KYOCERA

# ECOSYS M2030dn/PN
# ECOSYS M2030dn
# ECOSYS M2530dn
# ECOSYS M2035dn
# ECOSYS M2535dn

SERVICE MANUAL

Published in December 2016
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Rev.9

## CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

## ATTENTION

IL Y A UN RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACEE PAR UN MODELE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISEES SELON LES INSTRUCTIONS DONNEES.

Il peut être illégal de jeter les batteries dans des eaux d'égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

**Notation of products in the manual**

For the purpose of this service manual, products are identified by print speed, and presence of FAX.

| | |
|---|---|
| ECOSYS M2030dn Type PN | : 3in1 model by 30ppm (without FAX and document processor) |
| ECOSYS M2030dn | : 3in1 model by 30ppm (without FAX) |
| ECOSYS M2530dn | : 4in1 model by 30ppm (with FAX) |
| ECOSYS M2035dn | : 3in1 model by 35ppm (without FAX) |
| ECOSYS M2535dn | : 4in1 model by 35ppm (with FAX) |

## Revision history

| Revision | Date | Pages | Revised contents |
|---|---|---|---|
| 1 | 12 November 2013 | 1-3-23, 1-3-65 | Correction: FAX country code |
| 2 | 9 January 2014 | Contents | Correction |
| | | 1-3-19 to 24 | Correction: U411 and U425 |
| | | Address | Correction |
| 3 | 15 Febraury 2014 | 1-1-2 | Correction: Amperage rating |
| | | 1-2-1 | Correction: Power supply specification |
| | | 1-3-19, 1-3-20<br>1-3-22 to 24 | Changed: Parts number of original |
| | | 1-3-25, 1-3-26 | Added: Procedure change |
| | | 1-3-63 | Added: the explanation to (59) Media type attributes |
| | | 1-4-29, 1-4-30 | Added: Code 3102 |
| | | 1-6-1, 1-6-2 | Added: Safe- Update |
| | | 2-4-3 | Added: Comment to (2)Repetitive defects gauge |
| 4 | 4 April 2014 | 1-6-2 | Correction: Fig 1-6-2 |
| 5 | 20 May 2014 | Contents | Correction |
| | | 1-3-11<br>1-3-13 to 28<br>1-3-32<br>1-3-34 to 37<br>1-3-71<br>1-3-75 to 78 | Added: Maintenance mode<br>U001/010/019/021/034/065/066/067/068/070<br>071/072/130/207/265/346/402/403/404<br>901/905/920/928/995 |
| | | 1-3-38 | Correction: Description of table |
| | | 1-6-1, 1-6-2 | Correction: Correction of an explanatory note |
| 6 | 14 November 2014 | Contents | Correction |
| | | 1-3-2 to 5 | Correction: (2) Maintenance modes item list |
| 7 | 30 January 2015 | 1-1-6 to 8 | Correction: Number of part, missing pages |
| | | 1-3-87 | Correction: 5 to 100 (%) |
| 8 | 1 September 2016 | Contents | Correction |
| | | 1-3-2<br>1-3-35 | Correction: Initial setting of U346<br>Correction: Procedure of U346 |
| | | 1-4-7 | Correction: Contents of C0070 |
| | | 1-4-8 | Correction: Contents of C0840 |
| | | 1-4-9 | Added: C0970 |
| | | 1-4-13 | Correction: Contents of C4200 and C4700 |
| | | 1-4-16 | Added: F010 |
| 9 | 27 December 2016 | 1-1-3 | Added: Printing speed of duplex :A5R<br>Deleated: Output Resolution :Fine1200 |

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# Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

## Safety warnings and precautions

**Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:**

⚠**DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

### Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

General warning.

Warning of risk of electric shock.

Warning of high temperature.

⃠indicates a prohibited action. The specific prohibition is shown inside the symbol.

General prohibited action.

Disassembly prohibited.

●indicates that action is required. The specific action required is shown inside the symbol.

General action required.

Remove the power plug from the wall outlet.

Always ground the copier.

## 1. Installation Precautions

**⚠ WARNING**

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

**⚠ CAUTION:**

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material. This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....



- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

## 2. Precautions for Maintenance

### ⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly.
- Always follow the procedures for maintenance described in the service manual and other related brochures.
- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits.
- Always use parts having the correct specifications.
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident.
- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully.
- Always check that the copier is correctly connected to an outlet with a ground connection.
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock.
- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight.
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly.

### ⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections.
- Use utmost caution when working on a powered machine. Keep away from chains and belts.
- Handle the fixing section with care to avoid burns as it can be extremely hot.
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures.

- Do not remove the ozone filter, if any, from the copier except for routine replacement. .....

- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. .....

- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. .....

- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. .....

- Remove toner completely from electronic components. .....

- Run wire harnesses carefully so that wires will not be trapped or damaged. .....

- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. .....

- Handle greases and solvents with care by following the instructions below: .....
  · Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  · Ventilate the room well while using grease or solvents.
  · Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  · Always wash hands afterwards.

- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. .....

- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. .....

## 3. Miscellaneous

**⚠WARNING**

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. .....

- Keep the machine away from flammable liquids, gases, and aerosols. A fire or an electric shock might occur. .....

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# INSTALLATION GUIDE

PAPER FEEDER

# 1-1-1 Specifications

## Machine

| Item | | Specifications | | | |
|---|---|---|---|---|---|
| | | 3 in 1 model (without FAX) | | 4 in 1 model (with FAX) | |
| | | 30ppm | 35ppm | 30ppm | 35ppm |
| Type | | Desktop | | | |
| Printing method | | Electrophotography by semiconductor laser, single drum system | | | |
| Originals | | Sheet, Book, 3-dimensional objects (maximum original size: Folio/Legal) | | | |
| Original feed system | | Fixed | | | |
| Paper weight | Cassette | 60 to 120 g/m$^2$ (Duplex: 60 to 105 g/m$^2$) | | | |
| | MP tray | 60 to 220 g/m$^2$ | | | |
| Paper type | Cassette | Plain, Preprinted, Bond, Recycled, Rough, Letterhead, Color, Prepunched, High quality, Custom 1-8 | | | |
| | MP tray | Plain, Transparency, Preprinted, Labels, Bond, Recycled, Vellum, Rough, Letterhead, Color, Prepunched, Envelope, Cardstock, Thick, High quality, Custom 1-8 | | | |
| Paper size | Cassette | A4, A5, B5, Letter, Legal, Statement,Oficio II, Folio, 16K, 216×340, Custom | | | |
| | MP tray | A4, A5, A6, B5, ISO B5, Letter, Legal, Statement, Executive, Oficio II, Folio, 16K, 216×340, Custom | | | |
| Zoom level | | Manual mode : 25 to 400%, 1% increments<br>Auto mode : 400%, 200%, 141%, 129%, 115%, 90%, 86%, 78%, 70%, 64%, 50%, 25% | | | |
| Copying speed | | | | | |
| When using the DP (Cassette) | A4R | 20 sheets/min | | | |
| | LetterR | 21 sheets/min | | | |
| | Leagal | 17 sheets/min | | | |
| | B5R | 22 sheets/min | | | |
| | A5R | 17 sheets/min | | | |
| When the DP is not used (Cassette) | A4R | 30 sheets/min | 35 sheets/min | 30 sheets/min | 35 sheets/min |
| | LetterR | 32 sheets/min | 37 sheets/min | 32 sheets/min | 37 sheets/min |
| | Leagal | 26 sheets/min | 30 sheets/min | 26 sheets/min | 30 sheets/min |
| | B5R | 24 sheets/min | 24 sheets/min | 24 sheets/min | 24 sheets/min |
| | A5R | 17 sheets/min | 17 sheets/min | 17 sheets/min | 17 sheets/min |
| | A6R | 17 sheets/min | 17 sheets/min | 17 sheets/min | 17 sheets/min |
| First copy time (A4, feed from cassette) | | When using the DP : 7.9 s or less<br>When the DP is not used: 6.9 s or less | | | |
| Warm-up time (22 °C/71.6 °F, 60% RH) | | Power on : 20 s or less | | | |
| Paper capacity | Cassette | 250 sheets (80g/m$^2$) | | | |
| | MP tray | 50 sheets (80 g/m$^2$, plain paper, A4/Letter or less) | | | |

| Item | | Specifications | | | |
|---|---|---|---|---|---|
| | | 3 in 1 model (without FAX) | | 4 in 1 model (with FAX) | |
| | | 30ppm | 35ppm | 30ppm | 35ppm |
| **Output tray capacity** | | 150 sheets (80g/m²) | | | |
| **Continuous copying** | | 1 to 999 sheets | | | |
| **Light source** | | Exposure lamp (LED) | | | |
| **Scanning system** | | Flat bed scanning by CCD image sensor | | | |
| **Photoconductor** | | OPC drum (diameter 30 mm) | | | |
| **Image write system** | | Semiconductor laser | | | |
| **Charging system** | | Scorotron (positive charging) | | | |
| **Developing system** | | Mono component dry developing method<br>Toner replenishing: Automatic from the toner container | | | |
| **Transfer system** | | Transfer roller (negative chargeing) | | | |
| **Separation system** | | Small diameter separation, discharger electrode | | | |
| **Cleaning system** | | Drum: Counter blade | | | |
| **Charge erasing system** | | Exposure by cleaning lamp (LED) | | | |
| **Fusing system** | | Heat and pressure fusing with the heat roller and the press roller<br>Heat source: halogen heater<br>Abnormally high temperature protection devices: thermostat | | | |
| **CPU** | | PowerPC465S (667MHz) | | | |
| **Main memory** | **Standard** | 512 MB | | | |
| | **Maximum** | 1536 MB | | | |
| **Interface** | **Standard** | USB interface connector: 1 (USB 2.0)<br>USB host: 1<br>Network interface: 1 (10BASE-T/100BASE-TX/1000BASE-T) | | | |
| | **Option** | eKUIO slot: 1 (It uses it by fax in 4in1 model.) | | | |
| **Resolution** | **Reading** | 600 × 600 dpi | | | |
| | **Writing** | 600 × 600 dpi | | | |
| **Operating environment** | **Temperature** | 10 to 32.5 °C/50 to 90.5 °F | | | |
| | **Humidity** | 15 to 80% RH | | | |
| | **Altitude** | 2,500 m/8,202 ft or less | | | |
| | **Brightness** | 1,500 lux or less | | | |
| **Dimensions (W × D × H)** | | 494 × 410 × 366 mm<br>19 7/16 × 16 1/8 × 14 7/16”<br>(When using the original cover) | | 494 × 430 × 448 mm<br>19 7/16 × 16 15/16 × 17 1/4”<br>(When using the DP) | |
| **Weight (with toner container)** | | 15 kg / 33.1 lb (with original cover)<br>18 kg / 39.7 lb (with DP) | | | |
| **Space required (W × D) (using MP tray)** | | 494 × 613 mm<br>19 7/16 × 24 1/8” | | 494 × 633 mm<br>19 7/16 × 24 15/16” | |

| Item | Specifications | | | |
|---|---|---|---|---|
| | 3 in 1 model (without FAX) | | 4 in 1 model (with FAX) | |
| | 30ppm | 35ppm | 30ppm | 35ppm |
| Rated input | 120 V AC, 60 Hz, more than 8.0 A<br>220 - 240 V AC, 50 Hz, more than 4.2 A | | | |
| Options | Paper feeder × 2, Expanded memory, SD card (for printer), Network interface kit | | | |

## Printer

| Item | | | Specifications | |
|---|---|---|---|---|
| | | | 30ppm | 35ppm |
| Printing speed | | | | |
| | Simplex (Cassette) | A4R | 30 sheets/min | 35 sheets/min |
| | | LetterR | 32 sheets/min | 37 sheets/min |
| | | Leagal | 26 sheets/min | 30 sheets/min |
| | | B5R | 24 sheets/min | 24 sheets/min |
| | | A5R | 17 sheets/min | 17 sheets/min |
| | | A6R | 17 sheets/min | 17 sheets/min |
| | Dupplex (Cassette) | A4R | 17 sheets/min | 19 sheets/min |
| | | LetterR | 18 sheets/min | 20 sheets/min |
| | | Leagal | 16 sheets/min | 18 sheets/min |
| | | A5R | 13 sheets/min | 15 sheets/min |
| First print time (A4, feed from cassette) | | | 7.0 s or less<br>(Excluding time for system stabilization immediately after turning on the main power.) | |
| Resolution | | | Fast 1200, 600 dpi, 300 dpi | |
| Operating system | | | Windows 2000, Windows XP, Windows XP Professional,<br>Windows Server 2003, Windows Server 2003 x64 Edition,<br>Windows Vista x86 Edition, Windows Vista x64 Edition,<br>Windows 7 x86 Edition, Windows 7 x64 Edition, Windows 8 x86 Edition,<br>Windows 8 x64 Edition, Windows Server 2008,<br>Windows Server 2008 x64 Edition, Windows Server 2012 x64 Edition<br>Apple Macintosh OS 9.x, Apple Macintosh OS X | |
| Interface | | | USB interface connector: 1 (USB 2.0)<br>USB host: 1<br>Network interface: 1 (10BASE-T/100BASE-TX/1000BASE-T) | |
| Page description language | | | PRESCRIBE | |

## Scanner

| Item | | Specifications |
|---|---|---|
| **Operating system** | | Windows Vista, Windows 7, Windows 8, Windows Server 2008, Windows Server 2012 |
| **Resolution** | | 600 dpi, 400 dpi, 300 dpi, 200 dpi, 200 × 400 dpi, 200 × 100 dpi |
| **File format** | | JPEG, TIFF, PDF, XPS |
| **Scanning speed** | **Simplex** | B/W : 35 images/min<br>Color: 14 images/min<br>(A4 landscape, 300 dpi, Image quality: Text/Photo original) |
| | **Duplex** | B/W : 18 images/min<br>Color: 8 images/min<br>(A4 landscape, 300 dpi, Image quality: Text/Photo original) |
| **Interface** | | Ethernet (10 BASE-T/100 BASE-TX/1000BASE-T), USB2.0 |
| **Network protocol** | | TCP/IP |
| **Transmission system** | | PC transmission<br>SMB: Scan to PC<br>E-mail<br>SMTP: Scan to E-mail<br>FTP transmission<br>FTP, FTP over SSL: Scan to FTP<br>USB transmission<br>USB: Scan to USB<br>TWAIN scan *1<br>WIA scan *2 |

*1 Available operating system: Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7

*2 Available operating system: Windows Vista, Windows Server 2008, Windows 7

## Document processor (Standard model only)

| Item | Specifications |
|---|---|
| **Original feed method** | Automatic feed |
| **Supported original types** | Sheet originals |
| **Original sizes** | Maximum: A4/Legal<br>Minimum : A5/Statement |
| **Original weights** | Simplex: 50 to 120 g/m$^2$<br>Duplex : 50 to 110 g/m$^2$ |
| **Loading capacity** | 50 sheets (50 to 80 g/m$^2$) or less |
| **Dimensions (W × D × H)** | 490 × 339 × 104 mm<br>19 5/16 × 13 3/8 × 4 1/8” |
| **Weight** | 3 kg/ 6.6 lb or less |

## FAX (4 in 1 model (with FAX) only)

| Item | Specifications |
|---|---|
| **Compatibility** | Super G3 |
| **Communication line** | Subscriber telephone line |
| **Transmission time** | 3 s or less (33600 bps, JBIG, ITU-T A4 #1 chart) |
| **Transmission speed** | 33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400 bps |
| **Coding scheme** | JBIG/MMR/MR/MH |
| **Error correction** | ECM |
| **Original size** | A4, B5(JIS), A5, Legal, Letter, Statement, Oficio II, 216x340 |
| **Automatic document feed** | Max. 50 sheets |
| **Scanner resolution** | Horizontal × Vertical<br>200 × 100 dpi Normal (8 dot/mm × 3.85 line/mm)<br>200 × 200 dpi Fine (8 dot/mm × 7.7 line/mm)<br>200 × 400 dpi Super fine (8 dot/mm × 15.4 line/mm)<br>400 × 400 dpi Ultra fine (16 dot/mm × 15.4 line/mm) |
| **Printing resolution** | 600 × 600 dpi |
| **Gradations** | 256 shades |
| **One-Touch key** | 22 keys |
| **Multi-Station transmission** | Max. 100 destinations |
| **Substitute memory reception** | 256 sheets or more (when using ITU-T A4 #1 chart) |
| **Image memory capacity** | 3.5 MB (standard) (for incoming faxed originals) |
| **Report output** | Sent result report, FAX RX result report, Activity report, Status page |

NOTE: These specifications are subject to change without notice.

# 1-1-2 Parts names

## (1) Overall

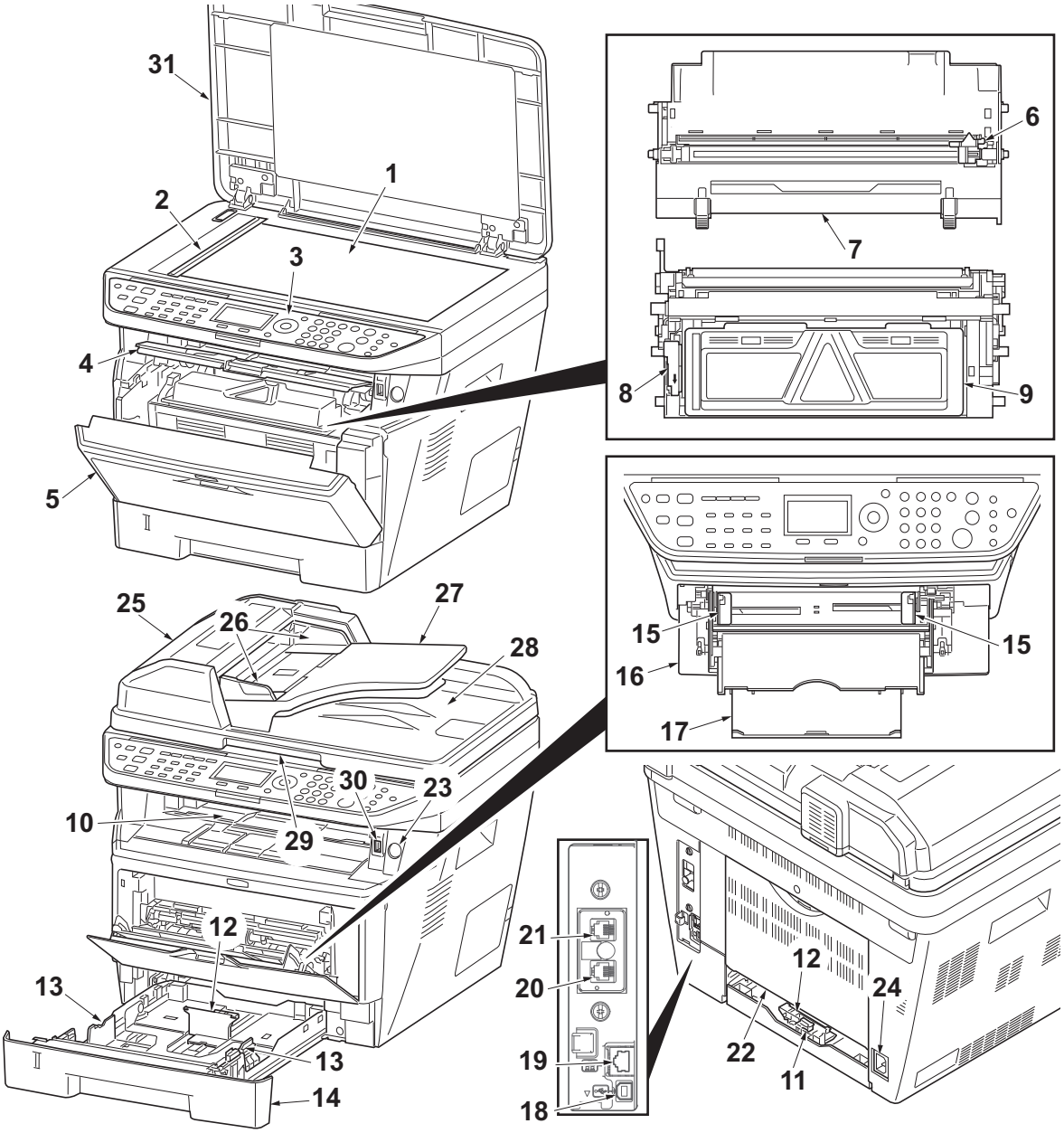



**Figure 1-1-1**

1. Platen (contact glass)
2. Original size Indicator plate
3. Operation panel
4. Top cover
5. Front cover
6. Main charger cleaner
7. Drum unit
8. Lock lever
9. Toner container
10. Top tray
11. Paper length guide
12. Paper stopper
13. Paper width guides
14. Cassette
15. Paper width guides (MP tray)
16. MP (Multi-Purpose) tray
17. MP tray extension
18. USB Interface connector
19. Network Interface connector
20. Tel connector (T1) *1
21. Line connector (L1) *1
22. Rear cover
23. Power switch
24. Power cord connector
25. Top cover
26. Original width guides *2
27. Original table *2
28. Original eject table *2
29. Opening handle *2
30. USB host connector
31. Original cover *3

*1: 4in1 model (with FAX) only

*2: Only model with Document Processor as standard / *3: Only model with original cover as standard

## (2) Operation panel

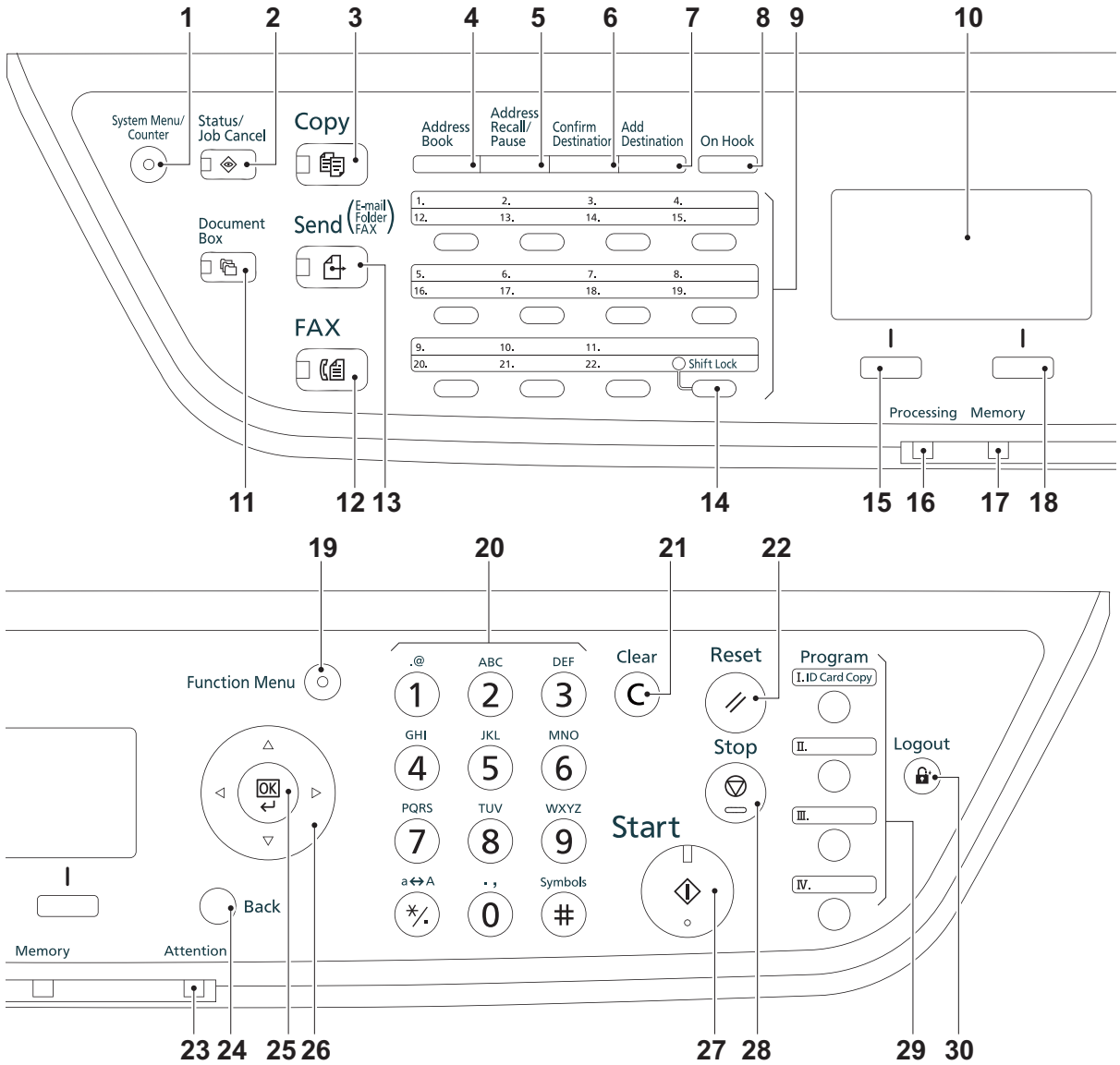
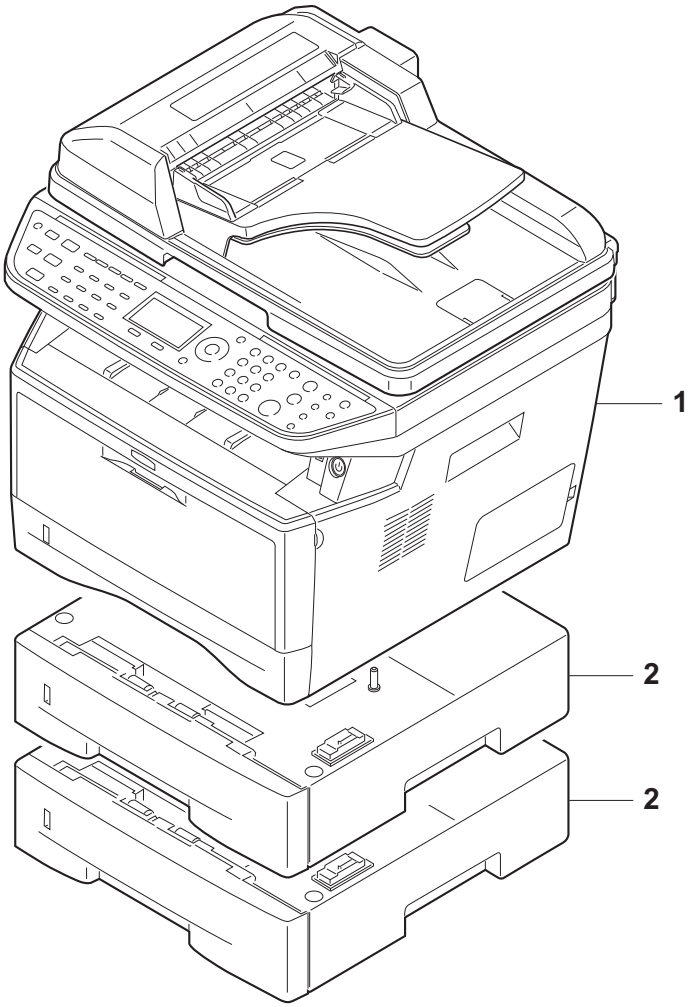



**Figure 1-1-2**

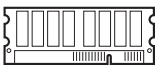
1. System menu/Counter key (LED)
2. Status/Job Cancel key (LED)
3. Copy key (LED)
4. Address Book key
5. Address Recall/Pause key *
6. Confirm Destination key
7. Add Destination key
8. On Hook key *
9. One-touch keys
10. Message display
11. Document Box key (LED)
12. FAX key (LED) *
13. Send key (LED)
14. Shift Lock key (LED)
15. Left Select key
16. Processing indicator
17. Memory indicator
18. Right Select key
19. Function Menu key (LED)
20. Numeric keys
21. Clear key
22. Reset key
23. Attention indicator
24. Back key
25. OK key
26. Cursor keys
27. Start key (LED)
28. Stop key
29. Program keys
30. Logout key (LED)

*: 4in1 model (with FAX) only

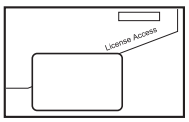
## (3) Option



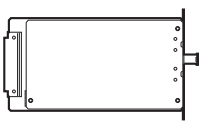

System Kit



Expention memory: for copy and printer
General-purpose 144pin DIMM (1 slot)




Card Authentication Kit(B)



Network interface Kit (3in1 model only)
IB-50
IB-51 (Wire less LAN)

**Figure 1-1-3**

1. Machine
2. Paper feeder

# 1-1-3 Machine cross section

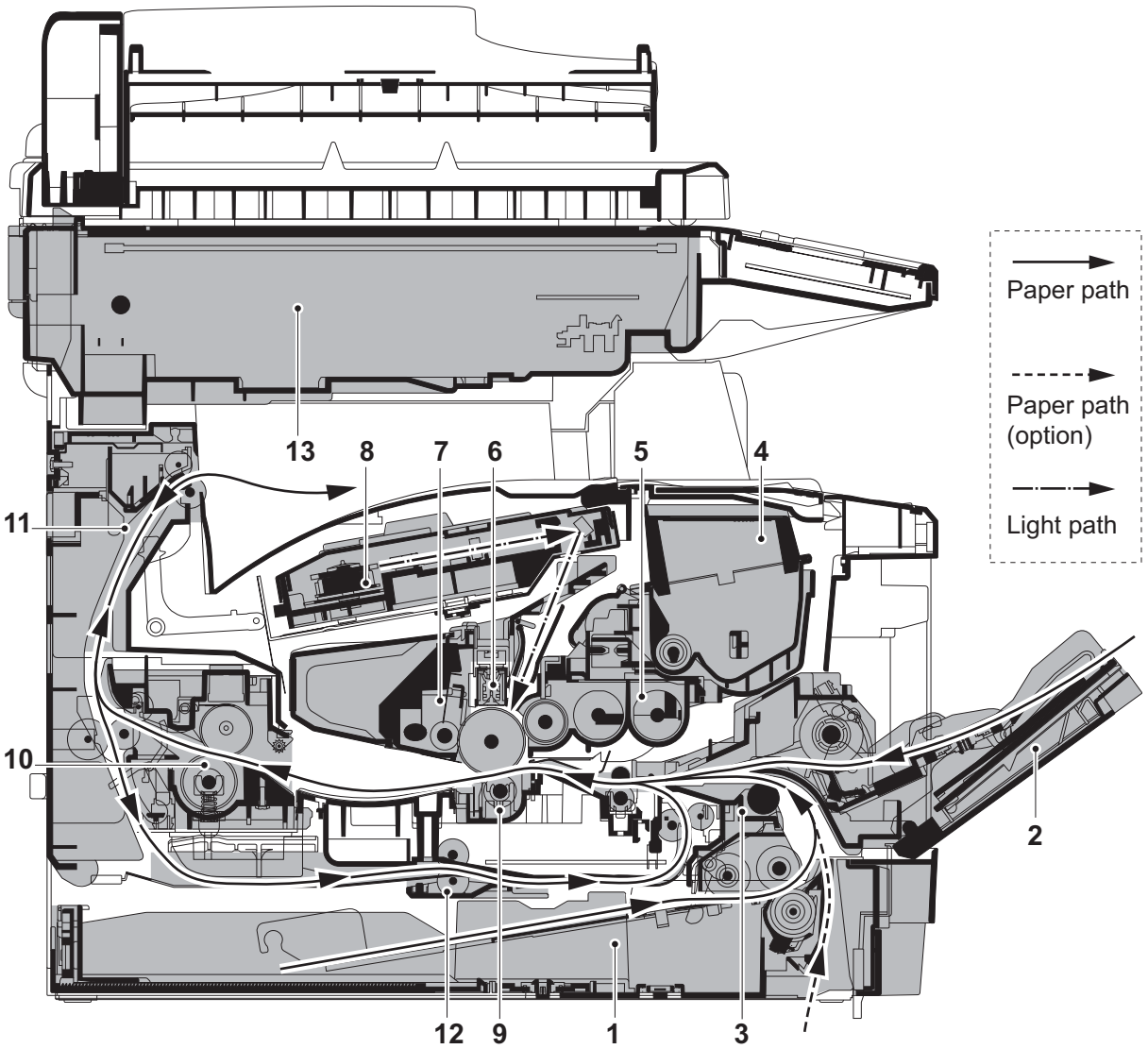



**Figure 1-1-4**

1. Cassette
2. MP tray
3. Paper feed/conveying section
4. Toner container
5. Developer unit
6. Main charger unit
7. Drum unit
8. Laser scanner unit (LSU)
9. Transfer/separation section
10. Fuser section
11. Exit section
12. Duplex/conveying section
13. Scanner section

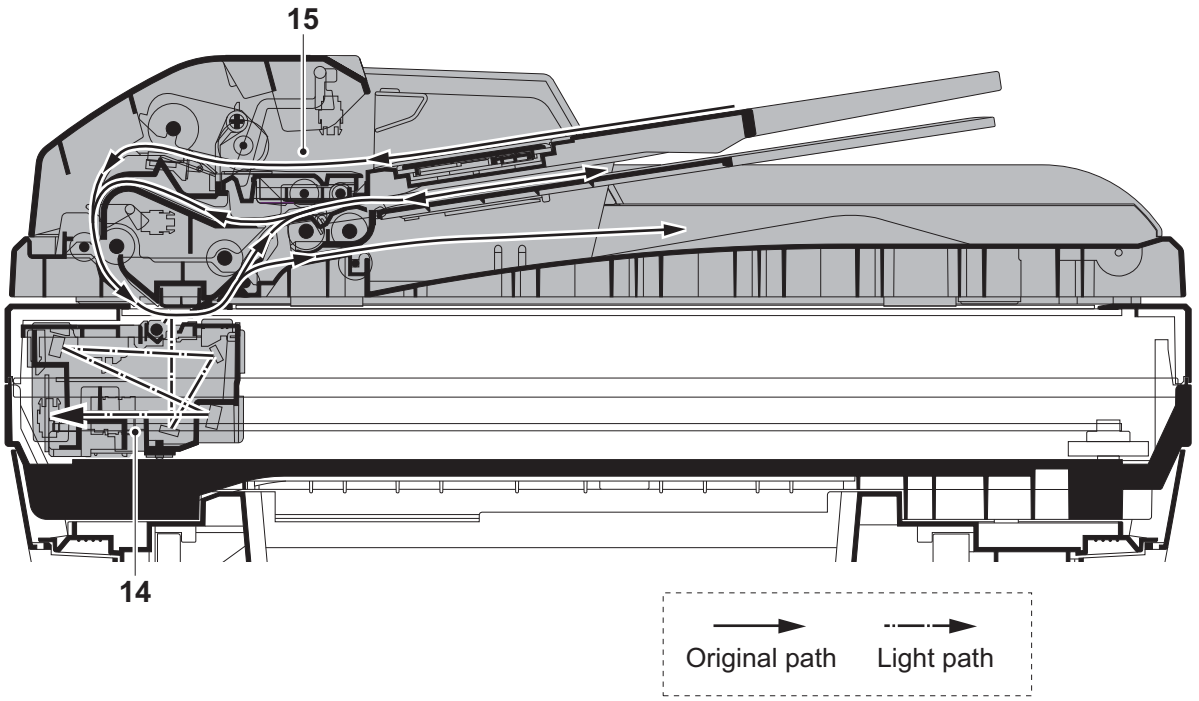



**Figure 1-1-5**

14. Image scanner unit (ISU)
15. Document processor (DP) *

* : Only model with Document Processor as standard

# 1-2-1 Installation environment

1. Temperature: 10 to 32.5°C/50 to 90.5°F
2. Humidity: 15 to 80%RH
3. Power supply: 120 V AC, 10.0 A or more
   220 - 240 V AC, 6.0 A or more
4. Power source frequency: 50 Hz ±0.3%/60 Hz ±0.3%
5. Installation location
   Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
   Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.
   Avoid places subject to dust and vibrations.
   Choose a surface capable of supporting the weight of the machine.
   Place the machine on a level surface (maximum allowance inclination: 1°).
   Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
   Select a well-ventilated location.
6. Allow sufficient access for proper operation and maintenance of the machine.

