	345		17-15	*j1
J4	Fuser unit entrance guide	A					10-23	
J5	Thermistor (2 pcs.)	A		R			17-23	*j2
J6	Drive gear (tooth face and shaft)		W2	R			10-24	
J7	Fuser roller gear			R			17-12	
J8	Fuser roller bushing			165	345		17-10	
J9	Exit roller	A		R			14-5	

<28A/28M/28F>

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
J1	Fuser roller			192	345		17-11	
J2	Pressure roller			192	345		17-17	
J3	Fuser roller separation finger			192	345		17-15	*j1

Items to check		Cleaning	Lubrication	Replacement		Operation check	Parts list <P-I>	Remarks
				x1,000 sheets	x1,000 drive count			
J4	Fuser unit entrance guide	A					10-23	
J5	Thermistor (2 pcs.)	A		R			17-23	*j2
J6	Drive gear (tooth face and shaft)		W2	R			10-24	
J7	Fuser roller gear			R			17-12	
J8	Fuser roller bushing			192	345		17-10	
J9	Exit roller	A		R			14-5	

* j1. Separation fingers for fuser roller
The paper jam may be caused if the tip of the finger is damaged or deformed. If there is any problem with it, replace the finger with a new one regardless of the number of output pages which have been made. Do not damage the tip of the finger during the cleaning. The finger may be damaged if the toner adhering to the tip of it is scraped off forcibly. Replace the finger if the toner is sticking to it heavily.

* j2. Thermistor
Clean the thermistor with alcohol if the toner or dirt is sticking to it when the fuser roller is replaced.
Do not deform or damage the thermistor during the cleaning. Replace the thermistor with a new one if it is damaged or deformed regardless of degree.

7.4.9 Automatic duplexing unit

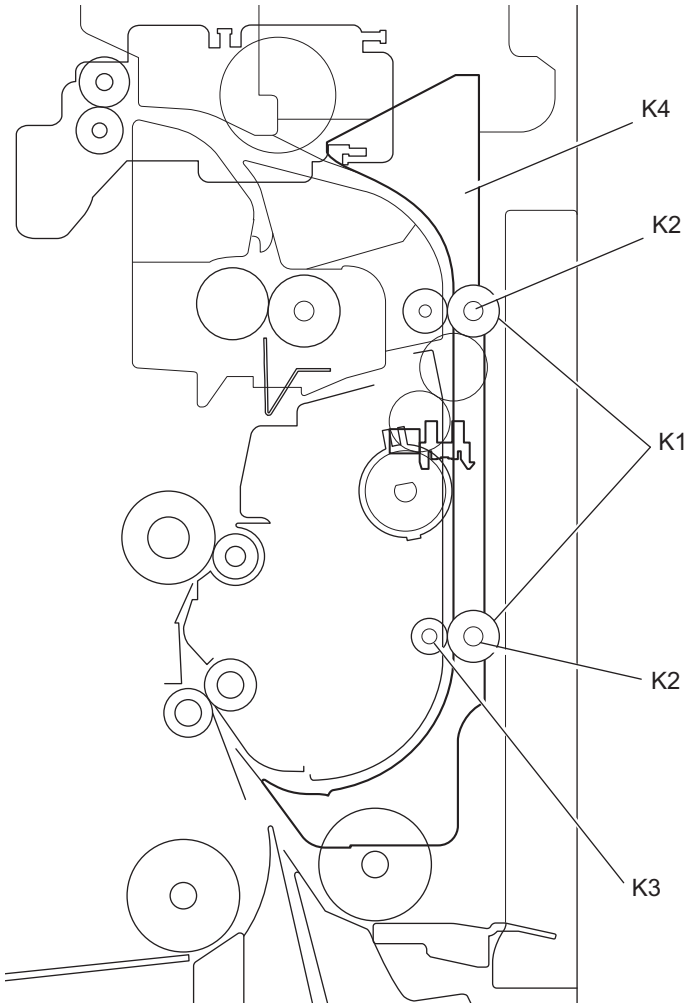


Fig. 7-21

Items to check		Cleaning	Lubrication	Replacement (x 1,000 sheets)	Operation check	Parts list <P-I>	Remarks
K1	Transport roller (upper and lower)	A		R		21-7 21-8	
K2	One side of the GCB busing to which the shaft is inserted		L			21-3	
K3	One side of the plastic busing to which the shaft is inserted		W1				
K4	Paper guide	B				21-16	

7.4.10 ADF <25H/25F> / RADF <28M/28F>

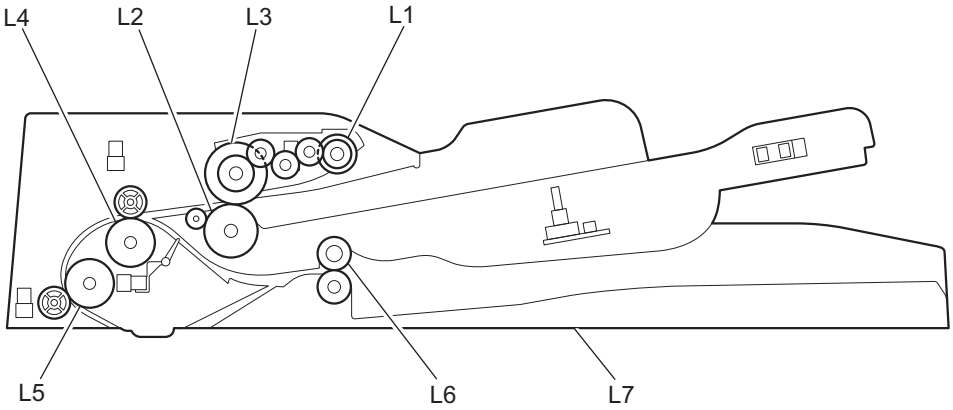


Fig. 7-22

Items to check		Cleaning (30K)	Lubrication	Replacement (x 1,000 sheets)	Operation check	Parts list <P-I>	Remarks
L1	Pickup roller	A				1-5	
L2	Separation roller	A				2-10	
L3	Feed roller	A				1-6	
L4	Transport roller-1	A					
L5	Transport roller-2	A					
L6	Exit/reverse roller	A					
L7	Platen sheet	B or A					

7.5 PM KIT

A PM kit is a package that includes replacement parts for each unit.

Item	Product name	Qty.	P-I
DEV-KIT-2505-NEW	Main charger grid	1	13-14
	Drum cleaning blade	1	15-19
	Developer material	1	102-2
FR_R-KIT-2505-NEW *1	Ozone filter	1	9-3
	Drum separation finger	2	15-17
	Recovery blade	1	15-6
	Fuser roller bushing	2	17-10
	Separation finger	5	17-15
	Fuser roller	1	17-11
	Pressure roller	1	17-17
	Needle electrode	1	13-10
FR_R-KIT-2809 *2	Ozone filter	1	9-3
	Drum separation finger	2	15-17
	Recovery blade	1	15-6
	Fuser roller bushing	2	17-10
	Separation finger	5	17-15
	Fuser roller	1	17-11
	Pressure roller	1	17-17
	Needle electrode	1	13-10

*1: For 25S/25H/25F
*2: For 28A/28M/28F

7.6 Maintenance Part List

No.	Item	Purpose	Parts list
			P-I
1	Door switch jig	Lock of door switch	101-1
2	Brush	Cleaning inside of the equipment	101-2
3	Doctor sleeve jig	Measuring the gap between the development sleeve and the doctor blade <for 28A/28M/28F only>	101-3

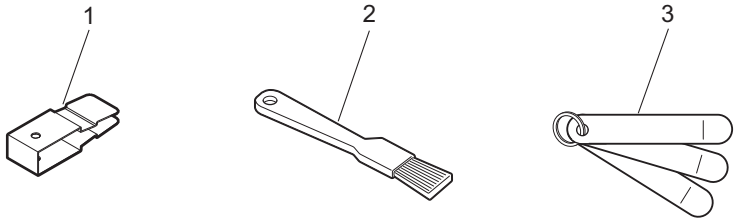


Fig. 7-23

7.7 Grease List

Grease name		Volume	Container	Parts list	
				Page	Item
SI	Silicon oil	100cc	Bottle	101	10
L	Launa 40	100cc	Oiler	101	11
W2	White grease (Molykote HP-300)	10g	Bottle	101	12
AV	Alvania No.2	100g	Tube	101	13
W1	White grease (Molykote EM-30L)	100g	Tube	101	14
FL	Floil (GE-334C)	20g	Bottle	101	15

7.8 Precautions for Storing and Handling Supplies

7.8.1 Precautions for storing TOSHIBA supplies

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
   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. Fuser roller / Pressure roller
   Avoid places where the rollers may be subjected to high humidity, chemicals and/or their fumes.

5. Paper
   Avoid storing paper in places where it may be subjected to high humidity. After a package is opened, be sure to place and store it in a storage bag.

6. Transfer roller
   Transfer roller should be stored in a place where the ambient temperature is between 10°C to 35°C (no condensation). Be sure to avoid places where transfer roller may be subjected to high humidity, chemicals and/or their fumes.

7.8.2 Checking and cleaning of photoconductive drum

1. Use of gloves
   If fingerprints or oil adhere to the drum surface, the property of the photoconductive drum may degrade, affecting the quality of the print image. So, do not touch the drum surface with your bare hands.

2. Handling precautions
   As the photoconductive drum surface is very sensitive, be sure to handle the drum carefully when installing and removing it so as not damage its surface.
   Be sure to apply “patting powder” (lubricant) to the entire surface of the drum (including both ends of the drum where OPC is not coated) when replacing the drum. When the drum has been replaced with a new one, the drum counter (the Setting Mode 08-6250-0, 3, 6 and 7) must be cleared to 0 (zero).

   Notes:
   - Application of patting powder is for reducing the friction between the drum and cleaning blade. If the application of patting powder is neglected, the drum and cleaning blade may be damaged.
   - When paper fibers or thread adhere to the cleaning blade edge, they may reduce the cleaning efficiency and, in addition, may damage the blade and the drum. Be sure to remove any fibers found adhering to the blade.

3. Installation of the equipment and storage of drum
   Avoid installing the equipment where it may be subjected to high temperature, high humidity, chemicals and/or their fumes.
   Do not place the light 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 preventive maintenance calls, wipe the entire surface of the drum clean using the designated cleaning cotton. 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.

5. Scratches on photoconductive drum surface
   If the surface is scratched in such a way that the aluminum substrate is exposed, no print 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 photoconductive drums
   Regarding the recovery and disposal of used photoconductive drums, we recommend following the relevant local regulations or rules.

7.8.3 Checking and cleaning of 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:
   - 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.

7.8.4 Checking and cleaning of fuser roller and pressure roller

1. Handling precautions
   - Fuser roller
     Do not leave any oil (fingerprints, etc.) on the fuser roller.
     Be careful not to allow any hard object to hit or rub against the fuser roller, or it may be damaged, possibly resulting in poor cleaning.

   - Pressure roller
     Do not leave any oil (fingerprints, etc.) on the pressure roller.

2. Checking
   - Check for stain and damage on the fuser and pressure rollers, and clean if necessary.
   - Check the separation guide and fingers and check for chipped tips.
   - Check the thermistors for proper contact with the pressure roller.
   - Check the fused and fixed condition of the toner.
   - Check the gap between the entrance guide and pressure roller.
   - Check the fuser roller for proper rotation.

3. Cleaning procedure
   When fuser roller and pressure roller become dirty, they will cause jamming. If this happens, wipe the surface clean with a piece of soft cloth. For easier cleaning, clean the roller white they are still warm.

   Notes:
   Be careful not to rub the fuser roller and pressure roller surface with your nails or hard objects because it can be easily damaged. Do not use silicone oil on the fuser roller and pressure roller.

7.8.5 Checking and replacing the transfer roller

1. Handling precautions
   - Wear gloves to avoid touching the drum surface with your bare hands.
   - Do not allow oil or fingerprints to come in contact with the surface.
   - Do not hit or scratch the surface.
   - Make sure you do not get any bits of thread, etc. on the surface.
   - Do not allow solvent, such as thinner, to come in contact with the surface.
   - Keep away from a source of heat.

2. Cleaning procedure
   If bits of thread or similar adhere to the surface, remove them with gloves or a pair of tweezers. Be careful that the roller surface is not damaged by the points of the tweezers.

7.9 Operational Items in Machine Refreshing

Machine refreshing each equipment in the following timing.

<25S/25H/25F, 28A/28M/28F>

- When the number of output pages has reached 132,000 or 5 years have passed from the start of use (Whichever comes earlier)

(1) Check the components in the drive section (gears, pulleys, timing belts, etc.). Replace them with new ones if they are damaged.
(2) Check all the adhesives such as tape and Mylar if they are damaged or have become unstuck. Replace them with new ones if necessary.
(3) Check the performance of all the switches and sensors. Replace them with new ones if necessary.
(4) Clean inside the equipment thoroughly.

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 “8.2Error Code List” to figure out the classification and contents of the error, and then refer to “8.3Diagnosis and Prescription for Each Error Code” to remove its cause.
If not displayed and the equipment does not operate properly or images are not printed properly, refer to “8.4Troubleshooting 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 shall be replaced, refer to 📖 P. 9-1 "9. REPLACEMENT OF PC BOARDS".

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 for the detailed procedure to obtain a List Print.
   Enter the value given below to obtain a List Print by printing it out.
   9S-101: Adjustment mode (05)
   9S-102: Setting mode (08)
   9S-106: Error history (20 cases max)
   9S-108: Firmware update log (5 cases max) <25H/25F, 28M/28F only>
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, 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 debug log data is to acquire the information needed for analyzing problems by following the procedure below only when a phenomenon requiring an investigation has occurred during the MFP's operation. If such a phenomenon occurs, you can collect debug log data into a USB device by inserting it into the MFP and operating the buttons on the control panel.

Notes: Precautions for collecting debug log data with a USB device

- Be sure to obtain the customer's agreement before you collect the setting information of the MFP into a USB device.
- Debug log data to be collected include the internal behavior of the MFP, job histories, memory usage information, etc. in binary data.
- Since the collected setting information of the MFP is output in a CSV format, handle and manage it with care.
- Manage the collected setting information of the MFP properly to avoid loss or its leaking.
- Do not use the collected setting information of the MFP for purposes other than the enhancement of maintenance, product quality or services.
- If the customer requests the presentation of the data, do so promptly.
- Do not remove the USB device while data are being stored.

When the debug logs are collected, do so also for the information from 1 to 4 below since investigation may be difficult using only the debug logs.

1. List print mode ([9]+[START]) [300: All CSV files]

2. When printing data, acquire information below.
   - 9S-101: Adjustment mode (05) (Example: [101]->[START]->[0]->[START]->[9999]->[START])
   - 9S-102: Setting mode (08) (Example: [102]->[START]->[0]->[START]->[9999]->[START])
   - 9S-103: PM support mode
   - 9S-106: Error history (maximum 30 events)
   - 9S-108: Firmware update log (maximum 5 events)
   - 9S-111: Version list
   - 9S-403: 13 code list (when the FAX unit is installed)

3. Problem occurrence time
   Or the time when the customer called if it is difficult to work out when it occurred.

4. Status of when you collected the debug logs
   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 logs was made; however, the customer did turn the main power switch OFF when the problem occurred, so the logs can be collected.

[2] Collection procedure

1. Precaution
   Be sure to obtain the customer's agreement before you collect debug log data.

2. Acceptable USB devices

   Important:
   The file system of a USB device must be FAT32 or FAT16. USB devices formatted in an NTFS system cannot be operated. The file system of a USB device can be confirmed by opening its property using Windows Explorer or such.

3. Procedure for collecting debug log data

(1) Insert a USB device [1] into a USB port [2] on the side of the MFP after it has started.

25S

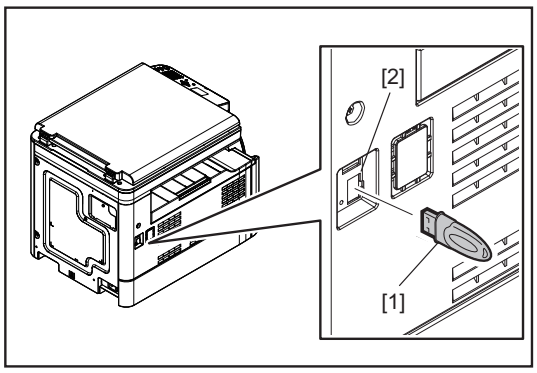


Fig.8-1

25H/25F/28M/28F

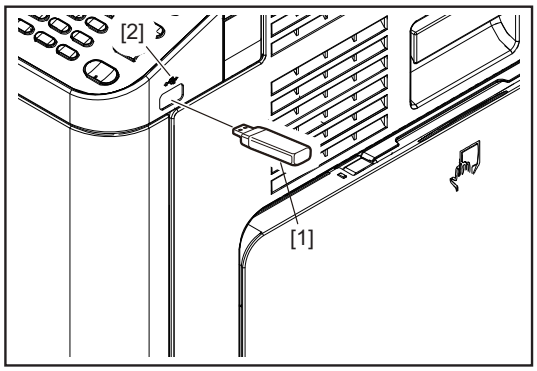


Fig.8-2

(2) Press the buttons on the control panel of the MFP in the order below. The LED of the USB device starts blinking.
[UP] → [UP] → [DOWN] → [DOWN] → [LEFT] → [RIGHT] → [LEFT] → [RIGHT] → [CLEAR/STOP] → [CLEAR/STOP]

(3) Remove the USB device from the MFP when the LED goes OFF.

Notes:
If the USB device is one that does not show the status by the blinking of the LED, wait 30 seconds after step 2 above. Then remove the USB device from the MFP.

(4) When the collection of the debug log data is finished, a debug log file is created in a directory immediately under the USB device.
File name: USBDISK_DebugMsg.txt (Approx. 100 KB)

Notes:
- Do not remove the USB device from the MFP while the LED of the device is blinking, for this means debug log data are being collected. (If the USB device is one that does not show the status by the blinking of the LED, do not remove it and wait 30 seconds.)
- If the debug log file "USBDISK_DebugMsg.txt" is not created after debug log data have been collected, try again from step 1 above using another USB device.
- Insert the USB device after the MFP has fully started up. (Debug log data cannot be collected if the USB device is inserted while the MFP is booting.)

4. Collected debug log data
   After the debug log data have been collected, send them to each service center as well as the occurrence status report.

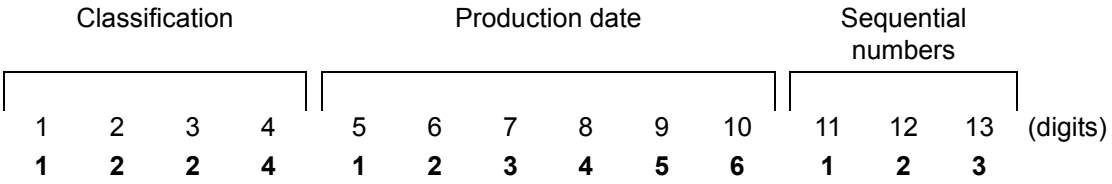
8.1.3 Traceability label

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



[2] Applicable units

A traceability label is attached to the following units.

No.	Unit	Remarks
1	MAIN board	
2	Fuser unit	
3	Cleaner unit	
4	Developer unit	
5	Laser optical unit	

[3] Label attachment position

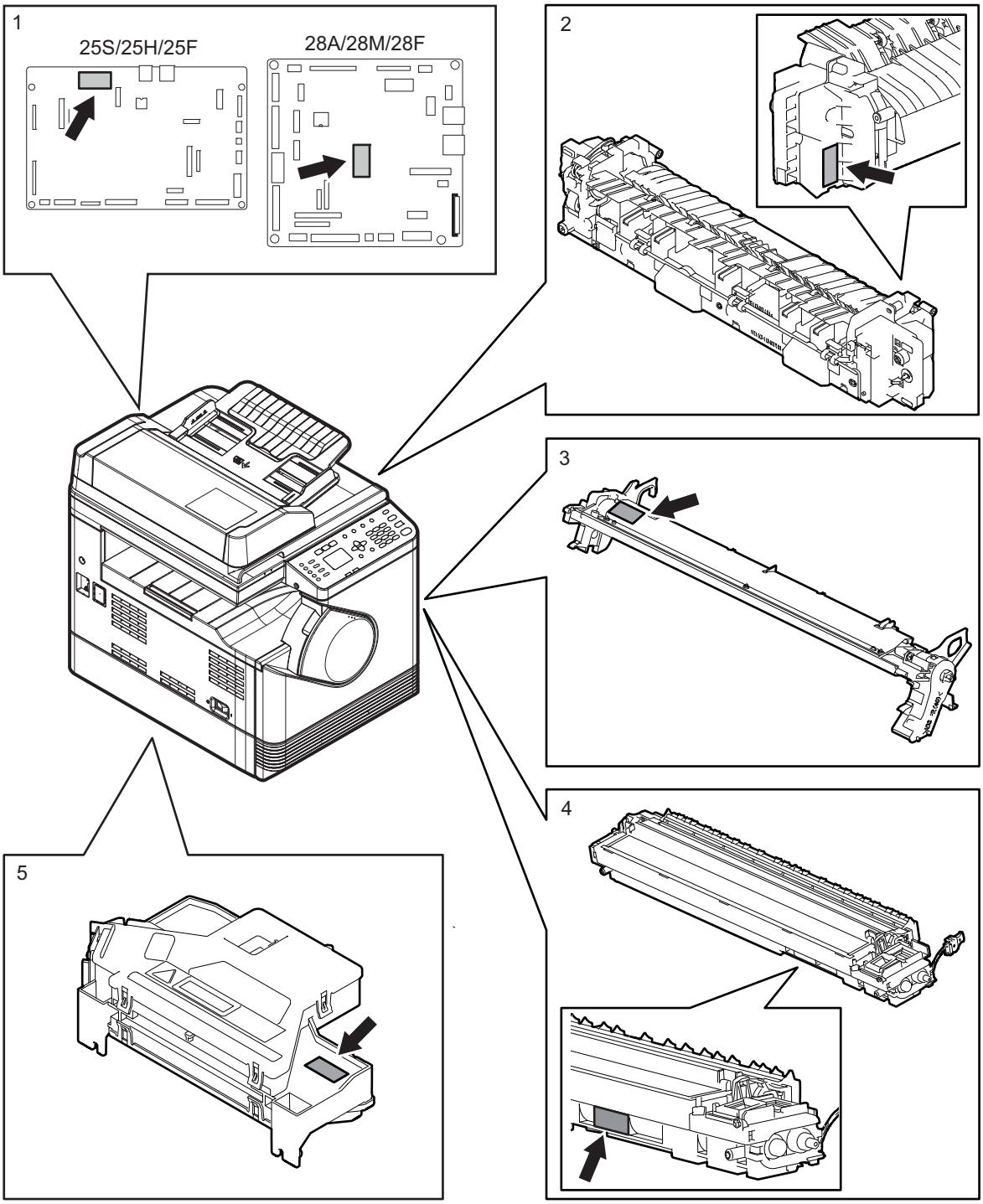


Fig.8-3

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.

8.2.1 Jam

Error code	Classification	Contents	Trouble-shooting	25S	25H/ 24F	28A	28M/ 28F
E010	Paper exit jam	Jam not reaching the exit sensor: The paper which has passed through the fuser unit does not reach the exit sensor.	P. 8-14	Y	Y	Y	Y
E020		Stop jam at the exit sensor: The trailing edge of the paper does not pass the exit sensor after its leading edge has reached this sensor.	P. 8-14	Y	Y	Y	Y
E030	Other jam	Power-ON jam: The paper is remaining on the paper transport path when power is turned ON.	P. 8-23	Y	Y	Y	Y
E061		Incorrect paper size setting for 1st drawer: The size of paper in the 1st drawer differs from size setting of the equipment.	P. 8-24	Y	Y	Y	Y
E065		Incorrect paper size setting for bypass tray: The size of paper in the bypass tray differs from size setting of the equipment.	P. 8-24	Y	Y	Y	Y
E090		Time out jam: Image data to be printed cannot be prepared.	P. 8-18	Y	Y	Y	Y
E110	Paper misfeeding	ADU misfeeding (Paper not reaching the registration sensor): The paper which has passed through ADU does not reach the registration sensor during duplex printing.	P. 8-18	-	Y	-	Y
E120		Bypass misfeeding: The paper fed from the bypass tray does not reach the registration sensor.	P. 8-19	Y	Y	Y	Y
E130		1st drawer misfeeding: The paper fed from the 1st drawer does not reach the registration sensor.	P. 8-20	Y	Y	Y	Y
E400	Cover open jam	Right cover open jam: The right cover has opened during printing.	P. 8-21	Y	N	Y	N
E410		Toner supply cover open jam: The toner supply cover has opened during printing.	P. 8-21	Y	Y	Y	Y
E430		Right cover open jam (When ADU is installed): The right cover has opened during printing.	P. 8-22	-	Y	-	Y
E510	Paper transport jam (ADU section)	Jam not reaching the ADU transfer sensor: The paper does not reach the ADU transfer sensor after it is switchbacked in the exit section.	P. 8-15	-	Y	-	Y
E550	Other jam	Paper remaining jam on the transport path: The paper is remaining on the transport path when printing is finished (caused by a multiple paper feeding).	P. 8-26	Y	Y	Y	Y
E552		Paper remaining jam on the transport path (when the cover is closed)	P. 8-27	Y	Y	Y	Y

Error code	Classification	Contents	Trouble-shooting	25S	25H/ 24F	28A	28M/ 28F
E714	ADF jam	Feed signal reception jam: The feed signal is received even no original exists on the original feeding tray.	P. 8-28	Y	Y	Y	Y
E721		Jam not reaching the read sensor: The original does not reach the read sensor after it has passed the registration sensor (when scanning obverse side) or the reverse sensor (when scanning reverse side).	P. 8-28	Y	Y	Y	Y
E725		Stop jam at the read sensor: The trailing edge of the original does not pass the read sensor after its leading edge has reached this sensor.	P. 8-29	Y	Y	Y	Y
E726		Stop jam at the exit sensor: The trailing edge of the original does not pass the read sensor after its leading edge has reached this sensor.	P. 8-29	Y	Y	Y	Y
EAD0	Other jam	Print end command time-out jam: Jam occurred because print operation did not finish normally due to communication error on main board	P. 8-27	N	Y	N	Y
EB50	Paper transport jam	Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper.	P. 8-16	Y	Y	Y	Y
EB60		Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper (redetection after no jam is detected at [EB50]).	P. 8-17	Y	Y	Y	Y

8.2.2 Service call

Error code	Classification	Contents	Trouble-shooting	25S	25H/ 25F	28A	28M/ 28F
C010	Drive system related service call	Main motor abnormality: The main motor is not rotating normally.	P. 8-30	Y	Y	Y	Y
C260	Scanning system related service call	Peak detection error: Lighting of the exposure lamp (white reference) is not detected when power is turned ON.	P. 8-31	Y	Y	Y	Y
C270		Carriage home position cannot be detected within a specified period of time: The carriage does not shift from its home position in a specified period of time.	P. 8-32	Y	Y	Y	Y
C411	Fuser unit related service call	Thermistor or heater lamp abnormality at power-ON: Abnormality of the thermistor is detected when power is turned ON or the temperature of the fuser roller does not rise in a specified period of time after power is turned ON.	P. 8-35	Y	Y	Y	Y
C412		Thermistor/heater lamp abnormality at power-ON: Thermistor abnormality is detected at power-ON or the fuser roller temperature does not rise within a specified period of time after power-ON.	P. 8-36	Y	Y	Y	Y
C413		Thermistor abnormality during warming up or in ready status after abnormality judgment.	P. 8-37	Y	Y	Y	Y
C414		Temperature of the fuser roller did not reach to “temperature for ready condition” at specified period of time during warming-up.	P. 8-37	Y	Y	Y	Y
C415		No recovery even after one minute elapses after low temperature WAIT state is entered during a printing operation.	P. 8-38	Y	Y	Y	Y
C447		While in the READY state, one of the thermistors detected the specified temperature or higher.	P. 8-39	Y	Y	Y	Y
C449		High temperature detection error	P. 8-40	Y	Y	Y	Y
C452		In the READY state, temperature differential error between the center thermistor and a edge thermistor	P. 8-41	Y	Y	Y	Y
C4B0		Fixer counter data error	P. 8-41	Y	Y	Y	Y
C911	Circuit related service call	Toner IC chip access circuit board error	P. 8-43	Y	Y	Y	Y
C940		Engine-CPU abnormality	P. 8-43	Y	Y	Y	Y
C950		Error for distinction between engine firmware and MAIN board	P. 8-44	Y	Y	Y	Y
C970	Process related service call	High-voltage transformer abnormality: Leakage of the main charger is detected.	P. 8-33	Y	Y	Y	Y
CA10	Laser optical unit related service call	Polygonal motor abnormality: The polygonal motor is not rotating normally.	P. 8-34	Y	Y	Y	Y
CA20		H-Sync detection error: H-Sync detection PC board cannot detect laser beams.	P. 8-34	Y	Y	Y	Y
CE50	Process related service call	Temperature/humidity sensor abnormality: The output value of this sensor is out of a specified range.	P. 8-33	Y	Y	Y	Y
CE90		Drum thermistor abnormality: The output value of the drum thermistor-K is out of a specified range.	P. 8-33	Y	Y	Y	Y
F070	Communication related service call	Communication error between System-CPU and Engine-CPU	P. 8-45	Y	Y	Y	Y
F090	Circuit related service call	Memory abnormality on the MAIN board.	P. 8-44	Y	Y	Y	Y
F901	Other service call	Engine speed error: The speed information of the MAIN board is damaged.	P. 8-45	Y	Y	Y	Y

8.2.3 Error in E-mail / Scanning Function

1. E-mail related error

Error code	Contents	Trouble-shooting	25S	25H/ 25F	28A	28M/ 28F
1C69	SMTP server connection error	P. 8-46	-	Y	-	Y
1C71	SMTP authentication error	P. 8-46	-	Y	-	Y
1C72	POP before SMTP error	P. 8-46	-	Y	-	Y

2. File sharing related error

Error code	Contents	Trouble-shooting	25S	25H/ 25F	28A	28M/ 28F
2D31	File creation failure	P. 8-47	-	Y	-	Y
2D62	File server connection error	P. 8-47	-	Y	-	Y
2D63	Invalid network path	P. 8-48	-	Y	-	Y
2D64	Login failure	P. 8-48	-	Y	-	Y
2D67	FTP service not available	P. 8-48	-	Y	-	Y
2D68	File sharing service not available	P. 8-48	-	Y	-	Y
2E31	File creation failure in USB storage	P. 8-48	-	Y	-	Y
2E33	File access failure in USB storage	P. 8-48	-	Y	-	Y
2E66	HDD full failure during USB storage	P. 8-49	-	Y	-	Y

3. E-mail reception related error

Error code	Contents	Trouble-shooting	25S	25H/ 25F	28A	28M/ 28F
3E10	POP3 server connection error	P. 8-49	-	Y	-	Y
5011	Communication error	P. 8-49	-	Y	-	Y
5018	Incorrect DNS Address	P. 8-49	-	Y	-	Y

8.2.4 Error history

When 106 is entered after bootup with 9S mode, 30 error histories are printed.

Display example

E010	01234567	xxxx xx xx xx xx xx	064	064	2362_1000_0000_0
Error code	Total counter	YYYY MM DD HH MM SS	MMM	NNN	ABCD_EFHI_JLOP_Q
4 digits	8 digits	14 digits	3 digits	3 digits	13 digits

A	Paper source
	0: Not selected 1: Bypass feed 2: LCF 3: Upper drawer 4: Lower drawer 5: PFP upper drawer 6: PFP lower drawer 7: Unused 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: Postcard J: 8.5SQ K: Unused L: Unused M: 8K N: 16K-R O: 16K P: Envelope COM10 Q: Envelope DL R: Envelope Monarch S: Envelope (lengthwise, No. 3) T: Envelope (lengthwise, No. 4) U: Unused V: Unused Z: Not selected
C	Sort mode/staple mode
	0: Non-sort/Non-staple 1: Group 2: Sort 7: Front staple 8: Double staple 9: Rear staple A: Saddle stitch
D	ADF mode
	0: Unused 1: AUTO FEED (SADF) 2: STACK FEED
E	APS/AMS mode
	0: Not selected 1: APS 2: AMS
F	Duplex mode
	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: Positive/negative reverse 5: Unused

J	Edge erase/Dual-page
	0: Unused 1: Edge erase 2: Dual-page 3: Edge erase & 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	Mode
	0: Auto color 1: Full color 2: Black 3: Unused 4: Unused 5: Gray scale 6: Unused 7: Unused
P	Media type
	0: Plain paper 1: Thick 1 2: Thick 2 3: Thick 3 4: Thick 4 5: Special paper 1 6: Special paper 2 7: Recycled paper 8: Plain paper 1 9: Plain paper 2 A: Thin paper B: OHP film C: Thick 1/ reverse D: Thick 2/ reverse E: Thick 3/ reverse F: Thick 4/ reverse G: Special paper 1/ reverse H: Special paper 2/ reverse I: Envelope J: Tab paper Z: Unused
Q	ADF size mixed
	0: Unused 1: Single-size document 2: Size mixed

8.3 Diagnosis and Prescription for Each Error Code

8.3.1 Check item

Check item	Contents
Sensor check	• Check the sensor in the test mode. • Check that there is no dust on the sensor. • Check that the actuator is correctly operated.
Connector check	• Check that the connector is not disconnected. • Check that the pins are not deformed and do not come off. • Disconnect and reconnect the connector.
Harness check	• Check if the harnesses are open circuited.
Motor check	• Check the motor in the test mode. • Check that there is no abnormality in the driving section. • Check that there is no abnormality in the roller.
Board check	• Check if the board is short circuited or open circuited.

8.3.2 Paper exit jam

[E010] Leading edge of paper not reaching the exit sensor
[E020] Trailing edge of paper not passing the exit sensor

Classification	Error content
Paper exit jam	Jam not reaching the exit sensor Stop jam at the exit sensor

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?	Yes	Remove the paper.	
		No		2
2	Is the exit sensor working? (Perform the input check in the test mode: 03-[A]/[B])	Yes		3
		No	• Check if the connector of the exit sensor is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN10 28A/28M/28F: CN8 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the exit sensor • Replace the MAIN board	
3	Is the registration roller clutch working? (Perform the output check in the test mode: 03-108/158)	Yes		4
		No	• Check if the connector of the registration roller clutch is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the registration roller clutch. • Replace the MAIN board.	
4	Registration roller		• Check the registration roller. Replace it if it is worn out.	

Parts to be replaced	Remark
Exit sensor	
MAIN board	
Registration roller clutch	
Registration roller	

8.3.3 Paper transport jam

[E510] ADU stack jam (paper not reaching the ADU transfer sensor

Classification	Error content
Paper transport jam (ADU section)	Jam not reaching the ADU transfer sensor

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper in front of the ADU transfer sensor?	Yes	Remove the paper.	
		No		2
2	Is the ADU transfer sensor working? (Perform the input check in the test mode: 03-[FAX]OFF/[1]/[C])	Yes		3
		No	• Check if the connector of the ADU transfer sensor is disconnected. • Check if the connector CN17 on the MAIN board is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor patterns on the MAIN board are short circuited or open circuited. • Replace the ADU transfer sensor. • Replace the MAIN board.	
3	Is the exit motor (rotating in reverse) working? (Perform the output check in the test mode: 03-121/171)	Yes		4
		No	• Check if the connector of the exit motor is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Replace the exit motor. • Replace the MAIN board.	
4	ADU		• Check the rollers in the ADU and the exit roller of the equipment. Replace them if they are worn out.	

Parts to be replaced	Remark
ADU transfer sensor	
MAIN board	
Exit motor	
ADU exit sensor	
Rollers in the ADU	
Exit roller	

[EB50] Paper left on the transport path due to multiple feeding

Classification	Error content
Paper transport jam	The multiple feeding of preceding paper caused the misfeeding of upcoming paper.

When the paper is fed from the 1st drawer:

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?		Remove paper if there is any on the transport path.	2
2	Is the registration sensor working? (Perform the input check: 03-[A]/[A])	Yes	Check the rollers. Replace them if they are worn out	
		No		3
3	MAIN board		1. Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 2. Check if the connector pins are disconnected or the harnesses are open circuited. 3. Check if the conductor patterns on the MAIN board are short circuited or open circuited.	

Parts to be replaced	Remark
Registration sensor	
MAIN board	
Rollers on the transport path	

When the paper is fed from the bypass tray:

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?		Remove paper if there is any on the transport path.	2
2	Is the registration sensor working? (Perform the input check: 03-[A]/[A])	Yes	Check the rollers. Replace them if they are worn out	
		No		3
3	MAIN board		1. Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 2. Check if the connector pins are disconnected or the harnesses are open circuited. 3. Check if the conductor patterns on the MAIN board are short circuited or open circuited.	

Parts to be replaced	Remark
MAIN board	
Registration sensor	
Rollers on the transport path	

[EB60] Paper left on the transport path due to multiple feeding

Classification	Error content
Paper transport jam	The multiple feeding of preceding paper caused the misfeeding of upcoming paper (re-detection after no jam is detected at EB50 error)

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?	Yes	Remove the paper.	
		No		2
2	Is the registration sensor working? (Perform the input check in the test mode: 03-[A]/[A])	Yes		3
		No	• Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 • Check if the connector of the registration sensor is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the registration sensor. • Replace the MAIN board.	
3	Roller		• Check the rollers. Replace them if they are worn out.	

Parts to be replaced	Remark
Registration sensor	
MAIN board	
Rollers on the transport path	

8.3.4 Paper misfeeding

[E110] ADU misfeeding

Classification	Error content
Paper misfeeding	Jam not reaching the registration sensor

Procedure	Check item	Result	Measure	Next Step
1	Open the ADU. Is there any paper in front of the registration sensor?	Yes	Remove the paper.	
		No		2
2	Is the registration sensor working? (Perform the input check in the test mode: 03-[A]/ [A])	Yes		3
		No	• Check if the connector of the registration sensor is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the registration sensor.	
3	Is the ADU clutch working? (Perform the output check in the test mode: 03-222)	Yes		4
		No	• Check if the connector of the ADU clutch is disconnected. • Check if the connector CN17 on the MAIN board is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the ADU clutch.	
4	Rollers in the ADU		• Check the rollers in the ADU. Replace them if they are worn out.	

Parts to be replaced	Remark
Registration sensor	
ADU clutch	
MAIN board	
Rollers in the ADU	

[E120] Bypass misfeeding

Classification	Error content
Paper misfeeding	Jam not reaching the registration sensor

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?	Yes	Remove the paper.	
		No		2
2	Is the bypass feed clutch working? (Perform the output check in the test mode: 03-204) Is the bypass paper sensor working? (Perform the input check in the test mode: 03-[4]/[F])	Yes		3
		No	• Check if the connector of the bypass feed clutch and bypass paper sensor are disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the bypass feed clutch and bypass paper sensor. • Replace the MAIN board.	
3	Bypass feed roller Bypass separation pad		• Check the bypass feed roller and bypass separation pad. Replace them if they are worn out.	

Parts to be replaced	Remark
MAIN board	
Bypass feed clutch	
Bypass paper sensor	
Bypass feed roller	
Separation pad	

[E130] 1st drawer misfeeding

Classification	Error content
Paper misfeeding	Jam not reaching the registration sensor

Procedure	Check item	Result	Measure	Next Step
1	Open the right cover. Is there any paper on the transport path?	Yes	Remove the paper.	
		No		2
2	Is the drawer feed clutch working? (Perform the output check in the test mode: 03-201)	Yes		4
		No	• Check if the connector of the drawer feed clutch is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN22 28A/28M/28F: CN14 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the drawer feed clutch. • Replace the MAIN board.	
3	1st drawer feed roller Separation roller		• Check the drawer feed roller and separation roller. Replace them if they are worn out.	

Parts to be replaced	Remark
MAIN board	
Upper drawer feed clutch	
Upper drawer feed roller	
Separation roller	

8.3.5 Cover open jam

[E410] Toner supply cover opened during printing

Classification	Error content
Cover open jam	Toner supply cover open jam

Procedure	Check item	Result	Measure	Next Step
1	Is the toner supply cover open?	Yes	Close the cover.	
		No		2
2	Is the toner supply cover opening/closing switch working? (Perform the input check in the test mode: 03-[A]/[D])	Yes		3
		No	• Check if the connector of the toner supply cover opening/closing switch is disconnected. • Check if the connector CN15 on the MAIN board is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the toner supply cover opening/closing switch.	
3	Is the voltage of 24V being supplied from the power supply unit? (Perform the input check in the test mode: 03-[6]/[A])	Yes		4
		No	• Check if the connector for 24 V power supply is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN25 28A/28M/28F: CN21 • Check if the connector pins are disconnected and the harnesses are open circuited.	
4	MAIN board		• Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the MAIN board.	

Parts to be replaced	Remark
Toner supply cover opening/closing switch	
MAIN board	

[E430] Right cover opened during printing (When ADU is installed)

Classification	Error content
Cover open jam	Right cover open jam

Procedure	Check item	Result	Measure	Next Step
1	Is the right cover open?	Yes	Remove the paper if there is any, then close the right cover.	
		No		2
2	Is the right cover opening/closing switch working? (Perform the input check in the test mode: 03-[6]/[A])	Yes		3
		No	• Check if the connector of the right cover opening/closing switch is disconnected. • Check if any of the connectors on the MAIN board is disconnected. 25S/25H/25F: CN25 28A/28M/28F: CN21 • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor patterns on the MAIN board are short circuited or open circuited. • Replace the right cover opening/closing switch.	
3	MAIN board		• Replace the MAIN board.	

Parts to be replaced	Remark
Right cover opening/closing switch	
MAIN board	

8.3.6 Other jam

[E030] Paper remaining inside the equipment at power-ON

Classification	Error content
Other jam	Power-ON jam

Procedure	Check item	Result	Measure	Next Step
1	Open the cover of the unit/ area whose picture is blinking on the control panel. Is there any paper on the transport path? (Refer to the following table.)	Yes	Remove the paper.	
		No		2
2	Is the sensor in the jamming area working? (Perform the input check in the test mode: refer to the following table.)	Yes		3
		No	• Check if the connector of the sensor is disconnected. • Check if any of the connectors on the MAIN board is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the sensor	
3	MAIN board		• Replace the MAIN board.	

Parts to be replaced	Remark
Sensor	Refer to the following table
MAIN board	

Relation between the jamming area and the corresponding sensors and covers

Jamming area	Cover	Sensor	Test mode / Input check
Registration area	Right cover	Registration sensor	03-[A]/[A]
Exit area	Right cover	Exit sensor	03-[A]/[B]
ADU <25H/25F>	Right cover	ADU paper path sensor	03-[1]/[C]

[E061] Incorrect paper size setting for upper drawer
[E065] Incorrect paper size setting for bypass tray

Classification	Error content
Other jam	The size of paper in the 1st drawer differs from size setting of the equipment.

Check item	Measures
Paper size	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.

[E090] Time out jam: Image data to be printed cannot be prepared.

Classification	Error content
Other jam	Image data to be printed cannot be prepared.

Check item	Measure
Paper path	• Remove the paper remained in front of the registration sensor.
	• Check if the error is cleared by turning the power OFF and then back ON.
MAIN board	• Connector check
	• Board check
Flash memory	Check if the flash memory is correctly connected to the connector on the MAIN board.

Replace parts	Remarks
MAIN board	
Flash memory	

[E550] Paper remaining on the transport path

Classification	Error content
Other jam	Paper remaining jam on the transport path

Procedure	Check item	Result	Measure	Next Step
1	Open the cover of the unit/area whose picture is blinking on the control panel. Is there any paper on the transport path?	Yes	Remove the paper.	
		No		2
2	Is the sensor in the jamming area working? (Perform the input check in the test mode: refer to the following table)	Yes		3
		No	• Check if the connector of the sensor is disconnected. • Check if any of the connectors on the MAIN board is disconnected. • Check if the connector pins are disconnected and the harnesses are open circuited. • Check if the conductor pattern on the MAIN board is short circuited or open circuited. • Replace the sensor.	
3	MAIN board		• Replace the MAIN board.	

Parts to be replaced	Remark
Sensor	Refer to the following table
MAIN board	

Relation between the jamming area and the corresponding sensors/Right cover

Jamming area	Cover	Sensor	Test mode/Input check
Registration area	Right cover	Registration sensor	03-[A]/[A]
Exit area	Right cover	Exit sensor	03-[A]/[B]
ADU <25H/25F>	Right cover	ADU transfer sensor	03-[1]/[C]

[E552] Paper remaining jam on the transport path (when the cover is closed)

Classification	Error content
Other jam	Paper remaining on the transport path when printing is finished (when the cover is closed)

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		• Sensor check (Refer to the table below) • Harness check • Connector check	
3	MAIN board		• Harness check • Connector check • Board check	

Parts to be replaced	Remark
Sensor in the jamming area	Refer to the table below.
MAIN board	

Jamming area	Cover	Sensor	Test mode/Input check
Registration area	Right cover	Registration sensor	03-[A]/[A]
Exit area	Right cover	Exit sensor	03-[A]/[B]
ADU <25H/25F>	Right cover	ADU transfer sensor	03-[1]/[C]

[EAD0] Print end command time-out jam

Classification	Error content
Other jam	Print end command time-out jam

Procedure	Check item	Result	Measure	Next Step
1	Is the main motor working? (Perform the output check in the test mode: 03-101/151)	Yes	Is the main motor rotating normally? (Perform the output check:03-101/151)	2
		No	• Replace the main motor.	
2	MAIN board		Check if the conductor pattern on the MAIN board is short circuited or open circuited.	

Parts to be replaced	Remark
Main motor	
MAIN board	

8.3.7 ADF jam

[E714] Feed signal reception jam

Classification	Error content
ADF jam	Feed signal reception jam

Check item	Measures
Original empty sensor	• Sensor check (Perform the input check: 03-[8]/[B]) • Lever check • Connector check • Harness check
ADF board	• Board check • Connector check (PA4) • Harness check

Parts to be replaced	Remark
Original empty sensor	

[E721] Jam not reaching the read sensor

Classification	Error content
ADF jam	Jam not reaching the read sensor

Check item	Measures
Transport roller-1 / Transport roller-2	Clean the transport roller-1 and transport roller-2 if they are stained.
Read sensor	• Sensor check (Perform the input check: 03-[8]/[G]) • Connector check • Harness check
ADF board	• Board check • Connector check (PA4) • Harness check

Parts to be replaced	Remark
Read sensor	
ADF board	
Transport roller-1	
Transport roller-2	

[E725] Stop jam at the read sensor

Classification	Error item
ADF jam	Stop jam at the read sensor

Check item	Measures
Transport roller-2	Clean the transport roller-2 if they are stained.
Read sensor	• Sensor check (Perform the input check: 03-[8]/[G]) • Connector check • Harness check
ADF board	• Board check • Connector check (PA4) • Harness check

Replace parts	Remarks
Read sensor	
ADF board	
Transport roller-2	Replace it if it is worn out.

[E726] Jam not reaching the Original intermediate transport sensor

Classification	Error item
ADF/RADF jam	Stop jam at the original intermediate transport sensor

Check item	Measures
Exit/reverse roller	Clean the exit/reverse roller if it is stained.
Original intermediate transport sensor	• Sensor check (Perform the input check: 03-[8]/[E]) • Connector check • Harness check
ADF board <25H/25F> RADF board <28M/28F>	• Board check • Connector check (PA4) • Harness check

Replace parts	Remarks
Original intermediate transport sensor	
ADF board	<25H/25F>
RADF board	<28M/28F>
Exit/reverse roller	Replace it if it is worn out.

8.3.8 Drive system related service call

[C010] Main motor is abnormal

Classification	Error content
Drive system related service call	Main motor is abnormal

Procedure	Check item	Result	Measure	Next Step
1	Is the main motor working? (Perform the output check in the test mode: 03-101/151)	Yes		2
		No	1. Check if the connector J208 of the main motor is disconnected. 2. Check if the connector CN19 on the MAIN board is disconnected. 3. Check if the connector pins are disconnected and the harnesses are open circuited. 4. Check if the conductor patterns on the main motor board and MAIN board are short circuited or open circuited. 5. Replace the main motor.	
2	Are there any damage or scratches on the main motor board?	Yes		3
		No	1. Check if the connector pins are disconnected and the harnesses are open circuited. 2. Check if the conductor patterns on the main motor board and MAIN board are short circuited or open circuited. 3. Replace the main motor.	
3	MAIN board		1. Check if the PLL lock signal CN19-7 output from the MAIN board is always level “L”? 2. Replace the MAIN board.	

Parts to be replaced	Remark
Main motor	
MAIN board	

8.3.9 Scanning system related service call

[C260] Peak detection error

Classification	Error content
Scanning system related service call	Lighting of the exposure lamp (white reference) is not detected when power is turned ON.

Procedure	Check item	Result	Measure	Next Step
1	Is the exposure lamp lit?	Yes	It is lit.	2
		No	It is not lit.	3
2	1. Shading correction plate	1. Check if there is any scratch or stain on the shading correction plate.		
	2. CIS	1. Perform the light volume adjustment (05-3219). - When an error has occurred, turn the power OFF and then back ON and reattempt 05-3219. - If the error still persists, check if the harness is connected properly. 2. Check if the harness is scratched or open circuited. 3. Replace the CIS.		
	3. MAIN board	1. Check if the harness of the MAIN board is connected properly. 2. Check if 3.3 V on the MAIN board is short circuited. 3. Check if 3.3 V is supplied to the MAIN board. 4. Check if the mounted parts on the MAIN board are damaged or abnormal.		
	4. Scan motor	1. Check if the belt tension is loosened. 2. Check if the harness of the motor is caught or open circuited.		
3	1. CIS	1. Perform the light volume adjustment (05-3219). - When an error has occurred, turn the power OFF and then back ON and reattempt 05-3219. - If the error still persists, check if the harness is connected properly. 2. Check if the harness is scratched or open circuited. 3. Replace the CIS.		
	2. MAIN board	1. Check if the harness of the MAIN board is connected properly. 2. Check if 24 V on the MAIN board is short circuited. 3. Check if 24 V is supplied to the MAIN board. 4. Check if 3.3 V on the MAIN board is short circuited. 5. Check if 3.3 V is supplied to the MAIN board. 6. Check if the mounted parts on the MAIN board are damaged or abnormal.		

Parts to be replaced	Remark
CIS harness	
CIS	When replacing the CIS, be sure to perform the light volume adjustment (05-3219).
MAIN board	When replacing the board, be sure to perform the light volume adjustment (05-3219).
Scan motor	

[C270] Carriage home position cannot be detected within a specified period of time

Classification	Error content
Scanning system related service call	The carriage does not shift from its home position in a specified period of time.

Procedure	Check item	Result	Measure	Next Step
1	Does the carriage shift from its home position? (Output check: 03-261)	Yes	It shifts.	2
		No	It does not shift.	3
2	1. CIS	1. Check if the light source of the CIS lights up while the carriage is shifting to the left. 2. Check if the harness of the CIS is connected properly. 3. Check if the harness is scratched or open circuited.		
	2. MAIN board	1. Check if the harness of the MAIN board is connected properly. 2. Check if 24 V on the MAIN board is short circuited. 3. Check if 24 V is supplied to the MAIN board. 4. Check if 3.3 V on the MAIN board is short circuited. 5. Check if 3.3 V is supplied to the MAIN board. 6. Check if the mounted parts on the MAIN board are damaged or abnormal.		
	3. Scan motor	1. Check if the belt tension is loosened. 2. Check if the harness of the motor is caught or open circuited. 3. Check the number of the scan motor gears and then set the 08-3134 accordingly. <25S/25H/25F only> 0: One-gear 1: Two-gear		
3	1. MAIN board	1. Check if the harness of the MAIN board is connected properly. 2. Check if 24 V on the MAIN board is short circuited. 3. Check if 24 V is supplied to the MAIN board. 4. Check if 3.3 V on the MAIN board is short circuited. 5. Check if 3.3 V is supplied to the MAIN board. 6. Check if the mounted parts on the MAIN board are damaged or abnormal.		
	2. Scan motor	1. Check if the belt and the pulley come off. 2. Check if the harness of the motor is caught or open circuited. 3. Check the number of the scan motor gears and then set the 08-3134 accordingly. <25S/25H/25F only> 0: One-gear 1: Two-gear		

Parts to be replaced	Remark
CIS harness	
CIS	When replacing the CIS, be sure to perform the light volume adjustment (05-3219).
MAIN board	When replacing the board, be sure to perform the light volume adjustment (05-3219).
Scan motor	

8.3.10 Process related service call

[CE50] Temperature/humidity sensor abnormality

Classification	Contents
Process related service call	Temperature/humidity sensor abnormality

Check Item	Result	Measure
Is the connector CN24 on the MAIN board or the connector of the temperature/humidity sensor disconnected? Is the harness between the MAIN board and the temperature/ humidity sensor disconnected?	Yes	1. Connect the connector securely. Replace the harness.
	No	1. Replace the temperature/humidity sensor. 2. Replace the MAIN board.

Replacement part	Remark
Temperature/humidity sensor	
MAIN board	

[CE90] Drum thermistor abnormal

Classification	Contents
Process related service call	Drum thermistor abnormal

Check Item	Measure
MAIN board	1. Is the connector CN24 on the MAIN board, or the connector of the drum thermistor disconnected?

Replacement part	Remark
Drum thermistor	
MAIN board	

[C970] High-voltage transformer abnormality

Classification	Contents
Process related service call	High-voltage transformer abnormality

Check Item	Measure
	1. Is the main charger installed securely? 2. Check if the spring of high-voltage supply contact point is deformed. 3. Check if the needle electrode is broken or the main charger grid is deformed. 4. Check if any foreign matters is on the needle electrode or the main charger grid. 5. Check if the transfer roller and the separation needle are installed securely. 6. Check if the transfer roller or the separation needle is removed. 7. Check if there is any foreign matter attached on the transfer roller or the separation needle.

8.3.11 Laser optical unit related service call

[CA10] Polygonal motor is abnormal

Classification	Error content
Laser optical unit related service call	Polygonal motor is abnormal

Procedure	Check item	Result	Measure	Next Step
1	Is the polygonal motor rotating?	Yes	1. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 2. Replace the MAIN board. 3. Replace the laser optical unit.	
		No	1. Check if the connector of the harness is disconnected between MAIN board (CN32) and the laser optical unit. Reconnect it securely if so. Even if the connector is not apparently disconnected, it may be connected loosely. Therefore check carefully that it is secure. 2. Check if the harness is open circuited and the connector pin is disconnected. 3. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 4. Replace the laser optical unit. 5. Replace the MAIN board.	

Parts to be replaced	Remark
MAIN board	
Laser optical unit	

[CA20] H-Sync detection error

Classification	Error content
Laser optical unit related service call	H-Sync detection error

Procedure	Check item	Result	Measure	Next Step
1	Are the harness open circuited and the connectors disconnected between the MAIN board (CN33) and the laser optical unit?	Yes	1. Even if the connector is not apparently disconnected, it may be connected loosely. Therefore check carefully that it is secure.	
		No	1. Replace the MAIN board. 2. Replace the laser optical unit	

Parts to be replaced	Remark
MAIN board	
Laser optical unit	

8.3.12 Fuser unit related service call

Notes:

Be sure to turn OFF the power and unplug the power cable beforehand when checking the heater.

The fuser unit itself or the part of the unit remains heated and the capacitors are still charged after a while the power cable is unplugged. So make sure the unit is cooled down enough before checking.

[C411] Thermistor or heater lamp abnormality at power-ON

Classification	Error content
Fuser unit related service call	Thermistor or heater is abnormal at power ON

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if any of the connectors on the MAIN board is disconnected. 25S: CN11, 25H/25F: CN10 28A/28M/28F: CN8 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board.
4. Clear the status counter	After repairing the matter which caused the error [C411], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “1” to “0”, then press [OK] (to cancel [C411]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	
Thermistors	
Heater lamp	

[C412] Thermistor or heater lamp abnormality at power-ON

Classification	Error content
Fuser unit related service call	Thermistor or heater is abnormal at power ON

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if any of the connectors on the MAIN board is disconnected. 25S: CN11, 25H/25F: CN10 28A/28M/28F: CN8 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board.
Check the bias plate	1. Check if the fuser unit is tightly screwed to the equipment with no gap. 2. Check if the bias plate in the fuser unit is in contact due to deformation.
Check the power supply	Replace the switching regulator.
4. Clear the status counter	After repairing the matter which caused the error [C412], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “2” to “0”, then press [OK] (to cancel [C412]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	
Thermistors	
Heater lamp	

[C413] Heater lamp abnormality after abnormality judgment (not reaching to intermediate temperature)
[C414] Heater lamp abnormality after abnormality judgment (pre-running end temperature abnormality)
Thermistor or heater lamp abnormality at power-ON

Classification	Error item
Fuser unit related service call	Thermistor/heater lamp abnormality at power-ON: Thermistor abnormality is detected at power-ON or the fuser roller temperature does not rise within a specified period of time after power-ON.

Procedure	Check item	Measures
1	Check the power voltage	Check if the power voltage is normal. (Is the voltage during the operation ±10% of the rated voltage?)
2	Check the each elements of error status	Check the abnormal thermistors 08-4570-0: Center thermistor 08-4570-1: Side thermistor <25H/25F> 08-4570-2: Edge thermistor 08-4570-5: Error counter
3	Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
4	Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
5	Check the MAIN board	1. Check if the connectors are disconnected. 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board.
6	Clear the status counter	After repairing the matter which caused the error [C413 / C414], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “3” or “4” to “0”, then press [OK] (to cancel [C413 / C414]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Replace parts	Remarks
MAIN board	
Thermistors	
Heater lamp	

[C415] No recovery for more than one minute after the low temperature WAIT state was entered during printing

Classification	Error content
Fuser unit related service call	No recovery for more than one minute after the low temperature WAIT state was entered during printing

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if any of the connectors on the MAIN board is disconnected. 25S: CN11, 25H/25F: CN10 28A/28M/28F: CN8 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board
4. Check the power supply	1. Check if the connectors are disconnected. 2. Replace the switching regulator.
5. Clear the status counter	After repairing the matter which caused the error [C415], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “5” to “0”, then press [OK] (to cancel [C415]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	

[C447] Fixer temperature of 40°C or lower in READY state

Classification	Error content
Fuser unit related service call	Fixer temperature of 40°C or lower in READY state

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if any of the connectors on the MAIN board is disconnected. 25S: CN11, 25H/25F: CN10 28A/28M/28F: CN8 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board
4. Check the power supply	1. Check if the connectors are disconnected. 2. Replace the switching regulator.
5. Clear the status counter	After repairing the matter which caused the error [C447], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “7”or “24” to “0”, then press [OK] (to cancel [C447]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	

8

[C449] Fixer temperature of 240°C or higher during printing

Classification	Error content
Fuser unit related service call	Fixer temperature of 240°C or higher during printing

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if the connectors CN10 are disconnected. 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board
4. Check the power supply	1. Check if the connectors are disconnected. 2. Replace the switching regulator.
5. Clear the status counter	After repairing the matter which caused the error [C449], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value "9", "19", "21", "22", "23", "25", "27", "29" or "45" to "0", then press [OK] (to cancel [C449]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	

[C452] Differential of more than 50°C between center thermistor and edge thermistor when READY temperature is reached <25S>
[C452] Differential of more than 70°C between center thermistor and side thermistor when READY temperature is reached <25H/25F>

Classification	Error content
Fuser unit related service call	- Differential of more than 50°C between center thermistor and edge thermistor when READY temperature is reached. <25S> - Differential of more than 70°C between center thermistor and side thermistor when READY temperature is reached. <25H/25F>

Check item	Measure
1. Check the thermistors	1. Check if the connectors are disconnected. 2. Check if the center and edge / side thermistors are in contact with the surface of the fuser roller properly? 3. Check if the center and edge / side thermistors are not deformed or dirty. 4. Check if the harnesses of the center and edge / side thermistors are open circuited.
2. Check the heater	1. Check if the heater is broken. 2. Check if the connector of the heater is disconnected. 3. Check if the harnesses are connected properly to the terminals of the heater lamp. 4. Check if the thermostat is blown.
3. Check the MAIN board	1. Check if any of the connectors on the MAIN board is disconnected. 25S: CN11, 25H/25F: CN10 28A/28M/28F: CN8 2. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 3. Replace the MAIN board
4. Clear the status counter	After repairing the matter which caused the error [C452], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Change the current status counter value “62” to “0”, then press [OK] (to cancel [C452]). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	

[C4B0] Fixer error counter outside of specification

Classification	Error content
Fuser unit related service call	Fixer error counter outside of specification

Check item	Measure
1. Check the MAIN board	1. Check if the conductor pattern on the MAIN board is short circuited or open circuited. 2. Check if the main memory is installed properly. (25S: IC24, 25H/25F/28A/28M/28F: IC11) 3. Replace the MAIN board

Check item	Measure
2. Clear the status counter	After repairing the matter which caused the error [C4B0], perform the following: 1. Turn ON the power while [0] and [8] are pressed simultaneously. 2. Key in “2002”, then press [START]. 3. Rewrite the displayed counter with “0” and then press the [OK] button ([C4B0] clear). 4. Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

Parts to be replaced	Remark
MAIN board	

8.3.13 Circuit related service call

[C911] Toner cartridge IC chip access board abnormality

Classification	Contents
Circuit related service call	Abnormal access between the CTRG board and MAIN board

Procedure	Check item	Contents	Next Step
1	Does the recommended toner cartridge display appear when the toner supply cover is opened and closed?	Use the recommended TOSHIBA toner cartridge.	
2	Toner cartridge	• Check the phenomenon by removing the toner cartridges and reinserting them. • Check that the CTRG board of the cartridge is installed properly. • Avoid touching the contact point. • Wipe the contact point with a soft cloth if it's stained.	
3	Contact point on the equipment side	Check that the spring of the contact point is not deformed.	
4	Is the spring of the contact point returned when it is pushed lightly?	• Check that the CTIF board is installed properly. • Board check	
5	MAIN board	• Connector check (CN16) • Board check	
6	HRNS-MAIN-PU-240	• Connector check (CN16: Main board, CN150: CTIF board) • Harness check	
7	CTIF board	• Check that the board is installed properly. • Board check	

Replacement part	Remark
Toner cartridge	
MAIN board	
HRNS-MAIN-PU-240	
CTIF board	

[C940] Engine-CPU abnormality

Classification	Contents
Circuit related service call	Engine-CPU abnormality

Check Item	Measure
Main power switch	Turn OFF the main power switch, then back ON.
Engine-CPU and FROM	Check if the conductor pattern between the Engine-CPU and FROM is short circuited or open circuited.
MAIN board	Board check

Replacement part	Measure
MAIN board	

[C950] The abnormalities in a MAIN board

Classification	Content
Other service call	The engine firmware being downloaded to the main board is not the same as the machine.

Check Item	Measure
MAIN board	Check that the wrong board is not installed, if it is wrong, replace it.
Engine firmware	Check that the model of the machine is correct, if it is wrong, download the data again.

Replacement part	Measure
MAIN board	

[F090] Memory abnormality on the MAIN board

Classification	Contents
Circuit related service call	Memory abnormality on the MAIN board

Check Item	Measure
	1. Turn the power off, and start up the Setting Mode (08). 2. When “TEST MODE D” is displayed on the control panel, key in code: 9080 and press the [START] key. **Notes:** Code: 9080 cannot be keyed in except when 08-9010 is ON. To set the 08-9010, if this is the case, key in 08-9010 → [START] → [CLEAR] → key in [1] → [OK]. 3. When “SELECT DESTINATION” is displayed, use the [▲] [▼] keys to select a direction and press the [OK] key. 4. When “MC=9080” is displayed on the control panel, press the [OK] key. To cancel, press the [CANCEL] key. 5. If flash memory clear ends normally, “INITIALIZE=OK” is displayed on the control panel, it automatically changes to the initial screen of the 08 mode. 6. Perform the initialization after the software version upgrade (08-9030). 7. Display the serial number (08-9601) and check the serial number. Key in the correct serial number using 08-9601 if the serial number is different from the serial number on the identification plate on the back cover. 8. Set the 08-9010 to “0”. 9. Check the number of the scan motor gears and then set the 08-3134 accordingly. <25S/25H/25F only> 0: One-gear 1: Two-gear 10. Check if the fax function is installed and then set the 08-9063 accordingly. 0: Not installed 1: Installed 11. Turn the power off and then on, if the error is not corrected, replace the flash memory on the main board.

Replacement part	Remark
Main memory on the MAIN board	The IC number differs depending on the model. 25S: IC24 25H/25F, 28A/28M/28F: IC11

8.3.14 Communication related service call

[F070] Communication error between system CPU and main CPU

Classification	Error content
Communication related service call	Communication error between system CPU and main CPU

Check item	Measure
Check ROM version	Check the firmware version and confirm if the combination of the system firmware and engine firmware is correct.
	If the version number is not displayed, upgrade the engine firmware data.
MAIN board	Board check (Check if there is any abnormality in the appearance of parts mounted on the MAIN board)
Harness	When the ADU is installed, check the following items. 1. Check if the harness is caught or open circuited. 2. Check the connectors and harnesses between the ADU sensor(S8) and MAIN board (CN11).

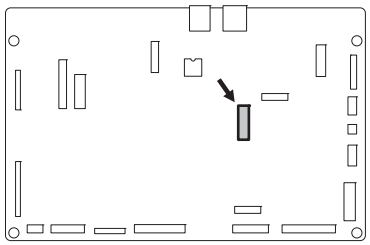
Parts to be replaced	Remark
MAIN board	
Harness	

8.3.15 Other service call

[F901] Engine speed error <25S/25H/25F>

Classification	Error content
Other service call	The speed information of the MAIN board is damaged. The MAIN board in which is not corresponding to the equipment model is installed.

Check item	Measure
Harness	Check if there is no problem in the harness for connecting to the following connector. MAIN board: CN15

Check item	Measure
MAIN board	Check if the MAIN board in which is corresponded to the equipment model is installed. Check if the label color of the MAIN board (indicated in the figure with the arrow) is corresponded to the equipment model (indicated on the rating label). 25S: Yellow (MJD) / White (Other than MJD) 25H: Pink 25F: Yellowish green • Position of the label to be checked  If they are not corresponding correctly, replace the MAIN board with the correct one by referring to the procedures described below. Reference: 🕮 P. 9-1 "9.1.1 Main board (MAIN)"

Parts to be replaced	Remark
Harness	
MAIN board	

8.3.16 Error in E-mail / Scanning Function <25H/25F>

[1] E-mail related error

[1C69] SMTP server connection error

Classification	Error item
E-mail related error	SMTP server connection error

Check item	Measures
Setting	• Reset the login name and password of SMTP server and perform the job again. • Check if the SMTP server is operating properly.
LAN cable	• Check that the LAN cable is connected.

[1C71] SMTP authentication error

Classification	Error item
Internet FAX related error	SMTP authentication error

Check item	Measures
Setting	• Check that SMTP authentication method, login name and password are correct, then perform authentication again.

[1C72] POP Before SMTP error

Classification	Error item
Internet FAX related error	POP Before SMTP error

Check item	Measures
Setting	• Check that both the POP Before SMTP setting and POP3 setting are correct, then perform authentication again.

[2] File sharing related error

[2D31] File creation failure

Classification	Error item
File sharing related error	File creation failure

Check item	Measures
Setting	• Check if the access privilege to the storage directory is writable. • Check if the server or local disk has a sufficient space in disk capacity.

[2D62] File server connection error

Classification	Error item
File sharing related error	File server connection error

Check item	Measures
Setting	• Check the IP address or path of the server. • Check if the server is operating properly.

[2D63] Invalid network path

Classification	Error item
File sharing related error	Invalid network path

Check item	Measures
Setting	• Check the network path. • If the path is correct, turn the power OFF and then back ON, and perform the job again.

[2D64] Login failure

Classification	Error item
File sharing related error	Login failure

Check item	Measures
Setting	• Reset the login name and password. Perform the job. • Check if the account of the server is properly set up.

[2D67] FTP service not available

Classification	Error item
File sharing related error	File sharing service not available

Check item	Measures
Setting	• Check if the setting of FTP service is valid.

[2D68] File sharing service not available

Classification	Error item
File sharing related error	File sharing service not available

Check item	Measures
Setting	• Check if the setting of SMB is valid.

[2E31] File creation failure in USB storage

Classification	Error item
File sharing related error	File creation failure in USB storage

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.

[2E33] File access failure in USB storage

Classification	Error item
File sharing related error	File access failure in USB storage

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.

[2E66] HDD full failure in USB storage

Classification	Error item
File sharing related error	HDD full failure in USB storage

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.

[3] E-mail reception related error

[3E10] POP3 server connection error

Classification	Error item
E-mail reception related error	POP3 server connection error

Check item	Measures
Setting	• 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.

[5011] Communication error

Classification	Error item
E-mail reception related error	Communication error

Check item	Measures
1. LAN cable	• Check that the LAN cable is connected. • If the LAN cable connection defect is detected twice or more, the error display will be changed from 5011 to 1C69 (SMTP server connection error). So if it is not changed, check "2".
2. SMTP server	• Send the E-mail by dividing it. (Change the file size in the [Setting items] menu.)
	• Check if the memory in the SMTP server is sufficient. (If not, add memory to the SMTP server.)

[5018] Invalid DNS error

Classification	Error item
E-mail reception related error	Invalid DNS error

Check item	Measures
Setting	• Set the correct DNS address. • If any setting is needed in DNS, consult your administrators.

8.4 Troubleshooting for the Image

8.4.1 Abnormality of image density / Gray balance

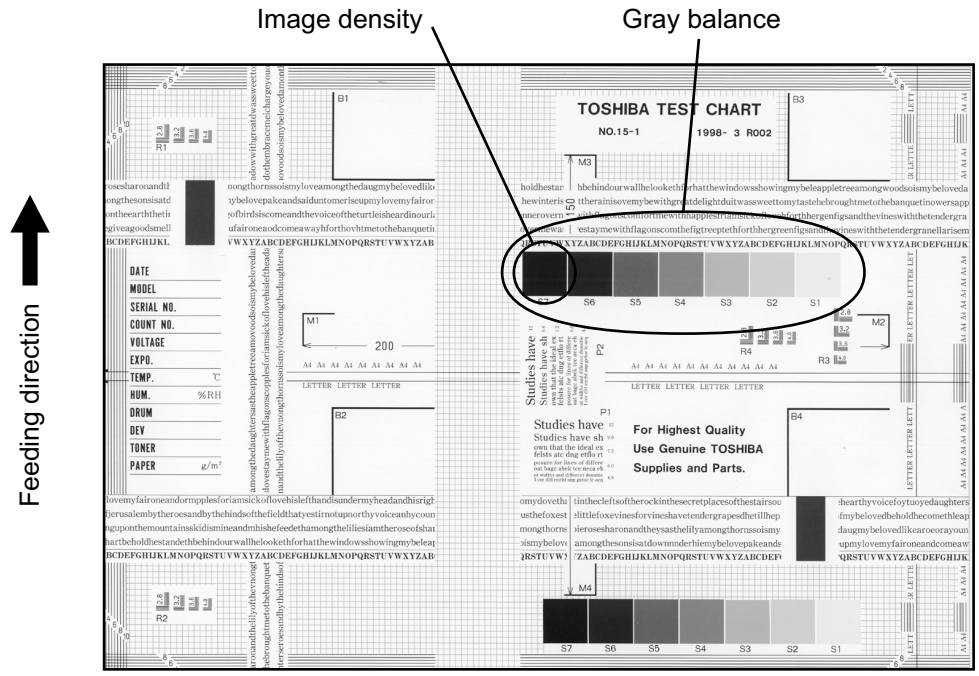


Fig.8-4

Defective area	Step	Check items	Prescription
Density/Gray balance	1	Check the density/gray balance.	Adjust the density.
Printer section	2	Check test print image (04-114).	Go to step 4 if there is any problem on image.
Scanner	3	Are the original glass and CIS unit dirty?	Clean them.
Printed image	4	Is the image faded?	Perform troubleshooting for faded image.
	5	Is background fogging occurring?	Perform troubleshooting for background fogging.
	6	Is there a blotch on the image?	Perform troubleshooting for blotched image.
	7	Is the image transferred normally?	Perform troubleshooting for abnormal transfer.

8.4.2 Background fogging

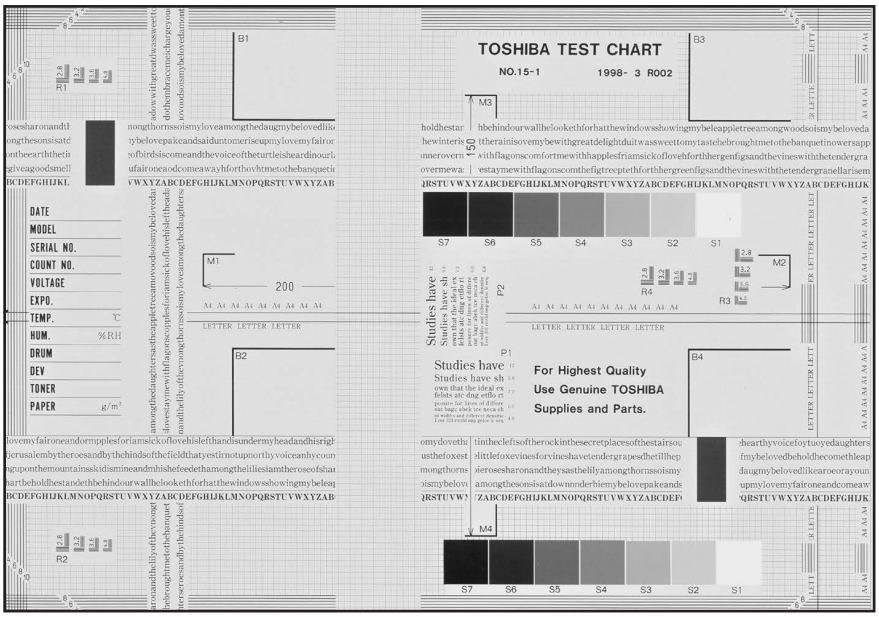


Fig.8-5

Defective area	Step	Check items	Prescription
Density reproduction	1	Check the reproduction of the image density.	Adjust the density.
Background reproduction	2	Check the background reproduction.	Adjust the background.
Printer section	3	Check test print image (04-114).	Go to step 4 if there is any problem on image.
Scanner	4	Are the original glass and CIS unit dirty?	Clean them.
Auto-toner	5	Is the auto-toner sensor normal?	Check the performance of the auto-toner sensor and readjust.
	6	Is the toner supplied normally?	Check the motor and circuits.
High-voltage transformer (Main charger / Developer bias)	7	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
Developer unit	8	Is the contact between the drum and developer material normal?	Adjust the doctor-sleeve gap and polarity.
Developer material/Toner/ Drum	9	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.
	10	Have the developer material and drum reached their PM life?	Replace the developer material and drum.
	11	Is the storage environment of the toner cartridge 35°c less without dew?	Use the toner cartridge stored in the environment within specification.
Drum cleaning blade	12	Is the drum cleaned properly?	Check the pressure of the drum cleaning blade.
Toner dusting	13	Is toner heaped on the seal of the developer unit?	Remove the toner and clean the developer unit.

8.4.3 Moire/lack of sharpness

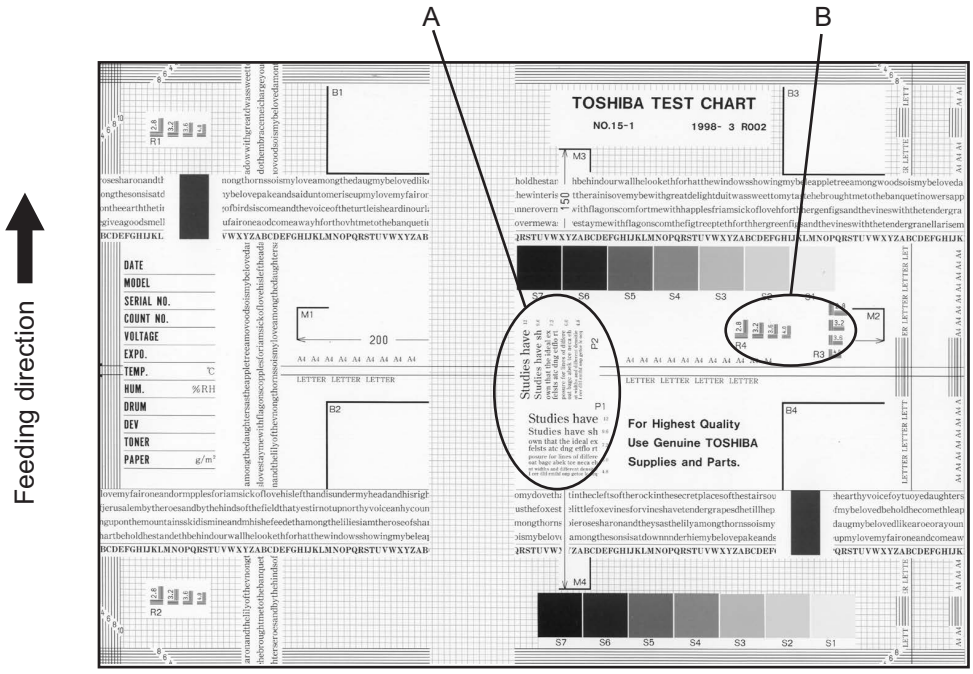


Fig.8-6

Moire

Defective area	Step	Check items	Prescription
Density reproduction	1	Check the reproduction of the image density.	Adjust the density.
Parameter adjustment value	2	Check the image processing parameters.	Check the adjustment value for sharpness.
Printer section	3	Check test print image (04-114).	When defects occur, perform the corresponding troubleshooting procedure.