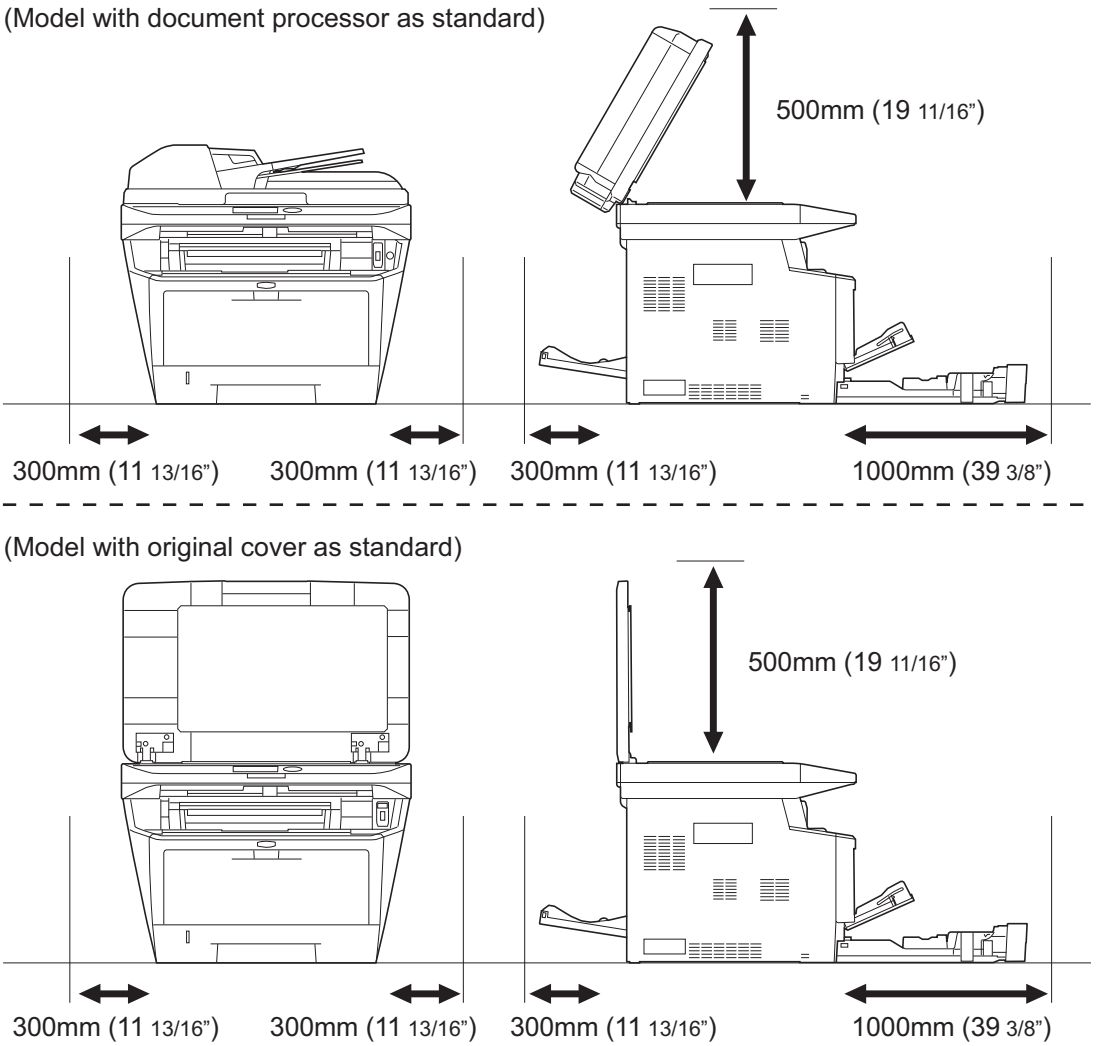



**Figure 1-2-1**

# 1-2-2 Unpacking

## (1) Unpacking

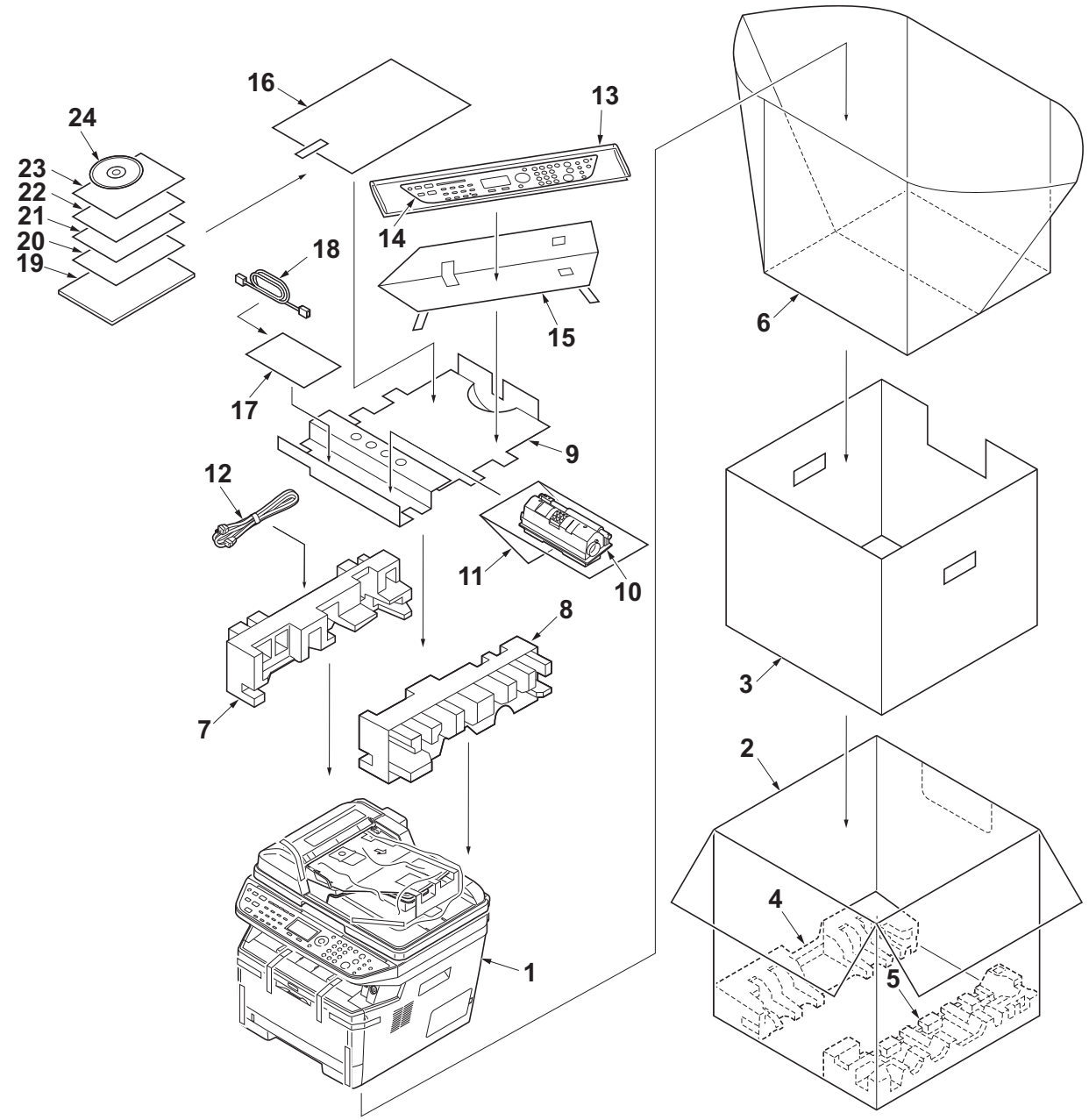



**Figure 1-2-2**

1. Machine
2. Outer case
3. Inner frame
4. Bottom pad L
5. Bottom pad R
6. Machine cover
7. Top pad L
8. Top pad R
9. Accessory spacer
10. Toner container
11. Plastic bag
12. Power cord
13. Plastic bag (250 ´ 600)
14. Operation labels
15. Operation label pad
16. Plastic bag (240 ´ 350)
17. Plastic bag
18. Modular cable *
19. Quick installation guide
20. Safety guide 1
21. Safety guide 2
22. Toner OSHA leaflet *
23. EEA information leaflet **
24. DVD-ROM

* 120 V AC model only.
** 220-240 V AC model only.

## (2) Removing the tapes

**<Procedure>**

1. Remove two tapes.
2. Open the sheet.

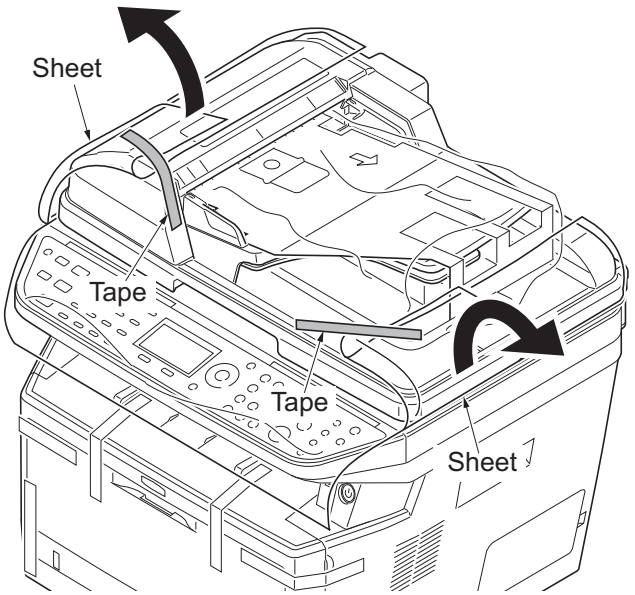



**Figure 1-2-3**

3. Remove two tapes A.
4. Open the top cover.
5. Remove the tape B and then remove the spacer.
6. Close the top cover.

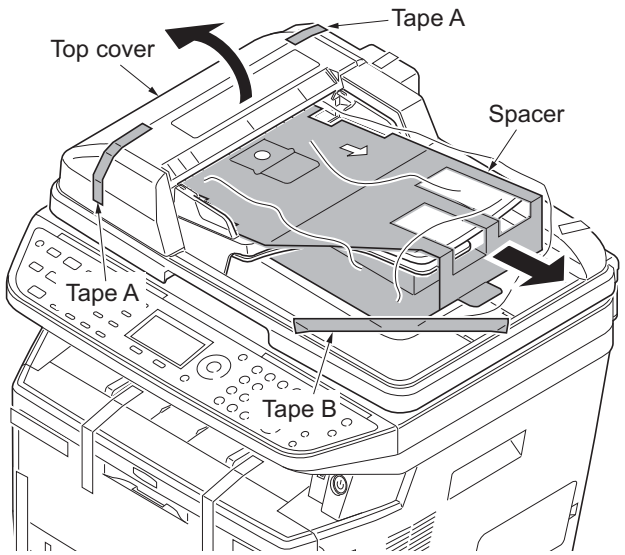



**Figure 1-2-4**

7. Remove two tapes.

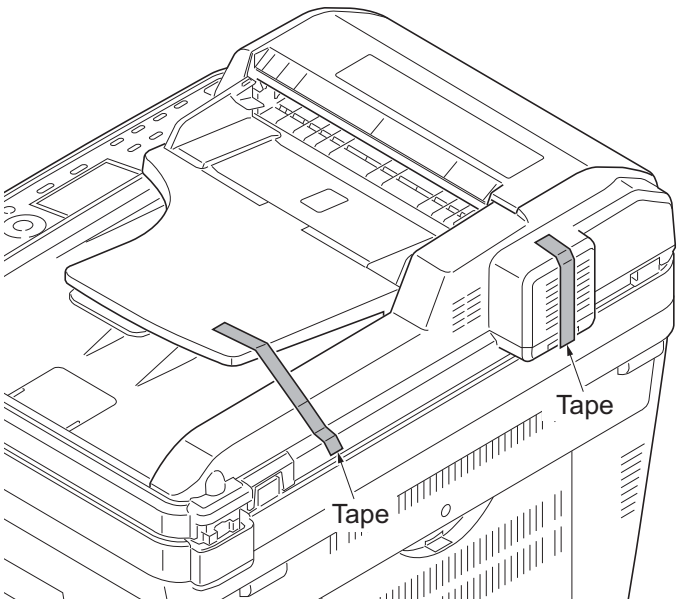



**Figure 1-2-5**

8. Open the DP.
9. Remove the sheet.
10. Remove the paper.

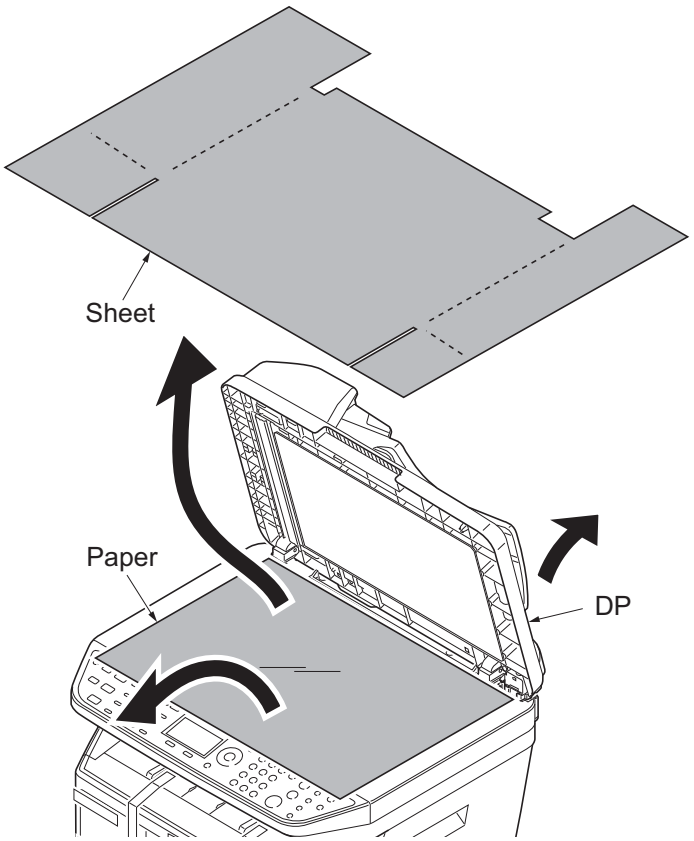
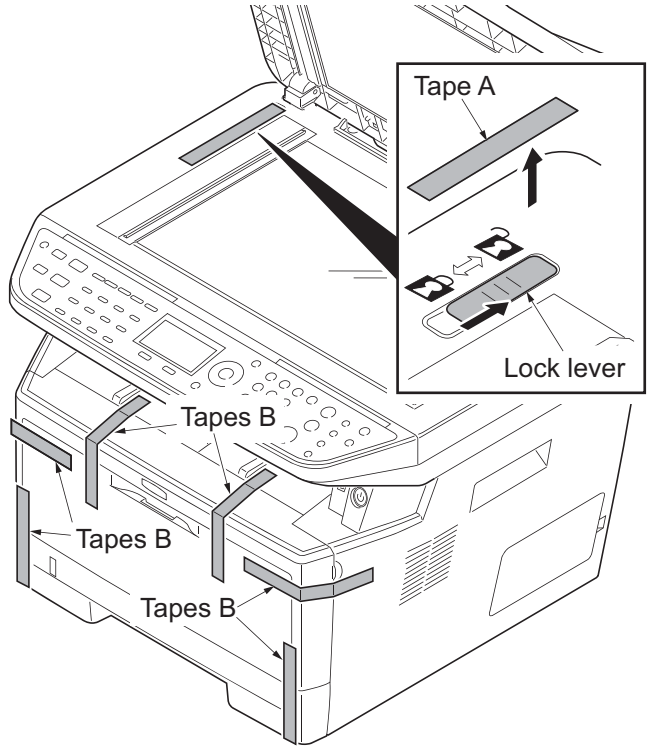



**Figure 1-2-6**

11. Remove the tape A.
12. Move the lock lever to the position of release.
    * : When turning on power if the lock lever is not released, the error message is displayed.
13. Close the DP.
14. Remove eight tapes B.



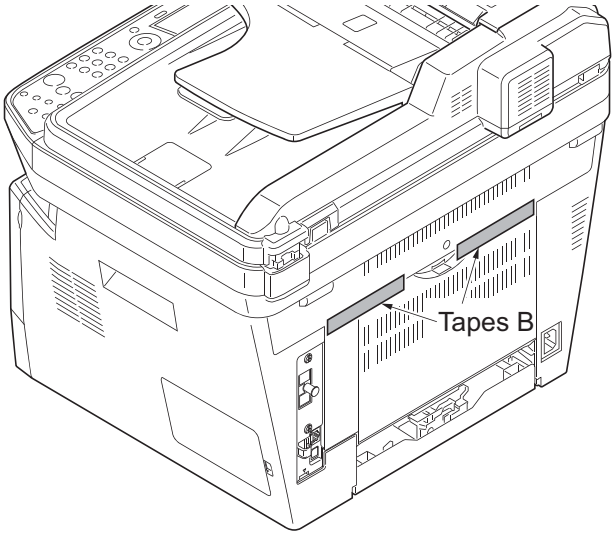




**Figure 1-2-7**

# 1-2-3 Installing the expansion memory (option)

**<Procedure>**

1. Turn off the power switch and pull out the power cable.
   Caution: Do not insert or remove expansion memory while machine power is on.
   Doing so may cause damage to the machine and the expansion memory.
2. Remove the right side cover.
3. Remove the screw.

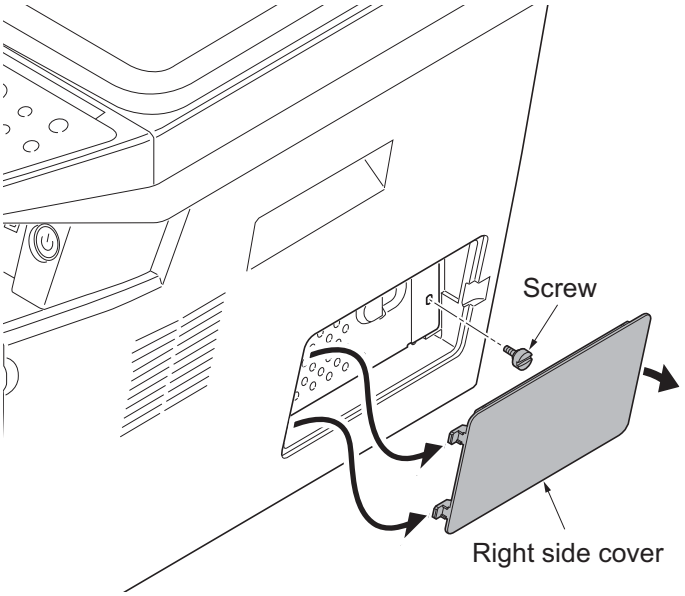



**Figure 1-2-8**

4. Open the memory slot cover.
5. Insert the expansion memory into the memory socket so that the notches on the memory align with the corresponding protrusions in the slot.
6. Close the memory slot cover.
7. Secure the screw.
8. Refit the right side cover.
9. Print a status page to check the memory expansion.
   If memory expansion has been properly performed, information on the installed memory is printed with the total memory capacity has been increased. Standard memory capacity 256 MB.

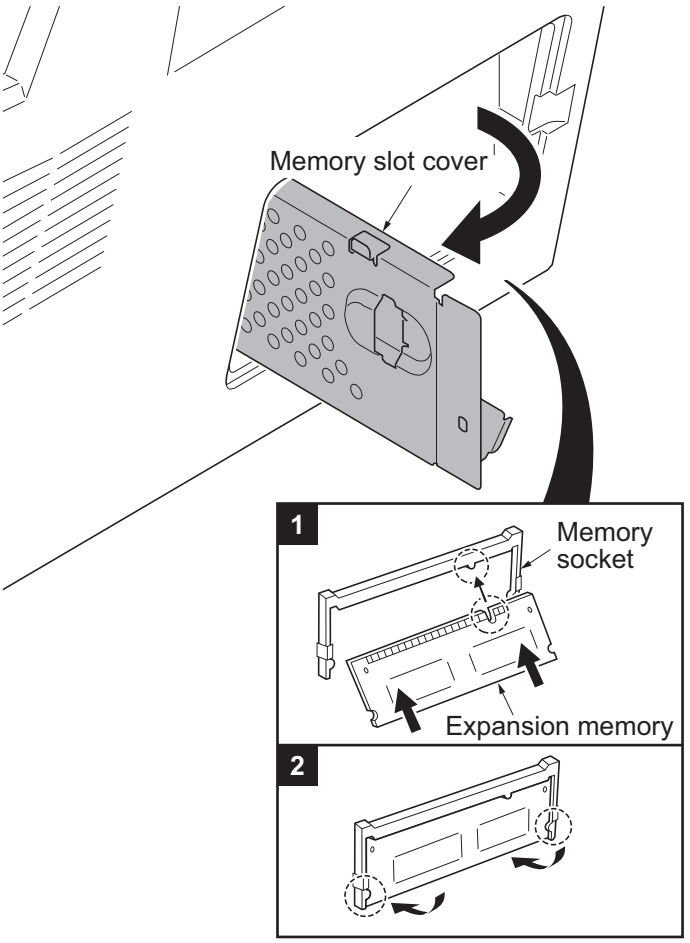
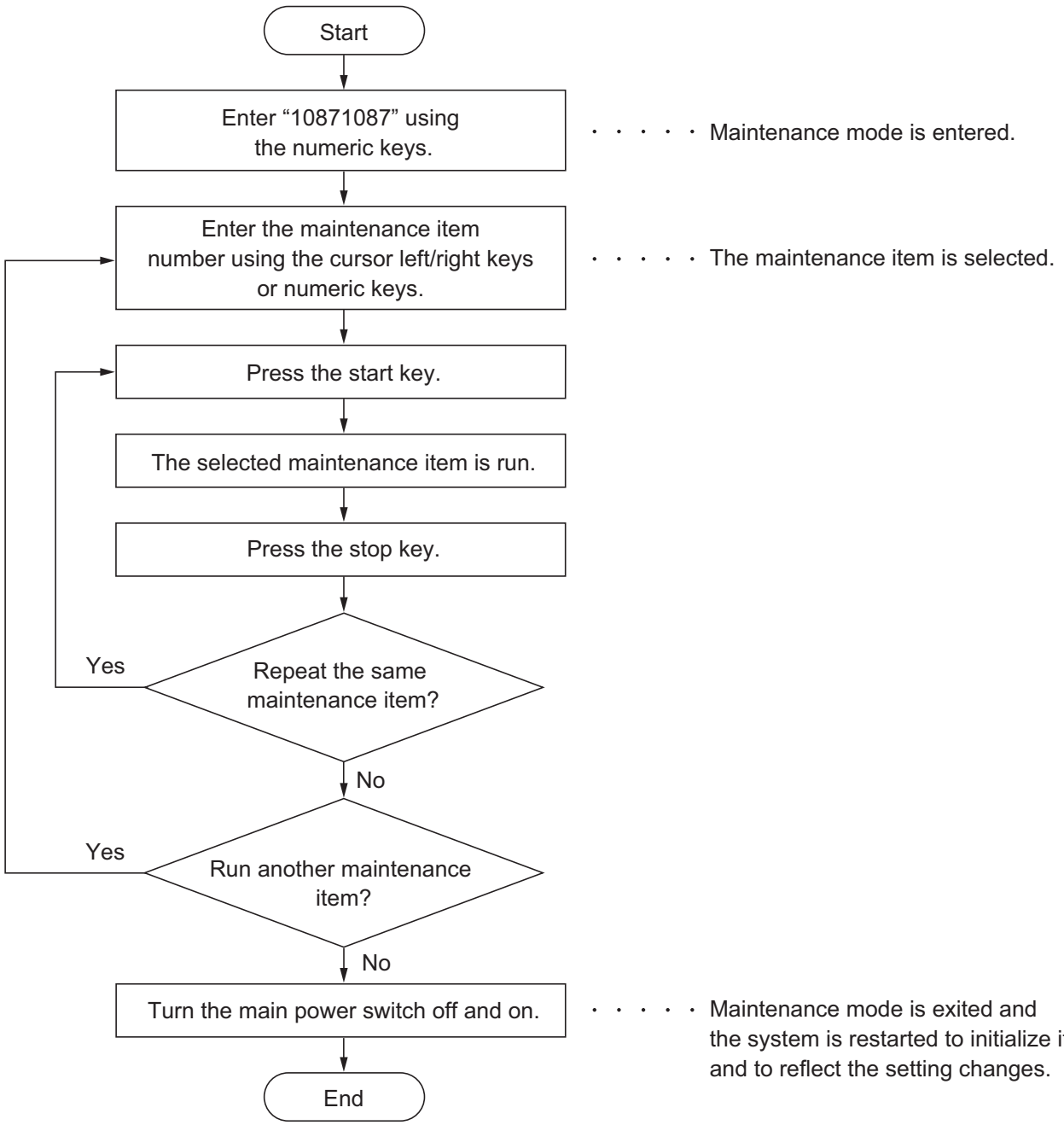



**Figure 1-2-9**

# 1-3-1 Maintenance mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

### (1) Executing a maintenance item



## (2) Maintenance modes item list

| Section | Item No. | Content of maintenance item | Initial setting |
|---|---|---|---|
| General | U000 | Outputting an maintenance report | - |
| | U001 | Exit Maintenance Mode | - |
| | U002 | Setting the factory default data | - |
| | U004 | Setting the machine number | - |
| | U010 | Set Mainte ID | - |
| | U019 | Firmware Version | - |
| Initialization | U021 | Memory initializing | - |
| Drive, paper feed and paper conveying system | U034 | Adjust Paper Timing Data<br>LSU Out Top<br>LSU Out Left | <br>600/0/0/0<br>600/0/0/0/0/0 |
| Optical | U065 | Adjust Scanner Motor Speed | 0/0 |
| | U066 | Adjust Table Leading Edge Timing | 0/0 |
| | U067 | Adjust Table Center | 0/0 |
| | U068 | Adjust DP Scan Position | 0/0 |
| | U070 | Adjust DP Motor Speed | 0 |
| | U071 | Adjust DP Leading Edge Timing | 0/0/0/0/0 |
| | U072 | Adjust DP Original Center | -/-/0 |
| Developer | U130 | Set Toner Install | - |
| Operation panel and support equipment | U203 | Checking DP operation | - |
| | U207 | Checking the operation panel keys | - |
| | U222 | Setting the IC card type | Other |
| Mode setting | U250 | Setting the maintenance cycle | 100000 |
| | U251 | Checking/clearing the maintenance count | 0 |
| | U252 | Setting the destination | - |
| | U253 | Switching between double and single counts | Double count |
| | U260 | Selecting the timing for copy counting | EJECT |
| | U265 | Setting OEM purchaser code | - |
| | U285 | Setting service status page | ON |
| | U332 | Setting the size conversion factor | 1.0 |
| | U345 | Setting the value for maintenance due indication | 0 |
| | U346 | Selecting Sleep Mode<br>Timer/Sleep Level<br>Auto Sleep | <br>More Energy Save<br>ON |

| Section | Item No. | Content of maintenance item | Initial setting |
|---|---|---|---|
| Image processing | U402 | Adjust Print Margin | 4.0/3.0/3.0/3.9 |
| | U403 | Adjust Scanning Margin(Table) | 2.0/2.0/2.0/2.0 |
| | U404 | Adjust Scanning Margin(DP) | 3.0/2.5/3.0/4.0 |
| | U411 | Auto Adj Scn | - |
| | U425 | Set Target | - |
| Fax | U600 | Initializing all data | - |
| | U601 | Initializing permanent data | - |
| | U603 | Setting user data 1 | DTMF |
| | U604 | Setting user data 2 | 2 (120 V)<br>1 (220-240 V) |
| | U605 | Clearing data | - |
| | U610 | Setting system 1<br>Setting the number of lines to be ignored when receiving a fax at 100% magnification<br>Setting the number of lines to be ignored when receiving a fax in the auto reduction mode<br>Setting the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode | <br>3<br>0<br>0 |
| | U611 | Setting system 2<br>Setting the number of adjustment lines for automatic reduction<br>Setting the number of adjustment lines for automatic reduction when A4 paper is set<br>Setting the number of adjustment lines for automatic reduction when letter size paper is set | <br>7<br>22<br>26 |
| | U612 | Setting system 3<br>Selecting if auto reduction in the auxiliary direction is to be performed<br>Setting the automatic printing of the protocol list | <br>ON<br>OFF |
| | U620 | Setting the remote switching mode | ONE |
| | U625 | Setting the transmission system 1<br>Setting the auto redialing interval<br>Setting the number of times of auto redialing | <br>3 (120 V)<br>2 (220-240 V)<br>2 (120 V)<br>3 (220-240 V) |
| | U630 | Setting communication control 1<br>Setting the communication starting speed<br>Setting the reception speed<br>Setting the waiting period to prevent echo problems at the sender<br>Setting the waiting period to prevent echo problems at the receiver | <br>14400bps/V17<br>14400bps<br>300<br>75 |

| Section | Item No. | Content of maintenance item | Initial setting |
|---|---|---|---|
| Fax | U631 | Setting communication control 2 | |
| | | Setting ECM transmission | ON |
| | | Setting ECM reception | ON |
| | | Setting the frequency of the CED signal | 2100 |
| | U632 | Setting communication control 3 | |
| | | Setting the DIS signal to 4 bytes | OFF |
| | | Setting the short protocol transmission | ON |
| | | Setting the reception of a short protocol transmission | ON |
| | | Setting the CNG detection times in the fax/telephone auto select mode | 2TIME |
| | U633 | Setting communication control 4 | |
| | | Enabling/disabling V.34 communication | ON |
| | | Setting the V.34 symbol speed (3429 Hz) | ON |
| | | Setting the number of times of DIS signal reception | ONCE |
| | | Setting the reference for RTN signal output | 15% |
| | U634 | Setting communication control 5 | 0 |
| | U640 | Setting communication time 1 | |
| | | Setting the one-shot detection time for remote switching | 7 |
| | | Setting the continuous detection time for remote switching | 80 |
| | U641 | Setting communication time 2 | |
| | | Setting the T0 time-out time | 56 |
| | | Setting the T1 time-out time | 36 |
| | | Setting the T2 time-out time | 69 |
| | | Setting the Ta time-out time | 30 |
| | | Setting the Tb1 time-out time | 20 |
| | | Setting the Tb2 time-out time | 80 |
| | | Setting the Tc time-out time | 60 |
| | | Setting the Td time-out time | 9 (120 V)<br>6 (220-240 V) |
| | U650 | Setting modem 1 | |
| | | Setting the G3 transmission cable equalizer | 0dB |
| | | Setting the G3 reception cable equalizer | 0dB |
| | | Setting the modem detection level | 43dBm |
| | U651 | Setting modem 2 | |
| | | Modem output level | 9 (120 V)<br>10 (220-240 V) |
| | | DTMF output level (main value) | 5 (120 V)<br>10.5 (220-240 V) |
| | | DTMF output level (level difference) | 2 (120 V)<br>2.5 (220-240 V) |
| | U660 | Setting the NCU | |
| | | Setting the connection to PBX/PSTN | PSTN |
| | | Setting PSTN dial tone detection | ON |
| | | Setting busy tone detection | ON |
| | | Setting for a PBX | LOOP |
| | | Setting the loop current detection before dialing | ON |
| | U670 | Outputting lists | - |

| Section | Item No. | Content of maintenance item | Initial setting |
|---|---|---|---|
| Fax | U695 | FAX function customize | ON/OFF |
| | U699 | Setting the software switches | - |
| Others | U901 | Clr Paper FD Cnt | - |
| | U905 | Option Cnt | - |
| | U910 | Clearing the black ratio data | - |
| | U917 | Setting backup data reading/writing | - |
| | U920 | Chg Cnt | - |
| | U927 | Clearing the all copy counts and machine life counts (one time only) | - |
| | U928 | Life Cnt | - |
| | U977 | Data capture mode | - |
| | U995 | Mem Data Indi | - |

## (3) Contents of the maintenance mode items

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
Outputting an maintenance report<br><br>
Description<br>
Outputs lists of the current settings of the maintenance items and paper jam and service call occurrences. Outputs the event log. Also sends output data to the USB memory.<br>
Printing a report is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.<br>
Purpose<br>
To check the current setting of the maintenance items, or paper jam or service call occurrences. Before initializing or replacing the backup RAM, output a list of the current settings of the maintenance items to reenter the settings after initialization or replacement.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be output using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Output list</th></tr>
<tr><td>MAINTENANCE</td><td>List of the current settings of the maintenance modes</td></tr>
<tr><td>EVENT</td><td>Outputs the event log</td></tr>
<tr><td>ALL</td><td>Outputs the all reports</td></tr>
</table>
3. Press the start key. A list is output.<br><br>
Method: Send to the USB memory<br>
1. Turn the power switch off.<br>
2. Insert USB memory in USB memory slot.<br>
3. Turn the power switch on.<br>
4. Enter the maintenance item.<br>
5. Press the start key.<br>
6. Select the item to be send.<br>
7. Select [TEXT] or [HTML].
<table>
<tr><th>Display</th><th>Output list</th></tr>
<tr><td>Print</td><td>Outputs the report</td></tr>
<tr><td>USB (TEXT)</td><td>Sends output data to the USB memory (text type)</td></tr>
<tr><td>USB (HTML)</td><td>Sends output data to the USB memory (HTML type)</td></tr>
</table>
8. Press the start key.<br>
Output will be sent to the USB memory.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U000 | **Event log** |

# Event Log

MFP

**(2)** 2013/05/31 15:15

**(1)** Firmware version 2PN_2000.000.000 2013.05.31

**(3)** [XXXXXXXX] **(4)** [XXXXXXXX] **(5)** [XXXXXXXX]

**(7) Paper Jam Log**

| # | Count. | Event Descriprions | Data and Time |
|---|---|---|---|
| 12 | 1876543 | 0501.01.08.01.01 | 2013/03/02 11:11 |
| 11 | 166554 | 4020.01.08.01.01 | 2013/03/02 10:57 |
| 10 | 4988 | 0501.01.08.01.01 | 2013/03/02 10:44 |
| 9 | 4988 | 4020.01.08.01.01 | 2013/03/02 10:00 |
| 8 | 1103 | 0501.01.08.01.01 | 2013/03/02 09:27 |
| 7 | 1103 | 4020.01.08.01.01 | 2013/03/01 17:30 |
| 6 | 1027 | 0501.01.08.01.01 | 2013/03/01 10:02 |
| 5 | 1027 | 4020.01.08.01.01 | 2013/03/01 08:57 |
| 4 | 1027 | 0501.01.08.01.01 | 2013/02/29 17:00 |
| 3 | 1027 | 4020.01.08.01.01 | 2013/02/29 15:38 |
| 2 | 406 | 0501.01.08.01.01 | 2013/02/28 09:00 |
| 1 | 36 | 4020.01.08.01.01 | 2013/02/28 08:12 |

0501.01.08.01.01
(a) (b) (c) (d) (e)

**(11) Counter Log**

**(f)** J0100: 0
J0105: 0
J0106: 0
J0110: 0
J0111: 0
J0512: 0
J0513: 0
J0518: 0
J0519: 0
J1020: 0
J4201: 0
J4202: 0
J4203: 0
J4208: 0
J4209: 0
.
.
.
.
.
.

**(g)** C0000: 0
C0001: 1
C0002: 2
C0003: 3
C0004: 4
C0005: 5
C0006: 6
C0007: 7
C0008: 8
C0009: 9
C0010: 10
C0011: 11

**(h)** T00: 10
T01: 20
T02: 30
T03: 40
T04: 50
T05: 999

**(8) Service Call Log**

| # | Count. | Service Code | Data and Time |
|---|---|---|---|
| 8 | 1881214 | 01.6000 | 2013/03/02 11:11 |
| 7 | 178944 | 01.2100 | 2013/03/02 10:57 |
| 6 | 5296 | 01.4000 | 2013/03/02 10:44 |
| 5 | 5295 | 01.6000 | 2013/03/02 10:00 |
| 4 | 2099 | 01.2100 | 2013/03/02 09:27 |
| 3 | 1054 | 01.4000 | 2013/03/01 17:30 |
| 2 | 809 | 01.6000 | 2013/03/01 10:02 |
| 1 | 30 | 01.2100 | 2013/03/01 08:57 |

**(9) Maintenance Log**

| # | Count. | Item | Data and Time |
|---|---|---|---|
| 3 | 104511 | 01.00 | 2013/03/02 11:11 |
| 2 | 3454 | 01.01 | 2013/03/02 10:57 |
| 1 | 34 | 01.01 | 2013/03/02 10:44 |

**(10) Unknown toner Log**

| # | Count. | Item | Data and Time |
|---|---|---|---|
| 4 | 3454 | 01.00 | 2013/03/02 11:11 |
| 3 | 3454 | 01.00 | 2013/03/02 10:57 |
| 2 | 406 | 01.00 | 2013/03/02 10:44 |
| 1 | 32 | 01.00 | 2013/03/02 10:00 |

**(6)** [XXXXXXXXXXXXXXXX]

**Figure 1-3-1**

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>Detail of event log
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td>(1)</td><td colspan="4">System version</td></tr>
<tr><td>(2)</td><td colspan="4">System date</td></tr>
<tr><td>(3)</td><td colspan="4">Engine soft version</td></tr>
<tr><td>(4)</td><td colspan="4">Engine boot version</td></tr>
<tr><td>(5)</td><td colspan="4">Operation panel mask version</td></tr>
<tr><td>(6)</td><td colspan="4">Machine serial number</td></tr>
<tr><td rowspan="4">(7)</td><td rowspan="4">Paper Jam Log</td><td>#</td><td>Count.</td><td>Event</td></tr>
<tr><td>Remembers 1 to 16 of occurrence. If the occurrence of the previous paper jam is less than 16, all of the paper jams are logged. When the occurrence excesseds 16, the oldest occurrence is removed.</td><td>The total page count at the time of the paper jam.</td><td>Log code (2 digit, hexadecimal, 5 categories)<br><br>(a) Cause of a paper jam<br>(b) Paper source<br>(c) Paper size<br>(d) Paper type<br>(e) Paper eject</td></tr>
<tr><td colspan="3">(a) Cause of paper jam (Hexadecimal)</td></tr>
<tr><td colspan="3">Refer to page 1-4-2 for paper jam location<br>0100: Secondary paper feed request time out<br>0101: Waiting for process package to be ready<br>0105: Warm up request time out<br>0107: Waiting for fuser package to be ready<br>0110: Top cover open<br>0501: No paper feed from cassette 1<br>0502: No paper feed from cassette 2<br>0503: No paper feed from cassette 3<br>0508: No paper feed from duplex section<br>0509: No paper feed from MP tray<br>0511: Multiple sheets in cassette 1<br>0512: Multiple sheets in cassette 2<br>0513: Multiple sheets in cassette 3<br>0518: Multiple sheets in duplex section<br>0519: Multiple sheets in MP tray<br>1403: PF feed sensor 1 non arrival jam (cassette 3)<br>1413: PF feed sensor 1 stay jam (cassette 3)<br>1420: PF feed sensor 1 initial jam (Warm up)<br>1620: PF feed sensor 2 initial jam (Warm up)<br>4002: Registration sensor non arrival jam (cassette 2)<br>4003: Registration sensor non arrival jam (cassette 3)<br>4012: Registration sensor stay jam (cassette 2)<br>4013: Registration sensor stay jam (cassette 3)<br>4020: Registration sensor initial jam (Warm up)<br>4201: Eject sensor non arrival jam (cassette 1)<br>4202: Eject sensor non arrival jam (cassette 2)<br>4203: Eject sensor non arrival jam (cassette 3)</td></tr>
</table></td></tr>
</table>

| Item No. | Description |
|---|---|
| U000 | |

| No. | Items | Description |
|---|---|---|
| (7) cont. | Paper Jam Log | 4208: Eject sensor non arrival jam (duplex)<br>4209: Eject sensor non arrival jam (Mp tray)<br>4211: Eject sensor stay jam (cassette 1)<br>4212: Eject sensor stay jam (cassette 2)<br>4213: Eject sensor stay jam (cassette 3)<br>4218: Eject sensor stay jam (duplex)<br>4219: Eject sensor stay jam (MP tray)<br>4220: Eject sensor initial jam (Warm up)<br>4301: Duplex sensor non arrival jam (cassette 1)<br>4302: Duplex sensor non arrival jam (cassette 2)<br>4303: Duplex sensor non arrival jam (cassette 3)<br>4309: Duplex sensor non arrival jam (MP tray)<br>4311: Duplex sensor stay jam (cassette 1)<br>4312: Duplex sensor stay jam (cassette 2)<br>4313: Duplex sensor stay jam (cassette 3)<br>4319: Duplex sensor stay jam (MP tray)<br>9000: No original feed<br>9001: DP original conveying jam<br>9003: DP original swichback non arrival jam<br>9004: DP original swichback stay jam<br>9011: DP top cover open<br>9401: DP timing sensor stay jam |
| | | (b) Detail of paper source (Hexadecimal) |
| | | 00: MP tray<br>01: Cassette 1<br>02: Cassette 2 (paper feeder 1)<br>03: Cassette 3 (paper feeder 2)<br>05 to 09: Reserved |

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td rowspan="6">(7) cont.</td><td rowspan="6">Paper Jam Log</td><td colspan="3">(c) Detail of paper size (Hexadecimal)</td></tr>
<tr><td>00: (Not specified)<br>01: Monarch<br>02: Business<br>03: International DL<br>04: International C5<br>05: Executive<br>06: Letter-R<br>86: Letter-E<br>07: Legal<br>08: A4R<br>88: A4E<br>09: B5R<br>89: B5E<br>0A: A3</td><td>0B: B4<br>0C: Ledger<br>0D: A5R<br>0E: A6<br>0F: B6<br>10: Commercial #9<br>11: Commercial #6<br>12: ISO B5<br>13: Custom size<br>1E: C4<br>1F: Postcard<br>20: Reply-paid post-card<br>21: Oficio II</td><td>22: Special 1<br>23: Special 2<br>24: A3 wide<br>25: Ledger wide<br>26: Full bleed paper (12 x 8)<br>27: 8K<br>28: 16K-R<br>2A: 216x340mm<br>A8: 16K-E<br>32: Statement-R<br>B2: Statement-E<br>33: Folio<br>34: Western type 2<br>35: Western type 4</td></tr>
<tr><td colspan="3">(d) Detail of paper type (Hexadecimal)</td></tr>
<tr><td>01: Plain<br>02: Transparency<br>03: Preprinted<br>04: Labels<br>05: Bond<br>06: Recycled<br>07: Vellum<br>08: Rough<br>09: Letterhead</td><td>0A: Color<br>0B: Prepunched<br>0C: Envelope<br>0D: Cardstock<br>0E: Coated<br>0F: 2nd side<br>10: Media 16<br>11: High quality</td><td>15: Custom 1<br>16: Custom 2<br>17: Custom 3<br>18: Custom 4<br>19: Custom 5<br>1A: Custom 6<br>1B: Custom 7<br>1C: Custom 8</td></tr>
<tr><td colspan="3">(e) Detail of paper eject location (Hexadecimal)</td></tr>
<tr><td colspan="3">01: Face down (FD)</td></tr>
<tr><td rowspan="2">(8)</td><td rowspan="2">Service Call Log</td><td>#</td><td>Count.</td><td>Service Code</td></tr>
<tr><td>Remembers 1 to 8 of occurrence of self diagnostics error. If the occurrence of the previous diagnostics error is less than 8, all of the diagnostics errors are logged.</td><td>The total page count at the time of the self diagnostics error.</td><td>Self diagnostic error code (See page 1-4-7)<br><br>Example:<br>01.6000<br><br>01: Self diagnostic error<br>6000: Self diagnostic error code number</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td rowspan="2">(9)</td><td rowspan="2">Maintenance Log</td><td>#</td><td>Count.</td><td>Item</td></tr>
<tr><td>Remembers 1 to 8 of occurrence of replacement. If the occurrence of the previous replacement of toner container is less than 8, all of the occurrences of replacement are logged.</td><td>The total page count at the time of the replacement of the toner container.</td><td>Code of maintenance replacing item (1 byte, 2 categories)<br><br>First byte<br>(Replacing item)<br>01: Toner container<br>02: Maintenance kit<br><br>Second byte<br>(Type of replacing item)<br>00: Black<br>01: MK-1130/1140<br>MK-1132/1142</td></tr>
<tr><td rowspan="2">(10)</td><td rowspan="2">Unknown Toner Log</td><td>#</td><td>Count.</td><td>Item</td></tr>
<tr><td>Remembers 1 to 5 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 5, all of the unknown toner detection are logged.</td><td>The total page count at the time of the [Toner Empty] error with using an unknown toner container.<br><br>* :The toner replacement log is triggered by toner empty. This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted.</td><td>Unknown toner log code (1 byte, 2 categories)<br><br>First byte<br>01: Fixed (Toner container)<br><br>Second byte<br>00: Fixed (Black)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td rowspan="2">(11)</td><td rowspan="2">Counter Log<br><br>Comprised of three log counters including paper jams, self diagnostics errors, and replacement of the toner container.</td><td>(f) Paper jam</td><td>(g) Self diagnostic error</td><td>(h) Maintenance item replacing</td></tr>
<tr><td>Indicates the log counter of paper jams depending on location.<br><br>Refer to Paper Jam Log.<br><br>All instances including those are not occurred are displayed.</td><td>Indicates the log counter of self diagnostics errors depending on cause.<br>(See page 1-4-7)<br><br>Example:<br>C6000: 4<br><br>Self diagnostics error 6000 has happened four times.</td><td>Indicates the log counter depending on the maintenance item for maintenance.<br><br>T: Toner container<br>00: Black<br>M: Maintenance kit<br>01: MK-1130/1140<br>MK-1132/1142<br><br>Example:<br>T00: 1<br>The toner container has been replaced once.<br><br>* :The toner replacement log is triggered by toner empty.<br>This record may contain such a reference as the toner container is inserted twice or a used toner container is inserted.</td></tr>
</table>
</td></tr>
<tr><td>U001</td><td>Exit Maintenance Mode<br><br>Description<br>Exits the maintenance mode and returns to the normal copy mode.<br>Purpose<br>To exit the maintenance mode.<br><br>Method<br>1. Press the start key. The normal copy mode is entered.</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U002</td><td>
Setting the factory default data<br><br>
Description<br>
Restores the machine conditions to the factory default settings.<br>
Purpose<br>
To move the image scanner unit to the home position. (position in which the frame can be fixed).<br><br>
Method<br>
1. Press the start key.<br>
2. Select [MODE1(ALL)] using the cursor up/down keys.<br>
3. Press the start key.<br>
The imege scanner returns to the home position.<br>
4. Turn the power switch off and on.<br>
* : An error code is displayed in case of an initialization error.<br>
When errors occurred, turn power switch off then on, and execute initialization using maintenance item U002.<br><br>
Error codes
<table>
<tr><th>Codes</th><th>Description</th></tr>
<tr><td>0001</td><td>Controller error</td></tr>
<tr><td>0020</td><td>Engine error</td></tr>
<tr><td>0040</td><td>Scanner error</td></tr>
</table>
</td></tr>
<tr><td>U004</td><td>
Setting the machine number<br>
Description<br>
Sets or displays the machine number.<br>
Purpose<br>
To check or set the machine number.<br><br>
Method<br>
1. Press the start key.<br>
If the machine serial number of engine PWB matches with that of main PWB
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>MACHINE No.</td><td>Displays the machine serial number</td></tr>
</table>
If the machine serial number of engine PWB does not match with that of main PWB
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>MACHINE No. (MAIN)</td><td>Displays the machine serial number of main</td></tr>
<tr><td>MACHINE No. (ENG)</td><td>Displays the machine serial number of engine</td></tr>
</table>
Setting<br>
Carry out if the machine serial number does not match.<br>
1. Press [EXECUTE].<br>
2. Press the start key. Writing of serial No. starts.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U010</td><td>
Set Mainte ID<br><br>
Description<br>
Maintenance mode ID for markets is changed.<br>
Purpose<br>
The brittleness of a security function is improved by changing maintenance mode ID for markets.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Change</td><td>Maintenance mode ID for markets is changed.</td></tr>
<tr><td>Initialize</td><td>Maintenance mode ID for markets is initialized.</td></tr>
</table>
<br>
[Setting: Change]<br>
1. Select the [New ID(Reconfirm)].<br>
2. New ID is inputted using a ten key.<br>
* : New ID of 8 figures is taken as the arbitrary combination of 0 to 9, *, and #.<br>
(* or # is certainly included)<br>
3. Select the [Excute].<br>
4. Press the start key. ID is set.<br>
5. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.<br><br>
[Setting: Initialaize]<br>
1. Select the [Excute].<br>
2. Press the start key. ID is intialized.<br>
3. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U019</td><td>
Firmware Version<br><br>
Description<br>
Displays the part number of the ROM fitted to each PWB.<br>
Purpose<br>
To check the part number or to decide, if the newest version of ROM is installed.<br><br>
Method<br>
1. Press the start key. The ROM version are displayed.<br>
2. Change the screen using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Main</td><td>Main ROM</td></tr>
<tr><td>MMI</td><td>Operation ROM</td></tr>
<tr><td>Engine</td><td>Engine ROM</td></tr>
<tr><td>Engine Boot</td><td>Engine booting</td></tr>
<tr><td>Scanner</td><td>Scanner ROM</td></tr>
<tr><td>Scanner Boot</td><td>Scanner booting</td></tr>
<tr><td>Option Language</td><td>Optional language ROM</td></tr>
<tr><td>Fax APL</td><td>Fax APL</td></tr>
<tr><td>Fax IPL</td><td>Fax IPL</td></tr>
<tr><td>Fax Boot</td><td>Fax Boot</td></tr>
</table>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U021 | **Memory initializing**<br><br>**Description**<br>Initializes all settings, except those pertinent to the type of machine, namely each counter, service call history and mode setting. Also initializes backup RAM according to region specification selected in maintenance item U252 Setting the destination.<br>**Purpose**<br>To return the machine settings to their factory default.<br><br>**Method**<br>1. Press the start key.<br>2. Select [Execute].<br>3. Press the start key. All data other than that for adjustments due to variations between machines is initialized based on the destination setting.<br>4. Turn the main power switch off and on.<br>* : An error code is displayed in case of an initialization error.<br>When errors occurred, turn main power switch off then on, and execute initialization using maintenance item U021.<br><br>**Error codes**<br><br>**Codes** / **Description**<br>0001 Entity error<br>0002 Controller error<br>0020 Engine error<br>0040 Scanner error |

| Item No. | Description |
|---|---|
| U034 | **Adjust Paper Timing Data**<br><br>**Description**<br>Adjusts the leading edge registration or center line.<br>**Purpose**<br>Make the adjustment if there is a regular error between the leading edges of the copy image and original.<br>Make the adjustment if there is a regular error between the center lines of the copy image and original.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be adjusted. |

| Display | Description |
|---|---|
| LSU Out Top | Leading edge registration adjustment |
| LSU Out Left | Center line adjustment |

**Adjustment: [LSU Out Top]**

1. Press the system menu key.
2. Press the start key to output a test pattern.
3. Press the system menu key.
4. Select the item to be adjusted.

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Top | Standard value | 0 to 1180 | 600 | 1dot |
| MPT | Paper feed from MP tray | -70 to 70 | 0 | 1dot |
| Cassette | Paper feed from cassette | -70 to 70 | 0 | 1dot |
| Duplex | Duplex mode (second) | -70 to 70 | 0 | 1dot |

5. Change the setting value using the cursor left/rigrt keys or numeric keys.
   For output example 1, increase the value. For output example 2, decrease the value.

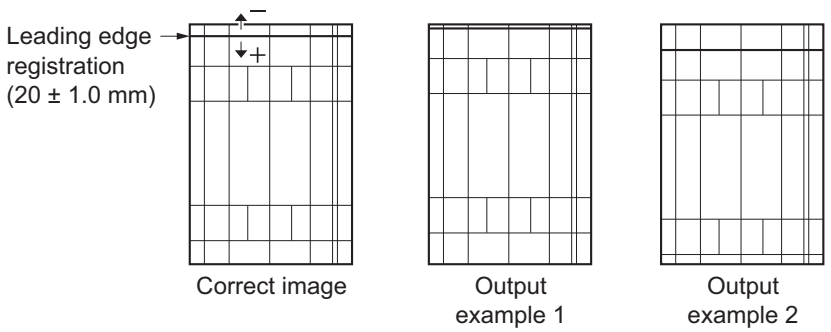



**Figure 1-3-2**

6. Press the start key. The value is set.

| Item No. | Description |
|---|---|
| U034 | **Caution**<br>Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.<br>U034 → U066 (P.1-3-21) → U071 (P.1-3-25)<br><br>**Adjustment: [LSU Out Left]**<br>1. Press the system menu key.<br>2. Press the start key to output a test pattern.<br>3. Press the system menu key.<br>4. Select the item to be adjusted. |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Left | Standard value | 0 to 1180 | 600 | 1 dot |
| MPT | Paper feed from MP tray | -70 to 70 | 0 | 1 dot |
| Cassette1 | Paper feed from optional cassette1 | -70 to 70 | 0 | 1 dot |
| Cassette2 | Paper feed from optional cassette2 | -70 to 70 | 0 | 1 dot |
| Cassette3 | Paper feed from optional cassette3 | -70 to 70 | 0 | 1 dot |
| Duplex | Duplex mode (second) | -70 to 70 | 0 | 1 dot |

5. Change the setting value using the cursor left/rigrt keys or numeric keys.
   For output example 1, increase the value. For output example 2, decrease the value.

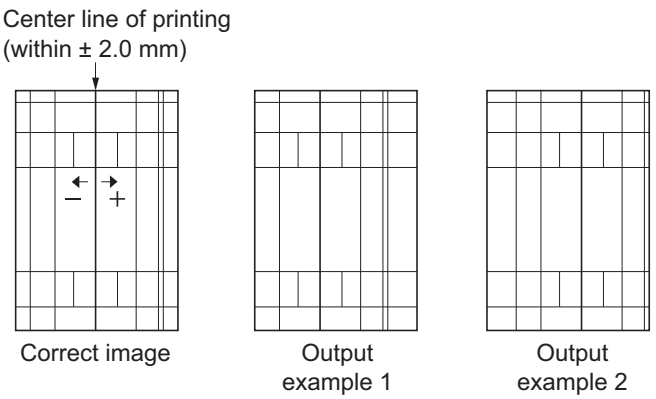



**Figure 1-3-3**

6. Press the start key. The value is set.

**Caution**
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.

U034 → U067 (P.1-3-22) → U072 (P.1-3-27)

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U065 | **Adjust Scanner Motor Speed**<br><br>**Description**<br>Adjusts the magnification of the original scanning.<br>**Purpose**<br>Make the adjustment if the magnification in the main scanning direction is incorrect.<br>Make the adjustment if the magnification in the auxiliary scanning direction is incorrect.<br><br>**Method**<br>1. Press the start key.<br>2. Press the system menu key.<br>3. Place an original and press the start key to make a test copy.<br>4. Press the system menu key.<br>5. Select the item to be adjusted. |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Main Scan | Scanner magnification in the main scanning direction | -32 to 127 | 0 | 0.1 % |
| Sub Scan | Scanner magnification in the auxiliary scanning direction | -25 to 25 | 0 | 0.1 % |

**Adjustment: [Main Scan]**

1. Change the setting value using the cursor left/rigrt keys or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.
   Increasing the setting enlarges the image and decreasing it narrows the image.

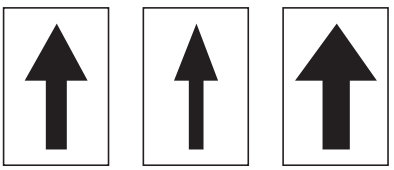
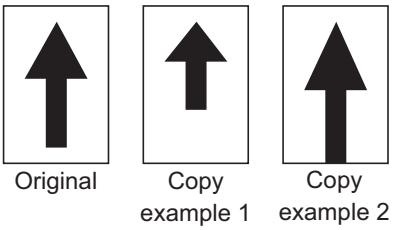



**Figure 1-3-4**

2. Press the start key. The value is set.

| Item No. | Description |
|---|---|
| U065 | **Adjustment: [Sub Scan]**<br>1. Change the setting value using the left/rigrt keys or numeric keys.<br>For copy example 1, increase the value. For copy example 2, decrease the value.<br>Increasing the value makes the image longer, while decreasing the value makes the image shorter.<br>  <br><br>**Figure 1-3-5**<br>2. Press the start key. The value is set.<br><br>**Completion**<br>Press the stop key. The screen for selecting a maintenance item No. is displayed. |

| Item No. | Description |
|---|---|
| U066 | **Adjust Table Leading Edge Timing** |

**Description**
Adjusts the scanner leading edge registration of the original scanning.
**Purpose**
Make the adjustment if there is a regular error between the leading edges of the copy image and original.

**Adjustment**
1. Press the start key.
2. Press the system menu key.
3. Place an original and press the start key to make a test copy.
4. Press the system menu key.
5. Select the item to be adjusted.

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Front | Scanner leading edge registration | -45 to 45 | 0 | 0.086 mm |
| Rotate | Scanner leading edge registration (rotate copying) | -45 to 45 | 0 | 0.086 mm |

6. Change the setting value using the cursor left/right keys or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.
   Increasing the value moves the image forward and decreasing the value moves the image backward.

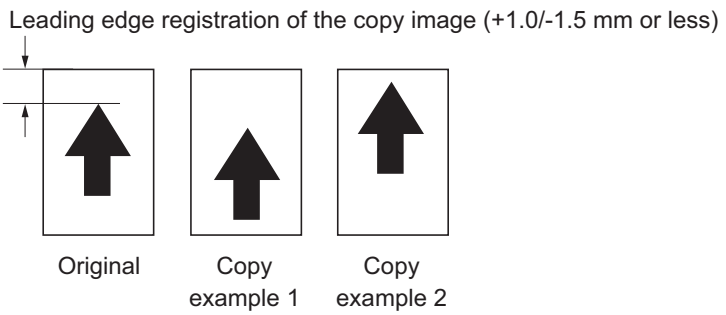
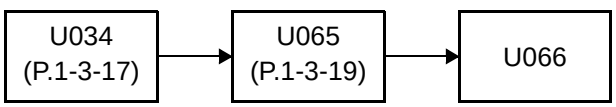



**Figure 1-3-6**

7. Press the start key. The value is set.

**Caution**
If the above adjustment does not optimize the leading edge registration, proceed with the following maintenance modes.