Lack of sharpness

Defective area	Step	Check items	Prescription
Density reproduction	1	Check the reproduction of the image density.	Adjust the density.
Parameter adjustment value	2	Check the image processing parameters.	Check the adjustment value for sharpness.
Printer section	3	Check test print image (04-114).	When defects occur, perform the corresponding troubleshooting procedure.
	4	Check the image processing parameters.	Check the encircled areas A and B in the image, and change the sharpness intensity in the sharpness adjustment mode.

8.4.4 Toner offset

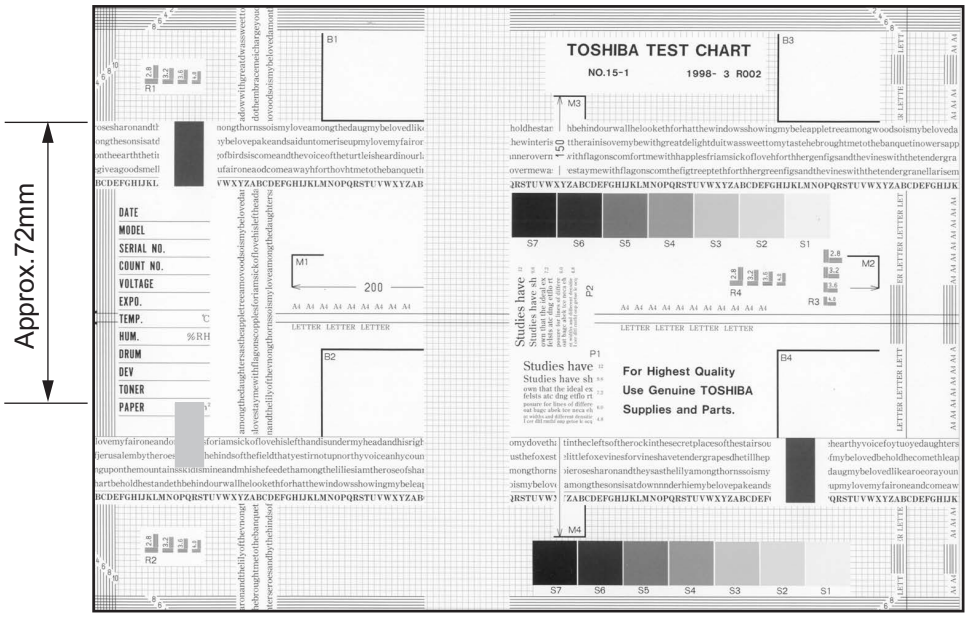


Fig.8-7

Toner offset (Shadow image appears approx.72mm toward the dark image.)

Defective area	Step	Check items	Prescription
Density	1	Is the density too high?	Adjust the density.
Fuser unit	2	Is the pressure of the fuser roller normal?	Check the pressure releasing parts and pressurization mechanism.
	3	Is the thermistor in contact with the fuser roller?	Contact the thermistor with the fuser roller.
	4	Is there a scratch on the fuser roller surface?	Replace the fuser roller.
	5	Has the fuser roller reached its PM life?	Replace the fuser roller.
	6	Is the setting temperature of the fuser roller normal?	Check the adjustment values of fuser roller temperature? 08-2010, 2009, 2100
	7	Is the power supplied between the fuser unit entrance guide and the registration roller on the equipment side?	Check if the power supply bracket of the fuser unit is installed properly.
Paper	8	Has the appropriate paper type been selected?	Select a proper mode.
	9	Is the setting temperature of the fuser roller in each paper type normal?	Check the setting and correct it. (08-2049, 2050, 2051, 2194)
	10	Using the recommended paper?	Use the recommended paper.
Developer material	11	Using the specified developer material?	Use the specified developer material and toner.
Scanner	12	Are the original glass (especially the position of shading correction plate) and CIS unit dirty?	Clean them.

8.4.5 Blurred image

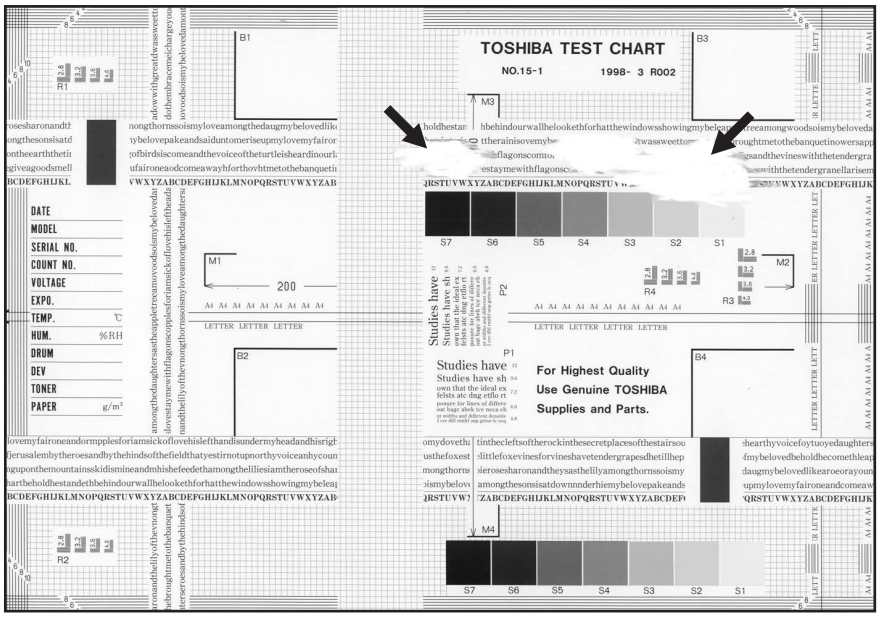


Fig.8-8

Defective area	Step	Check items	Prescription
Paper	1	Is the paper in the drawer damp?	Change paper. Avoid storing paper in damp place.
Bedewed scanner	2	Is the scanner bedewed?	Clean the scanner.
Drum	3	Is the drum surface wet or dirty?	Wipe the drum with a piece of dry cloth. * Do not use alcohol or other organic solvents.
Ozone exhaust	4	Is the exhaust fan operating properly?	Check the connection of connector. Replace the ozone exhaust fan.
	5	Is the ozone filter stained or damaged?	Replace the ozone filter.

8.4.6 Poor fusing

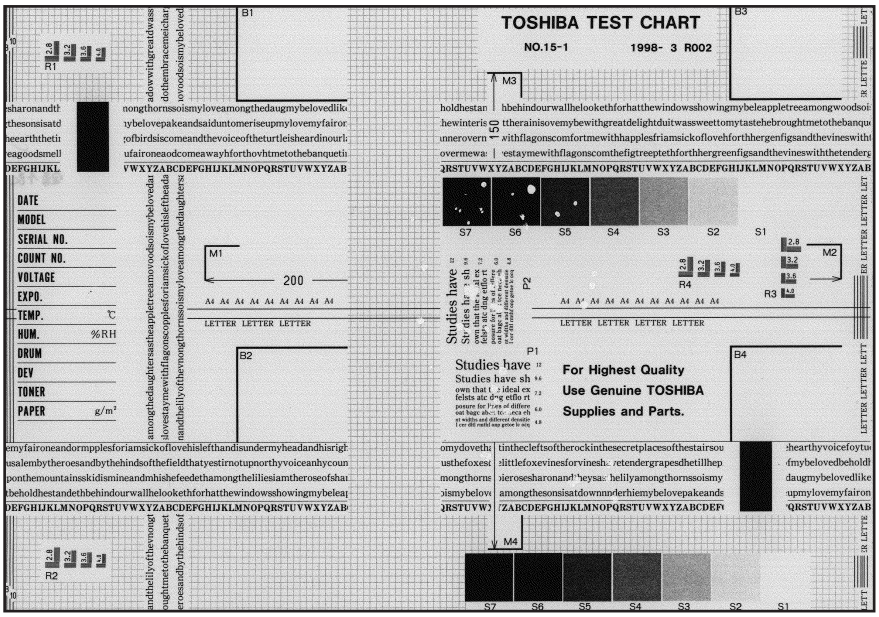


Fig.8-9

Defective area	Step	Check items	Prescription
Heater electric power	1	Check if the connector contacts properly.	Correct it.
	2	Is the heater shorted or broken?	Replace the heater.
Pressure between fuser roller and pressure roller	3	Are the pressure springs working properly?	Check and adjust the pressure springs.
Fuser roller temperature	4	Is the temperature of the fuser roller normal?	Check the setting and correct it. 08-2010, 2009, 2100
Developer material/Toner	5	Using the specified developer material and toner?	Use the specified developer material and toner.
Paper	6	Is the paper in the drawer damp?	Avoid storing paper in damp place.
	7	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.
	8	Is the setting temperature of the fuser roller in each paper type normal?	Check the setting and correct it. (08-2049, 2050, 2051, 2194)
	9	Using the recommended paper?	Use the recommended paper.

8.4.7 Blank copy

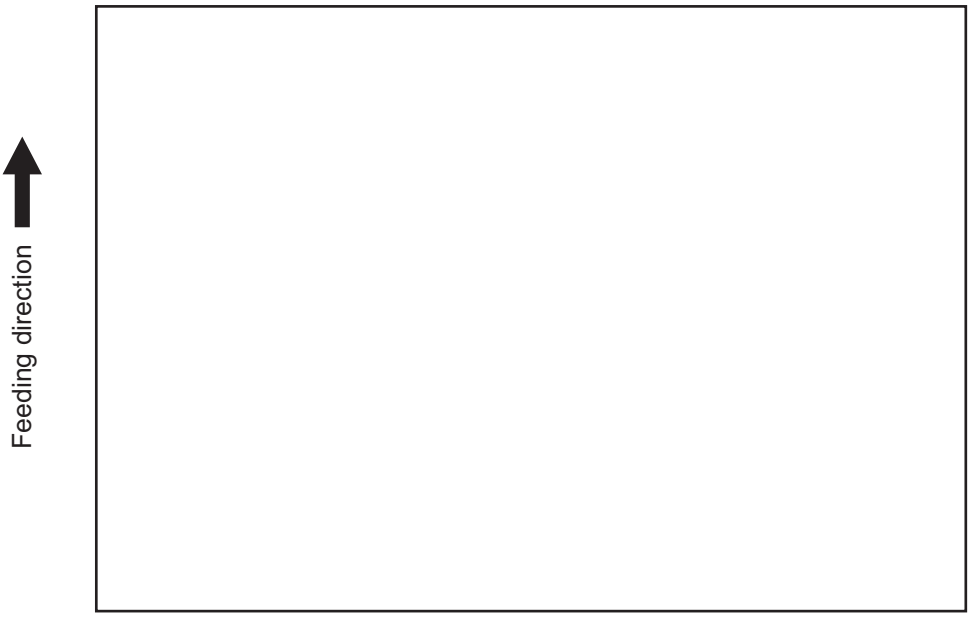


Fig.8-10

Defective area	Step	Check items	Prescription
Transfer roller unit	1	Is the power supplying spring of the transfer roller installed securely? (Is it almost detached?)	Check the power supplying spring and reinstall it.
High-voltage transformer (Transfer roller unit, Developer bias)	2	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
	3	Are the connectors of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Developer unit	4	Is the developer unit installed properly?	Check and correct the engaging condition of the developer unit gears.
	5	Do the developer sleeve and mixers rotate?	Check and fix the drive system of the developer unit.
	6	Is the developer material smoothly transported?	Remove the foreign matter from the developer material.
	7	Has the magnetic brush phase been shifted?	Adjust the developer polarity.
	8	Is the doctor blade positioned properly?	Adjust it using the doctor-sleeve jig.
Drum	9	Is the drum rotating?	Check the drive system of the drum.
MAIN board and harnesses	10	Are the connectors securely connected? Check if the harnesses connecting the boards are open circuited.	Connect the connectors securely. Replace the harness.

8.4.8 Solid copy

Fig.8-11

Defective area	Step	Check items	Prescription
Scanner	1	Does the exposure lamp light?	Check if the connector contacts with the MAIN board and CIS unit terminal.
Scanner	2	Is there any foreign matter on the light path?	Remove it.
Bedewed scanner and drum	3	Is the scanner or drum bedewed?	Clean the CIS unit and drum. Keep the power cord plugged in all trough the day and night. (For the model with damp heater)
Main charger	4	Is the main charger securely installed?	Install it securely.
	5	Is the needle electrode broken?	Replace the needle electrode.
High-voltage transformer (Main charger)	6	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
	7	Are the connectors of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
MAIN board and harnesses	8	Are the connectors securely connected? Check if the harnesses connecting the boards are open circuited.	Connect the connectors securely. Replace the harness.

8.4.9 White banding or white void (in the feeding direction)

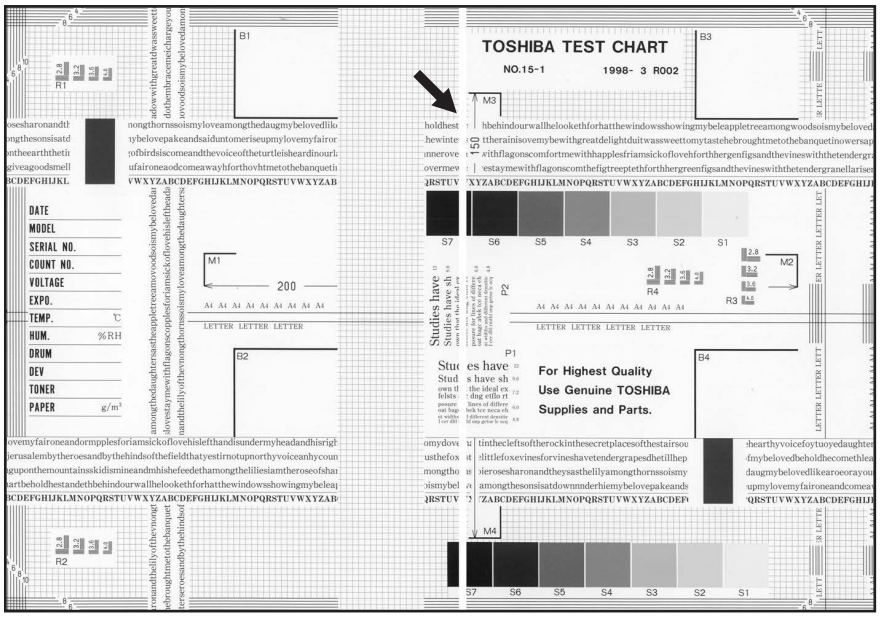


Fig.8-12

Defective area	Step	Check items	Prescription
Scanner	1	Is there a foreign matter on the light path?	Remove the foreign matter.
	2	Are the original glass (especially the position of shading correction plate) and CIS unit dirty?	Clean them.
Transport path	3	Does the toner image contact with any foreign matter before the paper enters the fusing section after the separation?	Remove the foreign matter.
Discharge LED	4	Is any of the discharge LEDS off?	Replace the discharge LED.
Cleaner	5	Is there any foreign matter, which contacts the drum on the cleaner stay?	Remove the foreign matter.
Toner cartridge	6	Is the adhered foreign matter blocking the laser light path?	Remove the foreign matter.
Developer unit	7	Is the floated lid of the developer bottle blocking the laser light path?	Check the lid and place it properly.
	8	Is the developer material transported properly?	Remove the foreign matter if there is any.
	9	Is there any foreign matter between the doctor blade and the developer sleeve?	Remove the foreign matter.
	10	Is there a foreign matter or dew on the drum seal?	Remove the foreign matter or dew.
	11	Is the upper drum seal of the developer unit in contact with the drum?	Correct the position of the drum seal or replace it.

Defective area	Step	Check items	Prescription
Drum	12	Is there a 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.
	13	Is there any foreign matter around the aperture on the laser incoming side of the process unit?	Remove the foreign matter.
Laser light path	14	Is there any foreign matter on frame of the slit window of the metal plate between the laser optical unit and the process unit?	Remove the foreign matter.
Laser optical unit	15	Does any foreign matter blocking the laser light path adhere on the frame of the laser outgoing window?	Remove the foreign matter.

8.4.10 White banding (at right angle with the feeding direction)

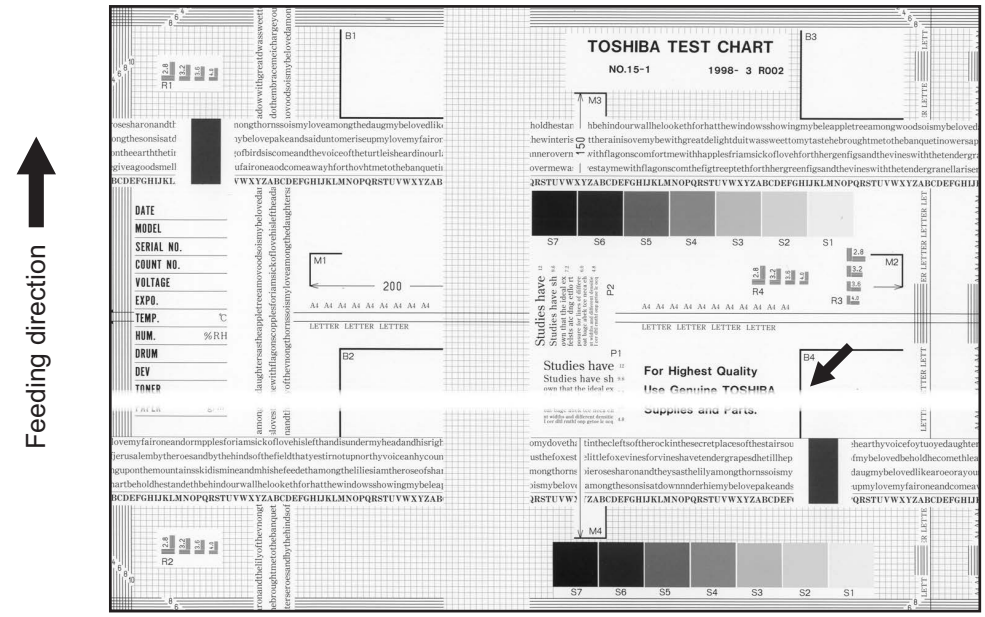


Fig.8-13

Defective area	Step	Check items	Prescription
Main charger	1	Is there a foreign matter on the charger?	Remove the foreign matter.
	2	Is the connector in proper contact with the terminal?	Clean or adjust the terminal.
Drum	3	Is there any abnormality on the drum surface?	Replace the drum.
Discharge LED	4	Does the discharge LED light normally?	Replace the discharge LED or check the harness and the circuit.
Developer unit	5	Is the developer sleeve rotating normally? Is there any abnormality on the sleeve surface?	Check the drive system of the developer unit, or clean the sleeve surface.
Drive system	6	Are the drum and scanner jittering?	Check each drive system.
High-voltage transformer (Main charger / Developer bias / Transfer roller unit)	7	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
Transfer roller unit	8	Is there any foreign matter adhering to the transfer roller? Is there any abnormality in the appearance of the roller? Has the number of output pages exceeded the threshold for the life of the transfer roller?	Remove the foreign matter from the roller surface. Replace the roller if there is any abnormality in its appearance. Also replace the roller if the number of output pages has exceeded the threshold of its life.
Feed system	9	Is the aligning amount proper?	Adjust the aligning amount.

8.4.11 Skew (inclined image)

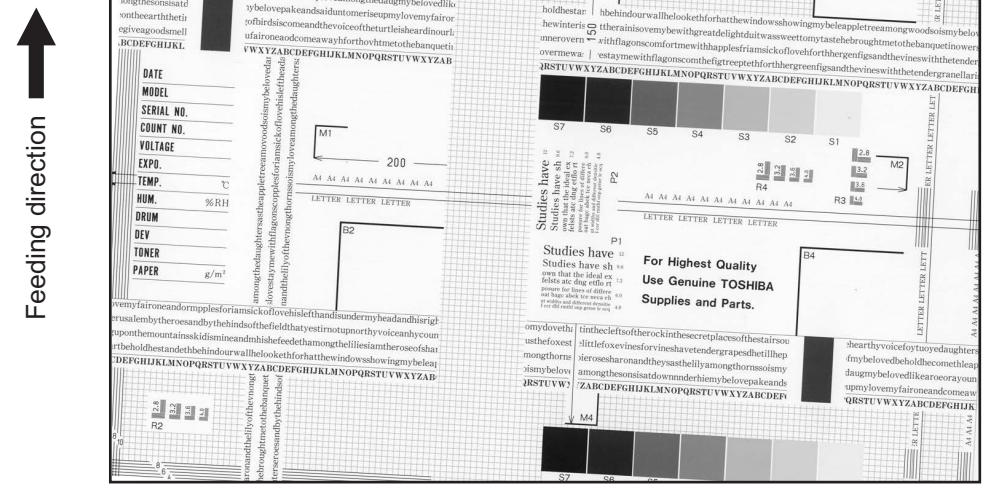


Fig.8-14

Defective area	Step	Check items	Prescription
Drawers	1	Is the drawer properly installed?	Install the drawer properly.
	2	Is there too much paper in the drawer?	Reduce paper to 250 or fewer sheets in the drawer.
	3	Is the corner of the paper folded?	Change the direction of the paper and set it again.
	4	Are the side guides of the drawer properly installed?	Adjust the position of the side guides.
Feed roller	5	Is the surface of the feed roller dirty?	Clean the feed roller surface with alcohol, or replace the roller.
Rollers	6	Are the roller and shaft secured?	Check and tighten the E-rings, pins, clips and setscrews.
Registration roller	7	Is the spring detached from the registration roller?	Attach the spring correctly. Clean the roller if it is dirty.
Pre-registration guide	8	Is the pre-registration guide properly installed?	Correct it.
CIS unit	9	Is the CIS unit slanted?	Replace the CIS case.

8

8.4.12 Black banding (in the feeding direction)

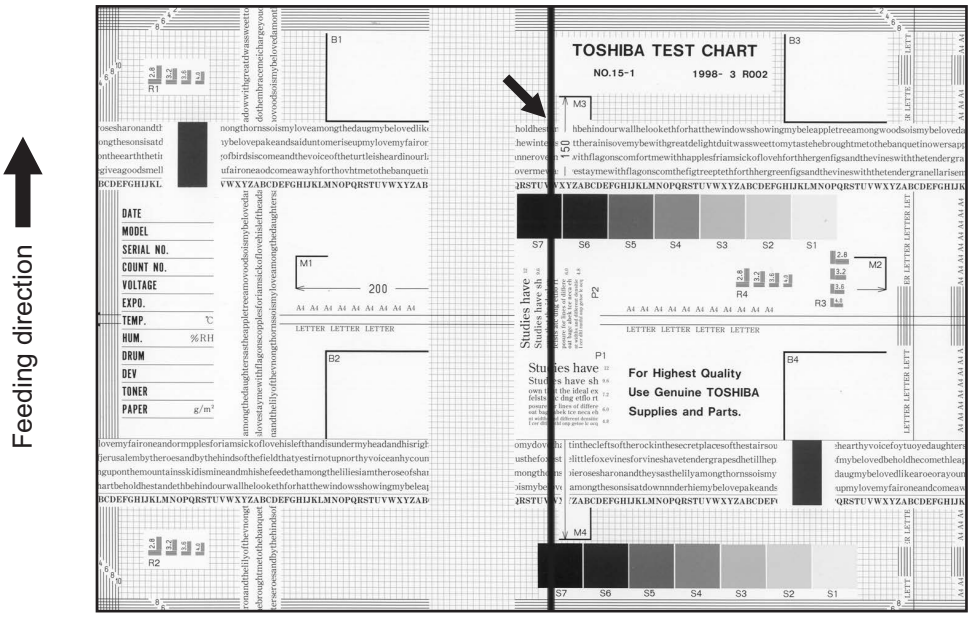


Fig.8-15

Defective area	Step	Check items	Prescription
Scanner	1	Is there a foreign matter on the light path?	Clean the CIS.
Shading correction plate	2	Is there dust or stains on part of the original glass where the shading correction plate is placed.	Clean the plate.
Main charger	3	Is there a foreign matter on the main charger grid?	Remove the foreign matter.
	4	Is the main charger grid dirty or deformed?	Clean or replace the main charger grid.
	5	Is there a foreign matter on the main charger?	Remove the foreign matter.
	6	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
	7	Is there a foreign matter inside the main charger case?	Remove the foreign matter.
	8	Is the inside of the main charger case dirty?	Clean the inside of the main charger case.
Cleaner	9	Is there paper dust sticking to the drum cleaning blade edge?	Clean or replace the cleaning blade.
	10	Is the drum cleaning blade working properly?	Check the pressurization of the drum cleaning blade.
	11	Has the used toner been recovered properly?	Clean the toner recovery auger.
Fuser unit	12	Is the fuser roller surface dirty or damaged?	Clean or replace the fuser roller.
	13	Is the thermistor dirty?	Clean the thermistor.
Drum	14	Are there scratches on the drum surface?	Replace the drum.

8.4.13 Black banding (at right angle with the feeding direction)

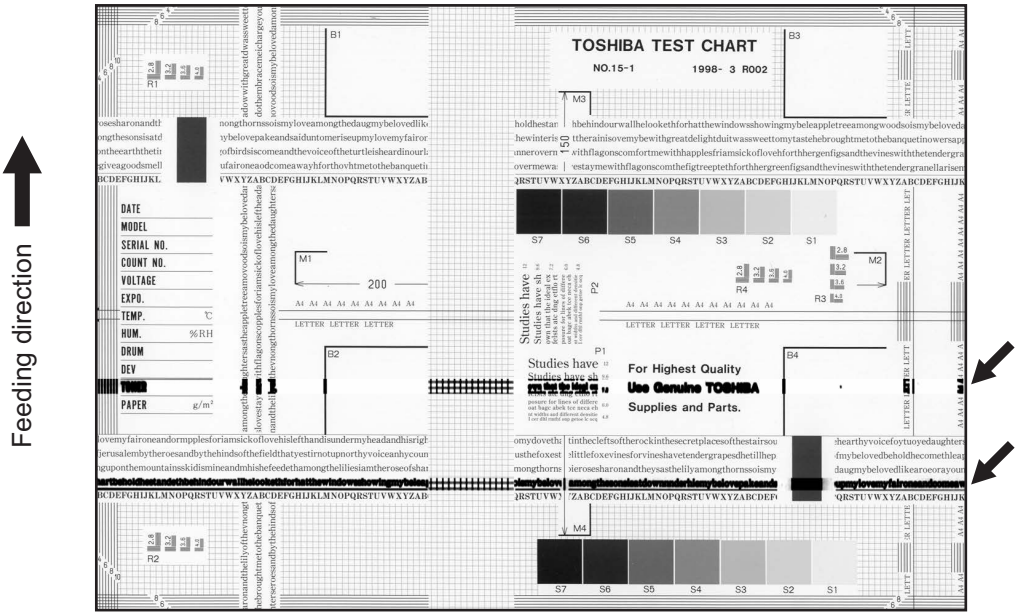


Fig.8-16

Defective area	Step	Check items	Prescription
Main charger	1	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
Fuser unit	2	Are the fuser roller, fuser roller separation finger and thermistor dirty?	Clean them.
	3	Has the fuser roller and fuser roller separation finger reached their PM life?	Replace them.
High-voltage transformer (Main charger / Developer bias / Transfer roller unit)	4	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
Drum	5	Is there a deep scratch on the drum surface?	Replace the drum if the scratch has reached the aluminum base.
	6	Is there thin scratch (drum pitting) on the drum surface?	Check and adjust the contact condition of the cleaning blade and recovery blade.
Scanner	7	Are the original glass (especially the position of shading correction plate) and CIS unit dirty?	Clean them.

8.4.14 White spots

Fig.8-17

Defective area	Step	Check items	Prescription
Developer unit, Toner cartridge	1	Is the toner density in the developer material appropriate?	Check and correct the auto-toner sensor and toner supply operation. Check if the amount of the toner is sufficient in the toner cartridge.
	2	Is the doctor-sleeve gap proper?	Adjust the doctor-sleeve gap.
Developer material, Toner, Drum	3	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.
	4	Have the developer material and drum reached their PM life?	Replace the developer material and drum.
	5	Is the storage environment of the toner cartridge 35°c or less without dew?	Use the toner cartridge stored in the environment with specification.
	6	Is there any dent on the drum surface?	Replace the drum.
	7	Is there any film forming on the drum?	Clean or replace the drum.
Main charger	8	Is there any foreign matter on the charger?	Remove it.
	9	Is the needle electrode dirty or deformed?	Clean or replace the needle electrode.
High-voltage transformer (Main charger / Developer bias / Transfer roller unit)	10	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.
Transfer roller unit	11	Is there any foreign matter such as fiber in the paper transport area of the transfer roller unit?	Clean the transfer roller unit.
	12	Is there any foreign matter on the transfer roller? Is there any abnormality on its appearance?	Remove the foreign matter or replace the transfer roller.

8.4.15 Poor image transfer

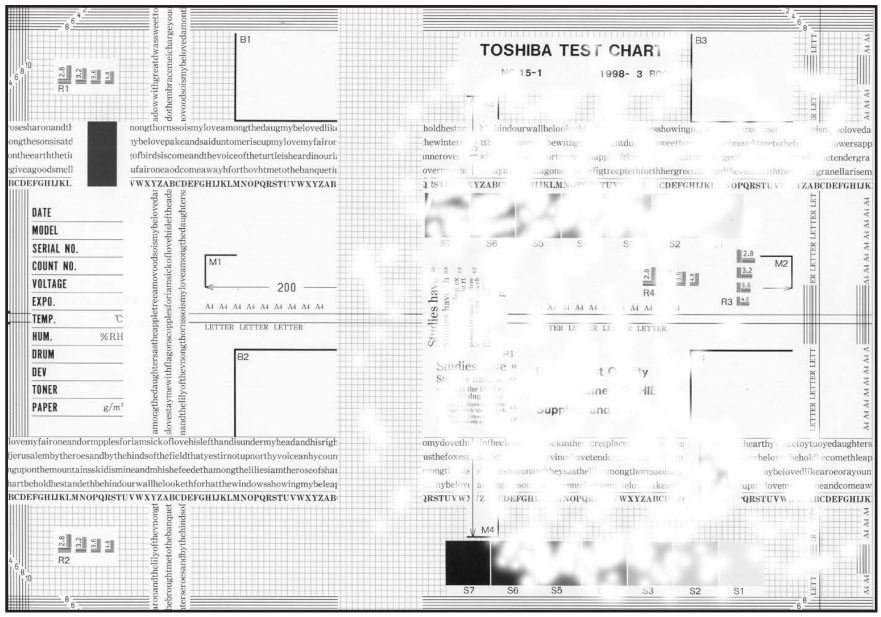


Fig.8-18

Defective area	Step	Check items	Prescription
Paper	1	Is the paper in the drawer curled?	Reinsert the paper with the reverse side up or change the paper.
	2	Is the paper in the drawer damp?	Avoid storing paper in damp place.
	3	Is the paper type corresponding to its mode?	Select the proper mode.
	4	Using the recommended paper?	Use the recommended paper.
Transfer roller unit	5	Is the transfer roller contacting with the drum? Are the charger pushing-spring and the transfer roller pressure spring installed properly?	Check them and reinstall if required.
Registration roller	6	Is there any abnormality related to the registration roller or with the roller itself?	Clean the roller if it is dirty. Securely attach the springs if they are detached. Replace the clutch if it is defective. Adjust the rotation speed of the roller.
High-voltage transformer (Transfer roller unit)	7	Is the high-voltage transformer output defective?	Adjust the output, or replace the transformer.

8.4.16 Uneven image density

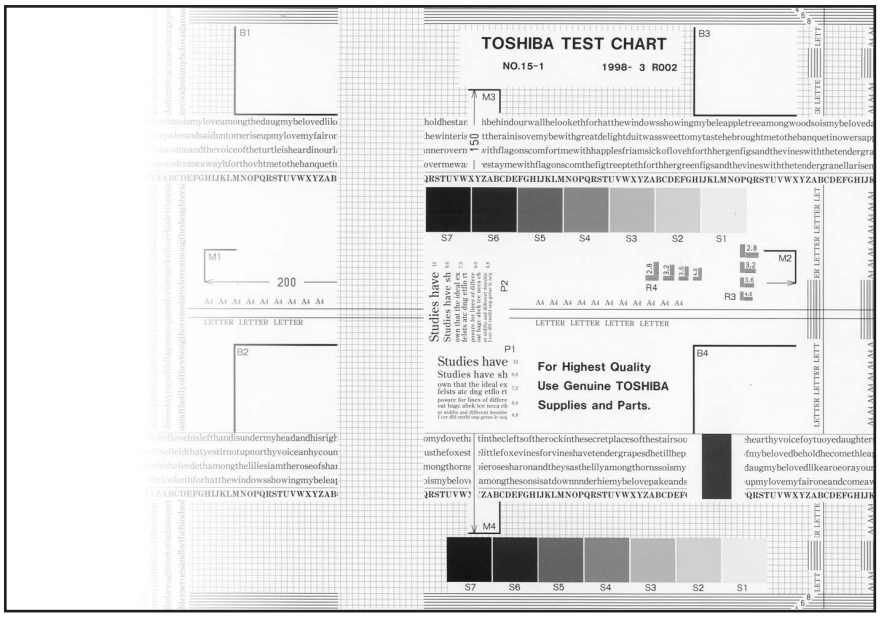


Fig.8-19

Defective area	Step	Check items	Prescription
Main charger	1	Is the main charger dirty?	Clean or replace the needle electrode and main charger grid.
Transfer roller unit	2	Is the transfer roller contacting with the drum? Are the charger pushing-spring and the transfer roller pressure spring installed properly?	Check them and reinstall if required.
Laser optical unit	3	Is there dirt on the fθ lens?	Remove the foreign matter or stain.
Discharge LED	4	Are the connectors of discharge LED harness securely connected?	Reconnect the harness securely.
	5	Is the discharge LED dirty?	Clean the discharge LED.
	6	Is any of the discharge LEDs off?	Replace the discharge LED.
Developer unit	7	Is the magnetic brush in proper contact with the drum?	Adjust the doctor-sleeve gap.
	8	Is the developer sleeve pressurization mechanism working?	Check the mechanism.
	9	Is the developer material transported normally?	Remove foreign matters if there is any.
Scanner	10	Is the original cover or ADF opened?	Close the original cover or ADF.
	11	Are the original glass (especially the position of shading correction plate) and CIS unit dirty?	Clean them.

8.4.17 Faded image (low density, abnormal gray balance)

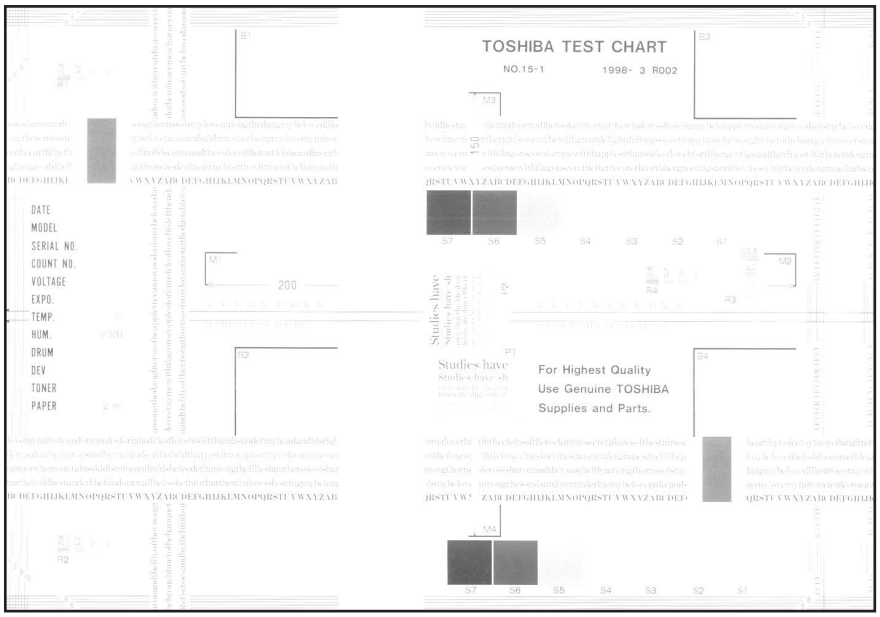


Fig.8-20

Defective area	Step	Check items	Prescription
Toner empty	1	Is “ADD TONER” symbol lit?	Replace the toner cartridge.
Auto-toner circuit	2	Is there enough toner in the cartridge?	Check the performance of the auto-toner circuit.
	3	Is the toner density in the developer material too low?	
Toner motor	4	Is the toner motor working normally?	Check the toner motor and the motor drive.
Toner cartridge	5	Is there any problem with the toner cartridge?	Replace the toner cartridge.
Developer material	6	Has the developer material reached its PM life?	Replace the developer material.
Developer unit	7	Is the magnetic brush in proper contact with the drum?	Check the installation of the developer unit. Adjust the doctor-sleeve gap and polarity.
	8	Is the developer sleeve pressurization mechanism working?	Check the mechanism.
Main charger	9	Is the main charger dirty?	Clean it or replace the needle electrode and main charger grid.
Drum	10	Is “film-forming” occurring on the drum surface?	Clean or replace the drum.
	11	Has the drum reached its PM life?	Replace the drum.
Transfer roller unit	12	Is the transfer roller contacting with the drum? Is the transfer roller pressure spring installed properly?	Check them and reinstall if required.
High-voltage transformer	13	Is the setting for the high-voltage transformer proper?	Adjust the output from the high-voltage transformer.
	14	Are the connectors of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Discharge LED	15	Are the connectors of discharge LED harness securely connected?	Reconnect the harness securely.

8.4.18 Image dislocation in feeding direction

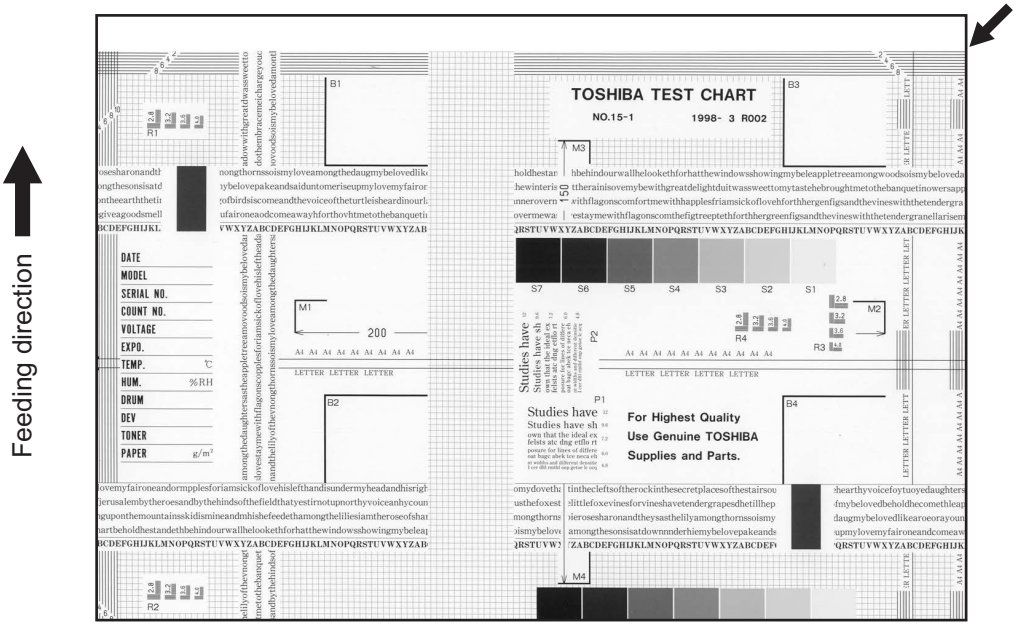


Fig.8-21

Defective area	Step	Check items	Prescription
Scanner/Printer adjustment	1	Have the printed images been dislocated in the same manner?	Adjust the position of the leading edge of paper in the Adjustment Mode.
Registration roller	2	Is the registration roller dirty, or the spring detached?	Clean the registration roller with alcohol. Securely attach the springs.
	3	Is the registration roller working properly?	Adjust or replace the gears if they are not engaged properly.
Feed clutch	4	Is the feed clutch working properly?	Check the circuit or feed clutch, and replace them if necessary.
Pre-registration guide	5	Is the pre-registration guide installed properly?	Install the guide properly.

8.4.19 Jittering image

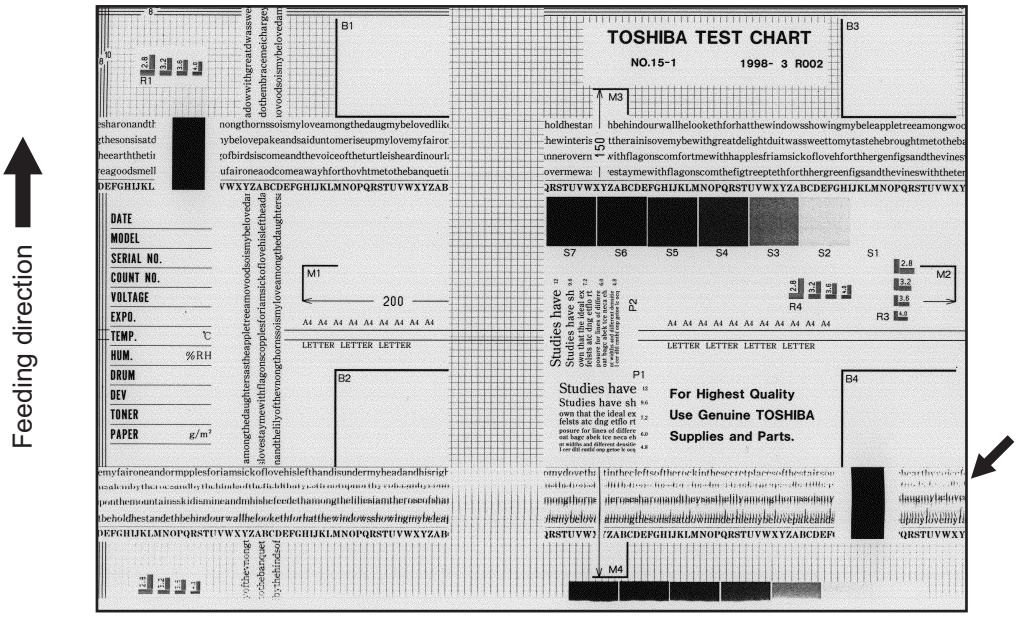


Fig.8-22

Defective area	Step	Check items	Prescription
—	1	Is the toner image on the drum normal?	If normal, perform steps 2 to 4. Perform step 5 and followings in case the image is abnormal.
Registration roller	2	Is the registration roller rotating normally?	Check the registration roller area and springs for installation condition.
Fuser roller and pressure roller	3	Are the fuser roller and pressure roller rotating normally?	Check the fuser roller area. Replace the rollers if necessary.
Drum	4	Is there a big scratch on the drum?	Replace the drum.
Operation of carriage	5	Is there any problem with the slide sheet?	Replace the slide sheet.
	6	Is there any problem with the carriage foot?	Replace the carriage foot.
	7	Is the tension of the timing belt normal?	Adjust the tension.
	8	Is there any problem with the drive system of the carriage?	Check the drive system of the carriage.
Scanner	9	Is the CIS unit secured?	Secure it.
Drum drive system	10	Is there any problem with the drive system of the drum?	Check the drive system of the drum. Clean or replace the gears if they have stains or scratches.

8.4.20 Poor cleaning

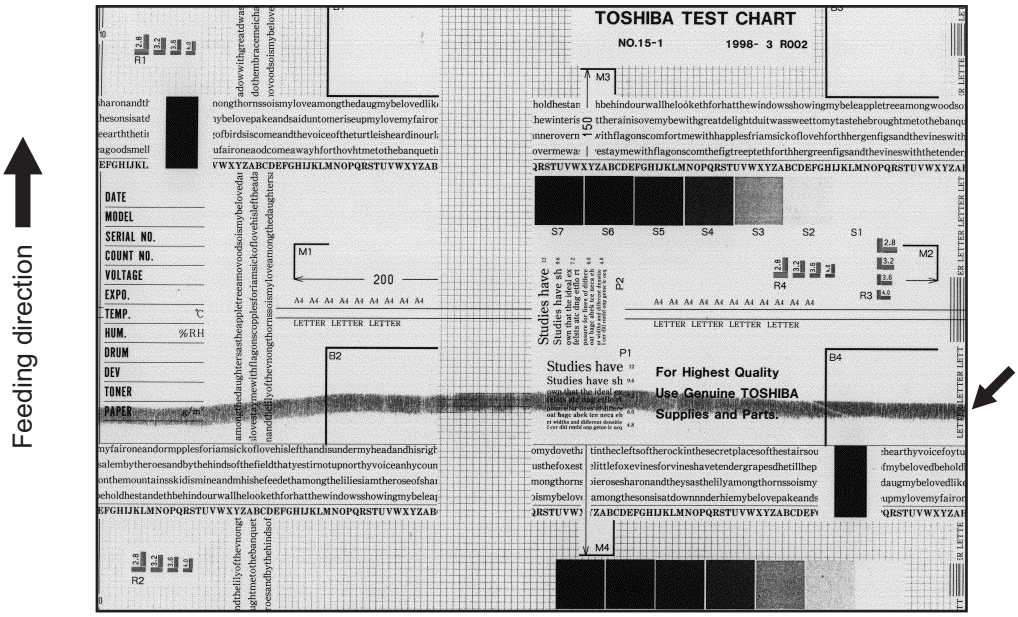


Fig.8-23

Defective area	Step	Check items	Prescription
Developer material	1	Using the specified developer material?	Use the specified developer material and toner.
Cleaner	2	Is the cleaning blade in proper contact with the drum?	Check the cleaning blade.
	3	Has the cleaning blade been turned up?	Replace the cleaning blade. Check and replace drum if necessary.
Toner recovery auger	4	Is the toner recovered normally?	Clean the toner recovery auger. Check the pressure of the cleaning blade. Check if the toner recovery auger is rotated properly.
Fuser unit	5	Are there bubble-like scratches on the fuser roller (74 mm pitch on the image)?	Replace the fuser roller. Check and adjust the temperature control circuit.
	6	Has the fuser roller reached its PM life?	Replace the fuser roller.
	7	Is the pressure of the fuser roller normal?	Check and adjust the mechanism.
	8	Is the setting temperature of the fuser roller normal?	Check the setting and correct it. 08-2010, 2009, 2100

8.4.21 Uneven light distribution

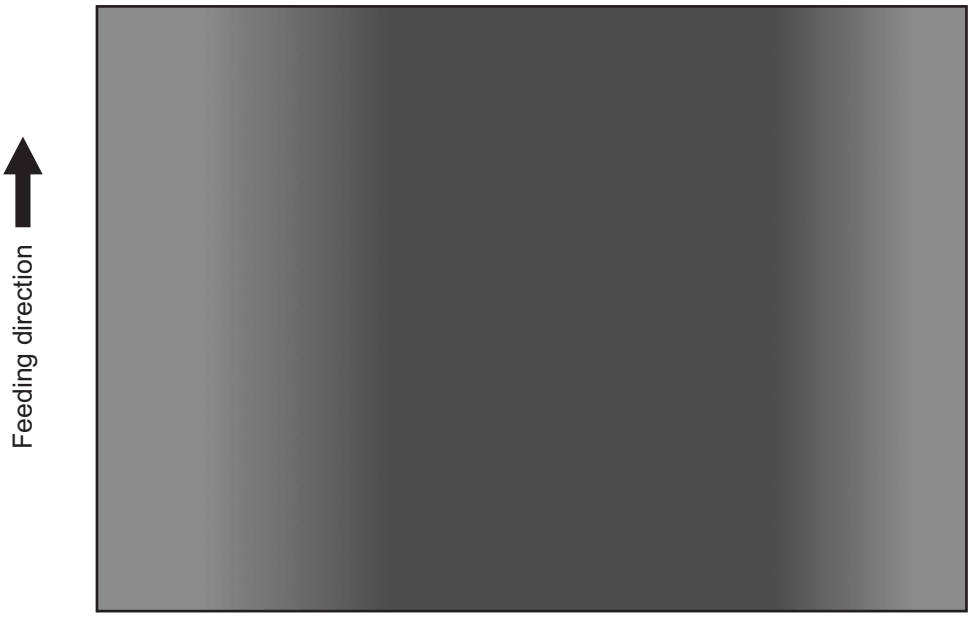


Fig.8-24

Defective area	Step	Check items	Prescription
Original glass	1	Is the original glass dirty?	Clean the original glass.
Main charger	2	Are the needle electrode, main charger grid and main charger case dirty?	Clean or replace them.
Discharge LED	3	Is the discharge LED dirty?	Clean the discharge LED.
	4	Is any of the discharge LEDs off?	Replace the discharge LED.
Scanner	5	Are the original glass (especially the position of shading correction plate) and CIS unit dirty?	Clean them.
Exposure lamp	6	Is the CIS unit degraded?	Replace the CIS unit.

8.4.22 Blotched image

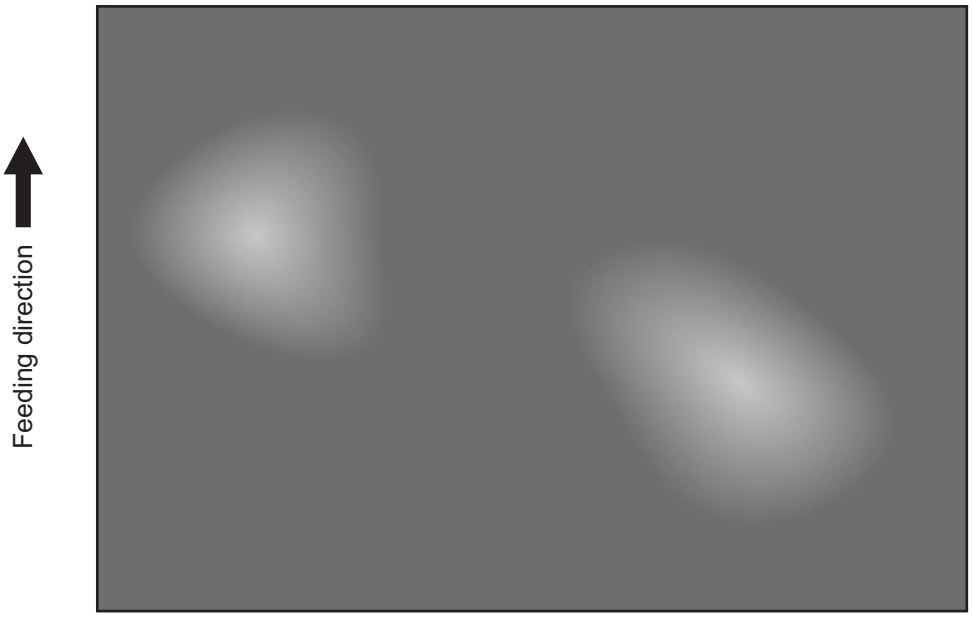
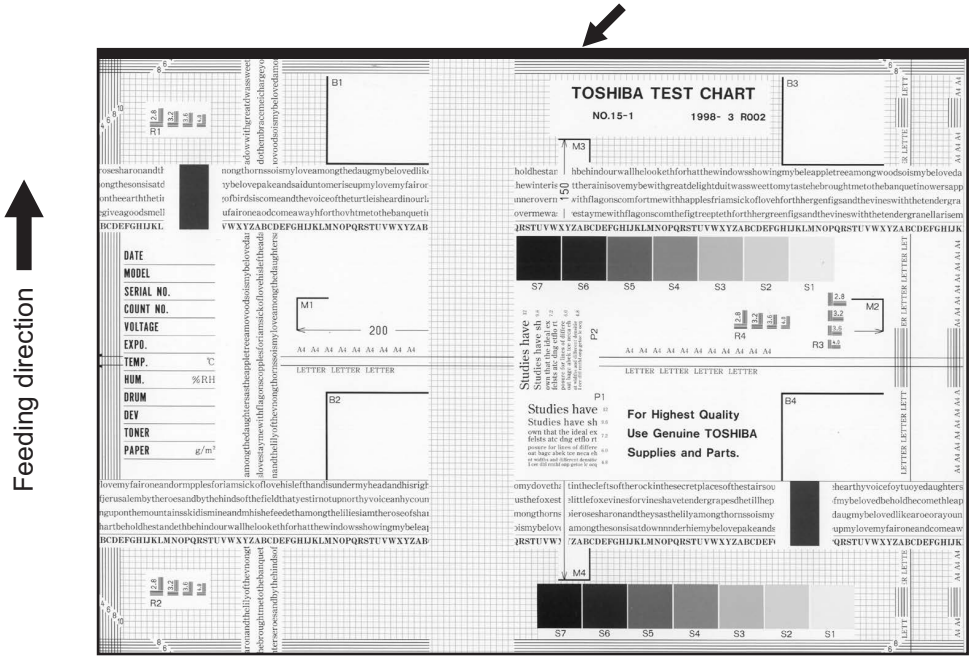


Fig.8-25

Defective area	Step	Check items	Prescription
Paper	1	Is the paper type corresponding to its mode?	Check the paper type and mode.
	2	Is the paper too dry?	Change the paper.
Transfer roller unit	3	Is the power supplying spring of the transfer roller installed securely? (Is it almost detached?)	Check the power supplying spring and reinstall it.
High-voltage transformer (Transfer roller unit)	4	Is the output from the high-voltage transformer normal?	Adjust the output. Replace the transformer if necessary.
Separation	5	Is the output from the separation charger too high?	Adjust the output, from the separation charger.

8.4.23 Black streaks on image leading edge during scanning



Defective area	Step	Check items	Prescription
Scanner	1	Amount of surrounding void (network scanning)	• For ADF/RADF: Perform 05-3044 to adjust the amount of the surrounding void during network scanning. • For original placed manually: Perform 05-3031 to adjust the amount of the surrounding void during network scanning.

8.5 Other Errors

8.5.1 When “SET FUSER UNIT” is displayed.

When the signal for installing the fuser unit cannot be detected with the MAIN board, “SET FUSER UNIT” appears.
In this case, check the following.

1. Check that the screw fixing the fuser unit is not loose.
2. Check for conductivity between CN11's pins 4 and 9
3. Replace the MAIN board.

8.5.2 Countermeasure to "BIOS MODE" displayed on Control Panel

If the MFP stops operating while "BIOS MODE" is being displayed on the control panel, take the countermeasure described in this procedure.

[1] Phenomenon

- "BIOS MODE" appears on the control panel as shown below and the MFP stops operating.
- Once this appears, it will not disappear even after the power is turned OFF and then back ON.

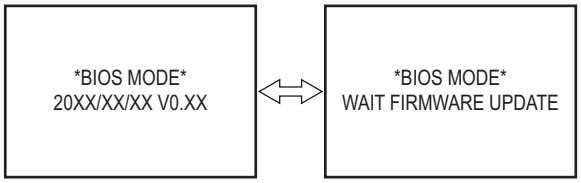


Fig.8-26

Notes:
"*BIOS MODE*" is displayed on the upper line, and "Date and firmware version" and "WAIT FIRMWARE UPDATE" are alternately displayed on the lower line.

[2] Countermeasure

First, reinstall the system ROM using the PC update tool. Then reinstall the engine ROM and Fax ROM using the PC update tool or a USB device.

Procedure:

(1) While "BIOS MODE" is being displayed, connect the MFP and PC with a USB cable.
(2) Reinstall the system ROM using the PC update tool.
(3) After the reinstallation is completed, turn OFF the power of the MFP.
(4) Next, reinstall the engine ROM and the FAX ROM.
Refer to 📖 P. 11-2 "11.2 Firmware Updating with USB Device"
Refer to 📖 P. 11-8 "11.3 Firmware Updating with PC Update Tool"
(5) After the reinstallation is completed, turn OFF the power of the MFP and disconnect the USB cable or the USB device. Turn ON the power of the MFP and check that it starts correctly.

8.5.3 Precautions for image missing width on the paper trailing edge at enlargement copying

[1] Phenomenon

The bottom margin may disappear and the image is sometimes missing if an A4-size original is copied to an A3-size sheet by enlarging the size.

The range of the bottom margin at actual-size copying is 2.0 mm +/- 1.0 mm (measured value). However, if this tolerance is located in the minus direction (bottom margin: 1 mm or 0 mm), this phenomenon will easily occur.

[2] Countermeasure

When this phenomenon has occurred during enlargement copying, adjust the image dimension using the following procedure.

Procedure:

(1) Perform image dimensional adjustment (bottom margin adjustment) by aligning the value to the center one (2.0 mm).
   * The value must be aligned to the center one. No tolerance value +/- 1.0 mm is included.
   📖 P. 6-20 "[H] Bottom margin"

(2) Adjust the secondary scanning data laser writing start position by aligning the value to the center one (52 mm) in 05-4058 (drawer) and 05-4061 (bypass tray).
   * The value must be aligned to the center one. No tolerance value +/- 0.5 mm is included.
   📖 P. 6-11 "[D] Secondary scanning data laser writing start position"

8.5.4 When the error code "F014" is displayed <28A/28M/28F only>

When the error code "F014" is displayed, perform Assist Mode (3C) or Flash Memory Clear Mode (6C).

- Performing of Assist Mode (3C)
  Refer to 📖 P. 5-15 "5.8 Assist Mode (3C)"

- Performing of Flash Memory Clear Mode (6C)
  Refer to 📖 P. 5-32 "5.10 Flash Memory Clear Mode (6C)"

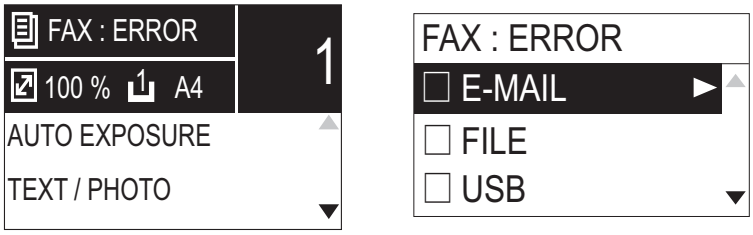
8.5.5 When "FAX Error" is displayed

[1] Phenomenon

This message appears in the equipment with the fax kit installed under the following conditions.

- No paper is loaded in the fax drawer which is specified at the fax reception.
- The fax drawer is not installed in the equipment or is installed improperly.
- The fax drawer is set to OFF and no paper is loaded in any drawers.

<Example of error message>



When copying **When setting of scanning**

Fig.8-27

[2] Countermeasure

- Load the paper in the fax drawer which is specified at the fax reception.
- Install the drawer which is specified for the fax in the equipment properly.

Remarks: Setting a fax drawer

A drawer exclusive for fax can be set for the fax reception. In this setting, only the paper in the fax drawer is used for printing received data.

9. REPLACEMENT OF PC BOARDS

9.1 Disassembly and Replacement of PC Boards <25S/25H/25F>

Notes:

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 Main board (MAIN)

(1) Take off the rear cover.
(📖 P. 4-6 "4.1.10 Rear cover <25S/25H/25F>")

(2) Disconnect all connectors on the main board.
(without ADF: 14 pcs., with ADF:16 pcs.)

<25S> [2] Main memory: IC24

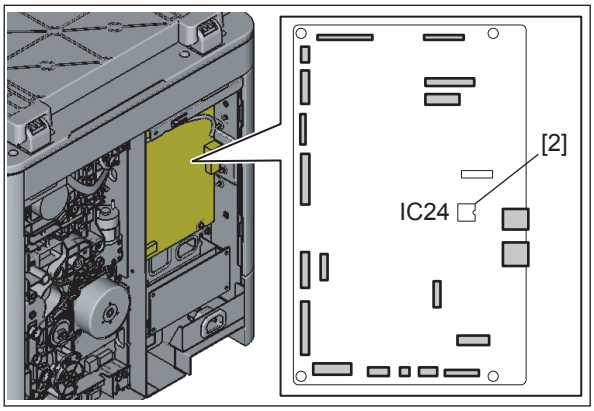


Fig. 9-1

<25H/25F> [2] Main memory: IC11

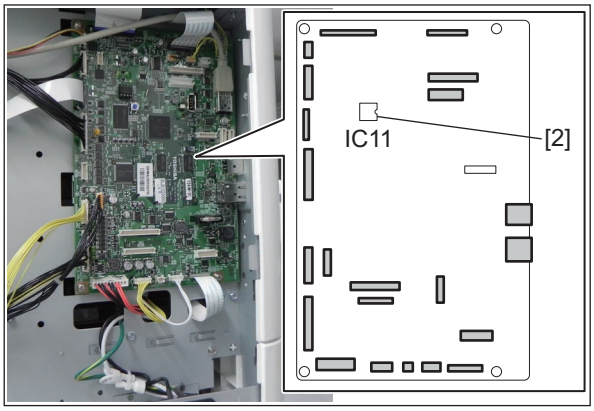


Fig. 9-2

9

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

Notes:

1. When replacing the main board, also attach the main memory [2] to the new main board from the old main board.
2. Be sure to perform “05-3219” with the platen cover or the ADF closed after replacing the main board.
3. When installing the main memory [2], be sure that its pins are attached in the correct direction and not misaligned.
4. Do not touch the pins of the main memory [2] with your bare hands. (Be careful of static electricity.)
5. The IC number differs depending on the model. (25S: IC24, 25H/25F: IC11)

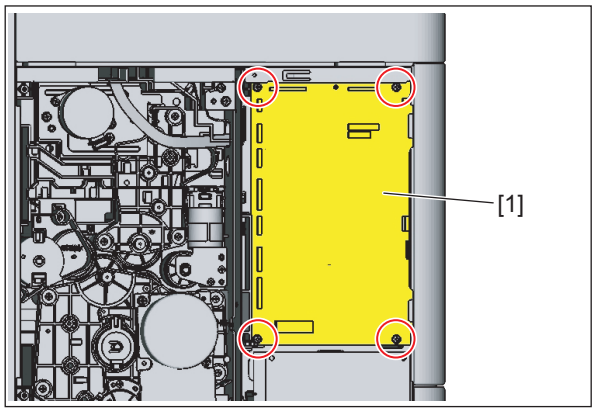


Fig. 9-3

9.1.2 LVPS

Notes:

Be very careful of residual charge in the capacitors of the LVPS; this may remain even after the main switch is turned OFF.

(1) Remove the ADU fan duct unit. <25H/25F>
(🕮 P. 4-154 "4.12.7 ADU fan duct unit")

(2) Take off the laser optical unit.
(🕮 P. 4-23 "4.4.1 Laser optical unit")

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

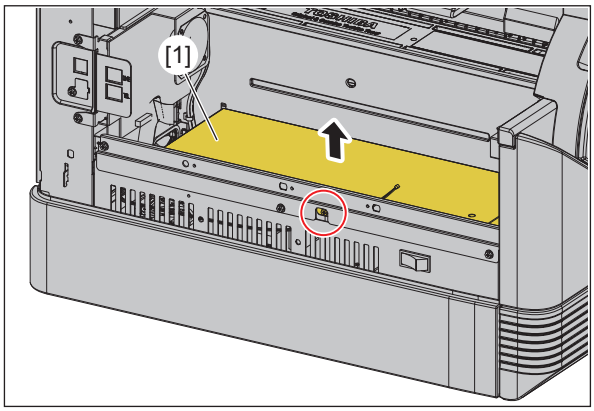


Fig. 9-4

(4) Disconnect all connectors on the LVPS (6 pcs.).

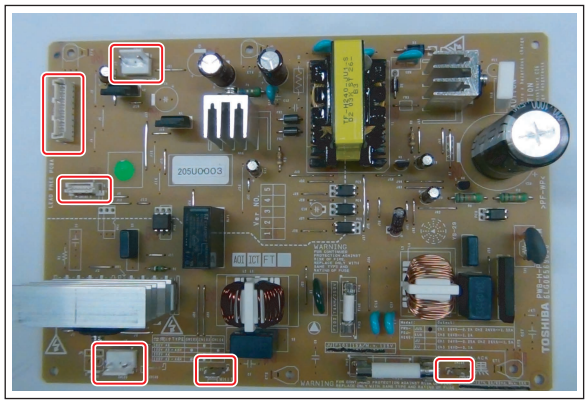


Fig. 9-5

(5) Remove 6 screws and take off the LVPS [2].

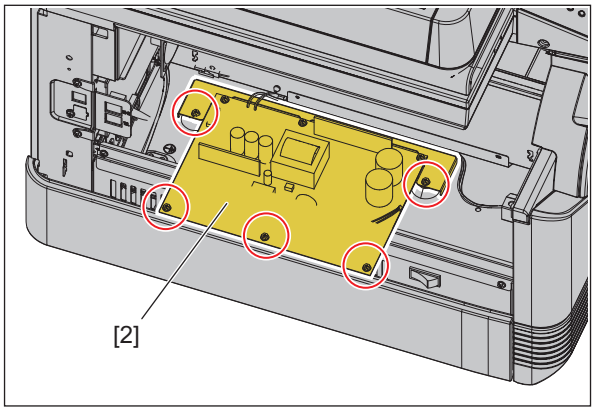


Fig. 9-6

(6) Remove 3 screws and take off the stay [3].

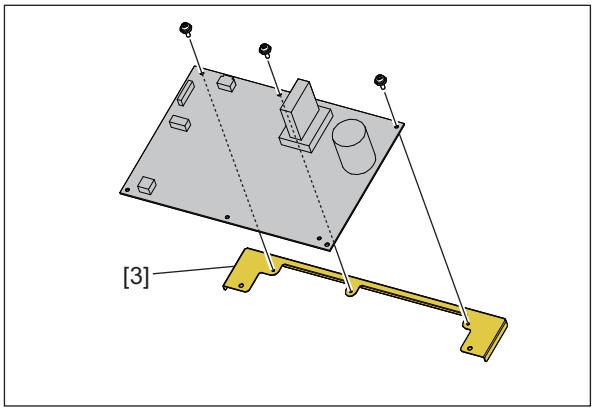


Fig. 9-7

9.1.3 HVPS

(1) Take off the front cover.
(P. 4-3 "4.1.6 Front cover")
(2) Remove 2 screws and take off the bracket [1].

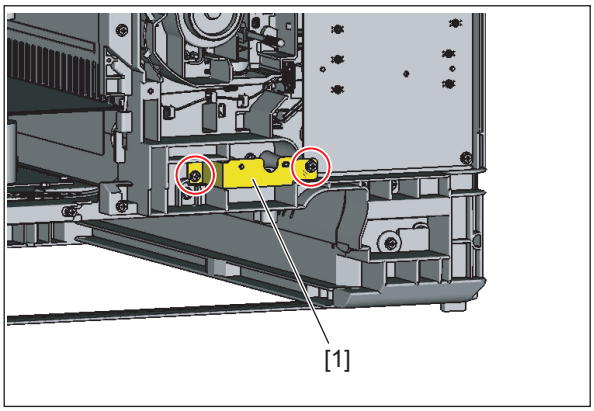


Fig. 9-8

(3) Remove 4 screws and take off HVPS [2]. Then disconnect flat harness [3].

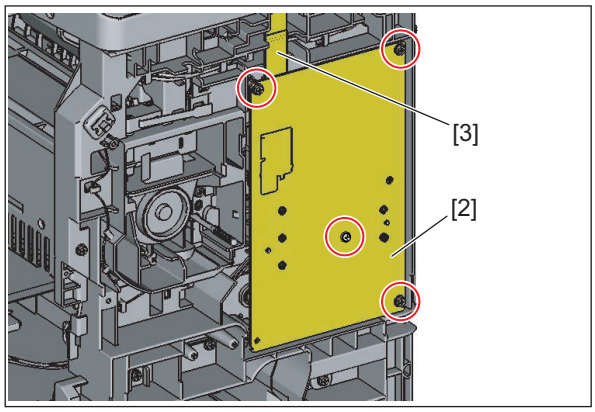


Fig. 9-9

Notes:

When installing the HVPS, be careful not to deform the 7 springs.

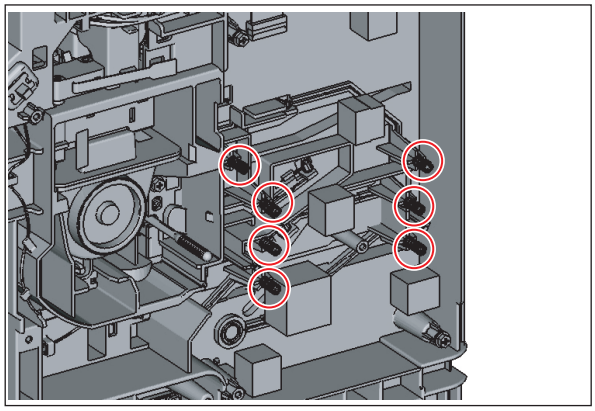


Fig. 9-10

9.2 Disassembly and Replacement of PC Boards <28A/28M/28F>

Notes:

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.

9.2.1 Main board (MAIN)

(1) Take off the rear cover.
(📖 P. 4-7 "4.1.11 Rear cover <28A/28M/28F>")

(2) Disconnect all connectors on the main board. (without RADF: 18 pcs., with RADF:19 pcs.) and then remove the USB cable [1].

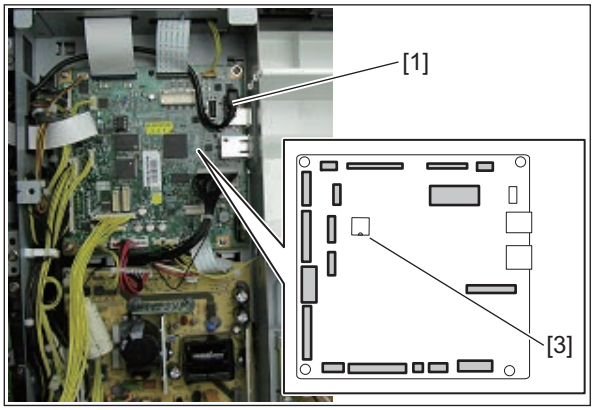


Fig. 9-11

(3) Remove 4 screws and take off the main board [2].

Notes:

1. When replacing the main board, also attach the memory (IC11)[3] to the new main board from the old main board.
2. Be sure to perform "05-3219" with the platen cover or the RADF closed after replacing the main board.
3. When installing IC11 [3], be sure that its pins are attached in the correct direction and not misaligned.
4. Do not touch the pins of IC11 [3] with your bare hands. (Be careful of static electricity.)

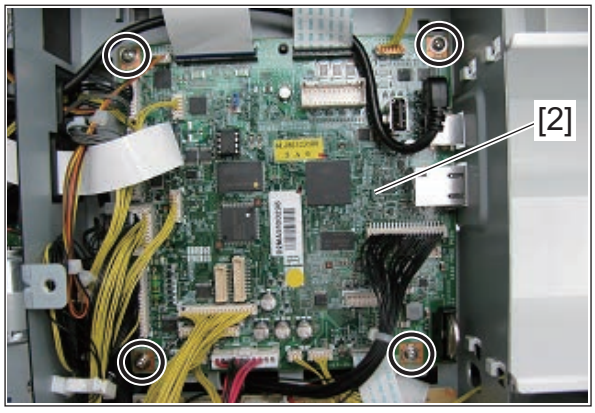


Fig. 9-12

9

9.2.2 LVPS

Notes:

Be very careful of residual charge in the capacitors of the LVPS; this may remain even after the main switch is turned OFF.

(1) Take off the rear cover.
📖 P. 4-7 "4.1.11 Rear cover <28A/28M/28F>"

(2) Disconnect all connectors on the LVPS (6 pcs.).

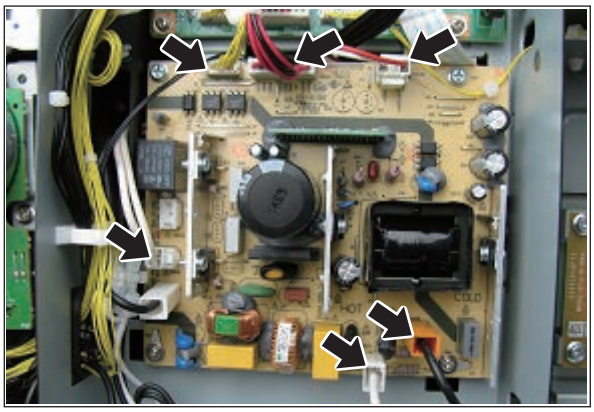


Fig. 9-13

(3) Remove 4 screws and take off the LVPS [1].

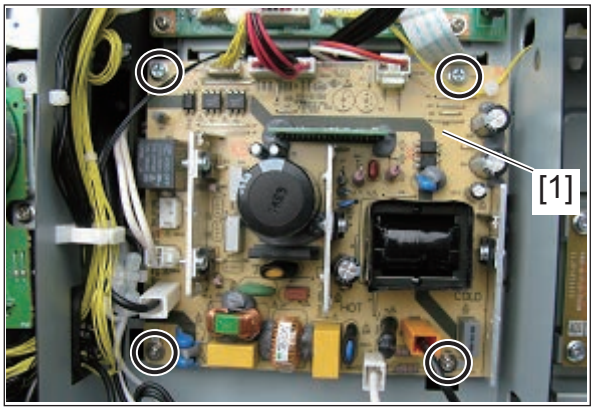


Fig. 9-14

9.2.3 HVPS

(1) Take off the front cover.
(📖 P. 4-3 "4.1.6 Front cover")
(2) Remove 2 screws and take off the bracket [1].

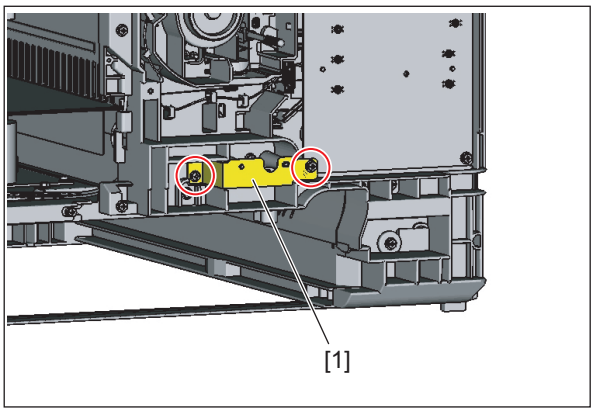


Fig. 9-15

(3) Remove 4 screws and take off HVPS [2]. Then disconnect flat harness [3].

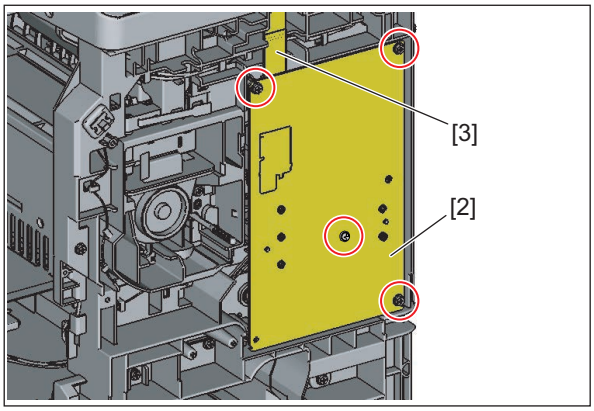


Fig. 9-16

Notes:
When installing the HVPS, be careful not to deform the 7 springs.

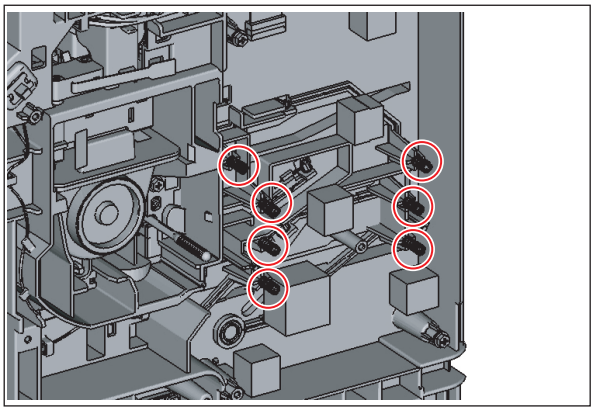


Fig. 9-17

9.3 Precautions, Procedures and Settings for Replacing MAIN Board

The procedure for replacing the MAIN board is as follows.
* If the adjustment values in the Flash memory can be viewed, print them out in the list print mode before replacing the Flash memory.
Refer to 🕮 P. 5-17 "5.9 List Print Mode (9S)" .

* This procedure should be performed not only when the main board is replaced but also when the GA-1340 (PS3 kit) (option) is set up. <28M/28F only>

(1) Install main memory to the new MAIN board (from the old MAIN board).