**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U067 | **Adjust Table Center**<br><br>**Description**<br>Adjusts the scanner center line of the original scanning.<br>**Purpose**<br>Make the adjustment if there is a regular error between the center lines of the copy image and original.<br><br>**Adjustment**<br>1. Press the start key.<br>2. Press the system menu key.<br>3. Place an original and press the start key to make a test copy.<br>4. Press the system menu key.<br>5. Select the item to be adjusted. |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Front | Scanner center line | -70 to 70 | 0 | 0.085 mm |
| Rotate | Scanner center line (rotate copying) | -40 to 40 | 0 | 0.085 mm |

6. Change the setting value using the cursor left/right keys or numeric keys.
   For copy example 1, decrease the value. For copy example 2, increase the value.
   Increasing the value moves the image leftward and decreasing it moves the image rightward.

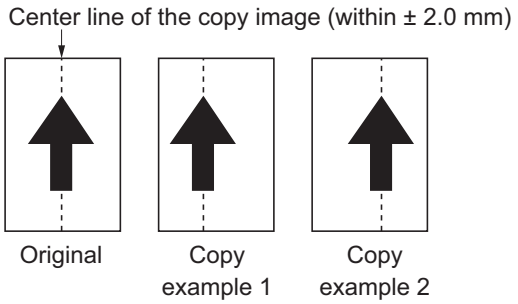
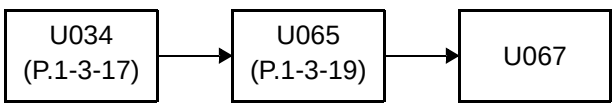



**Figure 1-3-7**

7. Press the start key. The value is set.

**Caution**
If the above adjustment does not optimize the center line, proceed with the following maintenance modes.




**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U068 | **Adjust DP Scan Position**<br><br>**Description**<br>Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.<br>**Purpose**<br>Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed.<br><br>**Setting**<br>1. Press the start key.l |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| DP Read | Starting position adjustment for scanning originals | -33 to 33 | 0 | 0.086 mm |
| Black Line | Scanning position for the test copy originals | 0 to 3 | 0 | 0.22 mm |

2. Select [DP Read].
3. Change the setting using the cursor left/right keys or numeric keys.
   When the setting value is increased, the scanning position moves to the right and it moves to the left when the setting value is decreased.
4. Press the start key. The value is set.
5. Select [Black Line].
6. Change the setting using the left/right keys or numeric keys.
7. Press the start key. The value is set.
8. Set the original (the one which density is known) in the DP and press the system menu key.
9. Press the start key. Test copy is executed.
10. Perform the test copy at each scanning position with the setting value from 0 to 3 and check that no black line appears and the image is normally scanned.

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U070 | **Adjust DP Motor Speed**<br><br>**Description**<br>Adjusts the DP original scanning speed.<br>**Purpose**<br>Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used.<br><br>**Adjustment**<br>1. Press the start key.<br>2. Press the system menu key.<br>3. Place an original on the DP and press the start key to make a test copy.<br>4. Press the system menu key.<br>5. Select [Convey Speed]. |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Convey Speed | Magnification in the auxiliary scanning direction of CCD (first side) | -25 to 25 | 0 | 0.1 % |

6. Change the setting value using the cursor left/right keys or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.
   Increasing the value makes the image longer, while decreasing the value makes the image shorter.

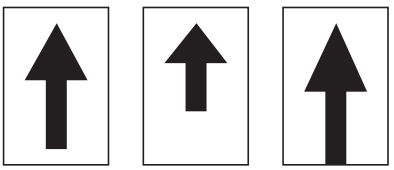


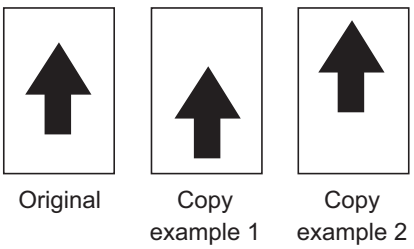
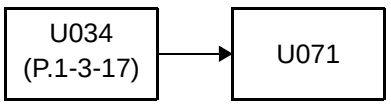
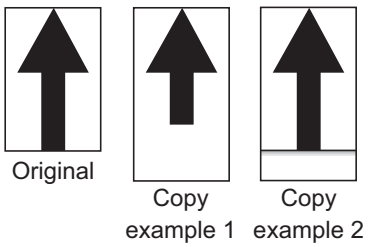

**Figure 1-3-8**

7. Press the start key. The value is set.

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U071 | **Adjust DP Leading Edge Timing**<br><br>**Description**<br>Adjusts the DP original scanning timing.<br>**Purpose**<br>Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used.<br><br>**Method**<br>1. Press the start key.<br>2. Press the system menu key.<br>3. Place an original on the DP and press the start key to make a test copy.<br>4. Press the system menu key.<br>5. Select the item to be adjusted.l |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Front Head | Leading edge registration of CCD (first side) | -32 to 32 | 0 | 0.196 mm |
| Front Tail | Trailing edge registration of CCD (first side) | -32 to 32 | 0 | 0.196 mm |
| Back Head | Leading edge registration of CCD (second side) | -45 to 45 | 0 | 0.196 mm |
| Back Tail | Trailing edge registration of CCD (second side) | -45 to 45 | 0 | 0.196 mm |
| Rotate | Leading edge registration (rotate copying) | -128 to 127 | 0 | 0.196 mm |

| Item No. | Description |
|---|---|
| U071 | **Adjustment: Leading edge registration**<br>1. Change the setting value using the cursor left/right keys or numeric keys.<br>For copy example 1, increase the value. For copy example 2, decrease the value.<br>Increasing the value moves the image forward and decreasing the value moves the image backward.<br>  <br><br>**Figure 1-3-9**<br>2. Press the start key. The value is set.<br><br>**Caution**<br>If the first side is adjusted, check the second side and if adjustment is required, carry out the adjustment.<br>If the above adjustment does not optimize the leading edge registration, proceed with the following maintenance modes.<br>  <br><br><br>**Adjustment: Trailing edge registration**<br>1. Change the setting value using the cursor left/right keys or numeric keys.<br>For copy example 1, increase the value. For copy example 2, decrease the value.<br>  <br><br>**Figure 1-3-10**<br>2. Press the start key. The value is set.<br><br>**Caution**<br>If the first side is adjusted, check the second side and if adjustment is required, carry out the adjustment.<br><br>**Completion**<br>Press the stop key. The screen for selecting a maintenance item No. is displayed. |

| Item No. | Description |
|---|---|
| U072 | **Adjust DP Original Center**<br><br>**Description**<br>Adjusts the scanning start position for the DP original.<br>**Purpose**<br>Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used.<br><br>**Adjustment**<br>1. Press the start key.<br>2. Press the system menu key.<br>3. Place an original on the DP and press the start key to make a test copy.<br>4. Press the system menu key.<br>5. Select the item to be adjusted.l |

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Front | DP center line (first side) | -39 to 39 | - | 0.085 mm |
| Back | DP center line (second side) | -39 to 39 | - | 0.085 mm |
| Rotate | DP center line (rotate copying) | -39 to 39 | 0 | 0.085 mm |

6. Change the setting value using the cursor left/right keys or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.
   Increasing the value moves the image rightward and decreasing it moves the image leftward.

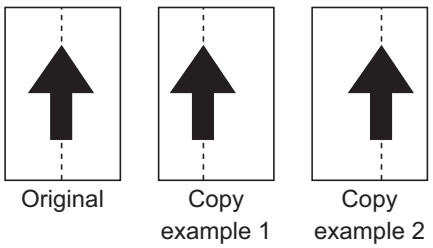
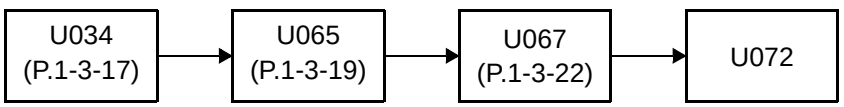



**Figure 1-3-11**

7. Press the start key. The value is set.

**Caution**
If the first side is adjusted, check the second side and if adjustment is required, carry out the adjustment.
If the above adjustment does not optimize the center line, proceed with the following maintenance modes.




**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U130</td><td>
Set Toner Install<br><br>
Description<br>
To set ON/OFF of the toner installation mode.<br>
Purpose<br>
Toner installation is performed at the time of a machine setup.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select [Mode].<br>
3. Set at On or Off.<br>
4. Press the start key.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Mode</td><td>Setting a toner installation mode.</td></tr>
</table>
* : 0:Off / 1:On<br>
* : The toner installation is performed when power is turned on and off.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U203</td><td>
Checking DP operation<br><br>
Description<br>
Simulates the original conveying operation separately in the DP.<br>
Purpose<br>
To check the DP operation.<br><br>
Method<br>
1. Press the start key.<br>
2. Place an original in the DP if running this simulation with paper.<br>
3. Select the speed to be operated using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>NORMAL SPEED</td><td>Normal reading (600 dpi)</td></tr>
<tr><td>HIGH SPEED</td><td>High-speed reading</td></tr>
</table>
4. Press the start key.<br>
5. Select the item to be operated using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD ADP (NON P)</td><td>Without paper, single-sided original of CCD (continuous operation)</td></tr>
<tr><td>CCD ADP</td><td>With paper, single-sided original of CCD</td></tr>
<tr><td>CCD RADP (NON P)</td><td>Without paper, double-sided original of CCD (continuous operation)</td></tr>
<tr><td>CCD RADP</td><td>With paper, double-sided original of CCD</td></tr>
</table>
6. Press the start key. The operation starts.<br>
7. To stop continuous operation, press the stop key.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U207</td><td>
Checking the operation panel keys<br><br>
Description<br>
Checks operation of the operation panel keys.<br>
Purpose<br>
To check operation of all the keys and LEDs on the operation panel.<br><br>
Method<br>
1. Press the start key. The screen for executing is displayed.<br>
2. [Count0] is displayed and the left most LED on the operation panel lights.<br>
3. As the keys lined up in the same line as the lit indicator are pressed in the order from the top to the bottom, the figure shown on the touch panel increases in increments of 1. When all the keys in that line are pressed and if there are any LEDs corresponding to the keys in the line on the immediate right, the top LED in that line will light.<br>
4. When all the keys on the operation panel have been pressed, all the LEDs light for up to 10 seconds.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U222</td><td>
Setting the IC card type<br><br>
Description<br>
Sets the type of IC card.<br>
Purpose<br>
To change the type of IC card.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select the item using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>OTHER</td><td>The type of IC card is SSFC.</td></tr>
<tr><td>SSFC</td><td>The type of IC card is not SSFC.</td></tr>
</table>
* : Initial setting: OTHER<br>
3. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U250</td><td>
Setting the maintenance cycle<br><br>
Description<br>
Displays, clears and changes the maintenance cycle.<br>
Purpose<br>
To check and change the maintenance cycle.<br><br>
Method<br>
1. Press the start key. The currently set maintenance cycle is displayed.<br><br>
Setting<br>
1. Select [M.CNT A] using the cursor up/down keys.<br>
2. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Maintenance cycle</td><td>0 to 9999999</td><td>100000</td></tr>
</table>
3. Press the start key. The value is set.<br><br>
Clearing<br>
1. Select [CLEAR] using the cursor up/down keys.<br>
2. Press the start key. The count is cleared.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U251</td><td>
Checking/clearing the maintenance count<br><br>
Description<br>
Displays, clears and changes the maintenance count.<br>
Purpose<br>
To check the maintenance count.<br>
Also to clear the count during maintenance service (replacing the maintenance kit).<br><br>
Method<br>
1. Press the start key. The maintenance count is displayed.<br><br>
Setting<br>
1. Select [M.CNT A] using the cursor up/down keys.<br>
2. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Maintenance count</td><td>0 to 9999999</td><td>0</td></tr>
</table>
3. Press the start key. The count is set.<br><br>
Clearing<br>
1. Select [CLEAR] using the cursor up/down keys.<br>
2. Press the start key. The count is cleared.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U252</td><td>
Setting the destination<br><br>
Description<br>
Switches the operations and screens of the machine according to the destination.<br>
Purpose<br>
To be executed after initializing the backup RAM, in order to return the setting to the value before replacement or initialization.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select the destination using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>INCH</td><td>Inch (North America) specifications</td></tr>
<tr><td>EUROPE METRIC</td><td>Metric (Europe) specifications</td></tr>
<tr><td>ASIA PACIFIC</td><td>Metric (Asia Pacific) specifications</td></tr>
<tr><td>AUSTRALIA</td><td>Australia specifications</td></tr>
<tr><td>CHINA</td><td>China specifications</td></tr>
<tr><td>KOREA</td><td>Korea specifications</td></tr>
</table>
3. Press the start key.<br>
4. Turn the power switch off and on.
</td></tr>
<tr><td>U253</td><td>
Switching between double and single counts<br><br>
Description<br>
Switches the count system for the total counter and other counters.<br>
Purpose<br>
Used to select, according to the preference of the user (copy service provider), if folio size paper is to be counted as one sheet (single count) or two sheets (double count).<br><br>
Setting<br>
1. Press the start key.<br>
2. Select the count system using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SGL COUNT(ALL)</td><td>Single count for all size paper</td></tr>
<tr><td>DBL COUNT(FOLIO)</td><td>Double count for Folio size or larger</td></tr>
</table>
* : Initial setting: DBL COUNT(FOLIO)<br>
3. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U260</td><td>
Selecting the timing for copy counting<br><br>
Description<br>
Changes the copy count timing for the total counter and other counters.<br>
Purpose<br>
To be set according to user request.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select the copy count timing using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FEED</td><td>When secondary paper feed starts</td></tr>
<tr><td>EJECT</td><td>When the paper is ejected</td></tr>
</table>
* : Initial setting: EJECT<br>
3. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U265</td><td>
Setting OEM purchaser code<br><br>
Description<br>
Sets the OEM purchaser code.<br>
Purpose<br>
Sets the code when replacing the main PWB and the like.<br><br>
Setting<br>
1. Press the start key.<br>
2. Change the setting value using the numeric keys.<br>
3. Press the start key. The setting is set.<br>
4. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.
</td></tr>
<tr><td>U285</td><td>
Setting service status page<br><br>
Description<br>
Determines displaying the digital dot coverage report on reporting.<br>
Purpose<br>
According to user request, changes the setting.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select ON or OFF using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Displays the digital dot coverage</td></tr>
<tr><td>OFF</td><td>Not to display the digital dot coverage</td></tr>
</table>
* : Initial setting: ON<br>
3. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U332</td><td>
Setting the size conversion factor<br><br>
Description<br>
Sets the coefficient of nonstandard sizes in relation to the A4/Letter size. The coefficient set here is used to convert the black ratio in relation to the A4/Letter size and to display the result in user simulation.<br>
Purpose<br>
To set the coefficient for converting the black ratio for nonstandard sizes in relation to the A4/Letter size.<br><br>
Setting<br>
1. Press the start key.<br>
2. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>CALC.RATE</td><td>Size parameter</td><td>0.1 to 3.0</td><td>1.0</td></tr>
</table>
3. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U345</td><td>
Setting the value for maintenance due indication<br><br>
Description<br>
Sets when to display a message notifying that the time for maintenance is about to be reached, by setting the number of copies that can be made before the current maintenance cycle ends. When the difference between the number of copies of the maintenance cycle and that of the maintenance count reaches the set value, the message is displayed.<br>
Purpose<br>
To change the time for maintenance due indication.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select [COUNT] using the cursor up/down keys.<br>
3. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Time for maintenance due indication<br>(Remaining number of copies that can be made before the current maintenance cycle ends)</td><td>0 to 9999</td><td>0</td></tr>
</table>
4. Press the start key. The value is set.<br><br>
Clearing<br>
1. Select [CLEAR] using the cursor up/down keys.<br>
2. Press the start key. The value is cleared.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U346</td><td>

**Selecting Sleep Mode**

**Description**
Switches configurations for sleep modes.
**Purpose**
Use this to switch configurations for sleep modes.

**Method**
1. .Select the item to set.

| Display | Description |
|---|---|
| Timer/Sleep Level | Undisplayed setting of BAM conformity Timer change and Sleep Level |
| Auto Sleep | On/Off setting of an Auto Sleep function |

**Setting:**Timer/Sleep Level
1. Select On or Off.

| Display | Description |
|---|---|
| More Energy Save | BAM fit setting On |
| Less Energy Save | BAM fit setting Off |

Initial setting: More Energy Save
2. Press the start key. The setting is set.
3. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.

**Setting:**Auto Sleep
1. Press the start key.
2. Select On or Off.

| Display | Description |
|---|---|
| On | On setting |
| Off | Off setting |

Initial setting: On
3. Press the start key. The setting is set.

**Completion**
Press the stop key.
* : The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

| Item No. | Description |
|---|---|
| U402 | **Adjust Print Margin** |

**Description**
Adjusts margins for image printing.
**Purpose**
Make the adjustment if margins are incorrect.

**Adjustment**
1. Press the start key.
2. Press the system menu key.
3. Press the start key to output a test pattern.
4. Press the system menu key.
5. Select the item to be adjusted.

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| Lead | Printer leading edge margin | 0.0 to 10.0 | 4.0 | 0.1mm |
| A Margin | Printer left margin | 0.0 to 10.0 | 3.0 | 0.1mm |
| C Margin | Printer right margin | 0.0 to 10.0 | 3.0 | 0.1mm |
| Trail | Printer trailing edge margin | 0.0 to 10.0 | 3.9 | 0.1mm |

6. Change the setting value using the cursol left/right keys or numeric keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

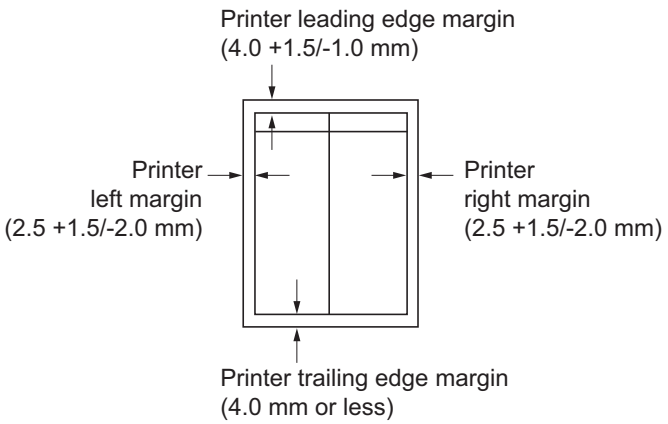
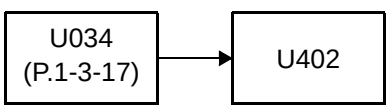



**Figure 1-3-12**

7. Press the start key. The value is set.

**Caution**
If the above adjustment does not optimize the margins, perform the following maintenance modes.




**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U403 | **Adjust Scanning Margin(Table)** |

**Description**
Adjusts margins for scanning the original on the contact glass.
**Purpose**
Make the adjustment if margins are incorrect.

**Adjustment**
1. Press the start key.
2. Press the system menu key.
3. Place an original and press the start key to make a test copy.
4. Press the system menu key.
5. Select the item to be adjusted.

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| A Margin | Scanner left margin | 0.0 to 10.0 | 2.0 | 0.5 mm |
| B Margin | Scanner leading edge margin | 0.0 to 10.0 | 2.0 | 0.5 mm |
| C Margin | Scanner right margin | 0.0 to 10.0 | 2.0 | 0.5 mm |
| D Margin | Scanner trailing edge margin | 0.0 to 10.0 | 2.0 | 0.5 mm |

6. Change the setting value using the cursor left/right keys or numeric keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

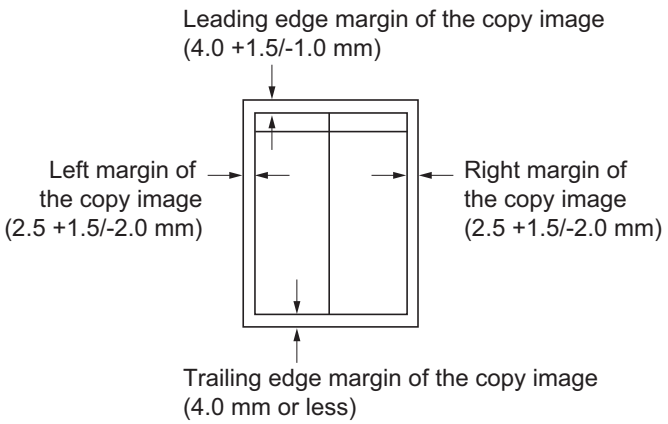
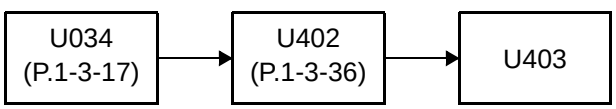



**Figure 1-3-13**

7. Press the start key. The value is set.

**Caution**
If the above adjustment does not optimize the margins, perform the following maintenance modes.




**Completion**
Press the stop key. The indication for selecting a maintenance item No. appears.

| Item No. | Description |
|---|---|
| U404 | **Adjust Scanning Margin(DP)** |

**Description**
Adjusts margins for scanning the original from the DP.
**Purpose**
Make the adjustment if margins are incorrect.

**Adjustment**
1. Press the start key.
2. Press the system menu key.
3. Place an original on the DP and press the start key to make a test copy.
4. Press the system menu key.
5. Select the item to be adjusted.

| Display | Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|---|
| A Margin | DP left margin | 0.0 to 10.0 | 3.0 | 0.5 mm |
| B Margin | DP leading edge margin | 0.0 to 10.0 | 2.5 | 0.5 mm |
| C Margin | DP right margin | 0.0 to 10.0 | 3.0 | 0.5 mm |
| D Margin | DP trailing edge margin | 0.0 to 10.0 | 4.0 | 0.5 mm |

6. Change the setting value using the cursor left/right keys or numeric keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

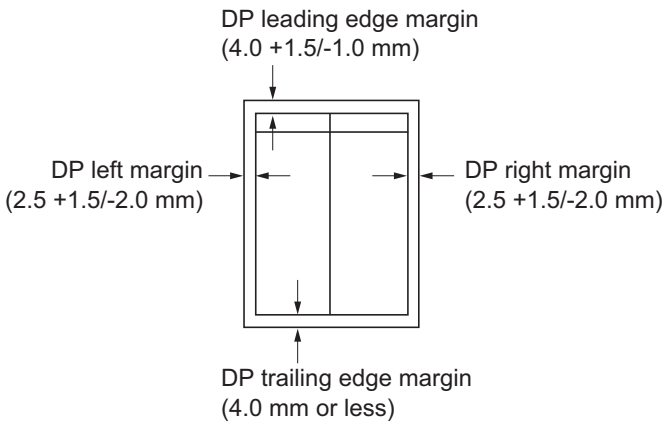


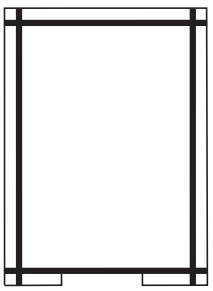

**Figure 1-3-14**

7. Press the start key. The value is set.

**Caution**
If the above adjustment does not optimize the margins, perform the following maintenance modes.

U034 (P.1-3-17) → U402 (P.1-3-36) → U403 (P.1-3-37) → U404

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U411</td><td>
Auto Adj Scn<br><br>
Description<br>
Uses a specified original and automatically adjusts the following items in the scanner and the DP scanning sections.<br>
Scanner section: Original size magnification, leading edge timing, center line, input gamma, input gamma in monochrome mode and matrix.<br>
DP scanning section: Original size magnification, leading edge timing, center line.<br>
Purpose<br>
To perform automatic adjustment of various items in the scanner and the DP scanning sections.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item. The screen for executing is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr>
<tr><td>Table</td><td>Automatic adjustment in the scanner section.<br><br>Equal magnification (sub scanning direction), leading edge timing, center line, input gamma, input gamma in monochrome mode and matrix, chromatic aberration.</td><td>302NM94340<br> </td></tr>
<tr><td>DP</td><td>Automatic adjustment in the DP scanning section.<br><br>Original size magnification, leading edge timing, center line.</td><td>302NM94330<br>  </td></tr>
<tr><td>All</td><td>Performs automatic adjustment in the DP scanning section following automatic adjustment in the scanner section.</td><td>302NM94340<br>302NM94330</td></tr>
<tr><td>Target</td><td>Set-up for obtaining the target value</td><td>302NM94340<br>302NM94330</td></tr>
</table>
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U411 | **Method: Table**<br>**To Automaticary enter the target value** : Usually, it adjusts here**.**<br>1. Set a specified original (P/N: 302NM94340) on the platen.<br>2. Enter maintenance item U411.<br>3. Select [Target].<br>4. Select [Auto] and press the start key.<br>5. Select [Table].<br>6. Press the start key. Auto adjustment starts.<br><br>**To manually enter the target value** : When adjustment is automatically impossible.<br>1. Enter the target values which are shown on the specified original (P/N: 302NM94340) executing maintenance item U425.<br>2. Set a specified original (P/N: 302NM94340) on the platen.<br>3. Enter maintenance item U411.<br>4. Select [Target].<br>5. Select [U425] and press the start key.<br>6. Select [Table].<br>7. Press the start key. Auto adjustment starts.<br><br>**Method: DP**<br>1. Set a specified original (P/N: 302NM94330) on the DP face up.<br>2. Enter maintenance item U411.<br>3. Select [DP].<br>4. Press the start key. Auto adjustment starts.<br><br>* : When automatic adjustment has normally completed, [OK] is displayed. If a problem occurs during auto adjustment, error code is displayed and operation stops. Should this happen, determine the details of the problem and repeat the procedure from the beginning.<br><br>**Error Codes** |

| Codes | Description |
|---|---|
| 00 | Automatic adjustment success |
| 01 | Black band detection error (scanner auxiliary scanning direction leading edge skew ) |
| 02 | Black band detection error (scanner main scanning direction far end skew) |
| 03 | Black band detection error (scanner main scanning direction near end skew) |
| 03 | Black band detection error (scanner auxiliary scanning direction trailing edge skew) |
| 04 | Black band is not detected (scanner auxiliary scanning direction leading edge) |
| 05 | Black band is not detected (scanner main scanning direction far end) |

| Item No. | Description |
|---|---|
| U411 | **Error Codes** |

| Codes | Description |
|---|---|
| 06 | Black band is not detected (scanner main scanning direction near end) |
| 07 | Black band is not detected (scanner auxiliary scanning direction trailing edge) |
| 08 | Black band is not detected (DP main scanning direction far end) |
| 09 | Black band is not detected (DP main scanning direction near end) |
| 0a | Black band is not detected (DP auxiliary scanning direction leading edge) |
| 0b | Black band is not detected (DP auxiliary scanning direction leading edge original check) |
| 0c | Black band is not detected (DP auxiliary scanning direction trailing edge) |
| 0d | White band is not detected (DP auxiliary scanning direction trailing edge) |
| 0e | DMA time out |
| 0f | Auxiliary scanning direction magnification error |
| 10 | Auxiliary scanning direction leading edge error |
| 11 | Auxiliary scanning direction trailing edge error |
| 12 | DP uxiliary scanning direction skew error |
| 13 | Maintenance request error |
| 14 | Main scanning direction center line error |
| 15 | DP main scanning direction skew error |
| 16 | Main scanning direction magnification error |
| 17 | Service call error |
| 18 | DP paper misfeed error |
| 19 | PWB replacement error |
| 1a | Original error |
| 1b | Input gamma adjustment original error |
| 1c | Matrix adjustment original error |
| 1d | Original for the white reference compensation coefficient error |
| 1e | Lab value searching error |
| 1f | Lab value comparing error |
| 20 | Input gamma correction coefficient error |
| 21 | Color correction matrix coefficient error |
| 30 | Chromatic aberration adjustment original error |
| 63 | Completed to obtain a test RAW |

**Completion**

Press the stop key. The screen for selecting a maintenance item is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U425</td><td>
Set Target<br><br>
Description<br>
Enters the lab values that is indicated on the back of the chart (P/N:  302NM94340) used for adjustment.<br>
Purpose<br>
Performs data input in order to correct for differences in originals during automatic adjustment.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Table</td><td>Setting the value of the table adjustment.</td></tr>
<tr><td>DP</td><td>Setting the value of DP adjustment.</td></tr>
</table>
<br>
Method: Table<br>
1. Press the start key.<br>
2. Select the item to be set..
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>White</td><td>Setting the white patch for the original for adjustment</td></tr>
<tr><td>Black</td><td>Setting the black patch for the original for adjustment</td></tr>
<tr><td>Gray1</td><td>Setting the Gray1 patch for the original for adjustment</td></tr>
<tr><td>Gray2</td><td>Setting the Gray2 patch for the original for adjustment</td></tr>
<tr><td>Gray3</td><td>Setting the Gray3 patch for the original for adjustment</td></tr>
<tr><td>C</td><td>Setting the cyan patch for the original for adjustment</td></tr>
<tr><td>M</td><td>Setting the magenta patch for the original for adjustment</td></tr>
<tr><td>Y</td><td>Setting the yellow patch for the original for adjustment</td></tr>
<tr><td>R</td><td>Setting the red patch for the original for adjustment</td></tr>
<tr><td>G</td><td>Setting the green patch for the original for adjustment</td></tr>
<tr><td>B</td><td>Setting the blue patch for the original for adjustment</td></tr>
<tr><td>Adjust Original</td><td>Setting the main and auxiliary scanning directions</td></tr>
</table>
3. Select the item to be set.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>L</td><td>Setting the L value</td><td>0.0 to 100.0</td><td>93.6/10.6/76.2/25.2/51.3<br>72.6/48.1/86.2/46.7/67.8/38.8</td></tr>
<tr><td>a</td><td>Setting the a value</td><td>-200.0 to 200.0</td><td>0.9/-0.2/-0.2/-0.2/-0.3<br>-32.8/69.9/-18.6/54.2/-51.3/25.3</td></tr>
<tr><td>b</td><td>Setting the b value</td><td>-200.0 to 200.0</td><td>-0.4/-0.7/1.2/-0.2/0.3<br>-11.5/-6.1/81.7/38.6/48.9/-22.8</td></tr>
</table>
4. Enters the value that is indicated on the back of the chart using the cursor right/left keys or numeric keys.<br>
5. Press the start key. The value is set.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U425 | **Setting: [Adjust Original] *:** This setting is usually unnecessary. |

| Display | Description | Setting range | Initial setting |
|---|---|---|---|
| Dist1 | Sets the adjustment value of a leading edge. | 4.0 to 6.0 | 5.0 |
| Dist2 | Sets the adjustment value of a left edge. | 9.0 to 11.0 | 10.0 |
| Dist3 | Sets the adjustment value of a trailing edge. | 265.0 to 267.0 | 266.0 |

1. Measure the distance from the leading edge to the top of black belt 1 of the original at A, B and C.
   Measurement procedure
   1) Measure the distance from the leading edge to the top of black belt 1 of the original at A (30 mm from the left edge), B (105 mm from the left edge) and C (180 mm from the left edge), respectively.
   2) Apply the following formula for the values obtained: ((A + B + C) / 3)
2. Enter the values solved using the cursor right/left keys or numeric keys in [Dist1].
3. Press the start key. The value is set.
4. Measure the distance from the left edge to the right edge black belt 2 of the original at F.
   Measurement procedure
   1) Measure the distance from the left edge to the right edge black belt 2 of the original at F (21 mm from the top edge of black belt 1).
5. Enter the values using the cursor right/left keys or numeric keys in [Dist2].
6. Press the start key. The value is set.
7. Measure the distance from the top edge of black belt 1 to the bottom of black belt 3 of the original at D and E.
   1) Measure the distance from the top edge of black belt 1 to the bottom of black belt 3 of the original at D (30 mm from the left edge) and E (180 mm from the left edge), respectively.
   2) Apply the following formula for the values obtained: (D/2 + E/2)
8. Enter the measured value using the cursor right/left keys or numeric keys in [Dist3].

Press the start key. The value is set.

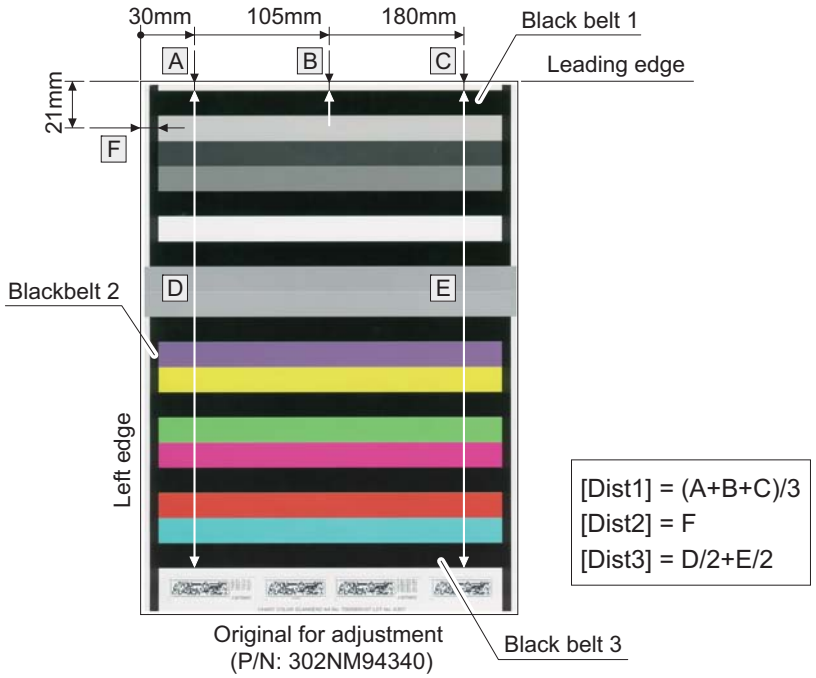
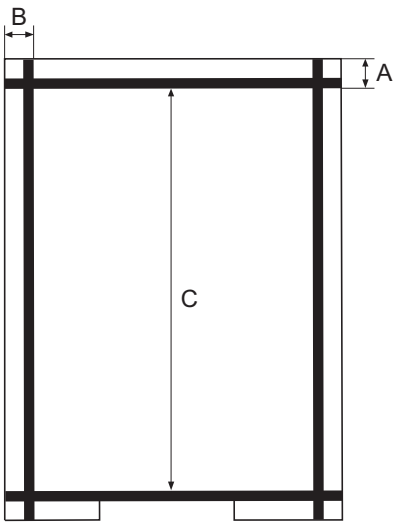



**Figure 1-3-15**

| Item No. | Description |
|---|---|
| U425 | **Setting: [DP] *:** This setting is usually unnecessary. |

| Display | Description | Setting range | Initial setting |
|---|---|---|---|
| Lead | A value of length of detecting the leading edge. | 14.0 to 16.0 | 15.0 |
| Main Scan | A value of width of main scan. | 14.0 to 16.0 | 15.0 |
| Sub Scan | A value of length of sub scan. | 265.0 to 269.0 | 267.0 |

1. Measure the distance from the leading edge to the black belt (inside) of the original at A.
2. Enter the measured value using the cursor right/left keys or numeric keys in [Lead].
3. Measure the distance from the left edge to the black belt (inside) of the original at B.
4. Enter the measured value using the cursor right/left keys or numeric keys in [Main Scan].
5. Measure the distance from the black belt of leading edge (inside) to the black belt of trailing edge (inside) of the original at C.
6. Enter the measured value using the cursor right/left keys or numeric keys in [Sub Scan].
7. Press the start key. The value is set.




Original for adjustment (P/N: 302NM94330)

**Figure 1-3-16**

**Completion**

Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U600 | **Initializing all data**<br><br>**Description**<br>Initializes software switches and all data in the backup data on the FAX control PWB, according to the destination and OEM.<br>Executes the check of the file system, when abnormality of the file system is detected, initializes the file system, communication past record and register setting contents.<br>**Purpose**<br>To initialize the FAX control PWB.<br><br>**Method**<br>1. Press the start key.<br>The screen for entering the destination code and OEM code is displayed.<br>2. Select [Country Code] and enter a destination code using the numeric keys (refer to the destination code list on following for the destination code).<br>OEM code is no operation necessary.<br>3. Select [Execute] and press the start key. Data initialization starts. To cancel data initialization, press the stop key.<br>4. After data initialization, the entered destination, OEM codes and ROM version are displayed.<br>A ROM version displays three kinds, application, boot, and IPL.<br><br>**Destination code list** |

| Code | Destination | Code | Destination |
|---|---|---|---|
| 000 | Japan | 250 | Russia |
| 007 | Argentina | 253 | CTR21 (European nations) |
| 009 | Australia | | Italy |
| 022 | Brazil | | Germany |
| 038 | China | | Spain |
| 080 | Hong Kong | | U.K. |
| 084 | Indonesia | | Netherlands |
| 088 | Israel | | Sweden |
| 097 | Korea | | France |
| 108 | Malaysia | | Austria |
| 115 | Mexico | | Switzerland |
| 126 | New Zealand | | Belgium |
| 136 | Peru | | Denmark |
| 137 | Philippines | | Finland |
| 152 | Saudi Arabiat | | Portugal |
| 156 | Singapore | | Ireland |
| 159 | South Africa | | Norway |
| 169 | Thailand | 254 | Taiwan |
| 181 | U.S.A. | | |

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U601</td><td>
Initializing permanent data<br><br>
Description<br>
Initializes software switches on the FAX control PWB according to the destination and OEM.<br>
Purpose<br>
To initialize the FAX control PWB without changing user registration data.<br><br>
Method<br>
1. Press the start key.<br>
The screen for entering the destination code and OEM code is displayed.<br>
2. Select [Country Code] and enter a destination code using the numeric keys (refer to the destination code list on following for the destination code).<br>
OEM code is no operation necessary.<br>
3. Select [Execute] and press the start key. Data initialization starts. To cancel data initialization, press the stop key.<br>
4. After data initialization, the entered destination, OEM codes and ROM version are displayed.<br>
A ROM version displays three kinds, application, boot, and IPL.
</td></tr>
<tr><td>U603</td><td>
Setting user data 1<br><br>
Description<br>
Makes user settings to enable the use of the machine as a fax.<br>
Purpose<br>
To be run after installation of the facsimile kit if necessary.<br><br>
Method<br>
1. Press the start key.<br>
2. Select [LINE TYPE] and press the start key.<br>
3. Select the setting using the cursor up/down keys.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DTMF</td><td>DTMF</td></tr>
<tr><td>10PPS</td><td>10 PPS</td></tr>
<tr><td>20PPS</td><td>20 PPS</td></tr>
</table>
* : Initial setting: DTMF<br>
4. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U604</td><td>
Setting user data 2<br><br>
Description<br>
Makes user settings to enable the use of the machine as a fax.<br>
Purpose<br>
Use this if the user wishes to adjust the number of rings that occur before the unit switches into fax receiving mode when fax/telephone auto-select is enabled.<br><br>
Method<br>
1. Press the start key.<br>
2. Select [RINGS(F/P)#].<br>
3. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of fax/telephone rings</td><td>0 to 15</td><td>2 (120 V)/1 (220-240 V)</td></tr>
</table>
* : If you set this to 0, the unit will start fax reception without any ringing.<br>
4. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U605</td><td>
Clearing data<br><br>
Description<br>
Initializes data related to the fax transmission such as transmission history.<br>
Purpose<br>
To clear the transmission history.<br><br>
Method<br>
1. Press the start key.<br>
2. Select [CLEAR COM.REC.].<br>
3. Press the start key. Initialization processing starts. When processing is finished, [Completed] is displayed.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U610 | **Setting system 1**<br><br>**Description**<br>Makes settings for fax reception regarding the sizes of the fax paper and received images and automatic printing of the protocol list.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys. |

| Display | Description |
|---|---|
| CUT LINE:100% | Sets the number of lines to be ignored when receiving a fax at 100% magnification. |
| CUT LINE:AUTO | Sets the number of lines to be ignored when receiving a fax in the auto reduction mode. |
| CUT LINE:A4 | Sets the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode. |

**Setting the number of lines to be ignored when receiving a fax at 100% magnification**
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when recording the data at 100% magnification. If the number of excess lines is below the setting, those lines are ignored. If over the setting, they are recorded on the next page.

1. Change the setting using the cursor left/right keys or numeric keys.

| Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|
| Number of lines to be ignored when receiving at 100% | 0 to 22 | 3 | 16 lines |

* : Increase the setting if a blank second page is output, and decrease it if the received image does not include the entire transmitted data.

2. Press the start key. The value is set.

**Setting the number of lines to be ignored when receiving a fax in the auto reduction mode**
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.

1. Change the setting using the cursor left/right keys or numeric keys.

| Description | Setting range | Initial setting | Change in value per step |
|---|---|---|---|
| Number of lines to be ignored when receiving in the auto reduction mode | 0 to 22 | 0 | 16 lines |

* : Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.

2. Press the start key. The value is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U610</td><td>
Setting the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode<br>
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or LetterR paper under the conditions below.<br>
If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.<br>
1. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Number of lines to be ignored when receiving a fax (A4R, letter) in the auto reduction mode</td><td>0 to 22</td><td>0</td><td>16 lines</td></tr>
</table>
* : Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.<br>
2. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U611 | **Setting system 2**<br><br>**Description**<br>Sets the number of adjustment lines for automatic reduction.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys. |

| Display | Description |
|---|---|
| ADJ LINES | Sets the number of adjustment lines for automatic reduction. |
| ADJ LINES(A4) | Sets the number of adjustment lines for automatic reduction when A4 paper is set. |
| ADJ LINES(LT) | Sets the number of adjustment lines for automatic reduction when letter size paper is set. |

**Setting the number of adjustment lines for automatic reduction**
Sets the number of adjustment lines for automatic reduction.
1. Change the setting using the cursor left/right keys or numeric keys.

| Description | Setting range | Initial setting |
|---|---|---|
| Number of adjustment lines for automatic reduction | 0 to 22 | 7 |

2. Press the start key. The value is set.

**Setting the number of adjustment lines for automatic reduction when A4 paper is set**
Sets the number of adjustment lines for automatic reduction when A4 paper is set.
1. Change the setting using the cursor left/right keys or numeric keys.

| Description | Setting range | Initial setting |
|---|---|---|
| Number of adjustment lines for automatic reduction when A4 paper is set | 0 to 22 | 22 |

2. Press the start key. The value is set.

**Setting the number of adjustment lines for automatic reduction when letter size paper is set**
Sets the number of adjustment lines for automatic reduction when letter size paper is set.
1. Change the setting using the cursor left/right keys or numeric keys.

| Description | Setting range | Initial setting |
|---|---|---|
| Number of adjustment lines for automatic reduction when letter size paper is set | 0 to 26 | 26 |

2. Press the start key. The value is set.

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

| Item No. | Description |
|---|---|
| U612 | **Setting system 3**<br><br>**Description**<br>Makes settings for fax transmission regarding operation and automatic printing of the protocol list.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys. |

| Display | Description |
|---|---|
| AUTO REDUCTION | Selects if auto reduction in the auxiliary direction is to be performed. |
| PROTOCOL LIST | Sets the automatic printing of the protocol list. |
| DETECT TRAIL | Sets the detection of trailing edge margin. |

**Selecting if auto reduction in the auxiliary direction is to be performed**
Sets whether to receive a long document by automatically reducing it in the auxiliary direction or at 100% magnification.

1. Select the setting using the cursor left/right keys.

| Display | Description |
|---|---|
| ON | Auto reduction is performed if the received document is longer than the fax paper. |
| OFF | Auto reduction is not performed. |

* : Initial setting: ON

2. Press the start key. The setting is set.

**Setting the automatic printing of the protocol list**
Sets if the protocol list is automatically printed out.

1. Select the setting using the cursor left/right keys.

| Display | Description |
|---|---|
| ON | The protocol list is automatically printed out after communication. |
| OFF | The protocol list is not printed out automatically. |
| ERR | The protocol list is automatically printed out after communication only if a communication error occurs. |

* : Initial setting: OFF

2. Press the start key. The setting is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U612</td><td>
Selecting if detection of trail edge margin is to be performed<br>
This determines whether trailing edge margin is detected (to prevent image from being mutilated) while printing a received Fax.<br><br>
1. Select the setting using the cursor left/right keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>The trail edge margin is detected.</td></tr>
<tr><td>OFF</td><td>The trail edge margin is not detected.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U620</td><td>
Setting the remote switching mode<br><br>
Description<br>
Sets the signal detection method for remote switching. Be sure to change the setting according to the type of telephone connected to the machine.<br><br>
Setting<br>
1. Press the start key.<br>
2. Select [REMORT MODE] and press the start key.<br>
3. Select the mode using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ONE</td><td>One-shot detection</td></tr>
<tr><td>CONT</td><td>Continuous detection</td></tr>
</table>
* : Initial setting: ONE<br>
4. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U625</td><td>
Setting the transmission system 1<br><br>
Description<br>
Makes settings for the auto redialing interval and the number of times of auto redialing.<br>
Purpose<br>
Change the setting to prevent the following problems: fax transmission is not possible due to too short redial interval, or fax transmission takes too much time to complete due to too long redial interval.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>INTERVAL</td><td>Setting the auto redialing interval</td></tr>
<tr><td>TIMES</td><td>Setting the number of times of auto redialing</td></tr>
</table>
Setting the auto redialing interval<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Redialing interval</td><td>1 to 9 (min.)</td><td>3 (120 V)/2 (220-240 V)</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Setting the number of times of auto redialing<br>
1. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of redialing</td><td>0 to 15</td><td>2 (120 V)/3 (220-240 V)</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U630 | **Setting communication control 1**<br><br>**Description**<br>Makes settings for fax transmission regarding the communication.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys. |

| Display | Description |
|---|---|
| TX SPEED | Sets the communication starting speed. |
| RX SPEED | Sets the reception speed. |
| TX ECHO | Sets the waiting period to prevent echo problems at the sender. |
| RX ECHO | Sets the waiting period to prevent echo problems at the receiver. |

**Setting the communication starting speed**

Sets the initial communication speed when starting transmission. When the destination unit has V.34 capability, V.34 is selected for transmission, regardless of this setting.

1. Select the setting using the cursor up/down keys.

| Display | Description |
|---|---|
| 14400bps/V17 | V.17, 14400 bps |
| 9600bps/V29 | V.17, 9600 bps |
| 4800bps/V27ter | V.27ter, 4800 bps |
| 2400bps/V27ter | V.27ter, 2400 bps |

* : Initial setting: 14400bps/V17

2. Press the start key. The setting is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U630</td><td>
Setting the reception speed<br>
Sets the reception speed that the sender is informed of using the DIS or NSF signal. When the destination unit has V.34 capability, V.34 is selected, regardless of the setting.<br>
1. Select the setting using the cursor up/down keys.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>14400bps</td><td>V.17, V.33, V.29, V.27ter</td></tr>
<tr><td>9600bps</td><td>V.29, V.27ter</td></tr>
<tr><td>4800bps</td><td>V.27ter</td></tr>
<tr><td>2400bps</td><td>V.27ter (fallback only)</td></tr>
</table>
* : Initial setting: 14400bps<br>
2. Press the start key. The setting is set.<br><br>
Setting the waiting period to prevent echo problems at the sender<br>
Sets the period before a DCS signal is sent after a DIS signal is received. Used when problems occur due to echoes at the sender.<br>
1. Select the setting using the cursor up/down keys.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>500</td><td>Sends a DCS 500 ms after receiving a DIS.</td></tr>
<tr><td>300</td><td>Sends a DCS 300 ms after receiving a DIS.</td></tr>
</table>
* : Initial setting: 300<br>
2. Press the start key. The setting is set.<br><br>
Setting the waiting period to prevent echo problems at the receiver<br>
Sets the period before an NSF, CSI or DIS signal is sent after a CED signal is received. Used when problems occur due to echoes at the receiver.<br>
1. Select the setting using the cursor up/down keys.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>500</td><td>Sends an NSF, CSI or DIS 500 ms after receiving a CED.</td></tr>
<tr><td>75</td><td>Sends an NSF, CSI or DIS 75 ms after receiving a CED.</td></tr>
</table>
* : Initial setting: 75<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U631</td><td>
Setting communication control 2<br><br>
Description<br>
Makes settings regarding fax transmission.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ECM TX</td><td>Sets ECM transmission.</td></tr>
<tr><td>ECM RX</td><td>Sets ECM reception.</td></tr>
<tr><td>CED FREQ.</td><td>Sets the frequency of the CED signal.</td></tr>
</table>
Setting ECM transmission<br>
To be set to OFF when reduction of transmission costs is of higher priority than image quality. This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>ECM transmission is enabled.</td></tr>
<tr><td>OFF</td><td>ECM transmission is disabled.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Setting ECM reception<br>
To be set to OFF when reduction of transmission costs is of higher priority than image quality. This should not be set to OFF when connecting to the IP (Internet Protocol) telephone line.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>ECM reception is enabled.</td></tr>
<tr><td>OFF</td><td>ECM reception is disabled.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Setting the frequency of the CED signal<br>
Sets the frequency of the CED signal. Used as one of the measures to improve transmission performance for international communications.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>2100</td><td>2100 Hz</td></tr>
<tr><td>1100</td><td>1100 Hz</td></tr>
</table>
* : Initial setting: 2100<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U632</td><td>

**Setting communication control 3**

**Description**
Makes settings for fax transmission regarding the communication.

**Method**
1. Press the start key.
2. Select the item to be set using the cursor up/down keys.

| Display | Description |
|---|---|
| DIS 4BYTE | Sets the DIS signal to 4 bytes. |
| SHORT PRTCL TX | Sets the short protocol transmission. |
| SHORT PRTCL RX | Sets the reception of short protocol transmission. |
| NUM OF CNG(F/T) | Sets the CNG detection times in the fax/telephone auto select mode. |

**Setting the DIS signal to 4 bytes**
Sets if bit 33 and later bits of the DIS/DTC signal are sent.
1. Select the setting using the cursor up/down keys.

| Display | Description |
|---|---|
| ON | Bit 33 and later bits of the DIS/DTC signal are not sent. |
| OFF | Bit 33 and later bits of the DIS/DTC signal are sent. |

* : Initial setting: OFF
2. Press the start key. The setting is set.

**Setting the short protocol transmission**
Sets if short protocol transmission is performed.
1. Select the setting using the cursor up/down keys.

| Display | Description |
|---|---|
| ON | Short protocol transmission is performed. |
| OFF | Short protocol transmission is not performed. |

* : Initial setting: ON
2. Press the start key. The setting is set.

**Setting the reception of a short protocol transmission**
Selects whether to receive or ignore transmission using short protocol.
If a short protocol transmission is received when an auto switching device is attached to the machine, communication problems, including auto switching inability, sometimes occur. Change the setting to ignore short protocol transmission to prevent such problems.
1. Select the setting using the cursor up/down keys.

| Display | Description |
|---|---|
| ON | Receives short protocol transmission. |
| OFF | Ignores short protocol transmission. |

* : Initial setting: ON
2. Press the start key. The setting is set.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U632</td><td>
Setting the CNG detection times in the fax/telephone auto select mode<br>
Sets the CNG detection times in the fax/telephone auto select mode.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>1TIME</td><td>Detects CNG once.</td></tr>
<tr><td>2TIMES</td><td>Detects CNG twice.</td></tr>
</table>
* : Initial setting: 2TIMES<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U633</td><td>
Setting communication control 4<br><br>
Description<br>
Makes settings for fax transmission regarding the communication.<br>
Purpose<br>
To reduce transmission errors when a low quality line is used.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>V.34</td><td>Enables or disables V.34 communication.</td></tr>
<tr><td>V.34-3429Hz</td><td>Sets the V.34 symbol speed (3429 Hz).</td></tr>
<tr><td>DIS 2RES</td><td>Sets the number of times of DIS signal reception.</td></tr>
<tr><td>RTN CHECK</td><td>Sets the reference for RTN signal output.</td></tr>
</table>
Enabling/disabling V.34 communication<br>
Sets whether V.34 communication is enabled/disabled for transmission and reception.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>V.34 communication is enabled for both transmission and reception.</td></tr>
<tr><td>TX</td><td>V.34 communication is enabled for transmission only.</td></tr>
<tr><td>RX</td><td>V.34 communication is enabled for reception only.</td></tr>
<tr><td>OFF</td><td>V.34 communication is disabled for both transmission and reception.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U633</td><td>
Setting the V.34 symbol speed (3429 Hz)<br>
Sets if the V.34 symbol speed 3429 Hz is used.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>V.34 symbol speed 3429 Hz is used.</td></tr>
<tr><td>OFF</td><td>V.34 symbol speed 3429 Hz is not used.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Setting the number of times of DIS signal reception<br>
Sets the number of times to receive the DIS signal to once or twice. Used as one of the correction measures for transmission errors and other problems.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ONCE</td><td>Responds to the first signal.</td></tr>
<tr><td>TWICE</td><td>Responds to the second signal.</td></tr>
</table>
* : Initial setting: ONCE<br>
2. Press the start key. The setting is set.<br><br>
Setting the reference for RTN signal output<br>
Sets the error line rate as the reference for RTN signal output. If transmission errors occur frequently due to the quality of the line, they can be reduced by lowering this setting.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>5%</td><td>Error line rate of 5%</td></tr>
<tr><td>10%</td><td>Error line rate of 10%</td></tr>
<tr><td>15%</td><td>Error line rate of 15%</td></tr>
<tr><td>20%</td><td>Error line rate of 20%</td></tr>
</table>
* : Initial setting: 15%<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U634</td><td>
Setting communication control 5<br><br>
Description<br>
Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Used as a measure to ease transmission conditions if transmission errors occur.<br><br>
Setting<br>
1. Press the start key.<br>
2. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of allowed error bytes when detecting TCF</td><td>0 to 255</td><td>0</td></tr>
</table>
3. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U640</td><td>
Setting communication time 1<br><br>
Description<br>
Sets the detection time when one-shot detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)<br>
Sets the detection time when continuous detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>TIME (ONE)</td><td>Sets the one-shot detection time for remote switching.</td></tr>
<tr><td>TIME (CONT)</td><td>Sets the continuous detection time for remote switching.</td></tr>
</table>
Setting the one-shot detection time for remote switching<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>One-shot detection time for remote switching</td><td>0 to 255</td><td>7</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Setting the continuous detection time for remote switching<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Continuous detection time for remote switching</td><td>0 to 255</td><td>80</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U641 | **Setting communication time 2**<br><br>**Description**<br>Sets the time-out time for fax transmission.<br>**Purpose**<br>To improve transmission performance for international communications mainly.<br><br>**Method**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys. |

| Display | Description |
|---|---|
| T0 TIME OUT | Sets the T0 time-out time. |
| T1 TIME OUT | Sets the T1 time-out time. |
| T2 TIME OUT | Sets the T2 time-out time. |
| Ta TIME OUT | Sets the Ta time-out time. |
| Tb1 TIME OUT | Sets the Tb1 time-out time. |
| Tb2 TIME OUT | Sets the Tb2 time-out time. |
| Tc TIME OUT | Sets the Tc time-out time. |
| Td TIME OUT | Sets the Td time-out time. |

**Setting the T0 time-out time**
Sets the time before detecting a CED or DIS signal after a dialing signal is sent.
Depending on the quality of the exchange, or when the auto select function is selected at the destination unit, a line can be disconnected. Change the setting to prevent this problem.

1. Change the setting using the cursor left/right keys.

| Description | Setting range | Initial setting |
|---|---|---|
| T0 time-out time | 30 to 90 s | 56 |

2. Press the start key. The value is set.

**Setting the T1 time-out time**
Sets the time before receiving the correct signal after call reception. No change is necessary for this maintenance item.

1. Change the setting using the cursor left/right keys.

| Description | Setting range | Initial setting |
|---|---|---|
| T1 time-out time | 30 to 90 s | 36 |

2. Press the start key. The value is set.

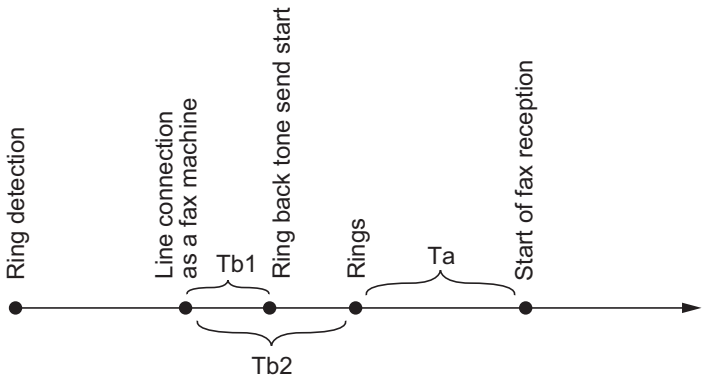
<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U641</td><td>
Setting the T2 time-out time<br>
The T2 time-out time decides the following.<br>
From CFR signal output to image data reception<br>
From image data reception to the next signal reception<br>
In ECM, from RNR signal detection to the next signal reception<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>T2 time-out time</td><td>1 to 255</td><td>69</td><td>100 ms</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Setting the Ta time-out time<br>
In the fax/telephone auto select mode, sets the time to continue ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-17). A fax signal is received within the Ta set time, or the fax mode is selected automatically when the time elapses. In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Ta time-out time</td><td>1 to 255</td><td>30</td></tr>
</table>
2. Press the start key. The value is set.<br><br>


Figure 1-3-17 Ta/Tb1/Tb2 time-out time<br><br>
Setting the Tb1 time-out time<br>
In the fax/telephone auto select mode, sets the time to start sending the ring back tone after receiving a call as a fax machine (see figure 1-3-17). In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Tb1 time-out time</td><td>1 to 255</td><td>20</td><td>100 ms</td></tr>
</table>
2. Press the start key. The value is set.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U641</td><td>
Setting the Tb2 time-out time<br>
In the fax/telephone auto select mode, sets the time to start ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-17). In the fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Tb2 time-out time</td><td>1 to 255</td><td>80</td><td>100 ms</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Setting the Tc time-out time<br>
In the TAD mode, set the time to check if there are any triggers for shifting to fax reception after a connected telephone receives a call. Only the telephone function is available if shifting is not made within the set Tc time.<br>
In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Tc time-out time</td><td>1 to 255</td><td>60</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Setting the Td time-out time<br>
Sets the length of the time required to determine silent status (fax), one of the triggers for Tc time check. In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. Be sure not to set it too short; otherwise, the mode may be shifted to fax while the unit is being used as a telephone.<br>
1. Change the setting using the cursor left/right keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Td time-out time</td><td>1 to 255</td><td>9 (120 V)/6 (220-240 V)</td></tr>
</table>
2. Press the start key. The value is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U650</td><td>
Setting modem 1<br><br>
Description<br>
Sets the G3 cable equalizer. Sets the modem detection level.<br>
Purpose<br>
Perform the following adjustment to make the equalizer compatible with the line characteristics. To improve the transmission performance when a low quality line is used.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>REG. G3 TX EQR</td><td>Sets the G3 transmission cable equalizer.</td></tr>
<tr><td>REG. G3 RX EQR</td><td>Sets the G3 reception cable equalizer.</td></tr>
<tr><td>RX MODEM LEVEL</td><td>Sets the modem detection level.</td></tr>
</table>
<br>
Setting the G3 transmission cable equalizer<br>
1. Select [0dB], [4dB], [8dB] or [12dB] using the cursor up/down keys.<br>
* : Initial setting: 0dB<br>
2. Press the start key. The setting is set.<br><br>
Setting the G3 reception cable equalizer<br>
1. Select [0dB], [4dB], [8dB] or [12dB] using the cursor up/down keys.<br>
* : Initial setting: 0dB<br>
2. Press the start key. The setting is set.<br><br>
Setting the modem detection level<br>
1. Select [33dBm], [38dBm], [43dBm] or [48dBm] using the cursor up/down keys.<br>
* : Initial setting: 43dBm<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U651 | **Setting modem 2**<br><br>**Description**<br>Sets the modem output level.<br>Sets the DTMF output level of a push-button dial telephone.<br>**Purpose**<br>Used if problems occur when sending a signal with a push-button dial telephone.<br><br>**Setting**<br>1. Press the start key.<br>2. Select the item to be set using the cursor up/down keys.<br>3. Change the setting using the cursor left/right keys or numeric keys. |

| Display | Description | Setting range | Initial setting |
|---|---|---|---|
| SGL LV MDM | Modem output level | 1 to 15 | 9 (120 V)<br>10 (220-240 V) |
| DTMF LV(C) | DTMF output level<br>(main value) | 0 to 15.0 | 5 (120 V)<br>10.5 (220-240 V) |
| DTMF LV(D) | DTMF output level<br>(level difference) | 0 to 5.5 | 2 (120 V)<br>2.5 (220-240 V) |