(2) Update the version of System ROM and Engine ROM.
See 🕮 P. 11-1 "11. FIRMWARE UPDATING" for the details of System ROM / Engine ROM update.

Notes:
Be sure to check the version of the firmware after it is updated.

(3) Be sure to perform “05-3219” with the ADF closed after replacing the MAIN board.

(4) Start with the setting mode (08).

(5) Perform the 08-9090 (Clearing all printers).

(6) Set the 08-9010 to “0”.

(7) Set the setting value.
Set the setting values of the following codes according to the list printed out in advance.
(If the setting values could not be printed out because of Flash memory damage or any other reason, enter the values on the list output at the time of the last maintenance. If there is no list in which the values are printed, the entering of the setting values is not necessary.)

08-6194 (Current K-PM counter value)
08-6195 (Current K-PM time counter value)
08-5568 (Current value of PM counter for developer material (K))
08-5569 (Current value of PM time counter for developer material (K))
08-5576 (Parts PM counter current value)
08-5577 (Parts PM time counter current value)
08-6250-0 (Photoconductive drum (K) (Current number of sheets printed))
08-6250-3 (Photoconductive drum (K) (Current driving time))
08-6258-0 (Drum blade cleaner (K) (Current number of sheets printed))
08-6258-3 (Drum blade cleaner (K) (Current driving time))
08-6272-0 (Drum Separation finger (Current number of sheets printed))
08-6272-3 (Drum Separation finger (Current driving time))
08-6274-0 (Charger grid (K) (Current number of sheets printed))
08-6274-3 (Charger grid (K) (Current driving time))
08-6282-0 (Charger (wire/needle) (K) (Current number of sheets printed))
08-6282-3 (Charger (wire/needle) (K) (Current driving time))
08-6298-0 (Ozone filter (Current number of sheets printed))
08-6298-3 (Ozone filter (Current driving time))
08-6300-0 (Developer (K) (Current number of sheets printed))
08-6300-3 (Developer (K) (Current driving time))
08-6314-0 (Transfer (Wire/Belt/Roller) (Current number of sheets printed))
08-6314-3 (Transfer (Wire/Belt/Roller) (Current driving time))
08-6346-0 (Fuser roller (Current number of sheets printed))
08-6346-3 (Fuser roller (Current driving time))
08-6350-0 (Press roller (Current number of sheets printed))
08-6350-3 (Press roller (Current driving time))
08-6368-0 (Fuser roller Separation finger (Current number of sheets printed))
08-6368-3 (Fuser roller Separation finger (Current driving time))
08-6398-0 (Paper feed roller (1st CST) (Current number of sheets printed))
08-6406-0 (Separation roller (1st CST) (Current number of sheets printed))
08-6416-0 (Separation pad (SFB) (Current number of sheets printed))
08-6424-0 (Paper feed roller (SFB) (Current number of sheets printed))
08-6436-0 (Drum recovery blade (Current number of sheets printed))
08-6436-3 (Drum recovery blade (Current driving time))
08-6470-0 (Fuser roller bushing (Current number of sheets printed))
08-6470-3 (Fuser roller bushing (Current driving time))

Also, set the adjustment values which have been changed for servicing.

(8) Turn the power OFF and then start with the adjustment mode (05).

(9) Set the adjustment value of 05-2001 (Auto toner sensor manual adjustment (heat source ON)).
Set the adjustment values of the codes according to the list printed out in advance.
(If the adjustment values could not be printed out because of Flash memory damage or any other reason, enter the values on the list output at the time of the last maintenance. If there is no list in which the values are printed, entering of the setting value is not necessary.)

(10) Turn the power OFF.

(11) Pull out the toner cartridge and open the right cover.
Disconnect 1 connector of the process unit.
See the following sections.
📖 P. 4-44 "4.7.1 Process unit <25S/25H/25F>"
📖 P. 4-45 "4.7.2 Process unit <28A/28M/28F>"

(12) Close the right cover. Start up the adjustment mode (05).

(13) Set the following adjustment values.
Set the adjustment values of the following codes according to the list printed out in advance.
(If the adjustment values could not be printed out because of Flash memory damage or any other reason, enter the values on the list output at the time of the last maintenance. If there is no list in which the values are printed, entering of the setting value is not necessary.)

05-2020	(Developer bias DC output adjustment)
05-2040	(Main charger grid bias output adjustment)
05-2052	(Transfer transformer DC output adjustment (C))
05-2078	(Separation transformer DC output adjustment (C))
05-2083	(Transfer cleaning bias adjustment (Positive))
05-2084	(Transfer cleaning bias adjustment (Negative))
05-2250	(Laser power adjustment)

Also, set the adjustment values which have been changed for servicing.

(14) Turn the power OFF.

(15) Open the right cover and connect 1 connector of the process unit
Close the right cover.

(16) Insert the toner cartridge. Turn the power ON.

9.4 Precautions, Procedures and Settings for Replacing the Flash Memory

* If the adjustment values in the Flash memory can be viewed, print them out in the list print mode before replacing the Flash memory.

(1) Turn the power OFF. Take off the MAIN board from the equipment.

(2) Take off the Flash from the socket on the MAIN board.

(3) Install the new Flash memory to the MAIN board, and the MAIN board to the equipment. Be careful that the flash memory is oriented correctly.

(4) Turn the power OFF and then start with the setting mode (08).

(5) Set the 08-9010 to “1”.

(6) Perform the 08-9080, and set the destination (0: MJD, 1: NAD, 4: CND, 6: TWD, 9: ASD, 10: ARD).

(7) Perform the 08-9601, and set the serial number.

(8) Check the number of the scan motor gears and then set the 08-3134 accordingly.
<25S/25H/25F only>
0: One-gear
1: Two-gear

(9) Check if the fax function is installed and then set the 08-9063 accordingly.
0: Not installed
1: Installed

(10) Turn the power OFF and then start with the adjustment mode (05).

(11) Be sure to perform “05-3219” with the platen cover or the ADF closed.

(12) Set the adjustment value.
Set the adjustment values of the following codes according to the list printed out in advance. (If the adjustment values could not be printed out because of Flash memory damage or any other reason, enter the values on the list output at the time of the last maintenance. If there is no list, enter the default values.)

05-4001	(Adjustment of primary scanning direction reproduction ratio (printer))
05-4006	(Adjustment of primary scanning laser writing start position (printer))
05-4018-0	(Adjustment of 1st Drawer sideways deviation)
05-4018-5	(Adjustment of sideways deviation (bypass feeding))
05-4009	(Adjustment of secondary scanning direction reproduction ratio)
05-4058	(Adjustment of secondary scanning laser writing start position (drawer))
05-4061	(Adjustment of secondary scanning laser writing start position (bypass tray))
05-4000	(Reproduction ratio adjustment of the primary scanning direction)
05-3030	(Image position adjustment of the primary scanning direction)
05-3032	(Reproduction ratio adjustment of the secondary scanning direction)
05-3031	(Image position adjustment of the secondary scanning direction)
05-4050	(Top margin adjustment (blank area at the leading edge of the paper))
05-4051	(Left margin adjustment (blank area at the left of the paper along the paper feeding direction))
05-4052	(Right margin adjustment (blank area at the right of the paper along the paper feeding direction))
05-4053	(Bottom margin adjustment (blank area at the trailing edge of the paper))
05-4018-5	(Adjustment of sideways deviation (bypass feeding)) <25H/25F>
05-4062	(Adjustment of secondary scanning laser writing start position (ADU)) <25H/25F>
05-4019-0	(Adjustment of primary scanning data laser writing start position at duplexing (long size)) <25H/25F>
05-3042	(Fine adjustment of the ADF transport speed)
05-3043	(ADF sideways deviation adjustment)
05-3044	(ADF leading edge position adjustment)
05-3045	(ADF leading edge position adjustment)
05-3046	(Adjustment of the position of the carriage when scanning from the ADF (in black mode))
05-3047	(Adjustment of the position of the carriage when scanning from the ADF (in color mode))

(13) Perform the automatic gamma adjustment with 05 starting, first do 05-7165 and then 05-7167.

(14) When ADF is installed, perform 05-3050 and 05-3051 (Adjustment of the ADF tray volume).

(15) Turn the power OFF and then start with the setting mode (08).

(16) Set the setting value.
Set the setting values of the following codes according to the list printed out in advance.
(If the adjustment values could not be printed out because of Flash memory damage or any other reason, enter the values on the list output at the time of the last maintenance. If there is no list, enter the default values.)

08-6382-0 ((P/U roller (ADF) (Current number of sheets printed))
08-6382-1 (P/U roller (ADF) (Recommended replacement period (No. of sheets printed))
08-6382-2 (P/U roller (ADF) (No. of sheets printed last time))
08-6382-8 (P/U roller (ADF) (No. of times it was replaced))
08-6384-0 (Paper feed roller (ADF) (Current number of sheets printed))
08-6384-1 (Paper feed roller (ADF) (Recommended replacement period (No. of sheets printed))
08-6384-2 (Paper feed roller (ADF) (No. of sheets printed last time))
08-6384-8 (Paper feed roller (ADF) (No. of times it was replaced))
08-6386-0 (Separation roller (ADF) (Current number of sheets printed))
08-6386-1 (Separation roller (ADF) (Recommended replacement period (No. of sheets printed))
08-6386-2 (Separation roller (ADF) (No. of sheets printed last time))
08-6386-8 (Separation roller (ADF) (No. of times it was replaced))

(17) Check that the setting value for 08-9010 is “0”. If it is “1”, change it to “0”.

(18) Start the equipment in the normal mode and set the time and date.

10. REMOTE SERVICE <25H/25F, 28M/28F>

There are the following functions as Remote Service.

Service Notification: This function notifies the service technician of the status of the equipment by E-mail.

Supply Notice: When “toner near-empty” is detected, this function notifies the service technician of it by E-mail or FAX.

10.1 Service Notification

10.1.1 Outline

This function automatically notifies the status of the equipment to the service technician by E-mail. The items to be notified are below.

- Total Counter Transmit
  When this function is effective, it notifies each counter information periodically (on the set date and time every month).

- Service Call Transmission
  When this function is enabled, information such as the error code corresponding to the service call is notified by E-mail.

- PM Counter Transmit
  When this function is effective, it notifies that the PM timing has come when the present PM count has reached to its setting value.

- Toner near-empty Transmit (28A/28M/28F only)
  When “Toner near-empty” transmission is enabled, it notifies you that the toner has reached the near-empty status.

Notes:

Transmission of the PM counter is done according to the following timing.

- When the power is turned on
- When copying or printing is done (if the PM counter reaches the set value during printing or copying)

10.1.2 Setting

[A] Setting items

Notes:

1. Service notification setting (08-9793) and service notification display (08-9604) must be set to "1".
2. When using this function, it is required that sending and receiving E-mails are available. Confirm the details to the administrator.
3. This function will not be performed even if all settings are turned ON (valid) while the power of the equipment is turned OFF or the equipment is in the Sleep mode during the specified time. To use this function, do not turn the power of the equipment OFF in the specified time or do not set the time for this function during the Sleep mode set period.

Set the Service Notification setting in the following setting mode(08).

Items	08 code	Contents
Service Notification setting	9793	0: OFF (Invalid) 1: ON (Valid)
Total Counter Transmit setting	9795	0: OFF (Invalid) 1: ON (Valid)
Total counter transmission "day of the week" setting	9881	0: OFF (Invalid) 1: Saturday 2: Friday 4: Thursday 8: Wednesday 16: Tuesday 32: Monday 64: Sunday Multiple days of the week can be set by setting the SUM of the values for the day of the week.
Service notification display	9604	Displays "SERVICE NOTIFICATION" in the INITIAL SETUP menu. When "1" is set, operation and setting are made available for users. 0: OFF 1: ON
Service call transmission	9605	When this function is enabled, it notifies the error code corresponding to the service call by E-mail. 0: OFF 1: ON
Total counter transmission interval setting (Hour/Hour/Minute/Minute)	9606	00:00-23:59
PM Counter Transmit setting	9797	0: OFF (Invalid) 1: ON (Valid)
Total counter transmission date setting 1	9796	0: OFF (Invalid) 1 to 31: Date
Total counter transmission date setting 2	9880	0: OFF (Invalid) 1 to 31: Date
Toner near-empty Transmit (Only 28A/28M/28F)	8538	0: OFF (Invalid) 1: ON (Valid)

[B] E-mail address setting

<Operation flow>

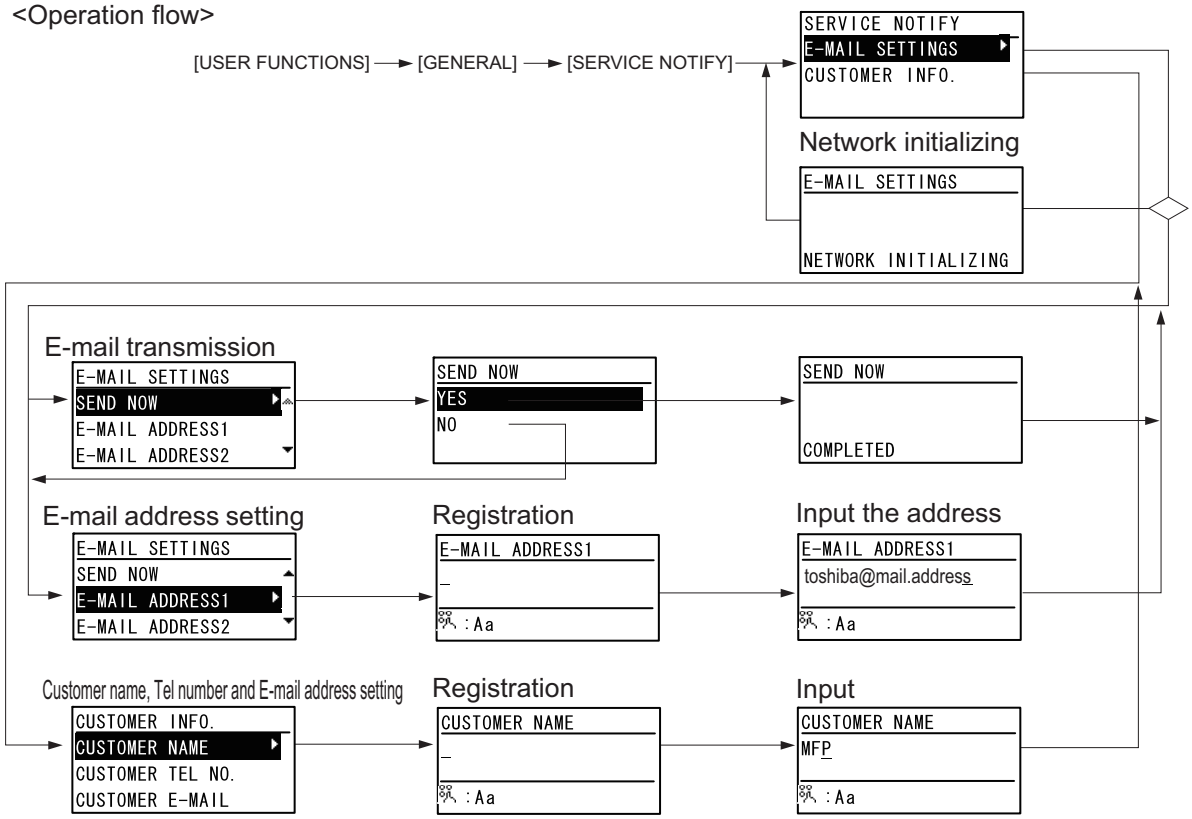


Fig. 10-1

This menu does not appear if the service notification display (08-9604) is not set to “1”.

10.1.3 Items to be notified

The items to be notified are shown below.

(1) Total Counter Transmit / PM Counter Transmit by E-mail (CSV file attached to E-mail has also the same format.)
Subject: Counter Notification
(In case of the PM Counter Transmit, it is shown as “Periodical Maintenance Notification”.)

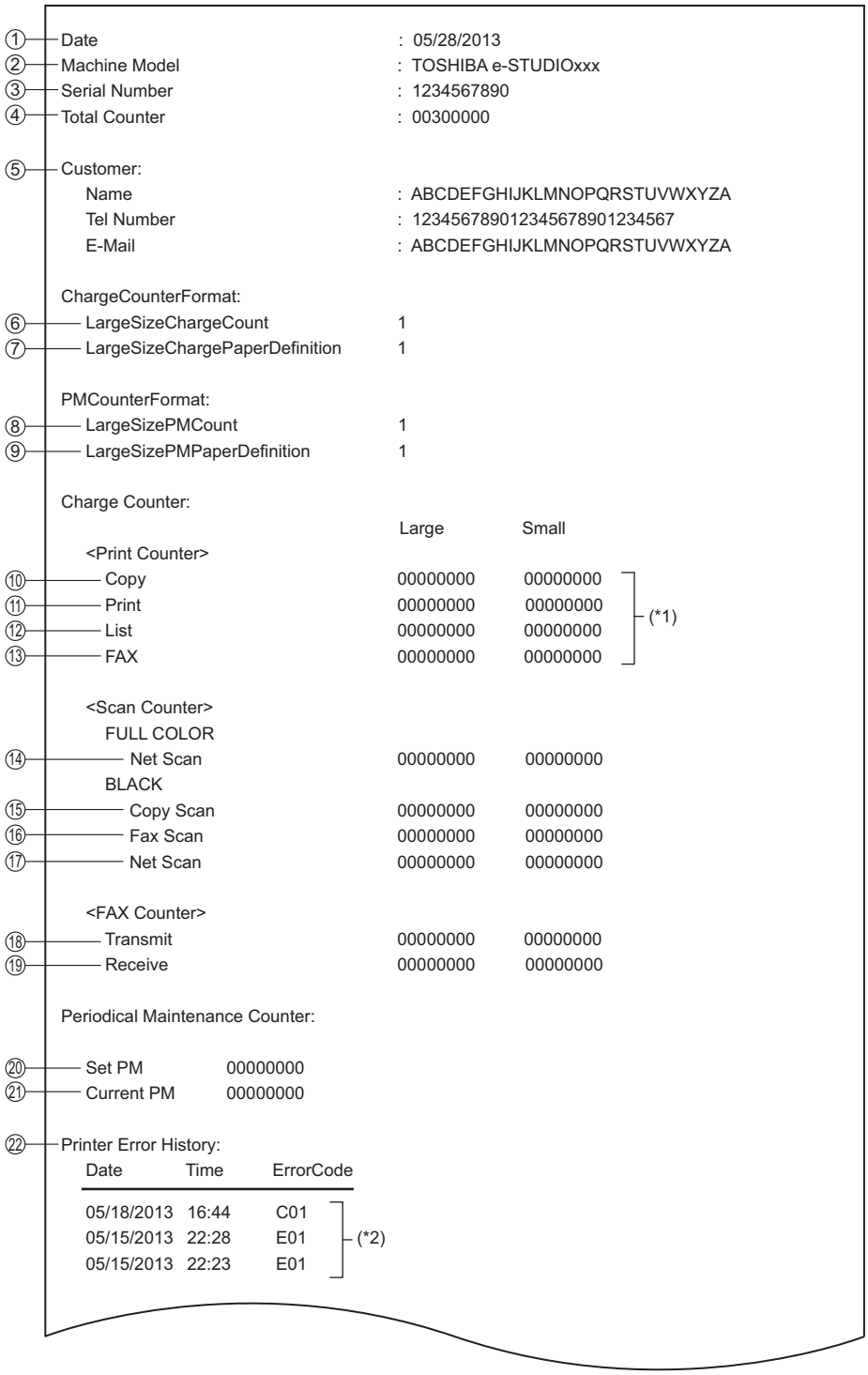


Fig. 10-2

① Date
② Machine model name
③ Serial number
④ Total counter value
*1 Total value of ⑩ to ⑬
⑤ Customer information
⑥ Count setting of large-sized paper (Fee charging system counter) (08-6010)
⑦ Definition setting of large-sized paper (Fee charging system counter) (08-6011)
⑧ Count setting of large-sized paper (PM) (08-6012)
⑨ Definition setting of large-sized paper (PM) (08-6013)
⑩ Number of output pages in the Copier Function
⑪ Number of output pages in the Printer Function
⑫ Number of output pages at the List Print Mode
⑬ Number of output pages in the FAX Function <25F/28F only>
⑭ Number of scanning pages in the Color Network Scanning Function
⑮ Number of scanning pages in the Copier Function
⑯ Number of scanning pages in the FAX Function <25F/28F only>
⑰ Number of scanning pages in the Black Network Scanning Function
⑱ Number of transmitted pages in the FAX Function <25F/28F only>
⑲ Number of received pages in the FAX Function <25F/28F only>
⑳ PM count setting value (08-6190)
㉑ PM count present value (08-6194)
㉒ History of error
*2 The latest 30 errors are displayed.

10.2 Supply Notice

10.2.1 Outline

“Supply Notice” is a function which automatically notifies users one of “toner near-empty” status for a cartridge to previously registered fax numbers or E-mail addresses.

10.2.2 Setting

<Operation flow>

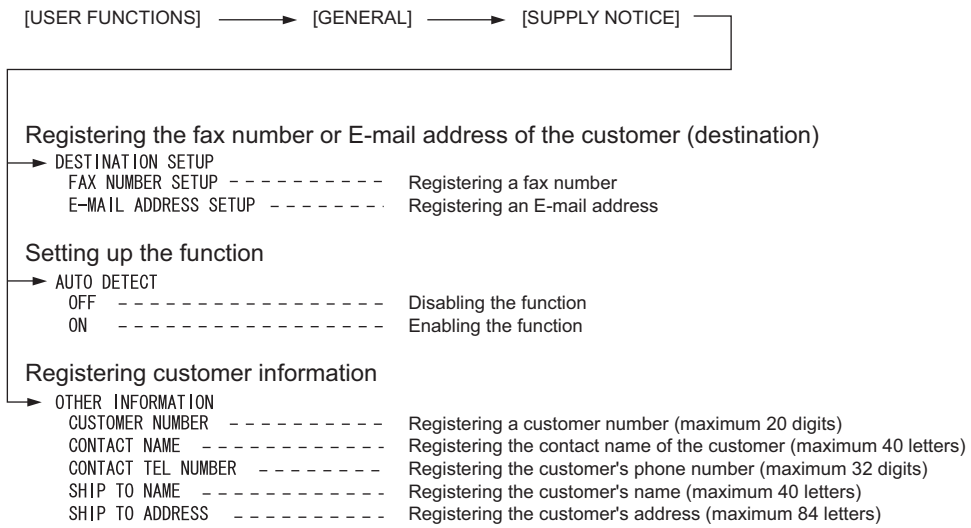


Fig. 10-3

Notes:

1. This menu does not appear if the supply notice display (08-9783) is not set to “0”.
2. Only a fax number or an E-mail address can be registered for “DESTINATION SETUP”.
3. The Supply Notice function is enabled only when “AUTO DETECT” is set to “ON”.
4. “AUTO DETECT” cannot be set if no fax number (*1) or E-mail address is registered for “DESTINATION SETUP”.
   (*1): 25F only

11. FIRMWARE UPDATING

11.1 General Description

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.

- Updating with the USB device
  📖 P. 11-2 "11.2 Firmware Updating with USB Device"

- Firmware Updating with PC Update Tool
  📖 P. 11-8 "11.3 Firmware Updating with PC Update Tool"

- Firmware Updating with BIOS mode
  📖 P. 11-12 "11.4 Firmware Updating with BIOS Mode"

Notes:

Be sure to check the version of the firmware after it is updated.

11.2 Firmware Updating with USB Device

This MAIN board of this equipment is mounted with a USB device written with firmware data. This firmware can be updated by connecting the USB device to the USB port and turning ON the power. The type of firmware which can be updated with this method are as follows in the table below.

Model	Firmware	Stored	Model folder	Data file
25H	BIOS firmware	Main PC board (MAIN board)	2505H	T246SY0Z***
25F			2505F	T246SY0Z***
28A/28M/28F			2802AMF	T395SY0Z***

Model	Firmware	Stored	Model folder	Data file
25S	System ROM	Main PC board (MAIN board)	2505	T240SY0Z***
	Engine ROM			T240MWW***
25H	System ROM		2505H	T246SY0Z***
	Engine ROM			T241MWW***
25F	System ROM		2505F	T246SY0Z***
	Engine ROM			T241MWW***
	FAX ROM			TFAXV***
28A/28M/28F	System ROM		2802AMF	T395SY0Z***
	Engine ROM			TH390MWW***

*** Indicates the version number.

Important:

- Only the USB device which meets the following conditions should be used for updating. Be careful since updating with any device other than the above is never guaranteed.
  - A USB device which complies 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 are complied 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 the use in PC environment (Windows or Macintosh). Therefore, confirm thoroughly that the device is operational in the equipment for which the updating will be performed when purchasing the device.
- The data file for updating is stored in the model specific folder.
  Never change the model specific folder name since it is used for discriminating the data file when the updating data files for multiple models are stored in the USB device.
- Store the model specific folder in the root directory of the USB device.
- The USB device complied with USB1.1 and USB2.0 can be used for updating. However, the update is performed in the speed of USB1.1 when the device complied with USB2.0 is used.
- 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.

[A] BIOS firmware update procedure

Important:

- Prepare a USB device dedicated to updating the BIOS firmware. This should be different from that for updating the system firmware.
- Be sure to update the BIOS firmware before upgrading the system and engine ROM.
- The file system of the USB device should be formatted in FAT32,16. Note that one formatted in FAT or NTFS will not be operated. The file system can be confirmed on the properties in applications such as Explorer of Windows.
- Do not turn OFF the power during the update. The data could be damaged and not able to be operated properly.

(1) Connect the USB device to a PC and write the model specific folder in which the data file is stored.
   - Confirm the model specific folder name, data file name before writing the data (📖 P. 11-2 "11.2 Firmware Updating with USB Device").

(2) Turn OFF the power of the equipment.

(3) Connect the USB device [1] to the USB port [2] on the main board.

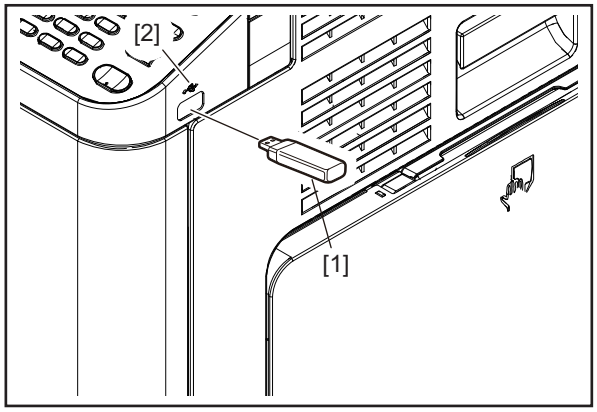


Fig.11-1

(4) Turn the power ON while pressing the [4] and [9] buttons simultaneously.

(5) Enter the password, and then press the [OK] button.
(If the Enter Password is blank, this step is unnecessary.)

(6) Select “SYSTEM FW” and then press the [OK] button.
Update starts. This will change to “COMPLETED” when the update is completed.

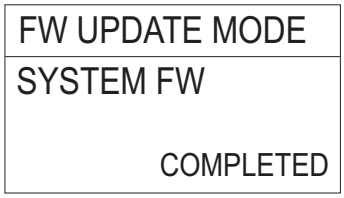


Fig.11-2

Notes:

- The firmware update operation cannot be canceled when it is in progress.

- Do not perform any other operations while the firmware is being updated.
- If the USB device is not recognized normally, “USB NOT DETECTED” will be displayed. In this case, turn OFF the power of the equipment, reconnect the USB device properly, and then restart the procedure from step (3).

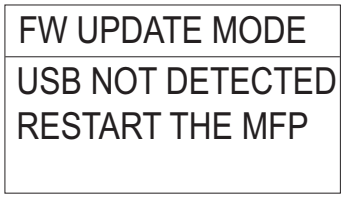


Fig.11-3

(7) Turn OFF the power and remove the USB device.

(8) If you perform upgrading the system and engine firmware, do so in this step. (Refer to P. 11-5 "[B] System/Engine/FAX ROM update procedure")
To finish the BIOS firmware update, perform the initialization of the updating data.
- Turn ON the power while pressing the [0] and [8] buttons simultaneously.
- Key in “9030” and then press the [START] button.
- Press the [OK] button.

[B] System/Engine/FAX ROM update procedure

Important:

- The file system of the USB device should be formatted in FAT32,16. Note that one formatted in FAT or NTFS will not be operated. The file system can be confirmed on the properties in applications such as Explorer of Windows.
- Do not turn OFF the power during the update. The data could be damaged and not able to be operated properly.

(1) Connect the USB device to a PC and write the model specific folder in which the data file is stored.
   - Confirm the model specific folder name, data file name before writing the data (📖 P. 11-2 "11.2 Firmware Updating with USB Device").
   - Since the fax ROM for the 28F models is included in the system ROM, there is no fax specific firmware or data file.

(2) Turn OFF the power of the equipment.

(3) Take off the cover plate. <25S/28A only>

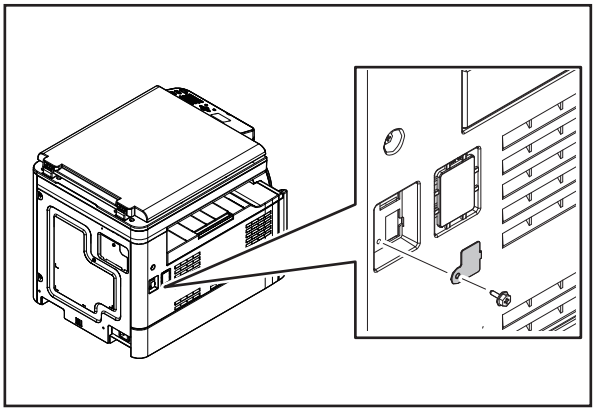


Fig.11-4

(4) Connect the USB device [1] to the USB port [2] on the main board.

25S/28A

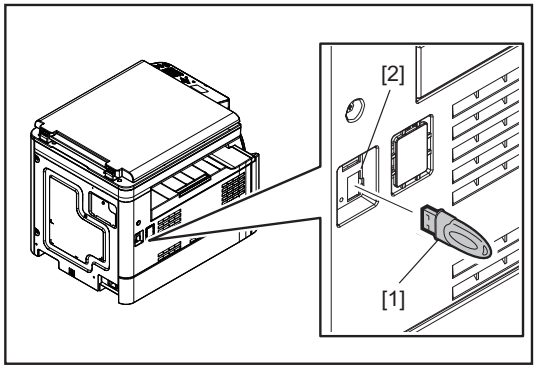


Fig.11-5

25H/25F/28M/28F

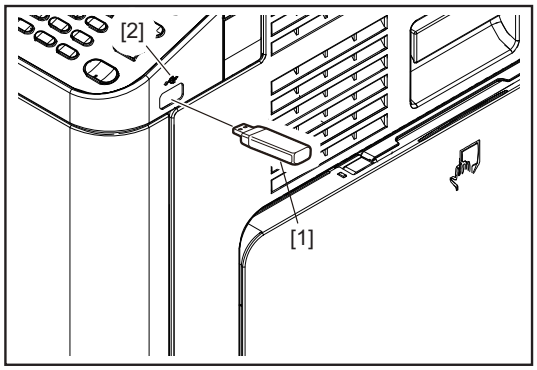


Fig.11-6

(5) Turn the power ON while pressing the [4] and [9] buttons simultaneously.

(6) Enter the password, and then press the [OK] button.
(If the Enter Password is blank, this step is unnecessary.)

(7) Select “SYSTEM FW, ENGINE FW or ALL”, and then press the [OK] button.

Update starts. This will change to “COMPLETED” when the update is completed.

Notes:

- When "ALL" is selected in the equipment in which the fax function is installed, confirm that "FAX FW" is displayed before pressing the [OK] button.
- When "ALL" is selected, updating is carried out in order of FAX, SYSTEM and ENGINE. When the update is completed appropriately, "ALL COMPLETED" is displayed. (FAX is updated only when the fax is installed.)
- Do not turn the power OFF before "ALL COMPLETED" is displayed.

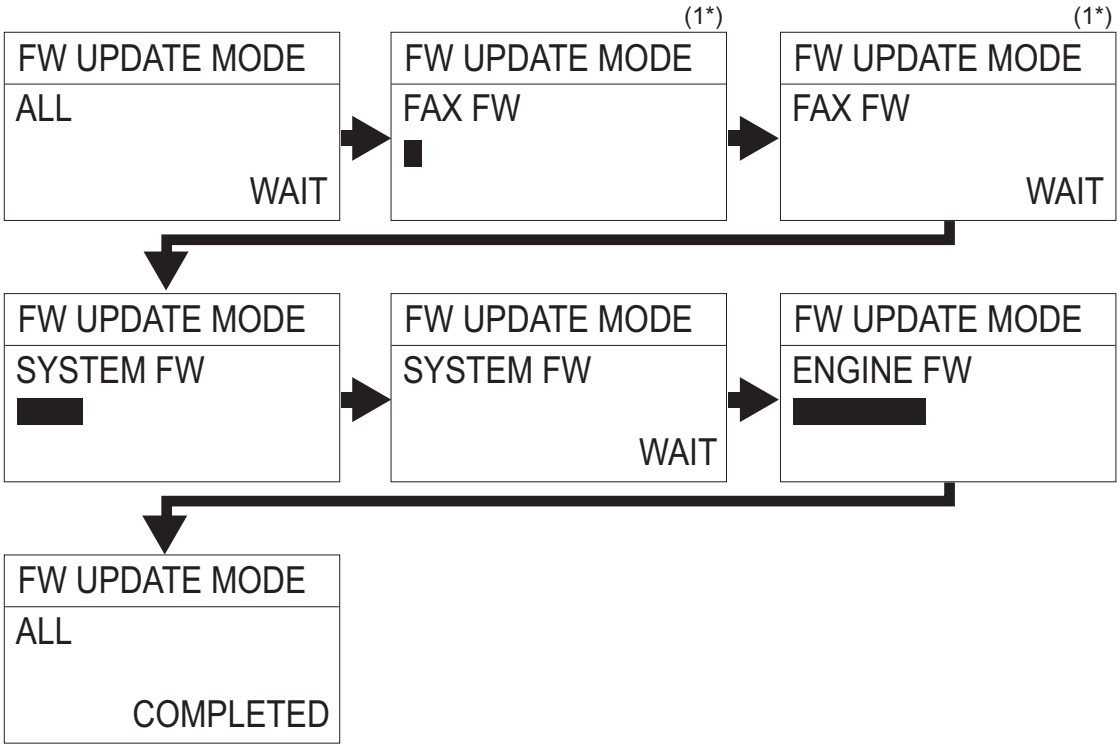


Fig.11-7

Notes:

- The firmware update operation could not be canceled when update is in progress.
- Do not perform any other operations while the firmware is being updated.
- If the USB device is not recognized normally, “USB NOT DETECTED” will be displayed. In this case, turn OFF the power of the equipment, reconnect the USB device properly, and then restart the procedure from step (4).
- The update screen for the fax firmware is only displayed in the 25F models in which the fax unit is installed. (1*)
- Since the fax ROM for the 28F models is included in the system ROM, the update screen for the fax firmware is not displayed. (1*)

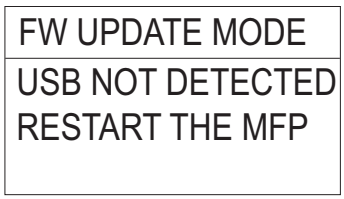


Fig.11-8

- It takes approx. 4 minutes to complete updating all items (“SYSTEM FW / ENGINE FW / ALL”). Update time varies approx. ±30% depending on the rotation speed of the USB device and the status of the Flash ROM in the equipment.

(8) Turn OFF the power and remove the USB device.

(9) Install the cover plate. <25S/28A only>

(10) Perform the initialization of the updating data.
- Turn ON the power while pressing the [0] and [8] buttons simultaneously.
- Key in “9030” and then press the [START] button.
- Press the [OK] button.

11.3 Firmware Updating with PC Update Tool

Notes:

Use the PC update tool to do updates if it cannot be done referring to 📖 P. 11-2 "11.2 Firmware Updating with USB Device".

11.3.1 General description

The PC update tool is used for upgrading the version of the system ROM and the engine ROM for the equipment. Save the tool to your computer, and connect it to the equipment with a USB cable, then you can upload the system ROM.

11.3.2 System requirements

Tools introduced in this manual shall be operated under the following systems:

Windows Vista SP2 (x86 / x64)
Windows 7 SP1 (x86 / x64)
Windows 8.1 (x86 / x64)
Windows 10 (x86 / x64)

11.3.3 Preparation

(1) Before using a PC update tool, install the scanner driver of the equipment in a PC.

(2) Add the ".bin" extension to the file name of the firmware to be updated.

Notes:

Be sure to update the BIOS firmware before upgrading the system and engine ROM.

Model	Firmware	File name
25H/25F	BIOS firmware	T246SY0Z***.bin
28A/28M/28F		T395SY0Z***.bin

Model	Firmware	File name
25S	System ROM	T240SY0Z***.bin
	Engine ROM	T240MWW***.bin
25H	System ROM	T246SY0Z***.bin
	Engine ROM	T241MWW***.bin
25F	System ROM	T246SY0Z***.bin
	Engine ROM	T241MWW***.bin
	FAX ROM	TFAXV***.bin
28A/28M/28F	System ROM	T395SY0Z***.bin
	Engine ROM	TH390MWW***.bin

*** Indicates the version number.

11.3.4 Update procedure

(1) Turn OFF the power of the equipment, and connect it and the PC with a USB cable.

(2) Turn the power ON while pressing the [4] and [9] buttons simultaneously. (Start the equipment with the Firmware update mode)

(3) Confirm that the Firmware update mode has started from the LCD panel of the equipment.

Notes:

- Able to proceed to the next step after you check the display.
- Updating with the PC update tool should not be performed at a normal startup (power ON). Be sure to start the equipment by turning ON the power while the [4] button and [9] button are pressed simultaneously.

(4) Double-click the icon “UpdateFW.exe” to start up the PC update tool.

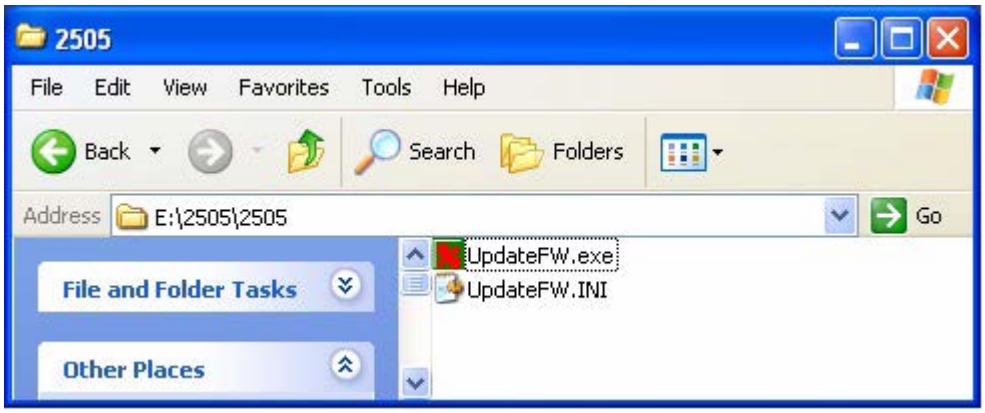


Fig.11-9

(5) Click the [Browse] button.

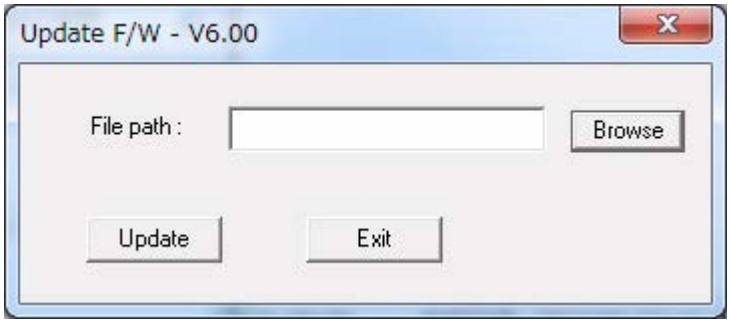


Fig.11-10

(6) Select the file you want to update.

(7) Click the [Update] button.
The update starts and a status bar appears on the operating panel of the equipment.

Notes:
From 1 to 2 minutes are required to update the system ROM, and about 3 minutes are required for the engine ROM.

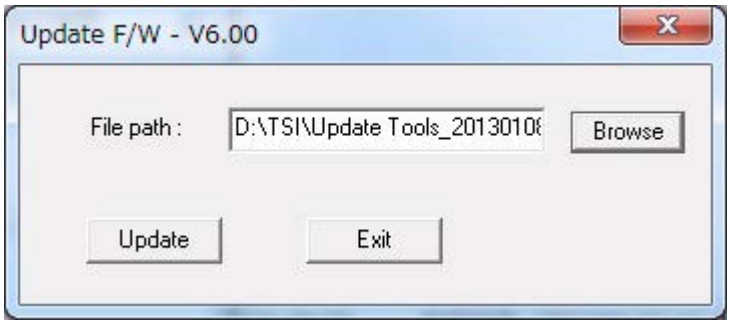


Fig.11-11

Notes:
The following messages appear if the program data is not transmitted correctly.

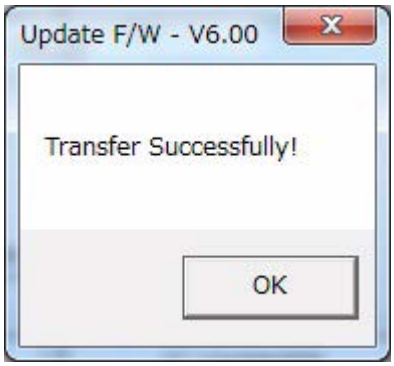


Fig.11-12

(8) When the program data transmission is completed, the message shown below appears.

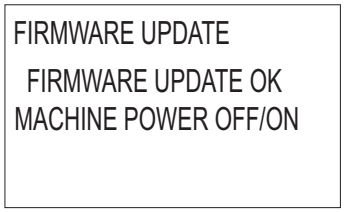


Fig.11-13

(9) Turn OFF the power of the equipment.

Notes:
- It is not possible to update the system ROM and the engine ROM at the same time. Do the updates separately.

(10) If you update the system ROM, initialize the updated data.
- Turn ON the power while [0] button and [8] button are pressed simultaneously.
- Key in “9030”, and then press the [START] button.
- Press the [OK] button.

(11) When the update is finished, remove the USB cable.

11.3.5 When firmware updating fails

Refer to the following.

📖 P. 11-15 "11.4.5 When firmware updating fails"

11.4 Firmware Updating with BIOS Mode

Notes:

- Use the BIOS mode if firmware updating cannot be done with either a USB device or a PC update tool.
- Firmware updating with the BIOS mode is available only for the system ROM and not for the engine ROM.

11.4.1 General description

The BIOS mode can upgrade the version of the system ROM only while this mode is being operated by connecting your PC and the equipment with a USB cable by means of a PC update tool.

11.4.2 System requirements

Tools introduced in this manual shall be operated under the following systems:

Windows Vista SP2 (x86 / x64)
Windows 7 SP1 (x86 / x64)
Windows 8.1 (x86 / x64)
Windows 10 (x86 / x64)

11.4.3 Preparation

(1) Before using a PC update tool, install the scanner driver of the equipment in your PC.

(2) Add the ".bin" extension to the file name of the firmware to be updated.

11.4.4 Update procedure

(1) Turn OFF the power of the equipment, and connect it and the PC with a USB cable.

(2) Turn the power ON while pressing the [OK] button simultaneously.
(Start the equipment with the BIOS mode)

(3) Confirm that the BIOS mode has started from the LCD panel of the equipment.

Fig.11-14

Notes:

Able to proceed to the next step after you check the display.

(4) Double-click the icon “UpdateFW.exe” to start up the PC update tool.

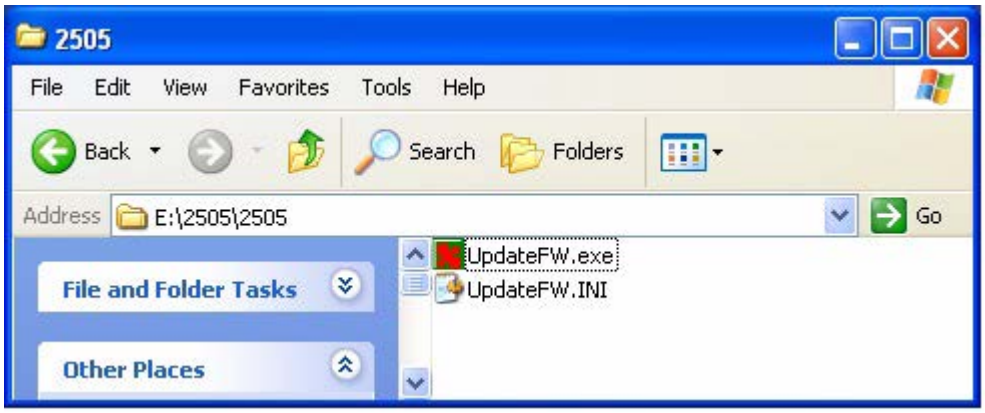


Fig.11-15

(5) Click the [Browse] button.

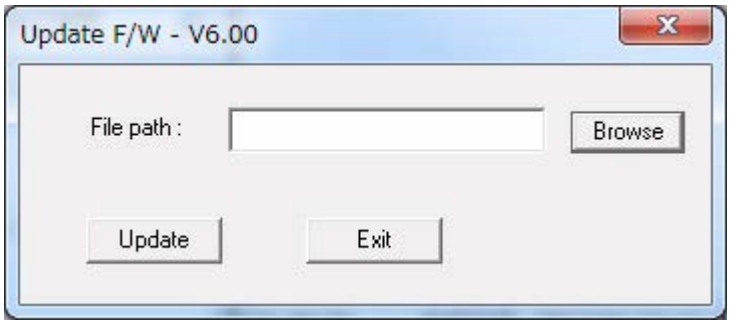


Fig.11-16

(6) Select the file you want to update.

Model	Firmware	File name
25H/25F	System ROM	T246SY0Z***.bin
28A/28M/28F	System ROM	T395SY0Z***.bin

*** Indicates the version number.

(7) Click the [Update] button.
The update starts and a status bar appears on the operating panel of the equipment.

Notes:
From 1 to 2 minutes are required to update.

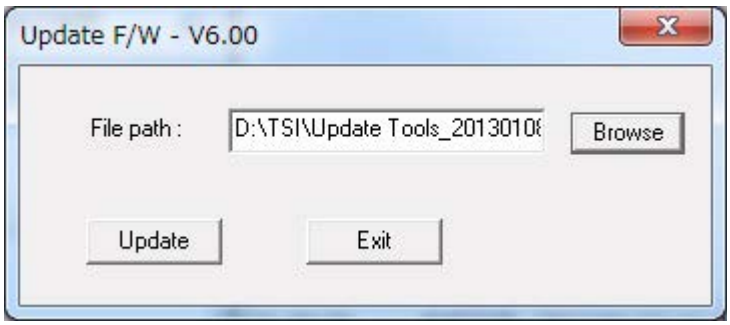


Fig.11-17

(8) The following messages appear if the program data is not transmitted correctly.

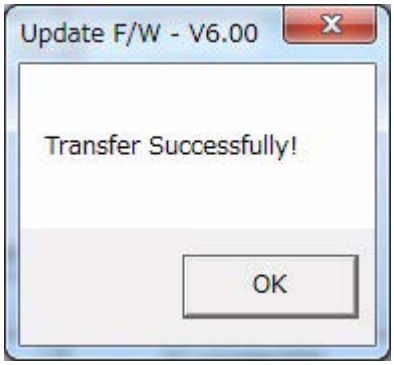


Fig.11-18

(9) When the program data transmission is completed, the message shown below appears.

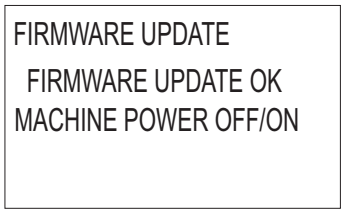


Fig.11-19

(10) Turn OFF the power of the equipment.

(11) If you update the system ROM, initialize the updated data.
- Turn ON the power while [0] button and [8] button are pressed simultaneously.
- Key in “9030”, and then press the [START] button.
- Press the [OK] button.

(12) When the update is finished, remove the USB cable.

11.4.5 When firmware updating fails

When an error indication appears while firmware is being updated, confirm the following items.

(1) When “Device is not ready!” and then “Transfer Failed!” appears on the PC:

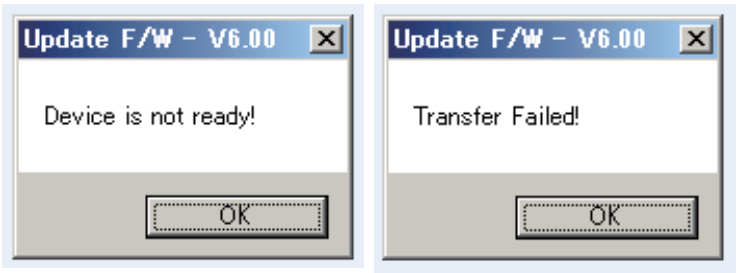


Fig.11-20

- Since the USB cable may not be connected properly, confirm the connecting status of the equipment and the PC, and then retry updating.
- Since the equipment may not have been started properly, turn the power OFF and then back ON, and then retry updating.

(2) When “SERVICE CALL F/W VER. ERROR” appears on the equipment:

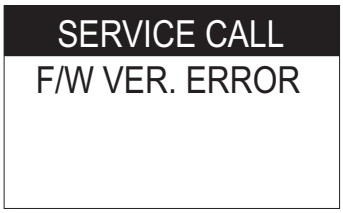


Fig.11-21

- Since an incorrect firmware file (that of another model) may have been used, check it and then retry updating making sure it is the one corresponding to this equipment.
- Since the data of the file may have an abnormality, check the file and then retry updating making sure it is the normal one.

(3) When “CHECK SUM ERROR” appears on the equipment:
* 28A/28M/28F Only

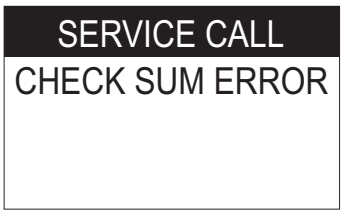


Fig.11-22

- Since updating the engine firmware with the PC update tool may have been done with other than the [4]+[9] startup mode, reattempt updating according to the procedure.
- Since the data of the file may have an abnormality, check the file and then retry updating making sure it is the normal one.
  📖 P. 11-9 "11.3.4 Update procedure"

Notes:

If updating still fails even if the above procedures have been done, check if there is any damage on the MAIN board and replace it with a new one if necessary.

11.5 Confirmation of the updated data

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data were overwritten properly.

Firmware	Check Method	Remarks
BIOS firmware	[OK]+POWER	BIOS firmware version
System ROM (System firmware)	08-9900	System ROM version
Updating Engine ROM (Engine firmware)	08-9901	Engine ROM version
FAX ROM (FAX firmware)	08-9905	FAX ROM version <25F only>

The installed ROM versions can be confirmed in the list print mode following the procedure below.

Notes:

Since the fax ROM for the 28F models is included in the system ROM, there is no fax specific firmware or data file.

(1) Turn the power ON using the main power switch while pressing the digital key [9] and the [START] button simultaneously.

(2) Select “Enter the code” using the arrow button.

(3) After pressing the [OK] button, press the [1] button three times, and then press the [START] button.

(4) “VERSION LIST” is printed out.

* It is recommended to keep this list for future reinstallation such as the replacement of the Main board.

(5) Turn OFF the power.

12. EXTERNAL COUNTERS

12.1 Outline

This specification describes the interface between external counters, such as Coin Controller and Card Counter.

12.2 Signal

12.2.1 Pin Layout <25S/25H/25F>

1. Connector on the MAIN board: CN35 (Coin Controller)

Pin No.	I/O	Signal name	Function	Voltage level	Port	Remarks	GQ-1131
1	Power	24VCOV-OFF	24V line	DC24V±10%		When cover opened: OFF	In use
2	Out	CTRON	Total Counter On Signal	Open Collector	OPAL PL0	L: ON	In use
3	In	KCTRC	Counter Connection Signal	L=0V, H=DC5V	OPAL PL5	L: Connected Connected to SG with harness	In use
4	Out	MCRUN	Ready to Copy Signal	Open Collector	OPAL PM4	L: Operating	In use
5	Out	EXTCTR	Exit Sensor On Signal	Open Collector	OPAL PM3	L: ON	In use
6	GND	PG	Power ground	0V			In use
7	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-
9	GND	SG	Signal ground	0V			In use
10	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	Power	5V	5V line	DC5.1V±3%			In use
15	In	CTRON-EN	Counter enabled signal	L=0V, H=DC5V	OPAL PJ6	L: Enabled	In use
16	Out	L/S-SIZE	Paper size (large/ small) signal	Open Collector	OPAL PM6	L: Large size H: Small size	In use

12.2.2 Pin Layout <28A/28M/28F>

1. Connector on the MAIN board: CN25 (Coin Controller)

Pin No.	I/O	Signal name	Function	Voltage level	Port	Remarks	GQ-1131
1	Power	24VCOV-OFF	24V line	DC24V±10%		When cover opened: OFF	In use
2	Out	CTRON	Total Counter On Signal	Open Collector	OPAL PL0	L: ON	In use
3	In	KCTRC	Counter Connection Signal	L=0V, H=DC5V	OPAL PL5	L: Connected Connected to SG with harness	In use
4	Out	MCRUN	Ready to Copy Signal	Open Collector	OPAL PM4	L: Operating	In use
5	Out	EXTCTR	Exit Sensor On Signal	Open Collector	OPAL PM3	L: ON	In use
6	GND	PG	Power ground	0V			In use
7	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-
9	GND	SG	Signal ground	0V			In use
10	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	Power	5V	5V line	DC5.1V±3%			In use
15	In	CTRON-EN	Counter enabled signal	L=0V, H=DC5V	OPAL PJ6	L: Enabled	In use
16	Out	L/S-SIZE	Paper size (large/ small) signal	Open Collector	OPAL PM6	L: Large size H: Small size	In use

12.2.3 Details of the signals

1. CTRON signal (output signals)
   The signal is a count signal synchronized with an electronic counter for the equipment. This signal is turned to a low level (ON) every time the counter counts up. This output signal also drives each mechanical counter directly.
   If “1” is set for the setting code 08-6010 (Large size double count setting), a sheet of large-sized paper is counted as two sheets. The signal is used for coin controllers.

2. KCTRC signal (input signals)
   This signal is a connection signal that detects whether each counter is installed or not. The counter is installed when this signal is at a low level. When this signal is at a high level, copying with the counter is disabled.

3. MCRUN signal (output signal)
   This signal is turned to a low level while the equipment performs copying.
   When copying is interrupted due to forcible toner supply or another reason, however, this signal remains at a high level until the equipment becomes ready for copying again.

4. EXTCTR signal (output signal)
   This signal is turned ON, since it is synchronized with the turning OFF of the exit sensor.
   A coin controller counts up the degree of usage of copy cards by means of this signal.

5. CTRON-EN signal (input signal)
   This signal enables copying with each counter. Copying is enabled when this signal is at a low level. Copying is disabled when it is at a high level.

6. L/S signal (output signal)
   This signal is turned to a low level immediately when large-sized paper is selected or when the paper size is not specified for bypass feeding. The signal is at a high level in other cases.
   The definition of large-sized paper can be set in the setting code 08-6011.

12.3 Notices

12.3.1 Setting code

Each signal will be enabled by configuring the setting code “08-9016” (Counter installed externally).

08-9016
0: No external counter (Default)
1: Coin controller installed

12.3.2 Setting value change and restrictions when using the coin controller

1. Setting value
   - 08-9016 (Counter installed externally): Set to “1” (Coin controller).
   - 08-9017 (Setting for counter installed externally): Select “1” (Copy) for the job to count up.

2. Restrictions
   For 08-6011 (Definition of large-sized paper), set to “0” when A3, LD and CUSTOM are specified as the large size, and set to “1” when B4, LG, FOLIO, COMP, 8K and 13"LG are specified as the large size in addition to A3, LD and CUSTOM.

12.3.3 Installation of External Counter

It is not allowed to install more than one external counter. Physically, the multiple external counters cannot be installed together since the output signals are used in common.

12.3.4 Restrictions when installing the coin controller

If the department management (08-9120 / 0: Disabled, 1: Enabled) of the 08 setting code is enabled, its screen will appear prior to others. Therefore, be sure not to enable the department management when the coin controller is installed.

13. WIRE HARNESS CONNECTION DIAGRAMS

13.1 AC Wire Harness <25S/25H/25F>

<25S>

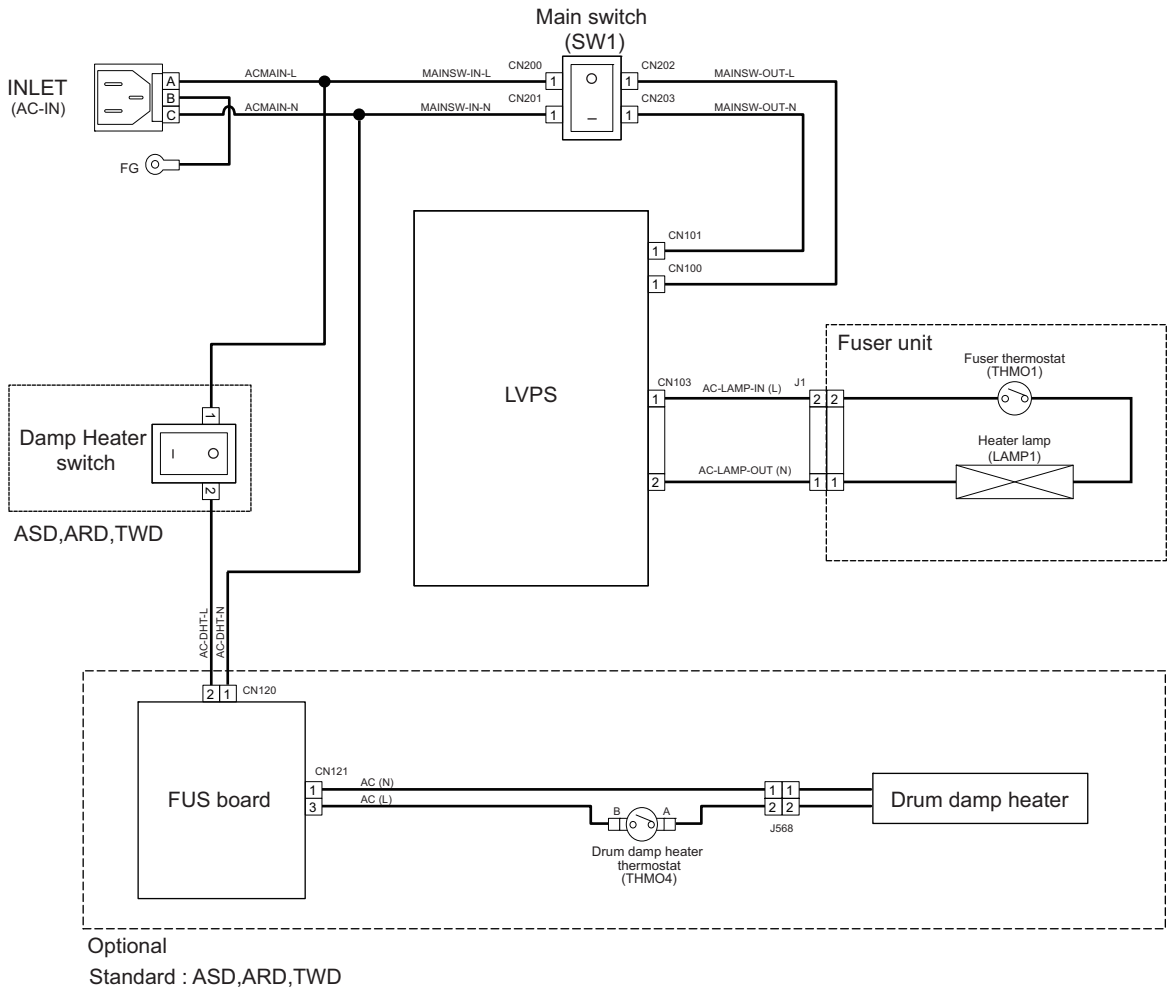


Fig.13-1

13

<25H/25F>

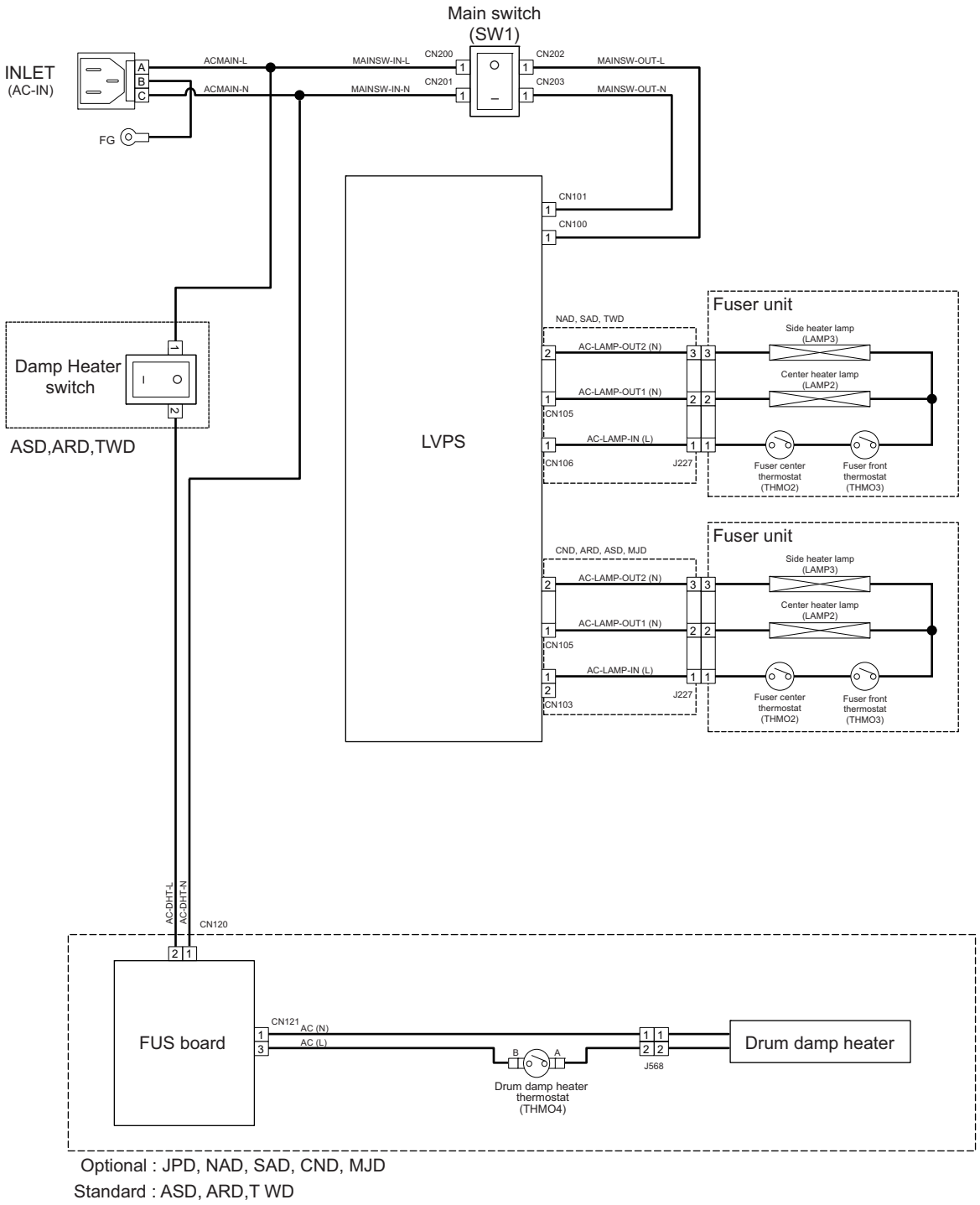


Fig.13-2

13.2 AC Wire Harness <28A/28M/28F>

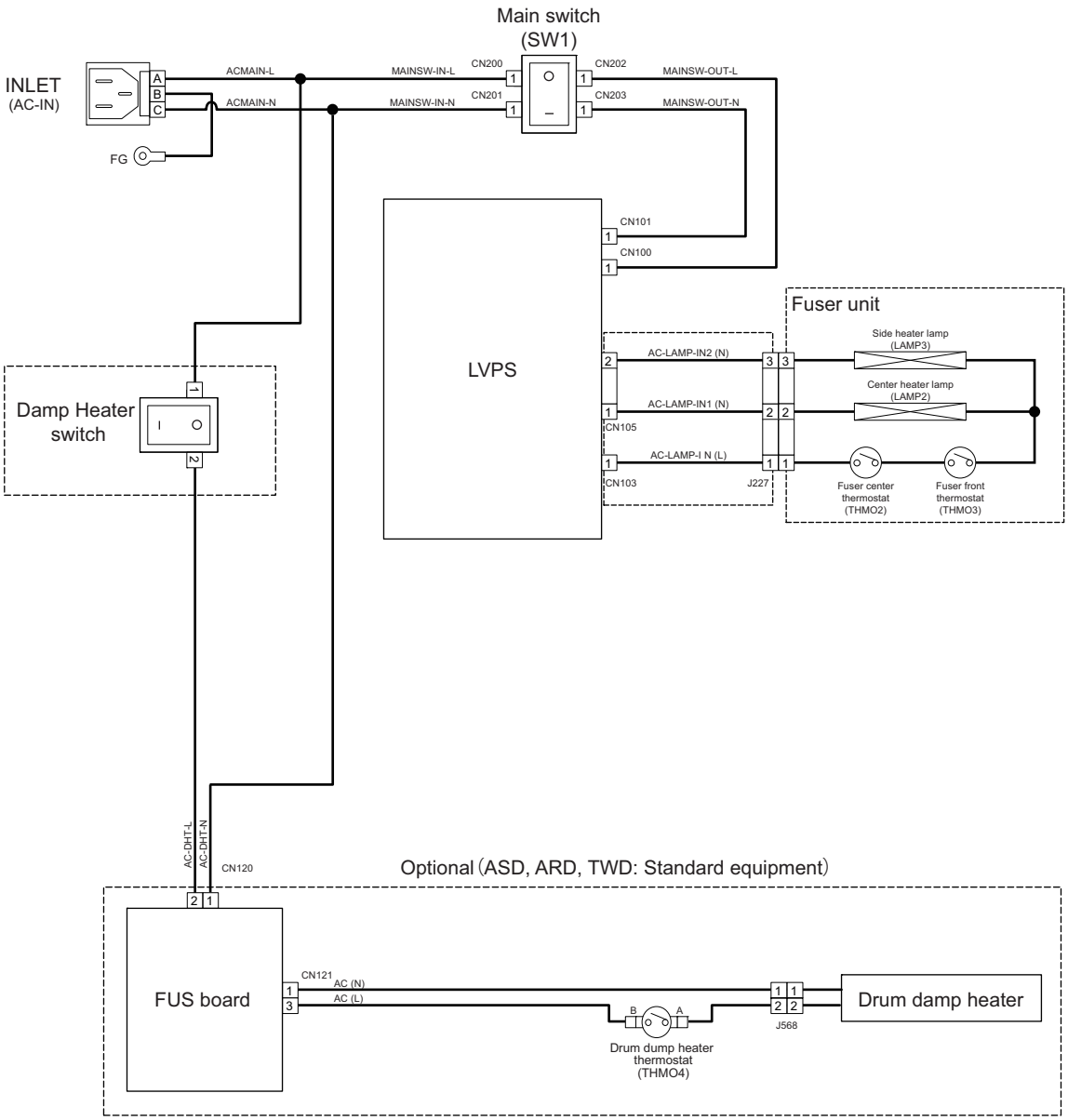
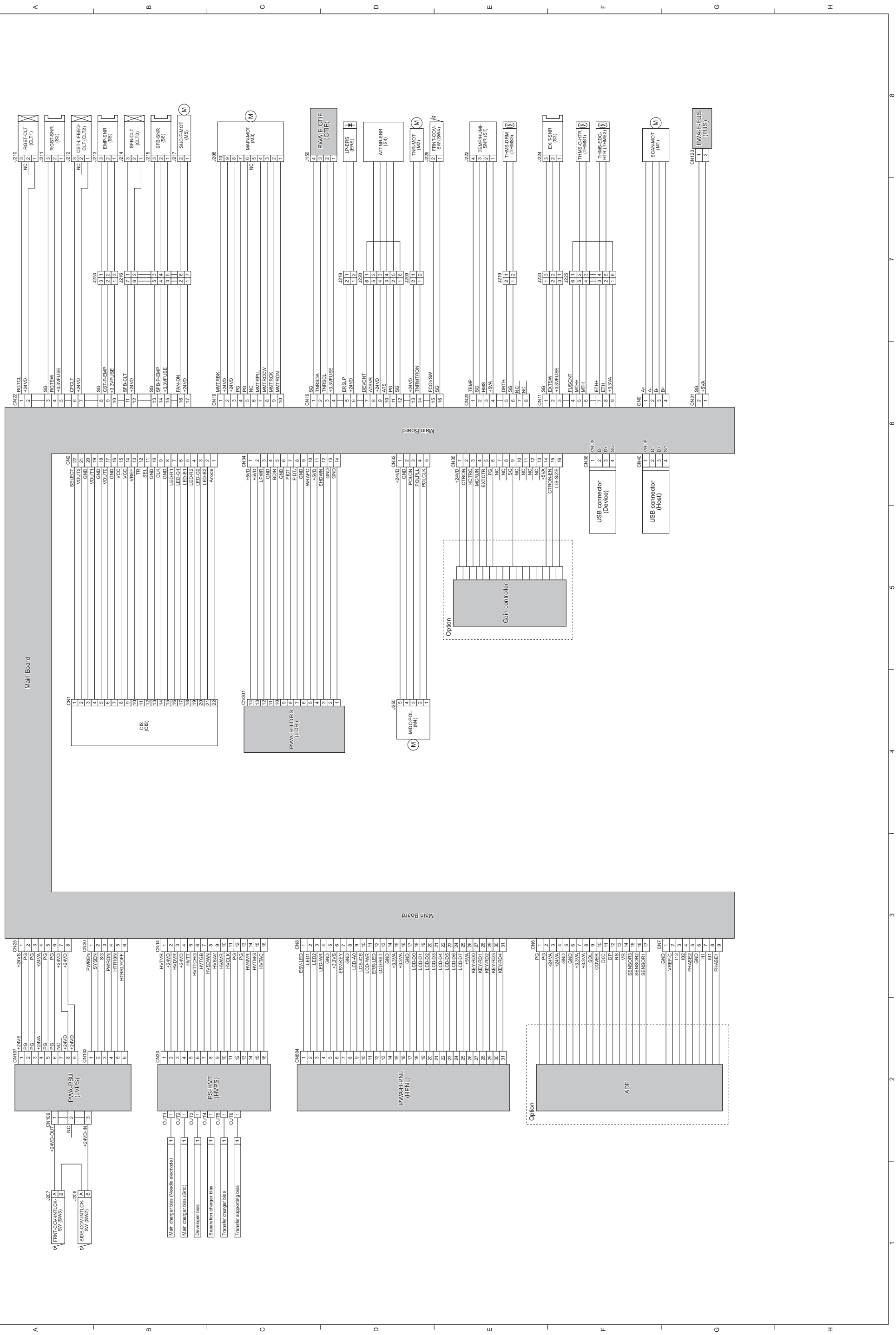


Fig.13-3

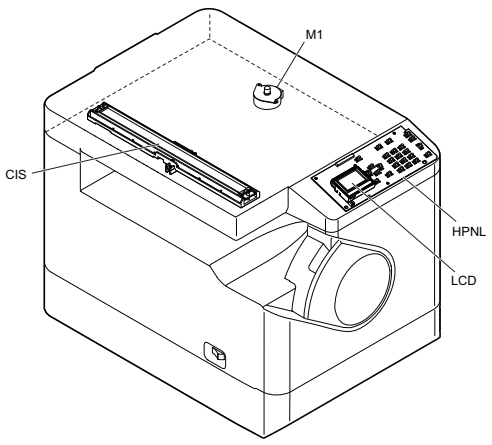
13

13.3 DC Wire Harness <25S>

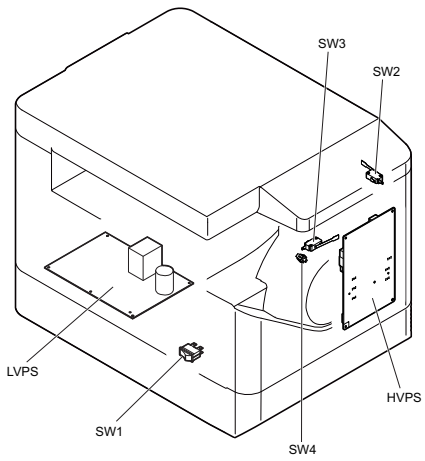


13.4 Electric Parts Layout <25S>

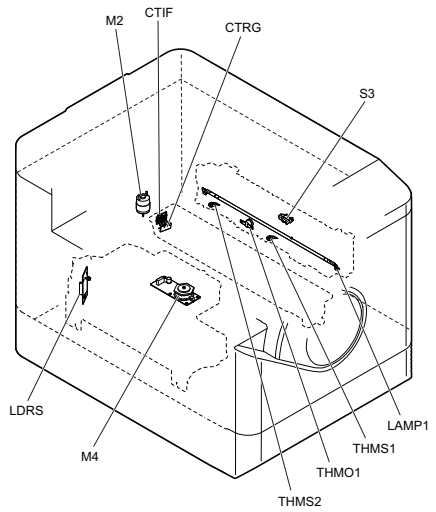
[A] Scanner unit, control panel



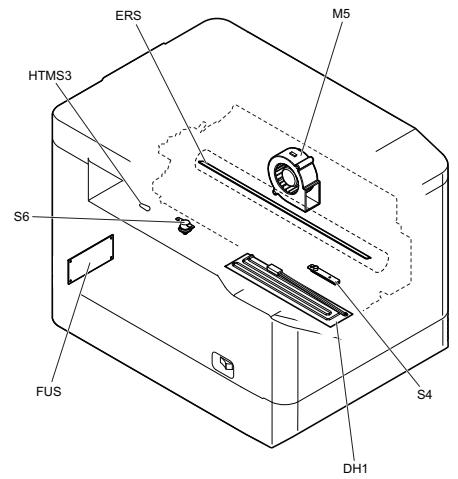
[B] Power supply, switches



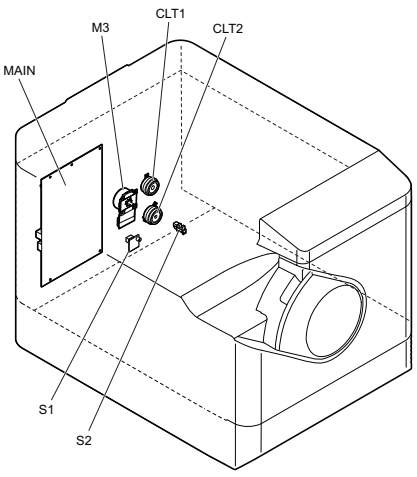
[C] Laser unit, fuser unit, toner cartridge



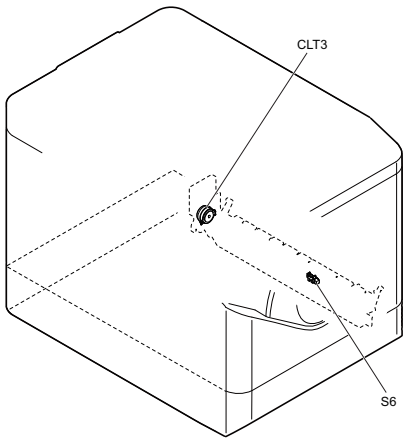
[D] Developer unit



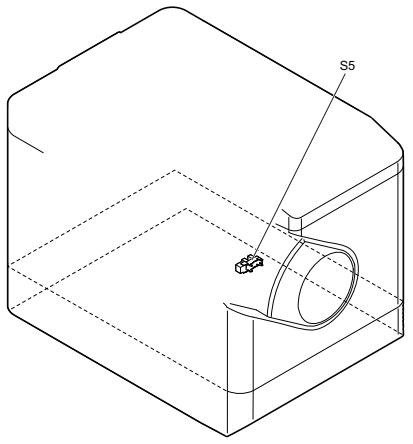
[E] Drive unit



[F] Bypass feed unit



[G] Drawer unit



Motors

Symbol	Name	Figure	Wire harness location
M1	SCAN-MOT Scan motor	[A]	F8
M2	TNR-MOT Toner motor	[C]	D8
M3	MAIN-MOT Main motor	[E]	C8
M4	M/DC-POL Polygonal motor	[C]	D4
M5	SCT-FAN-MOT Suction fan	[D]	B8

Sensors and switches

Symbol	Name	Figure	Wire harness location
S1	TEMP/HUMI-SNR Temperature/humidity sensor	[B]	F8
S2	RGST-SNR Registration sensor	[E]	A8
S3	EXIT-SNR Exit sensor	[C]	E8
S4	ATTNR-SNR Auto-toner sensor	[D]	D8
S5	EMP-SNR Paper empty sensor	[F]	B8
S6	SFB-SNR Bypass paper sensor	[G]	B8
SW1	MAIN-SW Main switch	[B]	AC Wire Harness
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	[B]	A1
SW3	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	A1
SW4	FRNT-COV-SW Toner supply cover opening/closing switch	[B]	E8

Electromagnetic clutches

Symbol	Name	Figure	Wire harness location
CLT1	RGST-CLT Registration roller clutch	[E]	A8
CLT2	CST-L-FEED-CLT Drawer feed clutch	[E]	A8
CLT3	SFB-CLT Bypass feed clutch	[G]	B8

PC boards

Symbol	Name	Figure	Wire harness location
MAIN	PWA-F-MAIN Main PC board (MAIN board)	[E]	A4
LDR	PWA-F-LDR Laser driving PC board (LDR board)	[C]	C4
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	[A]	D2
CTIF	PWA-F-CTIF Toner cartridge interface PC board (CTIF board)	[C]	D8
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	[C]	-
FUS	PWA-F-FUS Fuse PC board (FUS board)	[D]	G8

Lamps and heaters

Symbol	Name	Figure	Wire harness location
LAMP1	FLAT-LAMP Heater lamp	[C]	AC Wire Harness
ERS	LP-ERS Discharge LED	[D]	D8
DH1	DRM-DH Drum damp heater	[D]	AC Wire Harness

Thermistors and thermostats

Symbol	Name	Figure	Wire harness location
THMS1	THMS-C-HTR Center thermistor	[C]	F8
THMS2	THMS-EDG-HTR Edge thermistor	[C]	F8
THMS3	THMS-DRM Drum thermistor	[D]	E8
THMO1	THERMO-FSR Fuser thermostat	[C]	AC Wire Harness

Transformer

Symbol	Name	Figure	Wire harness location
HVPS	PS-HVPS High-voltage transformer	[B]	C2

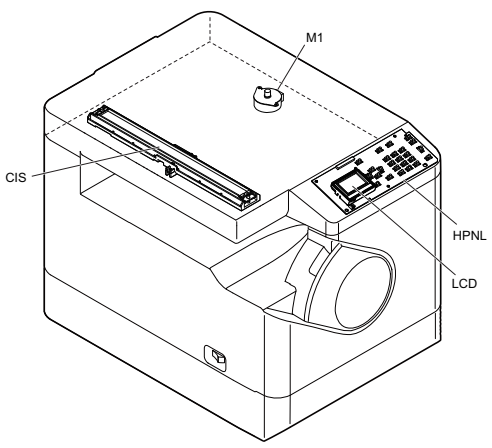
Others

Symbol	Name	Figure	Wire harness location
CIS	CIS Contact image sensor unit	[A]	B4
LVPS	PS-ACC Switching regulator	[B]	A2
LCD	LCD LCD panel	[A]	-

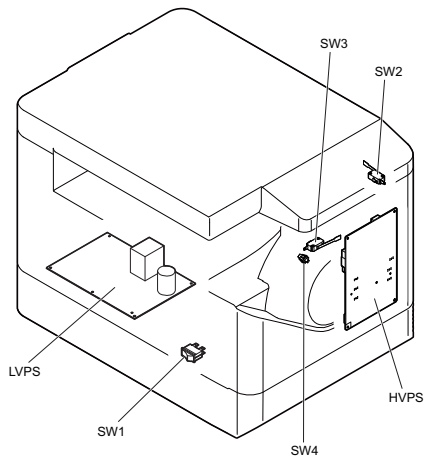
13.5 DC Wire Harness <25H/25F>

13.6 Electric Parts Layout <25H/25F>

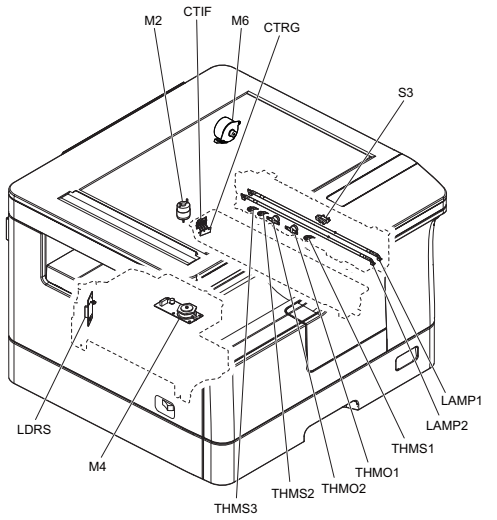
[A] Scanner unit, control panel



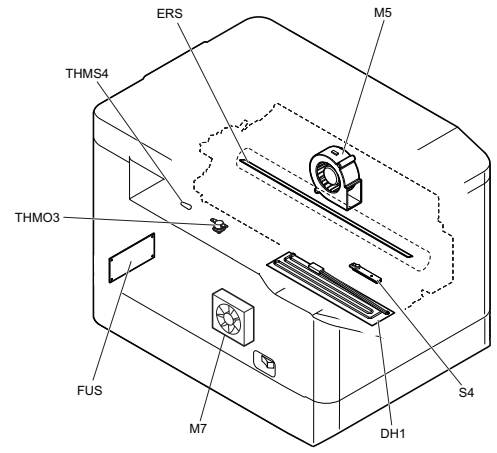
[B] Power supply, developer unit



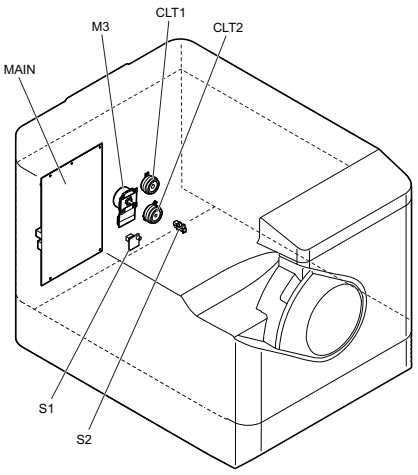
[C] Laser unit, fuser unit, toner cartridge



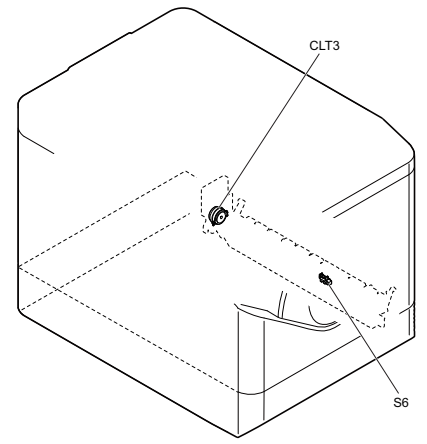
[D] Drive unit



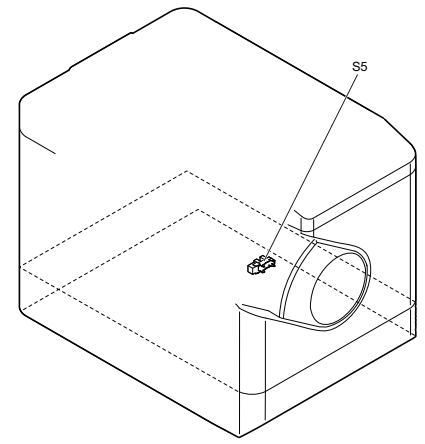
[E] Automatic duplexing unit, transfer unit, exit unit



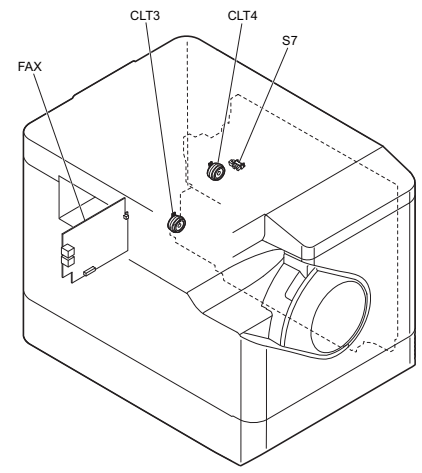
[F] Bypass feed unit



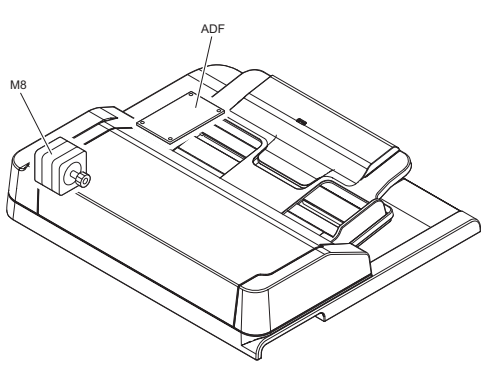
[G] Drawer unit

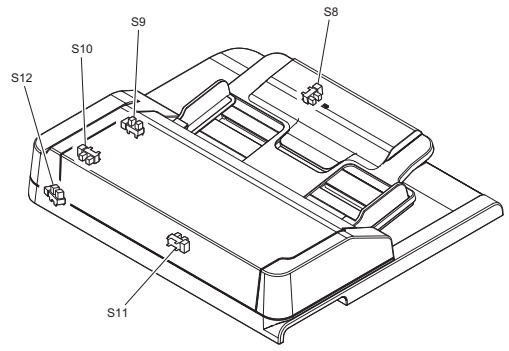


[H] Automatic duplexing unit, transfer unit, exit unit, FAX unit



[I] Automatic Document Feeder (ADF)





Motors

Symbol	Name	Figure	Wire harness location
M1	SCAN-MOT Scan motor	[A]	
M2	TNR-MOT Toner motor	[C]	
M3	MAIN-MOT Main motor	[E]	
M4	M/DC-POL Polygonal motor	[C]	
M5	SUC-FAN-MOT Suction fan	[D]	
M6	EXIT-MOT Exit motor	[C]	
M7	ADU-FAN ADU fan	[D]	
M8	Original feed motor	[I]	

Sensors and switches

Symbol	Name	Figure	Wire harness location
S1	TEMP/HUMI-SNR Temperature/humidity sensor	[E]	
S2	RGST-SNR Registration sensor	[E]	
S3	EXIT-SNR Exit sensor	[C]	
S4	ATTNR-SNR Auto-toner sensor	[D]	
S5	EMP-SNR Paper empty sensor	[G]	
S6	SFB-SNR Bypass paper sensor	[F]	
S7	ADU-TR-SNR ADU sensor	[H]	
S8	Original tray length sensor	[I]	
S9	Original empty sensor	[I]	
S10	Jam access cover sensor	[I]	
S11	Original read sensor	[I]	
S12	ADF opening/closing sensor	[I]	
SW1	MAIN-SW Main switch	[B]	
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	[B]	
SW3	SIDE-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	
SW4	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	

Electromagnetic clutches

Symbol	Name	Figure	Wire harness location
CLT1	RGST-CLT Registration roller clutch	[E]	
CLT2	CST-L-FEED-CLT Drawer feed clutch	[E]	
CLT3	SFB-CLT Bypass feed clutch	[H]	
CLT4	ADU-CLT ADU clutch	[H]	

PC boards

Symbol	Name	Figure	Wire harness location
MAIN	PWA-F-MAIN Main PC board (MAIN board)	[E]	
CTIF	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	[C]	
FUS	PWA-F-FUS Fuse PC board (FUS board)	[D]	
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	[A]	
LDRS	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
ADF	ADF control PC board (ADF board)	[I]	
FAX	FAX interface PC board (FAX board)	[H]	

Lamps and heaters

Symbol	Name	Figure	Wire harness location
DH1	DRM-DH Drum damp heater	[D]	
ERS	LP-ERS Discharge LED	[D]	
LAMP1	HTR-LAMP Heater lamp	[C]	
LAMP2	SIDE-LAMP Side heater lamp	[C]	

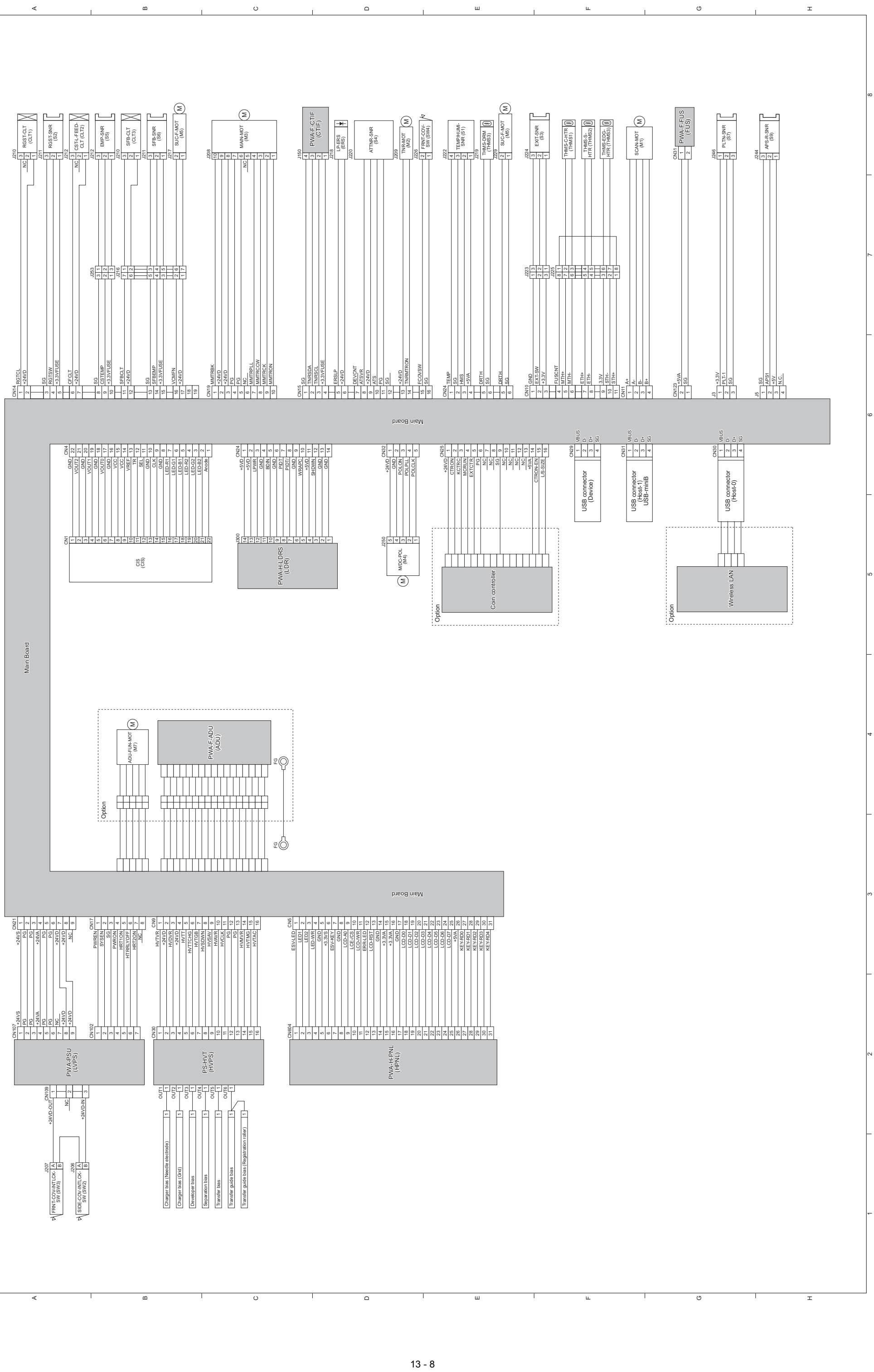
Thermistors and thermostats

Symbol	Name	Figure	Wire harness location
THMO1	THRMO-FSR-C Fuser center thermostat	[C]	
THMO2	THRMO-FSR-F Fuser front thermostat	[C]	
THMO3	THRMST-CS-L Drum damp heater thermostat	[D]	
THMS1	THMS-C-HTR Center thermistor	[C]	
THMS2	THMS-S-HTR Side thermistor	[C]	
THMS3	THMS-EDG-HTR Edge thermistor	[C]	
THMS4	THMS-DRM Drum thermistor	[D]	

Others

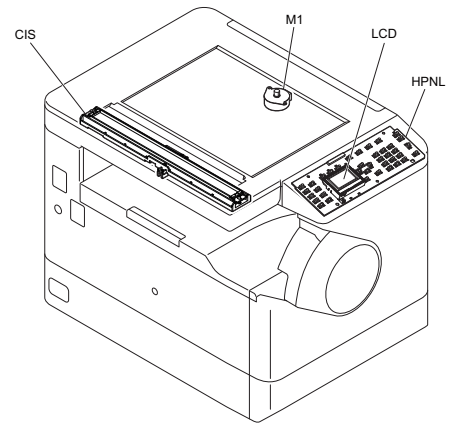
Symbol	Name	Figure	Wire harness location
CIS	CIS Contact image sensor unit	[A]	
HVPS	PS-HVT High-voltage transformer	[B]	
LVPS	PS-ACC Switching regulator	[B]	

13.7 DC Wire Harness <28A>

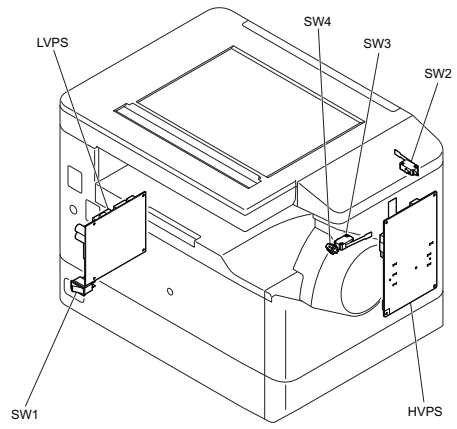


13.8 Electric Parts Layout <28A>

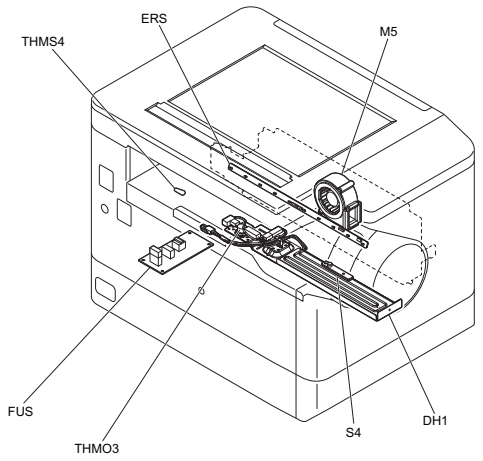
[A] Scanner unit, control panel



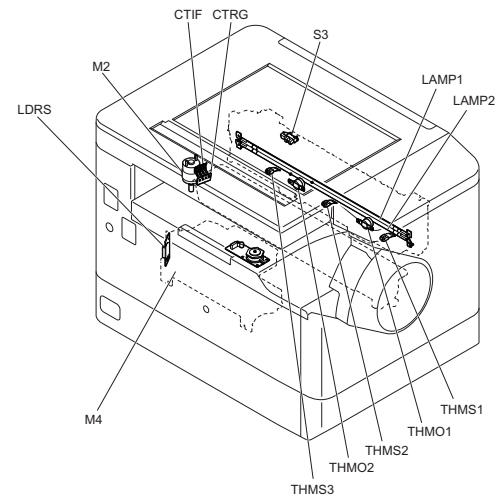
[B] Power supply, switches



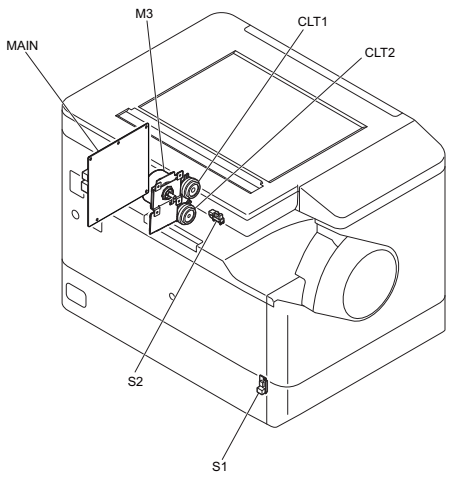
[C] Laser unit, fuser unit, toner cartridge



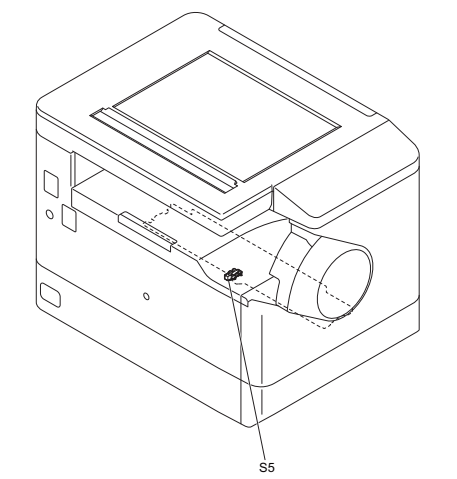
[D] Developer unit



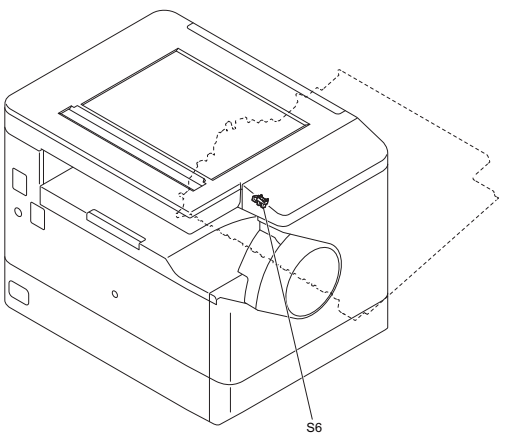
[E] Drive unit



[F] Bypass feed unit



[G] Drawer unit



Motors

Symbol	Name	Figure	Wire harness location
M1	SCAN-MOT Scan motor	[A]	F8
M2	TNR-MOT Toner motor	[C]	D8
M3	MAIN-MOT Main motor	[E]	C8
M4	M/DC-POL Polygonal motor	[C]	D4
M5	SCT-FAN-MOT Suction fan	[D]	B8

Sensors and switches

Symbol	Name	Figure	Wire harness location
S1	TEMP/HUMI-SNR Temperature/humidity sensor	[B]	F8
S2	RGST-SNR Registration sensor	[E]	A8
S3	EXIT-SNR Exit sensor	[C]	E8
S4	ATTNR-SNR Auto-toner sensor	[D]	D8
S5	EMP-SNR Paper empty sensor	[F]	B8
S6	SFB-SNR Bypass paper sensor	[G]	B8
SW1	MAIN-SW Main switch	[B]	AC Wire Harness
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	[B]	A1
SW3	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	A1
SW4	FRNT-COV-SW Toner supply cover opening/closing switch	[B]	E8

Electromagnetic clutches

Symbol	Name	Figure	Wire harness location
CLT1	RGST-CLT Registration roller clutch	[E]	A8
CLT2	CST-L-FEED-CLT Drawer feed clutch	[E]	A8
CLT3	SFB-CLT Bypass feed clutch	[G]	B8

PC boards

Symbol	Name	Figure	Wire harness location
MAIN	PWA-F-MAIN Main PC board (MAIN board)	[E]	A4
LDR	PWA-F-LDR Laser driving PC board (LDR board)	[C]	C4
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	[A]	D2
CTIF	PWA-F-CTIF Toner cartridge interface PC board (CTIF board)	[C]	D8
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	[C]	-
FUS	PWA-F-FUS Fuse PC board (FUS board)	[D]	G8

Lamps and heaters

Symbol	Name	Figure	Wire harness location
LAMP1	FLAT-LAMP Heater lamp	[C]	AC Wire Harness
ERS	LP-ERS Discharge LED	[D]	D8
DH1	DRM-DH Drum damp heater	[D]	AC Wire Harness

Thermistors and thermostats

Symbol	Name	Figure	Wire harness location
THMS1	THMS-C-HTR Center thermistor	[C]	F8
THMS2	THMS-EDG-HTR Edge thermistor	[C]	F8
THMS3	THMS-DRM Drum thermistor	[D]	E8
THMO1	THERMO-FSR Fuser thermostat	[C]	AC Wire Harness

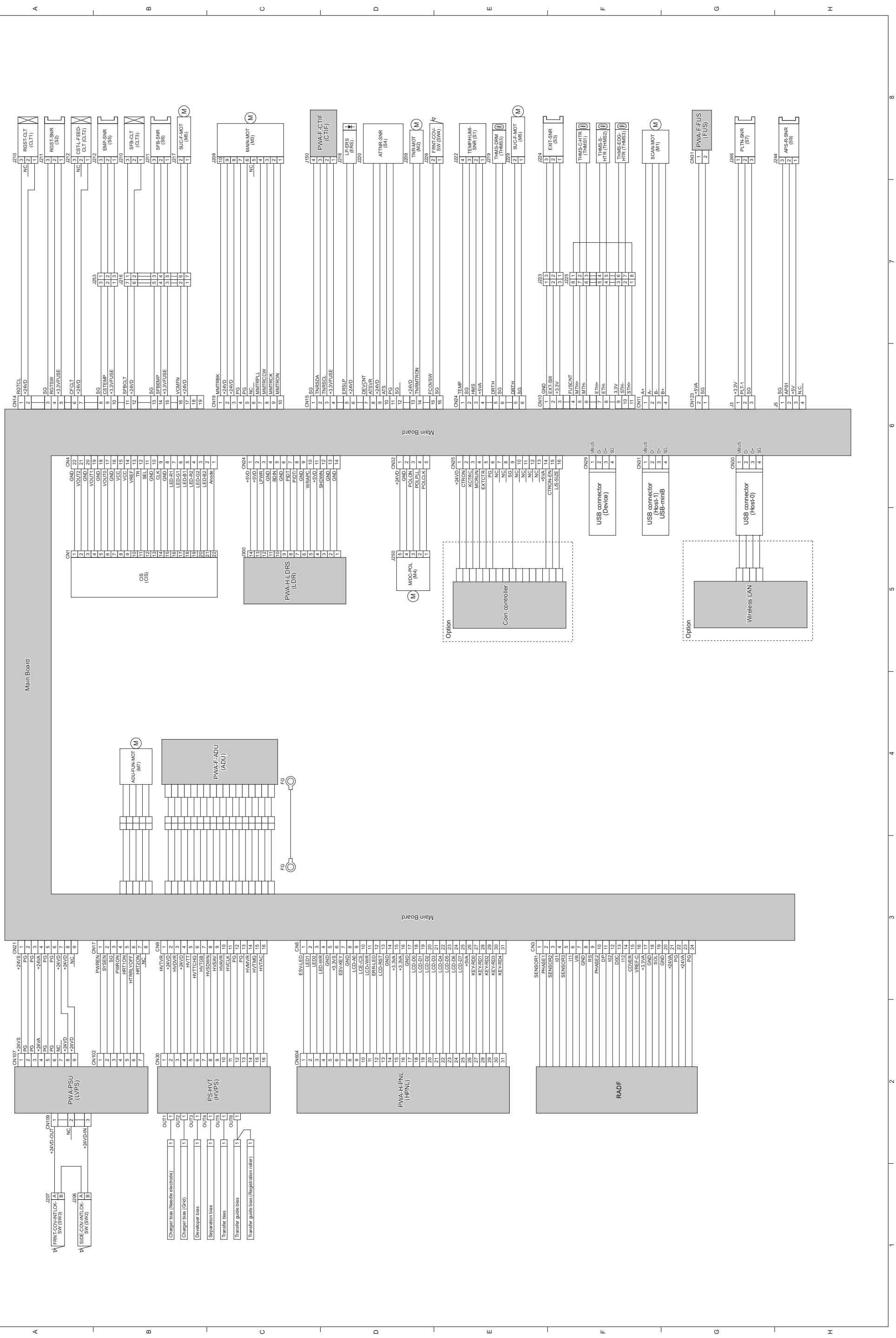
Transformer

Symbol	Name	Figure	Wire harness location
HVPS	PS-HVPS High-voltage transformer	[B]	C2

Others

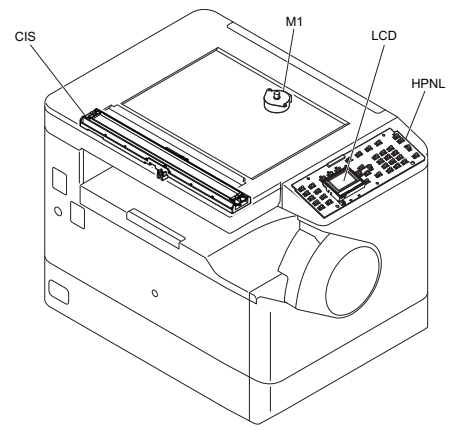
Symbol	Name	Figure	Wire harness location
CIS	CIS Contact image sensor unit	[A]	B4
LVPS	PS-ACC Switching regulator	[B]	A2
LCD	LCD LCD panel	[A]	-

13.9 DC Wire Harness <28M>

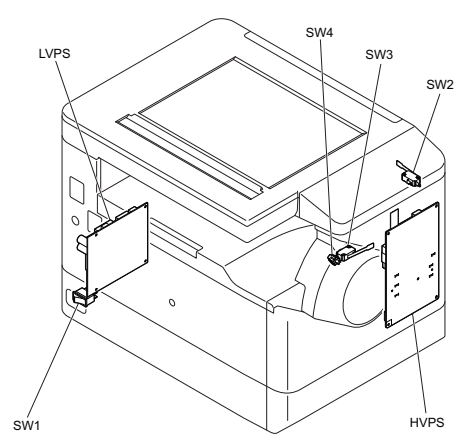


13.10 Electric Parts Layout <28M>

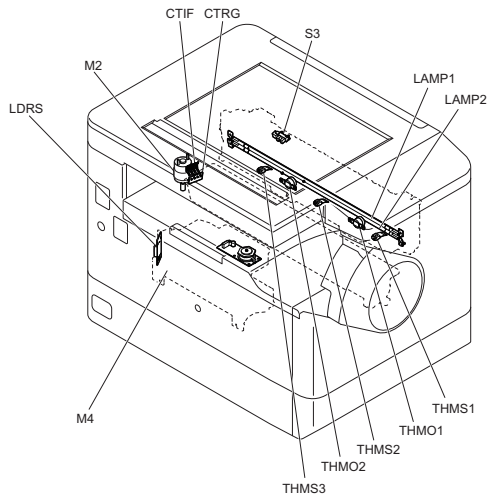
[A] Scanner unit, control panel



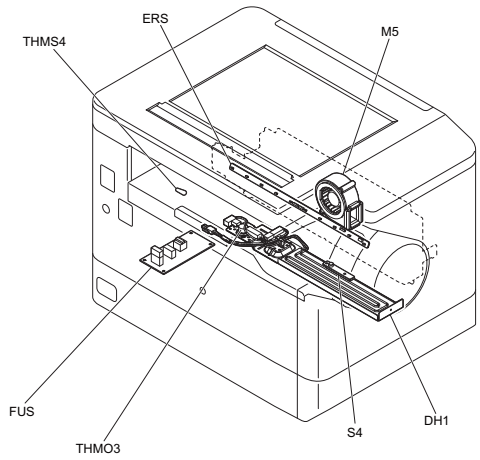
[B] Power supply, developer unit



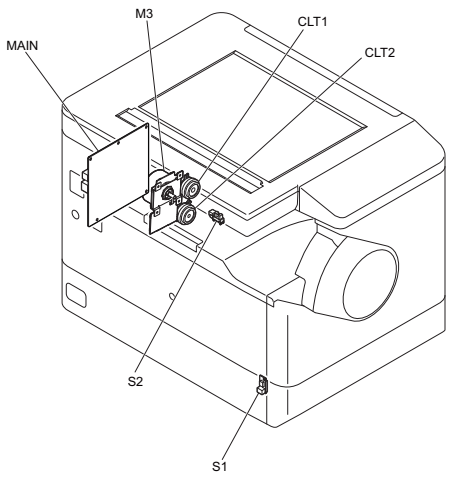
[C] Laser unit, fuser unit, toner cartridge



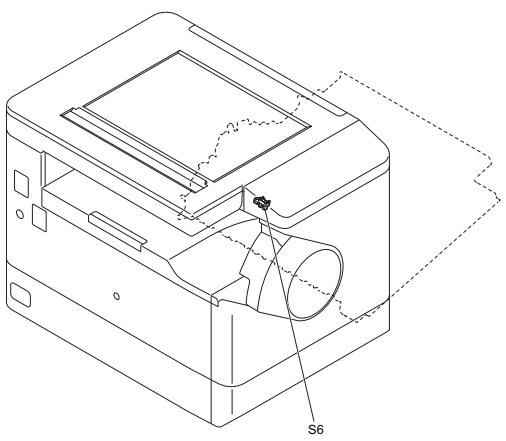
[D] Drive unit



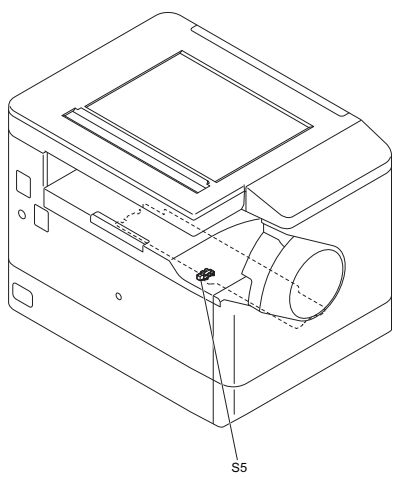
[E] Automatic duplexing unit, transfer unit, exit unit



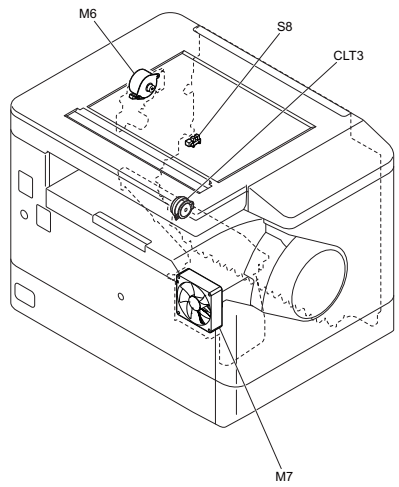
[F] Bypass feed unit



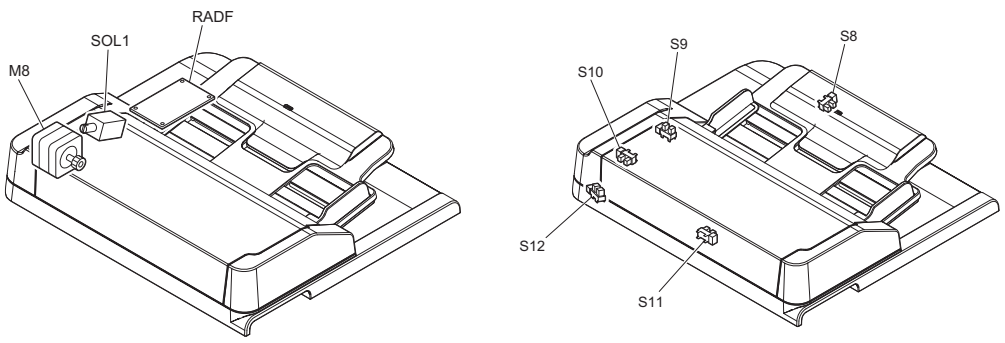
[G] Drawer unit



[H] Automatic duplexing unit, transfer unit, exit unit, FAX unit



[I] Reversing Automatic Document Feeder (RADF)



Motors

Symbol	Name	Figure	Wire harness location
M1	SCAN-MOT Scan motor	[A]	
M2	TNR-MOT Toner motor	[C]	
M3	MAIN-MOT Main motor	[E]	
M4	M/DC-POL Polygonal motor	[C]	
M5	SUC-FAN-MOT Suction fan	[D]	
M6	EXIT-MOT Exit motor	[C]	
M7	ADU-FAN ADU fan	[H]	
M8	Original feed motor	[I]	

Sensors and switches

Symbol	Name	Figure	Wire harness location
S1	TEMP/HUMI-SNR Temperature/humidity sensor	[E]	
S2	RGST-SNR Registration sensor	[E]	
S3	EXIT-SNR Exit sensor	[C]	
S4	ATTNR-SNR Auto-toner sensor	[D]	
S5	EMP-SNR Paper empty sensor	[G]	
S6	SFB-SNR Bypass paper sensor	[F]	
S7	ADU-TR-SNR ADU sensor	[H]	
S8	Original tray length sensor	[I]	
S9	Original empty sensor	[I]	
S10	Jam access cover sensor	[I]	
S11	Original read sensor	[I]	
S12	RADF opening/closing sensor	[I]	
SW1	MAIN-SW Main switch	[B]	
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	[B]	
SW3	SIDE-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	
SW4	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	

Electromagnetic clutches

Symbol	Name	Figure	Wire harness location
CLT1	RGST-CLT Registration roller clutch	[E]	
CLT2	CST-L-FEED-CLT Drawer feed clutch	[E]	
CLT3	SFB-CLT Bypass feed clutch	[H]	
CLT4	ADU-CLT ADU clutch	[H]	

Solenoid

Symbol	Name	Function
SOL1	Gate solenoid	Drives the reverse flap.

PC boards

Symbol	Name	Figure	Wire harness location
MAIN	PWA-F-MAIN Main PC board (MAIN board)	[E]	
CTIF	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	[C]	
FUS	PWA-F-FUS Fuse PC board (FUS board)	[D]	
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	[A]	
LDRS	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
RADF	RADF control PC board (RADF board)	[I]	

Lamps and heaters

Symbol	Name	Figure	Wire harness location
DH1	DRM-DH Drum damp heater	[D]	
ERS	LP-ERS Discharge LED	[D]	
LAMP1	HTR-LAMP Heater lamp	[C]	
LAMP2	SIDE-LAMP Side heater lamp	[C]	

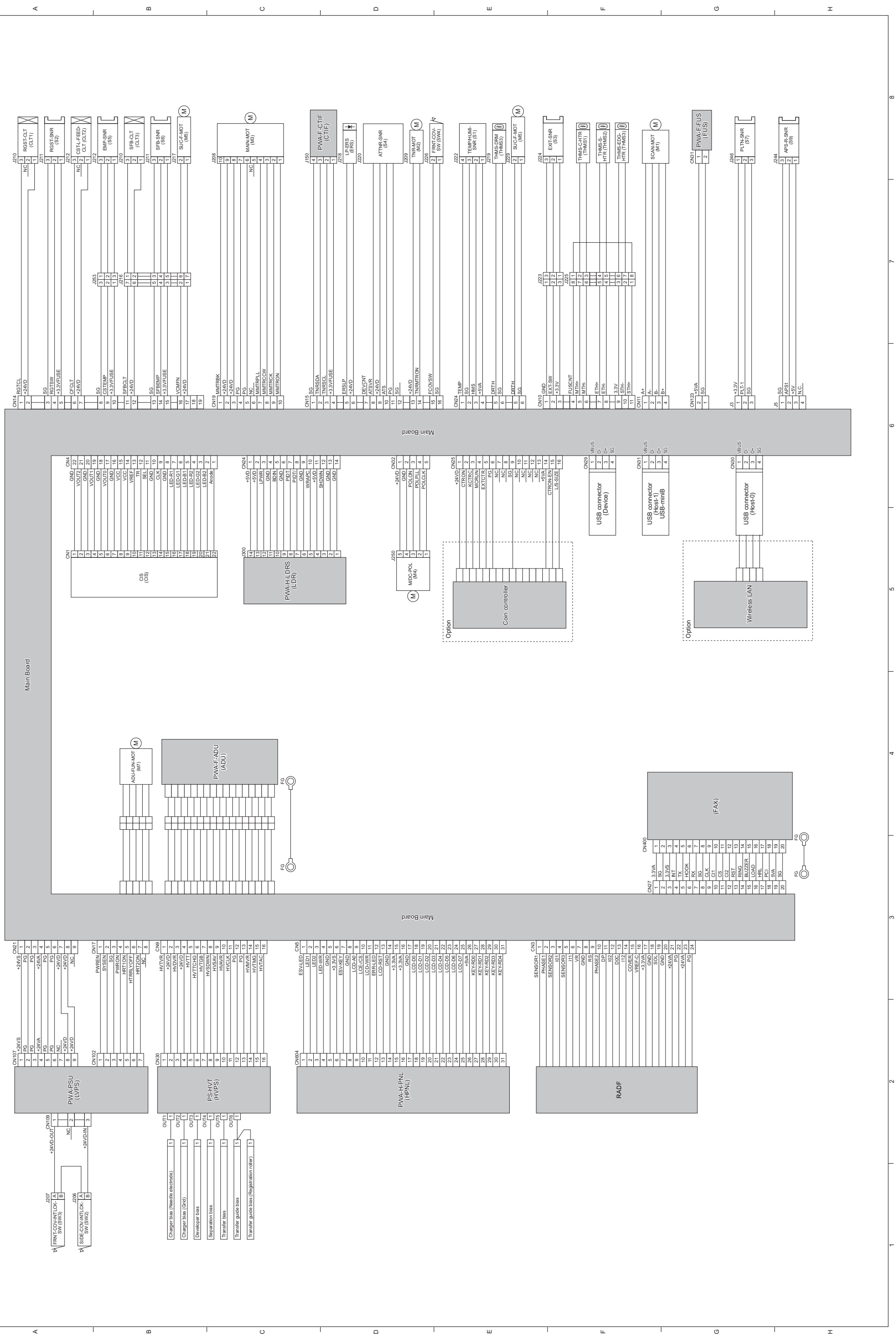
Thermistors and thermostats

Symbol	Name	Figure	Wire harness location
THMO1	THRMO-FSR-C Fuser center thermostat	[C]	
THMO2	THRMO-FSR-F Fuser front thermostat	[C]	
THMO3	THRMST-CS-L Drum damp heater thermostat	[D]	
THMS1	THMS-C-HTR Center thermistor	[C]	
THMS2	THMS-S-HTR Side thermistor	[C]	
THMS3	THMS-EDG-HTR Edge thermistor	[C]	
THMS4	THMS-DRM Drum thermistor	[D]	

Others

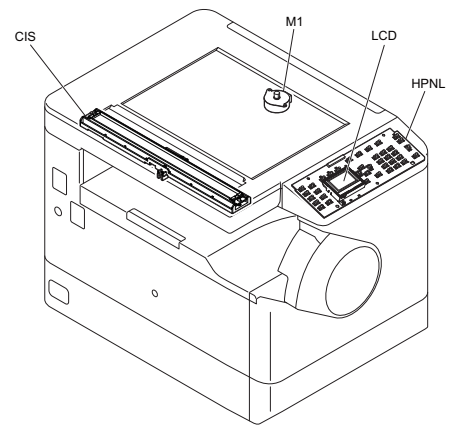
Symbol	Name	Figure	Wire harness location
CIS	CIS Contact image sensor unit	[A]	
HVPS	PS-HVT High-voltage transformer	[B]	
LVPS	PS-ACC Switching regulator	[B]	

13.11 DC Wire Harness <28F>

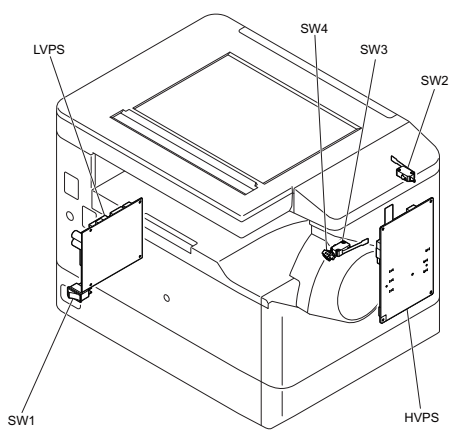


13.12 Electric Parts Layout <28F>

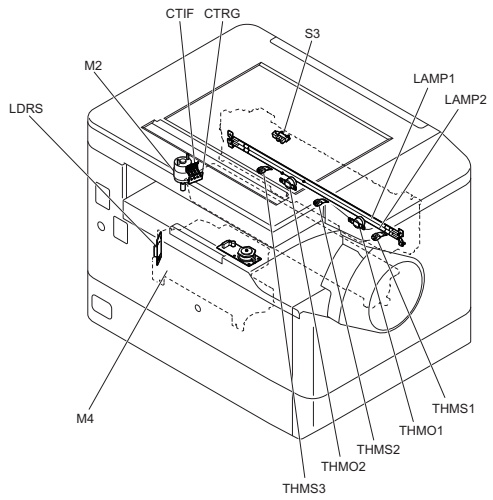
[A] Scanner unit, control panel



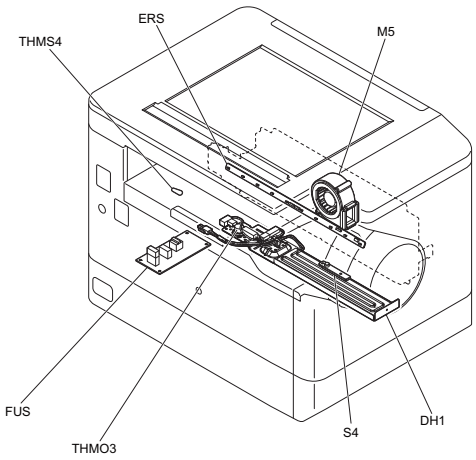
[B] Power supply, developer unit



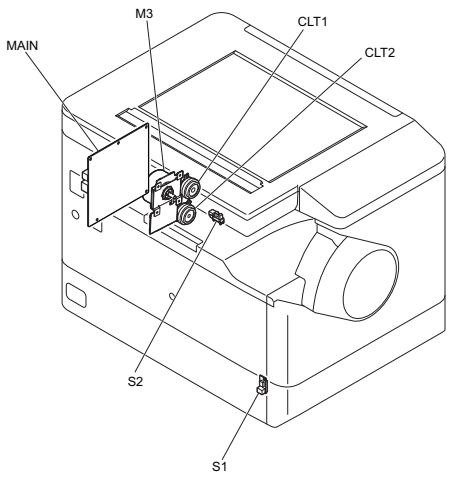
[C] Laser unit, fuser unit, toner cartridge



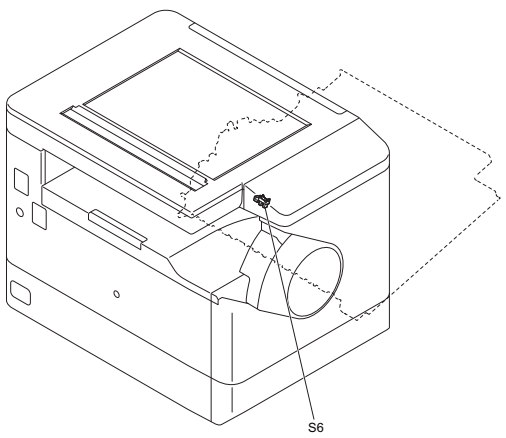
[D] Drive unit



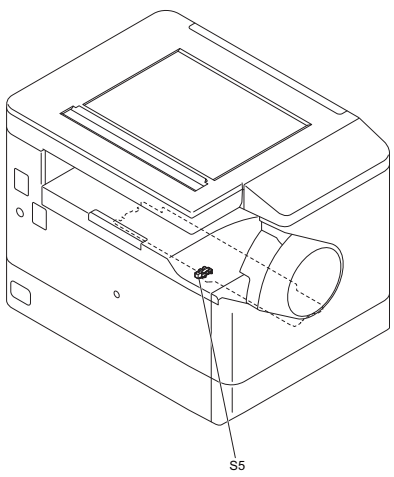
[E] Automatic duplexing unit, transfer unit, exit unit



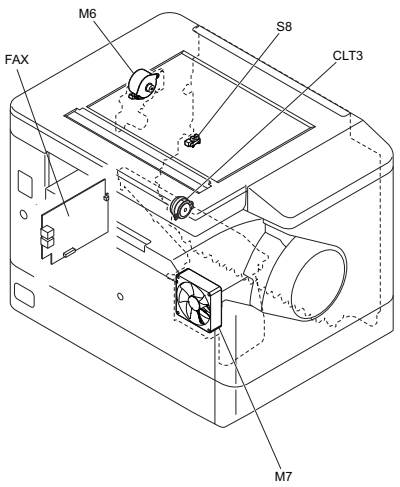
[F] Bypass feed unit



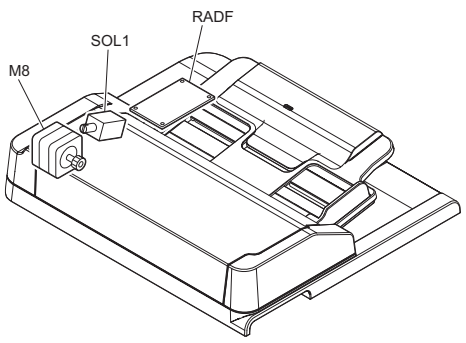
[G] Drawer unit

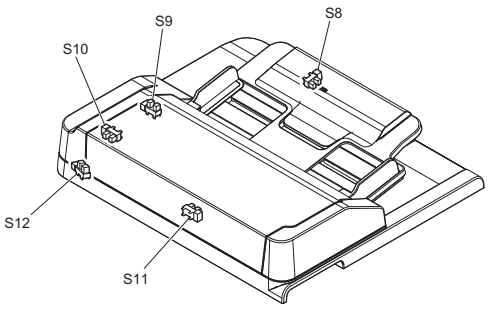


[H] Automatic duplexing unit, transfer unit, exit unit, FAX unit



[I] Reversing Automatic Document Feeder (RADF)





Motors

Symbol	Name	Figure	Wire harness location
M1	SCAN-MOT Scan motor	[A]	
M2	TNR-MOT Toner motor	[C]	
M3	MAIN-MOT Main motor	[E]	
M4	M/DC-POL Polygonal motor	[C]	
M5	SUC-FAN-MOT Suction fan	[D]	
M6	EXIT-MOT Exit motor	[C]	
M7	ADU-FAN ADU fan	[H]	
M8	Original feed motor	[I]	

Sensors and switches

Symbol	Name	Figure	Wire harness location
S1	TEMP/HUMI-SNR Temperature/humidity sensor	[E]	
S2	RGST-SNR Registration sensor	[E]	
S3	EXIT-SNR Exit sensor	[C]	
S4	ATTNR-SNR Auto-toner sensor	[D]	
S5	EMP-SNR Paper empty sensor	[G]	
S6	SFB-SNR Bypass paper sensor	[F]	
S7	ADU-TR-SNR ADU sensor	[H]	
S8	Original tray length sensor	[I]	
S9	Original empty sensor	[I]	
S10	Jam access cover sensor	[I]	
S11	Original read sensor	[I]	
S12	RADF opening/closing sensor	[I]	
SW1	MAIN-SW Main switch	[B]	
SW2	SIDE-COV-INTLCK-SW Right cover opening/closing interlock switch	[B]	
SW3	SIDE-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	
SW4	FRNT-COV-INTLCK-SW Toner supply cover opening/closing interlock switch	[B]	

Electromagnetic clutches

Symbol	Name	Figure	Wire harness location
CLT1	RGST-CLT Registration roller clutch	[E]	
CLT2	CST-L-FEED-CLT Drawer feed clutch	[E]	
CLT3	SFB-CLT Bypass feed clutch	[H]	
CLT4	ADU-CLT ADU clutch	[H]	

Solenoid

Symbol	Name	Function
SOL1	Gate solenoid	Drives the reverse flap.

PC boards

Symbol	Name	Figure	Wire harness location
MAIN	PWA-F-MAIN Main PC board (MAIN board)	[E]	
CTIF	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
CTRG	PWA-F-CTRG Toner cartridge PC board (CTRG board)	[C]	
FUS	PWA-F-FUS Fuse PC board (FUS board)	[D]	
HPNL	PWA-F-HPNL Control panel PC board (HPNL board)	[A]	
LDRS	PWA-F-LDRS Laser driving PC board (LDRS board)	[C]	
RADF	RADF control PC board (RADF board)	[I]	
FAX	FAX interface PC board (FAX board)	[H]	

Lamps and heaters

Symbol	Name	Figure	Wire harness location
DH1	DRM-DH Drum damp heater	[D]	
ERS	LP-ERS Discharge LED	[D]	
LAMP1	HTR-LAMP Heater lamp	[C]	
LAMP2	SIDE-LAMP Side heater lamp	[C]	

Thermistors and thermostats

Symbol	Name	Figure	Wire harness location
THMO1	THRMO-FSR-C Fuser center thermostat	[C]	
THMO2	THRMO-FSR-F Fuser front thermostat	[C]	
THMO3	THRMST-CS-L Drum damp heater thermostat	[D]	
THMS1	THMS-C-HTR Center thermistor	[C]	
THMS2	THMS-S-HTR Side thermistor	[C]	
THMS3	THMS-EDG-HTR Edge thermistor	[C]	
THMS4	THMS-DRM Drum thermistor	[D]	

Others

Symbol	Name	Figure	Wire harness location
CIS	CIS Contact image sensor unit	[A]	
HVPS	PS-HVT High-voltage transformer	[B]	
LVPS	PS-ACC Switching regulator	[B]	

14. SELF-DIAGNOSIS CODE (03/04/05/08 CODE)

Input check (Test mode 03)

Items to be checked and the condition of the equipment when the buttons [A] to [H] are highlighted are listed.

Digital key	Button	Items to check	Contents		Model		
			Highlighted display e.g. A	Normal display e.g. A	25S	25H	25F
[1]	A	-	-	-	-	-	-
	B	ADU connection	Not connected	Connected	-	Y	Y
	C	ADU TR sensor	Paper present	No paper	-	Y	Y
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[2]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[3]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	1st drawer empty sensor	No paper	Paper present	Y	Y	Y
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[4]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	Bypass feed sensor	No paper	Paper present	Y	Y	Y
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[5]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	Externally counter connection	Not connected	Connected	Y	Y	Y
	E	Developer unit switch	Not connected	Connected	Y	Y	Y
	F	Fuser unit switch	Connected	Not connected	Y	Y	Y
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-

Digital key	Button	Items to check	Contents		Model		
			Highlighted display e.g. A	Normal display e.g. A	25S	25H	25F
[6]	A	24 V power supply	Power ON	Power OFF	Y	Y	Y
	B	High-voltage power supply abnormality	Normal	Abnormal	Y	Y	Y
	C	Main motor rotation status	Abnormal rotation	Normal rotation	Y	Y	Y
	D	Polygonal motor rotation status	Abnormal rotation	Normal rotation	Y	Y	Y
	E	ADF connection	Connected	Not connected	Y	Y	Y
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[7]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[8]	A	ADF tray sensor	Original present	No original	Y	Y	Y
	B	ADF empty sensor	Paper present	No paper	Y	Y	Y
	C	ADF cover opening/closing sensor	Cover opened	Cover closed	Y	Y	Y
	D	ADF opening/closing sensor	ADF opened	ADF closed	Y	Y	Y
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	ADF read sensor	Original present	No original	Y	Y	Y
	H	-	-	-	-	-	-
[9/0]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[A]	A	Registration sensor	Paper present	No paper	Y	Y	Y
	B	Exit sensor	Paper present	No paper	Y	Y	Y
	C	-	-	-	-	-	-
	D	Toner supply coverr opening/closing	Cover opened	Cover closed	Y	Y	Y
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	Judgement for acceptable USB media *1	Acceptable	Not acceptable	Y	Y	Y
	H	-	-	-	-	-	-
[B]	A	Tray volume sensor(bit7)	ON	OFF	Y	Y	Y
	B	Tray volume sensor(bit6)	ON	OFF	Y	Y	Y
	C	Tray volume sensor(bit5)	ON	OFF	Y	Y	Y
	D	Tray volume sensor(bit4)	ON	OFF	Y	Y	Y
	E	Tray volume sensor(bit3)	ON	OFF	Y	Y	Y
	F	Tray volume sensor(bit2)	ON	OFF	Y	Y	Y
	G	Tray volume sensor(bit1)	ON	OFF	Y	Y	Y
	H	Tray volume sensor(bit0)	ON	OFF	Y	Y	Y

Notes:

・Be sure to check the [8] A, where ADF is closed.

・Be sure to check the [8] B, where cover is closed.

・How to enter the alphabet characters such as MC=A or MC=B in the Test Mode 03:
To enter "A", press the [*] button and then the [0] button. To enter "B", press the [*] button and then the [1] button.

*1

- Be sure to install the USB media to the equipment and check if the device can be used with this code.
- Be sure to turn OFF the write protection (the function to prevent data from erasure by the accidental recording or deleting) of the USB media before performing the check, otherwise this code cannot be used.
- It may take some time (2 sec. to 10 sec.) before this check is completed depending on the USB media.

Output check (test mode 03)

Code	Function	Procedure	Model		
			25S	25H	25F
101	Main motor ON	1	Y	Y	Y
102	Toner motor ON	1	Y	Y	Y
103	Polygonal motor ON (600 dpi)	1	Y	Y	Y
108	Registration roller clutch ON	1	Y	Y	Y
118	Laser ON	1	Y	Y	Y
120	Exit motor ON (normal rotation)	1	-	Y	Y
121	Exit motor ON (reverse rotation)	1	-	Y	Y
151	Main motor OFF	1	Y	Y	Y
152	Toner motor OFF	1	Y	Y	Y
153	Polygonal motor OFF (600 dpi)	1	Y	Y	Y
158	Registration roller clutch OFF	1	Y	Y	Y
168	Laser OFF	1	Y	Y	Y
170	Exit motor OFF (normal rotation)	1	-	Y	Y
171	Exit motor OFF (reverse rotation)	1	-	Y	Y
201	1st drawer feed clutch ON/OFF	3	Y	Y	Y
204	Bypass feed clutch ON/OFF	3	Y	Y	Y
218	Coin control counter count up	2	Y	Y	Y
222	ADU clutch ON/OFF	3	-	Y	Y
235	Discharge lamp ON/OFF	3	Y	Y	Y
236	Suction fan ON/OFF (low speed)	3	Y	Y	Y
237	Suction fan ON/OFF (high speed)	3	Y	Y	Y
249	Developer bias [-DC1] ON/OFF	3	Y	Y	Y
250	Developer bias [AC] ON/OFF	3	Y	Y	Y
252	Main charger ON/OFF	3	Y	Y	Y
253	Separation charger ON/OFF	3	Y	Y	Y
255	Transfer guide bias ON/OFF	3	Y	Y	Y
256	Transfer charger (positive/center) ON/OFF	3	Y	Y	Y
257	Transfer charger (positive/high) ON/OFF	3	Y	Y	Y
258	Transfer charger (negative) ON/OFF	3	Y	Y	Y
261	Scan motor ON (Automatically stops at limit position; speed can be changed with the [ZOOM] button	2	Y	Y	Y
281	ADF original feed motor ON/OFF (normal rotation)	3	Y	Y	Y
282	ADF original feed motor ON/OFF (reverse rotation)	3	Y	Y	Y
289	Developer cooling fan ON/OFF (high speed)	3	-	Y	Y
302	Modem test 14.4KBPS(V17)	2	-	Y	Y
303	Modem test 9.6KBPS(V29)	2	-	-	Y
304	Modem test 4.8KBPS(V27)	2	-	-	Y
311	Modem test 33.6KBPS(V.34)	2	-	-	Y
315	Dial test 10PPS (Send 0-9 automatically)	5	-	-	Y
316	Dial test 20PPS (Send 0-9 automatically)	5	-	-	Y
317	Dial test PB (Send 0-9,*,# automatically)	5	-	-	Y
323	Dial test PB (Send 0~9,*,# based on operation)	5	-	-	Y
324	Modem test OFF-HOOK	2	-	-	Y
325	Modem test ON-HOOK	2	-	-	Y

Test print mode (test mode 04)

Code	Types of test pattern	Remarks	Remarks	Output from	Model		
					25S	25H	25F
111	Main scanning direction 33 gradation steps	Error diffusion	1		Y	Y	Y
114	Secondary scanning direction 17 gradation steps	Error diffusion	1		Y	Y	Y
142	Grid pattern	Pattern width: 2 dots, Pitch: 10 mm	1		Y	Y	Y

Adjustment Mode (05) Codes

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Process	Development			2000	-	Auto toner sensor auto adjustment (heater ON)	-	-	-	As the value increases, the sensor output increases correspondingly.	17	Y	Y	Y
05	Adjustment mode	Process	Development			2001	-	Auto toner sensor manual adjustment (heater ON)	165	0-255	M	Corrects the control value of the auto-toner sensor setup in 05-2000. * Selection is disable when developer unit is not installed.	3	Y	Y	Y
05	Adjustment mode	Process	Development			2020	-	Developer bias DC output adjustment	Refer to content	0-255	M	As the value increases, the transformer output increases correspondingly. <Default value> 25S: 129 25H/25F: 131	3	Y	Y	Y
05	Adjustment mode	Process	Charger			2040	-	Main charger grid bias output adjustment	Refer to content	0-255	M	As the value increases, the transformer output increases correspondingly. <Default value> 25S: 121 25H/25F: 123	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2052	-	Transfer transformer DC output adjustment (Center)	Refer to content	78-255	M	As the value increases, the transformer output increases correspondingly. (Main motor, main charger, discharge LED, transfer ON) <Default value> 25S: 137 25H/25F: 138	3	Y	Y	Y
05	Adjustment mode	Process	Separation			2078	-	Separation transformer DC output adjustment (Center)	52	0-255	M	As the value increases, the transformer output increases correspondingly. (Main motor, discharge LED, separation DC / separation AC ON)	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2083	-	Transfer cleaning bias adjustment (Positive)	Refer to content	78-255	M	The larger the setting value is, the higher the value of the current (more positive) is. <Default value> 25S: 117 25H/25F: 118	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2084	-	Transfer cleaning bias adjustment (Negative)	Refer to content	0-77	M	The larger the setting value is, the higher the value of the current (more negative) is. <Default value> 25S: 65 25H/25F: 66	3	Y	Y	Y
05	Adjustment mode	Process	Image control			2192	-	Relative humidity latest value	50	0-100	M	Displays the humidity value detected by temperature/humidity sensor.	2	Y	Y	Y
05	Adjustment mode	Process	Image control			2194	-	Temperature latest value	25	0-50	M	Displays the temperature value detected by temperature/humidity sensor.	2	Y	Y	Y
05	Adjustment mode	Process	Image control			2196	-	Drum temperature latest value	25	0-100	M	(Unit: degrees C)	2	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Process	Image control			2250	-	Laser power adjustment	118	0-255	M	When the value increases, the laser output increases correspondingly.	3	Y	Y	Y
05	Adjustment mode	Process	Image control			2382	-	Reverse time of the drum	13	0-255	M		1	Y	Y	Y
05	Adjustment mode	Process	Image control			2390	-	Forced performing of idling for toner recycle	-	-	M	Perform this adjustment before the replacement of the developer material. (The toner is forcibly removed from the cleaner.)	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Image location adjustment		3030	-	Primary scanning direction	Refer to content	0-255	M	When the value increases by "1", the image shifts by approx. 0.0423 mm toward the front side of the paper. <Default value> 25S: 113 25H/25F: 120	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Image location adjustment		3031	-	Secondary scanning direction	Refer to content	0-255	M	When the value increases by "1", the image shifts by approx. 0.13013 mm toward the trailing edge of the paper. <Default value> 25S: 130 25H/25F: 124	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Reproduction ratio adjustment		3032	-	Secondary scanning direction	Refer to content	0-255	M	When the value increases by "1", the reproduction ratio in the secondary scanning direction (vertical to paper feeding direction) increases by approx. 0.025%. <Default value> 25S: 128 25H/25F: 122	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Shading position adjustment		3034	-	Original glass	117	92-165	M	0.13013mm/step	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Shading position adjustment		3035	-	ADF	133	92-165	M	0.13013mm/step	1	Y	Y	Y
05	Adjustment mode	Scanner	ADF	Adjustment of ADF paper alignment		3040	-	Single sided original	12	0-30	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF	Adjustment of ADF paper alignment		3041	-	Double sided original	12	0-30	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3042	-	Fine adjustment of the ADF transport speed	50	0-100	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3043	-	ADF sideways deviation adjustment	128	0-255	M		1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Scanner	ADF	ADF leading edge position adjustment		3044	-	Single sided original	50	0-100	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF	ADF leading edge position adjustment		3045	-	Double sided original	50	0-100	M		1	-	Y	Y
05	Adjustment mode	Scanner	Scanner			3046	-	Carriage position adjustment during scanning from ADF (black)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3047	-	Carriage position adjustment during scanning from ADF (color)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3050	-	Adjustment of the ADF tray volume (minimum)	20	0-255	M	This is used for improving the detection accuracy of the width of the original set on the original tray. The condition of the sensor when the tray width is minimized is memorized. The appropriate range of the adjustment value is between 0 and 100.	6	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3051	-	Adjustment of the ADF tray volume (maximum)	220	0-255	M	This is used for improving the detection accuracy of the width of the original set on the original tray. The condition of the sensor when the tray width is maximized is memorized. The appropriate range of the adjustment value is between 200 and 255.	6	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3052	-	Adjust ment for DF trailing edge tolerance (black)	115	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3053	-	Adjust ment for DF trailing edge tolerance (Color 600 dpi)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	ADF			3054	-	Adjust ment for DF trailing edge tolerance (Color 300 dpi)	132	0-255	M		1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Scanner	Scanner	LED		3219	-	Light volume adjustment (color/black)	-	-	M	Light volume adjustment of LED is performed. Adjustment for color scans is performed after the adjustment for a black scan.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	LED		3220	-	Light volume adjustment (black)	-	-	M	Light volume adjustment of LED is performed. Only adjustment for black scans is performed.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	LED		3221	-	Light volume adjustment (color)	-	-	M	Light volume adjustment of LED is performed. Only adjustment for color scans is performed.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	1	Final result of the peak detection black level adjustment (CH1)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	2	Final result of the peak detection black level adjustment (CH2)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	3	Final result of the peak detection black level adjustment (CH3)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	1	Final result of the peak detection white level adjustment (CH1)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	2	Final result of the peak detection white level adjustment (CH2)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	3	Final result of the peak detection white level adjustment (CH3)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3224	-	LED (R1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (R1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3225	-	LED (G1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (G1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Scanner	Scanner			3226	-	LED (B1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (B1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3227	-	LED (R2) current effective value setting (black scanning)	60	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3228	-	LED (G2) current effective value setting (black scanning)	60	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3229	-	LED (B2) current effective value setting (black scanning)	60	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3239	-	LED (R2) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3240	-	LED (G2) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3241	-	LED (B2) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3306	-	LED (R1) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3307	-	LED (G1) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3308	-	LED (B1) current effective value setting (clolor scanning)	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Laser	PPC	Reproduction ratio correction value in primary scanning direction	4000	-	Fine adgustment of image writing frequency (PPC)	Refer to content	0-255	M	1Step0.05%. If this value is 128, frequency is same as 05-4001. If it is not 128, that difference is added to 05-4001. If the value increases, magnification also increases (the dimension E will be longer).(0.6mm/4 steps) <Default value> 25S: 125 25H/25F: 128	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PRT	Reproduction ratio correction value in primary scanning direction	4001	-	Fine adjustment of polygonal motor rotation speed (adjustment of primary scanning direction reproduction ratio)	128	0-255	M	1Step0.05% If the value increases, magnification of the dimension A becomes bigger (longer).(0.4mm/4 steps)	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PPC		4005	-	Laser writing start position	Refer to content	0-255	M	When the value increases by "1", the writing start position shifts to the front side by approx. 0.0423 mm. <Default value> 25S: 130 25H/25F: 150	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PRT		4006	-	Laser writing start position	Refer to content	0-255	M	When the value increases by "1", the writing start position shifts to the front side by approx. 0.0423 mm. <Default value> 25S: 130 25H/25F: 150	1	Y	Y	Y
05	Adjustment mode	Printer	Image	PPC/PRT	Reproduction ratio in the secondary scanning direction (For resolutions in inches)	4009	-	Fine adjustment of the rotational speed of the main motor	128	0-255	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.14mm/step.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	FAX	Reproduction ratio in the secondary scanning direction (For FAX resolutions in millimeters)	4010	-	Fine adjustment of the rotational speed of the main motor	128	0-255	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.14mm/step.	1	-	−	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Image	PPC/PRT	For resolutions in inch	4013	-	Fine adjustment of the rotational speed of the exit motor	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Printer	Image	FAX	For FAX resolutions in millimeters	4014	-	Fine adjustment of the rotational speed of the exit motor	128	0-255	M		1	-	-	Y
05	Adjustment mode	Printer	Image	Adjustment of drawer sideways deviation		4018	0	Upper drawer	128	0-255	M	When the value increases by "1", the image shifts toward the front side by 0.0423 mm.	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Adjustment of drawer sideways deviation		4018	1	Lower drawer (PFU)	128	0-255	M	When the value increases by "1", the image shifts toward the front side by 0.0423 mm.	4	-	Y	Y
05	Adjustment mode	Printer	Image	Adjustment of drawer sideways deviation		4018	5	Bypass feeding	128	0-255	M	When the value increases by "1", the image shifts toward the front side by 0.0423 mm.	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Adj. of primary scan. writing start	Duplex feeding	4019	0	Long size	144	0-255	M	If the value increases, the dimension B becomes longer.(about 0.5mm/10 steps)	4	-	Y	Y
05	Adjustment mode	Printer	Image	Adj. of primary scan. writing start	Duplex feeding	4019	1	Short size	144	0-255	M	If the value increases, the dimension B becomes longer.(about 0.5mm/10 steps)	4	-	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4050	-	Top margin	Refer to content	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm. <Default value> 25S: 70 25H/25F: 60	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4051	-	Left margin	Refer to content	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm. <Default value> 25S: 40 25H/25F: 50	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4052	-	Right margin	Refer to content	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm. <Default value> 25S: 55 25H/25F: 50	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4053	-	Bottom margin	Refer to content	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm. <Default value> 25S: 55 25H/25F: 50	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4054	-	Top margin	24	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4055	-	Left margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4056	-	Right margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4057	-	Bottom margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4058	-	Upper drawer	27	0-40	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4061	-	Bypass feeding	8	0-15	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4062	-	Duplexing feeding	8	0-15	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	-	Y	Y
05	Adjustment mode	Printer	Image	Bottom margin adjustment / Reverse side at duplexing		4064	0	Void adjustment	29	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423 mm.	4	-	Y	Y
05	Adjustment mode	Printer	Image	Right margin adjustment / Reverse side at duplexing		4064	1	Void adjustment	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423 mm.	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	0	Plain paper; Long size	37	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	1	Plain paper; Middle size	37	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	2	Plain paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	0	Thin paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	1	Thin paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	2	Thin paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	3	Thin paper; Postcard	44	0-63	M	Paper length: postcard	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	0	Plain paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	1	Plain paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	2	Plain paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	0	Thick1 paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	1	Thick1 paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	2	Thick1 paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	0	Thick2 paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	1	Thick2 paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	2	Thick2 paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	0	OHP film; Long size	37	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	1	OHP film; Middle size	37	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	2	OHP film; Short size	37	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	0	Plain paper; Long size	19	0-63	M	Paper length: 330 mm or longer	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	1	Plain paper; Middle size	21	0-63	M	Paper length: 220 to 329 mm	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	2	Plain paper; Short size	21	0-63	M	Paper length: 219 mm or shorter	4	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	0	Plain paper	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	1	Postcard	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	3	Envelope	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	4	Thick paper 1	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	5	Thick paper 2	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	7	OHP film	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4120	0	Thick paper 1	19	0-63	M	0: 330mm or over	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4120	1	Thick paper 1	19	0-63	M	1: 220 to 329mm	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4120	2	Thick paper 1	19	0-63	M	2: 205 to 219mm	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	0	Envelope	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	1	Envelope	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	2	Envelope	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	PPC (black)		7025	-	ADF	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	Network scan (Color)		7026	-	ADF	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7033	-	Text/Photo	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7034	-	Text	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7043	-	Photo	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7056	-	Text/Photo	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7057	-	Text	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7058	-	Photo	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7063	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)	Background offset adjustment	7107	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the background becomes lighter. As the adjustment value becomes smaller, the background becomes darker.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7114	-	Text/Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7115	-	Text	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7116	-	Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7123	-	Text/Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7124	-	Text	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7125	-	Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing		PPC (black)	Auto density adjustment	7142	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes darker. As the adjustment value becomes smaller, the image becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing		PPC (black)	Manual density adjustment	7143	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes darker. As the adjustment value becomes smaller, the image becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Automatic gamma adjustment	PPC (black)	Text/Photo, Text, Background erase	7165	-	Tone pattern reading (error diffusion for black)	-	-	M	Excute a gamma adjustment	7	Y	Y	Y
05	Adjustment mode	Image Processing	Automatic gamma adjustment	PPC (black)	Photo	7167	-	Tone pattern reading (binary dithering for black)	-	-	M	Excute a gamma adjustment	7	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	4	Beam level 4/4	7	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	4	Beam level 4/4	9	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	4	Beam level 4/4	9	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	GDI	7300	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	-	-
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	GDI	7300	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	-	-
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	GDI	7300	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	-	-
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	GDI	7300	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	-	-
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	GDI	7300	4	Beam level 4/4	7	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	-	-
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	0	Low density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	1	Middle density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	2	High density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	0	Low density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	1	Middle density	128	0-255	M	As the value becomes larger, the density in the medium density area increases. As the value becomes smaller, the density in the medium density area decreases.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	2	High density	128	0-255	M	As the value becomes larger, the density in the high density value increases. As the value becomes smaller, the density in the high density value decreases.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	0	Beam level 0/4)	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	1	Beam level 1/4	2	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	2	Beam level 2/4	3	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	3	Beam level 3/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	4	Beam level 4/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	0	Beam level conversion setting (Test print) (Black, beam level 0/4)	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	1	Beam level conversion setting (Test print) (Black, beam level 1/4)	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	2	Beam level conversion setting (Test print) (Black, beam level 2/4)	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	3	Beam level conversion setting (Test print) (Black, beam level 3/4)	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	4	Beam level conversion setting (Test print) (Black, beam level 4/4)	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7430	-	Text/Photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7431	-	Text	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7432	-	Photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7433	-	Grayscale	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7444	-	Text/Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7445	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7446	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7447	-	Grayscale	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7456	-	Text/Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7457	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7458	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7459	-	Grayscale	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Manual density adjustment / center value	7533	-	Text/photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	-	Y
05	Adjustment mode	Image Processing	Threshold adjustment	FAX (black)	Adjustment of the threshold value for simple binarization / center value	7534	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	-	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Manual density adjustment / center value	7535	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	-	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Automatic density adjustment	7542	-	Text/photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	-	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Automatic density adjustment	7543	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	1	Beam level 1/4	2	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	2	Beam level 2/4	3	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	3	Beam level 3/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8309	-	Text/photo	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8310	-	Text	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8311	-	Photo (developing paper)	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8314	-	Text/photo	1	0-4	M	The larger the value, the darker the black side of the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8315	-	Text	0	0-4	M	The larger the value, the darker the black side of the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8316	-	Photo (developing paper)	0	0-4	M	The larger the value, the darker the black side of the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8319	-	Text/photo	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	-	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8320	-	Text	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	-	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8321	-	Photo (developing paper)	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8324	-	Text/photo	128	0-255	M	The larger the value, the brighter the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8325	-	Text	128	0-255	M	The larger the value, the brighter the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8326	-	Photo (developing paper)	128	0-255	M	The larger the value, the brighter the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8335	-	Text	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8336	-	Photo (developing paper)	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8339	-	Photo (developing paper)	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8340	-	Text	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8341	-	Photo (developing paper)	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	-	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8354	-	Text/photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8400	-	Text/photo	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8402	-	Photo	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	-	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8403	-	Grayscale	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	-	Y	Y
05	Adjustment mode	System	Maintenance			9043	-	Equipment number (serial number) display	-	-	M	If this code is performed, 08-9601 is performed. 7 digits out of 9 digits can be entered except for upper 2 digits (fixed digits).	11	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
05	Adjustment mode	System	LCD adjustment			9963	-	Adjustment of LCD display contrast center value	128	118-138	M	It becomes dark when add an adjustment value. It becomes bright when reduce an adjustment value.	1	Y	Y	Y