4. Press the start key. The setting is set.

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U660</td><td>
Setting the NCU<br><br>
Description<br>
Makes setting regarding the network control unit (NCU).<br>
Purpose<br>
To be set when installing the facsimile kit.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be set using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>EXCHANGE</td><td>Sets the connection to PBX/PSTN.</td></tr>
<tr><td>DIAL TONE</td><td>Sets PSTN dial tone detection.</td></tr>
<tr><td>BUSY TONE</td><td>Sets busy tone detection.</td></tr>
<tr><td>PBX SETTING</td><td>Setting for a PBX.</td></tr>
<tr><td>DC LOOP</td><td>Sets the loop current detection before dialing.</td></tr>
</table>
Setting the connection to PBX/PSTN<br>
Selects if a fax is to be connected to either a PBX or public switched telephone network.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>PSTN</td><td>Connected to the public switched telephone network.</td></tr>
<tr><td>PBX</td><td>Connected to a PBX.</td></tr>
</table>
* : Initial setting: PSTN<br>
2. Press the start key. The setting is set.<br><br>
Setting PSTN dial tone detection<br>
Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Detects the dial tone.</td></tr>
<tr><td>OFF</td><td>Does not detect the dial tone.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U660</td><td>
Setting busy tone detection<br>
When a fax signal is sent, sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time. Fax transmission may fail due to incorrect busy tone detection. When set to 2, this problem may be prevented. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Detects busy tone.</td></tr>
<tr><td>OFF</td><td>Does not detect busy tone.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Setting for a PBX<br>
Selects the mode to connect an outside call when connected to a PBX.<br>
According to the type of the PBX connected, select the mode to connect an outside call.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>EARTH</td><td>Earth mode</td></tr>
<tr><td>FLASH</td><td>Flashing mode</td></tr>
<tr><td>LOOP</td><td>Code number mode</td></tr>
</table>
* : Initial setting: LOOP<br>
2. Press the start key. The setting is set.<br><br>
Setting the loop current detection before dialing<br>
Sets if the loop current detection is performed before dialing.<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Performs loop current detection before dialing.</td></tr>
<tr><td>OFF</td><td>Does not perform loop current detection before dialing.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U670</td><td>
Outputting lists<br><br>
Description<br>
Outputs a list of data regarding fax transmissions.<br>
Printing a list is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.<br>
Purpose<br>
To check conditions of use, settings and transmission procedures of the fax.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be output using the cursor up/down keys.<br>
3. Press the start key. The selected list is output.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>SETTING LIST</td><td>Outputs a list of software switches, self telephone number, confidential boxes, ROM versions and other information.</td></tr>
<tr><td>ACTION LIST</td><td>Outputs a list of error history, transmission line details and other information.</td></tr>
<tr><td>SELF ST REPORT</td><td>Outputs a list of settings in maintenance mode (own-status report) regarding fax transmission only.</td></tr>
<tr><td>PROTOCOL LIST</td><td>Outputs a list of transmission procedures.</td></tr>
<tr><td>ERROR LIST</td><td>Outputs a list of error.</td></tr>
<tr><td>ADDR BOOK (No.)</td><td>Outputs address book in order IDs were added</td></tr>
<tr><td>ADDR BOOK (Name)</td><td>Outputs address book in order of names</td></tr>
<tr><td>ONE-TOUCH LIST</td><td>Outputs a list of one-touch.</td></tr>
<tr><td>GROUP LIST</td><td>Outputs a list of group.</td></tr>
</table>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U695</td><td>
FAX function customize<br><br>
Description<br>
Sets fax batch transmission ON/OFF. Also changes the print size priority at the time of small size reception.<br>
Purpose<br>
To be executed as required.<br><br>
Setting<br>
1. Select the setting using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FAX BULK TX</td><td>fax batch transmission ON/OFF</td></tr>
<tr><td>A5 PT PRI CHG</td><td>Change of print size priority at the time of small size reception</td></tr>
</table>
Setting: [FAX BULK TX]<br>
1. Select ON or OFF using the cursor left/right keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Fax batch transmission is enabled.</td></tr>
<tr><td>OFF</td><td>Fax batch transmission is disabled.</td></tr>
</table>
* : Initial setting: ON<br>
2. Press the start key. The setting is set.<br><br>
Setting: [A5 PT PRI CHG]<br>
1. Select ON or OFF using the cursor left/right keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>At the time of A5 size reception: A5→B5→A4</td></tr>
<tr><td>OFF</td><td>At the time of A5 size reception: A5→A4→B5</td></tr>
</table>
* : Initial setting: OFF<br>
2. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U699 | **Setting the software switches**<br><br>**Description**<br>Sets the software switches on the FAX control PWB individually.<br>**Purpose**<br>To change the setting when a problem such as split output of received originals occurs. Since the communication performance is largely affected, normally this setting need not be changed.<br><br>**Method**<br>1. Press the start key.<br>2. Press [SW No.].<br>3. Enter the desired software switch number (3 digits) using the numeric keys and press the enter key.<br>4. Use numeric keys 7 to 0 to switch each bit between 0 and 1.<br>5. Press the start key to set the value.<br><br>**Completion**<br>Press the stop key. The screen for selecting a maintenance item No. is displayed.<br><br>**List of Software Switches of Which the Setting Can Be Changed**<br><br>**<Communication control procedure>** |

| No. | Bit | Item |
|---|---|---|
| 36 | 7654 | Coding format in transmission |
| | 3210 | Coding format in reception |
| 37 | 5 | 33600 bps/V34 |
| | 4 | 31200 bps/V34 |
| | 3 | 28800 bps/V34 |
| | 2 | 26400 bps/V34 |
| | 1 | 24000 bps/V34 |
| | 0 | 21600 bps/V34 |
| 38 | 7 | 19200 bps/V34 |
| | 6 | 16800 bps/V34 |
| | 5 | 14400 bps/V34 |
| | 4 | 12000 bps/V34 |
| | 3 | 9600 bps/V34 |
| | 2 | 7200 bps/V34 |
| | 1 | 4800 bps/V34 |
| | 0 | 2400 bps/V34 |
| 41 | 3 | FSK detection in V.8 |
| 42 | 4 | 4800 bps when low-speed setting is active |
| | 2 | FIF length in transmission of more than 4 times of DIS/DTC signal |

| Item No. | Description |
|---|---|
| U699 | **<Communication time setting>** |

| No. | Bit | Item |
|---|---|---|
| 53 | 76543210 | T3 timeout setting |
| 54 | 76543210 | T4 timeout setting (automatic equipment) |
| 55 | 76543210 | T5 timeout setting |
| 60 | 76543210 | Time before transmission of CNG (1100 Hz) signal |
| 63 | 76543210 | T0 timeout setting (manual equipment) |
| 64 | 7 | Phase C timeout in ECM reception |
| 66 | 76543210 | Timeout 1 in countermeasures against echo |
| 68 | 76543210 | Timeout for FSK detection start in V.8 |

**<Modem setting>**

| No. | Bit | Item |
|---|---|---|
| 89 | 76543 | RX gain adjust |

**<NCU setting>**

| No. | Bit | Item |
|---|---|---|
| 121 | 7654 | Dial tone/busy tone detection pattern |
| 122 | 7654 | Busy tone detection pattern |
| | 1 | Busy tone detection in automatic FAX/TEL switching |
| 125 | 76543210 | Access code registration for connection to PSTN |
| 126 | 7654 | FAX/TEL automatic switching ringback tone ON/OFF cycle |

**<Calling time setting>**

| No. | Bit | Item |
|---|---|---|
| 133 | 76543210 | DTMF signal transmission time |
| 134 | 76543210 | DTMF signal pause time |
| 141 | 76543210 | Ringer detection cycle (minimum) |
| 142 | 76543210 | Ringer detection cycle (maximum) |
| 143 | 76543210 | Ringer ON time detection |
| 144 | 76543210 | Ringer OFF time detection |
| 145 | 76543210 | Ringer OFF non-detection time |
| 147 | 76543210 | Dial tone detection time (continuous tone) |
| 148 | 76543210 | Allowable dial tone interruption time |
| 149 | 76543210 | Time for transmitting selection signal after closing the DC circuit |
| 151 | 76543210 | Ringer frequency detection invalid time |

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U901</td><td>
Clr Paper FD Cnt<br><br>
Description<br>
Displays copy counts by paper feed locations.<br>
Purpose<br>
To check the time to replace consumable parts.<br><br>
Method<br>
1. Press the start key. The counts by paper feed locations are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MPT</td><td>MP tray</td></tr>
<tr><td>Cass1</td><td>Cassette 1</td></tr>
<tr><td>Cass2</td><td>Cassette 2 (paper feeder)</td></tr>
<tr><td>Cass3</td><td>Cassette 3 (paper feeder)</td></tr>
<tr><td>Dup</td><td>Duplex unit</td></tr>
</table>
* : When an optional paper feed unit is not installed, the corresponding count is not displayed.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U905</td><td>
Option Cnt<br><br>
Description<br>
Displays the counts of DP.<br>
Purpose<br>
To check the use of DP.<br><br>
Method<br>
1. Press the start key.<br>
2. Select [DP]. The count is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DP</td><td>Counts of DP</td></tr>
</table>
Method: [DP]
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ADP</td><td>Counts of single-sided originals that has passed through the DP.</td></tr>
<tr><td>RADP</td><td>Counts of double-sided originals that has passed through the DP.</td></tr>
</table>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U910 | **Clearing the black ratio data**<br><br>**Description**<br>Clears the accumulated black ratio data for A4 sheet.<br>**Purpose**<br>To clear data as required at times such as during maintenance service.<br><br>**Method**<br>1. Press the start key.<br>2. Select [ALL CLEAR] using the cursor up/down keys.<br>3. Press the start key. The accumulated black ratio data is cleared.<br><br>**Completion**<br>Press the stop key. The screen for selecting a maintenance item No. is displayed. |

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U917</td><td>
Setting backup data reading/writing<br><br>
Description<br>
Retrieves the backup data to a USB memory from the machine; or writes the data from the USB memory to the machine.<br>
Purpose<br>
To store and write data when replacing the control PWB.<br><br>
Method<br>
1. Press the power key on the operation panel, and after verifying the power indicator has gone off, switch off the power switch.<br>
2. Insert USB memory in USB memory slot.<br>
3. Turn the power switch on.<br>
Wait for 10 seconds to allow the machine to recognize the USB memory.<br>
4. Enter the maintenance item.<br>
5. Press the start key.<br>
6. Select [Export] or [Import] using the cursor up/down keys and press the start key.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>IMPORT</td><td>Writing data from the USB memory to the machine</td></tr>
<tr><td>EXPORT</td><td>Retrieving from the machine to a USB memory</td></tr>
</table>
7. Select the item using the cursor up/down keys.
<table>
<tr><th>Display</th><th>Description</th><th>Depending data</th></tr>
<tr><td>ADDRESS BOOK</td><td>Address book</td><td>-</td></tr>
<tr><td>JOB ACCNT.</td><td>Job accounting</td><td>-</td></tr>
<tr><td>ONE TOUCH</td><td>Information on one-touch key</td><td>Address book</td></tr>
<tr><td>USER</td><td>User managements</td><td>Job accounting</td></tr>
<tr><td>PROGRAM</td><td>Program information</td><td>Job accountings and user managements</td></tr>
<tr><td>DOCUMENT BOX</td><td>Document box information</td><td>Job accountings and user managements</td></tr>
<tr><td>FAX FORWARD</td><td>FAX transfer information</td><td>Job accountings, user managements and document box information</td></tr>
</table>
* : Since data are dependent with each other, data other than those assigned are also retrieved or written in.<br>
8. Select [ON] using the cursor left/right keys.<br>
9. Press the start key. Starts reading or writing.<br>
The progress of selected item is displayed in %.<br>
When an error occurs, the operation is canceled and an error code is displayed.<br>
10. When normally completed, [FIN] is displayed.<br>
11. Turn the power switch off and on after completing writing when selecting [IMPORT].
</td></tr>
</table>

| Item No. | Description |
|---|---|
| U917 | **Error Codes** |

| Codes | Description | Codes | Description |
|---|---|---|---|
| e002 | Parameter error | e31e | User managements error |
| e003 | File write error | e31f | User managements open error |
| e004 | File initialization error | e320 | User managements error |
| e005 | File error | e410 | Box file open error |
| e006 | Processing error | e411 | Box error in writing |
| e010 | Address book clear error (contact) | e412 | Box error in reading |
| e011 | Address book open error (contact) | e413 | Box list error |
| e012 | Address book list error (contact) | e414 | Box list error |
| e013 | Address book list error (contact) | e415 | Box error |
| e014 | Address book clear error (group) | e416 | Box error |
| e015 | Address book open error (group) | e417 | Box open error |
| e016 | Address book list error (group) | e418 | Box close error |
| e017 | Address book list error (group) | e419 | Box creation error |
| e110 | Job accounting clear error | e41a | Box creation error |
| e111 | Job accounting open error | e41b | Box deletion error |
| e112 | Job accounting open error | e41c | Box movement error |
| e113 | Job accounting error in writing | e510 | Program error in writing |
| e114 | Job accounting list error | e511 | Program error in reading |
| e115 | Job accounting list error | e710 | Fax memory open error |
| e210 | One-touch open error | e711 | Fax memory initialization error |
| e211 | One-touch list error | e712 | Fax memory list error |
| e212 | One-touch list error | e713 | Fax memory error |
| e310 | User managements backup error | e714 | Fax memory error |
| e311 | User managements clear error | e715 | Fax memory mode error |
| e312 | User managements open error | e716 | Fax memory error |
| e313 | User managements open error | e717 | Fax memory error |
| e314 | User managements open error | e718 | Fax memory mode error |
| e315 | User managements error in writing | e910 | File reading error |
| e316 | User managements list error | e911 | File writing error |
| e317 | User managements list error | e912 | Data mismatch |
| e318 | User managements list error | e913 | Log file open error |
| e319 | User managements list error | e914 | Log file error in writing |
| e31a | User managements open error | e915 | Directory open error |
| e31b | User managements error | e916 | Directory error in reading |
| e31c | User managements error | e917 | Synchronization error |
| e31d | User managements open error | e918 | Synchronization error |

| Item No. | Description |
|---|---|
| U917 | **Error Codes** |

| Codes | Description | Codes | Description |
|---|---|---|---|
| d000 | Unspecified error | d00b | File reading error |
| d001 | HDD unavailable | d00c | File writing error |
| d002 | USB memory is not inserted | d00d | File copy error |
| d003 | File for writing is not found in the USB | d00e | File compressed error |
| d004 | File for reading is not found in the HDD | d00f | File decompressed error |
| d005 | USB error in writing | d010 | Directory open error |
| d006 | USB error in reading | d011 | Directory creation error |
| d007 | USB unmount error | d012 | File writing error |
| d008 | File rename error | d013 | File reading error |
| d009 | File open error | d014 | File deletion error |
| d00a | File close error | d015 | File copy error to the USB |

**Supplement**
The following restrictions apply to the data which were imported from 4 in 1 model (with FAX) to 3 in 1 model (without FAX).
Personal address book: FAX-related data are not imported.
Group address book: Group addresses including FAX addresses are not imported.
Job accounting data: Initial values are added for FAX-related data.
One-touch data: Groups assigned with FAX addresses or those including FAX are not imported.
User management data: Initial values are added for out-going FAXes of authentication.
Program data: Not imported. (The same applies when data are imported from 3 in 1 to 4 in 1 model.)

**Completion**
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U920</td><td>
Chg Cnt<br><br>
Description<br>
Checks the copy counts.<br>
Purpose<br>
To check the copy counts.<br><br>
Method<br>
1. Press the start key.<br>
2. Select the item to be check.<br>
* : The current counts are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>B/W Copy</td><td>Count value of black/white copy</td></tr>
<tr><td>B/W Prn</td><td>Count value of black/white print</td></tr>
<tr><td>B/W Fax</td><td>Count value of black/white FAX</td></tr>
</table>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U927</td><td>
Clearing the all copy counts and machine life counts (one time only)<br><br>
Description<br>
Resets all of the counts back to zero.<br><br>
Supplement<br>
The total account counter and the machine life counter can be cleared only once if all count values are 1000 or less.<br><br>
Method<br>
1. Press the start key.<br>
2. Press [EXECUTE].<br>
3. Press the start key. All copy counts and machine life counts are cleared.<br>
[CAN NOT EXECUTE] is displayed if the count cannot be cleared.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

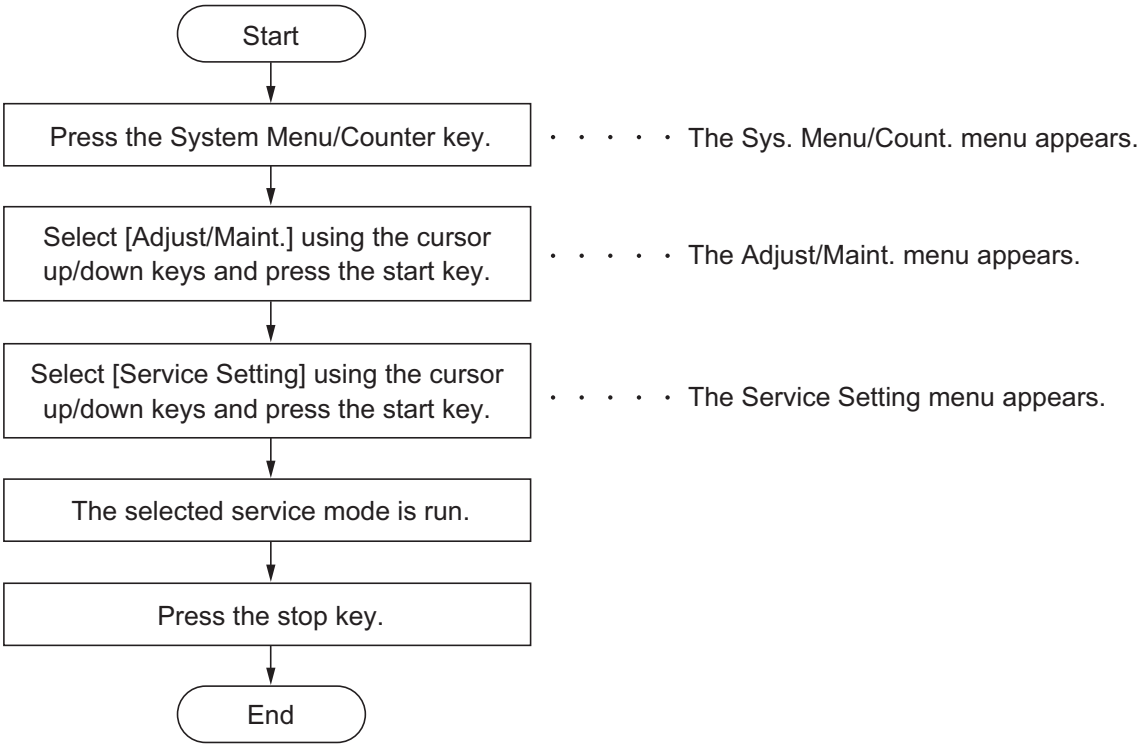
<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U928</td><td>
Life Cnt<br><br>
Description<br>
Displays the machine life counts.<br>
Purpose<br>
To check the machine life counts.<br><br>
Method<br>
1. Press the start key. The current machine life counts is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Cnt</td><td>Machine life counts</td></tr>
</table>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U977</td><td>
Data capture mode<br><br>
Description<br>
Store the print data sent to the machine into USB memory.<br>
Purpose<br>
In case to occur the error at printing, check the print data sent to the machine.<br><br>
Method<br>
1. Insert USB memory in USB memory slot.<br>
2. Turn the power switch on.<br>
3. Enter the maintenance item.<br>
4. Press the start key.<br>
5. Select [EXECUTE].<br>
6. Press the start key.<br>
7. Send the print data to the machine.<br>
Once the print data is stored into USB memory, OK will be displayed.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U995</td><td>
Mem Data Indi<br><br>
Description<br>
Displays the memory data.<br>
Purpose<br>
To check the memory data.<br><br>
Method<br>
1. Press the start key.<br>
2. Select [Print Engine].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Print Engine</td><td>A display and setup of the Engine section memory</td></tr>
</table>
3. Press the start key.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Offset</td><td>Reference offset</td></tr>
<tr><td>Data</td><td>Reference data</td></tr>
</table>
4. Press the start key. The setting is set.<br>
5. Turn the main power switch off and on. Allow more than 5 seconds between Off and On.<br><br>
Completion<br>
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

# 1-3-2 Service mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

## (1) Executing a service mode



## (2) Description of service mode

| Service items | Description |
|---|---|
| **Service Status** | **Printing a status page for service purpose**<br><br>**Description**<br>Prints a status page for service purpose. The status page includes various settings and service cumulative.<br>**Purpose**<br>To acquire the current printing environmental parameters and cumulative information.<br><br>**Method**<br>1. Enter the Service Setting menu.<br>2. Select [Service Status] using the cursor up/down keys.<br>3. Press the start key.<br>4. Press [Yes] (the Left Select key). Two pages will be printed.<br><br>**Completion**<br>Press the stop key. |

| Service items | Description |
|---|---|

**Service status page (1)**

# Service Status Page

MFP

**(2)** 2013/06/07 15:15

**(1)** Firmware version 2PN_2000.000.000 2013.06.07 **(3)** [XXXXXXXX] **(4)** [XXXXXXXX] **(5)** [XXXXXXXX]

## Controller Information

**Memory status**

**(7)** Standard Size 2.0 GB
**(8)** Option Slot 128.0 KB
**(9)** Total Size 2.0 GB

**Time**

**(10)** Local Time Zone +01:00 Tokio
**(11)** Date and Time 06/04/2010 12:00
**(12)** Time Server 10.183.53.13

**Installed Options**

**(13)** Document Processor Installed
**(14)** Paper Feeder2: Installed
**(15)** Paper Feeder3: Installed
**(16)** Memory Card Not Installed
**(17)** IC card Authentication Kit (B) Installed

**Print Setting**

**(18)** MP Tray Priority Auto Feed

**Print Coverage**

**(19)** Average(%) / Usage Page(A4/Letter Conversion)
**(20)** Total
K: 1.10 / 1111111.11
**(21)** Copy
K: 1.10 / 1111111.11
**(22)** Printer
K: 1.10 / 1111111.11
**(23)** FAX
K: 1.10 / 1111111.11
**(24)** Period (27/10/2009 - 03/11/2009 08:40)
**(25)** Last Page (%) 1.00

**FAX Information**

**(26)** Rings (Normal) 3
**(27)** Rings (FAX/TEL) 3
**(28)** Rings (TAD) 3
**(29)** Option DIMM Size 16MB

**(30)** **FRPO Status**

| | | |
|---|---|---|
| User Top Margin | A1+A2/100 | 0.00 |
| User Left Margin | A3+A4/100 | 0.00 |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| . | | |
| PDF mode | Y5 | 00 |

**RP Code**

**(31)** 1234 5678 9012
**(32)** 5678 9012 3456
**(33)** 9012 3456 7890
**(34)** 3456 7890 1234

1 **(6)** [XXXXXXXXXXXXXXXX]

**Figure 1-3-18**

| Service items | Description |
|---|---|

**Service status page (2)**

# Service Status Page

MFP 2013/06/07 15:15

Firmware version 2PN_2000.000.000 2013.06.07 [XXXXXXXX] [XXXXXXXX] [XXXXXXXX]

## Engine Information

**(35)** NVRAM Version _1F31255_1F31255
**(36)** Scanner Version 2PN_1200.001.089
**(37)** FAX Slot1
FAX BOOT Version 2PN_5000.001.001
FAX APL Version 2PN_5100.001.001
FAX IPL Version 2PN_5200.001.001
**(38)** MAC Address 00:C0:EE:D0:01:0D
**(39)** DP Counters
Total 1234

## Send Information

**(40)** Date and Time 10/06/30
**(41)** Address

1/2 **(42) (43)**
**(44)** 100/100
**(45)** 0/0/0/0/

**(46)** 0000000/0000000/0000000/0000000/0000000/0000000/
0000000/
F00/U00/0/0/0/0/30/70/abcde/1/0/1/ **(47)(48)(49)(50)(51)(52)(53)(54)(55)(56)(57)(58)**
**(59)** 0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
**(60)** 12345678/11223344/00001234abcd567800001234abcd5678/01234567890123456789012345678901/0008/00/07
XXXXXXXX **(61)**
**(62)** [ABCDEFGHIJ] [ABCDEFGHIJ]
**(63)** [2PN_81BR.001.010]
**(64)** 00070107FE/0700FE00FE/00FE000100/0000000000/ 00000A010A/0A0A0A3200/0000000000/0000000000/
0008000000/080000001D/0096009B00/9B009BFFFB/0082000000/000000

1/5/ **(65) (66)**
1/ **(67)**
0/15:47 **(68) (69)**

2 [XXXXXXXXXXXXXXXX]

**Figure 1-3-19**

| Service items | Description |
|---|---|

**Detail of service status page**

| No. | Description | Supplement |
|---|---|---|
| (1) | Firmware version | - |
| (2) | System date | - |
| (3) | Engine soft version | - |
| (4) | Engine boot version | - |
| (5) | Operation panel mask version | - |
| (6) | Machine serial number | - |
| (7) | Standard memory size | - |
| (8) | Optional memory size | - |
| (9) | Total memory size | - |
| (10) | Local time zone | - |
| (11) | Report output date | Day/Month/Year hour:minute |
| (12) | NTP server name | - |
| (13) | Presence or absence of the document processor | Installed/Not Installed |
| (14) | Presence or absence of the optional paper feeder2 | Installed/Not Installed |
| (15) | Presence or absence of the optional paper feeder3 | Installed/Not Installed |
| (16) | Presence or absence of the optional memory card | Installed/Not Installed |
| (17) | Presence or absence of the card authentication kit (B) | Installed/Not Installed |
| (18) | Print setting | Off/Auto Feed/Always |
| (19) | Page of relation to the A4/Letter | * :Print Coverage provides a close-matching reference of toner consumption and will not match with the actual toner consumption. |
| (20) | Average coverage for total | - |
| (21) | Average coverage for copy | - |
| (22) | Average coverage for printer | - |
| (23) | Average coverage for fax | - |
| (24) | Cleared date and output date | - |
| (25) | Coverage on the final output page | - |
| (26) | Number of rings | 0 to 15 |
| (27) | Number of rings before automatic switching | 0 to 15 |
| (28) | Number of rings before connecting to answering machine | 0 to 15 |

| Service items | Description |
|---|---|

| No. | Description | Supplement |
|---|---|---|
| (29) | Option DIMM Size | - |
| (30) | FRPO Setting | - |
| (31) | RP code | Code the engine software version and the date of update. |
| (32) | RP code | Code the main software version and the date of update. |
| (33) | RP code | Code the engine software version and the date of the previous update. |
| (34) | RP code | Code the main software version and the date of the previous update. |
| (35) | NV RAM version | _ 1F3 1225 _ 1F3 1225<br>(a) (b) (c) (d) (e) (f)<br><br>(a) Consistency of the present software version and the database<br>_ (underscore): OK<br>* (Asterisk): NG<br>(b) Database version<br>(c) The oldest time stamp of database version<br>(d) Consistency of the present software version and the ME firmware version<br>_ (underscore): OK<br>* (Asterisk): NG<br>(e) ME firmware version<br>(f) The oldest time stamp of the ME database version<br>Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f). |
| (36) | Scanner firmware version | - |
| (37) | Fax firmware version | - |
| (38) | Mac address | - |
| (39) | Number of original feed from DP | - |
| (40) | The last sent date and time | - |
| (41) | Transmission address | - |

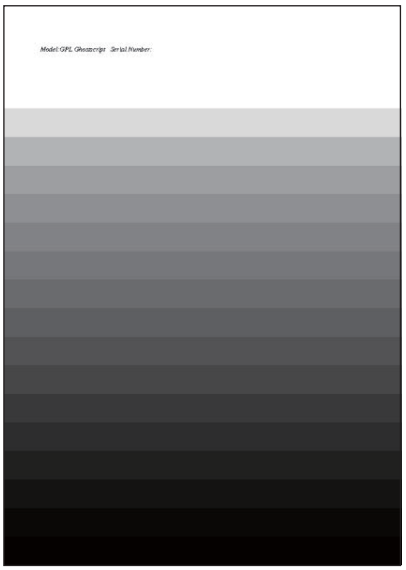
| Service items | Description |
|---|---|

| No. | Description | Supplement |
|---|---|---|
| (42) | Destination information | - |
| (43) | Area information | - |
| (44) | Margin settings | Top margin/Left margin |
| (44) | Margin/Page length/Page width settings | Top margin integer part/Top margin decimal part/ Left margin integer part/Left margin decimal part/ |
| (46) | Life counter (The first line) | Machine life/MP tray/Cassette 1/Cassette 2/ Cassette 3 /Duplex |
| | Life counter (The second line) | Maintenance kit |
| (47) | Panel lock information | 0: OFF<br>1: Partial lock<br>2: Full lock |
| (48) | USB information | 0: Not installed<br>1: Full speed<br>2: Hi speed |
| (49) | Paper handling information | 0: Paper source unit select<br>1: Paper source unit |
| (50) | Auto cassette change | 0:Auto cassette change prohibition<br>1:Auto cassette change permission |
| (51) | Black and white printing double count mode | 0: All single counts<br>1: A3, Single count, Less than 420 mm (length)<br>2: Legal, Single count, 356 mm or less (length)<br>3: Folio, Single count, Less than 330 mm (length) |
| (52) | Billing counting timing | - |
| (53) | Temperature (machine outside) | - |
| (54) | Absolute temperature (machineoutside) | - |
| (55) | Fixed assets number | - |
| (56) | Job end judgment time-out time | - |
| (57) | Job end detection mode | - |
| (58) | Priscribe environmental reset | 0: OFF<br>1: ON |
| (59) | Media type attributes<br>1 to 28 (Not used: 18, 19, 20)<br><br>* : For details on settings, refer to MDAT command in “Prescribe Commands Reference Manual. | Weight settings<br>0: Light/1: Normal 1 / 2: Normal 2 / 3: Normal 3/ 4: Heavy 1 / 5: Heavy 2 / 6: Heavy 3 / 7: Extra Heavy<br>Fuser settings<br>0: High / 1: Middle / 2: Low / 3: Vellum<br>Duplex settings<br>0: Disable / 1: Enable |

| Service items | Description |
|---|---|

| No. | Description | Supplement |
|---|---|---|
| (60) | RFID information | - |
| (61) | RFID reader/writer version information | - |
| (62) | Soft version of the optional paper feeder | - |
| (63) | Version of the optional message | - |
| (64) | Maintenance information | - |
| (65) | Toner low setting | 0: Enabled<br>1: Disabled |
| (66) | Toner low detection level | 5 to 100 (%) |
| (67) | Full-page print mode | 0: Normal mode (Factory setting)<br>1: Full-page mode |
| (68) | Wake UP mode | 0: OFF (Don't wake up)<br>1: ON (Do wake up) |
| (69) | Wake Up Timer | Displays the wake-up time |

| Service items | Description |
|---|---|
| **Network Status** | **Printing a status page for network**<br><br>**Description**<br>Prints a status page for network.<br>**Purpose**<br>To acquire the detailed network setting information.<br><br>**Method**<br>1. Enter the Service Setting menu.<br>2. Select [Network Status] using the cursor up/down keys.<br>3. Press the start key.<br>4. Press [Yes] in the confirmation display. Network status page will be printed.<br><br>**Completion**<br>Press the stop key. |

| Service items | Description |
|---|---|
| **Test Page** | **Printing a test page**<br><br>**Description**<br>The halftones of sixteen different levels are printed for test.<br>**Purpose**<br>The developmental time of image error, the test print is performed for judgement of the engine-side or the scanner-side.<br><br>**Method**<br>1. Enter the Service Setting menu.<br>2. Select [Test Page].<br>3. Press the start key.<br>4. Press [Yes] (the Left Select key). Test page will be printed.<br><br>Gray scale<br>(16 levels)<br>  <br><br>**Figure 1-3-20**<br><br>**Completion**<br>Press the stop key. |
| **New Developer** | **Perform the toner installation of the developer unit.**<br><br>**Description**<br>Perform the toner installation when the developer unit has been replaced.<br>**Purpose**<br>Perform when the developer unit is replaced.<br><br>**Method**<br>1. Enter the Service Setting menu.<br>2. Select [New Developer] using the cursor up/down keys.<br>3. Press [Yes] in the confirmation display.<br><br>**Completion**<br>Press the stop key. |

<table>
<tr><th>Service items</th><th>Description</th></tr>
<tr><td>FAX country code</td><td>
FAX Country Code<br><br>
Description<br>
Initializes software switches and all data in the backup data on the FAX control PWB, according to the destination.<br>
Purpose<br>
To initialize the FAX control PWB.<br><br>
Method<br>
1. Enter the Service Setting menu.<br>
2. Select [FAX Country Code] using the cursor up/down keys.<br>
3. Press the start key.<br>
4. Enter a destination code using the numeric keys.<br>
5. Press the start key. The setting is set.<br>
6. Press the start key. Data initialization starts.<br><br>
Destination code list
<table>
<tr><th>Code</th><th>Destination</th><th>Code</th><th>Destination</th></tr>
<tr><td>000</td><td>Japan</td><td>250</td><td>Russia</td></tr>
<tr><td>007</td><td>Argentina</td><td>253</td><td>CTR21 (European nations)</td></tr>
<tr><td>009</td><td>Australia</td><td></td><td>Italy</td></tr>
<tr><td>022</td><td>Brazil</td><td></td><td>Germany</td></tr>
<tr><td>038</td><td>China</td><td></td><td>Spain</td></tr>
<tr><td>080</td><td>Hong Kong</td><td></td><td>U.K.</td></tr>
<tr><td>084</td><td>Indonesia</td><td></td><td>Netherlands</td></tr>
<tr><td>088</td><td>Israel</td><td></td><td>Sweden</td></tr>
<tr><td>097</td><td>Korea</td><td></td><td>France</td></tr>
<tr><td>108</td><td>Malaysia</td><td></td><td>Austria</td></tr>
<tr><td>115</td><td>Mexico</td><td></td><td>Switzerland</td></tr>
<tr><td>126</td><td>New Zealand</td><td></td><td>Belgium</td></tr>
<tr><td>136</td><td>Peru</td><td></td><td>Denmark</td></tr>
<tr><td>137</td><td>Philippines</td><td></td><td>Finland</td></tr>
<tr><td>152</td><td>Saudi Arabiat</td><td></td><td>Portugal</td></tr>
<tr><td>156</td><td>Singapore</td><td></td><td>Ireland</td></tr>
<tr><td>159</td><td>South Africa</td><td></td><td>Norway</td></tr>
<tr><td>169</td><td>Thailand</td><td>254</td><td>Taiwan</td></tr>
<tr><td>181</td><td>U.S.A.</td><td></td><td></td></tr>
</table>
Completion<br>
Press the stop key.
</td></tr>
</table>

<table>
<tr><th>Service items</th><th>Description</th></tr>
<tr><td>FAX call Setting</td><td>
FAX call setting<br><br>
Description<br>
Selects if a fax is to be connected to either a PBX or public switched telephone network.<br>
Selects the mode to connect an outside call when connected to a PBX.<br>
Access code registration for connection to PSTN.<br>
Purpose<br>
To be executed as required.<br><br>
Method<br>
1. Enter the Service Setting menu.<br>
2. Select [FAX Call Set.] using the cursor up/down keys.<br>
3. Press the start key.<br>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Exchange Select.</td><td>Setting the connection to PBX/PSTN</td></tr>
<tr><td>PBX Setting</td><td>Setting for a PBX</td></tr>
<tr><td>Dial No. to PSTN</td><td>Setting access code to PSTN</td></tr>
</table>
Setting the connection to PBX/PSTN<br>
1. Select [Exchange Select.] using the cursor up/down keys.<br>
2. Press the start key.<br>
3. Select [PBX] or [PSTN] using the cursor up/down keys.<br>
4. Press the start key. The setting is set.<br><br>
Setting for PBX<br>
1. Select [PBX Setting] using the cursor up/down keys.<br>
2. Press the start key.<br>
3. Select [Loop], [Flash] or [Earth] using the cursor up/down keys.<br>
4. Press the start key. The setting is set.<br><br>
Setting access code to PSTN<br>
1. Select [Dial No. to PSTN] using the cursor up/down keys.<br>
2. Press the start key.<br>
3. Enter access code using the numeric keys. (0 to 9, 00 to 99)<br>
4. Press the start key. The setting is set.<br><br>
Completion<br>
Press the stop key.
</td></tr>
</table>

| Service items | Description |
|---|---|
| **Remote diagnostics** | **Setting remote diagnostics**<br><br>**Description**<br>Sets the remote diagnostics.<br>**Purpose**<br>Used to establish communication between the machine and the service facility when a problem is encounted.<br><br>**Method**<br>1. Enter the Service Setting menu.<br>2. Select [Remote Diag.Set.] using the cursor up/down keys.<br>3. Press the start key.<br>4. Select [On] using the cursor up/down keys.<br>5. Press the start key. The setting is set.<br>6. Select [Remote Diag. ID] using the cursor up/down keys.<br>7. Press the start key.<br>8. Enter the prespecified remote diagnostics ID number (0000 to 9999) using the numeric keys.<br>9. Press the start key. The setting is set.<br><br>**Completion**<br>Press the stop key. |

# 1-4-1 Paper misfeed detection

## (1) Paper misfeed indication

When a paper misfeed occurs, the machine immediately stops printing and displays the paper misfeed message on the operation panel. To remove paper misfed in the machine, pull out the paper cassette, open the front cover, rear cover or duplexer's cover, or remove the drum unit.