Setting Mode (08) Codes

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser			2002	-	Fuser unit error status counter	0	0-62	M	0: No error 1: C411 error 2: C412 error 3: C413 error 4: C414 error 5: C415 error 7: C447 error 9: C449 error 19: C449 error 21: C449 error 22: C449 error 23: C449 error 24: C447 error 25: C449 error 27: C449 error 45: C449 error 62: C452 error Than the above: C4B0	1	Y	Y	Y
08	Setting mode	Process	Fuser			2009	-	Fuser roller temperature on standby (Center thermistor)	8	0-12	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2010	-	Fuser roller temperature during printing (Center thermistor/Plain paper)	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2040	-	Drop control when ready	1	0-2	M	0: Invalid, 1: Valid, 2: Invalid in low temperature	1	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	3	The fourth drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature	Energy Saving Mode	2042	-	Center thermistor	0	0-13	M	0: OFF 1: 40 degrees C 2: 50 degrees C 3: 60 degrees C 4: 70 degrees C 5: 80 degrees C 6: 90 degrees C 7: 100 degrees C 8: 110 degrees C 9: 120 degrees C 10: 130 degrees C 11: 140 degrees C 12: 150 degrees C 13: 160 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2049	-	Thick paper 1	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2050	-	Thick paper 2	Refer to contents	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C <Default value> 25S: 11, 25H/25F: 13	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2051	-	OHP film	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2052	-	OHP film	0	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2053	-	Plain paper-low temp. environment	0	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2054	-	Thick paper 1	10	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2055	-	Tthick paper 2	10	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser			2075	-	Ready and preheat pre-running operating frequency	4	0-6	M	0: Not controlled 1: 0.5h 2: 1.0h 3: 1.5h 4: 2.0h 5: 2.5h 6: 3.0h	1	Y	Y	Y
08	Setting mode	Process	Fuser			2090	-	Printing temperature drop control	Refer to contents	0-6	M	0: Invalid 1: (Normal temperature / Low temperature) Plain paper and Thick paper 1 Valid 2: (Normal temperature / Low temperature) Valid (except for Envelope) 3: (Normal temperature) Plain paper and Thick paper 1 Valid 4: (Normal temperature / Low temperature)Plain paper 5: (Normal temperature) Plain paper 6: (Normal temperature) Valid (except for Envelope) <Default value> 25S: 2, 25H/25F: 1	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser			2100	-	Temperature setting of warming-up (Center thermistor)	Refer to contents	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C <Default value> 25S: 6, 25H/25F: 5	1	Y	Y	Y
08	Setting mode	Process	Fuser			2101	-	Temperature setting of warming-up (Side thermistor)	5	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser			2111	-	Pre-running time (Normal temperature)	0	0-18	M	0: Disabled 1: 1 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 9 sec. 10: 10 sec. 11: 15 sec. 12: 20 sec. 13: 25 sec. 14: 30 sec. 15: 40 sec. 16: 50 sec. 17: 60 sec. 18: 150 sec.	1	Y	Y	Y
08	Setting mode	Process	Fuser			2120	-	Fuser roller temperature in ready status (Side thermistor)	8	0-12	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	0	The first drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	1	The second drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	3	The fourth drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	0	The first drop	Refer to contents	1-60	M	Setting value x 1 min.: from 1 to 60 min. later <Default value> 25S: 6, 25H/25F: 10	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	1	The second drop	Refer to contents	1-60	M	Setting value x 1 min.: from 1 to 60 min. later <Default value> 25S: 6, 25H/25F: 10	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	2	The third drop	Refer to contents	1-60	M	Setting value x 1 min.: from 1 to 60 min. later <Default value> 25S: 6, 25H/25F: 10	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	3	The fourth drop	Refer to contents	1-60	M	Setting value x 1 min.: from 1 to 60 min. later <Default value> 25S: 6, 25H/25F: 10	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	0	The first drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	-	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	1	The second drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	-	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	2	The third drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	-	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	3	The fourth drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	-	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2140	-	Plain paper	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2141	-	Thick paper 1	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2142	-	Thick paper 2	11	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2143	-	OHP film	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	0	The first drop	1	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	3	The fourth drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	1	The second drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	3	The fourth drop	5	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2194	-	Envelope	Refer to contents	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C <Default value> 25S: 11, 25H/25F: 13	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2195	-	Envelope	11	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	0	The first drop	Refer to contents	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds <Default value> 25S: 4, 25H/25F: 20	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	1	The second drop	Refer to contents	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds <Default value> 25S: 8, 25H/25F: 30	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	2	The third drop	Refer to contents	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds <Default value> 25S: 12, 25H/25F: 40	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	3	The fourth drop	Refer to contents	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later <Default value> 25S: 12, 25H/25F: 75	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	0	The first drop	20	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	1	The second drop	30	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	2	The third drop	40	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	0	The first drop	1	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	3	The fourth drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	1	The second drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	3	The fourth drop	5	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at ordinary temperature)	Plain paper	2205	0	Center thermistor	7	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at ordinary temperature)	Plain paper	2205	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at Low temperature)	Plain paper	2206	0	Center thermistor	7	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Temperature control lower limit (at Low temperature)	Plain paper	2206	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	OHP film	2207	0	Center thermistor	Refer to contents	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C <Default value> 25S: 8, 25H/25F: 7	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	OHP film	2207	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 1	2208	0	Center thermistor	8	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 1	2208	1	Side thermistor	6	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 2	2209	0	Center thermistor	11	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 2	2209	1	Side thermistor	9	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Envelope	2211	0	Center thermistor	11	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Temperature control lower limit	Envelope	2211	1	Side thermistor	9	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	0	The first drop	Refer to contents	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later <Default value> 25S: 4, 25H/25F: 20	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	1	The second drop	Refer to contents	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later <Default value> 25S: 8, 25H/25F: 30	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	2	The third drop	Refer to contents	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later <Default value> 25S: 12, 25H/25F: 40	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	3	The fourth drop	Refer to contents	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later <Default value> 25S: 12, 25H/25F: 75	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	0	The first drop	20	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	1	The second drop	30	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	2	The third drop	40	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser	Energy Saving Mode	Fuser roller temperature	2250	-	Side thermistor	0	0-13	M	0: OFF 1: 40 degrees C 2: 50 degrees C 3: 60 degrees C 4: 70 degrees C 5: 80 degrees C 6: 90 degrees C 7: 100 degrees C 8: 110 degrees C 9: 120 degrees C 10: 130 degrees C 11: 140 degrees C 12: 150 degrees C 13: 160 degrees C	1	-	Y	Y
08	Setting mode	Process	Fuser			2282	-	Pre-running time for first printing (Envelope)	10	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13: 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process				2827	-	Developer bias AC control ON/OFF	1	0-2	M	0: ON 1: ON-OFF 2: OFF	1	Y	Y	Y
08	Setting mode	Process				2835	-	Switching of recycled toner saving control	0	0-1	M	0: Switched 1: Not switched	1	Y	Y	Y
08	Setting mode	Process				2837	-	Correction by temperature/humidity	0	0-3	M	Sets the correction by temperature/humidity. 0: All valid 1: All invalid 2: Valid only in auto-toner sensor 3: All valid except separation	1	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)	PCL	2920	0	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Toner saving mode)		2920	1	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)		2920	2	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Text)		2920	3	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Photo)		2920	4	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)	GDI	2920	5	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Developer	Developer bias Hi1correction		2920	6	FAX	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)	PCL	2921	0	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Toner saving mode / OHP film)		2921	1	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)		2921	2	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Text / OHP film)		2921	3	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Photo / OHP film)		2921	4	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)	GDI	2921	5	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer			2922	-	Developer bias Hi2correction	123	0-255	M	Compensation value: GAP from 128 is given to an execution value	1	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)	PCL	2926	0	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal / Toner saving mode)		2926	1	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)		2926	2	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Text)		2926	3	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Photo)		2926	4	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)	GDI	2926	5	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (FAX)		2926	6	FAX	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Charger	Main charger bias correction (Toner saving mode / OHP film)		2927	1	PRT	98	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	0	Transfer transformer DC correction (H)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	1	Transfer transformer DC correction (C)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	2	Transfer transformer DC correction (L)	110	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	0	Transfer compensation value (H) Thick paper 1	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	1	Transfer compensation value (C) Thick paper 1	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	2	Transfer compensation value (L) Thick paper 1	122	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2930	0	Transfer compensation value (H) Thick paper 2	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2930	1	Transfer compensation value (C) Thick paper 2	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2930	2	Transfer compensation value (L) Thick paper 2	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	0	Transfer compensation value (H) OHP film	116	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	1	Transfer compensation value (C) OHP film	112	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	2	Transfer compensation value (L) OHP film	118	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2933	0	Transfer compensation value (H) Envelope	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Transfer			2933	1	Transfer compensation value (C) Envelope	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2933	2	Transfer compensation value (L) Envelope	132	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	0	Separation compensation value (H)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	1	Separation compensation value (C)	117	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	2	Separation compensation value (L)	117	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2935	0	Separation compensation value (H) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	Y	Y
08	Setting mode	Process	Separation			2935	1	Separation compensation value (C) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	Y	Y
08	Setting mode	Process	Separation			2935	2	Separation compensation value (L) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	Y	Y
08	Setting mode	Process	Separation			2936	0	Separation compensation value (H) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2936	1	Separation compensation value (C) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2936	2	Separation compensation value (L) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT	PCL	2940	0	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT		2940	1	Laser power compensation (Toner saving mode)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Laser	PPC		2940	2	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PPC		2940	3	Laser power compensation (Text)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PPC		2940	4	Laser power compensation (Photo)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT	GDI	2940	5	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	FAX		2940	6	Laser power compensation (FAX)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y
08	Setting mode	Process	Transfer			2963	0	Transfer leading edge output compensation value (H) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2963	1	Transfer center output compensation value (C) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2963	2	Transfer trailing edge output compensation value (L) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	0	Separation leading edge output compensation value (H) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	1	Separation center output compensation value (C) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	2	Separation trailing edge output compensation value (L) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Developer			2978	-	Switching of development contrast life correction	0	0-8	M	0: No correction 1: Correction amount - small (-30V), correction length - short (0 to 0.7k sheets) 2: Correction amount - medium (-60V), correction length - short (0 to 5k sheets) 3: Correction amount - large (-90V), correction length - middle (0 to 11k sheets) 4: Correction amount - small (-30V), correction length - middle (0 to 5k sheets) 5: Correction amount - medium (-60V), correction length - long (0 to 12k sheets) 6: Correction amount - large (-90V), correction length - long (0 to 13k sheets) 7: Correction amount - medium (-60V), correction length - middle (0 to 10k sheets) 8: Correction amount - large (-85V), correction length - short (0 to 7k sheets)	1	Y	Y	Y
08	Setting mode	Process	Transfer			2987	-	Transfer bias output correction between sheets of paper	94	0-255	M	Compensation value: GAP from 128 is given to an execution value	1	Y	Y	Y
08	Setting mode	Scanner				3108	-	Setting the LED light source lamp	1	0-1	M	0: Two lamps 1: One lamp	1	Y	Y	Y
08	Setting mode	Scanner				3127	-	Light intensity control status (Black)	0	0-6	M	Displays the status of the light intensity adjustment control results in black. 0 : Normal end 1 : R1 level abnormality 2 : G1 level abnormality 3 : B1 level abnormality 4 : R2 level abnormality 5 : G2 level abnormality 6 : B2 level abnormality	1	Y	Y	Y
08	Setting mode	Scanner				3128	-	Light intensity control status (Color)	0	0-6	M	Displays the status of the light intensity adjustment control results in color. 0 : Normal end 1 : R1 level abnormality 2 : G1 level abnormality 3 : B1 level abnormality 4 : R2 level abnormality 5 : G2 level abnormality 6 : B2 level abnormality	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Scanner				3130	-	Peak detection black level control status	0	0-255	M	Displays the status when the error occurred when adjusting the black level at the time of peak detection. bit0 = 1: CH1 black level abnormality bit1 = 1: CH2 black level abnormality bit2 = 1: CH3 black level abnormality bit3 = 1: CH4 black level abnormality bit4 = 1: CH5 black level abnormality bit5 = 1: CH6 black level abnormality bit6 = 1: Time over	1	Y	Y	Y
08	Setting mode	Scanner				3131	-	Peak detection white level control status (Black)	0	0-255	M	Displays the status when the error occurred when adjusting the white level of detection at peak of black mode. bit0 = 1: CH1 white level abnormality bit1 = 1: CH2 white level abnormality bit2 = 1: CH3 white level abnormality bit3 = 1: CH4 white level abnormality bit4 = 1: CH5 white level abnormality bit5 = 1: CH6 white level abnormality bit6 = 1: Time over	1	Y	Y	Y
08	Setting mode	Scanner				3132	-	Peak detection white level control status (Color)	0	0-255	M	Displays the status when the error occurred when adjusting the white level of detection at peak of color mode. bit0 = 1: CH1 white level abnormality bit1 = 1: CH2 white level abnormality bit2 = 1: CH3 white level abnormality bit3 = 1: CH4 white level abnormality bit4 = 1: CH5 white level abnormality bit5 = 1: CH6 white level abnormality bit6 = 1: Time over	1	Y	Y	Y
08	Setting mode	Scanner	Scan motor			3134	-	Driving current selection	0	0-1	SYS	0: Equipment to which a motor bracket with 1 gear is attached 1: Equipment to which a motor bracket with 2 gears is attached	1	Y	Y	Y
08	Setting mode	System	General			3612	-	Date of unpacking	-	-	M	Year/month/date/day/hour/minute/second Example: 03 07 0 13 13 27 48 "Day" - "0" is for "Sunday". Proceeds Monday through Saturday from "1" to "6".	11	Y	Y	Y
08	Setting mode	System	General			3615	-	List print USB storage setting	0	0-1	M	0: Enable (USB storage available) 1: Disable (USB storage not available)	1	Y	Y	Y
08	Setting mode	System	General			3619	-	Clearing of service history list file	-	-	M	Initializes the service history list file.	3	Y	Y	Y
08	Setting mode	System	Network	IPv6		3767	-	Switching IPv6 setting	2	1-2	M	IPv6 function is switched. 1: Enabled 2: Disabled	12	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Network	IPv6		3768	-	IPv6 Address Acquisition	2	1-3	M	IP (IPv6) Address Acquisition setting is switched. 1: Manual 2: Stateless 3: Stateful	12	-	Y	Y
08	Setting mode	System	Network	IPv6		3770	-	IPv6 Address	-	-	-	Displays IPv6 address. Maximum 40 characters (byte).	12	-	Y	Y
08	Setting mode	System	Network	IPv6		3771	-	Prefix display setting	-	-	-	Sets the length of the displayed prefix. Maximum 3 characters (byte).	12	-	Y	Y
08	Setting mode	System	Network	IPv6		3772	-	Default Gateway setting	-	-	-	Sets the default gateway for IPv6 address. Maximum 40 characters (byte).	12	-	Y	Y
08	Setting mode	System	Network			3774	-	DHCPOptionsEnableDisableforManual	2	1-2	M	DHCPv6 Option is switched when the Manual is set. 1: Enabled 2: Disabled	12	-	Y	Y
08	Setting mode	System	Network	IPv6		3781	-	Primary DNS Server Address Registration	-	-	-	Registration of Primary DNS Server Address. Maximum 40 characters (byte).	12	-	Y	Y
08	Setting mode	System	Network	IPv6		3782	-	Secondary DNS Server Address Registration	-	-	-	Registration of Secondary DNS Server Address. Maximum 40 characters (byte).	12	-	Y	Y
08	Setting mode	System	Network			3793	-	Switching LLTD setting	1	1-2	NIC	LLTD function is switched. 1: Enabled 2: Disabled	12	-	Y	Y
08	Setting mode	System	General	USB media direct printing		3802		Paper size	Refer to contents	0-13	SYS	0: LD 1: LG 2: LT 3: COMPUTER 4: ST 5: A3 6: A4 7: A5 9: B4 10: B5 11: FOLIO 12: 13"LG 13: 8.5"x8.5" <Default> NAD: 2 Others: 6	1	-	Y	Y
08	Setting mode	System	General	USB media direct printing		3803		Disabled/enabled	1	0-1	SYS	Sets the USB media direct printing function. 0: Disabled 1: Enabled	1	-	Y	Y
08	Setting mode	System	FAX			3847		Machine name/PC name listed in the body of the event notification	1	0-2	SYS	FAX mistransmission prevention function is switched. When "0 (OFF)" is set, fax transmission can be done manually. 0: OFF 1: Confirm 2: Input	1	-	-	Y
08	Setting mode	System	FAX			3848		Prohibition of selection of an address from the telephone book	0	0-1	SYS	Availability of destination selection from the Telephone Book is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF 1: ON	1	-	-	Y
08	Setting mode	System	FAX			3849		Prohibition of direct entry of a destination	0	0-1	SYS	Availability of direct entry is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF 1: ON	1	-	-	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	FAX			3951	-	Restriction on the use of the Telephone book book	0	0-1	SYS	The following is restricted. 0: OFF 1: Telephone Book 2: E-Mail 3: Both Telephone Book and E-Mail	1	-	-	Y
08	Setting mode	System	FAX			3952		When FAX data is stored in memory [FAX] button blink or not	0	0-1	SYS	0: Not blink 1: Blink	1	-	-	Y
08	Setting mode	System	FAX			3954	-	Automatic Transition to Sleep Mode after Printing	1	0-1	SYS	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	System	ALL			3955	-	LCD Contrast	3	0-6	SYS	0: -3 1: -2 2: -1 3: 0 4: +1 5: +2 6: +3	1	Y	Y	Y
08	Setting mode	System	ALL			3956	-	Short Cut (Left button)	1	0-14	SYS	0: Exposure 1: Original mode 2: Drawer 3: Zoom 4: Finishing 5: 2-sided 6: 2IN1/4IN1 7: ID Card 8: Edge erase 9: Dual Page 10: Image shift 11: Annotation 12: Omit Blank Page 13: Image Direction 14: Mixed-Size Original	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	ALL			3957	-	Short Cut (Right button)	0	0-14	SYS	0: Exposure 1: Original mode 2: Drawer 3: Zoom 4: Finishing 5: 2-sided 6: 2IN1/4IN1 7: ID Card 8: Edge erase 9: Dual Page 10: Image shift 11: Annotation 12: Omit Blank Page 13: Image Direction 14: Mixed-Size Original	1	Y	Y	Y
08	Setting mode	System	ALL			3958	-	2IN1/4IN1 Original size (default value)	10: NAD 1: Others	0-14	SYS	0: A3 (Not use) 1: A4 2: A5 3: B4 (Not use) 4: B5 5: FOLIO (Not use) 6: 8K (Not use) 7: 16K 8: LD (Not use) 9: LG (Not use) 10: LT 11: COMP (Not use) 12: 13"LG (Not use) 13: ST 14: 8.5SQ	1	Y	Y	Y
08	Setting mode	System	ALL			3960	-	2IN1/4IN1 Original orientation (default value)	0	0-1	SYS	0: Portrait 1: Landscape	1	Y	Y	Y
08	Setting mode	System	ALL			3961	-	Page layout (2 IN 1)	0	0-1	SYS	0:  1: 	1	Y	Y	Y
08	Setting mode	System	ALL			3962	-	Page layout (4 IN 1)	0	0-3	SYS	0:  1:  2:  3: 	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System				3963	-	Access management	0	0-1	SYS	When access management (08-3963) is set to ON(1), the ACCESS CODE menu on the [USER FUNCTIONS] menu appears ([USER FUNCTIONS] button -> GENERAL -> ACCESS CODE). If access management (08-3963) is set to ON(1), be sure to use the ACCESS CODE menu to set the ACCESS CODE and MASTER CODE. If the ACCESS CODE and MASTER CODE are unknown, set access management (08-3963) to OFF(0), when it is set to ON(1) again, the ACCESS CODE and MASTER CODE are cleared. After clearing the codes, be sure to set the ACCESS CODE and MASTER CODE. - ACCESS CODE: Department code, only one can be set - MASTER CODE: Admin. password - The MASTER CODE can be entered in the ACCESS CODE menu. 0: OFF 1: ON	1	Y	Y	Y
08	Setting mode	System	Image			3964	-	Image rotation	0	0-1	SYS	0: Enable 1: Disable	1	Y	Y	Y
08	Setting mode	System	Image			3965	-	Magazine sort (original size)	NAD: 10 Others: 1	0-14	SYS	0: A3 (Not use) 1: A4 2: A5 3: B4 (Not use) 4: B5 5: FOLIO (Not use) 6: 8K (Not use) 7: 16K 8: LD (Not use) 9: LG (Not use) 10: LT 11: COMP (Not use) 12: 13"LG (Not use) 13: ST 14: 8.5SQ	1	-	Y	Y
08	Setting mode	System	Image			3966	-	Magazine sort (2 sides) default	0	0-1	SYS	0: 1 side -> 2 sides 1: 2 sides -> 1 side	1	-	Y	Y
08	Setting mode	System				3967	-	Default back ground adjustment	5	0-9	SYS	1: -4 2: -3 3: -2 4: -1 5: 0 6: +1 7: +2 8: +3 9: +4	1	Y	Y	Y
08	Setting mode	System	Network	IPv6		3971	-	Availability of DNS (IPv6)	1	1-2	SYS	1: Enable 2: Disable	1	-	Y	Y
08	Setting mode	System	Network	IPv6		3972	-	MIB function (IPv6)	1	1-2	SYS	1: Enable 2: Disable	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	General			3974	-	Time setting for recovering from the sleep mode	15	0-255	SYS	Sets the time to distinguish factors, such as SNMP and the [ENERGY SAVER] button, for recovering from the sleep mode. When an unintended sleep mode is recovered by SNMP communication, the time for judging the communication is set. The longer the time is set, the longer the recovering time becomes, even by a factor other than SNMP. Unit: Second	1	-	Y	Y
08	Setting mode	System				3975	0	Time setting to start printing from the printer/Fax	30	0-30	SYS	Sets the time to start printing from the printer/fax after button operations or cover opening/closing is done or immediately after the power is turned ON. Unit: seconds	4	Y	Y	Y
08	Setting mode	System				3975	1	Time setting to start scanning	30	0-30	SYS	Sets the time to start scanning after button operations or cover opening/closing is done or immediately after the power is turned ON. Unit: seconds	4	Y	Y	Y
08	Setting mode	System	Paper feeding			3976		Default setting of the paper size for the bypass tray	Refer to contents	0-20	-	0: A3 1: A4 2: A4-R 3: B4 4: B5 5: B5-R 6: A5-R 7: FOLIO 8: 8K 9: 16K 10: 16K-R 11: LD 12: LG 13: LT 14: LT-R 15: COMP 16: 13"LG 17: ST-R 18: 8.5SQ 19: CARD 20: NON-SIZE (25S) / Not used (25H/25F) 21: - <Default> NAD: 11 Other: 0	12	Y	Y	Y
08	Setting mode	System	Paper feeding			3977		Keeping the current paper size for the bypass tray	0	0-1	-	Sets whether or not to keep the paper size set for the bypass feed even after the paper is removed or the power is turned OFF. If this code is enabled, 08-3976 will be disabled. 0: Disabled 1: Enabled	12	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	ID card copy			3981		Print position setting	Refer to contents	0-1	SYS	Sets the print position of output images for ID card copying. 0: Left-Top 1: Center-Center 2: Center-Top (Not Use) 3: Left-Center (Not Use) CND: 1 Others: 0	1	Y	Y	Y
08	Setting mode	System	ID card copy			3982		Scan range setting	Refer to contents	0-3	SYS	Sets the scan range for ID card copying. 0: 106mm * 74mm 1: 120mm * 90mm 2: 140mm * 100mm 3: 200mm * 140mm TWD: 1 CND: 3 Others: 0	1	Y	Y	Y
08	Setting Mode	System	FAX	TX/RX mode setting		3983		Easy manual TX/RX mode	Refer to contents	0-1	SYS	Sets the TX/RX mode of the fax function. 0: EASY MODE 1: ADVANCED MODE <Default> CND: 0 Others: 1	1	-	-	Y
08	Setting mode	Printer	Laser			4012	-	Pre-running rotation of polygonal motor	0	0-2	SYS	Sets whether or not switching the polygonal motor from the standby rotation to the normal rotation when the original is set on the ADF or the original cover is opened. 0: Enabled (ADF / Original cover) 1: Disabled 2: Enabled (ADF only)	1	Y	Y	Y
08	Setting mode	Printer	Laser			4013	-	Polygonal motor rotational status switching at the Auto Clear Mode	0	0-1	SYS	Sets whether or not switching the polygonal motor from the normal rotation to the standby rotation at the Auto Clear Mode. 0: Valid 1: Invalid	1	Y	Y	Y
08	Setting mode	Printer	Laser			4015	-	Polygonal motor stop period	3	0-6	SYS	Switches the polygonal motor to the standby rotation when a certain period of time has passed from the prerunning. At this code, the period to switch the status to the standby rotation is set. 0: 15sec, 1: 20sec, 2: 25sec, 3: 30sec, 4: 35sec, 5: 40sec, 6: 45sec	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Upper drawer (1st drawer)	4020	0	Plain paper	5	0-5	M	Sets the number of times feeding retry occurs from the Upper drawer (1st drawer). 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Upper drawer (1st drawer)	4020	1	Other paper	5	0-5	M	Sets the number of times feeding retry occurs from the Upper drawer (1st drawer). 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Bypass feed	4024	0	Plain paper	5	0-5	M	Sets the number of times feeding retry occurs from the bypass tray. 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Bypass feed	4024	1	Other paper	5	0-5	M	Sets the number of times feeding retry occurs from the bypass tray. 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4100	-	Upper drawer size setting	Refer to contents	0-255	M	A3 (19) A4 (4) A4-R (20) A5-R (21) B4 (52) B5 (37) B5-R (53) LD (81) LG (82) LT (64) LT-R (80) FOLIO (85) COMP (84) ST-R (83) 13"LG (86) 8.5SQ (87) 8K (144) 16K (129) 16K-R (145) <Default> NAD: 64, MJD: 4, Others: 4, JPD: 4	9	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4106	-	Paper size (A3-R) feeding/widthwise	420 x 297	182-432 / 140-297	M	Value of feeding / widthwise direction 420 x 297	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4107	-	Paper size (A4-R) feeding/widthwise	297 x 210	182-432 / 140-297	M	Value of feeding / widthwise direction 297 x 210	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4108	-	Paper size (A5-R) feeding/widthwise	210 x 148	182-432 / 140-297	M	Value of feeding / widthwise direction 210 x 148	10	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Printer	Paper feeding	Paper size setting		4109	-	Paper size (B4-R) feeding/widthwise	364 x 257	182-432 / 140-297	M	Value of feeding / widthwise direction 364 x 257	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4110	-	Paper size (B5-R) feeding/widthwise	257 x 182	182-432 / 140-297	M	Value of feeding / widthwise direction 257 x 182	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4111	-	Paper size (LT-R) feeding/widthwise	279 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 279 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4112	-	Paper size (LD) feeding/widthwise	432 x 279	182-432 / 140-297	M	Value of feeding / widthwise direction 432 x 279	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4113	-	Paper size (LG) feeding/widthwise	356 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 356 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4114	-	Paper size (ST-R) feeding/widthwise	216 x 140	182-432 / 140-297	M	Value of feeding / widthwise direction 216 x 140	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4115	-	Paper size (COMPUTER) feeding/widthwise	356 x 257	182-432 / 140-297	M	Value of feeding / widthwise direction 356 x 257	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4116	-	Paper size (FOLIO) feeding/widthwise	330 x 210	182-432 / 140-297	M	Value of feeding / widthwise direction 330 x 210	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4117	-	Paper size (13" LG) feeding/widthwise	330 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 330 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4118	-	Paper size (8.5"x8.5") feeding/widthwise	216 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 216 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4120	-	Paper size (K8-R) feeding/widthwise	390 x 270	182-432 / 140-297	M	Value of feeding / widthwise direction 390 x 270	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4121	-	Paper size (K16-R) feeding/widthwise	270 x 195	182-432 / 140-297	M	Value of feeding / widthwise direction 270 x 195	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4123	-	Paper size (A6-R) feeding/widthwise	148 x 105	148-432 / 105-297	M	Value of feeding / widthwise direction 148 x 105	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4124	-	Paper size (#10-R) feeding/widthwise	241 x 105	148-432 / 105-297	M	Value of feeding / widthwise direction 241 x 105	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4127	-	Paper size (DL-R) feeding/widthwise	220 x 110	148-432 / 105-297	M	Value of feeding / widthwise direction 220 x 110	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding			4131	-	Feeding retry setting	0	0-1	M	0: ON 1: OFF	1	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4143	-	Paper size (Envelope: Monarch-R) feeding/widthwise direction	191 x 98	148-432/ 98-297	M	Value of feeding/widthwise direction	10	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Printer	Paper feeding	Paper size setting		4144	-	Paper size (Envelope: CHO-3-R) feeding/widthwise direction	235 x 120	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4145	-	Paper size (Envelope: YOU-4-R) feeding/widthwise direction	235 x 105	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4206	-	Paper size (Japanese-Postcard) feeding/widthwise	148 x 100	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport			4542	-	Switching for incorrect size jam detection	0	0-1	M	0: Enabled 1: Disabled	1	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	0	Retention of the fuser unit error status (Fuser roller center temperature)	0	0-255	M	Output value of thermistor	4	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	1	Retention of the fuser unit error status (Fuser roller side temperature)	0	0-255	M	Output value of thermistor	4	-	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	2	Retention of the fuser unit error status (Press roller center temperature)	0	0-255	M	Output value of thermistor	4	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	5	Retention of the fuser unit error status (Error counter)	0	0-255	M	1-3: Fusing error when warm-up-40-degrees C detected 4-10: Fusing error when warm-up-100-degrees C detected 11-25: Fusing error when ready from warm-up 50-55: Fusing error at ready 100-111: Fusing error at printing 150-153: Fusing error in the prewarming/JAM/cover open/adjustment mode	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding			4691	-	Switching of the display of jam location in the drawer when paper feed jam occurs	1	0-1	M	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport	PPC		4714	-	Switching of the restriction number of the ejection sheets	100	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Printer	Feeding system / Paper transport	PRT	GDI	4715	-	Switching of the restriction number of the ejection sheets	0	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	Y	-	-
08	Setting mode	Printer	Feeding system / Paper transport	PRT		4716	-	Switching of the restriction number of the ejection sheets	0	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	-	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport	FAX		4717	-	Switching of the restriction number of the ejection sheets	0	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	-	-	Y
08	Setting mode	Process				5001	0	Print job end cleaning bias polarity switching frequency (Maximum width)	0	0-9	M	In the cleaning operation of the transfer roller at the end of printing, the cleaning bias, in which the polarity is switched from positive to negative, is output so that the toner adhering to the transfer roller is returned to the photoconductive drum. This code is used to set the cleaning bias switching frequency. Perform adjustment when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller. Note that the drum driving time will increase if the setting value of the cleaning bias switching frequency is too large. The setting code differs depending on the operation status of the equipment when there is any stain on the back side of the printed paper. Select the code from 08-5001 to 08-5003 according to the operation status. Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in normal printing. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y
08	Setting mode	Process				5001	1	Print job end cleaning bias polarity switching frequency (Bypass/non-standard)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in printing non-standard paper from the bypass tray. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y
08	Setting mode	Process				5001	2	Print job end cleaning bias polarity switching frequency (Mass printing of small size paper)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in printing maximum size paper after printing a large amount of small size paper (1 to 9). 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process				5002	-	Job end cleaning bias polarity switching frequency (When not printing)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller after the warming-up, forced toner supply or auto-toner adjustment. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	1	Y	Y	Y
08	Setting mode	Process				5003	-	Job end cleaning bias polarity switching frequency (At jam recovery)	3	0-9	M	Sets when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller after a paper jam is cleared. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	1	Y	Y	Y
08	Setting mode	Process				5005	-	Transfer bias between papers switching	0	0-1	M	0: Positive polarity 1: Negative polarity	1	Y	Y	Y
08	Setting mode	Process				5016	-	Thin paper transferred paper / Environment / Life correction switching	0	0-2	M	0: All valid 1: All invalid 2: Width of paper correction only	1	Y	Y	Y
08	Setting mode	Process				5075	0	Paper width transfer output compensation (High) (Middle)	140	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5075	1	Paper width transfer output compensation (Center) (Middle)	140	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5075	2	Paper width transfer output compensation (Low) (Middle)	154	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	0	Paper width transfer output compensation (High) (Small)	156	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	1	Paper width transfer output compensation (Center) (Small)	156	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	2	Paper width transfer output compensation (Low) (Samll)	170	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Development	Toner near empty		5155	-	Toner near empty threshold setting	1	0-3	M	Sets the timing for when the toner near empty display appears. The larger the value, the later the display appears. 0: Longer *1 1: Center 2: Shorter *2 3: No detection *1: The period of time (number of counts) from the appearance of the near empty display to actually running out of toner is longer (larger) than that of "center". *2: The period of time (number of counts) from the appearance of the near empty display to actually running out of toner is shorter (smaller) than that of "center".	1	Y	Y	Y
08	Setting mode	Process	Development	Toner near empty		5156	3	Fine adjustment ofthreshold fordisplaying remainingtoner and toner nearempty	100	50-150	M	Adjusts the threshold value for displaying remaining amount of toner and toner near empty. Display threshold value = default threshold value x setting value/100 (unit: %) 50: Setting value x 0.5 100: Setting value x 1.0 150: Setting value x 1.5	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fusing correction control time immediately after warming-up		5210	0	Temperature correction	Refer to contents	0-10	M	0: Disable 1: 1 min. 2: 2 min. 3: 3 min. 4: 4 min. 5: 5 min. 6: 6 min. 7: 7 min. 8: 8 min. 9: 10 min. 10: 15 min. <Default value> 25S: 1, 25H/25F: 2	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fusing correction control time immediately after warming-up		5210	1	Maximum time of lamp ON	2	0-10	M	0: Disable 1: 1 min. 2: 2 min. 3: 3 min. 4: 4 min. 5: 5 min. 6: 6 min. 7: 7 min. 8: 8 min. 9: 10 min. 10: 15 min.	4	-	Y	Y
08	Setting mode	Process	Fuser	Correction of temperature rising prevention (Latest value)		5337	0	Ready	0	0-15	M	0: 0°C 1: -1°C 2: -2°C 3: -3°C 4: -4°C 5: -5°C 6: -6°C 7: -7°C 8: -8°C 9: -9°C 10: -10°C 11: -11°C 12: -12°C 13: -13°C 14: -14°C 15: -15°C	14	Y	Y	Y
08	Setting mode	Process	Fuser	Correction of temperature rising prevention (Latest value)		5337	1	Printing	0	0-15	M	0: 0°C 1: -1°C 2: -2°C 3: -3°C 4: -4°C 5: -5°C 6: -6°C 7: -7°C 8: -8°C 9: -9°C 10: -10°C 11: -11°C 12: -12°C 13: -13°C 14: -14°C 15: -15°C	14	Y	Y	Y
08	Setting mode	Process	Fuser			5339		Pre-running control ON/OFF switching after small size paper continuous printing	1	0-1		0: OFF 1: ON	1	Y	-	-

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Process	Fuser			5469	-	Low power consumption control	0	0-1	M	This code is used when using low power consumption control. Note that inconsistent fusing may occur if the fuser roller temperature is low. Use the above default value, unless otherwise required. 0: Invalid, 1: Valid	1	-	Y	Y
08	Setting mode	Process	Fuser			5472	-	Low power consumption control: operating time	4	0-5	M	This code is used to set a control time on Low power consumption control. Use the above default value, unless otherwise required. 0: 10 seconds after the start / Preformed for 35 seconds 1: 15 seconds after the start / Preformed for 30 seconds 2: 20 seconds after the start / Preformed for 25 seconds 3: 10 seconds after the start / Preformed for 30 seconds 4: 15 seconds after the start / Preformed for 25 seconds 5: 20 seconds after the start / Preformed for 20 seconds	1	-	Y	Y
08	Setting mode	Process	Fuser			5497	0	Low power consumption control: Lamp maximum ON time (Center)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	-	Y	Y
08	Setting mode	Process	Fuser			5497	1	Low power consumption control: Lamp maximum ON time (Side)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	-	Y	Y
08	Setting mode	Process	Fuser			5498	0	Low power consumption control: Lamp maximum OFF time (Center)	15	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	-	Y	Y
08	Setting mode	Process	Fuser			5498	1	Low power consumption control: Lamp maximum OFF time (Side)	15	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	-	Y	Y
08	Setting mode	Counter	Maintenance			5554	-	PM counter setting value for developer material (K)	55000	0-300000	M	Sets the number of printed sheets to display the message that prompts the PM of developer material.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5555	-	PM time counter setting value for developer material (K)	115000	0-300000	M	Sets the accumulated driving time to display the message that prompts the PM of developer material.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5562	-	Parts PM counter set value	165000	0-300000	M	Sets the number of printed sheets to display the message that prompts the PM of part.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	Maintenance			5563	-	Parts PM time counter set value	345000	0-345000	M	Sets the accumulated driving time to display the message that prompts the PM of part.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5568	-	Current value of PM counter for developer material (K)	0	0-300000	M	Displays the current number of printed sheets. Counts up by turning on the registration sensor.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5569	-	Current value of PM time counter for developer material (K)	0	0-300000	M	Displays the current driving time.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5576	-	Parts PM counter current value	0	0-300000	M	Displays the current number of printed sheets. Counts up by turning on the registration sensor.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5577	-	Parts PM time counter current value	0	0-300000	M	Displays the current driving time of fuser.	1	Y	Y	Y
08	Setting mode	Counter				5581	-	Switching of output pages/driving counts at PM/developer material (K)	0	0-2	M	0: Pages 1: driving count 2: Whichever comes faster	1	Y	Y	Y
08	Setting mode	Counter				5585	-	Parts Switching between No. of sheets and time for PM	0	0-2	M	0: Pages 1: driving count 2: Whichever comes faster	1	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper size	6010	-	Large-sized paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper size	6011	-	Definition setting of large sized paper	0	0-1	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP/8K/13'LG	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper size	6012	-	Large-sized paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper size	6013	-	Definition setting of large sized paper	1	0-1	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP/8K/13'LG	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6014	-	Thick paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6015	-	OHP film	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6016	-	Envelope	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	1	Thick1/Back, Thick2/Back	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	3	OHP film	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	4	Envelope	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6110	-	Upper drawer	0	0-300000	M	Counts the number of sheets fed from upper drawer.	2	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6112	-	SFB counter	0	0-300000	M	Counts the number of sheets fed from bypass feed.	2	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6116	-	ADU counter	0	0-300000	M	Counts the number of output pages of duplex printing.	2	-	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6117	-	ADF counter	0	0-99999999	SYS	Counts the number of originals fed from ADF.	2	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6190	-	Setting value	55000	0-300000	M	Sets the threshold for displaying a message for PM timing. [Unit: page] 0: Not displayed	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM drive counter	K	6191	-	Setting value	115000	0-300000	M	Sets the threshold for displaying a message for PMtiming. [Unit: count] 0: Not displayed	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6194	-	Current value	0	0-300000	M	Counts up when the registration sensor is ON. [Unit: page] 0: clear	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM drive counter	K	6195	-	Current value	0	0-300000	M	Counts the drum driving time. [Unit: 1 count = 2 seconds] 0: clear	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6198	-	Switching of output pages/ driving counts at PM	0	0-2	M	Selects the reference to notify the PM timing. 0: PM counter 1: PM drive counter 2: Whichever comes faster	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	Counter	Number of output pages		6225	-	Thick paper 1	0	0-300000	M	Counts up when the registration sensor is ON in the thick paper 1 mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6226	-	Thick paper 2	0	0-300000	M	Counts up when the registration sensor is ON in the thick paper 2 mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6228	-	OHP film	0	0-300000	M	Counts up when the registration sensor is ON in the OHP film mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter		6230	-	Upper drawer	0	0-300000	M	Counts the number of times of the feeding retry from the upper drawer.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter		6234	-	Bypass feed	0	0-300000	M	Counts the number of times of the feeding retry from the bypass tray.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter	Upper limit value	6236	-	Upper drawer	0	0-300000	M	When the number of feeding retry (08-6230 to 6234) exceeds the setting value, the feeding retry will not be performed subsequently. In case "0" is set as a setting value, however, the feeding retry continues regardless of the counter setting value.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter	Upper limit value	6240	-	Bypass feed	0	0-300000	M	When the number of feeding retry (08-6230 to 6234) exceeds the setting value, the feeding retry will not be performed subsequently. In case "0" is set as a setting value, however, the feeding retry continues regardless of the counter setting value.	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6247	-	Envelope	0	0-300000	M	Counts up when the registration sensor is ON. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6251	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6259	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6273	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6275	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Needle electrode		6282	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	3	Present driving counts	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	4	Recommended driving counts to be replaced	345000	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	5	Driving counts at the last replacement	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	7	Present driving counts for control	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6283	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Ozone filter		6298	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6299	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6301	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	3	Present driving counts	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Transfer roller		6314	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6315	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6347	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Pressure roller		6350	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6351	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6369	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6383	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6385	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6387	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6399	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6407	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6417	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6425	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6437	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	1	Recommended number of output pages for replacement	165000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	3	Present driving counts	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6471	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	0	Latest	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	1	1 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	2	2 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	3	3 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	4	4 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (PPC) related 05 codes		7000	-	PPC	-	-	SYS/M clear	Clears the adjustment values of the following 05 codes: 05-7000 to 7299, 7600 to 7999 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of all gamma correction table values (PPC related areas only)		7001	-	PPC	-	-	SYS clear	Clears all the gamma correction table values in the PPC related areas of the memory.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Error diffusion and dither setting		7014	-	Photo mode	1	0-1	SYS	Sets the image reproduction method at photo mode. 0: Error diffusion 1: Dither	1	Y	Y	Y
08	Setting mode	Image Processiing	Image	Last updated date and time		7051	-	PPC	0	0-4212312359	SYS	Last updated date and time of automatic tone correction data. (YYYYMMDDHHMM) YYYY: Year, MM: Month, DD: Date,HH: Hour: MM: Minute	2	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (Network printer) related 05 codes		7300	-	PRT	-	-	SYS clear M clear	Clears the adjustment values of the following 05 codes: 05-7300 to 7399, 05-8200 to 8299 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (network scan) related 05 codes		7400	-	SCN	-	-	SYS clear	Clears the adjustment values of the following 05 codes: 05-7400 to 7499, 05-8300 to 8499 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (Fax) related 05 codes		7500		FAX	-	-	SYS clear	Clears the adjustment values of the following 05 codes: 05-7500 to 7599 After executing this code.	3	-	-	Y
08	Setting mode	System	User interface	Screen setting		8523	-	Toner near-empty status Message	1	0-1	SYS	0: ON 1: OFF	1	Y	Y	Y
08	Setting mode	System	User interface	Counter		8549	-	Hardware key control when external counter is installed	0	0-1	SYS	0: No control 1: Mode switch key is disabled.	1	-	Y	Y
08	Setting mode	System	User interface			8603	-	Special usage of external options I/F	0	0-1	SYS	0: Coin controller 1: Card controller	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	FAX			8700		Secret reception setting	0	0-2	SYS	When the value of 08-8924 is "0", the value of this code can be set to "1" or "2". 0: Always Off 1: Always On 2. -	1	-	-	Y
08	Setting mode	System	User interface			8712	-	Display setting of the drawer setting button	1	0-1	SYS	Sets whether the drawer button in USER FUNCTIONS is displayed or not. 0: Not displayed 1: Displayed	1	-	Y	Y
08	Setting mode	System	User interface			8721	-	Automatic FAX sending at AutoClear when scanning original put on the glass	0	0-1	SYS	Sets whether the job is sent or canceled when AutoClear is executed on the interruption screen to confirm the next original displayed after scanning the original put on the glass. Use this code to cancel job when the equipment is left unattended while the interruption screen is displayed. 0: Sends job 1: Cancels job	1	-	-	Y
08	Setting mode	System	User interface			8725	-	Display setting of [USER FUNCTIONS]-> CHANGE LANGUAGE button	1	0-1	SYS	Sets whether the [CHANGE LANGUAGE] button accessed from [USER FUNCTIONS] button is displayed or not. Use this code to prohibit users from changing the language displayed on the control panel. Administrators can change the language. 0: Not displayed 1: Displayed	1	-	Y	Y
08	Setting mode	System	General			8737	-	Restart behavior when the out of paper is solved	0	0-1	SYS	0: Automatically restarted 1: Restarted by pressing [START] button	1	Y	Y	Y
08	Setting mode	System	Network			8800	-	Enabling / Disabling of 802.1X	2	1-2	NIC	1: Enabled 2: Disabled	12	-	Y	Y
08	Setting mode	System	Network			8804	-	Enabling / Disabling of IP filtering	2	1-2	SYS	1: Enabled 2: Disabled	1	-	Y	Y
08	Setting mode	System	Network			8805	-	Enabling / Disabling of MAC address filtering	2	1-2	SYS	1: Enabled 2: Disabled	2	-	Y	Y
08	Setting mode	System	MFP function setting			8914	0	Copy	1	0-1	SYS	Sets whether the Copier function is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y
08	Setting mode	System	MFP function setting			8914	2	FAX	1	0-1	SYS	Sets whether the Fax function is enabled or disabled. 0: Disabled 1: Enabled	4	-	-	Y
08	Setting mode	System	MFP function setting			8914	4	Email	1	0-1	SYS	Sets whether the email function is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	MFP function setting			8914	8	Save to USB Media	1	0-1	SYS	Sets whether the function that saves scanned data of originals to USB media is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y
08	Setting mode	System	MFP function setting			8914	9	Save as FTP	1	0-1	SYS	Sets whether the function that saves scanned data of originals to FTP server is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y
08	Setting mode	System	MFP function setting			8914	10	Save as FTPS	1	0-1	SYS	Sets whether the function that saves scanned data of originals to FTP server using SSL is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y
08	Setting mode	System	MFP function setting			8914	11	Save as SMB	1	0-1	SYS	Sets whether the function that saves scanned data of originals to the SMB server is enabled or disabled. 0: Disabled 1: Enabled	4	-	Y	Y
08	Setting mode	System	MFP function setting			8914	14	Twain Scanning (Remote Scan)	1	0-1	SYS	Sets whether the remote scanning function is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	16	Network FAX	1	0-1	SYS	Sets whether the Network Fax function is enabled or disabled. 0: Disabled 1: Enabled	4	-	-	Y
08	Setting mode	System	Security			8919	-	Service password	-	-	SYS	Sets the password to log into the self-diagnostic mode. It must be 6 characters or more. (Maximum 65 characters)	11	Y	Y	Y
08	Setting mode	System	Department management			8921		Clearing of the user/department counter	1	0-1	SYS	0: Not allowed 1: Allowed	1	-	Y	Y
08	Setting mode	System	Department management			8926	-	Clearing of all department counters	-	-	SYS	In cases when the administrator has prohibited the clearing of department counter data, a service technician can clear the data using this code.	3	-	Y	Y
08	Setting Mode	System	User interface	SSL		8933		SSL setting (SSL SMTP Client Off/On)	2	1-2	NIC	1: Enabled (accepts all server certificates) 2: Disabled	12	-	Y	Y
08	Setting Mode	System	User interface	SSL		8934		SSL setting (SMTP Client SSL/TLS)	1	1-2	NIC	1: STARTTLS 2: Over SSL	12	-	Y	Y
08	Setting mode	System	User interface			8935	-	Remote Scanning	1	0-1	NIC	0: Disabled 1: Enabled	12	Y	Y	Y
08	Setting mode	System	Maintenance	Notification of equipment information		8996		Email address 1 for notification	-	-	SYS	Maximum 192 characters.	11	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Maintenance	Notification of equipment information		8997		Email address 2 for notification	-	-	SYS	Maximum 192 characters.	11	-	Y	Y
08	Setting mode	System	Maintenance	Notification of equipment information		8998	-	Email address 3 for notification	-	-	SYS	Maximum 192 characters.	11	-	Y	Y
08	Setting mode	System	General			9000	-	Destination selection	Refer to contents	0-2	M	0: EUR 1: UC 2: JPN <Default value> NAD: 1 JPD: 2 Others: 0	1	Y	Y	Y
08	Setting mode	System	FAX			9001	-	Destination setting	Refer to contents	0-30	SYS	0: Japan 1: Asia 2: Australiia 3: Hong Kong 4: US 5: Germany 6: UK 7: Italy 8: Belgium 9: Netherlands 10: Finland 11: Spain 12: Austria 13: Switzerland 14: Sweden 15: Denmark 16: Norway 17: Portugal 18: France 19: Greece 20: Poland 21: Hungary 22: Czech 23: Turkey 24: South Africa 25: Taiwan 26: Canada 27: China 28: NewZealand 29: Malaysia 30: Singapore <Default value> NAD: 4 MJD: 5 SYD/ASD/ADU/ARD: 1 TWD: 25 CND: 27 JPD: 0	1	-	-	Y
08	Setting mode	System	General			9010	-	Line adjustment mode	0	0-1	M	0: For factory shipment 1: For line Field: "0" must be selected	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	General			9012	-	Language selection to be displayed at power-ON	-	1-26	SYS	Link with User function button. 1: Simplified Chinese 2: English 3: Traditional Chinese 4: French 5: Italian 6: German 7: Spanish 8: Swedish 9: Norwegian 10: Finnish 11: Danish 12: Dutch 13: Polish 14: Russian 15: Portuguese 16: Czech 17: Hungarian 18: Romanian 19: Slovakian 20: Lithuanian 21: Turkish 22: Latvian 23: Irish 24: Slovenian 25;Burgarian 26: Serbian <Default value> TWD: 3, NAD/MJD/SYD/ASD/AUD/ARD: 2, CND: 1	9	Y	Y	Y
08	Setting mode	System	General			9015	-	Language selection to be displayed at Web power-ON	Refer to contents	0-17	SYS	0:Language1(ENG) 1:Language2(GER) 2:Language3(FRE) 3:Language4(SP) 4:Language5(ITA) 5:Language6(JPD) 6:Not used 7:Language8(DAN) 8:Language9(FIN) 9:Language10(NOR) 10:Language11(SWE) 11:Not used 12:Language13(POL) 13:Language14(RUS) 14:Language15(CND) 15:Language16(TWN) 16:Language17(NTH) 17:Language18(TUR) <Default value> TWD: 15, NAD/MJD/SYD/ASD/AUD/ARD: 0, CND: 14	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	User interface			9016	-	Externally installed counter	0	0-5	SYS	0: No external counter 1: Coin controller installed 2: - 3: - 5: Coin controller installed	1	Y	Y	Y
08	Setting mode	System	Counter			9017	-	Setting for counter installed externally	1	0-1	SYS	Selects the job to count up for the external counter. 0: Not selected (Does not count) 1: Copy	1	Y	Y	Y
08	Setting mode	System	General			9022	-	Production process management status for easy setup	99	0-99	SYS	Perform this code when an error occurs during the easy setup (unpacking manual adjustment) and you want to finish the easy setup, or when you want to restart the unpacking manual adjustment from the beginning. Only 0 to 2 and 99 are available for this code. 0: Packing mode completed (before starting to unpack) 1: Auto toner adjustment completed 2: Installation of toner cartridge completed 99: Unpacking and adjustment completed	1	Y	Y	Y
08	Setting mode	System	Initialization			9030	-	Initialization after software version up	-	-	SYS	Perform this code when the software in this equipment has been upgraded.	3	Y	Y	Y
08	Setting Mode	System	User interface	External counter		9037		Job handling-short paid-coin controller	1	0-1	SYS	Sets whether pause or stop the printing job when it is short paid using a coin controller. 0: Pause the job 1: Stop the job	1	Y	Y	Y
08	Setting mode	System				9060	-	Destination display at SRAM initialization	Refer to contents	0-12	SYS	0: MJD, 1: NAD, 2: -, 3: AUD, 4: CND, 5: -, 6: TWD, 7: - , 8: -, 9: ASD, 10: ARD, 11: - <Default value> NAD: 1, MJD: 0, AUD: 3, CND: 4, TWD: 6, ASD: 9, ARD: 10, SYD: 11	2	Y	Y	Y
08	Setting mode	System	General			9063	-	Presence of the fax board	0	0-1	SYS	0: The fax board is not attached 1: The fax board is attached	1	-	Y	Y
08	Setting mode	System	General			9081	-	Initialization of department management information	-	-	SYS	Initializing of the department management information.	3	-	Y	Y
08	Setting mode	System	Initialization			9083	-	Initialization of NIC information	-	-	SYS	Returns the value to the factory shipping default value.	3	-	Y	Y
08	Setting mode	System	All clear			9090	-	Printer all clear	-	-	M	Initializes all the self-diagnosis 05/08 codes with "M" in the "RAM" field.	3	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	General			9100		Date and time setting	-	-	-	YYMMDD Day of the week HHMMSS (Year/month/date/day/hour/minute/second) Example: 03 07 01 3 13 27 48 "Day" - "0" is for "Sunday". Proceeds Monday through Saturday from "1" to "6".	11	-	Y	Y
08	Setting mode	System	User interface			9102		Date format	2	0-2	SYS	0: YYYY.MM.DD 1: DD.MM.YYYY 2: MM.DD.YYYY <Default value> MJD: 1 JPD: 0 Others: 2	1	-	Y	Y
08	Setting mode	System	User interface			9103		Time differences	0	0-47	SYS	0: +12.0h 1: +11.5h 2: +11.0h 3: +10.5h 4: +10.0h 5: +9.5h 6: +9.0h 7: +8.5h 8: +8.0h 9: +7.5h 10: +7.0h 11: +6.5h 12: +6.0h 13: +5.5h 14: +5.0h 15: +4.5h 16: +4.0h 17: +3.5h 18: +3.0h 19: +2.5h 20: +2.0h 21: +1.5h 22: +1.0h 23: +0.5h 24: 0.0h 25:-0.5h 26: -1.0h 27: -1.5h 28: -2.0h 29: -2.5h 30: -3.0h 31: -3.5h 32: -4.0h 33: -4.5h 34: -5.0h 35: -5.5h 36: -6.0h 37: -6.5h 38: -7.0h 39: -7.5h 40: -8.0h 41: -8.5h 42: -9.0h 43: -9.5h 44: -10.0h 45: -10.5h 46: -11.0h 47: -11.5h <Default value> MJD: 24 NAD: 40 JPD: 6 Others: 0	1	-	Y	Y
08	Setting mode	System	User interface			9110		Auto-clear timer setting	3	0-10	SYS	Timer to return the equipment to the default settings when the [START] button is not pressed after the function and the mode are set 0: Infinitive (Disabled) 1 to 10: Set value x15 seconds	1	Y	Y	Y
08	Setting mode	System	User interface			9111	-	Auto power save mode timer setting	4	0-15	SYS	Timer to automatically switch to the auto power save mode when the equipment has not been used 0: Disable 1 to 3: (Reserved) 4: 1min 5: 2min (Reseeved) 6: 3min 7: 4min 8: 5min 9: 7min 10: 10min 11: 15min 12: 20min 13: 30min 14: 45min 15: 60min	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	User interface			9112	-	Auto Shut Off timer setting (Sleep Mode)	21	0-21	SYS	Timer to automatically switch to the auto sleep mode when the equipment has not been used 0: 3min 1: 5min 2: 10min 3: 15min 4: 20min 5: 25min 6: 30min 7: 40min 8: 50min 9: 60min 10: 70min 11: 80min 12: 90min 13: 100min 14: 110min 15: 120min 16: 150min 17: 180min 18: 210min 19: 240min 20: None 21: 1min	1	Y	Y	Y
08	Setting mode	System	User interface	Department setting		9120	-	Department management	0	0-1	SYS	0: Invalid 1: Valid	1	-	Y	Y
08	Setting Mode	System	User interface	Department setting		9121		Print setting without department code	2	0-2	SYS	0: Printed forcibly 1: - 2: Deleted forcibly	1	-	Y	Y
08	Setting Mode	System	User interface	External counter	Coin controller	9129		Duplex print setting	1	0-1	SYS	Sets whether duplex printing is allowed or not (only permitting single printing) when a coin controller is used. 0: Invalid (printing only one side) 1: Valid (printing both sides)	1	-	Y	Y
08	Setting mode	System	User interface	Default setting of screen (Function)	Default setting	9132	-	Selection of the higher priority screen	0	0-2	SYS	0: Copier 1: Fax 2: Scan	1	-	Y	Y
08	Setting mode	System	User interface			9133	-	Default setting for APS/AMS	0	0-2	SYS	0: APS (Automatic Paper Selection) 1: AMS (Automatic Magnification Selection) 2: Not selected	1	Y	Y	Y
08	Setting mode	System	User interface			9135	-	Book type original priority	0	0-1	SYS	0: Left page to right page 1: Right page to left page	1	-	Y	Y
08	Setting mode	System	User interface			9136	-	Maximum number of copy volume	1	1-3	SYS	1: 999 2: 99 3: 9	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting	9137	-	Setting for automatic duplexing mode	0	0-3	SYS	0: Invalid 1: Single-sided to duplex copying 2: Two-sided to duplex copying 3: User selection	1	-	Y	Y
08	Setting mode	System	User interface			9143	-	Time lag before autostart of bypass feeding	10	0-10	SYS	Sets the time taken to add paper feeding when paper in the bypass tray has run out during the bypass feed copying. 0: Paper is not drawn in unless the [START] button is pressed. 1-10: Setting value x 0.5sec.	1	Y	Y	Y
08	Setting mode	System	User interface			9150	-	Automatic sort mode	2	0-4	SYS	0: Invalid 1: - 2: SORT 3: - 4: ROTATE SORT	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	User interface			9151	-	Default setting of Sorter Mode	0	0-4	SYS	0: NON-SORT 1: - 2: SORT 3: - 4: ROTATE SORT	1	Y	Y	Y
08	Setting mode	System	User interface			9155	-	Magazine sort setting	0	0-1	SYS	0: Left page to right page 1: Right page to left page	1	-	Y	Y
08	Setting mode	System	User interface			9164	-	Auto-start setting for bypass feed printing	0	0-1	SYS	Sets whether or not feeding a paper automatically into the equipment when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatic feeding)	1	Y	Y	Y
08	Setting mode	System	Network	Retention period		9193	-	Web data retention time	10	0-30	SYS	When a certain period of time has passed without operation after accessing TopAccess, the data being registered is automatically reset. This period is set at this code. (Unit: minute)	1	-	Y	Y
08	Setting mode	System	Scanning	E-mail		9210	-	Default setting of partial size when transmitting E-mail	0	0-6	SYS	Sets the default value for the partial size of E-mail to be transmitted when creating a template. (Unit: KB) 0: Not divided 1: 64 2: 128 3: 256 4: 512 5: 1024 6: 2048	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9213	-	Default setting for density adjustment (Black)	0	0-10	SYS	0: Automatic density 1: - (Not use) 2: Step -4 3: Step -3 4: Step -2 5: Step -1 6: Step 0 (center) 7: Step +1 8: Step +2 9: Step +3 10: Step +4 11: - (Not use)	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9215	-	Color mode	0	0-3	SYS	0: Black 1: Gray Scale 2: Unused 3: Full Color	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9216	-	Full Color	1	0-3	SYS	0: Not used 1: 150dpi 2: 200dpi 3: 300dpi	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9217	-	Gray Scale	1	0-5	SYS	0: Not used 1: 150dpi 2: 200dpi 3: 300dpi 4: Not used 5: 600dpi	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9218	-	Black	0	0-4	SYS	0: 150dpi 1: 200dpi 2: 300dpi 3: Not used 4: 600dpi	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9219	-	Original mode (Full color)	0	0-2	SYS	0: Text 1: Text/Photo 2: Photo	1	-	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9220	-	Original mode (Black)	0	0-2	SYS	0: Text 1: Text/Photo 2: Photo	1	-	Y	Y
08	Setting mode	System	User interface			9222	-	Default setting of rotation mode	0	0-1	SYS	0: 0 degree 1: 90 degrees	1	-	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	E-mail	9227		Black (Gray Scale)	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG (Not use) 3: TIFF (Single) 4: PDF (Single)	1	-	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	Storing files	9228		Color	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single)	1	-	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	Storing files	9229		Black (Gray Scale)	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG (Not use) 3: TIFF (Single) 4: PDF (Single)	1	-	Y	Y
08	Setting mode	System	Paper feeding	Size conversion		9306	-	LT<->A4 / LD<->A3	0	0-1	SYS	Sets whether the data is printed on the different but similar size paper or not when the paper of corresponding size is not available. 0: Valid (The data is printed on A4/A3 when LT/LD is selected or vice versa.) 1: Invalid (The message to use the selected paper size is displayed.)	1	Y	Y	Y
08	Setting mode	System	User interface	Binding margin setting		9341	0	Left binding front (Right binding back)	7	0-100	SYS	Sets the binding margin displayed as default on the setting screen for the top/bottom/left/right binding function when copying. (Unit: mm)	4	Y	Y	Y
08	Setting mode	System	User interface	Binding margin setting		9341	1	Left binding back (Right binding front)	7	0-100	SYS	Sets the binding margin displayed as default on the setting screen for the top/bottom/left/right binding function when copying. (Unit: mm)	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	User interface			9352	-	Display of paper size setting by installation operation of drawers	Refer to contents	0-1	SYS	0: Not displayed 1: Displayed <Default value> JPD/MJD: 0 Other: 1	1	Y	Y	Y
08	Setting mode	System	Image			9353	-	Default sharpness	5	1-9	SYS	1: -4 2: -3 3: -2 4: -1 5: 0 6: +1 7: +2 8: +3 9: +4	1	-	Y	Y
08	Setting mode	System	User interface	Paper Feed setting		9359	-	Printing resume after jam releasing	1	0-1	SYS	0: Auto resume 1: Resume by users	1	Y	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	E-mail	9384		Color	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single)	1	-	Y	Y
08	Setting mode	System	Network	Notification of scan job		9386	1	On error	0	0-1	SYS	Sets the notification method of scan job completion. 0: Invalid 1: Valid	4	-	Y	Y
08	Setting mode	System	Network	Scaning		9387	-	File name format of "Save as file" and Email transmission	0	0-6	SYS	Sets the file naming method for "Save as file" and Email transmission. 0: [FileName]-[Data]-[Page] 1: [FileName]-[Page]-[Data] 2: [Data]-[FileName]-[Page] 3: [Data]-[Page]-[FileName] 4: [Page]-[FileName]-[Data] 5: [Page]-[Data]-[FileName] 6: [HostName]_[Data]-[Page]	1	-	Y	Y
08	Setting mode	System	Network	Scaning		9388	-	Date display format of the file name of "Save as file" and Email transmission	0	0-5	SYS	Sets the data display format of the file for "Save as file" and Email transmission. 0: [YYYY][MM][DD] [HH][mm][SS] 1: [YY][MM][DD] [HH][mm][SS] 2: [YYYY][MM][DD] 3: [YY][MM][DD] 4: [HH][mm][SS] 5: [YYYY][MM][DD] [HH][mm][SS][mm]	1	-	Y	Y
08	Setting mode	System	Network	Scaning		9390	-	Page number display format of the file of "Save as file" and Email transmission	4	3-6	SYS	Sets the digit of a page number attached on the file. 3-6: 3-6 digits	1	-	Y	Y
08	Setting mode	System	Network	Scaning		9391	-	Extension (suffix) format of the file of "Save as file"	3	3-6	SYS	Sets the extension digits of the file to be saved. 3: Automatic 4: 4 digits 5: 5 digits 6: 6 digits	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Network	Ethernet		9403	-	Communication speed and settings of Ethernet	1	1-5	NIC	1: Automatic (100) 2: 10MBPS Half Duplex 3: 10MBPS Full Duplex 4: 100MBPS Half Duplex 5: 100MBPS Full Duplex	12	-	Y	Y
08	Setting mode	System	Network	TCP/IP		9406	-	Method for acquiring IP address	2	1-3	NIC	1: Fixed IP address 2: Dynamic IP address (DHCP) 3: Dynamic IP address (DHCP) without Automatic IP	12	-	Y	Y
08	Setting mode	System	Network	TCP/IP		9408	-	IP address	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	-	Y	Y
08	Setting mode	System	Network	TCP/IP		9409	-	Subnet mask	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	-	Y	Y
08	Setting mode	System	Network	TCP/IP		9410	-	Gateway	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	-	Y	Y
08	Setting mode	System	Network	DNS		9417	-	Availability of DNS	1	1-2	NIC	1: Available 2: Not available	12	-	Y	Y
08	Setting mode	System	Network	DNS		9418	-	IP address to DNS server (Primary)	-	Refer to contents	NIC	<Acceptable value> 000.000.000.000-255.255.255.255	12	-	Y	Y
08	Setting mode	System	Network	DNS		9419	-	IP address to DNS server (Secondary)	-	Refer to contents	NIC	<Acceptable value> 0.0.0.0-255.255.255.255	12	-	Y	Y
08	Setting mode	System	Network	HTTP		9430	-	Availability of HTTP server	1	1-2	NIC	1: Available 2: Not available	12	-	Y	Y
08	Setting mode	System	Network	SMTP		9437	-	Availability of SMTP client	1	1-2	NIC	1: Available 2: Not available	12	-	Y	Y
08	Setting mode	System	Network	SNMP		9463	-	Availability of MIB function	1	1-2	NIC	1: Valid 2: Invalid	12	-	Y	Y
08	Setting mode	System	Network	Raw TCP		9473	-	Availability of Raw/TCP	1	1-2	NIC	1: Valid 2: Invalid	12	-	Y	Y
08	Setting mode	System	Network	LPD		9475	-	Availability of LPD client	1	1-2	NIC	1: Valid 2: Invalid	12	-	Y	Y
08	Setting mode	System	Network	IPP		9478	-	Availability of IPP	1	1-2	NIC	1: Valid 2: Invalid	12	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Network	IPP		9481	-	IPP printer name	MFPserial	-	NIC	Maximum 127 letters The network-related serial number of the equipment appears at "serial"	12	-	Y	Y
08	Setting mode	System	Network			9525	-	Display of MAC address	-	-	-	(**: **: **: **: **: **) The address is displayed as above. 6-byte data is divided by colon.	2	-	Y	Y
08	Setting mode	System	Network	DHCP		9581		Enabling server's IP address acquired by DHCP	1	1-2	-	NetBIOS over TCP/IP Name Server option (44) = Primary and Secondary Wins NAME 1: Enabled 2: Disabled This value is used only when DHCP is enabled.	12	-	Y	Y
08	Setting mode	System	Network	SMTP		9584		SMTP Server Option (69) Simple Mail Server Address	2	1-2	-	OFF/ON 1: Valid 2: Invalid	12	-	Y	Y
08	Setting mode	System	Network	POP3		9585		POP3 Server Option (70) Post Office Server Address	2	1-2	-	OFF/ON 1: Valid 2: Invalid	12	-	Y	Y
08	Setting mode	System	Maintenance	General		9601	-	Equipment number (serial number) display	-	9 digits	SYS	Fist digit: Production country (fixed) Second digit: Model (fixed) Third digit: Month (variable) Fourth to ninth digit: serial number (variable) This can be also entered with 05-9043.	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9604	-	Enabling/disabling a service notification	1	0-1	SYS	0: Disabled 1: Enabled <Default value> NAD/MJD: 1 Others: 0	1	-	Y	Y
08	Setting mode	System	Maintenance	RDMS		9605	-	Sending error contents of equipment	0	0-1	SYS	0: Disabled 1: Enabled	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9606	-	Setting total counter transmission interval	-	-	SYS	(Hour/Hour/Minute/Minute)	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9607	-	Email destination address 2	-	-	SYS	Maximum 192 letters	11	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9608	-	Email destination address 3	-	-	SYS	Maximum 192 letters	11	-	Y	Y
08	Setting mode	System	Network	DHCP		9694		Enabling server's IP address acquired by DHCP	1	1-2	-	DNS domain name Option (15) DNS domain name of the client 1: Enabled 2: Disabled This value is used only when DHCP is enabled.	12	-	Y	Y
08	Setting mode	System	Maintenance	General		9700	-	Service technician telephone number	0	-	SYS	A telephone number can be entered up to 32 digits. Use the [*] button to change the character mode, and then use the [#] button to enter a hyphen(-).	11	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9756	-	User's name	-	-	SYS	Maximum 50 letters	11	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9757	-	User's telephone number	-	-	SYS	A telephone number can be entered up to 32 digits. Use the [*] button to change the character mode, and then use the [#] button to enter a hyphen(-).	11	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9758	-	User's E-mail address	-	-	SYS	Maximum 192 letters List: 256 digits	11	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9783	-	Display function	Refer to contents	0-1	SYS	Enabling/disabling Supply Notice to be displayed 0: Enabled 1: Disabled <Default value> NAD: 0 Others: 1	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9793	-	Service Notification setting	0	0-1	SYS	0: Disabled 1: Enabled	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9794	-	Destination E-mail address 1	-	-	SYS	Maximum 192 letters	11	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9795	-	Total counter information transmission setting	0	0-1	SYS	0: Invalid 1: Valid	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9796	-	Total counter transmission date setting	0	0-31	SYS	0 to 31	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9797	-	PM counter notification setting	0	0-1	SYS	0: Invalid 1: Valid	1	-	Y	Y
08	Setting mode	System	Process			9804	-	Forcible mode change in toner empty status	1	0-2	SYS	0: SLEEP MODE 1: AUTO POWER SAVE 2: READY	1	Y	Y	Y
08	Setting mode	System	Laser			9805	-	Polygonal motor standby rotation Shift waiting time at job end	3	0-9	SYS	0: 0 sec. (current setting) (Polygonal motor ready rotation at job end) 1 to 9: Setting value x 5sec.	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9880		Total counter transmission date setting (2)	0	0-31	SYS	0 to 31	1	-	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9881		Day of total counter data transmission	0	0-127	SYS	1 byte 00000000(0)-01111111(127) From the 2nd bit - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	1	-	Y	Y
08	Setting mode	System	User interface	Screen setting		9891	-	Warning message when PM time has come	1	0-1	SYS	0: No warning notification 1: Display warning notification	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	25S	25H	25F
08	Setting mode	System	Version	System software		9900	-	System software ROM version	-	-	-	System software version	2	Y	Y	Y
08	Setting mode	System	Version	Engine		9901	-	Engine ROM version	-	-	-		2	Y	Y	Y
08	Setting mode	System	Version	FAX		9905	-	FAX board ROM version	-	-	-		2	-	-	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (PPC)	9970	-	Original mode (Black)	0	0-6	SYS	0: Text/Photo 1: Text 2: Photo 3: - 4. - 5: - 6: Background Erase	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting	Image quality density	9971	-	PPC (black)	0	0-1	SYS	0: Automatic 1: Manual	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting	Blank page judgment: Default setting	9972	-	PPC	0	-3 - 3	SYS	The larger the value, the more the paper is judged as ablank page. The smaller the value, the less the paper is judged as a blank page.	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting	Blank page judgment: Default setting	9973	-	SCN	0	-3 - 3	SYS	The larger the value, the more the paper is judged as a blank page. The smaller the value, the less the paper isjudged as a blank page.	1	-	Y	Y

14. SELF-DIAGNOSIS CODE (03/04/05/08 CODE)

Input check (Test mode 03)

Items to be checked and the condition of the equipment when the buttons [A] to [H] are highlighted are listed.

Digital key	Button	Items to check	Contents		Model		
			Highlighted display e.g. A	Normal display e.g. A	28A	28M	28F
[1]	A	-	-	-	-	-	-
	B	ADU connection	Not connected	Connected	Y	Y	Y
	C	ADU TR sensor	Paper present	No paper	Y	Y	Y
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[2]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[3]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	1st drawer empty sensor	No paper	Paper present	Y	Y	Y
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[4]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	Bypass feed sensor	No paper	Paper present	Y	Y	Y
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[5]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	Externally counter connection	Not connected	Connected	Y	Y	Y
	E	Developer unit switch	Not connected	Connected	Y	Y	Y
	F	Fuser unit switch	Connected	Not connected	Y	Y	Y
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-

Digital key	Button	Items to check	Contents		Model		
			Highlighted display e.g. A	Normal display e.g. A	28A	28M	28F
[6]	A	24 V power supply	Power ON	Power OFF	Y	Y	Y
	B	High-voltage power supply abnormality	Normal	Abnormal	Y	Y	Y
	C	Main motor rotation status	Abnormal rotation	Normal rotation	Y	Y	Y
	D	Polygonal motor rotation status	Abnormal rotation	Normal rotation	Y	Y	Y
	E	ADF connection	Connected	Not connected	Y	Y	Y
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[7]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[8]	A	ADF tray sensor	Original present	No original	Y	Y	Y
	B	ADF empty sensor	Paper present	No paper	Y	Y	Y
	C	ADF cover opening/closing sensor	Cover opened	Cover closed	Y	Y	Y
	D	ADF opening/closing sensor	ADF opened	ADF closed	Y	Y	Y
	E	ADF exit sensor	Original present	No original	Y	Y	Y
	F	-	-	-	-	-	-
	G	ADF read sensor	Original present	No original	Y	Y	Y
	H	-	-	-	-	-	-
[9/0]	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
	C	-	-	-	-	-	-
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	-	-	-	-	-	-
	H	-	-	-	-	-	-
[A]	A	Registration sensor	Paper present	No paper	Y	Y	Y
	B	Exit sensor	Paper present	No paper	Y	Y	Y
	C	-	-	-	-	-	-
	D	Toner supply coverr opening/closing	Cover opened	Cover closed	Y	Y	Y
	E	-	-	-	-	-	-
	F	-	-	-	-	-	-
	G	Judgement for acceptable USB media *1	Acceptable	Not acceptable	Y	Y	Y
	H	-	-	-	-	-	-
[B]	A	Tray volume sensor(bit7)	ON	OFF	Y	Y	Y
	B	Tray volume sensor(bit6)	ON	OFF	Y	Y	Y
	C	Tray volume sensor(bit5)	ON	OFF	Y	Y	Y
	D	Tray volume sensor(bit4)	ON	OFF	Y	Y	Y
	E	Tray volume sensor(bit3)	ON	OFF	Y	Y	Y
	F	Tray volume sensor(bit2)	ON	OFF	Y	Y	Y
	G	Tray volume sensor(bit1)	ON	OFF	Y	Y	Y
	H	Tray volume sensor(bit0)	ON	OFF	Y	Y	Y

Notes:

・Be sure to check the [8] A, where ADF is closed.

・Be sure to check the [8] B, where cover is closed.

・How to enter the alphabet characters such as MC=A or MC=B in the Test Mode 03:
To enter "A", press the [*] button and then the [0] button. To enter "B", press the [*] button and then the [1] button.

*1

- Be sure to install the USB media to the equipment and check if the device can be used with this code.
- Be sure to turn OFF the write protection (the function to prevent data from erasure by the accidental recording or deleting) of the USB media before performing the check, otherwise this code cannot be used.
- It may take some time (2 sec. to 10 sec.) before this check is completed depending on the USB media.

Output check (test mode 03)

Code	Function	Procedure	Model		
			28A	28M	28F
101	Main motor ON	1	Y	Y	Y
102	Toner motor ON	1	Y	Y	Y
103	Polygonal motor ON (600 dpi)	1	Y	Y	Y
108	Registration roller clutch ON	1	Y	Y	Y
118	Laser ON	1	Y	Y	Y
120	Exit motor ON (normal rotation)	1	Y	Y	Y
121	Exit motor ON (reverse rotation)	1	Y	Y	Y
151	Main motor OFF	1	Y	Y	Y
152	Toner motor OFF	1	Y	Y	Y
153	Polygonal motor OFF (600 dpi)	1	Y	Y	Y
158	Registration roller clutch OFF	1	Y	Y	Y
168	Laser OFF	1	Y	Y	Y
170	Exit motor OFF (normal rotation)	1	Y	Y	Y
171	Exit motor OFF (reverse rotation)	1	Y	Y	Y
201	1st drawer feed clutch ON/OFF	3	Y	Y	Y
204	Bypass feed clutch ON/OFF	3	Y	Y	Y
218	Coin control counter count up	2	Y	Y	Y
222	ADU clutch ON/OFF	3	Y	Y	Y
235	Discharge lamp ON/OFF	3	Y	Y	Y
236	Suction fan ON/OFF (low speed)	3	Y	Y	Y
237	Suction fan ON/OFF (high speed)	3	Y	Y	Y
249	Developer bias [-DC1] ON/OFF	3	Y	Y	Y
250	Developer bias [AC] ON/OFF	3	Y	Y	Y
252	Main charger ON/OFF	3	Y	Y	Y
253	Separation charger ON/OFF	3	Y	Y	Y
255	Transfer guide bias ON/OFF	3	Y	Y	Y
256	Transfer charger (positive/center) ON/OFF	3	Y	Y	Y
257	Transfer charger (positive/high) ON/OFF	3	Y	Y	Y
258	Transfer charger (negative) ON/OFF	3	Y	Y	Y
261	Scan motor ON (Automatically stops at limit position; speed can be changed with the [ZOOM] button	2	Y	Y	Y
281	ADF original feed motor ON/OFF (normal rotation)	3	Y	Y	Y
282	ADF original feed motor ON/OFF (reverse rotation)	3	Y	Y	Y
289	Developer cooling fan ON/OFF (high speed)	3	Y	Y	Y
302	Modem test 14.4KBPS(V17)	2	-	-	Y
303	Modem test 9.6KBPS(V29)	2	-	-	Y
304	Modem test 4.8KBPS(V27)	2	-	-	Y
311	Modem test 33.6KBPS(V.34)	2	-	-	Y
315	Dial test 10PPS (Send 0-9 automatically)	5	-	-	Y
316	Dial test 20PPS (Send 0-9 automatically)	5	-	-	Y
317	Dial test PB (Send 0-9,*,# automatically)	5	-	-	Y
323	Dial test PB (Send 0~9,*,# based on operation)	5	-	-	Y
324	Modem test OFF-HOOK	2	-	-	Y
325	Modem test ON-HOOK	2	-	-	Y

Test print mode (test mode 04)

Code	Types of test pattern	Remarks	Remarks	Output from	Model		
					28A	28M	28F
111	Main scanning direction 33 gradation steps	Error diffusion	1		Y	Y	Y
114	Secondary scanning direction 17 gradation steps	Error diffusion	1		Y	Y	Y
142	Grid pattern	Pattern width: 2 dots, Pitch: 10 mm	1		Y	Y	Y

Adjustment Mode (05) Codes

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Process	Development			2000	-	Auto toner sensor auto adjustment (heater ON)	-	-	-	As the value increases, the sensor output increases correspondingly.	17	Y	Y	Y
05	Adjustment mode	Process	Development			2001	-	Auto toner sensor manual adjustment (heater ON)	165	0-255	M	Corrects the control value of the auto-toner sensor setup in 05-2000. * Selection is disable when developer unit is not installed.	3	Y	Y	Y
05	Adjustment mode	Process	Development			2020	-	Developer bias DC output adjustment	131	0-255	M	As the value increases, the transformer output increases correspondingly.	3	Y	Y	Y
05	Adjustment mode	Process	Charger			2040	-	Main charger grid bias output adjustment	123	0-255	M	As the value increases, the transformer output increases correspondingly.	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2052	-	Transfer transformer DC output adjustment (Center)	138	78-255	M	As the value increases, the transformer output increases correspondingly. (Main motor, main charger, discharge LED, transfer ON)	3	Y	Y	Y
05	Adjustment mode	Process	Separation			2078	-	Separation transformer DC output adjustment (Center)	52	0-255	M	As the value increases, the transformer output increases correspondingly. (Main motor, discharge LED, separation DC / separation AC ON)	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2083	-	Transfer cleaning bias adjustment (Positive)	118	78-255	M	The larger the setting value is, the higher the value of the current (more positive) is.	3	Y	Y	Y
05	Adjustment mode	Process	Transfer			2084	-	Transfer cleaning bias adjustment (Negative)	66	0-77	M	The larger the setting value is, the higher the value of the current (more negative) is.	3	Y	Y	Y
05	Adjustment mode	Process	Image control			2192	-	Relative humidity latest value	50	0-100	M	Displays the humidity value detected by temperature/humidity sensor.	2	Y	Y	Y
05	Adjustment mode	Process	Image control			2194	-	Temperature latest value	25	0-50	M	Displays the temperature value detected by temperature/humidity sensor.	2	Y	Y	Y
05	Adjustment mode	Process	Image control			2196	-	Drum temperature latest value	25	0-100	M	(Unit: degrees C)	2	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Process	Image control			2250	-	Laser power adjustment	118	0-255	M	When the value increases, the laser output increases correspondingly.	3	Y	Y	Y
05	Adjustment mode	Process	Image control			2382	-	Reverse time of the drum	13	0-255	M		1	Y	Y	Y
05	Adjustment mode	Process	Image control			2390	-	Forced performing of idling for toner recycle	-	-	M	Perform this adjustment before the replacement of the developer material. (The toner is forcibly removed from the cleaner.)	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Image location adjustment		3030	-	Primary scanning direction	120	0-255	M	When the value increases by "1", the image shifts by approx. 0.0423 mm toward the front side of the paper.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Image location adjustment		3031	-	Secondary scanning direction	124	0-255	M	When the value increases by "1", the image shifts by approx. 0.13013 mm toward the trailing edge of the paper.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Reproduction ratio adjustment		3032	-	Secondary scanning direction	122	0-255	M	When the value increases by "1", the reproduction ratio in the secondary scanning direction (vertical to paper feeding direction) increases by approx. 0.025%.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Shading position adjustment		3034	-	Original glass	117	92-165	M	0.13013mm/step	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	Shading position adjustment		3035	-	ADF	133	92-165	M	0.13013mm/step	1	Y	Y	Y
05	Adjustment mode	Scanner	RADF	Adjustment of RADF paper alignment		3040	-	Single sided original	12	0-30	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF	Adjustment of RADF paper alignment		3041	-	Double sided original	12	0-30	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3042	-	Fine adjustment of the RADF transport speed	50	0-100	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3043	-	RADF sideways deviation adjustment	128	0-255	M		1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Scanner	RADF	RADF leading edge position adjustment		3044	-	Single sided original	50	0-100	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF	RADF leading edge position adjustment		3045	-	Double sided original	50	0-100	M		1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3046	-	Carriage position adjustment during scanning from RADF (black)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3047	-	Carriage position adjustment during scanning from RADF (color)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3050	-	Adjustment of the RADF tray volume (minimum)	20	0-255	M	This is used for improving the detection accuracy of the width of the original set on the original tray. The condition of the sensor when the tray width is minimized is memorized. The appropriate range of the adjustment value is between 0 and 100.	6	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3051	-	Adjustment of the RADF tray volume (maximum)	220	0-255	M	This is used for improving the detection accuracy of the width of the original set on the original tray. The condition of the sensor when the tray width is maximized is memorized. The appropriate range of the adjustment value is between 200 and 255.	6	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3052	-	Adjust ment for DF trailing edge tolerance (black)	115	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3053	-	Adjust ment for DF trailing edge tolerance (Color 600 dpi)	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Scanner	RADF			3054	-	Adjust ment for DF trailing edge tolerance (Color 300 dpi)	132	0-255	M		1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Scanner	Scanner	LED		3219	-	Light volume adjustment (color/black)	-	-	M	Light volume adjustment of LED is performed. Adjustment for color scans is performed after the adjustment for a black scan.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	LED		3220	-	Light volume adjustment (black)	-	-	M	Light volume adjustment of LED is performed. Only adjustment for black scans is performed.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner	LED		3221	-	Light volume adjustment (color)	-	-	M	Light volume adjustment of LED is performed. Only adjustment for color scans is performed.	6	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	1	Final result of the peak detection black level adjustment (CH1)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	2	Final result of the peak detection black level adjustment (CH2)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3222	3	Final result of the peak detection black level adjustment (CH3)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	1	Final result of the peak detection white level adjustment (CH1)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	2	Final result of the peak detection white level adjustment (CH2)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3223	3	Final result of the peak detection white level adjustment (CH3)	0	0-32767	M	It is dark when a value is small. It is bright when a value is large.	10	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3224	-	LED (R1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (R1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3225	-	LED (G1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (G1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Scanner	Scanner			3226	-	LED (B1) current effective value setting (monochrome scanning)	60	0-255	M	This is setting value of LED (B1), for light quantity adjustment in case of monochrome scan. It will become bright if a value is enlarged.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3306	0	LED (R1) current effective value setting (clolor scanning) 600/400dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3306	1	LED (R1) current effective value setting (clolor scanning) 300/200/150dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3307	0	LED (G1) current effective value setting (clolor scanning) 600/400dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3307	1	LED (G1) current effective value setting (clolor scanning) 300/200/150dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3308	0	LED (B1) current effective value setting (clolor scanning) 600/400dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Scanner	Scanner			3308	1	LED (B1) current effective value setting (clolor scanning) 300/200/150dpi	128	0-255	M	It will become bright if a value is enlarged. The light is put out by 0.	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PPC	Reproduction ratio correction value in primary scanning direction	4000	-	Fine adgustment of image writing frequency (PPC)	128	0-255	M	1Step0.05%. If this value is 128, frequency is same as 05-4001. If it is not 128, that difference is added to 05-4001. If the value increases, magnification also increases (the dimension E will be longer).(0.6mm/4 steps)	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PRT	Reproduction ratio correction value in primary scanning direction	4001	-	Fine adjustment of polygonal motor rotation speed (adjustment of primary scanning direction reproduction ratio)	128	0-255	M	1Step0.05% If the value increases, magnification of the dimension A becomes bigger (longer).(0.4mm/4 steps)	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Laser	PPC		4005	-	Laser writing start position	150	0-255	M	When the value increases by "1", the writing start position shifts to the front side by approx. 0.0423 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Laser	PRT		4006	-	Laser writing start position	150	0-255	M	When the value increases by "1", the writing start position shifts to the front side by approx. 0.0423 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	PPC/PRT	Reproduction ratio in the secondary scanning direction (For resolutions in inches)	4009	-	Fine adjustment of the rotational speed of the main motor	128	0-255	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.14mm/step.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	FAX	Reproduction ratio in the secondary scanning direction (For FAX resolutions in millimeters)	4010	-	Fine adjustment of the rotational speed of the main motor	128	0-255	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.14mm/step.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	PPC/PRT	For resolutions in inch	4013	-	Fine adjustment of the rotational speed of the exit motor	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Printer	Image	FAX	For FAX resolutions in millimeters	4014	-	Fine adjustment of the rotational speed of the exit motor	128	0-255	M		1	Y	Y	Y
05	Adjustment mode	Printer	Image	Adjustment of drawer sideways deviation		4018	0	Upper drawer	128	0-255	M	When the value increases by "1", the image shifts toward the front side by 0.0423 mm.	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Adjustment of drawer sideways deviation		4018	5	Bypass feeding	128	0-255	M	When the value increases by "1", the image shifts toward the front side by 0.0423 mm.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Image	Adj. of primary scan. writing start	Duplex feeding	4019	0	Long size	144	0-255	M	If the value increases, the dimension B becomes longer.(about 0.5mm/10 steps)	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Adj. of primary scan. writing start	Duplex feeding	4019	1	Short size	144	0-255	M	If the value increases, the dimension B becomes longer.(about 0.5mm/10 steps)	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4050	-	Top margin	60	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4051	-	Left margin	50	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4052	-	Right margin	50	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PPC	4053	-	Bottom margin	50	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4054	-	Top margin	24	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4055	-	Left margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4056	-	Right margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Margin adjustment	PRINT	4057	-	Bottom margin	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.042 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4058	-	Upper drawer	27	0-40	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4061	-	Bypass feeding	8	0-15	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Image	Leading edge position adjustment		4062	-	Duplexing feeding	8	0-15	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.54 mm.	1	Y	Y	Y
05	Adjustment mode	Printer	Image	Bottom margin adjustment / Reverse side at duplexing		4064	0	Void adjustment	29	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423 mm.	4	Y	Y	Y
05	Adjustment mode	Printer	Image	Right margin adjustment / Reverse side at duplexing		4064	1	Void adjustment	0	0-255	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423 mm.	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	0	Plain paper; Long size	46	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	1	Plain paper; Middle size	46	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Upper drawer	4100	2	Plain paper; Short size	46	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	0	Thin paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	1	Thin paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	2	Thin paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4102	3	Thin paper; Postcard	44	0-63	M	Paper length: postcard	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	0	Plain paper; Long size	49	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	1	Plain paper; Middle size	49	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4103	2	Plain paper; Short size	49	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	0	Thick paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	1	Thick paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4104	2	Thick paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	0	Thick1 paper; Long size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	1	Thick1 paper; Middle size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4105	2	Thick1 paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4106	0	Thick2 paper; Short size	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4106	1	Thick2 paper; Short size	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4106	2	Thick2 paper; Short size	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	0	OHP film; Long size	37	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	1	OHP film; Middle size	37	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4107	2	OHP film; Short size	37	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	0	Plain paper; Long size	27	0-63	M	Paper length: 330 mm or longer	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	1	Plain paper; Middle size	27	0-63	M	Paper length: 220 to 329 mm	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	ADU	4110	2	Plain paper; Short size	28	0-63	M	Paper length: 219 mm or shorter	4	-	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	0	Plain paper	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	1	Postcard	8	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	3	Envelope	8	0-20	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	4	Thick paper	0	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	5	Thick paper 1	8	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	6	Thick paper 2	8	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Adjustment of paper pushing amount at bypass feeding		4112	7	OHP film	8	0-20	M		4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	0	Envelope	44	0-63	M	Paper length: 330 mm or longer	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	1	Envelope	44	0-63	M	Paper length: 220 to 329 mm	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment	Bypass feeding	4405	2	Envelope	44	0-63	M	Paper length: 219 mm or shorter	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper aligning amount adjustment		4828	0	Plain paper	0	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restartt		4828	1	Postcard	8	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restart		4828	3	Envelope	8	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restart		4828	4	Thick paper	0	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restart		4828	5	Thick paper 1	8	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restart		4828	6	Thick paper 2	8	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Printer	Feeding system / Paper transport	Paper feed roller at the time of registration roller restart		4828	7	OHP film	8	0-32	M	To re-start of the resist roller Time the paper feed roller starts to move ahead	4	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	PPC (black)		7025	-	RADF	105	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	Network scan (Color)		7026	-	RADF	105	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7033	-	Text/Photo	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7034	-	Text	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)		7043	-	Photo	128	0-255	M	As the adjustment value becomes larger, the background becomes darker. As the adjustment value becomes smaller, the background becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7056	-	Text/Photo	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7057	-	Text	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7058	-	Photo	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Sharpness adjustment	PPC (black)		7063	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes sharper. As the adjustment value becomes smaller, the image becomes softer.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	PPC (black)	Background offset adjustment	7107	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the background becomes lighter. As the adjustment value becomes smaller, the background becomes darker.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7114	-	Text/Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7115	-	Text	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Manual density adjustment: center	7116	-	Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7123	-	Text/Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7124	-	Text	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	PPC (black)	Automatic density adjustment	7125	-	Photo	128	0-255	M	The larger the value is, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing		PPC (black)	Auto density adjustment	7142	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes darker. As the adjustment value becomes smaller, the image becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing		PPC (black)	Manual density adjustment	7143	-	Back ground erase	128	0-255	M	As the adjustment value becomes larger, the image becomes darker. As the adjustment value becomes smaller, the image becomes lighter.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Automatic gamma adjustment	PPC (black)	Text/Photo, Text, Background erase	7165	-	Tone pattern reading (error diffusion for black)	-	-	M	Excute a gamma adjustment	7	Y	Y	Y
05	Adjustment mode	Image Processing	Automatic gamma adjustment	PPC (black)	Photo	7167	-	Tone pattern reading (binary dithering for black)	-	-	M	Excute a gamma adjustment	7	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text/Photo	7190	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Text	7191	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	1	Midium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PPC (black)	Photo	7192	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text/Photo	7218	4	Beam level 4/4	7	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Text	7219	4	Beam level 4/4	9	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Photo	7220	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PPC (black)	Back ground erase	7223	4	Beam level 4/4	9	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	0	Low density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	1	Middle density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / smooth / 600 dpi	7317	2	High density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	0	Low density	128	0-255	M	As the value becomes larger, the density in the low density area increases. As the value becomes smaller, the density in the low density area decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	1	Middle density	128	0-255	M	As the value becomes larger, the density in the medium density area increases. As the value becomes smaller, the density in the medium density area decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	PRT (black)	PCL / detail / 600 dpi	7318	2	High density	128	0-255	M	As the value becomes larger, the density in the high density value increases. As the value becomes smaller, the density in the high density value decreases.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	1	Beam level 1/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	2	Beam level 2/4	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	3	Beam level 3/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode OFF	7350	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	0	Beam level 0/4)	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	1	Beam level 1/4	2	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	2	Beam level 2/4	3	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	3	Beam level 3/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Toner saving mode ON	7352	4	Beam level 4/4	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	0	Beam level conversion setting (Test print) (Black, beam level 0/4)	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	1	Beam level conversion setting (Test print) (Black, beam level 1/4)	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	2	Beam level conversion setting (Test print) (Black, beam level 2/4)	5	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	3	Beam level conversion setting (Test print) (Black, beam level 3/4)	6	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	PRT (black)	Test print	7355	4	Beam level conversion setting (Test print) (Black, beam level 4/4)	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7430	-	Text/Photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7431	-	Text	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7432	-	Photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (black)		7433	-	Grayscale	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7444	-	Text/Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7445	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7446	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Manual adjustment / Center value	7447	-	Grayscale	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7456	-	Text/Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7457	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7458	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (black)	Automatic density adjustment	7459	-	Grayscale	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text/ Photo	7485	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Text	7486	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Photo	7487	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	0	Low density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	1	Medium density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Gamma balance adjustment	SCN (black)	Grayscale	7488	2	High density	128	0-255	M	The larger the value, the darker the image of the area surrounding the target area becomes.	4	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Manual density adjustment / center value	7533	-	Text/photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Threshold adjustment	FAX (black)	Adjustment of the threshold value for simple binarization / center value	7534	-	Text	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Manual density adjustment / center value	7535	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Automatic density adjustment	7542	-	Text/photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	FAX (black)	Automatic density adjustment	7543	-	Photo	128	0-255	M	The larger the value, the darker the image at the center value becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	0	Beam level 0/4	0	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	1	Beam level 1/4	2	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	2	Beam level 2/4	3	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	3	Beam level 3/4	4	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Setting beam level conversion	FAX (black)		7595	4	Beam level 4/4	8	0-10	M	As the value becomes smaller, the beam in the primary scanning direction becomes narrower, and the dot is reproduced in a smaller size accordingly.	4	-	-	Y
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8309	-	Text/photo	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8310	-	Text	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background adjustment	SCN (color)		8311	-	Photo (developing paper)	128	0-255	M	The background level of background center value is adjusted. The smaller the value, the lighter the background becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8314	-	Text/photo	1	0-4	M	The larger the value, the darker the black side of the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8315	-	Text	0	0-4	M	The larger the value, the darker the black side of the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Fine adjustment of black density	SCN (color)		8316	-	Photo (developing paper)	0	0-4	M	The larger the value, the darker the black side of the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8319	-	Text/photo	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	Y	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8320	-	Text	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	Y	Y	Y
05	Adjustment mode	Image Processing	RGB conversion method selection	SCN (color)		8321	-	Photo (developing paper)	0	0-3	M	Sets the color space format of the output image. 0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB	1	Y	Y	Y
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8324	-	Text/photo	128	0-255	M	The larger the value, the brighter the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8325	-	Text	128	0-255	M	The larger the value, the brighter the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Saturation adjustment	SCN (color)		8326	-	Photo (developing paper)	128	0-255	M	The larger the value, the brighter the image becomes.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8335	-	Text	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8336	-	Photo (developing paper)	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8339	-	Photo (developing paper)	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8340	-	Text	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Density adjustment	SCN (color)	Density adjustment (center value)	8341	-	Photo (developing paper)	128	0-255	M	Adjusts the center density and the variation of density adjustment buttons. The larger the value, the darker the image becomes.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Sharpness adjustment	SCN (color)		8354	-	Text/photo	128	0-255	M	The larger the value, the sharper the image becomes. The smaller the value, the softer the image becomes and the less moire appears.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8400	-	Text/photo	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8402	-	Photo	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	Y	Y	Y
05	Adjustment mode	Image Processing	Background offset adjustment	SCN (black)	Automatic density adjustment	8403	-	Grayscale	128	0-255	M	As the value becomes larger, the more background is removed. As the value becomes smaller, the less background is removed.	1	Y	Y	Y
05	Adjustment mode	System	Maintenance			9043	-	Equipment number (serial number) display	-	-	M	If this code is performed, 08-9601 is performed. 7 digits out of 9 digits can be entered except for upper 2 digits (fixed digits).	11	Y	Y	Y
05	Adjustment mode	System	LCD adjustment			9963	-	Adjustment of LCD display contrast center value	128	118-138	M	It becomes dark when add an adjustment value. It becomes bright when reduce an adjustment value.	1	Y	Y	Y
05	Adjustment mode	System	Density adjustment	Fine adjustment of black density PPC (black)		9964	-	Automatic density adjustment/Center value	2	0-4	M	0:-2 1:-1 2:0 (Default) 3:1 4:2	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
05	Adjustment mode	System	Density adjustment	Fine adjustment of black density PPC (black)		9965	-	Manual density adjustment/Center value	2	0-4	M	0:-2 1:-1 2:0 (Default) 3:1 4:2	1	Y	Y	Y

Setting Mode (08) Codes

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser			2002	-	Fuser unit error status counter	0	0-62	M	0: No error 1: C411 error 2: C412 error 3: C413 error 4: C414 error 5: C415 error 7: C447 error 9: C449 error 19: C449 error 21: C449 error 22: C449 error 23: C449 error 24: C447 error 25: C449 error 27: C449 error 45: C449 error 62: C452 error Than the above: C4B0	1	Y	Y	Y
08	Setting mode	Process	Fuser			2009	-	Fuser roller temperature on standby (Center thermistor)	8	0-12	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2010	-	Fuser roller temperature during printing (Center thermistor/Plain paper)	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2028		Thick paper 2	13	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2031		Thick paper 2	12	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser			2040	-	Drop control when ready	1	0-2	M	0: Invalid, 1: Valid, 2: Invalid in low temperature	1	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Center thermistor)		2041	3	The fourth drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Fuser roller temperature	Energy Saving Mode	2042	-	Center thermistor	0	0-13	M	0: OFF 1: 40 degrees C 2: 50 degrees C 3: 60 degrees C 4: 70 degrees C 5: 80 degrees C 6: 90 degrees C 7: 100 degrees C 8: 110 degrees C 9: 120 degrees C 10: 130 degrees C 11: 140 degrees C 12: 150 degrees C 13: 160 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2049	-	Thick paper	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2050	-	Thick paper 1	13	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2051	-	OHP film	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2052	-	OHP film	0	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2053	-	Plain paper-low temp. environment	0	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2054	-	Thick paper	10	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser	1st printing pre-running operating time		2055	-	Tthick paper 1	12	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13 : 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process	Fuser			2075	-	Ready and preheat pre-running operating frequency	4	0-6	M	0: Not controlled 1: 0.5h 2: 1.0h 3: 1.5h 4: 2.0h 5: 2.5h 6: 3.0h	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser			2090	-	Printing temperature drop control	1	0-6	M	0: Invalid 1: (Normal temperature / Low temperature) Plain paper and Thick paper 1 Valid 2: (Normal temperature / Low temperature) Valid (except for Envelope) 3: (Normal temperature) Plain paper and Thick paper 1 Valid 4: (Normal temperature / Low temperature)Plain paper 5: (Normal temperature) Plain paper 6: (Normal temperature) Valid (except for Envelope)	1	Y	Y	Y
08	Setting mode	Process	Fuser			2100	-	Temperature setting of warming-up (Center thermistor)	5	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2101	-	Temperature setting of warming-up (Side thermistor)	5	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2111	-	Pre-running time (Normal temperature)	0	0-18	M	0: Disabled 1: 1 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 9 sec. 10: 10 sec. 11: 15 sec. 12: 20 sec. 13: 25 sec. 14: 30 sec. 15: 40 sec. 16: 50 sec. 17: 60 sec. 18: 150 sec.	1	Y	Y	Y
08	Setting mode	Process	Fuser			2120	-	Fuser roller temperature in ready status (Side thermistor)	8	0-12	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	0	The first drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	1	The second drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Temperature drop setting in ready status (Side thermistor)		2121	3	The fourth drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	0	The first drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	1	The second drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	2	The third drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Center thermistor)		2133	3	The fourth drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	0	The first drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	1	The second drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	2	The third drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Ready temperature drop switching time (Side thermistor)		2134	3	The fourth drop	10	1-60	M	Setting value x 1 min.: from 1 to 60 min. later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2140	-	Plain paper	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2141	-	Thick paper	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2142	-	Thick paper 1	11	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2143	-	OHP film	8	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	0	The first drop	1	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)		2190	3	The fourth drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	1	The second drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)		2191	3	The fourth drop	5	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Center thermistor)		2194	-	Envelope	13	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Fuser roller temperature during printing (Side thermistor)		2195	-	Envelope	11	0-14	M	0: 140 degrees C 1: 145 degrees C 2: 150 degrees C 3: 155 degrees C 4: 160 degrees C 5: 165 degrees C 6: 170 degrees C 7: 175 degrees C 8: 180 degrees C 9: 185 degrees C 10: 190 degrees C 11: 195 degrees C 12: 200 degrees C 13: 205 degrees C 14: 210 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	0	The first drop	20	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	1	The second drop	30	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	2	The third drop	40	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)	Thick paper	2198	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	0	The first drop	4	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	1	The second drop	30	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	2	The third drop	40	0-200	M	Setting value x 5 seconds later: from 0 to 1000 seconds	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)	Thick paper	2199	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	0	The first drop	1	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	1	The second drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	2	The third drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Center thermistor)	Thick paper	2200	3	The fourth drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	0	The first drop	2	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	1	The second drop	3	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	2	The third drop	4	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop setting during printing (Side thermistor)	Thick paper	2201	3	The fourth drop	5	0-10	M	Setting value x -5 degrees C: from 0 degrees C to -50 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at ordinary temperature)	Plain paper	2205	0	Center thermistor	8	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Temperature control lower limit (at ordinary temperature)	Plain paper	2205	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at Low temperature)	Plain paper	2206	0	Center thermistor	8	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit (at Low temperature)	Plain paper	2206	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	OHP film	2207	0	Center thermistor	7	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	OHP film	2207	1	Side thermistor	5	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper	2208	0	Center thermistor	8	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper	2208	1	Side thermistor	6	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 1	2209	0	Center thermistor	11	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 1	2209	1	Side thermistor	9	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 2	2210	0	Center thermistor	11	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Thick paper 2	2210	1	Side thermistor	9	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Envelope	2211	0	Center thermistor	11	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature control lower limit	Envelope	2211	1	Side thermistor	9	0-12	M	0: 130 degrees C 1: 135 degrees C 2: 140 degrees C 3: 145 degrees C 4: 150 degrees C 5: 155 degrees C 6: 160 degrees C 7: 165 degrees C 8: 170 degrees C 9: 175 degrees C 10: 180 degrees C 11: 185 degrees C 12: 120 degrees C	4	-	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	0	The first drop	20	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	1	The second drop	30	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	2	The third drop	40	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Center thermistor)		2212	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	0	The first drop	4	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	1	The second drop	30	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	2	The third drop	40	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Temperature drop switching time setting during printing (Side thermistor)		2213	3	The fourth drop	75	0-200	M	Setting value x 5 seconds: from 0 to 1000 seconds later	4	Y	Y	Y
08	Setting mode	Process	Fuser	Energy Saving Mode	Fuser roller temperature	2250	-	Side thermistor	0	0-13	M	0: OFF 1: 40 degrees C 2: 50 degrees C 3: 60 degrees C 4: 70 degrees C 5: 80 degrees C 6: 90 degrees C 7: 100 degrees C 8: 110 degrees C 9: 120 degrees C 10: 130 degrees C 11: 140 degrees C 12: 150 degrees C 13: 160 degrees C	1	Y	Y	Y
08	Setting mode	Process	Fuser			2282	-	Pre-running time for first printing (Envelope)	12	0-15	M	0: Invalid 1: 1sec 2: 2sec 3: 3sec 4 : 4sec 5: 5sec 6: 6sec 7: 7sec 8: 8sec 9: 9sec 10: 10sec 11: 12sec 12: 14sec 13: 16sec 14: 18sec 15: 20sec	1	Y	Y	Y
08	Setting mode	Process				2827	-	Developer bias AC control ON/OFF	1	0-2	M	0: ON 1: ON-OFF 2: OFF	1	Y	Y	Y
08	Setting mode	Process				2835	-	Switching of recycled toner saving control	0	0-1	M	0: Switched 1: Not switched	1	Y	Y	Y
08	Setting mode	Process				2837	-	Correction by temperature/humidity	0	0-3	M	Sets the correction by temperature/humidity. 0: All valid 1: All invalid 2: Valid only in auto-toner sensor 3: All valid except separation	1	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)	PCL	2920	0	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Toner saving mode)		2920	1	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)		2920	2	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Text)		2920	3	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Photo)		2920	4	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal)	GDI	2920	5	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction		2920	6	FAX	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)	PCL	2921	0	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Toner saving mode / OHP film)		2921	1	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)		2921	2	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Text / OHP film)		2921	3	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Photo / OHP film)		2921	4	PPC	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer	Developer bias Hi1correction (Normal / OHP film)	GDI	2921	5	PRT	108	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer			2922	-	Developer bias Hi2correction	123	0-255	M	Compensation value: GAP from 128 is given to an execution value	1	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)	PCL	2926	0	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Charger	Main charger bias correction (Normal / Toner saving mode)		2926	1	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)		2926	2	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Text)		2926	3	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Photo)		2926	4	PPC	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (Normal)	GDI	2926	5	PRT	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Charger	Main charger bias correction (FAX)		2926	6	FAX	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y
08	Setting mode	Process	Charger	Main charger bias correction (Toner saving mode / OHP film)		2927	1	PRT	98	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	0	Transfer transformer DC correction (H)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	1	Transfer transformer DC correction (C)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2928	2	Transfer transformer DC correction (L)	110	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	0	Transfer compensation value (H) Thick paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	1	Transfer compensation value (C) Thick paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2929	2	Transfer compensation value (L) Thick paper	122	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2930	0	Transfer compensation value (H) Thick paper 1	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2930	1	Transfer compensation value (C) Thick paper 1	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Transfer			2930	2	Transfer compensation value (L) Thick paper 1	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	0	Transfer compensation value (H) OHP film	116	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	1	Transfer compensation value (C) OHP film	112	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2932	2	Transfer compensation value (L) OHP film	118	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2933	0	Transfer compensation value (H) Envelope	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2933	1	Transfer compensation value (C) Envelope	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2933	2	Transfer compensation value (L) Envelope	132	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	0	Separation compensation value (H)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	1	Separation compensation value (C)	117	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2934	2	Separation compensation value (L)	106	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2935	0	Separation compensation value (H) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2935	1	Separation compensation value (C) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2935	2	Separation compensation value (L) Duplex printing	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Separation			2936	0	Separation compensation value (H) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2936	1	Separation compensation value (C) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2936	2	Separation compensation value (L) OHP film	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT	PCL	2940	0	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT		2940	1	Laser power compensation (Toner saving mode)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PPC		2940	2	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PPC		2940	3	Laser power compensation (Text)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PPC		2940	4	Laser power compensation (Photo)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	PRT	GDI	2940	5	Laser power compensation (Normal)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Laser	FAX		2940	6	Laser power compensation (FAX)	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	-	-	Y
08	Setting mode	Process	Separation			2961	0	Transfer compensation value (H) Thick paper 2	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2961	1	Transfer compensation value (C) Thick paper 2	134	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation			2961	2	Transfer compensation value (L) Thick paper 2	122	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2963	0	Transfer leading edge output compensation value (H) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Transfer			2963	1	Transfer center output compensation value (C) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Transfer			2963	2	Transfer trailing edge output compensation value (L) Thin paper	128	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	0	Separation leading edge output compensation value (H) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	1	Separation center output compensation value (C) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Separation	ALL		2966	2	Separation trailing edge output compensation value (L) Thin paper	135	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Developer			2978	-	Switching of development contrast life correction	0	0-8	M	0: No correction 1: Correction amount - small (-30V), correction length - short (0 to 0.7k sheets) 2: Correction amount - medium (-60V), correction length - short (0 to 5k sheets) 3: Correction amount - large (-90V), correction length - middle (0 to 11k sheets) 4: Correction amount - small (-30V), correction length - middle (0 to 5k sheets) 5: Correction amount - medium (-60V), correction length - long (0 to 12k sheets) 6: Correction amount - large (-90V), correction length - long (0 to 13k sheets) 7: Correction amount - medium (-60V), correction length - middle (0 to 10k sheets) 8: Correction amount - large (-85V), correction length - short (0 to 7k sheets)	1	Y	Y	Y
08	Setting mode	Process	Transfer			2987	-	Transfer bias output correction between sheets of paper	94	0-255	M	Compensation value: GAP from 128 is given to an execution value	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Scanner				3127	-	Light intensity control status (Black)	0	0-6	M	Displays the status of the light intensity adjustment control results in black. 0 : Normal end 1 : R1 level abnormality 2 : G1 level abnormality 3 : B1 level abnormality 4 : R2 level abnormality 5 : G2 level abnormality 6 : B2 level abnormality	1	Y	Y	Y
08	Setting mode	Scanner				3128	-	Light intensity control status (Color)	0	0-6	M	Displays the status of the light intensity adjustment control results in color. 0 : Normal end 1 : R1 level abnormality 2 : G1 level abnormality 3 : B1 level abnormality 4 : R2 level abnormality 5 : G2 level abnormality 6 : B2 level abnormality	1	Y	Y	Y
08	Setting mode	Scanner				3130	-	Peak detection black level control status	0	0-255	M	Displays the status when the error occurred when adjusting the black level at the time of peak detection. bit0 = 1: CH1 black level abnormality bit1 = 1: CH2 black level abnormality bit2 = 1: CH3 black level abnormality bit3 = 1: CH4 black level abnormality bit4 = 1: CH5 black level abnormality bit5 = 1: CH6 black level abnormality bit6 = 1: Time over	1	Y	Y	Y
08	Setting mode	Scanner				3131	-	Peak detection white level control status (Black)	0	0-255	M	Displays the status when the error occurred when adjusting the white level of detection at peak of black mode. bit0 = 1: CH1 white level abnormality bit1 = 1: CH2 white level abnormality bit2 = 1: CH3 white level abnormality bit3 = 1: CH4 white level abnormality bit4 = 1: CH5 white level abnormality bit5 = 1: CH6 white level abnormality bit6 = 1: Time over	1	Y	Y	Y
08	Setting mode	Scanner				3132	-	Peak detection white level control status (Color)	0	0-255	M	Displays the status when the error occurred when adjusting the white level of detection at peak of color mode. bit0 = 1: CH1 white level abnormality bit1 = 1: CH2 white level abnormality bit2 = 1: CH3 white level abnormality bit3 = 1: CH4 white level abnormality bit4 = 1: CH5 white level abnormality bit5 = 1: CH6 white level abnormality bit6 = 1: Time over	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General			3612	-	Date of unpacking	-	-	M	Year/month/date/day/hour/minute/second Example: 03 07 0 13 13 27 48 "Day" - "0" is for "Sunday". Proceeds Monday through Saturday from "1" to "6".	11	Y	Y	Y
08	Setting mode	System	General			3615	-	List print USB storage setting	0	0-1	M	0: Enable (USB storage available) 1: Disable (USB storage not available)	1	Y	Y	Y
08	Setting mode	System	General			3619	-	Clearing of service history list file	-	-	M	Initializes the service history list file.	3	Y	Y	Y
08	Setting mode	System	General			3754	-	Switching DPWS Printer setting	1	1-2	M	DPWS Printer function is switched. 1: Enabled 2: Disabled	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3767	-	Switching IPv6 setting	2	1-2	M	IPv6 function is switched. 1: Enabled 2: Disabled	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3768	-	IPv6 Address Acquisition	2	1-3	M	IP (IPv6) Address Acquisition setting is switched. 1: Manual 2: Stateless 3: Stateful	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3770	-	IPv6 Address	-	-	-	Displays IPv6 address. Maximum 40 characters (byte).	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3771	-	Prefix display setting	-	-	-	Sets the length of the displayed prefix. Maximum 3 characters (byte).	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3772	-	Default Gateway setting	-	-	-	Sets the default gateway for IPv6 address. Maximum 40 characters (byte).	12	Y	Y	Y
08	Setting mode	System	Network			3774	-	DHCPOptionsEnableDisableforManual	2	1-2	M	DHCPv6 Option is switched when the Manual is set. 1: Enabled 2: Disabled	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3781	-	Primary DNS Server Address Registration	-	-	-	Registration of Primary DNS Server Address. Maximum 40 characters (byte).	12	Y	Y	Y
08	Setting mode	System	Network	IPv6		3782	-	Secondary DNS Server Address Registration	-	-	-	Registration of Secondary DNS Server Address. Maximum 40 characters (byte).	12	Y	Y	Y
08	Setting mode	System	Network			3793	-	Switching LLTD setting	1	1-2	NIC	LLTD function is switched. 1: Enabled 2: Disabled	12	Y	Y	Y
08	Setting mode	System	General	USB media direct printing		3802		Paper size	Refer to contents	0-13	SYS	0: LD 1: LG 2: LT 3: COMPUTER 4: ST 5: A3 6: A4 7: A5 9: B4 10: B5 11: FOLIO 12: 13"LG 13: 8.5"x8.5" <Default> NAD: 2 Others: 6	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General	USB media direct printing		3803		Disabled/enabled	1	0-1	SYS	Sets the USB media direct printing function. 0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	System	FAX			3847		Machine name/PC name listed in the body of the event notification	1	0-2	SYS	FAX mistransmission prevention function is switched. When "0 (OFF)" is set, fax transmission can be done manually. 0: OFF 1: Confirm 2: Input	1	-	-	Y
08	Setting mode	System	FAX			3848		Prohibition of selection of an address from the telephone book	0	0-1	SYS	Availability of destination selection from the Telephone Book is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF 1: ON	1	-	-	Y
08	Setting mode	System	FAX			3849		Prohibition of direct entry of a destination	0	0-1	SYS	Availability of direct entry is switched as one of FAX mistransmission prevention functions when setting FAX destinations. 0: OFF 1: ON	1	-	-	Y
08	Setting mode	System	FAX			3951	-	Restriction on the use of the Telephone book book	0	0-1	SYS	The following is restricted. 0: OFF 1: Telephone Book 2: E-Mail 3: Both Telephone Book and E-Mail	1	-	-	Y
08	Setting mode	System	FAX			3952		When FAX data is stored in memory [FAX] button blink or not	0	0-1	SYS	0: Not blink 1: Blink	1	-	-	Y
08	Setting mode	System	General			3954	-	Automatic Transition to Sleep Mode after Printing	1	0-1	SYS	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	System	ALL			3955	-	LCD Contrast	3	0-6	SYS	0: -3 1: -2 2: -1 3: 0 4: +1 5: +2 6: +3	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	ALL			3956	-	Short Cut (Left button)	Refer to contents	0-14	SYS	0: Exposure 1: Original mode 2: Drawer 3: Zoom 4: Finishing 5: 2-sided 6: 2IN1/4IN1 7: ID Card 8: Edge erase 9: Dual Page 10: Image shift 11: Annotation 12: Omit Blank Page 13: Image Direction 14: Mixed-Size Original <Default> 5: CND/TWD 1: Others	1	Y	Y	Y
08	Setting mode	System	ALL			3957	-	Short Cut (Right button)	Refer to contents	0-14	SYS	0: Exposure 1: Original mode 2: Drawer 3: Zoom 4: Finishing 5: 2-sided 6: 2IN1/4IN1 7: ID Card 8: Edge erase 9: Dual Page 10: Image shift 11: Annotation 12: Omit Blank Page 13: Image Direction 14: Mixed-Size Original <Default> 5: CND/TWD/ASD 1: Others	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	ALL			3958	-	2IN1/4IN1 Original size (default value)	10: NAD 1: Others	0-14	SYS	0: A3 (Not use) 1: A4 2: A5 3: B4 (Not use) 4: B5 5: FOLIO (Not use) 6: 8K (Not use) 7: 16K 8: LD (Not use) 9: LG (Not use) 10: LT 11: COMP (Not use) 12: 13"LG (Not use) 13: ST 14: 8.5SQ	1	Y	Y	Y
08	Setting mode	System	ALL			3960	-	2IN1/4IN1 Original orientation (default value)	0	0-1	SYS	0: Portrait 1: Landscape	1	Y	Y	Y
08	Setting mode	System	ALL			3961	-	Page layout (2 IN 1)	0	0-1	SYS	0:  1: 	1	Y	Y	Y
08	Setting mode	System	ALL			3962	-	Page layout (4 IN 1)	0	0-3	SYS	0:  1:  2:  3: 	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System				3963	-	Access management	0	0-1	SYS	When access management (08-3963) is set to ON(1), the ACCESS CODE menu on the [USER FUNCTIONS] menu appears ([USER FUNCTIONS] button -> GENERAL -> ACCESS CODE). If access management (08-3963) is set to ON(1), be sure to use the ACCESS CODE menu to set the ACCESS CODE and MASTER CODE. If the ACCESS CODE and MASTER CODE are unknown, set access management (08-3963) to OFF(0), when it is set to ON(1) again, the ACCESS CODE and MASTER CODE are cleared. After clearing the codes, be sure to set the ACCESS CODE and MASTER CODE. - ACCESS CODE: Department code, only one can be set - MASTER CODE: Admin. password - The MASTER CODE can be entered in the ACCESS CODE menu. 0: OFF 1: ON	1	Y	Y	Y
08	Setting mode	System	Image			3965	-	Magazine sort (original size)	NAD: 10 Others: 1	0-14	SYS	0: A3 (Not use) 1: A4 2: A5 3: B4 (Not use) 4: B5 5: FOLIO (Not use) 6: 8K (Not use) 7: 16K 8: LD (Not use) 9: LG (Not use) 10: LT 11: COMP (Not use) 12: 13"LG (Not use) 13: ST 14: 8.5SQ	1	-	Y	Y
08	Setting mode	System	Image			3966	-	Magazine sort (2 sides) default	0	0-1	SYS	0: 1 side -> 2 sides 1: 2 sides -> 1 side	1	Y	Y	Y
08	Setting mode	System				3967	-	Default back ground adjustment	5	0-9	SYS	1: -4 2: -3 3: -2 4: -1 5: 0 6: +1 7: +2 8: +3 9: +4	1	Y	Y	Y
08	Setting mode	System	Network	IPv6		3971	-	Availability of DNS (IPv6)	1	1-2	SYS	1: Enable 2: Disable	1	Y	Y	Y
08	Setting mode	System	Network	IPv6		3972	-	MIB function (IPv6)	1	1-2	SYS	1: Enable 2: Disable	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General			3974	-	Time setting for recovering from the sleep mode	15	0-255	SYS	Sets the time to distinguish factors, such as SNMP and the [ENERGY SAVER] button, for recovering from the sleep mode. When an unintended sleep mode is recovered by SNMP communication, the time for judging the communication is set. The longer the time is set, the longer the recovering time becomes, even by a factor other than SNMP. Unit: Second	1	Y	Y	Y
08	Setting mode	System				3975	0	Time setting to start printing from the printer/Fax	0	0-30	SYS	Sets the time to start printing from the printer/fax after button operations or cover opening/closing is done or immediately after the power is turned ON. Unit: seconds	4	Y	Y	Y
08	Setting mode	System				3975	1	Time setting to start scanning	0	0-30	SYS	Sets the time to start scanning after button operations or cover opening/closing is done or immediately after the power is turned ON. Unit: seconds	4	Y	Y	Y
08	Setting mode	System	Paper feeding			3976		Default setting of the paper size for the bypass tray	Refer to contents	0-20	-	0: A3 1: A4 2: A4-R 3: B4 4: B5 5: B5-R 6: A5-R 7: FOLIO 8: 8K 9: 16K 10: 16K-R 11: LD 12: LG 13: LT 14: LT-R 15: COMP 16: 13"LG 17: ST-R 18: 8.5SQ 19: CARD 20: NON-SIZE (25S) / Not used (25H/25F) 21: - <Default> NAD: 11 Other: 0	12	Y	Y	Y
08	Setting mode	System	Paper feeding			3977		Keeping the current paper size for the bypass tray	0	0-1	-	Sets whether or not to keep the paper size set for the bypass feed even after the paper is removed or the power is turned OFF. If this code is enabled, 08-3976 will be disabled. 0: Disabled 1: Enabled	12	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	ID card copy			3981		Print position setting	Refer to contents	0-1	SYS	Sets the print position of output images for ID card copying. 0: Left-Top 1: Center-Center 2: Center-Top (Not Use) 3: Left-Center (Not Use) <Default> CND: 1 Others: 0	1	Y	Y	Y
08	Setting mode	System	ID card copy			3982		Scan range setting	Refer to contents	0-3	SYS	Sets the scan range for ID card copying. 0: 106mm * 74mm 1: 120mm * 90mm 2: 140mm * 100mm 3: 200mm * 140mm <Default> TWD: 1 CND: 3 Others: 0	1	Y	Y	Y
08	Setting Mode	System	FAX	TX/RX mode setting		3983		Easy manual TX/RX mode	Refer to contents	0-1	SYS	Sets the TX/RX mode of the fax function. 0: EASY MODE 1: ADVANCED MODE <Default> CND: 0 Others: 1	1	-	-	Y
08	Setting Mode	System	General	Setting for recovering from the Sleep mode		3985	-	Enabled/disabled	0	0-1	SYS	Sets whether or not to recover the equipment which is in the Sleep mode when USB a connection is performed. 0: Recovering from the Sleep mode - Disabled 1: Recovering from the Sleep mode - Enabled If "1" (Enabled) is selected, the equipment which is in the Sleep mode will be recovered when a USB connection is performed.	1	Y	Y	Y
08	Setting Mode	System	Paper feeding	Setting for continuous scanning of 150 sheets when the RADF is used	For copying	3989	0	Enabled/disabled	1	0-1	SYS	Sets whether or not to perform continuous scanning of 150 sheets when the RADF is used (for copying). 0: Enabled 1: Disabled If "0" (Enabled) is selected, the setting is applied when the copying function is performed.	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting Mode	System	Paper feeding	Setting for continuous scanning of 150 sheets when the RADF is used	For scanning	3989	1	Enabled/disabled	1	0-1	SYS	Sets whether or not to perform continuous scanning of 150 sheets when the RADF is used (for scanning). 0: Enabled 1: Disabled If "0" (Enabled) is selected, the setting is applied when the scanning function is performed.	4	Y	Y	Y
08	Setting Mode	System				3990	-	Print performance setting at custom print	Refer to contents	0-2	SYS	Sets the print performance at custom print. 0: Printing is interrupted when the paper size is changed. (Default) 1: Printing is not interrupted when the paper size is Custom for both the paper set on the equipment and the setting in a PC. 2: Printing is not interrupted regardless of the paper size set in a PC.	1	Y	Y	Y
08	Setting Mode	System				3992	-	Status setting after the period set for recovering from the Sleep mode has passed	0	0-1	SYS	Sets the status (Sleep mode or recover from the Sleep mode) into which the equipment enters after the period set in 08-3974 (time setting for recovering from the Sleep mode) has passed. 0: Sleep 1: Startup (recovering from the Sleep mode)	1	Y	Y	Y
08	Setting Mode	System				3993	-	Transmission setting of a fax job notification mail	0	0-1	SYS	Sets whether or not to send a notification mail when fax reception forwarding fails. 0: Disabled 1: Enabled When "1" (Enabled) is selected, a notification mail will be sent if fax reception forwarding has failed.	1	Y	Y	Y
08	Setting Mode	System				3994	-	Switch the CSV / XML of the Notification	1	0-1	SYS	Setting for switching the format of the attached file of CounterNotification 0 : XML 1 : CSV	1	Y	Y	Y
08	Setting mode	Printer	Laser			4012	-	Pre-running rotation of polygonal motor	0	0-2	SYS	Sets whether or not switching the polygonal motor from the standby rotation to the normal rotation when the original is set on the RADF or the original cover is opened. 0: Enabled (RADF / Original cover) 1: Disabled 2: Enabled (RADF only)	1	Y	Y	Y
08	Setting mode	Printer	Laser			4013	-	Polygonal motor rotational status switching at the Auto Clear Mode	0	0-1	SYS	Sets whether or not switching the polygonal motor from the normal rotation to the standby rotation at the Auto Clear Mode. 0: Valid 1: Invalid	1	Y	Y	Y
08	Setting mode	Printer	Laser			4015	-	Polygonal motor stop period	3	0-6	SYS	Switches the polygonal motor to the standby rotation when a certain period of time has passed from the prerunning. At this code, the period to switch the status to the standby rotation is set. 0: 15sec, 1: 20sec, 2: 25sec, 3: 30sec, 4: 35sec, 5: 40sec, 6: 45sec	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Upper drawer (1st drawer)	4020	0	Plain paper	5	0-5	M	Sets the number of times feeding retry occurs from the Upper drawer (1st drawer). 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Upper drawer (1st drawer)	4020	1	Other paper	5	0-5	M	Sets the number of times feeding retry occurs from the Upper drawer (1st drawer). 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Bypass feed	4024	0	Plain paper	5	0-5	M	Sets the number of times feeding retry occurs from the bypass tray. 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Feeding retry number setting	Bypass feed	4024	1	Other paper	5	0-5	M	Sets the number of times feeding retry occurs from the bypass tray. 0: 0 times, 1: 1 time, 2: 2 times, 3: 3 times, 4: 4 times, 5: 5 times	4	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4100	-	Upper drawer size setting	Refer to contents	0-255	M	A3 (19) A4 (4) A4-R (20) A5-R (21) B4 (52) B5 (37) B5-R (53) LD (81) LG (82) LT (64) LT-R (80) FOLIO (85) COMP (84) ST-R (83) 13"LG (86) 8.5SQ (87) 8K (144) 16K (129) 16K-R (145) <Default> NAD: 64, MJD: 4, Others: 4, JPD: 4	9	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4106	-	Paper size (A3-R) feeding/widthwise	420 x 297	182-432 / 140-297	M	Value of feeding / widthwise direction 420 x 297	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4107	-	Paper size (A4-R) feeding/widthwise	297 x 210	182-432 / 140-297	M	Value of feeding / widthwise direction 297 x 210	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4108	-	Paper size (A5-R) feeding/widthwise	210 x 148	182-432 / 140-297	M	Value of feeding / widthwise direction 210 x 148	10	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Printer	Paper feeding	Paper size setting		4109	-	Paper size (B4-R) feeding/widthwise	364 x 257	182-432 / 140-297	M	Value of feeding / widthwise direction 364 x 257	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4110	-	Paper size (B5-R) feeding/widthwise	257 x 182	182-432 / 140-297	M	Value of feeding / widthwise direction 257 x 182	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4111	-	Paper size (LT-R) feeding/widthwise	279 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 279 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4112	-	Paper size (LD) feeding/widthwise	432 x 279	182-432 / 140-297	M	Value of feeding / widthwise direction 432 x 279	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4113	-	Paper size (LG) feeding/widthwise	356 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 356 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4114	-	Paper size (ST-R) feeding/widthwise	216 x 140	182-432 / 140-297	M	Value of feeding / widthwise direction 216 x 140	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4115	-	Paper size (COMPUTER) feeding/widthwise	356 x 257	182-432 / 140-297	M	Value of feeding / widthwise direction 356 x 257	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4116	-	Paper size (FOLIO) feeding/widthwise	330 x 210	182-432 / 140-297	M	Value of feeding / widthwise direction 330 x 210	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4117	-	Paper size (13" LG) feeding/widthwise	330 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 330 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4118	-	Paper size (8.5"x8.5") feeding/widthwise	216 x 216	182-432 / 140-297	M	Value of feeding / widthwise direction 216 x 216	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4120	-	Paper size (K8-R) feeding/widthwise	390 x 270	182-432 / 140-297	M	Value of feeding / widthwise direction 390 x 270	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4121	-	Paper size (K16-R) feeding/widthwise	270 x 195	182-432 / 140-297	M	Value of feeding / widthwise direction 270 x 195	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4123	-	Paper size (A6-R) feeding/widthwise	148 x 105	148-432 / 105-297	M	Value of feeding / widthwise direction 148 x 105	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4124	-	Paper size (#10-R) feeding/widthwise	241 x 105	148-432 / 105-297	M	Value of feeding / widthwise direction 241 x 105	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4127	-	Paper size (DL-R) feeding/widthwise	220 x 110	148-432 / 105-297	M	Value of feeding / widthwise direction 220 x 110	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding			4131	-	Feeding retry setting	0	0-1	M	0: ON 1: OFF	1	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4143	-	Paper size (Envelope: Monarch-R) feeding/widthwise direction	191 x 98	148-432/ 98-297	M	Value of feeding/widthwise direction	10	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Printer	Paper feeding	Paper size setting		4144	-	Paper size (Envelope: CHO-3-R) feeding/widthwise direction	235 x 120	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4145	-	Paper size (Envelope: YOU-4-R) feeding/widthwise direction	235 x 105	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Paper feeding	Paper size setting		4206	-	Paper size (Japanese-Postcard) feeding/widthwise	148 x 100	148-432/ 105-297	M	Value of feeding/widthwise direction	10	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport			4542	-	Switching for incorrect size jam detection	0	0-1	M	0: Enabled 1: Disabled	1	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	0	Retention of the fuser unit error status (Fuser roller center temperature)	0	0-255	M	Output value of thermistor	4	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	1	Retention of the fuser unit error status (Fuser roller side temperature)	0	0-255	M	Output value of thermistor	4	-	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	2	Retention of the fuser unit error status (Press roller center temperature)	0	0-255	M	Output value of thermistor	4	Y	Y	Y
08	Setting mode	Printer	Process	Conditions at the occurrence of fuser related error		4570	5	Retention of the fuser unit error status (Error counter)	0	0-255	M	1-3: Fusing error when warm-up-40-degrees C detected 4-10: Fusing error when warm-up-100-degrees C detected 11-25: Fusing error when ready from warm-up 50-55: Fusing error at ready 100-111: Fusing error at printing 150-153: Fusing error in the prewarming/JAM/cover open/adjustment mode	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Printer	Paper feeding			4675	-	Paper output setting at paper jamming caused by an incorrect paper size	2	0-2	M	When "0" is set for 08-4542, the equipment will operate as below. Setting value: 0 or 1 An E06* error (paper jams) will occur when the setting of the paper size differs from the actual one. Setting value: 2 (default) - When printing a received fax: An E06* error (paper jams) will occur when the setting of the paper size differs from the actual one. - When printing other than a received fax: An E06* error (paper jams) will occur when the setting of the paper size differs from the actual one. After the jam has been released, if printing is restarted without the paper size being changed or the paper is being altered to one which matches the corresponding setting, one sheet of paper will exit and a warning message will appear.	1	Y	Y	Y
08	Setting mode	Printer	Paper feeding			4691	-	Switching of the display of jam location in the drawer when paper feed jam occurs	1	0-1	M	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport	PPC		4714	-	Switching of the restriction number of the ejection sheets	100	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport	PRT		4716	-	Switching of the restriction number of the ejection sheets	0	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	Y	Y	Y
08	Setting mode	Printer	Feeding system / Paper transport	FAX		4717	-	Switching of the restriction number of the ejection sheets	0	0-999	M	0: No restrictions 1 to 999: Restriction number of the ejection sheets	1	-	-	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process				5001	0	Print job end cleaning bias polarity switching frequency (Maximum width)	0	0-9	M	In the cleaning operation of the transfer roller at the end of printing, the cleaning bias, in which the polarity is switched from positive to negative, is output so that the toner adhering to the transfer roller is returned to the photoconductive drum. This code is used to set the cleaning bias switching frequency. Perform adjustment when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller. Note that the drum driving time will increase if the setting value of the cleaning bias switching frequency is too large. The setting code differs depending on the operation status of the equipment when there is any stain on the back side of the printed paper. Select the code from 08-5001 to 08-5003 according to the operation status. Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in normal printing. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y
08	Setting mode	Process				5001	1	Print job end cleaning bias polarity switching frequency (Bypass/non-standard)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in printing non-standard paper from the bypass tray. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y
08	Setting mode	Process				5001	2	Print job end cleaning bias polarity switching frequency (Mass printing of small size paper)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller in printing maximum size paper after printing a large amount of small size paper (1 to 9). 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	4	Y	Y	Y
08	Setting mode	Process				5002	-	Job end cleaning bias polarity switching frequency (When not printing)	3	0-9	M	Set this code when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller after the warming-up, forced toner supply or auto-toner adjustment. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	1	Y	Y	Y
08	Setting mode	Process				5003	-	Job end cleaning bias polarity switching frequency (At jam recovery)	3	0-9	M	Sets when there is any stain on the back side of the printed paper (leading edge) caused by the transfer roller after a paper jam is cleared. 0: 1 time 1: 2 times 2: 3 times 3: 4 times 4: 5 times 5: 6 times 6: 7 times 7: 8 times 8: 9 times 9: 10 times	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process				5005	-	Transfer bias between papers switching	0	0-1	M	0: Positive polarity 1: Negative polarity	1	Y	Y	Y
08	Setting mode	Process				5016	-	Thin paper transferred paper / Environment / Life correction switching	0	0-2	M	0: All valid 1: All invalid 2: Width of paper correction only	1	Y	Y	Y
08	Setting mode	Process				5075	0	Paper width transfer output compensation (High) (Middle)	152	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5075	1	Paper width transfer output compensation (Center) (Middle)	150	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5075	2	Paper width transfer output compensation (Low) (Middle)	160	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	0	Paper width transfer output compensation (High) (Small)	168	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	1	Paper width transfer output compensation (Center) (Small)	172	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process				5076	2	Paper width transfer output compensation (Low) (SamII)	179	0-255	M	Compensation value: GAP from 128 is given to an execution value	4	Y	Y	Y
08	Setting mode	Process	Development	Toner near empty		5155	-	Toner near empty threshold setting	1	0-3	M	Sets the timing for when the toner near empty display appears. The larger the value, the later the display appears. 0: Longer *1 1: Center 2: Shorter *2 3: No detection *1: The period of time (number of counts) from the appearance of the near empty display to actually running out of toner is longer (larger) than that of "center". *2: The period of time (number of counts) from the appearance of the near empty display to actually running out of toner is shorter (smaller) than that of "center".	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Development	Toner near empty		5156	3	Fine adjustment ofthreshold fordisplaying remainingtoner and toner nearempty	100	50-150	M	Adjusts the threshold value for displaying remaining amount of toner and toner near empty. Display threshold value = default threshold value x setting value/100 (unit: %) 50: Setting value x 0.5 100: Setting value x 1.0 150: Setting value x 1.5	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fusing correction control time immediately after warming-up		5210	0	Temperature correction	2	0-10	M	0: Disable 1: 1 min. 2: 2 min. 3: 3 min. 4: 4 min. 5: 5 min. 6: 6 min. 7: 7 min. 8: 8 min. 9: 10 min. 10: 15 min.	4	Y	Y	Y
08	Setting mode	Process	Fuser	Fusing correction control time immediately after warming-up		5210	1	Maximum time of lamp ON	2	0-10	M	0: Disable 1: 1 min. 2: 2 min. 3: 3 min. 4: 4 min. 5: 5 min. 6: 6 min. 7: 7 min. 8: 8 min. 9: 10 min. 10: 15 min.	4	-	Y	Y
08	Setting mode	Process	Fuser	Correction of temperature rising prevention (Latest value)		5337	0	Ready	0	0-15	M	0: 0°C 1: -1°C 2: -2°C 3: -3°C 4: -4°C 5: -5°C 6: -6°C 7: -7°C 8: -8°C 9: -9°C 10: -10°C 11: -11°C 12: -12°C 13: -13°C 14: -14°C 15: -15°C	14	Y	Y	Y
08	Setting mode	Process	Fuser	Correction of temperature rising prevention (Latest value)		5337	1	Printing	0	0-15	M	0: 0°C 1: -1°C 2: -2°C 3: -3°C 4: -4°C 5: -5°C 6: -6°C 7: -7°C 8: -8°C 9: -9°C 10: -10°C 11: -11°C 12: -12°C 13: -13°C 14: -14°C 15: -15°C	14	Y	Y	Y
08	Setting mode	Process	Fuser			5469	-	Low power consumption control	1	0-1	M	This code is used when using low power consumption control. Note that inconsistent fusing may occur if the fuser roller temperature is low. Use the above default value, unless otherwise required. 0: Invalid, 1: Valid	1	Y	Y	Y
08	Setting mode	Process	Fuser			5497	0	Low power consumption control: Lamp maximum ON time (Center)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	1	Low power consumption control: Lamp maximum ON time (Side)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	2	Low power consumption control: Lamp maximum ON time (Center)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser			5497	3	Low power consumption control: Lamp maximum ON time (Side)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	4	Low power consumption control: Lamp maximum ON time (Center)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	5	Low power consumption control: Lamp maximum ON time (Side)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	6	Low power consumption control: Lamp maximum ON time (Center)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5497	7	Low power consumption control: Lamp maximum ON time (Side)	10	1-50	M	This code is used to set a Lamp ON time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	0	Low power consumption control: Lamp maximum OFF time (Center)	22	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	1	Low power consumption control: Lamp maximum OFF time (Side)	22	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	2	Low power consumption control: Lamp maximum OFF time (Center)	20	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	3	Low power consumption control: Lamp maximum OFF time (Side)	20	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Process	Fuser			5498	4	Low power consumption control: Lamp maximum OFF time (Center)	22	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	5	Low power consumption control: Lamp maximum OFF time (Side)	22	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	6	Low power consumption control: Lamp maximum OFF time (Center)	20	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Process	Fuser			5498	7	Low power consumption control: Lamp maximum OFF time (Side)	20	1-50	M	This code is used to set a Lamp OFF time on Low power consumption control. Use the above default value, unless otherwise required. Setting value x 100 msec	4	Y	Y	Y
08	Setting mode	Counter	Maintenance			5554	-	PM counter setting value for developer material (K)	64000	0-300000	M	Sets the number of printed sheets to display the message that prompts the PM of developer material.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5555	-	PM time counter setting value for developer material (K)	115000	0-300000	M	Sets the accumulated driving time to display the message that prompts the PM of developer material.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5562	-	Parts PM counter set value	192000	0-300000	M	Sets the number of printed sheets to display the message that prompts the PM of part.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5563	-	Parts PM time counter set value	345000	0-345000	M	Sets the accumulated driving time to display the message that prompts the PM of part.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5568	-	Current value of PM counter for developer material (K)	0	0-300000	M	Displays the current number of printed sheets. Counts up by turning on the registration sensor.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5569	-	Current value of PM time counter for developer material (K)	0	0-300000	M	Displays the current driving time.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5576	-	Parts PM counter current value	0	0-300000	M	Displays the current number of printed sheets. Counts up by turning on the registration sensor.	1	Y	Y	Y
08	Setting mode	Counter	Maintenance			5577	-	Parts PM time counter current value	0	0-300000	M	Displays the current driving time of fuser.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter				5581	-	Switching of output pages/driving counts at PM/developer material (K)	0	0-2	M	0: Pages 1: driving count 2: Whichever comes faster	1	Y	Y	Y
08	Setting mode	Counter				5585	-	Parts Switching between No. of sheets and time for PM	0	0-2	M	0: Pages 1: driving count 2: Whichever comes faster	1	Y	Y	Y
08	Setting mode	Process	Maintenance	Toner near empty		5810	-	Arbitrary setting of the threshold for displaying remaining toner and toner near empty	3	1-99	M	Sets an arbitrary setting of the threshold for displaying remaining toner and toner near empty. Threshold value (unit: %)	1	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper size	6010	-	Large-sized paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper size	6011	-	Definition setting of large sized paper	0	0-1	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP/8K/13'LG	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper size	6012	-	Large-sized paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper size	6013	-	Definition setting of large sized paper	1	0-1	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP/8K/13'LG	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6014	-	Thick paper	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6015	-	OHP film	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For PM	Paper type	6016	-	Envelope	1	0-1	M	0: Counted as 1 1: Counted as 2	1	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	1	Thick/Back Thick1/Back Thick2/Back	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	3	OHP film	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y
08	Setting mode	Counter	Double count	For fee charging	Paper type	6083	4	Envelope	Refer to contents	0-1	SYS	Sets the weight of fee charging count for printing per page. Scan counter and fax counter are not influenced. 0: Single 1: Double <Default> CND: 0, JPD: 0, Others: 1	4	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6110	-	Upper drawer	0	0-300000	M	Counts the number of sheets fed from upper drawer.	2	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6112	-	SFB counter	0	0-300000	M	Counts the number of sheets fed from bypass feed.	2	Y	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6116	-	ADU counter	0	0-300000	M	Counts the number of output pages of duplex printing.	2	-	Y	Y
08	Setting mode	Counter	Counter of Paper feed			6117	-	ADF counter	0	0-99999999	SYS	Counts the number of originals fed from ADF.	2	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6190	-	Setting value	64000	0-300000	M	Sets the threshold for displaying a message for PM timing. [Unit: page] 0: Not displayed	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM drive counter	K	6191	-	Setting value	115000	0-300000	M	Sets the threshold for displaying a message for PMtiming. [Unit: count] 0: Not displayed	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6194	-	Current value	0	0-300000	M	Counts up when the registration sensor is ON. [Unit: page] 0: clear	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM drive counter	K	6195	-	Current value	0	0-300000	M	Counts the drum driving time. [Unit: 1 count = 2 seconds] 0: clear	1	Y	Y	Y
08	Setting mode	Counter	Maintenance	PM counter	K	6198	-	Switching of output pages/ driving counts at PM	0	0-2	M	Selects the reference to notify the PM timing. 0: PM counter 1: PM drive counter 2: Whichever comes faster	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6225	-	Thick paper	0	0-300000	M	Counts up when the registration sensor is ON in the thick paper mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6226	-	Thick paper 1	0	0-300000	M	Counts up when the registration sensor is ON in the thick paper 1 mode. [Unit: page]	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	Counter	Number of output pages		6227	-	Thick paper 2	0	0-600000	M	Counts up when the registration sensor is ON in the thick paper 2 mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6228	-	OHP film	0	0-300000	M	Counts up when the registration sensor is ON in the OHP film mode. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter		6230	-	Upper drawer	0	0-300000	M	Counts the number of times of the feeding retry from the upper drawer.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter		6234	-	Bypass feed	0	0-300000	M	Counts the number of times of the feeding retry from the bypass tray.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter	Upper limit value	6236	-	Upper drawer	0	0-300000	M	When the number of feeding retry (08-6230 to 6234) exceeds the setting value, the feeding retry will not be performed subsequently. In case "0" is set as a setting value, however, the feeding retry continues regardless of the counter setting value.	1	Y	Y	Y
08	Setting mode	Counter	Paper feeding	Feeding retry counter	Upper limit value	6240	-	Bypass feed	0	0-300000	M	When the number of feeding retry (08-6230 to 6234) exceeds the setting value, the feeding retry will not be performed subsequently. In case "0" is set as a setting value, however, the feeding retry continues regardless of the counter setting value.	1	Y	Y	Y
08	Setting mode	Counter	Counter	Number of output pages		6247	-	Envelope	0	0-300000	M	Counts up when the registration sensor is ON. [Unit: page]	1	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	1	Recommended number of output pages for replacement	64000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Photoconductive drum		6250	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Photoconductive drum		6251	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	1	Recommended number of output pages for replacement	55000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6258	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum cleaning blade		6259	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	3	Present driving counts	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6272	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum Separation finger		6273	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	1	Recommended number of output pages for replacement	64000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6274	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Charger grid		6275	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Needle electrode		6282	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	3	Present driving counts	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	4	Recommended driving counts to be replaced	345000	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	5	Driving counts at the last replacement	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	7	Present driving counts for control	0	0-345000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6282	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Needle electrode		6283	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6298	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Ozone filter		6298	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Ozone filter		6299	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	1	Recommended number of output pages for replacement	64000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6300	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Developer material		6301	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	1	Recommended number of output pages for replacement	64000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	4	Recommended driving counts to be replaced	115000	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Transfer roller		6314	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6314	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Transfer roller		6315	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6346	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller		6347	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Pressure roller		6350	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6350	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pressure roller		6351	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser separation finger		6368	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Fuser separation finger		6369	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6382	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Pickup roller (ADF)		6383	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6384	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Feed roller (ADF)		6385	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	0	Present number of output pages	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	1	Recommended number of output pages for replacement	150000	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	2	Number of output pages at the last replacement	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6386	8	Number of times replaced	0	0-99999999	SYS		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Separation roller (ADF)		6387	-	Date of previous replacement	0	-	SYS	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6398	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer feed roller (Upper drawer)		6399	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6406	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drawer separation pad (Upper Drawer)		6407	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6416	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass separation pad		6417	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	1	Recommended number of output pages for replacement	80000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Bypass feed roller		6424	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Bypass feed roller		6425	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6436	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Drum recovery blade		6437	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	0	Present number of output pages	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	1	Recommended number of output pages for replacement	192000	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	2	Number of output pages at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	3	Present driving counts	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	4	Recommended driving counts to be replaced	345000	0-300000	M		4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	5	Driving counts at the last replacement	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	6	Present output pages for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	7	Present driving counts for control	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6470	8	Number of times replaced	0	0-300000	M		4	Y	Y	Y
08	Setting mode	Counter	PM counter	Fuser roller bushing		6471	-	Date of previous replacement	29991231	-	M	(YYYYMMDD)YYYY: Year, MM: Month, DD: Date (Max. 8 characters)	2	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	0	Latest	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	1	1 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	2	2 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	3	3 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	Counter	Process	Toner cartridge usage history (Lot. No.)		6977	4	4 cartridge earlier	0	0-99999999	M	1 digit: Production location indicated. -0: Cartridge not installed -1: TESS cartridge -2: TABS cartridge -3: TEIS cartridge -6: Cartridge not detected (when the IC chip information cannot be detected) 8 digits: Lot No. indicated	4	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (PPC) related 05 codes		7000	-	PPC	-	-	SYS/M clear	Clears the adjustment values of the following 05 codes: 05-7000 to 7299, 7600 to 7999 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of all gamma correction table values (PPC related areas only)		7001	-	PPC	-	-	SYS clear	Clears all the gamma correction table values in the PPC related areas of the memory.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Error diffusion and dither setting		7014	-	Photo mode	1	0-1	SYS	Sets the image reproduction method at photo mode. 0: Error diffusion 1: Dither	1	Y	Y	Y
08	Setting mode	Image Processiing	Image	Last updated date and time		7051	-	PPC	0	0-4212312359	SYS	Last updated date and time of automatic tone correction data. (YYYYMMDDHHMM) YYYY: Year, MM: Month, DD: Date,HH: Hour: MM: Minute	2	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (Network printer) related 05 codes		7300	-	PRT	-	-	SYS clear M clear	Clears the adjustment values of the following 05 codes: 05-7300 to 7399, 05-8200 to 8299 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (network scan) related 05 codes		7400	-	SCN	-	-	SYS clear	Clears the adjustment values of the following 05 codes: 05-7400 to 7499, 05-8300 to 8499 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Clearing of adjustment values of all image process (Fax) related 05 codes		7500	-	FAX	-	-	SYS clear	Clears the adjustment values of the following 05 codes: 05-7500 to 7599 After executing this code.	3	Y	Y	Y
08	Setting mode	Image Processiing	Image	Change of FAX TX image parameter		7510	-	FAX	0	0-1	SYS	Enabling / Disabling of FAX TXimage parameter 0：Disable (default) 1：Enable (Countermeasure of foggy)	1	-	-	Y
08	Setting mode	System	User interface	Screen setting		8523	-	Toner near-empty status Message	1	0-1	SYS	0: ON 1: OFF	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Maintenance			8538	-	Toner Near Empty Tranmission setting	0	0-1		To change Enable/Disable of Toner near empty notify to the Service. 0:Disable 1:Enable	1	Y	Y	Y
08	Setting mode	System	User interface	Counter		8549	-	Hardware key control when external counter is installed	0	0-1	SYS	0: No control 1: Mode switch key is disabled.	1	Y	Y	Y
08	Setting mode	System	User interface			8603	-	Special usage of external options I/F	0	0-1	SYS	0: Coin controller 1: Card controller	1	Y	Y	Y
08	Setting mode	System	FAX			8700	-	Secret reception setting	0	0-2	SYS	When the value of 08-8924 is "0", the value of this code can be set to "1" or "2". 0: Always Off 1: Always On 2. -	1	-	-	Y
08	Setting mode	System	User interface			8712	-	Display setting of the drawer setting button	1	0-1	SYS	Sets whether the drawer button in USER FUNCTIONS is displayed or not. 0: Not displayed 1: Displayed	1	Y	Y	Y
08	Setting mode	System	User interface			8721	-	Automatic FAX sending at AutoClear when scanning original put on the glass	0	0-1	SYS	Sets whether the job is sent or canceled when AutoClear is executed on the interruption screen to confirm the next original displayed after scanning the original put on the glass. Use this code to cancel job when the equipment is left unattended while the interruption screen is displayed. 0: Sends job 1: Cancels job	1	-	-	Y
08	Setting mode	System	User interface			8725	-	Display setting of [USER FUNCTIONS]-> CHANGE LANGUAGE button	1	0-1	SYS	Sets whether the [CHANGE LANGUAGE] button accessed from [USER FUNCTIONS] button is displayed or not. Use this code to prohibit users from changing the language displayed on the control panel. Administrators can change the language. 0: Not displayed 1: Displayed	1	Y	Y	Y
08	Setting mode	System	General			8737	-	Restart behavior when the out of paper is solved	0	0-1	SYS	0: Automatically restarted 1: Restarted by pressing [START] button	1	Y	Y	Y
08	Setting mode	System	Network			8800	-	Enabling / Disabling of 802.1X	2	1-2	NIC	1: Enabled 2: Disabled	12	Y	Y	Y
08	Setting mode	System	Network			8804	-	Enabling / Disabling of IP filtering	2	1-2	SYS	1: Enabled 2: Disabled	1	Y	Y	Y
08	Setting mode	System	Network			8805	-	Enabling / Disabling of MAC address filtering	2	1-2	SYS	1: Enabled 2: Disabled	2	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	MFP function setting			8914	0	Copy	1	0-1	SYS	Sets whether the Copier function is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	2	FAX	1	0-1	SYS	Sets whether the Fax function is enabled or disabled. 0: Disabled 1: Enabled	4	-	-	Y
08	Setting mode	System	MFP function setting			8914	4	Email	1	0-1	SYS	Sets whether the email function is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	8	Save to USB Media	1	0-1	SYS	Sets whether the function that saves scanned data of originals to USB media is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	9	Save as FTP	1	0-1	SYS	Sets whether the function that saves scanned data of originals to FTP server is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	10	Save as FTPS	1	0-1	SYS	Sets whether the function that saves scanned data of originals to FTP server using SSL is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	11	Save as SMB	1	0-1	SYS	Sets whether the function that saves scanned data of originals to the SMB server is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	14	Twain Scanning (Remote Scan)	1	0-1	SYS	Sets whether the remote scanning function is enabled or disabled. 0: Disabled 1: Enabled	4	Y	Y	Y
08	Setting mode	System	MFP function setting			8914	16	Network FAX	1	0-1	SYS	Sets whether the Network Fax function is enabled or disabled. 0: Disabled 1: Enabled	4	-	-	Y
08	Setting mode	System	Security			8919	-	Service password	-	-	SYS	Sets the password to log into the self-diagnostic mode. It must be 6 characters or more. (Maximum 65 characters)	11	Y	Y	Y
08	Setting mode	System	Department management			8921	-	Clearing of the user/department counter	1	0-1	SYS	0: Not allowed 1: Allowed	1	Y	Y	Y
08	Setting mode	System	Department management			8926	-	Clearing of all department counters	-	-	SYS	In cases when the administrator has prohibited the clearing of department counter data, a service technician can clear the data using this code.	3	Y	Y	Y
08	Setting Mode	System	User interface	SSL		8933	-	SSL setting (SSL SMTP Client Off/On)	2	1-2	NIC	1: Enabled (accepts all server certificates) 2: Disabled	12	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting Mode	System	User interface	SSL		8934	-	SSL setting (SMTP Client SSL/TLS)	1	1-2	NIC	1: STARTTLS 2: Over SSL	12	Y	Y	Y
08	Setting mode	System	User interface			8935	-	Remote Scanning	1	0-1	NIC	0: Disabled 1: Enabled	12	Y	Y	Y
08	Setting mode	System	Maintenance	Notification of equipment information		8996	-	Email address 1 for notification	-	-	SYS	Maximum 192 characters.	11	Y	Y	Y
08	Setting mode	System	Maintenance	Notification of equipment information		8997	-	Email address 2 for notification	-	-	SYS	Maximum 192 characters.	11	Y	Y	Y
08	Setting mode	System	Maintenance	Notification of equipment information		8998	-	Email address 3 for notification	-	-	SYS	Maximum 192 characters.	11	Y	Y	Y
08	Setting mode	System	General			9000	-	Destination selection	Refer to contents	0-2	M	0: EUR 1: UC 2: JPN <Default value> NAD: 1 Others: 0	1	Y	Y	Y
08	Setting mode	System	FAX			9001	-	Destination setting	Refer to contents	0-30	SYS	0: Japan 1: Asia 2: Australiia 3: Hong Kong 4: US 5: Germany 6: UK 7: Italy 8: Belgium 9: Netherlands 10: Finland 11: Spain 12: Austria 13: Switzerland 14: Sweden 15: Denmark 16: Norway 17: Portugal 18: France 19: Greece 20: Poland 21: Hungary 22: Czech 23: Turkey 24: South Africa 25: Taiwan 26: Canada 27: China 28: NewZealand 29: Malaysia 30: Singapore <Default value> NAD: 4 MJD: 5 SYD/ASD/ADU/ARD: 1 TWD: 25 CND: 27	1	-	-	Y
08	Setting mode	System	General			9010	-	Line adjustment mode	0	0-1	M	0: For factory shipment 1: For line Field: "0" must be selected	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General			9012	-	Language selection to be displayed at power-ON	-	1-26	SYS	Link with User function button. 1: Simplified Chinese 2: English 3: Traditional Chinese 4: French 5: Italian 6: German 7: Spanish 8: Swedish 9: Norwegian 10: Finnish 11: Danish 12: Dutch 13: Polish 14: Russian 15: Portuguese 16: Czech 17: Hungarian 18: Romanian 19: Slovakian 20: Lithuanian 21: Turkish 22: Latvian 23: Irish 24: Slovenian 25;Burgarian 26: Serbian <Default value> TWD: 3, NAD/MJD/SYD/ASD/AUD/ARD: 2, CND: 1	9	Y	Y	Y
08	Setting mode	System	General			9015	-	Language selection to be displayed at Web power-ON	Refer to contents	0-17	SYS	0:Language1(ENG) 1:Language2(GER) 2:Language3(FRE) 3:Language4(SP) 4:Language5(ITA) 5:Language6(JPD) 6:Not used 7:Language8(DAN) 8:Language9(FIN) 9:Language10(NOR) 10:Language11(SWE) 11:Not used 12:Language13(POL) 13:Language14(RUS) 14:Language15(CND) 15:Language16(TWN) 16:Language17(NTH) 17:Language18(TUR) <Default value> TWD: 15, NAD/MJD/SYD/ASD/AUD/ARD: 0, CND: 14	1	-	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	User interface			9016	-	Externally installed counter	0	0-5	SYS	0: No external counter 1: Coin controller installed 2: - 3: - 5: Coin controller installed	1	Y	Y	Y
08	Setting mode	System	Counter			9017	-	Setting for counter installed externally	1	0-1	SYS	Selects the job to count up for the external counter. 0: Not selected (Does not count) 1: Copy	1	Y	Y	Y
08	Setting mode	System	General			9022	-	Production process management status for easy setup	99	0-99	SYS	Perform this code when an error occurs during the easy setup (unpacking manual adjustment) and you want to finish the easy setup, or when you want to restart the unpacking manual adjustment from the beginning. Only 0 to 2 and 99 are available for this code. 0: Packing mode completed (before starting to unpack) 1: Auto toner adjustment completed 2: Installation of toner cartridge completed 99: Unpacking and adjustment completed	1	Y	Y	Y
08	Setting mode	System	Initialization			9030	-	Initialization after software version up	-	-	SYS	Perform this code when the software in this equipment has been upgraded.	3	Y	Y	Y
08	Setting Mode	System	User interface	External counter		9037		Job handling-short paid-coin controller	1	0-1	SYS	Sets whether pause or stop the printing job when it is short paid using a coin controller. 0: Pause the job 1: Stop the job	1	Y	Y	Y
08	Setting mode	System				9060	-	Destination display at SRAM initialization	Refer to contents	0-12	SYS	0: MJD, 1: NAD, 2: -, 3: AUD, 4: CND, 5: -, 6: TWD, 7: - , 8: -, 9: ASD, 10: ARD, 11: - <Default value> NAD: 1, MJD: 0, AUD: 3, CND: 4, TWD: 6, ASD: 9, ARD: 10, SYD: 11	2	Y	Y	Y
08	Setting mode	System	General			9063	-	Presence of the fax board	0	0-1	SYS	0: The fax board is not attached 1: The fax board is attached	1	Y	Y	Y
08	Setting mode	System	General			9081	-	Initialization of department management information	-	-	SYS	Initializing of the department management information.	3	Y	Y	Y
08	Setting mode	System	Initialization			9083	-	Initialization of NIC information	-	-	SYS	Returns the value to the factory shipping default value.	3	Y	Y	Y
08	Setting mode	System	All clear			9090	-	Printer all clear	-	-	M	Initializes all the self-diagnosis 05/08 codes with "M" in the "RAM" field.	3	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General			9100	-	Date and time setting	-	-	-	YYMMDD Day of the week HHMMSS (Year/month/date/day/hour/minute/second) Example: 03 07 01 3 13 27 48 "Day" - "0" is for "Sunday". Proceeds Monday through Saturday from "1" to "6".	11	Y	Y	Y
08	Setting mode	System	User interface			9102	-	Date format	Refer to contents	0-2	SYS	0: YYYY.MM.DD 1: DD.MM.YYYY 2: MM.DD.YYYY <Default value> MJD: 1 JPD: 0 Others: 2	1	Y	Y	Y
08	Setting mode	System	User interface			9103	-	Time differences	Refer to contents	0-47	SYS	0: +12.0h 1: +11.5h 2: +11.0h 3: +10.5h 4: +10.0h 5: +9.5h 6: +9.0h 7: +8.5h 8: +8.0h 9: +7.5h 10: +7.0h 11: +6.5h 12: +6.0h 13: +5.5h 14: +5.0h 15: +4.5h 16: +4.0h 17: +3.5h 18: +3.0h 19: +2.5h 20: +2.0h 21: +1.5h 22: +1.0h 23: +0.5h 24: 0.0h 25:-0.5h 26: -1.0h 27: -1.5h 28: -2.0h 29: -2.5h 30: -3.0h 31: -3.5h 32: -4.0h 33: -4.5h 34: -5.0h 35: -5.5h 36: -6.0h 37: -6.5h 38: -7.0h 39: -7.5h 40: -8.0h 41: -8.5h 42: -9.0h 43: -9.5h 44: -10.0h 45: -10.5h 46: -11.0h 47: -11.5h <Default value> MJD: 24 NAD: 40 JPD: 6 Others: 0	1	Y	Y	Y
08	Setting mode	System	User interface			9110	-	Auto-clear timer setting	3	0-10	SYS	Timer to return the equipment to the default settings when the [START] button is not pressed after the function and the mode are set 0: Infinitive (Disabled) 1 to 10: Set value x15 seconds	1	Y	Y	Y
08	Setting mode	System	User interface			9111	-	Auto power save mode timer setting	4	0-15	SYS	Timer to automatically switch to the auto power save mode when the equipment has not been used 0: Disable 1 to 3: (Reserved) 4: 1min 5: 2min (Reseeved) 6: 3min 7: 4min 8: 5min 9: 7min 10: 10min 11: 15min 12: 20min 13: 30min 14: 45min 15: 60min	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	User interface			9112	-	Auto Shut Off timer setting (Sleep Mode)	21	0-21	SYS	Timer to automatically switch to the auto sleep mode when the equipment has not been used 0: 3min 1: 5min 2: 10min 3: 15min 4: 20min 5: 25min 6: 30min 7: 40min 8: 50min 9: 60min 10: 70min 11: 80min 12: 90min 13: 100min 14: 110min 15: 120min 16: 150min 17: 180min 18: 210min 19: 240min 20: None 21: 1min	1	Y	Y	Y
08	Setting mode	System	User interface	Department setting		9120	-	Department management	0	0-1	SYS	0: Invalid 1: Valid	1	Y	Y	Y
08	Setting Mode	System	User interface	Department setting		9121		Print setting without department code	2	0-2	SYS	0: Printed forcibly 1: - 2: Deleted forcibly	1	Y	Y	Y
08	Setting Mode	System	User interface	External counter	Coin controller	9129		Duplex print setting	1	0-1	SYS	Sets whether duplex printing is allowed or not (only permitting single printing) when a coin controller is used. 0: Invalid (printing only one side) 1: Valid (printing both sides)	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting of screen (Function)	Default setting	9132	-	Selection of the higher priority screen	0	0-2	SYS	0: Copier 1: Fax 2: Scan	1	Y	Y	Y
08	Setting mode	System	User interface			9133	-	Default setting for APS/AMS	0	0-2	SYS	0: APS (Automatic Paper Selection) 1: AMS (Automatic Magnification Selection) 2: Not selected	1	Y	Y	Y
08	Setting mode	System	User interface			9135	-	Book type original priority	0	0-1	SYS	0: Left page to right page 1: Right page to left page	1	Y	Y	Y
08	Setting mode	System	User interface			9136	-	Maximum number of copy volume	1	1-3	SYS	1: 999 2: 99 3: 9	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting	9137	-	Setting for automatic duplexing mode	0	0-3	SYS	0: Invalid 1: Single-sided to duplex copying 2: Two-sided to duplex copying 3: User selection	1	Y	Y	Y
08	Setting mode	System	User interface			9143	-	Time lag before autostart of bypass feeding	10	0-10	SYS	Sets the time taken to add paper feeding when paper in the bypass tray has run out during the bypass feed copying. 0: Paper is not drawn in unless the [START] button is pressed. 1-10: Setting value x 0.5sec.	1	Y	Y	Y
08	Setting mode	System	User interface			9150	-	Automatic sort mode	2	0-4	SYS	0: Invalid 1: - 2: SORT 3: - 4: ROTATE SORT	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	User interface			9151	-	Default setting of Sorter Mode	0	0-4	SYS	0: NON-SORT 1: - 2: SORT 3: - 4: ROTATE SORT	1	Y	Y	Y
08	Setting mode	System	User interface			9155	-	Magazine sort setting	0	0-1	SYS	0: Left page to right page 1: Right page to left page	1	Y	Y	Y
08	Setting mode	System	User interface			9164	-	Auto-start setting for bypass feed printing	0	0-1	SYS	Sets whether or not feeding a paper automatically into the equipment when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatic feeding)	1	Y	Y	Y
08	Setting mode	System	Network	Retention period		9193	-	Web data retention time	10	0-30	SYS	When a certain period of time has passed without operation after accessing TopAccess, the data being registered is automatically reset. This period is set at this code. (Unit: minute)	1	Y	Y	Y
08	Setting mode	System	Scanning	E-mail		9210	-	Default setting of partial size when transmitting E-mail	0	0-6	SYS	Sets the default value for the partial size of E-mail to be transmitted when creating a template. (Unit: KB) 0: Not divided 1: 64 2: 128 3: 256 4: 512 5: 1024 6: 2048	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9213	-	Default setting for density adjustment (Black)	0	0-10	SYS	0: Automatic density 1: - (Not use) 2: Step -4 3: Step -3 4: Step -2 5: Step -1 6: Step 0 (center) 7: Step +1 8: Step +2 9: Step +3 10: Step +4 11: - (Not use)	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9215	-	Color mode	0	0-3	SYS	0: Black 1: Gray Scale 2: Unused 3: Full Color	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9216	-	Full Color	1	0-4	SYS	0: Not used 1: 150dpi 2: 200dpi 3: 300dpi 4: 400dpi	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9217	-	Gray Scale	1	0-5	SYS	0: Not used 1: 150dpi 2: 200dpi 3: 300dpi 4: Not used 5: 600dpi	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting of resolution (SCN)	9218	-	Black	0	0-4	SYS	0: 150dpi 1: 200dpi 2: 300dpi 3: Not used 4: 600dpi	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9219	-	Original mode (Full color)	0	0-2	SYS	0: Text 1: Text/Photo 2: Photo	1	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (SCN)	9220	-	Original mode (Black)	0	0-2	SYS	0: Text 1: Text/Photo 2: Photo	1	Y	Y	Y
08	Setting mode	System	User interface			9222	-	Default setting of rotation mode	0	0-1	SYS	0: 0 degree 1: 90 degrees	1	Y	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	E-mail	9227		Black (Gray Scale)	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG (Not use) 3: TIFF (Single) 4: PDF (Single)	1	Y	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	Storing files	9228		Color	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single)	1	Y	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	Storing files	9229		Black (Gray Scale)	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG (Not use) 3: TIFF (Single) 4: PDF (Single)	1	Y	Y	Y
08	Setting mode	System	Paper feeding	Size conversion		9306	-	LT<->A4 / LD<->A3	0	0-1	SYS	Sets whether the data is printed on the different but similar size paper or not when the paper of corresponding size is not available. 0: Valid (The data is printed on A4/A3 when LT/LD is selected or vice versa.) 1: Invalid (The message to use the selected paper size is displayed.)	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9308	-	Duplex print setting	1	0-1	SYS	0: Enabled 1: Disabled	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General	Raw Print		9309	-	Paper size setting	Refer to contents	0-13	SYS	0:ledger 1:legal 2:letter 3:computer 4:statement 5:A3 6:A4 7:A5 8:A6 9:B4 10:B5 11:Folio 12:Legal13" 13:LetterSquare <Default> NAD: 2 Other: 6	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9310	-	Paper type setting	0	0-5	SYS	0: Plain paper 1: Thick 2: Thick1 3: Thick2 4: Transparency 5: Thin paper	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9311	-	Paper orientation setting	0	0-1	SYS	0: Portrait 1: Landscape	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9314	-	Numbers of form lines	1200	500-12800	SYS	500 to 12800 (numbers of form lines)	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9315	-	PCL font pitch	1000	44-9999	SYS	44 to 9999 (PCL font pitch)	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9316	-	PCL font size	1200	400-99975	SYS	400 to 99975 (PCL font size)	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9317	-	PCL font number	0	0-9999	SYS		1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9334	-	PCL line termination setting	0	0-3	SYS	0: Automatic 1: CR=CR, LF=LF 2: CR=CR+LF, LF=LF 3: CR=CR, LF=CR+LF	1	Y	Y	Y
08	Setting mode	System	General	Raw Print		9338	-	Drawer setting	0	0-4	SYS	0: Automatic 1: Upper drawer 2: Lower drawer (PFU) 3: PFP upper drawer 4: PFP lower drawer	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	General	Raw Print		9339	-	PCL symbol set selection	0	0-39	SYS	0:Roman-8 1:ISO 8859/1 Latin 1 2:ISO 8859/2 Latin 2 3:ISO 8859/9 Latin 5 4:PC-8,Code Page 437 5:PC-8 D/N, Danish/Norwegian 6:PC-850,Multilingual 7:PC-852, Latin2 8:PC-8 Turkish 9:Windows 3.1 Latin 1 10:Windows 3.1 Latin 2 11:Windows 3.1 Latin 5 12:DeskTop 13:PS Text 14:Ventura International 15:Ventura US 16:Microsoft Publishing 17:Math-8 18:PS Math 19:Ventura Math 20:Pi Font 21:Legal 22:ISO 4: United Kingdom 23:ISO 6:ASCII 24:ISO 11 25:ISO 15: Italian 26:ISO 17 27:ISO 21: German 28:ISO 60: Danish/Norwegian 29:ISO 69: French 30:Windows 3.0 Latin 1 31:MC Text 32:PC Cyrillic 33:ITC Zapf Dingbats 34:ISO 8859/10 Latin 6 35:PC-775 36:PC-1004 37:Symbol 38:Windows Baltic 39:Wingdings	1	Y	Y	Y
08	Setting mode	System	User interface	Binding margin setting		9341	0	Left binding front (Right binding back)	7	0-100	SYS	Sets the binding margin displayed as default on the setting screen for the top/bottom/left/right binding function when copying. (Unit: mm)	4	Y	Y	Y
08	Setting mode	System	User interface	Binding margin setting		9341	1	Left binding back (Right binding front)	7	0-100	SYS	Sets the binding margin displayed as default on the setting screen for the top/bottom/left/right binding function when copying. (Unit: mm)	4	Y	Y	Y
08	Setting mode	System	User interface			9352	-	Display of paper size setting by installation operation of drawers	Refer to contents	0-1	SYS	0: Not displayed 1: Displayed <Default value> JPD/MJD: 0 Other: 1	1	Y	Y	Y
08	Setting mode	System	Image			9353	-	Default sharpness	5	1-9	SYS	1: -4 2: -3 3: -2 4: -1 5: 0 6: +1 7: +2 8: +3 9: +4	1	Y	Y	Y
08	Setting mode	System	User interface	Paper Feed setting		9359	-	Printing resume after jam releasing	1	0-1	SYS	0: Auto resume 1: Resume by users	1	Y	Y	Y
08	Setting Mode	System	User interface	Default setting of filing format	E-mail	9384		Color	1	0-4	SYS	0: TIFF (Multi) 1: PDF (Multi) 2: JPG 3: TIFF (Single) 4: PDF (Single)	1	Y	Y	Y
08	Setting mode	System	Network	Notification of scan job		9386	1	On error	0	0-1	SYS	Sets the notification method of scan job completion. 0: Invalid 1: Valid	4	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Network	Scaning		9387	-	File name format of "Save as file" and Email transmission	0	0-6	SYS	Sets the file naming method for "Save as file" and Email transmission. 0: [FileName]-[Data]-[Page] 1: [FileName]-[Page]-[Data] 2: [Data]-[FileName]-[Page] 3: [Data]-[Page]-[FileName] 4: [Page]-[FileName]-[Data] 5: [Page]-[Data]-[FileName] 6: [HostName]_[Data]-[Page]	1	Y	Y	Y
08	Setting mode	System	Network	Scaning		9388	-	Date display format of the file name of "Save as file" and Email transmission	0	0-5	SYS	Sets the data display format of the file for "Save as file" and Email transmission. 0: [YYYY][MM][DD] [HH][mm][SS] 1: [YY][MM][DD] [HH][mm][SS] 2: [YYYY][MM][DD] 3: [YY][MM][DD] 4: [HH][mm][SS] 5: [YYYY][MM][DD] [HH][mm][SS][mm]	1	Y	Y	Y
08	Setting mode	System	Network	Scaning		9390	-	Page number display format of the file of "Save as file" and Email transmission	4	3-6	SYS	Sets the digit of a page number attached on the file. 3-6: 3-6 digits	1	Y	Y	Y
08	Setting mode	System	Network	Scaning		9391	-	Extension (suffix) format of the file of "Save as file"	3	3-6	SYS	Sets the extension digits of the file to be saved. 3: Automatic 4: 4 digits 5: 5 digits 6: 6 digits	1	Y	Y	Y
08	Setting mode	System	Network	Ethernet		9403	-	Communication speed and settings of Ethernet	1	1-5	NIC	1: Automatic (100) 2: 10MBPS Half Duplex 3: 10MBPS Full Duplex 4: 100MBPS Half Duplex 5: 100MBPS Full Duplex	12	Y	Y	Y
08	Setting mode	System	Network	TCP/IP		9406	-	Method for acquiring IP address	2	1-3	NIC	1: Fixed IP address 2: Dynamic IP address (DHCP) 3: Dynamic IP address (DHCP) without Automatic IP	12	Y	Y	Y
08	Setting mode	System	Network	TCP/IP		9408	-	IP address	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	Y	Y	Y
08	Setting mode	System	Network	TCP/IP		9409	-	Subnet mask	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Network	TCP/IP		9410	-	Gateway	Refer to contents	Refer to contents	NIC	<Default value> 0.0.0.0 <Acceptable value> 0.0.0.0-255.255.255.255	12	Y	Y	Y
08	Setting mode	System	Network	DNS		9417	-	Availability of DNS	1	1-2	NIC	1: Available 2: Not available	12	Y	Y	Y
08	Setting mode	System	Network	DNS		9418	-	IP address to DNS server (Primary)	-	Refer to contents	NIC	<Acceptable value> 000.000.000.000-255.255.255.255	12	Y	Y	Y
08	Setting mode	System	Network	DNS		9419	-	IP address to DNS server (Secondary)	-	Refer to contents	NIC	<Acceptable value> 0.0.0.0-255.255.255.255	12	Y	Y	Y
08	Setting mode	System	Network	HTTP		9430	-	Availability of HTTP server	1	1-2	NIC	1: Available 2: Not available	12	Y	Y	Y
08	Setting mode	System	Network	SMTP		9437	-	Availability of SMTP client	1	1-2	NIC	1: Available 2: Not available	12	Y	Y	Y
08	Setting mode	System	Network	SNMP		9463	-	Availability of MIB function	1	1-2	NIC	1: Valid 2: Invalid	12	Y	Y	Y
08	Setting mode	System	Network	Raw TCP		9473	-	Availability of Raw/TCP	1	1-2	NIC	1: Valid 2: Invalid	12	Y	Y	Y
08	Setting mode	System	Network	LPD		9475	-	Availability of LPD client	1	1-2	NIC	1: Valid 2: Invalid	12	Y	Y	Y
08	Setting mode	System	Network	IPP		9478	-	Availability of IPP	1	1-2	NIC	1: Valid 2: Invalid	12	Y	Y	Y
08	Setting mode	System	Network	IPP		9481	-	IPP printer name	MFPserial	-	NIC	Maximum 127 letters The network-related serial number of the equipment appears at "serial"	12	Y	Y	Y
08	Setting mode	System	Network			9525	-	Display of MAC address	-	-	-	(**: **: **: **: **: **) The address is displayed as above. 6-byte data is divided by colon.	2	Y	Y	Y
08	Setting mode	System	Network	DHCP		9581		Enabling server's IP address acquired by DHCP	1	1-2	-	NetBIOS over TCP/IP Name Server option (44) = Primary and Secondary Wins NAME 1: Enabled 2: Disabled This value is used only when DHCP is enabled.	12	Y	Y	Y
08	Setting mode	System	Network	SMTP		9584		SMTP Server Option (69) Simple Mail Server Address	2	1-2	-	OFF/ON 1: Valid 2: Invalid	12	Y	Y	Y
08	Setting mode	System	Network	POP3		9585		POP3 Server Option (70) Post Office Server Address	2	1-2	-	OFF/ON 1: Valid 2: Invalid	12	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Maintenance	General		9601	-	Equipment number (serial number) display	-	9 digits	SYS	Fist digit: Production country (fixed) Second digit: Model (fixed) Third digit: Month (variable) Fourth to ninth digit: serial number (variable) This can be also entered with 05-9043.	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9604	-	Enabling/disabling a service notification	Refer to contents	0-1	SYS	0: Disabled 1: Enabled <Default value> NAD/MJD: 1 Others: 0	1	Y	Y	Y
08	Setting mode	System	Maintenance	RDMS		9605	-	Sending error contents of equipment	0	0-1	SYS	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9606	-	Setting total counter transmission interval	-	-	SYS	(Hour/Hour/Minute/Minute)	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9607	-	Email destination address 2	-	-	SYS	Maximum 192 letters	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9608	-	Email destination address 3	-	-	SYS	Maximum 192 letters	11	Y	Y	Y
08	Setting mode	System	Network	DHCP		9694		Enabling server's IP address acquired by DHCP	1	1-2	-	DNS domain name Option (15) DNS domain name of the client 1: Enabled 2: Disabled This value is used only when DHCP is enabled.	12	Y	Y	Y
08	Setting mode	System	Maintenance	General		9700	-	Service technician telephone number	0	-	SYS	A telephone number can be entered up to 32 digits. Use the [*] button to change the character mode, and then use the [#] button to enter a hyphen(-).	11	Y	Y	Y
08	Setting mode	System	Maintenance	General		9751	-	Service technician FAX number	-	-	SYS	FAX destination Max. 32 digits	11	Y	Y	Y
08	Setting mode	System	Maintenance	General		9752	-	Service technician E-mail address	-	-	SYS	Max. 192 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9756	-	User's name	-	-	SYS	Maximum 50 letters	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9757	-	User's telephone number	-	-	SYS	A telephone number can be entered up to 32 digits. Use the [*] button to change the character mode, and then use the [#] button to enter a hyphen(-).	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9758	-	User's E-mail address	-	-	SYS	Maximum 192 letters List: 256 digits	11	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Maintenance		Auto supply order	9759	-	Location of the customer	-	-	SYS	Max. 100 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9760	-	Service number	-	-	SYS	Max. 5 digits	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9761	-	Name of the service personnel	-	-	SYS	Max. 50 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9762	-	Phone number of the service personnel	-	-	SYS	Max. 32 digits (Use the [TEMPLATE] button to enter a hyphen.)	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9763	-	Email address of the service personnel	-	-	SYS	Max. 192 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9764	-	Name of the supplier	-	-	SYS	Max. 50 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance		Auto supply order	9765	-	Location of the supplier	-	-	SYS	Max. 100 characters	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9783	-	Display function	Refer to contents	0-1	SYS	Enabling/disabling Supply Notice to be displayed 0: Enabled 1: Disabled <Default value> NAD: 0 Others: 1	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service	Service Notification	9793	-	Service Notification setting	0	0-1	SYS	0: Disabled 1: Enabled	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9794	-	Destination E-mail address 1	-	-	SYS	Maximum 192 letters	11	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9795	-	Total counter information transmission setting	0	0-1	SYS	0: Invalid 1: Valid	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	Maintenance	Remote-controlled service		9796	-	Total counter transmission date setting	0	0-31	SYS	0 to 31	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9797	-	PM counter notification setting	0	0-1	SYS	0: Invalid 1: Valid	1	Y	Y	Y
08	Setting mode	System				9798		Temporal communication password setting	-	-	SYS	Sets a password for temporary communication within 5 to 10 digits. (Minimum: 5 digits, Maximum: 10 digits)	1	-	-	Y
08	Setting mode	System	Process			9804	-	Forcible mode change in toner empty status	1	0-2	SYS	0: SLEEP MODE 1: AUTO POWER SAVE 2: READY	1	Y	Y	Y
08	Setting mode	System	Laser			9805	-	Polygonal motor standby rotation Shift waiting time at job end	3	0-9	SYS	0: 0 sec. (current setting) (Polygonal motor ready rotation at job end) 1 to 9: Setting value x 5sec.	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9880		Total counter transmission date setting (2)	0	0-31	SYS	0 to 31	1	Y	Y	Y
08	Setting mode	System	Maintenance	Remote-controlled service		9881		Day of total counter data transmission	0	0-127	SYS	1 byte 00000000(0)-01111111(127) From the 2nd bit - Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	1	Y	Y	Y
08	Setting mode	System	User interface	Screen setting		9891	-	Warning message when PM time has come	1	0-1	SYS	0: No warning notification 1: Display warning notification	1	Y	Y	Y
08	Setting mode	System	Version	System software		9900	-	System software ROM version	-	-	-	System software version	2	Y	Y	Y
08	Setting mode	System	Version	Engine		9901	-	Engine ROM version	-	-	-		2	Y	Y	Y
08	Setting mode	System	User interface	Default mode setting	Default setting (PPC)	9970	-	Original mode (Black)	0	0-6	SYS	0: Text/Photo 1: Text 2: Photo 3: - 4. - 5: - 6: Background Erase	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting	Image quality density	9971	-	PPC (black)	0	0-1	SYS	0: Automatic 1: Manual	1	Y	Y	Y
08	Setting mode	System	User interface	Default setting	Blank page judgment: Default setting	9972	-	PPC	0	-3 - 3	SYS	The larger the value, the more the paper is judged as ablank page. The smaller the value, the less the paper is judged as a blank page.	1	Y	Y	Y