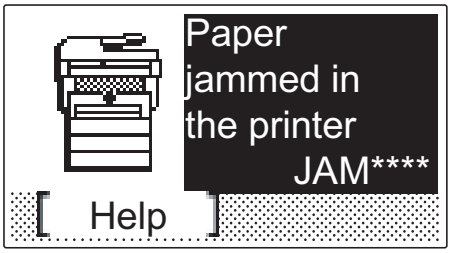



**Figure 1-4-1 Paper misfeed indication**

## (2) Paper misfeed detection condition

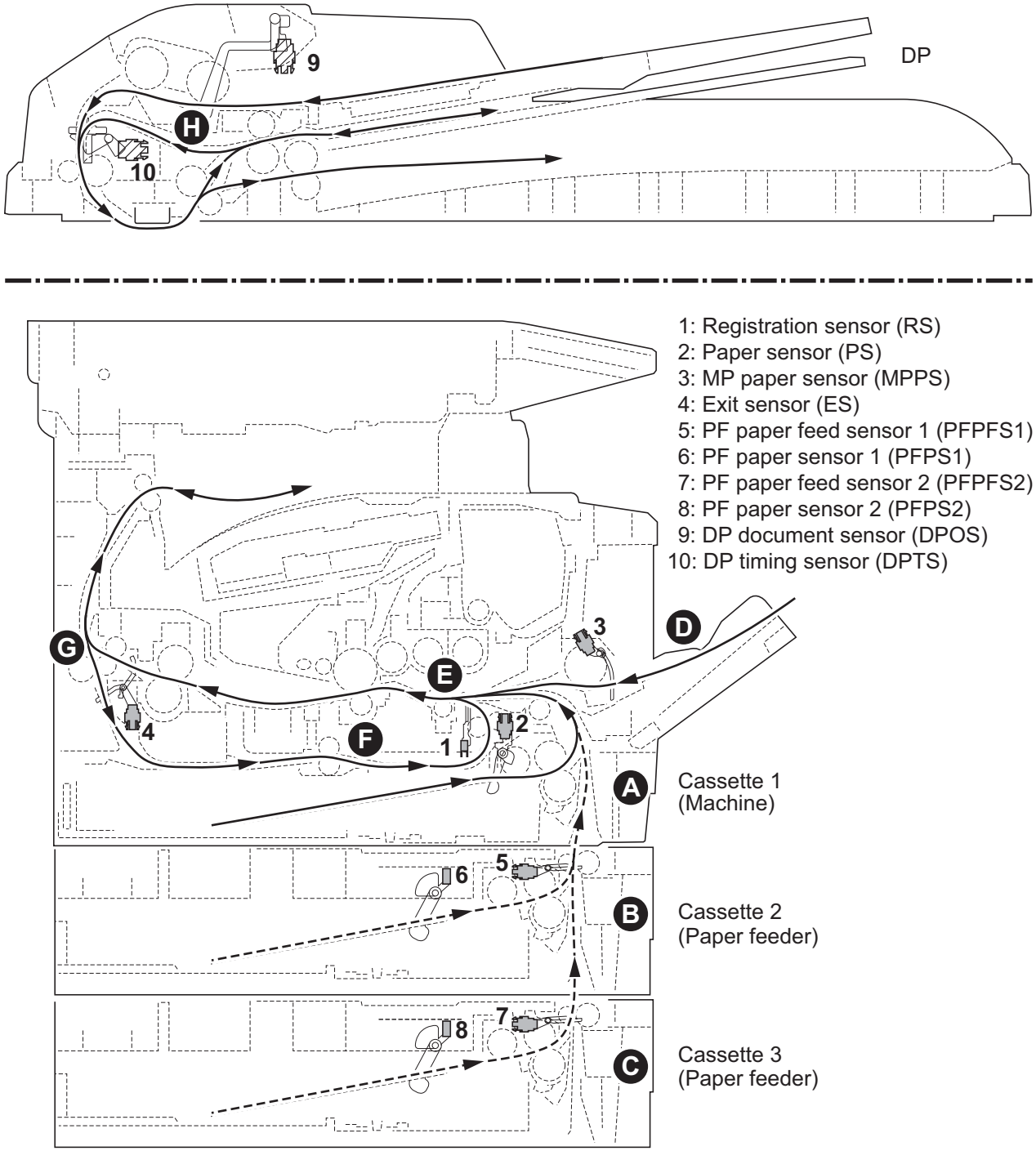



**Figure 1-4-2**

| Code | Contents | Conditions | Jam location* |
|---|---|---|---|
| **0100** | Secondary paper feed request time out | Secondary paper feed request given by the controller is unreachable. | E |
| **0101** | Waiting for process package to be ready | Process package won't be ready. | E |
| **0105** | Registration sensor not detected | Activation of the registration sensor (on/off) is undetected for 90 s during printing. | |
| **0107** | Waiting for fuser package to be ready | Fuser package won't be ready. | E |
| **0110** | Upper cover open | The upper cover is opened during printing. | - |
| **0501** | No paper feed from cassette 1 | The registration sensor (RS) does not turn on during paper feed from cassette 1. | A |
| **0502** | No paper feed from cassette 2 | PF paper feed sensor 1 (PFPFS1) does not turn on during paper feed from cassette 2 (Retry 1 times). | B |
| **0503** | No paper feed from cassette 3 | PF paper feed sensor 2 (PFPFS2) does not turn on during paper feed from cassette 3 (Retry 1 times). | C |
| **0508** | No paper feed from duplex section | The registration sensor (RS) does not turn on during paper feed from the duplex section. | F |
| **0509** | No paper feed from MP tray | The registration sensor (RS) does not turn on during paper feed from the MP tray. | D |
| **0511** | Multiple sheets in cassette 1 | The registration sensor (RS) does not turn off during paper feed from cassette 1. | E |
| **0512** | Multiple sheets in cassette 2 | PF paper feed sensor 1 (PFPFS1) does not turn off during paper feed from cassette 2. | B |
| **0513** | Multiple sheets in cassette 3 | PF paper feed sensor 2 (PFPFS2) does not turn off during paper feed from cassette 3. | C |
| **0518** | Multiple sheets in duplex section | The registration sensor (RS) does not turn off during paper feed from the duplex section. | E |
| **0519** | Multiple sheets in MP tray | The registration sensor (RS) does not turn off during paper feed from theMP tray. | E |
| **1403** | PF paper feed sensor 1 non arrival jam | PF paper feed sensor 1 (PFPFS1) does not turn on during paper feed from cassette 3. | G |
| **1413** | PF paper feed sensor 1 stay jam | PF paper feed sensor 1 (PFPFS1) does not turn off during paper feed from cassette 3. | F |
| **1420** | | Paper remains at the PF paper feed sensor 1 (PFPFS1) when power is turned on. | B |
| **1620** | PF paper feed sensor 2 stay jam | Paper remains at the PF paper feed sensor 2 (PFPFS2) when power is turned on. | C |
| **4002** | Registration sensor non arrival jam | The registration sensor (RS) does not turn on during paper feed from cassette 2. | A |
| **4003** | | The registration sensor (RS) does not turn on during paper feed from cassette 3. | A |

*: Refer to figure 1-4-2 for paper jam location (see page 1-4-2).

| Code | Contents | Conditions | Jam location* |
|---|---|---|---|
| **4012** | Registration sensor stay jam | The registration sensor (RS) does not turn off during paper feed from cassette 2. | E |
| **4013** | | The registration sensor (RS) does not turn off during paper feed from cassette 3. | E |
| **4020** | | When a power supply is turned on, the registration sensor (RS) does not turn off. | E |
| **4201** | Eject sensor non arrival jam | The eject sensor (ES) does not turn on during paper feed from cassette 1. | E |
| **4202** | | The eject sensor (ES) does not turn on during paper feed from cassette 2. | E |
| **4203** | | The eject sensor (ES) does not turn on during paper feed from cassette 3. | E |
| **4208** | | The eject sensor (ES) does not turn on during paper feed from duplex section. | E |
| **4209** | | The eject sensor (ES) does not turn on during paper feed from MP tray. | E |
| **4211** | Eject sensor stay jam | The eject sensor (ES) does not turn off during paper feed from cassette 1. | G |
| **4212** | | The eject sensor (ES) does not turn off during paper feed from cassette 2. | G |
| **4213** | | The eject sensor (ES) does not turn off during paper feed from cassette 3. | G |
| **4218** | | The eject sensor (ES) does not turn off during paper feed from the duplex section. | G |
| **4219** | | The eject sensor (ES) does not turn off during paper feed from the MP tray. | G |
| **4220** | | Paper remains at the eject sensor (ES) when power is turned on. | G |

*: Refer to figure 1-4-2 for paper jam location (see page 1-4-2).

| Code | Contents | Conditions | Jam location* |
|---|---|---|---|
| **4301** | Duplex sensor non arrival jam | The eject sensor (ES) does not turn on after a switchback start, during paper feed from cassette 1. | G |
| **4302** | | The eject sensor (ES) does not turn on after a switchback start, during paper feed from cassette 2. | G |
| **4303** | | The eject sensor (ES) does not turn on after a switchback start, during paper feed from cassette 3. | G |
| **4309** | | The eject sensor (ES) does not turn on after a switchback start, during paper feed from the MP tray. | G |
| **4311** | Duplex sensor stay jam | The eject sensor (ES) does not turn off after a switchback start, during paper feed from cassette 1. | F |
| **4312** | | The eject sensor (ES) does not turn off after a switchback start, during paper feed from cassette 2. | F |
| **4313** | | The eject sensor (ES) does not turn off after a switchback start, during paper feed from cassette 3. | F |
| **4319** | | The duplex sensor (DUS) does not turn off after a switchback start, during paper feed from the MP tray. | F |
| **9000** | No paper feed from DP | DP timing sensor (DPTS) does not turn on during original feed from DP (Retry 5 times). | H |
| **9001** | DP original conveying jam | DP timing sensor (DPTS) turns off within the specified time since the sensor turns on. | H |
| **9003** | DP original switchback jam | During duplex switchback scanning, the DP timing sensor (DPTS) does not turn off within specified time. | H |
| **9004** | | During duplex switchback scanning, the DP timing sensor (DPTS) does not turn on within specified time since original switchback operation starts. | H |
| **9011** | DP top cover open | The DP top cover is opened during original feeding. | H |
| **9410** | DP timing sensor stay jam | The DP timing sensor (DPTS) does not turned off within the specified time its turning on. | H |

*: Refer to figure 1-4-2 for paper jam location (see page 1-4-2).

# 1-4-2 Self-diagnostic function

## (1) Self-diagnostic function

This machine is equipped with self-diagnostic function. When a problem is detected, the machine stops printing and display an error message on the operation panel. An error message consists of a message prompting a contact to service personnel, total print count, and a four-digit error code indicating the type of the error. (The display varies depending on the type of the error.)

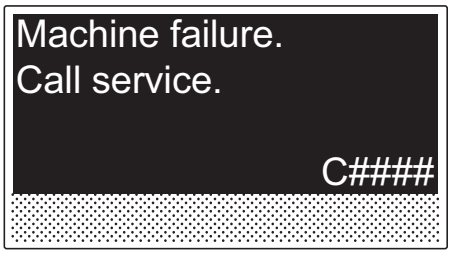



**Figure 1-4-3**

## (2) Self diagnostic codes

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| **0030** | **FAX control PWB system error** Processing with the fax software was disabled due to a hardware problem. | Defective FAX control PWB. | Replace the FAX control PWB (See page 1-5-48). |
| **0070** | **FAX control PWB incompatible detection Error** FAX is mismatched with the controller model. | Defective fax software. | Install the fax software. |
| | | Defective FAX control PWB. | Replace the FAX control PWB (See page 1-5-48). |
| **0100** | **Backup memory device error** | Defective flash memory. | Replace the control PWB (See page 1-5-37). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| **0120** | **MAC address data error** | Defective flash memory. | Replace the control PWB (See page 1-5-37). |
| **0130** | **Backup memory read/write error** | Defective flash memory. | Replace the control PWB (See page 1-5-37). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| **0140** | **Backup memory data error** | Defective flash memory. | Replace the control PWB (See page 1-5-37). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| **0150** | **Control PWB EEPROM error** Detecting control PWB EEPROM (U17) communication error. | Improper installation control PWB EEPROM (U17). | Check the installation of the EEPROM (U17) and remedy if necessary (See page 1-5-37). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| | | Data damage of control PWB EEPROM (U17). | Contact the Service Administrative Division. |
| **0170** | **Billing counting error** | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| | | Data damage of control PWB EEPROM (U17). | Contact the Service Administrative Division. |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 0180 | **Machine number mismatch**<br>Machine number of main and engine does not match. | The main PWB or the engine PWB were exchanged. | U004 Setting the machine number (See page 1-3-13). |
| | | Data damage of control PWB EEPROM (U17). | Contact the Service Administrative Division. |
| 0420 | **Paper feeder communication error**<br>Communication error between control PWB and optional paper feeder. | Improper installation paper feeder. | Follow installation instruction carefully again. |
| | | Defective harness between control PWB (YC30) and paper feeder interface connector, or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| | | Defective harness between PF main PWB (YC5) and paper feeder interface connector, or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness (Refer to the service manual for the paper feeder). |
| | | Defective PF mainPWB. | Replace the PF main PWB (Refer to the service manual for the paper feeder). |
| 0830 | **FAX control PWB flash program area checksum error**<br>A checksum error occurred with the program of the FAX control PWB. | Defective fax software. | Install the fax software. |
| | | Defective FAX control PWB. | Replace the FAX control PWB (See page 1-5-48). |
| 0840 | **Faults of RTC**<br>When no normal communication is available with RTC.<br>RTC data is mismatched due to dead battery, etc. | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| | | The battery is disconnected from the control PWB. | Check visually and remedy if necessary. |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 0870 | **FAX control PWB to control PWB high capacity data transfer problem**<br>High-capacity data transfer between the FAX control PWB and the control PWB of the machine was not normally performed even if the data transfer was retried the specified times. | Improper installation FAX control PWB. | Reinstall the FAX control PWB (See page 1-5-48). |
| | | Defective FAX control PWB or control PWB. | Replace the FAX control PWB or control PWB and check for correct operation. (See page 1-5-48 or 1-5-37). |
| 0920 | **Fax file system error**<br>The backup data is not retained for file system abnormality of flash memory of the FAX control PWB. | Defective FAX control PWB. | Replace the FAX control PWB (See page 1-5-48). |
| 0970 | **24 V power down detect**<br>If a 24V power disconnection signal is observed and a 12V power disconnection signal is observed simultaneously for one second. | High voltage PWB | 1. Check the +24V output is given at CN203-1 or 2 of the high voltage PWB.<br>2. Replace the high voltage PWB (see page 1-5-43) |
| | | Control PWB | Replace the control PWB (see page 1-5-37) |
| 2000 | **Main motor error**<br>The main motor ready input is not given for 2 s during the main motor is ON. | Defective harness between main motor (CN1) and control PWB (YC17), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness (See page 1-5-37). |
| | | Defective drive transmission system of the main motor. | Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any. |
| | | Defective main motor. | Replace the main motor (See page 1-5-49). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| **2610** | **PF paper feed motor error (paper feeder)** The PF paper feed motor of cassette 2 ready input is not given for 2 s during the PF paper feed motor is ON. | Defective harness between PF paper feed motor and PF main PWB (YC4), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness (Refer to the service manual for the paper feeder). |
| | | Defective PF paper feed motor drive transmission system. | Check if the gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any. |
| | | Defective PF main motor. | Replace the PF main motor. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| **2620** | **PF paper feed motor error (Paper feeder)** The PF paper feed motor of cassette 3 ready input is not given for 2 s during the PF paper feed motor is ON. | Defective harness between PF paper feed motor and PF main PWB (YC4), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness (Refer to the service manual for the paper feeder). |
| | | Defective PF paper feed motor drive transmission system. | Check if the gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any. |
| | | Defective PF main motor. | Replace the PF main motor (Refer to the service manual for the paper feeder). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| **3100** | **ISU home position error** | Defective FFC between CCD PWB (YC1) and control PWB (YC8). | Replace the image scanner unit (ISU) (See page 1-5-21). |
| | | Defective FFC between control PWB (YC6) and scanner PWB (YC103), or improper FFC insertion. | Reinsert the FFC. Also check for continuity within the FFC. If none, remedy or replace the FFC. |
| | | Defective home position sensor. | Replace the home position sensor. |
| | | Defective harness between ISU motor and scanner PWB (YC104), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective ISU motor. | Replace the ISU motor. |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 3200 | **Exposure lamp error**<br>The exposure lamp is not turned on. | Defective FFC between scanner PWB (YC103) and control PWB (YC6), or improper FFC insertion. | Reinsert the FFC. Also check for continuity within the FFC. If none, remedy or replace the FFC. |
| | | Defective FFC between CCD PWB (YC1) and control PWB (YC8). | Replace the image scanner unit (ISU) (See page 1-5-21). |
| | | Defective harness between CCD PWB (YC3) and LED drive PWB (YC1), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective harness between LED drive PWB (YC2) and exposure lamp, or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective exposure lamp. | Replace the exposure lamp (See page 1-5-27). |
| | | Defective LED drive PWB. | Replace the LED drive PWB (See page 1-5-27). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 3300 | **AGC error**<br>After AGC, correct input is not obtained at CCD. | Defective FFC between CCD PWB (YC1) and control PWB (YC8). | Replace the image scanner unit (ISU) (See page 1-5-21). |
| | | Defective exposure lamp. | Replace the exposure lamp (See page 1-5-27). |
| | | Defective CCD PWB. | Replace the CCD PWB. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 3500 | **CPU - ASIC (CCD PWB) communication error**<br>An error code is detected. | Defective FFC between CCD PWB (YC1) and control PWB (YC8). | Replace the image scanner unit (ISU) (See page 1-5-21). |
| | | Defective CCD PWB. | Replace the CCD PWB. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 4000 | **Polygon motor (laser scanner unit) error**<br>The polygon motor ready input is not given for 6 s during the polygon motor is ON. | Defective harness between polygon motor and control PWB (YC10), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective laser scanner unit. | Replace the laser scanner unit (See page 1-5-17). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 4200 | **BD error (laser scanner unit) error**<br>After switching the resistor SH_ZCNTPIN signal from Hi-Z to signal output, APCSTATE did not change to 32 within 1s. | BD sensor does not detect laser beam due to condensation on the polygon mirror. | Turn machine power off for at least 30 minutes, then turn machine on again. If not cured, replace the laser scanner unit (See page 1-5-17). |
| | | Defective laser scanner unit. | Replace the laser scanner unit (See page 1-5-17). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 4700 | **VIDEO ASIC device error**<br>Mismatch between writing data and reading data occurs eight times successively.<br>When reading out, NACK was detected five times in succession.<br>When writing, NACK was detected five times in succession. | Defective connector cable or poor contact in the connector. | Reinsert the connector. Also check for continuity within the connector cable. If none, replace the cable. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

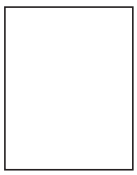
| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 6000 | **Broken Fuser heater wire**<br>The fuser temperature does not rise after the Fuser heater has been turned on. | Poor contact in the fuser thermistor connector terminals. | Reinsert the connector (See page 1-5-32). |
| | | Poor contact in the Fuser heater connector terminals. | Reinsert the connector (See page 1-5-32). |
| | | Fuser thermistor installed incorrectly. | Replace the fuser unit (See page 1-5-32). |
| | | Fuser thermal cutout triggered. | Replace the fuser unit (See page 1-5-32). |
| | | Fuser heater installed incorrectly. | Replace the fuser unit (See page 1-5-32). |
| | | Broken Fuser heater wire. | Replace the fuser unit (See page 1-5-32). |
| 6020 | **Abnormally high fuser thermistor temperature**<br>Fuser thermistor detects abnormally temperature.<br>When the temperature of a fuser thermistor detects 195 °C or more at the time of heater OFF and 155 °C or more. | Shorted fuser thermistor. | Replace the fuser unit (See page 1-5-32). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 6030 | **Broken fuser thermistor wire**<br>Input from fuser thermistor is 0 (A/D value). | Poor contact in the fuser thermistor connector terminals. | Reinsert the connector (See page 1-5-32). |
| | | Broken fuser thermistor wire. | Replace the fuser unit (See page 1-5-32). |
| | | Fuser thermistor installed incorrectly. | Replace the fuser unit (See page 1-5-32). |
| | | Fuser thermal cutout triggered. | Replace the fuser unit (See page 1-5-32). |
| | | Fuser heater installed incorrectly. | Replace the fuser unit (See page 1-5-32). |
| | | Broken Fuser heater wire. | Replace the fuser unit (See page 1-5-32). |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| 6400 | **Zero cross signal error**<br>The zero cross signal does not reach the control PWB for specified time. | Defective harness between high voltage PWB (CN202) and control PWB (YC23), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness (See page 1-5-37). |
| | | Defective connection between power source PWB (YC103) and high voltage PWB (CN201). | Reinsert the connector. |
| | | Defective power source PWB. | Replace the power source PWB (See page 1-5-40). |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| 7990 | **Waste toner full**<br>The waste toner sensor has detected that the waste toner reservoir (drum unit) is full. | Waste toner reservoir (drum unit) is full. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace the drum unit (See page 1-5-28). |
| | | Defective waste toner sensor. | Replace the waste toner sensor. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Code | Contents | Remarks | |
|---|---|---|---|
| | | Causes | Check procedures /corrective measures |
| **F000** | **Control PWB - Operation panel PWB communication error** | Defective harness between operation panel PWB (YC1) and control PWB (YC7), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | | Defective operation panel PWB. | Replace the operation panel PWB. |
| | | Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| **F010** | **Control PWB Checksum error** | Control PWB | Unplug the power cord from the wall outlet, and wait five seconds. then turn on the power switch.<br>If notcorrected, replace the control PWB and check operation.<br>(see page 1-5-37) |
| **F020** | **Control PWB RAM checksum error** | Defective main memory (RAM) on the control PWB. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace control PWB (See page 1-5-37). |
| | | Defective expanded memory (DIMM). | Replace the expanded memory (DIMM). |
| **F040** | **Control PWB engine communication error**<br>A communication error is detected. | Defective control PWB. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace control PWB (See page 1-5-37). |
| **F041** | **Control PWB - scanner PWB communication error**<br>A communication error is detected. | Defective control PWB or scanner PWB. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace control PWB or scanner PWB (See page 1-5-37 or 1-5-47). |
| **F050** | **Control PWB engine checksum error** | Some error may have occurred when downloading the firmware of the control PWB. | Download the firmware of the control PWB again (See page 1-6-1). |
| | | Defective control PWB. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace control PWB (See page 1-5-37). |
| **F186** | **Control PWB video data control error** | Defective control PWB. | Turn the power switch off/on to restart the machine. If the error is not resolved, replace control PWB (See page 1-5-37). |

# 1-4-3 Image formation problems

(1)Completely blank printout.

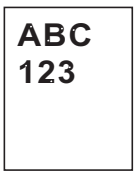


See page 1-4-18

(2)All-black printout.

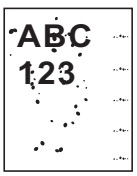
See page 1-4-19

(3)Dropouts.



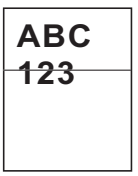

See page 1-4-19

(4)Black dots.



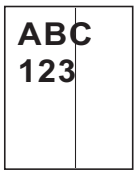

See page 1-4-20

(5)Black horizontal streaks.



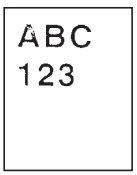

See page 1-4-20

(6)Black vertical streaks.



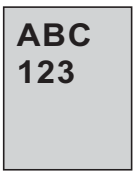

See page 1-4-20

(7)Unsharpness.



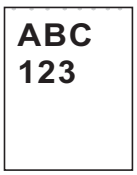

See page 1-4-21

(8)Gray background.



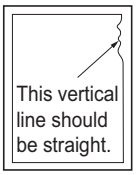

See page 1-4-21

(9)Dirt on the top edge or back of the paper.



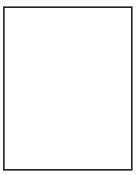
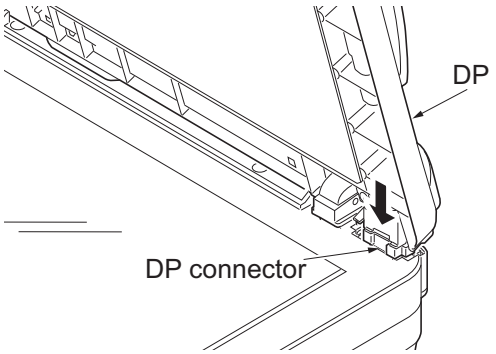

See page 1-4-21

(10)Undulated printing at the right edge (scanning start position).