05/08	Mode	Element	Sub element	Item	Subitem	Code	Sub-code	Details	Default value	Acceptable value	SRAM	Contents	Procedure	28A	28M	28F
08	Setting mode	System	User interface	Default setting	Blank page judgment: Default setting	9973	-	SCN	0	-3 - 3	SYS	The larger the value, the more the paper is judged as a blank page. The smaller the value, the less the paper isjudged as a blank page.	1	Y	Y	Y

15. FAX UNIT <25F/28F>

15.1 SPECIFICATIONS

1. Main system
   - Type
     Desktop type, transmitting/receiving dual type

   - Operation
     Transmission Automatic
     Reception Automatic

2. Scanner
   <Scanning density>

   - Horizontal direction
     Horizontal: 8 dots/mm, 16 dots/mm

   - Vertical direction
     Vertical: 3.85 lines/mm, 7.7 lines/mm, 15.4 lines/mm, 300 dots/inch

   - Resolution
     - Standard (200 x 100 dpi)
     - Fine (200 x 200 dpi)
     - Ultra Fine (400 x 400 dpi)

   - Effective scanning area

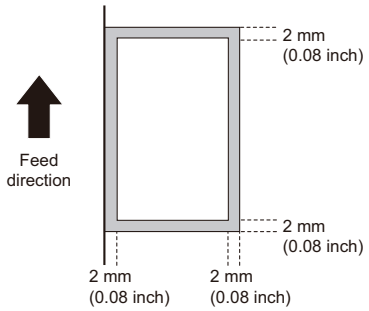


Fig.15-1

3. Transmission system
Circuits to be used: Subscriber line/FAX communication network (G3)

Communication mode
G3 mode
ECM (Error Correction Mode)

Circuit carrier link equalization function
Embedded

Output level
–16 dBm to –1 dBm (The setting can be changed by “1 dB”.)

Input level
–43 dBm to 0 dBm
(Level –55 dBm or lower cannot be detected)

Specifications of the communication mode

	G3 mode	ECM
Horizontal scanning density	8 dots/mm 16 dots/mm	Same as on the left
Vertical scanning density	3.85 lines/mm 7.7 lines/mm 15.4 lines/mm	Same as on the left
Encoding system	MH/MR	MH/MR/MMR/JBIG
Minimum transmission time for 1 line	2.5 ms	Same as on the left
Transmission speed (image signal) and modulation method	14.4 k/12 k/9600/7200/ 4800/2400 bps Conformance to V.17/ V.29/V.27 ter	33.6 k/31.2 k/28.8 k/26.4 k/24 k/21.6 k/19.2 k/ 16.8 k/14.4 k/12 k/9600/7200/4800/2400 bps
Control signal	300 bps (V.21)	2400/1200/600/300 bps V.34/V.8/V.21
Procedure to control the transmission	T.30 conformance	Same as on the left

4. Recording paper
   - Horizontal printing density
     23.6 lines/mm

   - Vertical printing density
     23.6 lines/mm

   - Recording paper size and the effective printing area

Unit: mm (inch)

Paper size	Dimension (width x length)	Printing area
A5-R	148 x 210	143 x 204.5
B5-R	182 x 257	177 x 251.5
B5	257 x 182	252 x 176.5
A4-R	210 x 297	205 x 291.5
A4	297 x 210	292 x 204.5
B4	257 x 364	252 x 358.5
A3	297 x 420	292 x 414.5
FOLIO	210 x 330	205 x 324.5

15.2 LSU-RELATED FUNCTIONS

15.2.1 Recording Mode

This machine offers various printing modes such as the selection of the applicable recording paper and the recording method, etc. to meet users' needs. To take full advantage of these features, it is important to understand the concepts of the recording paper selection algorithm and printing algorithm as described in 📖 P. 15-5 "15.2.2 Recording Paper Selection Algorithm and Printing Algorithm"

15.2.2 Recording Paper Selection Algorithm and Printing Algorithm

Before printing the received image, the preset settings are evaluated in the order of the following 1 and 2, and the printing is performed based on the result.

1. Recording paper selection algorithm
   - Basically, the received image is printed on a sheet of paper of the same size as the original. However, if this size is not available, this algorithm determines on which size of recording paper the output should be made. (Actual Size Mode/Free Mode)

2. Printing algorithm
   - Determines how the received image is to be printed. (Discard printing/Vertical reduction printing/ Regular size reduction printing/Split printing)

[1] Recording paper selection algorithm

It is possible to distinguish the size of each received image (A3(LD)/B4(LG)/A4(LT)/B5/A5). Basically, recording paper of the same size as the original is used for printing.

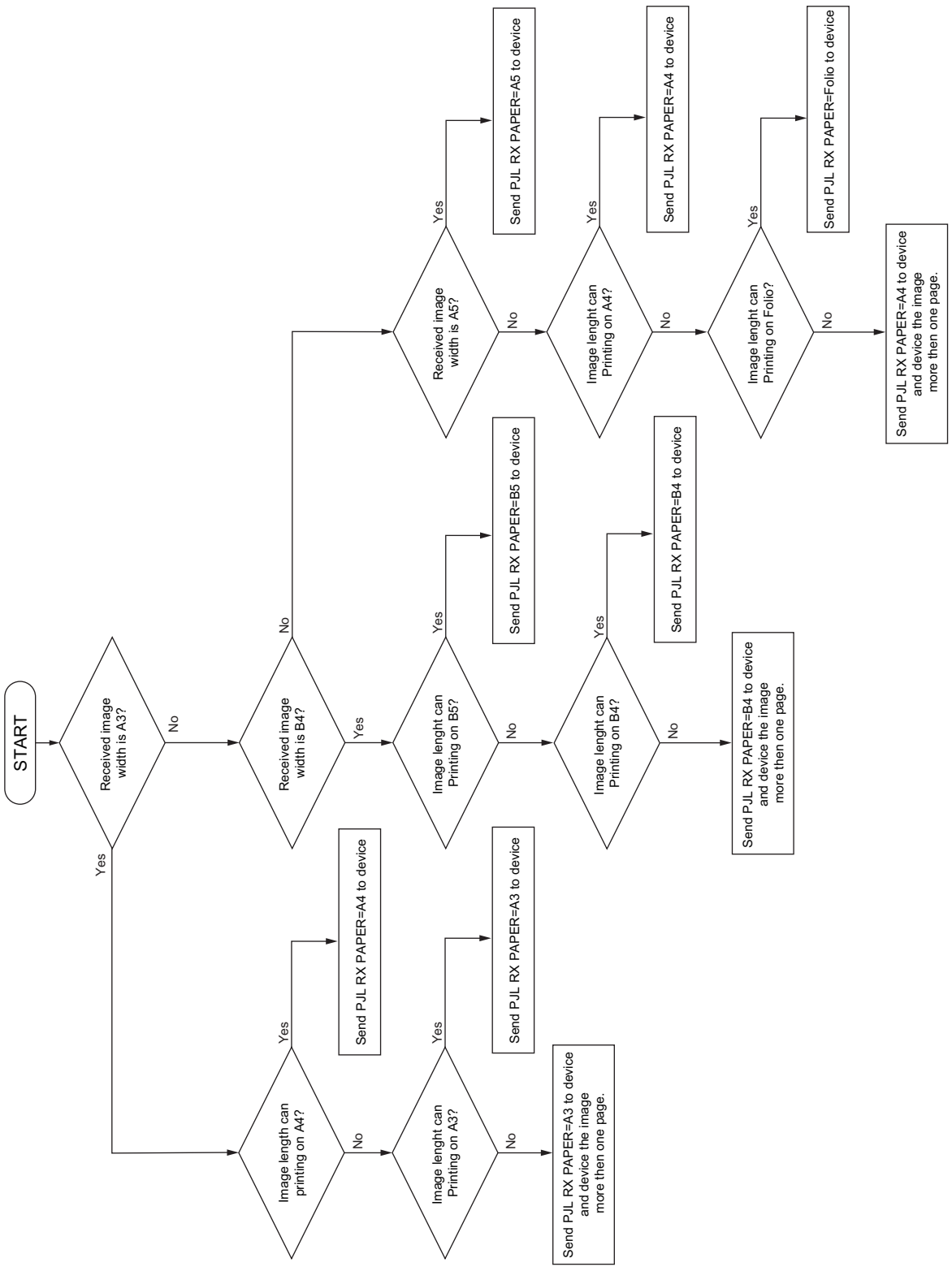
Notes:

If there is A4/LT size recording paper loaded in vertical orientation in a cassette (A4/LT) and loaded in horizontal orientation in a cassette (A4-R/LT-R), when a fax document (A4-R/LT-R) is received, but there is no paper in the cassette (A4-R/LT-R) loaded with recording paper in the same orientation as the document, the paper supply does not switch to the cassette (A4/LT) with paper in the different orientation.

[2] Printing algorithm

Recording paper has its effective printing area. Even if the size of the original paper and the recording paper are the same, the length of the original is normally longer.
This means that the received image would be divided onto two sheets. To prevent this, the printing algorithm works as described in the following pages.

Discard / Vertical reduction / Split printing flow chart



1. Discard printing
   - Since the trailing edge area of the original is normally blank, this blank area is cut off to allow the image fit in one sheet in this mode. Image reduction is not performed.

   - Maximum discarding amount:
     0 mm: Discard not performed
     10 mm: Corresponding to the inside the TTI
     18 mm: Corresponding to the outside the TTI 1
     22 mm: Corresponding to the outside the TTI 2
     34 mm: A4 → LT conversion
     (TTI: Transmission Terminal Identifier)

     When the discard function is ON (13–378:1):
     Actual size recording is performed with no vertical reduction nor division. The original image is recorded as it is. Namely, the data exceeding the effective printing area are discarded.

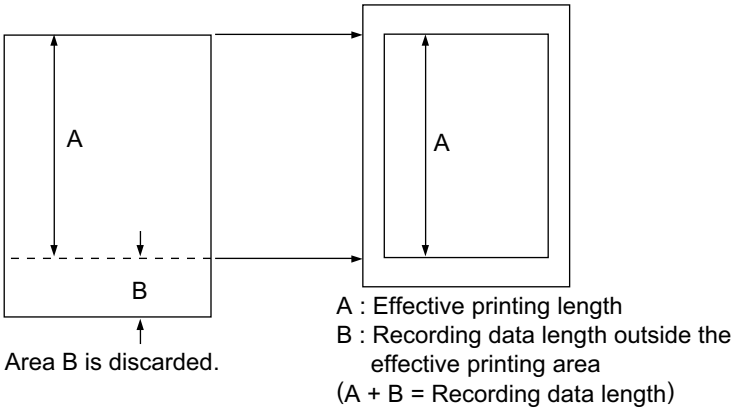


Fig.15-2

Discard parameter (13-375: 0 to 4)
The following parameters are available:

Discard function	Length of B (Discard parameter)	Set value
OFF	0 mm	0
ON	10 mm	1
	18 mm	2
	22 mm	3
	34 mm	4

Reference: These parameters should be set by the service technician (in the FAX Function Mode).

2. Vertical reduction printing (13–377: 0)
   - The recording data length is reduced so that the image fits in the recording paper.
     The data can be reduced up to 90/75%, and the machine automatically selects the appropriate ratio.

3. Split printing
   When the recording data do not fit in a recording paper even if vertical reduction is performed for the recording data length (the recording data length is exceeding the effective printing length of the largest recording paper in the drawer installed in the machine), the recording data are divided onto two sheets while vertical reduction is performed.

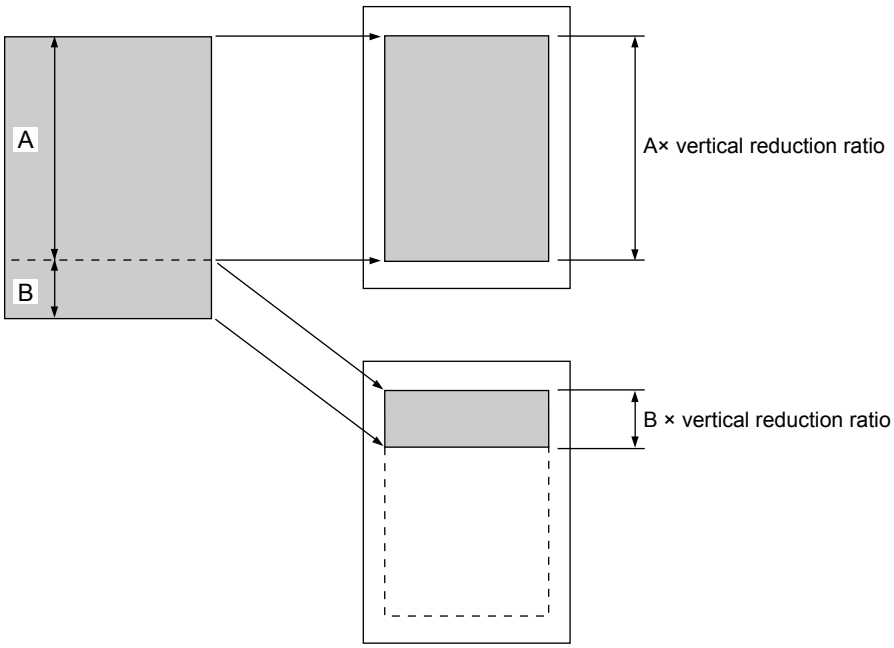
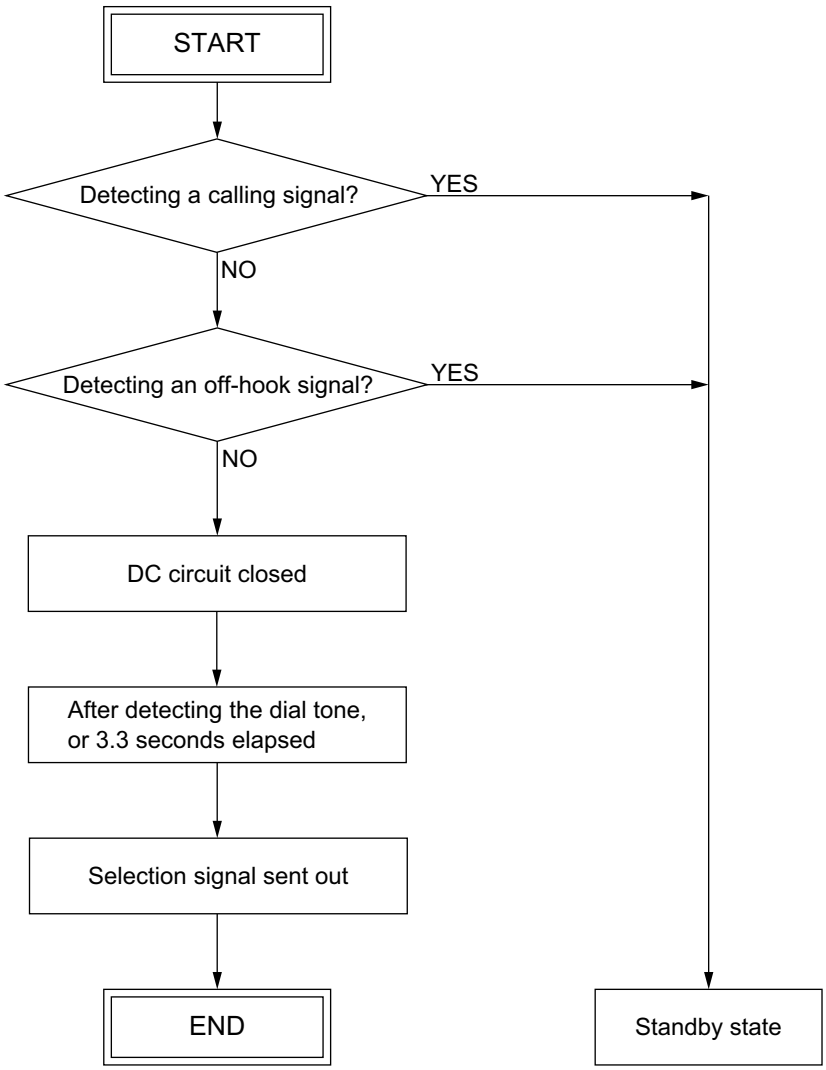


Fig.15-3

15.3 DIALING/COMMUNICATION CONTROL

15.3.1 Circuit Connection and Procedure to Change Mode

[1] Dial call-up transmission to a telephone circuit

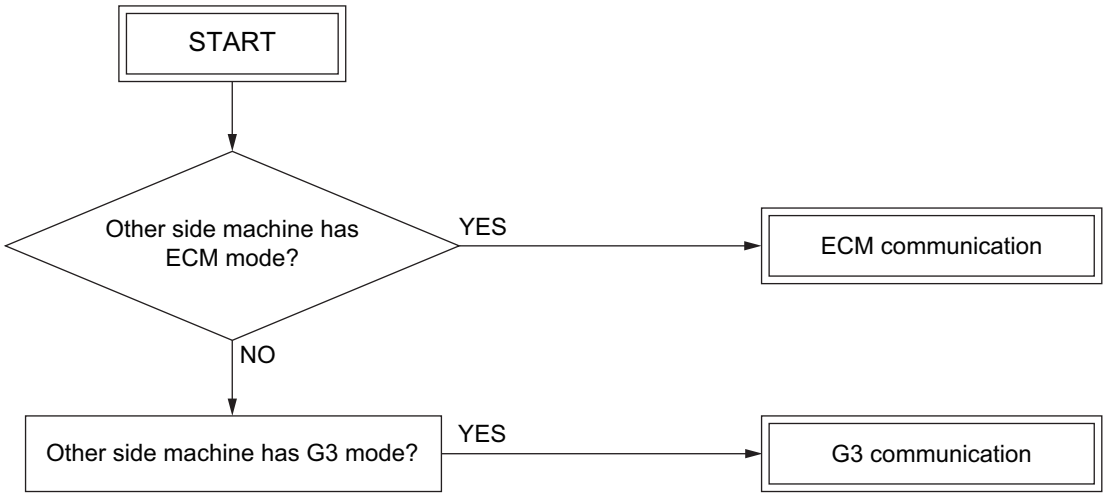


[2] Selection of the communication mode

This machine has two types of communication mode. The mode to be used is determined according to the combination of the types of the circuits and communication and available function of the other side's machine.

	Communication mode	
	ECM	G3
Telephone circuit	○	○

[3] Procedure to select the transmission mode



15.3.2 Signaling System Diagram and Signal Forms

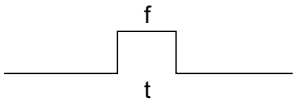
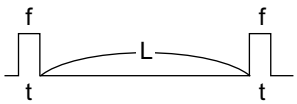
[1] Circuit control signals

The following circuit control signals are used in the binary and tonal procedures.

- Circuit control signals

CED	Called station identification Indicates that the sender is a FAX machine in the automatic called mode.
CNG	Calling tone Indicates that the sender is a FAX machine in the automatic calling mode.

- Signal form

Signal name	Signal form	Signal form
CED		f: 2100 ±15 Hz t: 2.6 - 4.0 sec
CNG		f: 1100 ±38 Hz t: 0.5 sec ±15% (L: 3 sec)

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[2] Communication with the binary signals

In the G3 modes, communication is performed with the binary procedure as follows.

(1) Binary procedure

- Transmission and reception in the G3 modes

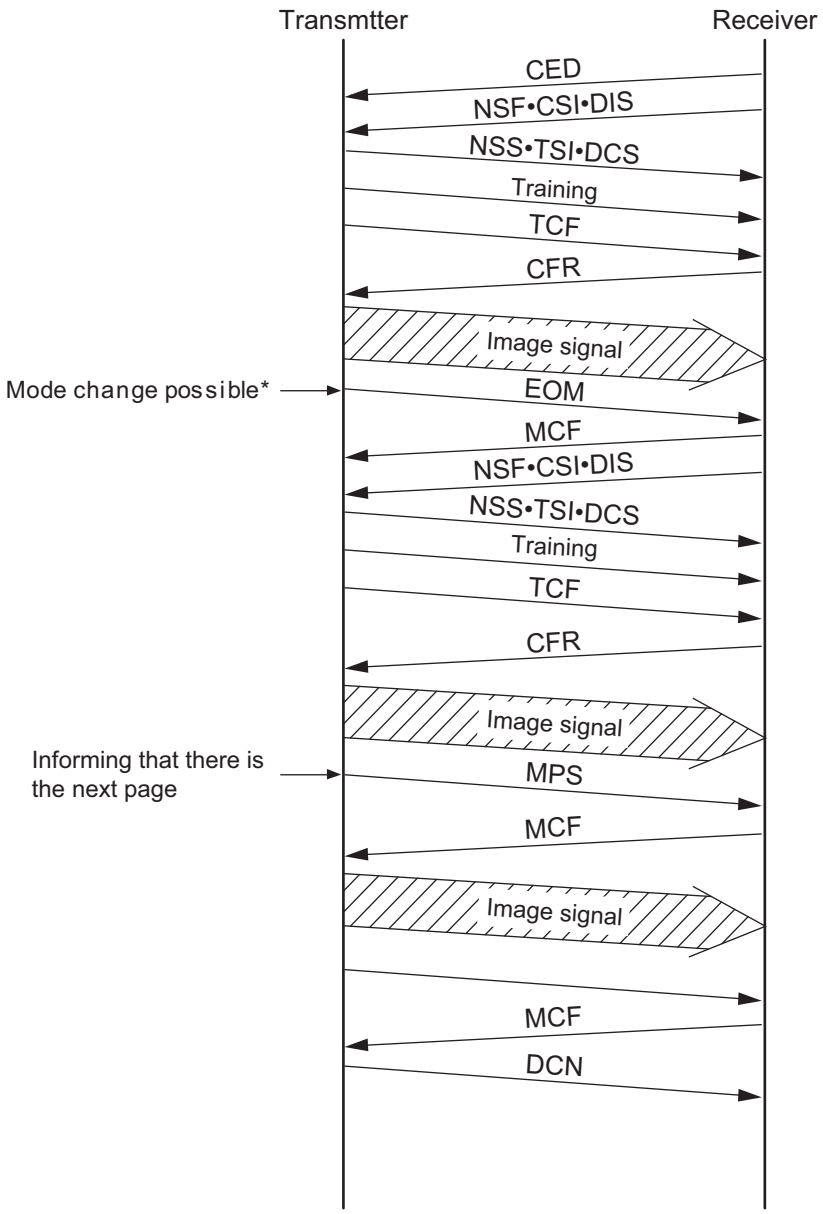

Fig.15-4

- Transmission and reception in the ECM mode
  ECM (Error Correction Mode) conforms to T.30.
  When an error has occurred to the received image data, the receiving station informs the sending station of the occurrence of the error, and the sending station sends the image data again.

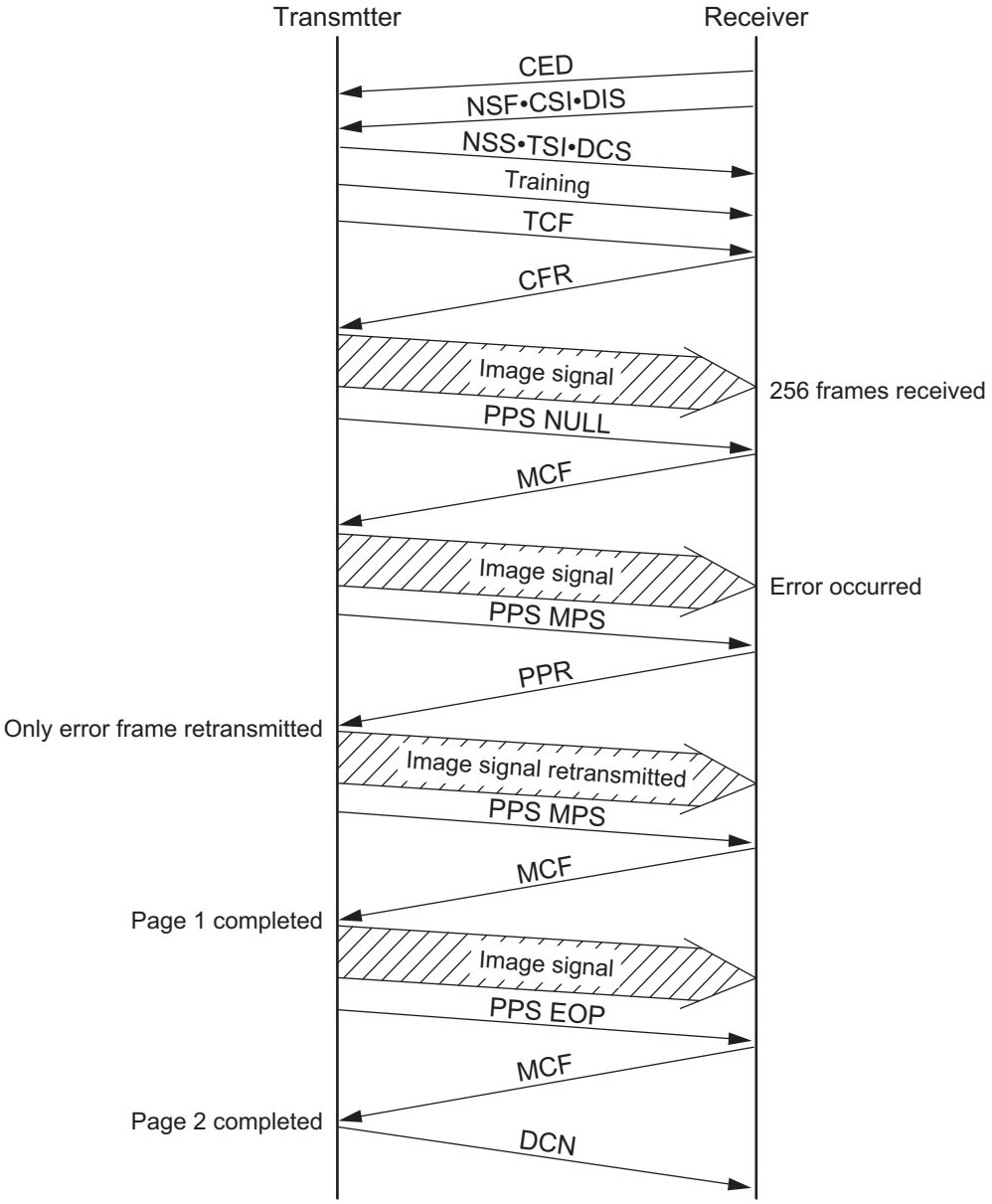

Fig.15-5

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- Cancellation during the transmission
  If the [CLEAR/STOP] button is pressed during memory transmission or input, “CANCEL JOB?” appears. The communication is finished normally regardless of the presence/absence of the next page or a mode change when [YES] is selected and then the [OK] button is pressed.
  If the cancellation is performed except during the transmission of the image data, DCN is forcibly sent to terminate the communication.
  Follow the procedure below to cancel memory transmission or polling transmission.

  Press the [JOB STATUS] button. -> Select [JOBS]. -> Select [FAX]. -> Select [Delete] -> Select a transmission job to be cancelled. -> Select [YES]. -> Press the [OK] button.

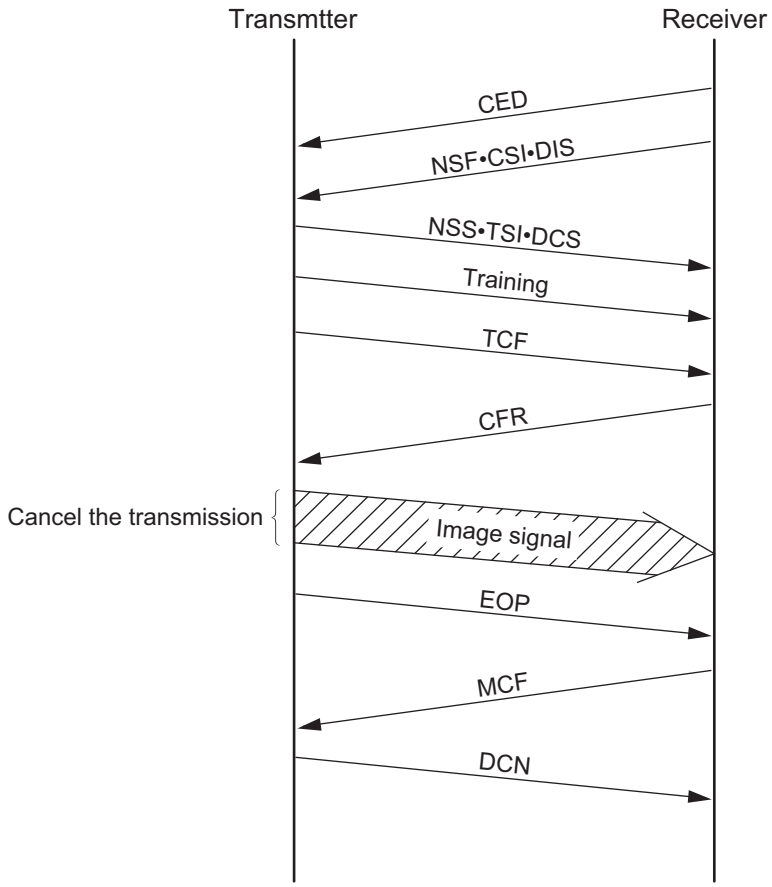

Fig.15-6

(2) Binary signals

NSF	Non-Standard Facility Informs that the receiving station (machine) has a non-standard facility.
NSC	Non-Standard Facility Command Command to transmit using the non-standard facility which is selected corresponding to NSF (i.e., Polling etc.).
NSS	Non-Standard Facility Setup Command to transmit using the non-standard facility which is selected corresponding to NSF or NSC.
CSI	Called Subscriber Identification Provides the telephone number of the called station. Used to check the identity of the called station.
CIG	Calling Subscriber Identification Provides the telephone number of the calling station. Used to check the identity of the calling station (Polling, etc.).
TSI	Transmitting Station Identification Provides the telephone number of transmitting station. Used to check the identity of the transmitting station.
DIS	Digital Identification Signal Informs that the receiving station (machine) has a standard facility (G3/G2).
DTC	Digital Transmit Command Command to transmit using the standard facility which is selected corresponding to DIS (i.e., Polling, etc.).
DCS	Digital Command Signal Commands to transmit using the standard facility which is selected corresponding to DIS or DTC.
SUB	Sub-address Indicates that the FIF information is a sub-address in the domain on the call-in side.
SEP	Select Polling Indicates that the FIF information is a sub-address for the polling mode.
PWD	Password Indicates that the FIF information is a password for the polling mode in a reception. Indicates that the FIF information is a password for transmission in a transmission.
CFR	Confirmation of Reception Informs that the FAX is ready to receive data.
FTT	Failure to Train Informs that the TCF signal has not received correctly and requests the re-training.
EOM	End of Message Informs that the 1st page has been transmitted and there is the next page; command to return to the beginning of the phase B.
MPS	Multi-page Signal Informs that the 1st page has been transmitted and there is the next page; command to return to the beginning of the phase C.
EOP	End of Procedure Informs that a document has been transmitted and there is no more pages.
MCF	Message Confirmation A reply to MPS, EOM or EOP; informing that image signals have been received correctly and the FAX is ready to receive data.
RTN	Retrain Negative Informs that a document has not been received correctly; requests for the retraining or phase synchronization to receive the next page.

PIP	Procedure Interrupt Positive Informs that the image signals have been received correctly and requests the operator's reply by telephone or to return to the beginning of the phase B to continue the communication (i.e., CALL Request, etc.).
PIN	Procedure Interrupt Negative Informs that the image signals have not been received correctly and requests for operator's reply by telephone or to return to the beginning of the phase B to continue the communication.
PRI-EOM	Procedure Interrupt EOM Command similar to EOM. Operation by operator is necessary.
PRI-MPS	Procedure Interrupt MPS Command similar to MPS. Operation by operator is necessary.
PRI-EOP	Procedure Interrupt EOP Command similar to EOP. Operation by operator is necessary.
DCN	Disconnect Command to disconnect the FAX line and to connect the telephone line. Reply from the other side is not necessary.
RR	Receive Ready Informs that the FAX is ready to receive documents and requests for data to set the reception mode. (ECM mode)
RNR	Receive Not Ready Informs that the FAX is not in the receivable state. (ECM mode)
PPR	Partial Page Request Informs that a part of page (ECM block) has not been received correctly. The number of the frame needs to be corrected is informed by the FIF. (EC mode)
PPS	Partial Page Signal Informs that a part of page (ECM block) or one page has been transmitted. (EC mode)
CTC	Continue to Correct Replies to the 4th PPR which requests to correct the image signal; informs that the transmitting station will continue to correct the frame data. (ECM mode)
CTR	Response for Continue to Correct Replies to CTC and informs that the receiving station has received and accepted the CTC. (EC mode)
EOR	End of Retransmission Informs that the transmitting station has completed the correction of the error frame data (binary signal) of the previous ECM block. (ECM mode)
ERR	Response for End Retransmission Replies to EOR and requests to transmit the image signal of the next ECM block. (ECM mode)
RTP	Retrain Positive Informs that the message has been received completely and that the subsequent message can be continued after receiving the synchronization signal and CFR signal.
CRP	Command Repeat Requests to resend all the commands including optional frames because the preceding command has been received incorrectly.

(3) Frame structure of binary signals
Each binary signal frame is comprised of the following sequence and fields. However, some binary signals do not have the FIF field inserted.

F	F	A	C	FCF	FIF	FCS	F

Preample

F : Flag sequence
Indicates the start or end of a frame. Also establishes the frame synchronization.

A : Address field
Informs the address.

C : Control field
Informs if this frame is the last one in this procedure.

FCF: FAX control field
Informs the type of the binary signal.

FIF: FAX information field
Informs FAX information such as the functions.

FCS: Frame check sequence
Checks if there was any error in the transmission from A to FIF.

- Format of F, A and C

	Format							
	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8
F	0	1	1	1	1	1	1	0
A	1	1	1	1	1	1	1	1
C	1	1	0	0	x	0	0	0

* When this frame is the last frame, X = 1.

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- FCF format of each binary signal

Binary signal	Format							
	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8
NSF	0	0	0	0	0	1	0	0
NSC	1	0	0	0	0	1	0	0
NSS	x	1	0	0	0	1	0	0
CSI	0	0	0	0	0	0	1	0
CIG	1	0	0	0	0	0	1	0
TSI	x	1	0	0	0	0	1	0
DIS	0	0	0	0	0	0	0	1
DTC	1	0	0	0	0	0	0	1
DCS	x	1	0	0	0	0	0	1
SUB	x	1	0	0	0	0	1	1
SEP	1	0	0	0	0	1	0	1
PWD(Rx)	1	0	0	0	0	0	1	1
PWD(Tx)	x	1	0	0	0	1	0	1
CFR	x	0	1	0	0	0	0	1
FTT	x	0	1	0	0	0	1	0
EOM	x	1	1	1	0	0	0	1
MPS	x	1	1	1	0	0	1	0
EOP	x	1	1	1	0	1	0	0
MCF	x	0	1	1	0	0	0	1
RTN	x	0	1	1	0	0	1	0
PIP	x	0	1	1	0	1	0	1
PIN	x	0	1	1	0	1	0	0
PRI-EOM	x	1	1	1	1	0	0	1
PRI-MPS	x	1	1	1	1	0	1	0
PRI-EOP	x	1	1	1	1	1	0	0
DCN	x	1	0	1	1	1	1	1
RR	x	1	1	1	0	1	1	0
RNR	x	0	1	1	0	1	1	1
PPR	x	0	1	1	1	1	0	1
PPS	x	1	1	1	1	1	0	1
CTC	x	1	0	0	1	0	0	0
CTR	x	0	1	0	0	0	1	1
EOR	x	1	1	1	0	0	1	1
ERR	x	0	1	1	1	0	0	0
RTP	x	0	1	1	0	0	1	1
CRP	x	1	0	1	1	1	0	0

- X = 1 for the station which received DIS.
- X = 0 for the station which received a response signal to DIS.

(4) Training

The training is performed in the binary procedure to surely transmit the image signals.

- Training signal

  The training signal is transmitted following the DCS signal at the modem speed specified by the DCS signal. Responding to this training signal, the receiving side adjusts the auto-equalizer.

- Format of the training signal
  - 14.4 Kbps, 12 Kbps

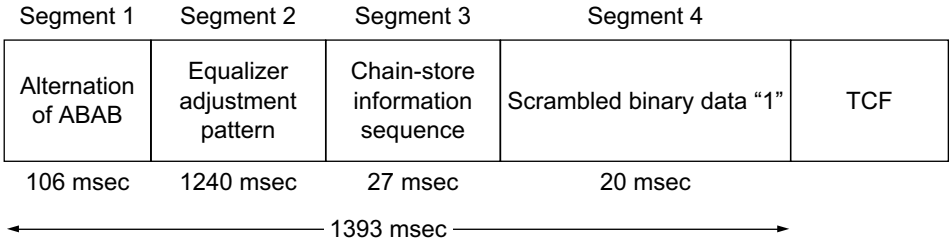

Fig.15-7

  - 9600 bps, 7200 bps

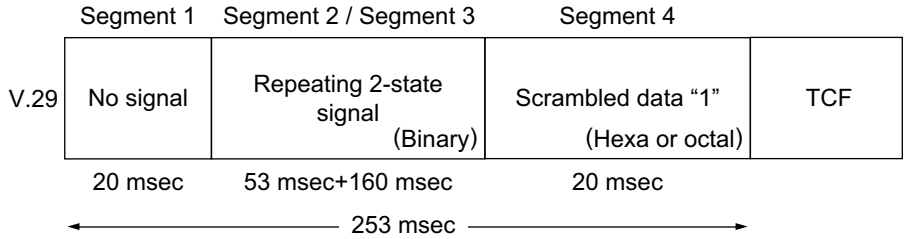

Fig.15-8

  - 4800 bps, 2400 bps

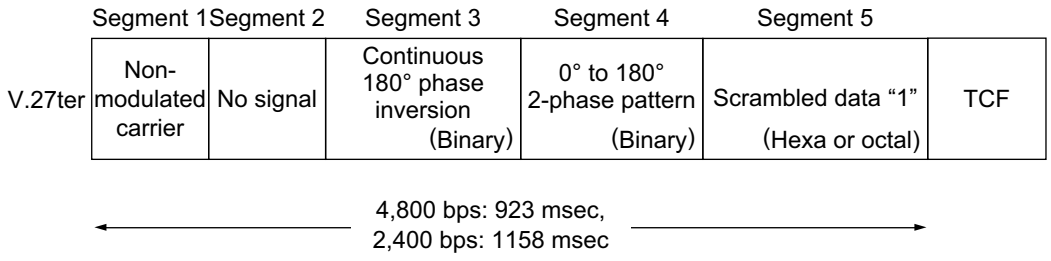

Fig.15-9

- TCF signal

  An error may occur in the image data if the training is not performed correctly. The transmitting side sends a TCF signal and checks if any error occurs in image data before the image data communication to follow. When the receiving side detects an error in the TCF signal, it transmits an FTT signal to the transmitting side to request the retraining. When there is no error, the receiving side transmits a CFR signal.

  The TCF signal transmits all zeros for 1.5 seconds at the same modem speed as that for the training signal.

[3] V.8/V.34 communication sequence

1. Outline
   - V.8 is performed as a startup procedure to switch to V.34. V.8 can connect an existing facsimile machine to the equipment using a data modem or other V-series modems. The V.34 modem has a modem circuit previously recommended, allowing it to be also connected to the existing modems while they are upper compatible.

   - New technologies such as the pre-emphasis technology *1 and the probing technology *2 are fully used. The pre-emphasis technology *1 not only speeds up the modulation, but also gains the S/N ratio. The probing technology examines the line characteristics and optimizes the modem for the line condition. Therefore, not only do these technologies speed up the transmission momentarily, but also the average speed of the process during the data transmission is increased.

   - For V.8 and the pre/post-FAX transmission for V.34, the procedure is speeded up by the full duplex communication.

   - Following 14 types of the image transmission speed are available: *3
     33.6 kbps/31.2 kbps/28.8 kbps/26.4 kbps/24.0 kbps/21.6 kbps/19.2 kbps/16.8 kbps/14.4 kbps/ 12.0 kbps/9.6 kbps/7.2 kbps/4.8 kbps/2.4 kbps

   - The modulating speed (baud rate) *4: 3,429 symbol/sec

     *1: A signal is sent while raising the output level in the high-frequency band in which the noise is relatively loud.

     *2: Tone signal called “Probing Tone” is sent for the receiver to examine the line characteristics of the line.

     *3: In the ITU-T Recommendation, it is described as “data rate”. “Image transmission speed” is the same as “data rate”.

     *4: In the ITU-T Recommendation, it is described as “symbol speed”. The “Symbol rate”, “Modulating speed”, and “Baud rate” are the same thing.

   Notes:
   1. ECM is used in the V.34 procedure. If the setting for the ECM transmission/reception of the user data is set to “Not performed”, the V.8 procedure is not performed and the procedure is not switched to V.34. V.17 or lower is selected in this case.
   2. When the transmission/reception speed is set to 14.4 kbps or slower, the V.8 procedure is not performed, and V.17 or lower is selected.
   3. See “Late start (P3-20)” to move to the V. 8/V.34 procedure after starting with the V.21 procedure.
   4. After the V.34 procedure is started, the fallback for the V.34 procedure is performed. However, the fallback for the V.17 mode or lower mode is not performed.

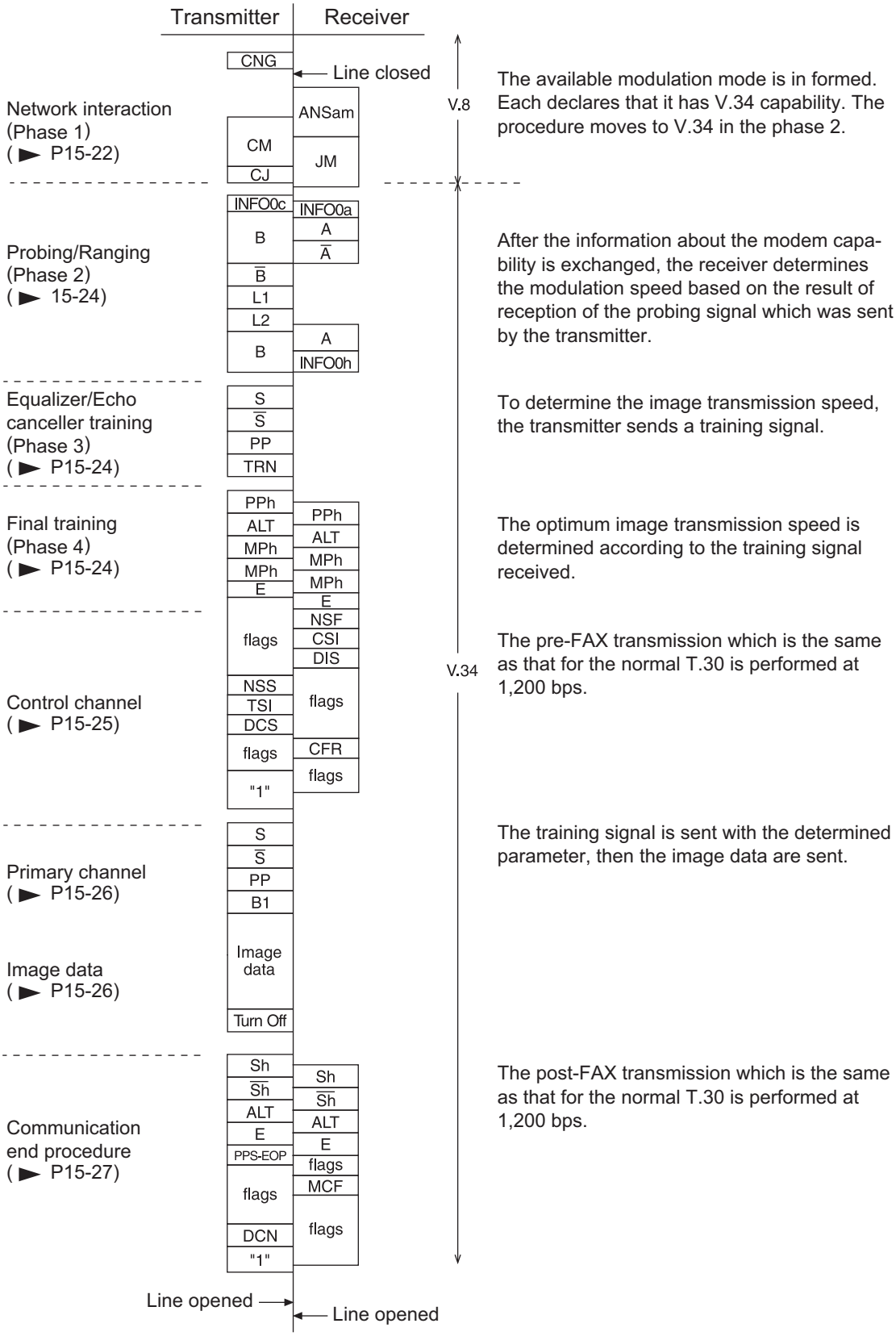

Fig.15-10

- Network interaction (Phase 1)
  The V.8 procedure is performed as the startup procedure for the V.34 high-speed modem.
  In the V.8 procedure, mainly the optimum modulation method (V series modem mode) that can be operated between the transmitter and receiver is determined.

  Transmitter

Signal name	Abbreviation	Function	Remarks
Calling tone	CNG	1100 Hz tone signal specified by T.30 indicating the sender is a FAX machine in the automatic calling mode.	-
Call Menu signal	CM	Mainly indicates an available modulation method such as V.21, V.27ter, V.29, V.17, V.34, etc.	Modulated by V.21 (L) *1. Transmission rate: 300 bps
CM terminator	CJ	Indicates the detection of the JM signal or the termination of CM signal.	Modulated by V.21 (L) *1. Transmission rate: 300 bps
Call Indicator signal	CI	Indicates the general communication functions. It is sent when the V.8 procedure is restarted.	For the late start only. (P3-20) Modulated by V.21 (L) *1. Transmission rate: 300 bps

  Receiver

Signal name	Abbreviation	Function	Remarks
Answer amplitude tone	ANSam	2100 Hz tone signal amplitude-modulated to 15 Hz.	Tone equivalent to CED of the conventional machine.
Joint Menu signal	JM	Indicates the terminal type such as a FAX machine. Response to a CM sent from the transmitter and informs available modulation method.	Modulated by V.21 (H) *1. Transmission rate: 300 bps

*1 V.21 (L) Low frequency channel defined by the V.21 recommendation 1,080±100 Hz (980 Hz: 1, 1,180 Hz: 0)
V.21 (H) High frequency channel defined by the V.21 recommendation 1,750±100 Hz (1,650 Hz: 1, 1,850 Hz: 0)

- Probing/Ranging (Phase 2)
  Examines the line characteristics and sets the parameters for the modulation related items such as the modulating speed.

  Transmitter

Signal name	Abbreviation	Function	Remarks
INFO sequence	INFO0c	Informs the modem capability such as modulating speed and frequency transmission capability (two frequency bands (high and low) used to examine the line characteristics), and requests for adjusting.	Transmission rate: 600 bps
Tone B	B	Synchronization between the modems by 1200 Hz tone signal	$\overline{B}$ is a signal that shifts the phase B 180°.
Tone $\overline{B}$	$\overline{B}$		
Line probing signal L1	L1	Tone signal to analyze the line characteristics by probing	Probing is to examine the line characteristics. Tone signal between 150 Hz and 3,750 Hz in units of 150 Hz
Line probing signal L2	L2		

  Receiver

Signal name	Abbreviation	Function	Remarks
INFO sequence	INFO0a	Informs the modem capability such as the modulating speed and frequency transmission capability.	Transmission rate: 600 bps
Tone A	A	Synchronization between the modems by 2,400 Hz tone signal	$\overline{A}$ is a signal that shifts the phase A 180°.
Tone $\overline{A}$	$\overline{A}$		
INFO sequence	INFO0h	Based on the analysis of the line probing signal sent from the transmitter, it informs the pre-emphasis filter and modulating speed to be used for the data transmission.	Transmission rate: 600 bps

- Equalizer and echo canceller training (Phase 3)
  Training (adjustment) is performed according to the parameters set in the phase 2 to optimize the filters such as an equalizer.

  Transmitter

Signal name	Abbreviation	Function	Remarks
S signal	S	Short training	$\overline{S}$ is a signal made as the result of phase transition of S.
$\overline{S}$ signal	$\overline{S}$		
PP signal	PP	Used by the modem of the receiver to train the equalizer.	
TRN signal	TRN	Used by the receiver to determine the transmission rate.	

- Final training (Phase 4)
  The settings such as the maximum value for the data rate, selection of the trellis encoder, and data rate which can be supported are made in this phase.

  Transmitter/receiver

Signal name	Abbreviation	Function	Remarks
PPh signal	PPh	Used by the modem of the other side to train the equalizer.	
ALT signal	ALT	-	
Modulation parameter	MPh	Informs the parameters used for the image transmission such as maximum data signal rate and type of the trellis coding/pre-coding.	
E sequence	E	-	20 bit sequence of “1”s in binary

- Control channel
  The conventional T.30 procedure is performed. The transmission rate is 1200 bps.

  Transmitter

Signal name	Abbreviation	Function	Remarks
Flag	flags	Maintains the synchronization.	7E (H)
Non-standard facilities setting	NSS	Receives an NSF sent from the receiver. It selects the available mode from the received NSF, and specifies the mode for the reception.	
Transmitting Subscriber ID	TSI	Informs the telephone number of the transmitter.	
Digital Command Signal	DCS	Specifies the mode that can be used for the communication.	
-	1	Declares to switch to the high-speed procedure.	“1” is sent continuously.

  Receiver

Signal name	Abbreviation	Function	Remarks
Non-Standard Facilities	NSF	Informs the presence of the facilities other than those recommended by ITU-T, abbreviated user names, and manufacturer codes, etc.	
Called Subscriber ID	CSI	Informs the telephone number of the receiver.	
Digital Identification Signal	DIS	Informs the standard facilities recommended by ITU-T.	
Flag	flags	Maintains the synchronization.	7E (H)
Confirmation for Reception	CFR	Informs that the training of the modem is completed, and the receiver is ready to receive the image signal.	

Reference: In the control channel, the frequency of the signals to be sent is different between the transmission and reception. The signal echoed back has never been misidentified as a signal sent from the other side. Therefore, this channel is not influenced by signals echoed back.

- Primary channel
  The training is performed according to the parameters set in the phase 4. The transmission rate is 1,200 bps.

  Transmitter

Signal name	Abbreviation	Function	Remarks
S signal	S	Short training	$\overline{S}$ is a signal that makes a transition from phase S.
$\overline{S}$ signal	$\overline{S}$		
PP signal	PP	Used by the modem of the receiver to train the equalizer.	
B1 sequence	B1	Scrambled data frame to be sent when the startup process is completed	

- Image data
  Image data are sent.

  Transmitter

Signal name	Abbreviation	Function	Remarks
Image data	Image data	Encoded image data	
-	Turn off	-	Scrambled 1 is sent for 35 ms.

- Communication end procedure
  This procedure is to terminate the communication. The transmission rate is 1,200 bps.

  Transmitter

Signal name	Abbreviation	Function	Remarks
Sh signal	Sh	Short training	
$\overline{\text{Sh}}$ signal	$\overline{\text{Sh}}$		
ALT signal	ALT	-	
E sequence	E	-	
End of procedure signal	PPS-EOP	The transmission of one page is completed.	
Flag	flags	Maintains the synchronization.	7E (H)
Disconnection signal	DCN	Informs to disconnect the line.	

  Receiver

Signal name	Abbreviation	Function	Remarks
Sh signal	Sh	Short training	
$\overline{\text{Sh}}$ signal	$\overline{\text{Sh}}$		
ALT signal	ALT	-	
E sequence	E	-	
Flag	flags	Maintains the synchronization.	7E (H)
Message confirmation	MCF	Indicates that the image signal is received normally, and the receiver is ready to receive the next page.	

3. Example of protocol
   The signals shaded in the following figure are the most important signals in the procedure.

   - Late start
     The receiver cannot detect CM signal while it is sending the ANSam signal. Therefore, it sends a DIS signal to inform the availability of V.8 support. The transmitter sends a CI signal that causes the receiver to send another ANSam signal which makes the receiver move to the V.8 procedure.

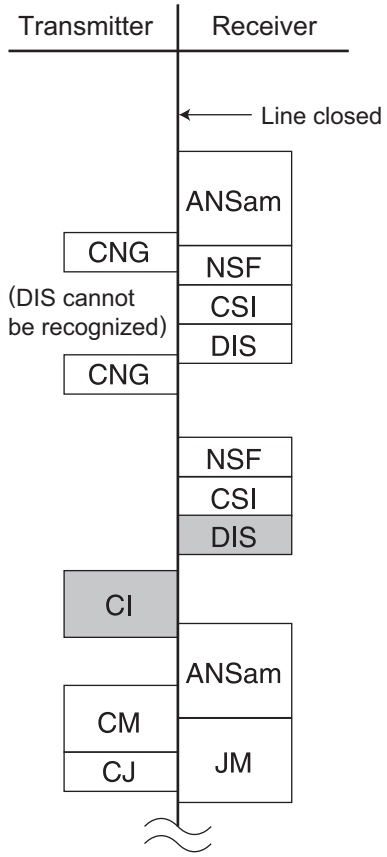

Fig.15-11

- Multi-page sequence
  In the same manner as the T.30 procedure, the transmitter sends a PPS-MPS signal after sending the image data. The receiver sends an MCF signal and moves to the next page transmission.

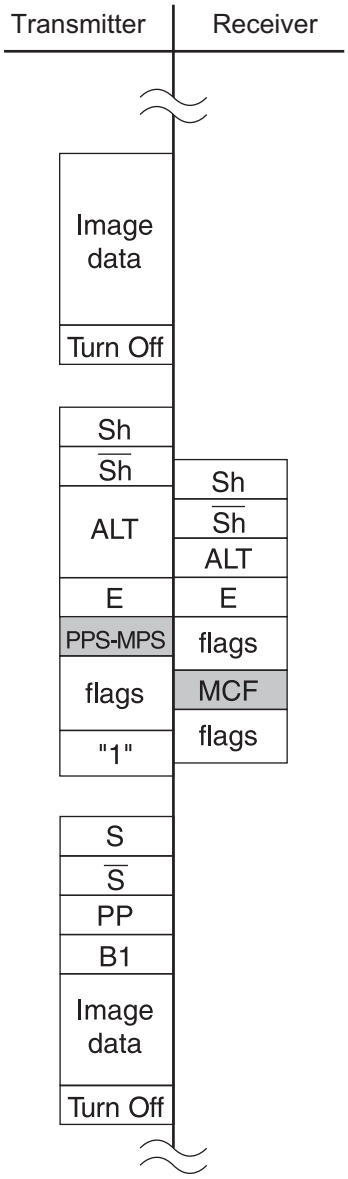

Fig.15-12

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- Mode change
  The transmitter and receiver send a PPS-EOM signal and an MCF signal respectively. Then the receiver and transmitter send a DIS signal and a DCS signal respectively to change the mode.

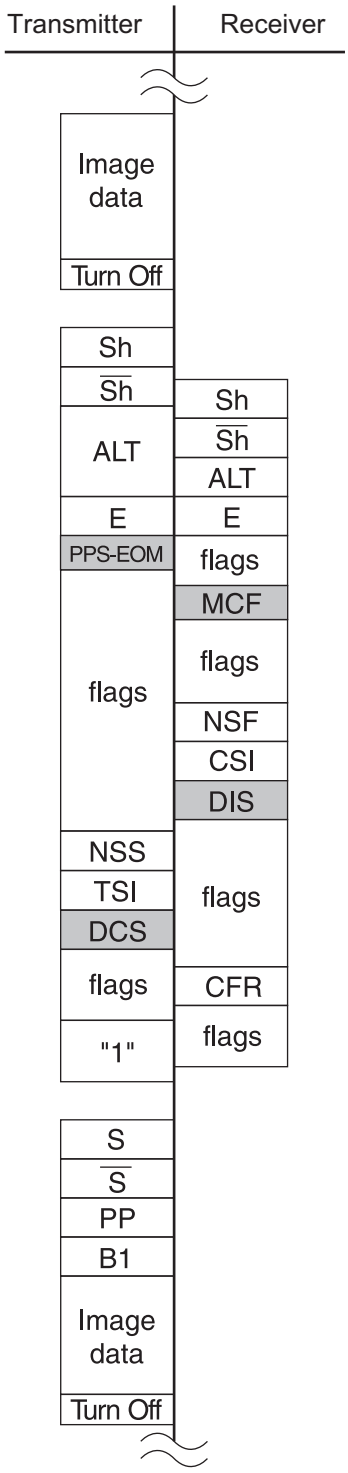

Fig.15-13

- Change of the image transmission speed by the receiver
  The receiver sends a PPh signal responding to an Sh signal sent from the transmitter. Then, the image transmission speed is determined according to the MPh sequence sent from the both modems.

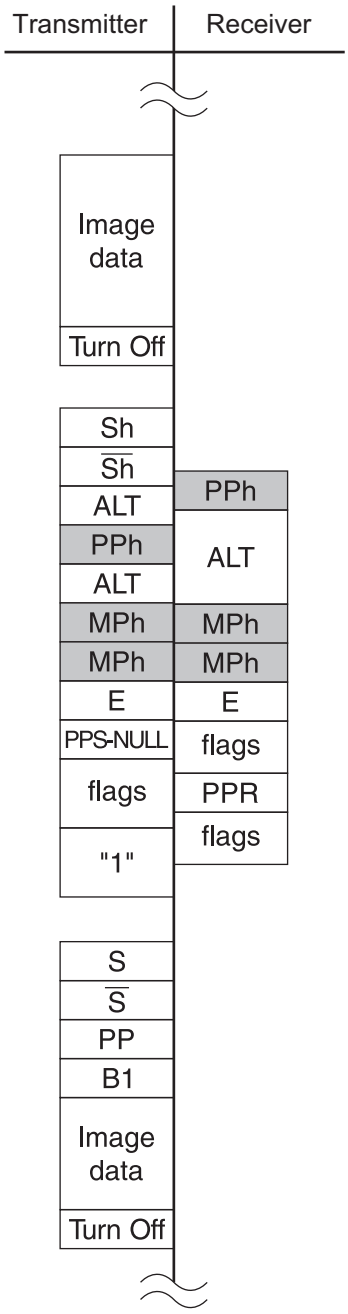

Fig.15-14

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- Change of the image transmission speed by the transmitter
  The transmitter sends a PPh signal after sending the image data. The receiver returns a PPh signal. Then, the image transmission speed is determined according to the MPh sequence sent from the both modems.

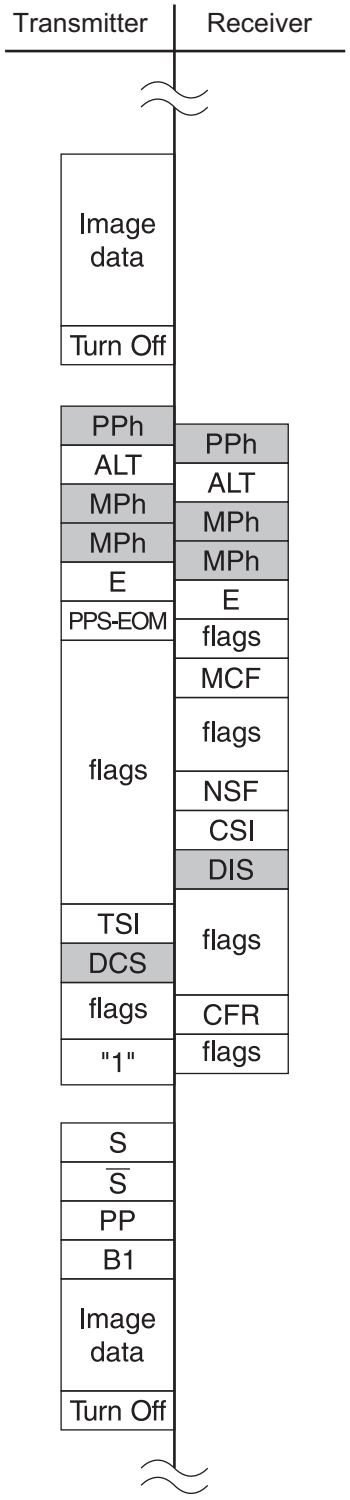


Fig.15-15

15.4 FAX ERROR CODES

15.4.1 Activity Report and Error Code List

The activity report (transmission and reception journal) is shown below. The error code list is available in the following pages.

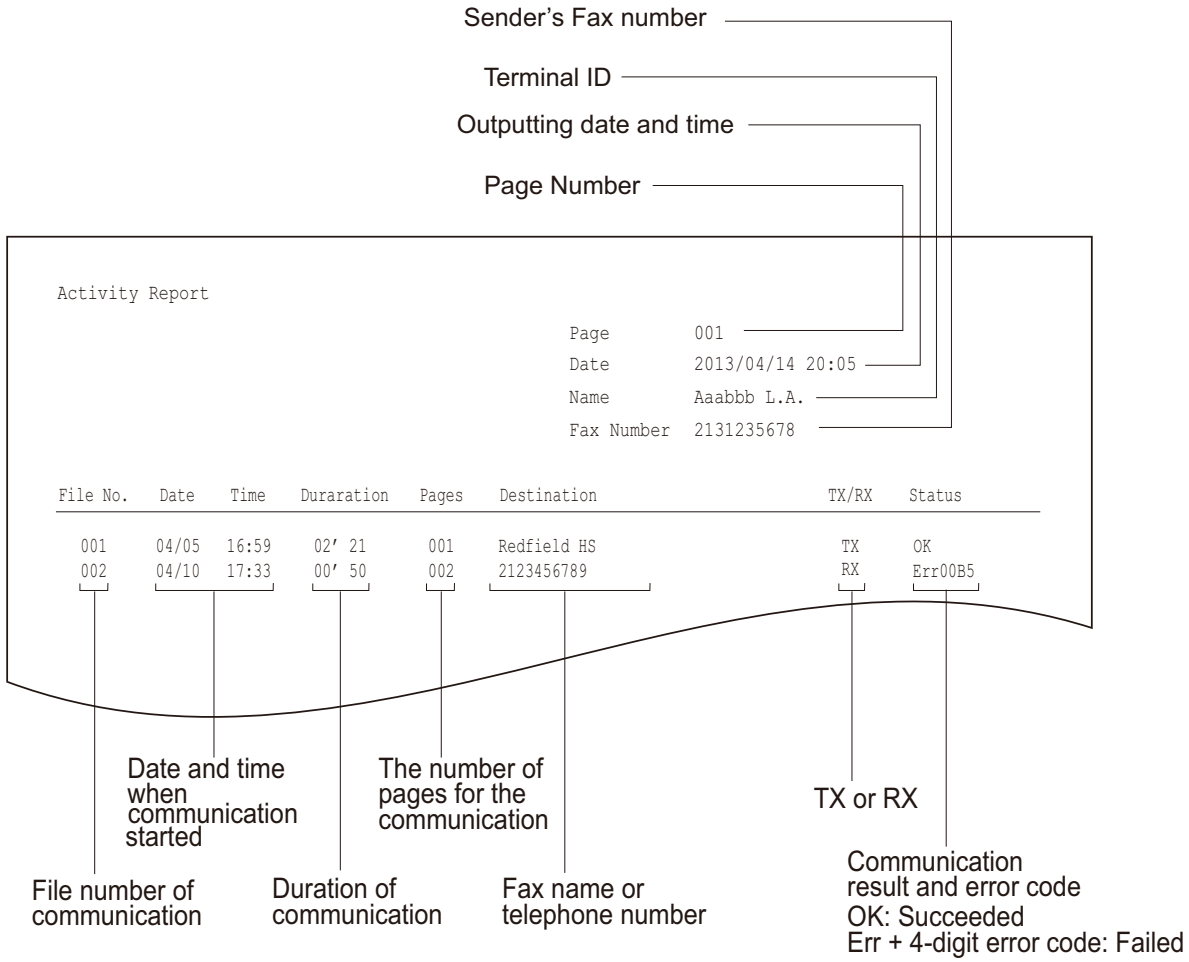


Fig.15-16

15

1. Error code list
   If an error has occurred during communication, an error code is indicated below “STATUS” on the activity report.
   Take the appropriate action referring to the following list.

- Circuit board error

Error code	Cause	Corrective Action
F011	Serial Flash can't write (FAX kit)	For board failures due to noise is to replace the FAX board
F012	NAND Flash can't write (FAX kit)	
F013	Modem can't work. (FAX kit)	

- Transmission error

Error Code	Cause	Corrective Action
0080	G3 has not been detected within 35 seconds as specified by ITU-T at phase B.	This may happen in some cases of bad line condition. Attempt the transmission again.
0081	DTC has been received from the remote party.	This may happen in some cases of bad line condition. Attempt the transmission again.
0082	A signal other than DIS and DCN has been received at phase B.	This may happen in some cases of bad line condition. Attempt the transmission again.
0083	FSK has been detected, but no other signals have been received within 35 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.
0084	DCN has been received at phase B.	This may happen in some cases of bad line condition. Attempt the transmission again.
0085	DCS has been sent 3 times consecutively, but each response has been made with DIS.	This may happen in some cases of bad line condition. Attempt the transmission again.
0086	Response signals other than DIS, FTT, DCN or CFR have been detected after DCS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
0087	The training attempt has failed because an adjustment to a lower speed could not be made.	This may happen in some cases of bad line condition. Attempt the transmission again.
0088	DCN has been received after DCS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
008B	A protocol of DIS has been received, but it was not compatible with this equipment.	This may happen in some cases of bad line condition. Attempt the transmission again.
008C	The function has not been supported on the remote party’s side or receiving side.	This may happen in some cases of bad line condition. Attempt the transmission again.
008D	A protocol of DIS has been received, but the remote party has no temporary receipt of a document; this may be caused by paper running out, etc.	This may happen in some cases of bad line condition. Attempt the transmission again.
008F	The modem has not been ready to receive V.34 data within 6 seconds after CFR was received.	This may happen in some cases of bad line condition. Attempt the transmission again.
0091	DCS has been sent 3 times consecutively, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
0093	DCN has been received after DCS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
0094	Time-out has occurred while ECM frame or RCP command was being sent.	This may happen in some cases of bad line condition. Attempt the transmission again.

Error Code	Cause	Corrective Action
009A	No signal has been detected after CI was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
009D	No transmitted signal has been detected before the V.34 modem enters phase 2 in V.34 polling RX.	This may happen in some cases of bad line condition. Attempt the transmission again.
00A0	Cancel command have been received from Host.	This may happen when an error occurs in the system, such as paper jamming or overcounting. Remove the error factor and reattempt the transmission.
00A9	The line has not been connected correctly.	This may happen in some cases of bad line condition. Check the connection of the line cable, and then reattempt the transmission.
00AA	No Dial Tone	This may happen in some cases of bad line condition. Check the connection of the line cable, and then reattempt the transmission.
00AB	Line Busy	Confirm the phone numbers of the remote party, or reattempt the transmission after a while.
00AC	No Answer	Confirm the phone numbers of the remote party, or reattempt the transmission after a while.
00AD	No FAX function on the remote party's side	Confirm the phone numbers of the remote party, or reattempt the transmission after a while.
00AE	The V.8 procedure has not been finished or V.21 has not been detected after CM was done within 30 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.
00AF	The modem has not been entered in the control channel after RCP was sent to the TX side.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B1	The V.8 procedure has not been finished or V.21 has not been detected after ANSam was done within 35 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B2	The signal at phase 2 has not been detected after CJ was sent within 30 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B3	Correct V.21 or JM has not been detected after CM or CJ was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B4	The correct signal at phase 2 has not been detected within 25 seconds after CM/JM was exchanged.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B5	The signal at phase 3 has not been detected after phase 2 within 25 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B6	The signal at phase 4 has not been detected within 25 seconds after CM/JM was exchanged.	This may happen in some cases of bad line condition. Attempt the transmission again.
00B8	The remote party has been disconnected after DCS was sent in V.34.	This may happen in some cases of bad line condition. Attempt the transmission again.
00BC	The modem has not been ready within 10 seconds after the primary channel was entered in V.34.	This may happen in some cases of bad line condition. Attempt the transmission again.
00BD	Correct V.21 or JM has not been detected after FSK frequency was searched.	This may happen in some cases of bad line condition. Attempt the transmission again.

Error Code	Cause	Corrective Action
00BF	The function on the remote party's side has not corresponded to that on the receiving side.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C1	EOP has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C2	The remote party has been disconnected after V.8 CM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C3	RTN has been received after EOP was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C4	After MPS was sent, a signal other than MCF, RTN, PIP, PIN, RTP or DCN has been received.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C5	DCN has been received after MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00C9	MPS has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00CA	After EOP was sent, a signal other than MCF, RTN, PIP, PIN, PRI-EOP, DCN or RTP has been received.	This may happen in some cases of bad line condition. Attempt the transmission again.
00CB	DCN has been received after EOP was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00CC	After EOM was sent, a signal other than MCF, RTN, PIP, PIN, RTP or DCN has been received.	This may happen in some cases of bad line condition. Attempt the transmission again.
00CD	EOM has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00CE	EOM has been sent at phase D, but DCN has been received.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D0	ERR has been received after EOR_NULL was sent.	This may happen in some cases of bad line condition.
00D1	After PPS_EOP was sent in V.34, an incorrect response has been received.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D2	DCN has been received after PPS_EOP was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D3	DCN has been received after PPS_NULL was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D4	DCN has been received after PPS_EOM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D5	T5 Time-out	This may happen in some cases of bad line condition. Attempt the transmission again.
00D7	The memory transmission times have exceeded the limited number of redial ones.	This may happen in some cases of bad line condition. Attempt the transmission again.
00D9	No correct signal has been detected at phase 3 after there was no signal at phase 2.	This may happen in some cases of bad line condition. Attempt the transmission again.
00DA	No signal has been detected at phase 4 within 30 seconds or the remote party has hung up over 6 seconds.	This may happen in some cases of bad line condition. Attempt the transmission again.

Error Code	Cause	Corrective Action
00DB	T.30 has not been received within 30 seconds at phase 4.	This may happen in some cases of bad line condition. Attempt the transmission again.
00DC	T.30 other than DCS or DIS has been received at phase 4.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E0	PPS_NULL has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E1	An incorrect response has been made after PPS_NULL was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E2	No response has been received in RP procedure after PPS_NULL was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E3	The speed has not become lower in non-ECM mode.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E4	PPS_MPS has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E5	An incorrect response has been made after PPS_MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E6	No response has been received in RR procedure after PPS_MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E7	DCN has been received after PPS_MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E8	PPS_EOP has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00E9	PIN has been received after the last page data were sent.	This may happen in some cases of bad line condition.
00EA	No response has been received in RR procedure after PPS_EOP was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00EB	PPS_EOM has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00EC	An incorrect response has been made after PPS_EOM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00ED	No response has been received in RR procedure after PPS_EOM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00EE	EOR_NULL has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00EF	An incorrect response has been made after EOR_NULL was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F0	No response procedure has been received after EOR_NULL was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F1	EOR_MPS has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F2	An incorrect response has been made after EOR_MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F3	ERR has been received after EOR_MPS was sent.	This may happen in some cases of bad line condition.
00F4	No response has been received in RR procedure after EOR_MPS was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.

Error Code	Cause	Corrective Action
00F5	EOR_EOP has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F6	An incorrect response has been made after EOR_EOP was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F7	No response has been made after ERR was received and EOR_EOP command was sent.	This may happen in some cases of bad line condition.
00F8	EOR_EOM has been sent 3 times consecutively at phase D, but no response has been made.	This may happen in some cases of bad line condition. Attempt the transmission again.
00F9	An incorrect response has been made after EOR_EOM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00FA	ERR has been received after EOR_EOM was sent.	This may happen in some cases of bad line condition.
00FB	No response has been received in RR procedure after EOR_EOM was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00FC	No response has been made after CTC was sent.	This may happen in some cases of bad line condition. Attempt the transmission again.
00FD	The speed has not become lower in ECM mode.	This may happen in some cases of bad line condition. Attempt the transmission again.
00FE	Memory full for transmission.	During the memory transmission, reattempt the transmission by dividing the originals into several transmissions or do so after the memory is cleared.

- Reception error

Error Code	Cause	Corrective Action
0001	G3 has not been received within 35 seconds	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0003	DIS has been received after its signal was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0013	The carrier has not been received within 6 seconds after CFR was sent at data phase C.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0014	T.30 has not been received after FTT was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0016	DCN has been received after FTT was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0017	No response has been received from the remote party after DIS was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0018	No signal has been detected within 6 seconds after the FTT command was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0019	DCN has been received after CFR was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.

Error Code	Cause	Corrective Action
001A	No signal has been detected on the line over 6 seconds at phase C before any corrected ECM frame is received.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
001D	7E flag has not been detected within 6 seconds after CFR command was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
001E	No command has been received at phase D in the V.17/V.29/V.27 ECM mode.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0020	In V.17/V.29/V.27 ECM mode, No signal has been detected on line over 60 sec at phase C.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0021	Exceeding maximum number of received FAX pages (256 pages)	The pages normally received are printed out. Check the remaining memory space or memory status, and attempt the reception again. When performing memory reception, remove the cause of the error, then ask the remote party to transmit the original again.
0022	Although the data were received in the non-ECM mode, image data have not been received properly.	This may happen in some bad line condition cases. Ask the remote party to attempt the transmission again.
0030	No signal has been received within 6 seconds at the phase D.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0031	An incorrect signal (not EOP, MPS, EOM, DCS, PRI_Q, etc.) has been received at phase D.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0032	The carrier has not been received within 6 seconds after MCF, RTP or RTN was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0033	DCN has been received at phase D in the pages (except the last page).	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0039	In the non-ECM mode, the data have been received but the ones on the next line have not within 13.1 seconds.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
003A	Decoding failed since the received data were incorrect.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0040	The carrier has not been received within 6 seconds after CTR was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0041	The carrier has not been received within 6 seconds after PPR was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0042	No correct signal has been received after RNR was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.

Error Code	Cause	Corrective Action
0043	An incorrect signal has been received at phase D in the ECM mode.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0044	The carrier or FSK has not been received within 6 seconds after MCF was sent in the ECM mode.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0047	No correct image data have been received after ERR signal was sent.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0048	MCF has been sent and then an incorrect command has been received after PPS_PRI_Q command.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
004B	No correct command has been received even though FSK tone was detected within 6 seconds	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
004C	The handshake has failed during retraining or between pages in V34 and RX.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
004E	DCN has been received after DIS was sent in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
004F	The remote party has been disconnected after ANSam was sent at V.8 phase.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0050	No correct signal has been received after CJ was received in V.8 phase.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0051	The signal has not been received at phase 3 after phase 2 within 20 seconds in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0053	The modem has been disconnected after phase 4 in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0054	The remote party has been disconnected after phase 4 in V.8.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0055	An incorrect signal has been received after DIS was sent in V.34.	This may happen in some cases of bad line condition. Ask the remote party to attempt the transmission again.
0056	The modem has been disconnected after CFR was sent in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0058	An image signal has not been detected within 6 seconds after the modem entered the primary phase in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
005A	The modem has not detected any correct ECM frame within 3 minutes at phase C.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.

Error Code	Cause	Corrective Action
005B	The modem has not detected the control channel within 12 seconds at phase C.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
005C	Time-out has occurred while the Primary Channel is being terminated at phase C.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
005D	The modem has not detected any correct ECM frame within 12 seconds at phase C.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
005E	The control channel signal has not been detected within 6 seconds after RCP frame was received.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0061	V.21 or V.8 has not been detected within 35 seconds	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0062	The modem has been disconnected at phase D after flag sequences were sent in the control channel.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0063	No flag sequence has been received within 25 seconds at the control channel.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0064	No control channel signal has been detected within 60 seconds at phase D even though a signal is still on the line.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0065	No control channel signal has been detected within 60 seconds after there was no signal at phase D.	This may happen in some cases of bad line condition. Attempt the transmission again. Or ask the remote party to attempt the transmission again.
0066	T.30 has not been received after CFR was sent in V.34.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.
0071	During memory reception, the image memory has run out.	When performing memory reception, remove the cause of the error, then ask the remote party to transmit the original again.
0072	EOR_Q as been received.	This may happen in some cases of bad line condition. Ask the remote party to transmit again.

15.5 FAX SELF-DIAGNOSIS MODE

There are two types of the self-diagnosis mode for the FAX operation.

- Test mode (03), adjustment mode (05) and setting mode (08): Some items are added to the test mode (03), adjustment mode (05) and setting mode (08) of the self-diagnosis function when the optional FAX unit is installed.

- FAX function mode (13) and FAX clearing mode (1*): These two modes are newly added to the machine when the FAX unit is installed. Started up by turning ON the power while pressing the specified keys are being pressed.

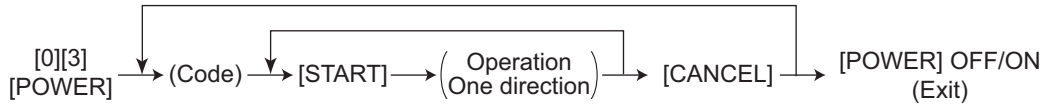
Notes:

- **To finish the self-diagnosis mode, make sure to turn the power OFF and then back ON.** When the equipment is started in one of the self-diagnosis modes, the equipment is occupied by the mode until the power is turned OFF. In this case, the recovery processing for the FAX operation is not performed.
- Faxes received automatically during the self-diagnosis mode may not be printed out. Be sure to disconnect the modular cord from the line connector (LINE1) of the equipment before starting the self-diagnosis mode. Also, be sure to finish the self-diagnosis mode by turning the power OFF and back ON before connecting the modular cord.

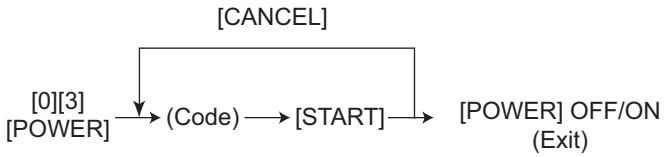
15.5.1 Test Mode (03)

The modem test output and dialing test output are performed in the Test Mode (03).

1. Modem test
   [Operation procedure]



2. Dialing test
   [Operation procedure]



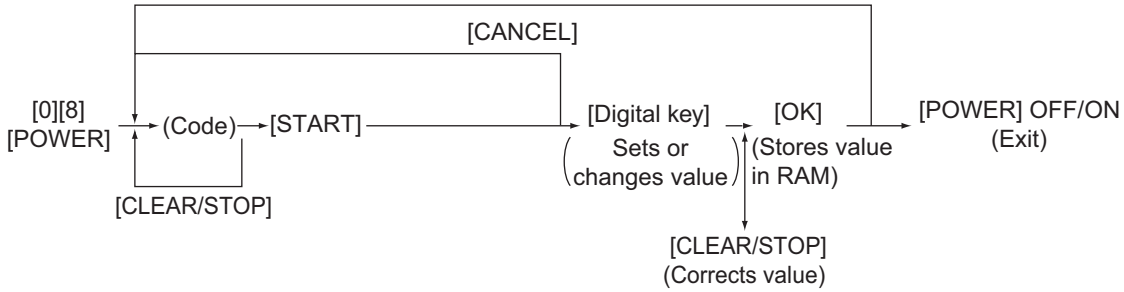
Test code list

Code	Element	Test
03-302	FAX	Modem test 14.4 kbps (V.17)
03-303	FAX	Modem test 9.6 kbps (V.29)
03-304	FAX	Modem test 4.8 kbps (V.27)
03-311	FAX	Modem test 33.6 kbps (V.34)
03-315	FAX	Output dial pulse at 10 PPS automatically
03-316	FAX	Output dial pulse at 20 PPS automatically
03-317	FAX	Output DTMF dial automatically
03-323	FAX	Output DTMF dial (pushed key) while key is pressed.
03-324	FAX	Execute off-hook
03-325	FAX	Execute on-hook

15.5.2 Setting Mode (08)

The destination is set in the Setting Mode (08).

[Operation procedure]



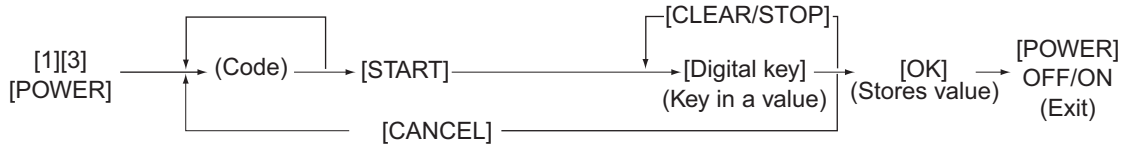
Code	Element	Adjustment item		Mode	Image mode	Default value at the product shipment
08-9001	FAX	0: Japan	1: Asia	FAX	-	JPD: 0
		2: TAP	3: Hong Kong			NAD: 4
		4: US	5: Germany			MJD: 5
		6: UK	7: Italy			SYD: 1
		8: Belgium	9: Netherlands			ASD: 1
		10: Finland	11: Spain			AUD: 1
		12: Austria	13: Switzerland			TWD: 1
		14: Sweden	15: Denmark			CND: 1
		16: Norway	17: Portugal			ARD: 1
		18: France	19: Greece			
		20: Poland	21: Hungary			
		22: Czech	23: Turkey			
		24: South Africa	25: Taiwan			
		26: Canada	27: China			
		28: New Zealand	29: Malaysia			
		30: Singapore				

15.5.3 Function Mode (13)

Various functions are set in the Function Mode (13).

Procedure to set the functions
Key in a code and change the set value.

[Operation procedure]



15

100-299 Adjustment within the dialing standards

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-104	DTC/LCC for PSTN (Line1)	Sets the detection of condition which is to be used for the PSTN, DTC or LCC.	0: Disable detection 1: Enable detection	1	1	1	1	1	1	1	1	1	1	1	1
13-128	Redialing counter	Sets the number of redialings.	0: No retry 1: 1 redialing ¦ 14: 14 redialings	3	5	2	4	5	3	4	3	3	5	3	3
13-135	Redialing interval	Sets the interval between redialings.	0: Default (3 min) 1: 1 min ¦ 15: 15 min	1	3	1	3	1	0	0	3	2	2	0	2
13-141	MF TX-ATT high output	Sets the attenuator value for the MF signal.	0: -15 dB ¦ 15: 0 dB (Value increased one by one)	7	14	7	7	13	9	9	9	9	9	9	9
13-152	MF dial level balance	Sets the difference between the high output and low output of the MF signal.	0: -2 dB 1: -3 dB	0	0	0	0	0	0	1	1	1	1	1	1
13-200	Exchange type	Selects the exchange type.	0: PSTN 1: PABX	0	0	0	0	0	0	0	0	0	0	0	0
13-203	Dialer type	Selects the dial type.	0: DP (10 PPS) 1: DP (20 PPS) 2: MF	2	2	2	2	2	2	2	2	2	2	2	2
13-206	Local/distant dial	Key in an access code designated. Local: 2 digits Distant: 2 digits Access Digit: 3 digits	Numeric value of 3 digits	999	999	999	999	999	999	999	999	999	999	999	999

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-104
1	4	5	4	9	3	5	4	3	3	3	5	5	2	5	5	2	5	5	13-128
2	2	1	0	0	1	3	3	3	3	3	3	3	2	1	3	1	3	3	13-135
9	9	9	9	9	9	9	9	9	9	9	13	13	9	13	8	7	7	9	13-141
1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	13-152
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-200
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-203
999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	13-206

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-325	TX attenuation value (V.17/V.34)	Sets the modem transmission level for communication. The smaller the value is, the higher the transmission level becomes. If errors occur frequently or training is not sent, the transmission level should be changed.	0: 0 dB 1: -1 dB ¦ 15: -15 dB (Value decreased one by one)	9	10	10	10	10	12	12	12	12	12	12	12
13-335	Modem speed initial value	Sets the initial modem speed to be declared by DIS/DCS.	0: 7200 (V29) 1: 9600 (V29) 2: 7200 (V17) 3: 9600 (V17) 4: 12 K (V17) 5: 14.4 K (V17) 6: 14.4 KBPS (V34) 7: 21.6 KBPS (V34) 8: 28.8 KBPS (V34) 9: 33.6 KBPS (V34)	9	9	9	9	9	9	9	9	9	9	9	9
13-338	Forcible line monitoring	Selects the line to monitor.	0: OFF 1: Line 1	0	0	0	0	0	0	0	0	0	0	0	0
13-339	CI-ON determine time (Line 1)	CI ON-satiable time.	0: 100ms 1: 150ms 2: 200ms 3: 300ms 4: 1s	1	1	1	1	1	1	1	1	1	1	1	1
13-340	CI-OFF determine time (Line 1)	CI OFF-satiable time.	0: 100ms 1: 200ms 2: 500ms 3: 1s 4: 1.5s	3	2	3	2	2	2	2	2	2	2	2	2

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
12	12	12	12	12	12	12	12	12	12	12	10	10	13	10	10	10	10	10	13-325
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13-335
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-338
0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-339
1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-340

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-346	Recording width capacity declaration	Selects either one of the followings to declare the maximum recording width to the other party when the specified paper size is not available; the largest paper in the other drawer or the drawer for the largest paper.	0: Paper 1: Drawer	0	0	0	0	0	0	0	0	0	0	0	0
13-353	Speaker Volume (Ringer Tone)	Ringer volume when detecting CI	0: Level 0 (Min.) ¦ 3: Level 3 (Max.)	2	0	0	0	0	0	0	0	0	0	0	0
13-355	Memory transmission report	Sets whether the memory transmission report is output or not. Also, selects the output conditions.	0: Off 1: Always 2: On Error 3: Always (W) 4: On Error (W)	4	4	4	4	4	3	3	3	3	3	3	3
13-356	Multi address transmission report	Sets whether the multi-address transmission report is printed or not. Also, selects the output condition.	0: OFF 1: Always 2: On error 3: Always (W) 4: On error (W)	4	4	4	4	4	3	3	3	3	3	3	3
13-368	Journal auto-output	Sets whether the journal is output automatically or not.	0: OFF 1: ON	1	1	1	1	1	1	1	1	1	1	1	1
13-372	CI detection counter setting for auto-RX	Sets the CI counter value for the machine to enter the automatic reception mode.	0: Once 1: Once ¦ 15: 15 times (Value increased one by one)	0	1	4	1	2	2	2	2	2	2	2	2

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-346
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-353
3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	13-355
3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	13-356
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-368
2	2	2	2	2	2	2	2	2	2	2	1	1	2	2	1	4	1	1	13-372

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-373	Speaker volume (monitor tone)	Sets the speaker volume for on-hook status or protocol monitor.	0: Level 0 (Min.) ¦ 3: Level 3 (Max.) To enable the monitor volume (13-373) setting, set "1" in 13-338.	2	2	2	2	2	2	2	2	2	2	2	2
13-375	Discard parameter on printing	Sets the data length to be discarded when the received data exceed the effective recording length.	0: 0 mm (No elimination) 1: 10 mm 2: 18 mm 3: 22 mm 4: 34 mm	2	2	2	2	2	2	2	2	2	2	2	2
13-377	Printing mode (Reduction in vertical direction)	Sets if the received document is reduced automatically in the vertical direction to appropriate recording size.	0: Auto-reduction 1: No reduction	0	0	0	0	0	0	0	0	0	0	0	0
13-378	Discard printing	Selects if the discard printing is performed.	0: OFF 1: ON	1	1	1	1	1	1	1	1	1	1	1	1
13-379	Maximum reduction rate in vertical direction	Sets the maximum reduction rate in the vertical direction.	0: 90% 1: 75%	0	0	1	0	1	1	1	1	1	1	1	1
13-382	Reception information on received document	Sets if the receiver information is printed on received document.	0: OFF 1: ON	0	0	0	0	0	0	0	0	0	0	0	0
13-389	RX Mode (PSTN)	Selects the receiving mode.	0: TEL 1: FAX	1	1	1	1	1	1	1	1	1	1	1	1
13-391	ECM function	Sets if the ECM communication is performed.	0: OFF 1: ON	1	1	1	1	1	1	1	1	1	1	1	1
13-509	Modem speed for overseas communication (except V.34)	Sets the initial modem speed for overseas communication.	0: 14400 bps 1: 9600 bps 2: 4800 bps	1	1	1	1	1	1	1	1	1	1	1	1

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-373
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-375
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-377
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-378
1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	13-379
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-382
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-389
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-391
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-509

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-511	Transmission information at header	Sets the header insertion.	0: Not inserted 1: Inserted	1	1	1	1	1	1	1	1	1	1	1	1
13-519	Paper selection for received FAX document	Selects which one has priority over the other, A4 series or LT series, to print the received document when these two series are mixed in a drawer.	0: A4 series 1: LT series	0	0	0	0	1	0	0	0	0	0	0	0
13-574	Coding capability (communication capability)	Sets the coding capability to be declared to the other side during communication.	0: MH 1: MH/MR 2: MH/MR/MMR 3: MH/MR/MMR/JBIG	3	3	3	3	3	3	3	3	3	3	3	3
13-575	Reception end tone timing	Sets the timing to sound the reception end tone.	0: OFF 1: When printing is completed 2: When reception is completed	1	1	1	1	1	1	1	1	1	1	1	1
13-586	Communication end tone volume	Sets the volume of the communication end tone.	0: Level 0 (Min) ¦ 3: Level 3 (Max)	2	2	2	2	2	2	2	2	2	2	2	2

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-511
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	13-519
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	13-574
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-575
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-586

700-749 Adjustment of telephone setting

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-707	Remote RX Function	-	0: Off 1: Dial	0	0	0	0	0	0	0	0	0	0	0	0
13-711	Dialing Number of Remote RX	-	1-digit value between 0 and 9	5	5	5	5	5	5	5	5	5	5	5	5

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-707
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	13-711

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700-749 Adjustment of telephone setting (only for 28F)

Notes:

Code 13-720 to 13-728 only for JPN

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-720	RBT Sending in TEL/FAX	-	0: OFF 1: ON	1	1	1	1	1	1	1	1	1	1	1	1
13-722	RBT Frequency	-	0: 405/432Hz 1: 405Hz	0	0	0	0	0	0	0	0	0	0	0	0
13-723	RBT ATT	-	10: -10dB to 15: -15dB	15	10	13	10	10	13	13	13	13	13	13	13
13-724	Ring Counter in TEL/FAX	-	0: 1time 1: 1time to 15: 15time	6	6	6	6	6	6	6	6	6	6	6	6
13-725	CNG Detection Range	-	0: 1100±38Hz 1: 1100±30Hz 2: 1100±24Hz	0	2	2	2	2	2	2	2	2	2	2	2
13-726	CNG Detection Counter	-	0: 1time 1: 2time	1	1	1	1	1	1	1	1	1	1	1	1
13-727	CNG ON Determine Time	-	0: 100ms 1: 150ms 2: 200ms 3: 250ms 4: 300ms	0	0	0	0	0	0	0	0	0	0	0	0
13-728	CNG OFF Determine Time	-	0: 500ms 1: 750ms 2: 1000ms 3: 1250ms 4: 1500ms 5: 1750ms	0	0	0	0	0	0	0	0	0	0	0	0

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-720
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-722
13	13	13	13	13	13	13	13	13	13	13	10	10	15	10	10	13	10	10	13-723
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	13-724
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	13-725
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-726
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-727
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-728

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-750	Direct TAD Recording Switching	-	0: No 1: 1sec to 99: 99sec	45	45	45	45	45	45	45	45	45	45	45	45
13-751	No-Sound Detection Time	-	0: 7sec 1: 10sec 2: 13sec 3: 16sec	0	0	0	0	0	0	0	0	0	0	0	0
13-752	Voice Detection Time	-	0: 5msec 1: 100msec 2: 200msec 3: 400msec	0	0	0	0	0	0	0	0	0	0	0	0
13-753	Minimum Frequency	-	0: 50Hz 1: 100Hz 2: 150Hz 3: 200Hz 4: 250Hz 5: 300Hz 6: 350Hz 7: 400Hz 8: 450Hz 9: 500Hz 10: 550Hz 11: 600Hz 12: 650Hz 13: 700Hz 14: 750Hz 15: 800Hz	7	7	7	7	7	7	7	7	7	7	7	7
13-754	Forced Reception in Tape-Full	-	0: OFF 1: ON(10 times)	1	1	1	1	1	1	1	1	1	1	1	1

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	13-750
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-751
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13-752
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	13-753
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13-754

900-999 Adjustment of system setting

Code	Adjustment	Function	Setting	Default											
				JPN	ASM	TAP	HKG	USA	DEU	GBR	ITA	BEL	NDL	FIN	ESP
13-941	UI display for TTI ON/OFF	Sets whether the button is displayed in the TTI setting screen.	0: OFF 1: ON	1	1	1	1	0	0	0	0	0	0	0	0

Default																			Code
AUS	CHE	SWE	DNK	NOR	PRT	FRA	GRC	POL	HUN	CZE	TUR	ZAF	TWN	CAN	CHN	NZL	MAS	SIN	
0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	13-941

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15.5.4 FAX Clearing Mode (1*)

Various FAX memories are initialized in the FAX clearing mode (1*).

1. Memory Areas
   - User registration area (SRAM (FAX board))
     ID registration area

   - Image data area (SRAM (FAX board))
     Transmission file
     Reception file
     Image data file management area

   - System setting area (Flash memory (MAIN board), SRAM (FAX board))
     Settings in the Function Mode (13) Areas 100 - 999

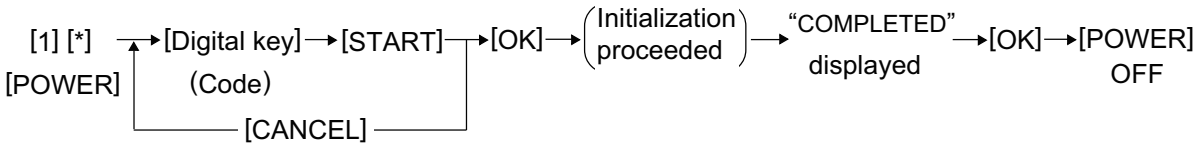
2. Types of Initialization
   - FAX Set Up
     User registration area (SRAM (FAX board))
       Initialized so that there are no data stored.

     System setting area (Flash memory (MAIN board), SRAM (FAX board))
       Values are reset to the default settings.

   - Clearing the image data
     Image data area (SRAM (FAX board))
       Initialized so that there are no data stored.

     Job clear

[Operation procedure]



Initialization codes for the FAX

Code	Element	Contents	Mode	Image quality mode	Default
1*-100	MAINT	FAX Set Up	FAX	-	-
1*-102	MAINT	Clearing the image data	FAX	-	-

Notes:

- Continue to press [1] and [*] simultaneously until the initial screen is displayed.
- If the destination in 08-9001 (Destination setting of the FAX machine) is changed, only the system setting area can be initialized.

Notes:

Before performing the initialization, confirm that the destination value is correct in the Setting Mode (08) described in the 🕮 P. 15-44 "15.5.2 Setting Mode (08)".
If the initialization is performed with the wrong destination setting, the default value of the Function Mode is changed to that for the wrong destination.

15.6 PRECAUTIONS FOR INSTALLATION OF FAX UNIT

15.6.1 Installation of FAX Unit

After re-installing the FAX unit, be sure to perform “FAX Clearing Mode / FAX Set Up” described with the same instructions.

[Operation procedure]
Perform the following operation after setting the country/region in 08-9001.

1. While holding down [1] and [*] at the same time, turn on the main power switch.

   Notes:
   Continue to press [1] and [*] simultaneously until the initial screen is displayed.

2. Press [100] → [START] button
3. Press the [OK] button when “INITIALIZE=OK” is displayed.
4. When “COMPLETED” is displayed in the lower right of the screen, turn off the main power switch.
5. Turn the main power switch back on.

[About FAX Clearing Mode / FAX Set Up]
When “FAX Set Up” is performed, the following operations are performed:
Data in the ID registration stored in the SRAM (FAX board) is erased.
The system setting values stored in the flash memory (MAIN board and FAX board) are initialized (the settings are reset to the default values.)

Important:
When a received fax is not printed out due to an error such as no paper and the alarm LED blinks, do not perform [1]+[*]+[POWER] -> [100] [START] without having released the error. When setting up the fax, release the error, confirm that the alarm LED does not blink and then perform [1]+[*]+[POWER] -> [100] [START].

15.6.2 Country/Region Code

Set the country/region code after the installation of the FAX unit is finished.

Notes:
All data stored in the SRAM are erased when the country/region code is set/changed.

Setting the country/region code

1. Turn ON the power while pressing [0] and [8] simultaneously.

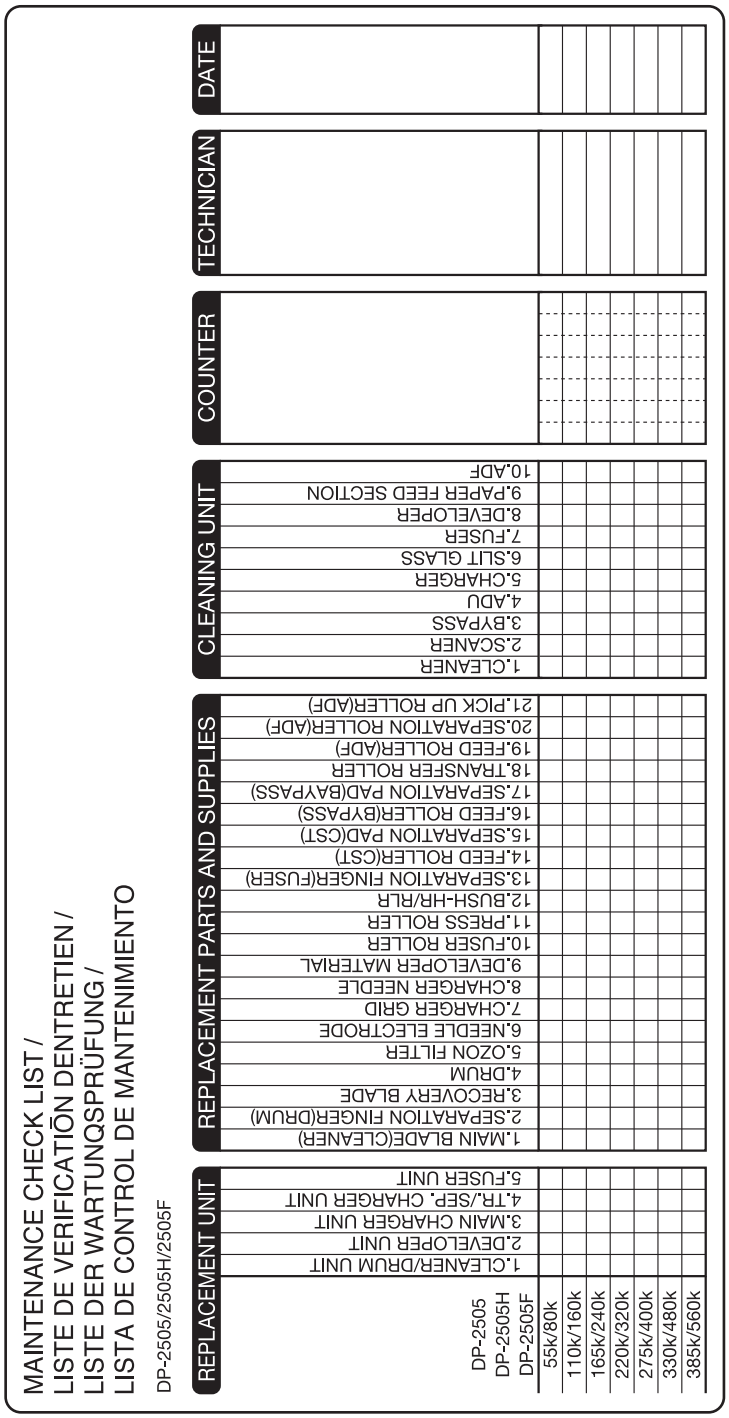
2. Key in “9001”, and press [START] button.

3. Key in a code, and they press the [ENTER].
(📖 P. 15-44 "15.5.2 Setting Mode (08)")

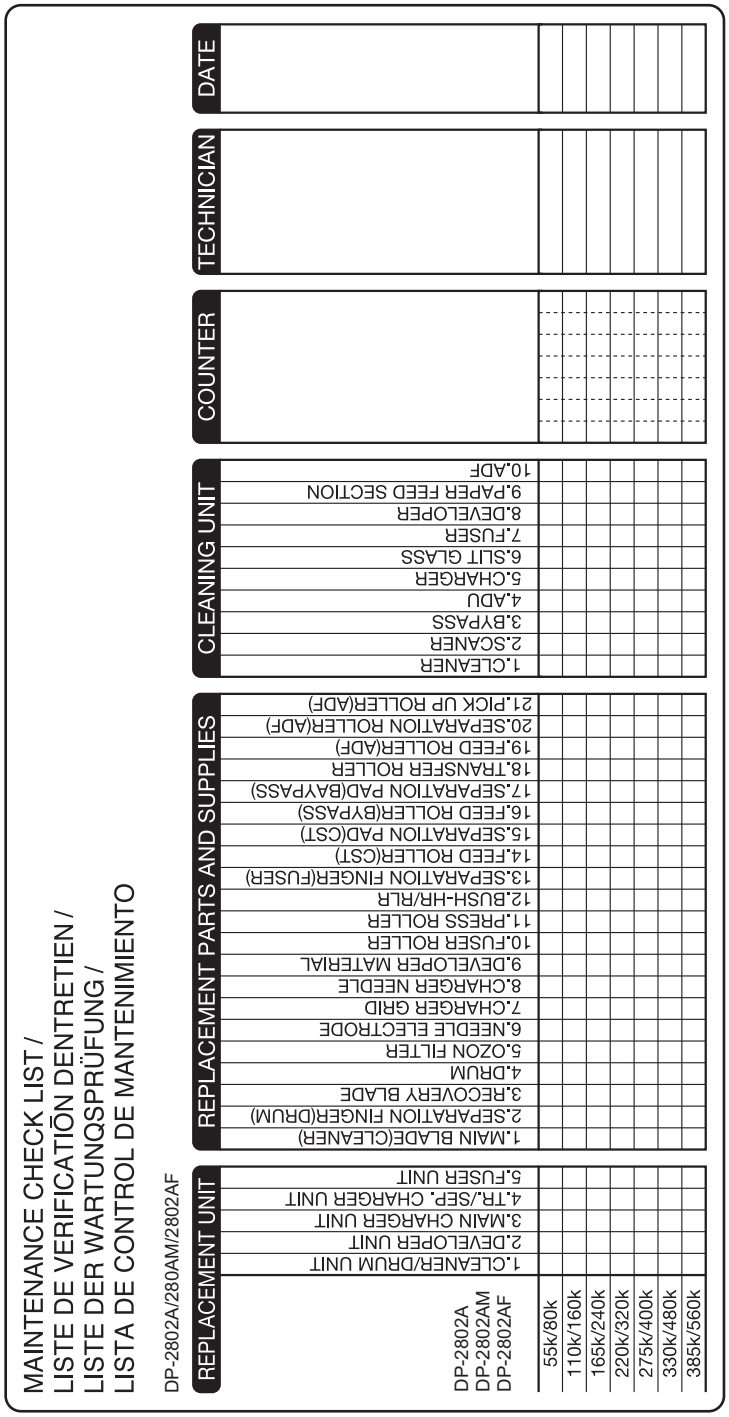
Country/Region	Code
Asia	1
TAP	2
Hong Kong	3
US	4
Germany	5
UK	6
Italy	7
Belgium	8
Netherlands	9
Finland	10
Spain	11
Austria	12
Switzerland	13
Sweden	14
Denmark	15
Norway	16
Portugal	17
France	18
Greece	19
Poland	20
Hungary	21
Czech	22
Turkey	23
South Africa	24
Taiwan	25
Canada	26
China	27
New Zealand	28
Malaysia	29
Singapore	30

APPENDIX

Maintenance Check List <25S/25H/25F>



Maintenance Check List <28A/28M/28F>



REVISION RECORD

Ver11

Ver11 <2017.08.10>	
Page	**Contents**
Trademarks	The description for the trademarks has been updated.
2-7	Specifications for the “Supported OS” has been added. The description of “2.1.4 Scan” has been corrected.
3-96	The description of “3.18.2 Operation of DC Output Circuits” has been corrected.
5-31	“13 code list” of “5.9.2 List printing” has been corrected.
7-1	The description of “7.1 General Description” has been corrected.
8-76	The description of “8.5.5 When “FAX Error” is displayed” has been corrected.
10-2	The notes has been added. The contents of the [Total counter transmission “day of the week” setting] has been corrected.
12-4	The description of “12.3.2 Setting value change and restrictions when using the coin controller” has been corrected.
14-3, 14-89	The description of “Output check“ has been corrected.
15-39	Erroe code 0022 and 003A have been added.
15-48, 15-52	The descriptions of the "Setting" for 13-338 and 13-373 have been updated.

Ver10

Ver10 <2016.07.29>	
Page	**Contents**
Trademarks	"Windows 8.1" and "Windows 10" have been added.
2-2	Specifications for the paper size (Bypass feeding) has been corrected.
2-7	Specifications for the “Supported OS” has been added. The specifications of the scanner resolution has been corrected.
5-2	The List of modes have been added. (BIOS mode and EPU mode)
5-25	The illustration of "Fig5-8" and “Fig5-90” have been corrected.
5-32	The procedures of "Clear SRAM" has been corrected.
8-31	The contents of the troubleshooting for [C260] have been changed.
8-74	The procedures of the troubleshooting for "BIOS MODE" displayed on Control Panel" has been changed.
8-76	The troubleshooting for "When FAX Error is displayed" has been added.
10-1 to 10-2	The description of service notification has been added. (Toner near-empty transmit)
11-1	The contents of the general description has been added.
11-8 to 11-11	The contents of "Firmware Updating with PC Update Tool" has been changed.
11-12 to 11-15	The procedures of "Firmware Updating with BIOS Mode" have been added.
12-4	The description of “12.3.2 Setting value change and restrictions when using the coincontroller“ has been changed.
Chapter 14	SELF-DIAGNOSIS CODE<25S/25H/25F> No changed.
	SELF-DIAGNOSIS CODE<28A/28M/28F> <05 Code> The default value of 05-7025, 05-7026 have been changed. <08 Code> 08-3994, 7510, 8538, 9751, 9752, 9759, 9760, 9761, 9762, 9763, 9764 and 9765 have been added. The default value of 08-5075-0, -1, -2, 5076-0, -1, -2, 5469, 5554, 5562, 6190, 6250-1, 6272-1, 6274-1, 6282-1, 6298-1, 6300-1, 6314-1, 6346-1, 6350-1, 6368-1, 6436-1, 6470-1, have been changed.

Ver09

Ver09 <2015.10.30>	
Page	**Contents**
2-7	The description of the remarks has been added.
2-10	New model names have been added.
3-17 to 3-20	The numbers for P-I has been added.
3-40	The description has been corrected.
3-68 to 3-70	The symbol names have been added.
4-23	The description has been corrected.
4-103	The description has been corrected.
4-40	The procedures of "Restrictions for the PM counter-related self-diagnosis codes" have been added.
6-26	The description has been added. (Code 05-7026)
7-26	The description has been changed. (PM KIT)
7-27	The numbers for P-I has been added.
7-32	Model names have been added.
8-14	The description has been corrected.
8-16 to 8-22	The description has been corrected.
8-32	The description of the troubleshooting for C270 has been changed.
8-35 to 8-36	The description has been corrected.
8-38 to 8-39	The description has been corrected.
8-41	The description has been corrected.
8-44	The model names have been added.
9-10	The description has been changed.
11-6	The note has been added.
11-8	The description has been changed.
12-4	The descriptions have been added to the notices.
13-1 to 13-3	The symbol names have been added.
Chapter 14	SELF-DIAGNOSIS CODE<25S/25H/25F> No changed.
	SELF-DIAGNOSIS CODE<28A/28M/28F> 08-3754 have been added. The default value of 08-3975-0, 08-3975-1 has been changed. The procedur of 08-3989-0, 08-3989-1 has been changed. The contents of 08-9216 have been changed.
15-52 to 15-53	The self-diagnosis code has been added. (Code 13-389)
15-57 to 15-59	The self-diagnosis code has been added. (Code 13-707 to 13-754)

Ver08

Ver08 <2015.08.17>	
Page	**Contents**
Cover	Model names have been added.
General precautions	Notes have been added. The illustrations have been changed
1-1	"1.4 Main Features of 28A" has been added. "1.5 Main Features of 28M/28F" has been added.
2-1 to 2-7	Specifications for the new models have been added.
2-8	New accessories have been added.
2-9 to 2-10	System list for the new models have been added.
2-11	Supplies for the new models have been added.
3-6 to 3-7	Electric parts for the new models have been added.
3-9 to 3-14	Electric parts for the new models have been added.
3-16	The RADF Electric parts for the new models have been added.
3-18	The descriptions have been added.
3-19 to 3-20	Page-Item numbers have been changed.
3-22 to 3-23	New model names have been added.
3-31 to 3-32	New model names have been added.
3-33	An illustration of the control panel for the new models has been added.
3-43	New model names have been added.
3-65 to 3-67	New model names have been added.
3-70	An illustration of the heater control circuit for the new models has been added.
3-73	New model names have been added.
3-75	New model names have been added.
3-88 to 3-94	The descriptions have been added to the RADF for 28M/28F.
4-2	Procedures of disassembly and replacement of the left cover for the new models have been added.
4-7	Procedures of disassembly and replacement of the rear cover for the new models have been added.
4-13	Procedures of disassembly and replacement of the USB cable for the new models have been added.
4-20 to 4-22	Procedures of disassembly and replacement of the scan motor (M1) for the new models have been added.
4-32 to 4-33	Procedures of disassembly and replacement of the bypass feed roller for the new models have been added.
4-36	Procedures of disassembly and replacement of the drawer feed roller for the new models have been added.
4-45 to 4-46	Procedures of disassembly and replacement of the process unit for the new models have been added.
4-52 to 4-53	Procedures of disassembly and replacement of the temperature/humidity sensor (S1) for the new models have been added.
4-55	Remarks have been added.
4-56	Procedures of disassembly and replacement of the doctor blade for the new models have been added.
4-59	Procedures of disassembly and replacement of the mixer for the new models have been added.
4-60 to 4-61	Procedures of disassembly and replacement of the oil seal (front side) for the new models have been added.
4-64 to 4-66	Procedures of disassembly and replacement of the developer sleeve for the new models have been added.
4-92 to 4-109	Procedures of disassembly and replacement of the fuser unit for the new models have been added.
4-110 to 4-111	Procedures of disassembly and replacement of the exit unit for the new models have been added.

Ver08 <2015.08.17>	
Page	**Contents**
4-131 to 4-149	Procedures of disassembly and replacement of the RADF for the new models have been added.
4-160 to 4-162	Procedures of disassembly and replacement of the FAX board for the new models have been added.
5-1 to 5-2	New model names have been added.
5-11	New model names have been added.
5-19	New model names have been added.
5-25	An illustration of the version list for the new models has been added.
5-30	An illustration of the service data list for the new models has been added.
5-34	An information for the new models has been added.
6-1	An information for the new models has been added.
6-4	An information for the new models has been added.
6-6	An information for the new models has been added.
6-9 to 6-20	The description has been changed.
6-22	The description has been changed.
6-24 to 6-25	The description has been changed.
6-25	An information for the new models has been added.
6-27 to 6-32	An information for the new models has been added.
6-34 to 6-35	The procedures of "Adjustment of Developer Unit" have been added.
6-40 to 6-47	The procedures of "RADF adjustment of skew" have been added.
7-3	An illustration of the operational flow for the new models has been added.
7-8 to 7-9	The procedures of "EPU Mode" have been added.
7-15 to 7-16	The descriptions of the maintenance checklist for new models has been added.
7-17	The descriptions of the transfer and the Separation charger for new models has been added.
7-18 to 7-19	The descriptions of the “Drum/Cleaner related section“ for new models has been added.
7-21	The descriptions of the “Developer unit / Toner cartridge related section“ for new models has been added.
7-22 to 7-23	The descriptions of the “Fuser/Paper exit unit“ for new models has been added.
7-27	New model names have been added.
7-28	The descriptions have been added to the maintenance parts list.
7-33	New model names have been added.
8-5 to 8-6	"8.1.3 Traceability label" has been added.
8-7 to 8-10	New model names have been added.
8-45	Model names have been added.
8-75	The troubleshooting for "When the error code "F014" is displayed" has been added.
9-5 to 9-7	Procedures of disassembly and replacement of the PC boards for the new models have been added.
9-8	The description has been added.
9-10	The description has been changed.
10-1	New model names have been added.
11-2	Procedures of firmware upgrading for the new models have been added.
11-5	New model names have been added.
11-9	Procedures of firmware upgrading for the new models have been added.
11-12	New model names have been added.
12-2	Descriptions of pin layout for the new models have been added.
13-3	The AC wire harness diagram for the new models has been added.
13-8	The DC wire harness diagram for the new models has been added. <28A>
13-9	The electric parts layout for the new models has been added. <28A>
13-10	The DC wire harness diagram for the new models has been added. <28M>
13-11	The electric parts layout for the new models has been added. <28M>

Ver08 <2015.08.17>	
Page	**Contents**
13-12	The DC wire harness diagram for the new models has been added. <28F>
13-13	The electric parts layout for the new models has been added. <28F>
Chapter 14	SELF-DIAGNOSIS CODE<25S/25H/25F> No changed.
	SELF-DIAGNOSIS CODE<28A/28M/28F> The new models has been added.
15-1	New model names have been added.
APPENDIX	The maintenance check list for the new models has been added.

Ver07

Ver07 <2015.01.30>	
Page	**Contents**
Trademarks	"Windows XP" has been deleted.
General precautions	Notes have been added.
2-6	"Windows XP" has been deleted.
3-14	Error correction: Page and item No. information has been changed.
3-15	Error correction: Page and item No. information has been changed.
5-8	Operational procedures have been changed.
5-11	Operational procedures have been changed.
5-12	Operational procedures have been changed.
8-3	"8.1.2 Collection of debug logs with a USB device" has been added.
8-41	'The descriptions have been added to the troubleshooting for C911.
11-6	"Notes" has been added. The screen for Fig. 11-7 has been changed.
11-8	"Windows XP" has been deleted.
14-5	The note has been deleted.
14-28	The note has been deleted.
14-44	08-3802 and 08-3803 have been added.
14-48	The description of 08-3976 has been changed.
14-49	08-3981, 08-3982 and 08-3983 have been added.
14-72	08-8933 and 08-8934 have been added.
14-78	The descriptions of 08-9216 has been changed.
14-79	The descriptions of 08-9217 and 08-9218 have been changed. 08-9227, 08-9228 and 08-9229 have been added.
14-80	08-9384 has been added.
15-44	Operational procedures have been changed.
15-45	Operational procedures have been changed.
15-48	13-339 and 13-340 have been added.
15-49	13-339 and 13-340 have been added.

Ver06

Ver06 <2014.9.19>	
Page	**Contents**
3-13	The wrong description of motor number has been corrected.
3-66	The IC number of main memory has been deleted.
4-37	The disassembly procedures for the drum cleaner unit has been changed.
5-14	The IC number of main memory has been deleted.
6-21	The IC number of main memory has been deleted.
6-34	The adjustment procedures for the ADF tray volume adjustment has been changed.

Ver06 <2014.9.19>	
Page	**Contents**
8-37	The IC number of main memory has been corrected.
8-40	The IC number of main memory has been corrected.
9-1	The illustration of main memory (IC) position has been changed.
9-2	The IC number of main memory has been corrected.
9-5	The IC number of main memory has been deleted.
13-5	The DC wire harness diagram of ADF has been added.
13-6	The wrong description of motor number has been corrected.
14-7	The contents of 05-3050 and 05-3051 have been changed.

Ver05

Ver05 <2014.6.30>	
Page	**Contents**
2-8	The Wireless LAN has been added.
3-67	Model information (25S) has been added.
3-68	The controlled temperature table of 25H/25F has been added.
4-14	"Notes" and "Remarks" have been added. The illustration has been changed.
4-15	"Notes" and "Remarks" have been added. The illustration has been changed.
4-16	"Remarks" has been added.
4-38	"Notes" has been added.
5-14	"Notes" has been added.
5-31	"Notes" has been added.
7-22	Error correction
8-37	The descriptions have been added to the troubleshooting for C452.
8-40	The descriptions have been added to the troubleshooting for F090.
8-41	The descriptions have been changed to the troubleshooting for F070.
9-8	The descriptions have been added to the "9.3 Precautions, Procedures and Settings for Replacing the Flash Memory".
11-6	"Notes" has been added to the "System/Engine/FAX ROM update procedure".

Ver04

Ver04 <2014.3.28>	
Page	**Contents**
Precaution	The description of the note has been changed.
2-3	The value for the weight has been corrected.
2-5	The values for the system copy speed have been corrected.
4-98	The disassembly procedures for the paper exit motor have been changed.
8-31	The status counter value for C411 has been corrected.
8-32	The status counter value for C412 has been corrected.
8-33	The status counter value for C413/C414 has been corrected.
14-17	The descriptions have been changed and corrected.
14-43	"08-3134" has been added.
14-57	The default values for the codes 08-6083-1 and 3 have been changed.
14-58	The default value for the code 08-6083-4 has been changed.
14-79	"08-9353" has been added.

Ver03

Ver03 <2014.1.20>	
Page	**Contents**
3-14	Page and item No. information has been added.
3-15	Page and item No. information has been added.
3-16	Page and item No. information has been added.
4-62	"Notes" has been added.
4-69	"Notes" has been added.
4-70	"Notes" have been added.
4-71	"Notes" has been added.
5-1	A description of "Flash memory backup/ restore mode" has been added.
5-2	A note has been added.
5-3	A description of "Flash memory backup/ restore mode" has been added.
5-16	Titles "[1] Print out (25S)" and "[2] Print out (25H/25F)" have been added.
5-17	A description of "CSV output (USB) <25S/25H/25F>" has been added.
5-18	A description of "CSV output (USB) <25S/25H/25F>" has been added.
5-22	The illustration of the error history has been changed. "Notes" has been added.
5-32	A description of "Flash memory backup/ restore mode" has been added.
5-33	A description of "Flash memory backup/ restore mode" has been added.
5-34	A description of "Flash memory backup/ restore mode" has been added.
5-36	The default values for 08-6282 have been changed.
7-12	The numbers of the replacement for the needle electrode have been changed.
7-21	The description in the list of the PM kit has been changed.
7-22	The description in the list of the refresh kit has been changed.
11-2	A description of "BIOS firmware update procedure" has been added.
11-3	A description of "BIOS firmware update procedure" has been added.
11-4	A description of "BIOS firmware update procedure" has been added.
11-5	"[A] Update procedure" has been changed to "[B] System/Engine/FAX ROM update procedure".
11-8	A description of "BIOS firmware update procedure" has been added.
11-11	A description of "Confirmation of updated data" for the BIOS firmware has been added.
12-3	An explanation of 08-9016 has been added. "12.3.2 Setting value change and restrictions when using the Card controller" and "12.3.4 Setting value change and restrictions when using the key counter" have been deleted.
14-42	The acceptable values for 08-3127 and 08-3128 have been changed.
14-48	Descriptions of 08-3975-0, 08-3975-1, 08-3976 and 08-3977 have been added.
14-61	The default values for 08-6282-1 and 08-6282-4 have been changed. The acceptable values for 08-6282-3, 08-6282-4, 08-6282-5 and 08-6282-7 have been changed.
14-70	The acceptable value and the contents for 08-8603 have been changed. A description of 08-8721 has been added.
14-72	An explanation has been added to the contents for 08-8919. A description of 08-8921 has been added.
14-75	The acceptable values and the contents for 08-9016 and 08-9017 have been changed. A description of 08-9037 has been added.
14-77	Descriptions of 08-9121 and 08-9129 have been added. The descriptions of 08-9144 and 08-9147 have been deleted.
14-78	The description of 08-9184 has been deleted.
14-79	The descriptions of 08-9300, 08-9301, 08-9302, 08-9303, 08-9332, 08-9342 and 08-9353 have been deleted. A description of 08-9386 has been added.
14-81	Descriptions of 08-9581, 08-9584 and 08-9585 have been added.
14-82	The description of 08-9649 has been deleted. A description of 08-9694 has been added.

Ver03 <2014.1.20>	
Page	**Contents**
14-83	The descriptions of 08-9798 and 08-9889 have been deleted.
15-38	An explanation has been added to the cause for the error code "00FE".
15-39	A description of the error code "0021" has been added.
15-46	A description of 13-104 has been added.
15-47	A description of 13-104 has been added. The default value for 13-141 has been changed.

Ver02

Ver02 <2013.11.28>	
Page	**Contents**
Cover	Model names have been added.
1-1	Model information has been added. A definition of model names in this service manual has been added.
2-1	A definition of model names in this service manual has been added. Model information has been added to the specification.
2-2	Model information has been added to the specification.
2-3	Model information has been added to the specification.
2-4	The description in the copy speed list has been changed.
2-5	Model information has been added to the specification.
2-6	Model information has been added to the specification. The ADF specification has been added.
2-7	Model information has been added to the specification. Error correction
2-8	The model information of the system list and option list have been added.
3-7	Model informations have been added to the electric parts layout.
3-14	Model information has been added to the electric parts list.
3-15	Model information has been added to the electric parts list.
3-16	Model information has been added to the electric parts list. The number and name of the heater lamp have been changed. The number and name of the thermostat have been changed.
3-19	Model informations have been added.
3-26	Error correction: The unnecessary error codes have been deleted.
3-27	Control panels for each model have been added.
3-31	Model information has been added.
3-32	Model information has been added.
3-33	Error correction: The note has been deleted.
3-39	An illustration of the drive section has been added.
3-59	The cross-sectional view of the fuser unit has been changed (A heater lamp added). The descriptions of the thermostats/thermistors have been changed.
3-60	The description of the composition list has been changed. Differences of the components among the models have been added.
3-61	Model information has been added.
3-62	Model information has been added.
3-63	Operational descriptions have been added.
3-64	Operational descriptions have been added.
3-65	Operational descriptions have been added.
3-66	The description has been corrected.
3-68	Model information has been added.
3-74 to 80	Outline descriptions of the ADF have been added.
4-1	The disassembly procedure of the platen cover has been added.
4-10	Model information has been added.

Ver02 <2013.11.28>	
Page	**Contents**
4-16	Model information has been added.
4-19	Model information has been added.
4-22	Model information has been added.
4-58	Model information has been added.
4-59	The heater lamp number has been changed.
4-61	The heater lamp number has been changed.
4-62	Model information has been added.
4-63	Error correction: The illustration has been changed.
4-66	Model information has been added.
4-68	Model information has been added.
4-69	Model information has been added.
4-93	Model information has been added.
4-99	Model information has been added.
5-1	Model information has been added. A Fax function mode has been added. SRAM has been changed to Flash memory.
5-3	SRAM has been changed to Flash memory.
5-9	Model information has been added.
5-12	Model information has been added. SRAM has been changed to Flash memory.
5-15	Model information has been added.
5-16	Model information has been added.
5-28	SRAM has been changed to Flash memory.
5-29	SRAM has been changed to Flash memory.
5-31	Error correction
5-32	Error correction
6-1	Model information has been added.
6-4	Model information has been added.
6-6	Model information has been added.
6-8	Model information has been added.
6-10	A note has been added. Model information has been added.
6-11	Model information has been added.
6-12	The description has been changed.
6-21	Error correction
6-27	Model information has been added.
6-28	Model information has been added.
6-29	Model information has been added.
6-30	Model information has been added.
6-31	Model information has been added.
6-32	Model information has been added.
7-21	"P-I" has been added.
7-22	Refresh kits have been added.
7-23	"P-I" has been added.
8-2	Model information has been added. Error correction.
8-3	Model information has been added.
8-5	Model information has been added.
8-6	Model information has been added. 5011 error has been added.
8-14	Error correction

Ver02 <2013.11.28>	
Page	**Contents**
8-16	Error correction
8-17	Error correction
8-18	Error correction
8-19	Error correction Model information has been added.
8-22	Error correction Model information has been added.
8-23	Error correction Model information has been added.
8-26	Error correction
8-31	Model information has been added.
8-32	Model information has been added.
8-33	Model information has been added.
8-35	Model information has been added.
8-39	SRAM has been changed to Flash memory.
8-40	Model information has been added.
8-41	Model information has been added. A description has been added to the troubleshooting for 1C69.
8-43	A troubleshooting item for 5011 has been added.
8-67	Error correction
8-68	"Countermeasure to BIOS MODE displayed on Control Panel" has been added.
9-2	Model information has been added.
9-9	Model information has been added.
10-1	Model information has been added.
10-4	The file format has been changed to CSV.
10-5	Model information has been added.
10-8	Model information has been added.
11-2	Model information has been added.
11-3	Model information has been added.
11-4	Error correction: The unnecessary description has been deleted. Model information has been added.
11-5	"11.3.3 Preparation" has been added.
11-6	Model information has been added.
13-1 to 6	Model information has been added.
Ch14	Model information has been added.
15-1	Model information has been added.
15-21	Error correction
15-33	The title has been changed.
15-34	The terms have been unified.
15-42	The title has been changed. The self-diagnosis mode table has been deleted.
15-58	SRAM has been changed to Flash memory
15-60	SRAM has been changed to Flash memory
15-62	"Firmware Updating" has been deleted.

Ver01

Ver01 <2013.08.28>	
Page	**Contents**
GENERAL PRECAUTIONS	The weight of the machine has been changed.
1-1	The description for fax features has been added.
2-3	The weight of the machine has been changed.
3-16	The description have been added.
3-63	The unit name (automatic duplexing unit) has been corrected.
4-87	The unit name (automatic duplexing unit) has been corrected.
4-91	The unit name (automatic duplexing unit) has been corrected.
4-92	The unit name (automatic duplexing unit) has been corrected.
5-7	The description of the note has been added.
5-10	The description of the note has been added.
6-8	The grid pattern has been changed. Adjustment tolerances for B and C have been changed.
6-9	The adjustment value has been changed.
6-10	The descriptions have been changed.
6-11	The descriptions have been changed.
6-12	The descriptions have been changed.
6-13	The adjustment value has been changed.
6-14	The adjustment value has been changed.
6-15	The descriptions have been changed.
6-16	The adjustment value has been changed.
6-17	The adjustment value has been changed.
6-18	The adjustment value has been changed.
6-19	The adjustment value has been changed.
6-20	The adjustment value has been changed.
8-5	C260, C270 and F901 have been added. The descriptions for C911 and C950 have been changed.
8-26, 8-27	Scanning system related service call has been added.
8-39	Other service call has been added.
11-2	The file name has been changed.
11-4	The file name has been changed.
11-6	The file name has been changed.
Chapter 14	Review of the 05/08 code contents. (Conformity with the style of other models)
14-6	The default value of 05-3032 has been changed.
14-10	The default values of 05-4005 and 05-4006 have been changed.
14-11	The default values of 05-4019, 05-4050, 05-4051, 05-4052 and 05-4053 have been changed.
14-48	08-3974 has been added.
15-51	The default value and setting value of 13-353 has been changed.
15-53	The default value of 13-375 has been changed.
15-57	The default value of 13-707 has been changed.

Ver00

Ver00 <2013.05.31>	
Page	**Contents**
All	Initial release

TOSHIBA

TOSHIBA TEC CORPORATION

1-11-1, OSAKI, SHINAGAWA-KU, TOKYO, 141-8562, JAPAN