See page 1-4-22

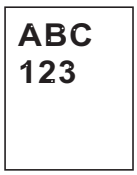
## (1) Completely blank printout.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Connection failure with DP connector. | If a blank copy is made because the original loaded in the DP is not fed after the Start key is pressed:<br>Turn the power switch off, investigate the DP connector connection, and firmly connect the DP connector.<br>  |
| | Defective drum unit or developer unit. | Open the front cover and check that the drum unit and developer unit are correctly seated (See page 1-5-28 and 1-5-27).<br>Investigate that the terminals between the main charger unit and the drum unit are not in loose contact (See page 1-5-28) |
| | Defective transfer bias output or developer bias output. | Replace the high voltage PWB (See page 1-5-43). |
| | Poor contact of developer bias terminal (spring) and high voltage output terminal B (J401, J402, J403) on the high voltage PWB.<br>Poor contact of transfer bias terminal (spring) and transfer bias terminal T (J201, J202, J203) on the high voltage PWB. | Check the high voltage PWB visually and correct or replace if necessary (See page 1-5-43). |
| | Defective laser scanner unit. | Replace the laser scanner unit (See page 1-5-17). |
| | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

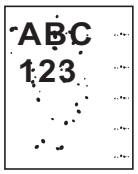
## (2) All-black printout.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
| | Defective main charger unit. | Open the front cover and check that the drum unit and developer unit are correctly seated (See page 1-5-28 and 1-5-27).<br>Investigate that the terminals between the main charger unit and the drum unit are not in loose contact (See page 1-5-28) |
| | Poor contact of main charger terminal (spring) and main charger output terminal M on the high voltage PWB. | Check the high voltage PWB visually and correct or replace if necessary (See page 1-5-43). |
| | Defective main charging output. | Replace the high voltage PWB (See page 1-5-43). |
| | Broken main charger wire. | Replace the main charger unit (See page 1-5-29). |
| | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

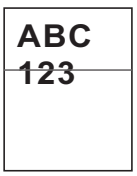
## (3) Dropouts.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Defective developer roller (developer unit). | If the defects occur at regular intervals of 62.8 mm/2 1/2" (See page 2-4-3), the problem may be the damaged developer roller (in the developer unit). Replace the developer unit (See page 1-5-27). |
| | Defective drum unit. | If the defects occur at regular intervals of 94 mm/3 11/16" (See page 2-4-3), the problem may be the damaged drum (in the drum unit). Replace the drum unit (See page 1-5-28). |
| | Defective fuser unit (heat roller or press roller). | If the defects occur at regular intervals of 73.162 mm/2 7/8", or 78.5 mm/3 1/16" (See page 2-4-3), the problem may be the damaged heat roller or press roller (in the fuser unit). Replace fuser unit (See page 1-5-32). |
| | Defective paper specifications. | Paper with rugged surface or dump tends to cause dropouts. Replace paper with the one that satisfies the paper specifications. |
| | Defective transfer roller installation. | The transfer roller must be supported by the bushes at the both ends. Clean the bush to remove oil and debris. Replace the transfer roller if necessary (See page 1-5-30). |
| | Defective transfer bias output. | Replace the high voltage PWB or control PWB (See page 1-5-43 or 1-5-37). |

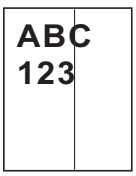
### (4) Black dots.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Defective drum unit or developer unit. | If the defects occur at regular intervals of 94 mm/3 11/16" (See page 2-4-3), the problem may be the damaged drum (in the drum unit). Replace drum unit (See page 1-5-28).<br>If the defects occur at random intervals, the toner may be leaking from the developer unit or drum unit. Replace the developer unit or drum unit (See page 1-5-27 or 1-5-28). |

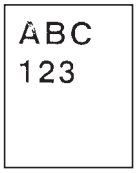
### (5) Black horizontal streaks.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Defective drum unit's ground. | Check that the drum shaft and the grounding tab (machine) are in good contact. Apply the grounding tab a small amount of electroconductive grease as required. |
| | Defective drum unit. | Replace the drum unit (See page 1-5-28). |

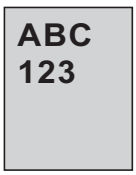
### (6) Black vertical streaks.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Adhesion of oxide to main charger wire. | Remove the drum unit (See page 1-5-28). Slide the charger cleaner (green) left and right 2 or 3 times to clean the charger wire, then return it to its original position (CLEANER HOME POSITION). Refer to the operation guide. |
| | Defective drum unit. | A streak of toner remaining on drum after printing means that the cleaning blade (in the drum unit) is not working properly. Replace the drum unit (See page 1-5-28). |
| | Defective developer roller (developer unit). | Replace the developer unit (See page 1-5-27). |

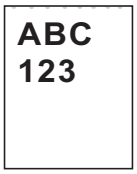
### (7) Unsharpness.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Defective paper specifications. | Replace paper with the one that satisfies the paper specification. |
| | Defective transfer roller installation. | The transfer roller must be supported by the bushes at the both ends. Clean the bush to remove oil and debris. Replace the transfer roller if necessary (See page 1-5-30). |
| | Defective transfer bias output. | Replace the high voltage PWB or control PWB (See page 1-5-43 or 1-5-37). |
| | EcoPrint mode setting. | The EcoPrint mode can provides faint, unsharp printing because it acts to conserve toner for draft printing purpose. For normal printing, turn the EcoPrint mode off by using the operator panel. For details, refer to the operation guide. |

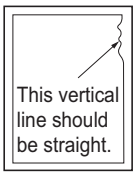
### (8) Gray background.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Print density setting. | The print density may be set too high. Try adjusting the print density. For details, refer to the operation guide. |
| | Defective potential on the drum surface. | Replace the drum unit (See page 1-5-28). |
| | Defective main charger grid. | Clean the main charger grid (See page 1-5-29). |
| | Defective developer roller (developer unit). | If a developer unit which is known to work normally is available for check, replace the current developer unit in the machine with the normal one. If the symptom disappears, replace the developer unit with a new one (See page 1-5-27). |

### (9) Dirt on the top edge or back of the paper.

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Toner contamination in various parts. | Dirty edges and back of the paper can be caused by toner accumulated on such parts as the paper chute guide, paper conveying paths, the bottom of the drum and developer unit, and the fuser unit inlet. Clean these areas and parts to remove toner. |
| | Defective transfer roller. | If the transfer roller is contaminated with toner, clean the transfer roller using a vacuum cleaner or by continuously printing a low density page until the symptom has faded away. |

## (10) Undulated printing at the right edge (scanning start position).

| Print example | Causes | Check procedures/corrective measures |
|---|---|---|
|  | Defective polygon motor (laser scanner unit). | Replace the laser scanner unit (See page 1-5-17). |
| | Defective control PWB. | Replace the control PWB (See page 1-5-37). |

# 1-4-4 Electric problems

| Problem | Causes | Check procedures/corrective measures |
|---|---|---|
| (1)The machine does not operate when the power switch is turned on. | 1. No electricity at the power outlet. | Measure the input voltage. |
| | 2. The power cord is not plugged in properly. | Check the contact between the power plug and the outlet. |
| | 3. The top cover is not closed completely. | Check the top cover. |
| | 4. Broken power cord. | Check for continuity. If none, replace the cord. |
| | 5. Defective power switch. | Check for continuity across the contacts. If none, replace the power source PWB (See page 1-5-40). |
| | 6. Blown fuse in the power source PWB. | Check for continuity. If none, remove the cause of blowing and replace the power source PWB (See page 1-5-40). |
| | 7. Defective interlock switch. | Check for continuity across the contacts of interlock switch. If none, replace the power source PWB (See page 1-5-40). |
| | 8. Defective power source PWB. | Replace the power source PWB (See page 1-5-40). |
| | 9. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (2)Right cooling fan motor does not operate. | 1. Broken right cooling fan motor coil. | Check for continuity across the coil. If none, replace the right cooling fan motor. |
| | 2. Defective harness between right cooling fan motor and control PWB (YC27), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (3)Left cooling fan motor does not operate. | 1. Broken left cooling fan motor coil. | Check for continuity across the coil. If none, replace the left cooling fan motor. |
| | 2. Defective harness between left cooling fan motor and control PWB (YC104), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Problem | Causes | Check procedures/corrective measures |
|---|---|---|
| (4)Registration clutch does not operate. | 1. Broken registration clutch coil. | Check for continuity across the coil. If none, replace the registration clutch. |
| | 2. Defective harness between registration clutch and control PWB (YC20), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (5)Paper feed clutch does not operate. | 1. Broken paper feed clutch coil. | Check for continuity across the coil. If none, replace the paper feed clutch. |
| | 2. Defective harness between paper feed clutch and control PWB (YC20), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (6)Developer clutch does not operate. | 1. Broken developer clutch coil. | Check for continuity across the coil. If none, replace the developer clutch. |
| | 2. Defective harness between developer clutch and control PWB (YC20), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (7)MP paper feed solenoid does not operate. | 1. Broken MP paper feed solenoid coil. | Check for continuity across the coil. If none, replace the MP paper feed solenoid. |
| | 2. Defective harness between MP paper feed solenoid and control PWB (YC21), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |

| Problem | Causes | Check procedures/corrective measures |
|---|---|---|
| (8)Duplex solenoid does not operate. | 1. Broken duplex solenoid coil. | Check for continuity across the coil. If none, replace the duplex solenoid. |
| | 2. Defective harness between duplex solenoid and control PWB (YC29), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (9)Cleaning lamp does not turn on. | 1. Defective harness between cleaning lamp (YC701) and control PWB (YC28), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| | 2. Defective cleaning lamp (PWB). | Replace the cleaning lamp (PWB). |
| | 3. Defective control PWB. | Replace the control PWB (See page 1-5-37). |
| (10)Paper indicator is flashing when paper is present in the cassette. | 1. Defective paper sensor. | Replace the paper sensor. |
| | 2. Defective harness between paper sensor and control PWB (YC18), or improper connector insertion. | Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness. |
| (11)A paper jam in the paper feed/ conveying section or fuser section is indicated when the main power switch is turned on. | 1. A piece of paper torn from paper is caught around registration sensor or exit sensor. | Check and remove if any. |
| | 2. Defective registration sensor on the high voltage PWB. | Replace the high voltage PWB (See page 1-5-43). |
| | 3. Defective exit sensor. | Replace the exit sensor. |
| (12)Attention indicator is lit when the front cover is closed. | 1. Defective interlock switch on the power source PWB. | Check for continuity across the interlock switch. If there is no continuity when the interlock switch is on, replace the power source PWB (See page 1-5-40). |
| (13)When the trouble occurs in the DP. | - | Refer to the DP's service manual. |

# 1-4-5 Mechanical problems

| Problem | Causes/check procedures | Corrective measures |
|---|---|---|
| (1)No primary paper feed. | Check if the surfaces of the paper feed roller is dirty with paper powder. | Clean with isopropyl alcohol. |
| | Check if the paper feed roller is deformed. | Check visually and replace any deformed paper feed roller (assembly) (See page 1-5-6). |
| | Defective paper feed clutch installation. | Check visually and remedy if necessary. |
| (2)No secondary paper feed. | Check if the surfaces of the upper and lower registration rollers are dirty with paper powder. | Clean with isopropyl alcohol. |
| | Defective registration clutch installation. | Check visually and remedy if necessary. |
| (3)Skewed paper feed. | Paper width guide in a cassette installed incorrectly. | Check the paper width guide visually and correct or replace if necessary. |
| (4)Multiple sheets of paper are fed at one time. | Check if the separator pad or MPF separation pad is worn. | Replace the separator pad if it is worn. |
| | Check if the paper is curled. | Replace the paper. |
| (5)Paper jams. | Check if the paper is excessively curled. | Replace the paper. |
| | Check if the contact between the upper and lower registration rollers is correct. | Check visually and remedy if necessary. |
| | Check if the heat roller or press roller is extremely dirty or deformed. | Replace the fuser unit (See page 1-5-32). |
| | Check if the contact between the ejection roller and fuser ejection pulley is correct. | Check visually and remedy if necessary. |
| (6)Toner drops on the paper conveying path. | Check if the drum unit or developer unit is extremely dirty. | Clean the drum unit or developer unit (See page 1-5-28 or 1-5-27). |
| (7)Abnormal noise is heard. | Check if the pulleys, rollers and gears operate smoothly. | Grease the bearings and gears. |
| | Check if the following electromagnetic clutches are installed correctly:<br>Paper feed clutch, registration clutch and developer clutch. | Check visually and remedy if necessary. |
| (8)When the trouble occurs in the DP. | | Refer to the DP's service manual. |

# 1-4-6 Send error code

This section describes the scanning errors and descriptions, preventive actions, as well as corrective actions.
Error codes not described here could fall within software errors.
If such an error is encountered, turn power off then on, and advise the service representative.

### (1) Scan to SMB error codes

| Code | Contents | Check procedures/corrective measures |
|---|---|---|
| 1101 | Host destined does not exist on the network. | 1. Confirm the destined host.<br>2. Confirm thedevice's network parameters.<br>3. Confirm the parameters of the network to which the device is connected are correct. |
| 1102 | Login to the host has failed. | 1. Confirm user name and password.<br>2. Confirm the parameters of the network to which the device is connected are correct.<br>3. Check the host if the folder is properly shared. |
| 1103 | Destined host, folder, and/or file names are invalid. | 1. Check illegal characters are not contained within these names.<br>2. Check the name of the folder and files conform with the naming syntax.<br>3. Confirm destined host and folder. |
| 1105 | SMB protocol is not enabled. | 1. Confirm device's SMB protocols. |
| 2101 | Login to the host has failed. | 1. Confirm the destined host.<br>2. Confirm that the LAN cable is properly connected to the device.<br>3. Check the SMB port number.<br>4. Confirm the device's network parameters.<br>5. Confirm the parameters of the network to which the device is connected are correct. |
| 2201 | Writing scanned data has failed. | 1. Check the file name to save the scanned data.<br>2. Confirm the device's network parameters.<br>3. Confirm the parameters of the network to which the device is connected are correct. |
| 2203 | No response from the host during a certain period of time. | 1. Confirm the network parameters the device is connected.<br>2. Confirm that the LAN cable is properly connected to the device. |

## (2) Scan to FTP error codes

| Code | Contents | Check procedures/corrective measures |
|---|---|---|
| 1101 | FTP server does not exist on the network. | 1. Check the FTP server name.<br>2. Confirm device's network parameters.<br>3. Confirm the parameters of the network to which the device is connected are correct. |
| 1102 | Login to the FTP server has failed. | 1. Confirm user name and password.<br>2. Check the FTP server name. |
| 1103 | Destined folder is invalid. | 1. Check that the illegal characters are not contained within these names.<br>2. Check the FTP server name. |
| 1105 | FTP protocol is not enabled. | 1. Confirm device's FTP protocols. |
| 1131 | Initializing TLS has failed. | 1. Confirm device's security parameters. |
| 1132 | TLS negotiation has failed. | 1. Confirm device's security parameters.<br>2. Check the FTP server name. |
| 2101 | Access to the FTP server has failed. | 1. Check the FTP server name.<br>2. Confirm that the LAN cable is properly connected to the device.<br>3. Check the FTP port number.<br>4. Confirm device's network parameters.<br>5. Confirm the network parameters the device is connected.<br>6. Check the FTP server name. |
| 2102 | Access to the FTP server has failed. (Connection timeout) | 1. Check the FTP server name.<br>2. Check the FTP port number.<br>3. Confirm device's network parameters.<br>4. Confirm the network parameters the device is connected.<br>5. Check the FTP server name. |
| 2103 | The server cannot establish communication. | 1. Check the FTP server name.<br>2. Check the FTP port number.<br>3. Confirm device's network parameters.<br>4. Confirm the network parameters the device is connected.<br>5. Check the FTP server name. |
| 2201 | Connection with the FTP server has failed. | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected.<br>3. Confirm destined folder.<br>4. Check the FTP server name. |
| 2202 | Connection with the FTP server has failed.<br>(Timeout) | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected. |
| 2203 | No response from the server during a certain period of time. | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected. |

| Code | Contents | Check procedures/corrective measures |
|---|---|---|
| 2231 | Connection with the FTP server has failed.<br>(FTPS communication) | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected. |
| 3101 | FTP server responded with an error. | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected.<br>3. Check the FTP server. |

### (3) Scan to E-mail error codes

| Code | Contents | Check procedures/corrective measures |
|---|---|---|
| 1101 | SMTP/POP3 server does not exist on the network. | 1. Check the SMTP/POP3 server name.<br>2. Confirm device's network parameters.<br>3. Confirm the parameters of the network to which the device is connected are correct. |
| 1102 | Login to the SMTP/POP3 server has failed. | 1. Confirm user name and password.<br>2. Check the SMTP/POP3 server. |
| 1104 | The domain the destined address belongs is prohibited by scanning restriction. | 1. Confirm device's SMTP parameters. |
| 1105 | SMTP protocol is not enabled. | 1. Confirm device's SMTP protocols. |
| 1106 | Sender’s address is not specified. | 1. Confirm device's SMTP protocols. |
| 2101 | Connection to the SMTP/POP3 server has failed. | 1. Check the SMTP/POP3 server name.<br>2. Confirm that the LAN cable is properly connected to the device.<br>3. Check the SMTP/POP3 port number.<br>4. Confirm device's network parameters.<br>5. Confirm the network parameters the device is connected.<br>6. Check the SMTP/POP3 server. |
| 2102 | Connection to the SMTP/POP3 server has failed.<br>(Connection timeout) | 1. Check the SMTP/POP3 server name.<br>2. Check the SMTP/POP3 port number.<br>3. Confirm device's network parameters.<br>4. Confirm the network parameters the device is connected.<br>5. Check the SMTP/POP3 server. |
| 2103 | The server cannot establish communication. | 1. Check the SMTP/POP3 server name.<br>2. Check the SMTP/POP3 port number.<br>3. Confirm device's network parameters.<br>4. Confirm the network parameters the device is connected.<br>5. Check the SMTP/POP3 server. |
| 2201 | Connection to the SMTP/POP3 server has failed. | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected. |
| 2202 | Connection to the SMTP/POP3 server has failed.<br>(Timeout) | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected. |
| 2204 | The size of scanning exceeded its limit. | 1. Confirm device's network parameters. |
| 3101 | SMTP/POP3 server responded with an error. | 1. Confirm device's network parameters.<br>2. Confirm the network parameters the device is connected.<br>3. Check the SMTP/POP3 server. |
| 3102 | Error: Server Response. | 1. Check the SMTP/POP3 server.<br>2. Wait a minute and trye again. |

| Code | Contents | Check procedures/corrective measures |
|---|---|---|
| 3201 | No SMTP authentication is found. | 1. Check the SMTP server.<br>2. The device supports SMTP authentication services including CRAM-MD5, DIGEST-MD5, PLAIN and LOGIN. |
| 4803 | Failed to establish the SSL session. | 1. Verify the self certificate of the device.<br>2. Check the server certificate of the SMTP/POP3 server.<br>3. Check the SMTP/POP3 configuration of the device and the SMTP/POP3 server. |

# 1-4-7 Error codes

## (1) Error code

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication U followed by a 5-digit number. (Error codes for V34 communication errors start with an E indication, followed by five digits.)
The upper three of the five digits indicate general classification of the error and its cause, while the lower two indicate the detailed classification. Items for which detailed classification is not necessary have 00 as the last two digits.

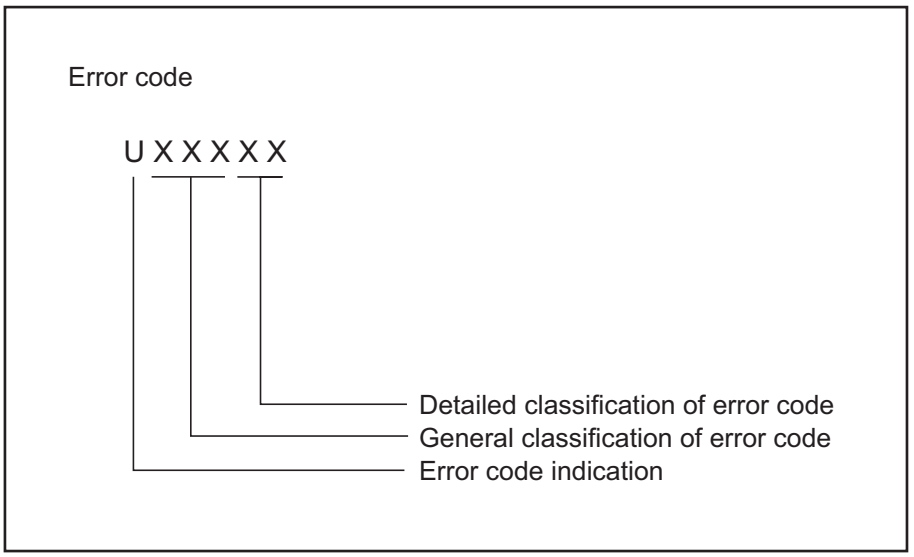



**Figure 1-4-4**

## (2) Table of general classification

| Error code | Description |
|---|---|
| **U00000** | No response or busy after the set number of redials. |
| **U00100** | Transmission was interrupted by a press of the stop/clear key. |
| **U00200** | Reception was interrupted by a press of the stop/clear key. |
| **U00300** | Recording paper on the destination unit has run out during transmission. |
| **U004XX** | A connection was made but interrupted during handshake with the receiver unit (See page 1-4-36 ). |
| **U00500** | Multiple communication was interrupted and call was not made on destination units after interruption. |
| **U006XX** | Communication was interrupted because of a machine problem (See page 1-4-37 ). |
| **U00700** | Communication was interrupted because of a problem in the destination unit. |
| **U008XX** | A page transmission error occurred in G3 mode (See page 1-4-37 ). |
| **U009XX** | A page reception error occurred in G3 mode (See page 1-4-37 ). |
| **U010XX** | Transmission in G3 mode was interrupted by a signal error (See page 1-4-38 ). |
| **U011XX** | Reception in G3 mode was interrupted by a signal error (See page 1-4-40 ). |
| **U01400** | An invalid one-touch key was specified during communication. |
| **U01500** | A communication error occurred when calling in V.8 mode. |
| **U01600** | A communication error occurred when called in V.8 mode. |
| **U017XX** | A communication error occurred before starting T.30 protocol during transmission in V.34 mode (See page 1-4-41 ). |
| **U018XX** | A communication error occurred before starting T.30 protocol during reception in V.34 mode (See page 1-4-42 ). |
| **U02000** | Relay broadcast was refused by a relay station because of a mismatch in permit ID number and permit telephone number when a relay command was issued. |
| **U02100** | A relay command failed because the destination unit (relay station) had no relay broadcast capability. |
| **U02200** | A relay command from a command station failed because a telephone number that was not registered in the relay station was specified. Or, relay broadcast was requested to a relay station but failed because a telephone number that was not registered in the relay station was specified. Or, Subaddress-based relay broadcast transmission failed because the data registered in the Subaddress relay box was deleted. |
| **U023XX** | Receiving station information was not normally received in reception of a relay command (See page 1-4-42 ). |
| **U02400** | An interoffice subaddress-based relay transmission was interrupted because of a mismatch in the specified relay box number. |
| **U03000** | No document was present in the destination unit when polling reception started. |
| **U03100** | In reverse polling, although no original was set in the destination unit, transmission was complete. |
| **U03200** | In confidential polling reception, data was not accumulated in the specified box in the destination unit. Or, in interoffice subaddress-based bulletin board reception, data was not stored in the box specified by the destination unit. |

| Error code | Description |
|---|---|
| **U03300** | In polling reception from a unit of our make, operation was interrupted due to a mismatch in permit ID or telephone number. Or, in interoffice subaddress-based bulletin board reception, operation was interrupted due to a mismatch in permit ID or telephone number. |
| **U03400** | Polling reception was interrupted because of a mismatch in individual numbers (destination unit is either of our make or by another manufacturer). |
| **U03500** | In confidential polling reception, the specified confidential box No. was not registered in the destination. Or, in interoffice subaddress-based bulletin board reception, the specified Subaddress confidential box number was not registered in the destination unit. Or, the destination was being accessed. |
| **U03600** | Confidential polling reception was interrupted because of a mismatch in specified confidential box No. Or, an interoffice subaddress-based bulletin board reception was interrupted because of a mismatch in the specified subaddress confidential box number. |
| **U03700** | Confidential polling reception failed because the destination unit had no confidential polling transmission capability or data was not accumulated in any box in the destination unit. Or, interoffice subaddress-based bulletin board reception failed because the destination unit had no subaddress-based bulletin board transmission capability, or data was not stored in any subaddress confidential box in the destination unit. |
| **U04000** | The confidential box specified for confidential transmission was not registered in the destination unit. Or, in interoffice subaddress-based transmission mode, the specified subaddress box number was not registered in the destination unit. Or, the destination was being accessed. |
| **U04100** | Confidential transmission failed because the destination unit had no confidential capability. Or, subaddress-based transmission failed because the destination unit had no subaddress-based reception capability. |
| **U04200** | In encrypted transmission, the specified encryption box was not registered in the destination unit. |
| **U04300** | Encrypted transmission failed because the destination unit had no encrypted communication capability. |
| **U044XX** | Communication was interrupted because of an encryption key error during encrypted transmission (See page 1-4-42 ). |
| **U04500** | Encrypted reception was interrupted because of a mismatch in encryption keys. |
| **U05000** | In transmission with a specified number, the set number of originals was different from the number of transmitted originals. |
| **U05100** | Password check transmission or restricted transmission was interrupted because the permit ID's did not agree with. |
| **U05200** | Password check reception or restricted reception was interrupted because the permit ID's did not match, the rejected FAX number's did match, or the destination receiver did not return its phone number. |
| **U05300** | The password check reception or the restricted reception was interrupted because the permitted numbers did not match, the rejected numbers did match, or the machine in question did not acknowledge its phone number. |
| **U09000** | G3 communication was attempted but failed because the destination unit was a G2 machine. |

| Error code | Description |
|---|---|
| **U12000** | Relay broadcast was requested from a command station but memory overflowed during reception. Or, in subaddress-based relay reception, memory overflowed. |
| **U12100** | Relay was commanded but memory overflowed in the destination unit (relay station). |
| **U14000** | Memory overflowed during confidential reception. Or, in subaddress-based confidential reception, memory overflowed. |
| **U14100** | Memory overflowed in the destination unit during confidential transmission. Or, in interoffice subaddress-based transmission, memory overflowed in the destination unit. |
| **U19000** | Memory overflowed during memory reception. |
| **U19100** | Memory overflowed in the destination unit during transmission. |
| **U19200** | Memory transmission failed because a decoding error occurred. |
| **U19300** | Transmission failed because an error occurred during JBIG encoding. |
| **U19400** | Reception failed because an error occurred during JBIG decoding. |

## (2-1) U004XX error code table: Interrupted phase B

| Error code | Description |
|---|---|
| **U00420** | A relay request was received from the host center but interrupted because of a mismatch in permit ID or telephone number. |
| **U00421** | Subaddress-based relay reception was interrupted because of a mismatch in the specified subaddress relay box number. |
| **U00430** | Polling request (confidential or reverse) was received but interrupted because of a mismatch in permit number. Or, subaddress-based bulletin board transmission request was received but interrupted because of a mismatch in permit ID in the transmitting unit. |
| **U00431** | Confidential polling transmission was interrupted because the specified confidential box No. was not registered. Or, an subaddress-based bulletin board transmission was interrupted because the specified subaddress confidential box was not registered. |
| **U00432** | Confidential polling transmission was interrupted because of a mismatch in confidential box ID number. Or, an subaddress-based bulletin board transmission was interrupted because of a mismatch in Subaddress confidential box numbers. |
| **U00433** | Confidential polling request was received but data was not present in the confidential box. Or, subaddress-based bulletin board transmission request was received but data was not present in the subaddress confidential box. |
| **U00434** | Confidential polling request was received but interrupted because the specified confidential box No. was intended for encryption. |
| **U00435** | Confidential polling request was received but interrupted because the specified confidential box was being accessed. Or, subaddress-based bulletin board transmission request was received but interrupted because the specified subaddress confidential box was being accessed. |
| **U00440** | Confidential reception was interrupted because the specified confidential box No. was not registered. Or, subaddress-based confidential reception or subaddress-based relay reception was interrupted because the specified subaddress box was not registered. Or, subaddress based confidential reception or subaddress relay command reception was interrupted because the specified subaddress box No. was being accessed. |
| **U00441** | Confidential reception was interrupted because the specified confidential box No. was intended for encryption. |
| **U00450** | The destination transmitter disconnected because the permit ID's did not agree with while the destination transmitter is in password-check transmission or restricted transmission. |
| **U00460** | Encrypted reception was interrupted because the specified encryption box number was not registered. Or, encrypted reception request was received but interrupted because the specified encryption box was being accessed. |
| **U00462** | Encrypted reception was interrupted because the encryption key for the specified encryption box was not registered. |

## (2-2) U006XX error code table: Problems with the unit

| Error code | Description |
|---|---|
| **U00600** | The document processor cover is open. |
| **U00601** | Document jam or the document length exceeds the maximum. |
| **U00602** | Image scanning section problem. |
| **U00603** | No document feed. |
| **U00604** | Document length exceeded the limit of the bitmap memory capacity. |
| **U00610** | Recording section cover is open. |
| **U00611** | Recording paper JAM |
| **U00613** | Image writing section problem |
| **U00614** | Nearly empty of recording paper |
| **U00615** | Empty of recording paper |
| **U00620** | Copier fixing unit problem |
| **U00622** | Copier drive motor problem |
| **U00655** | CTS was not activated after RTS due to a modem error. |
| **U00656** | Data was not transmitted after CTS was activated due to a modem error. |
| **U00670** | Power was cut off during communication. |
| **U00677** | There was no file to transmit in the memory transmission mode. |
| **U00690** | System error. |

## (2-3) U008XX error code table: Page transmission error

| Error code | Description |
|---|---|
| **U00800** | A page transmission error occurred because of reception of a RTN or PIN signal. |
| **U00810** | A page transmission error reoccurred after retry of transmission in the ECM mode. |

## (2-4) U009XX error code table: Page reception error

| Error code | Description |
|---|---|
| **U00900** | An RTN or PIN signal was transmitted because of a page reception error. |
| **U00910** | A page reception error remained after retry of transmission in the ECM mode. |

## (2-5) U010XX error code table: G3 transmission

| Error code | Description |
|---|---|
| **U01000** | An FTT signal was received for a set number of times after TCF signal transmission at 2400 bps. Or, an RTN signal was received in response to a Q signal (excluding EOP) after transmission at 2400 bps. |
| **U01001** | Function of the unit differs from that indicated by a DIS signal. |
| **U01010** | No relevant signal was received after transmission of a DNL (MPS or EOM) signal, and the preset number of command retransfers was exceeded (between units of our make). |
| **U01011** | No relevant signal was received after transmission of a DCS, TCF signal, and the preset number of command retransfers was exceeded. |
| **U01012** | No relevant signal was received after transmission of an NSS1, NSS2 (TCF) signal, and the preset number of command retransfers was exceeded (between units of our make). |
| **U01013** | No relevant signal was received after transmission of an NSS3, TCF signal, and the preset number of command retransfers was exceeded (between units of our make). |
| **U01014** | No relevant signal was received after transmission of an MPS signal, and the preset number of command retransfers was exceeded. |
| **U01015** | No relevant signal was received after transmission of an EOM signal, and the preset number of command retransfers was exceeded. |
| **U01016** | An MCF signal was received but no DIS signal was received after transmission of an EOM signal, and T1 timeout was detected. |
| **U01017** | No relevant signal was received after transmission of an EOP signal, and the preset number of command retransfers was exceeded. |
| **U01018** | No relevant signal was received after transmission of a PRI-EOP signal, and the preset number of command retransfers was exceeded. |
| **U01019** | No relevant signal was received after transmission of a CNC signal, and the preset number of command retransfers was exceeded (between units of our make). |
| **U01020** | No relevant signal was received after transmission of a CTC signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01021** | No relevant signal was received after transmission of an EOR.Q signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01022** | No relevant signal was received after transmission of an RR signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01023** | No relevant signal was received after transmission of a PSS.NULL signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01024** | No relevant signal was received after transmission of a PSS.MPS signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01025** | No relevant signal was received after transmission of a PPS.EOM signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01026** | No relevant signal was received after transmission of a PPS.EOP signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01027** | No relevant signal was received after transmission of a PPS.PRI-EOP signal, and the preset number of command retransfers was exceeded (ECM). |
| **U01028** | T5 time-out was detected during ECM transmission (ECM). |

| Error code | Description |
|---|---|
| **U01040** | A DCN or other inappropriate signal was received during standby for DIS signal reception. |
| **U01041** | A DCN signal was received after transmission of a DNL (MPS or EOM) signal (between units of our make). |
| **U01042** | A DCN signal was received after transmission of a DCS, TCF signal. |
| **U01043** | A DCN signal was received after transmission of an NSS1, NSS2 (TCF) signal (between units of our make). |
| **U01044** | A DCN signal was received after transmission of an NSS3, TCF signal (between units of our make). |
| **U01045** | A DCN or other inappropriate signal was received after transmission of an MPS signal. |
| **U01046** | A DCN or other inappropriate signal was received after transmission of an EOM signal. |
| **U01047** | A DCN or other inappropriate signal was received after transmission of an EOP signal. |
| **U01048** | A DCN signal was received after transmission of a PRI-EOP signal. |
| **U01049** | A DCN signal was received after transmission of a CNC signal (between units of our make). |
| **U01050** | A DCN signal was received after transmission of a CTC signal (ECM). |
| **U01051** | A DCN signal was received after transmission of an EOR.Q signal (ECM). |
| **U01052** | A DCN signal was received after transmission of an RR signal (ECM). |
| **U01053** | A DCN signal was received after transmission of a PPS.NULL signal (ECM). |
| **U01054** | A DCN signal was received after transmission of a PPS.MPS signal (ECM). |
| **U01055** | A DCN signal was received after transmission of a PPS.EOM signal (ECM). |
| **U01056** | A DCN signal was received after transmission of a PPS.EOP signal (ECM). |
| **U01057** | A DCN signal was received after transmission of a PPS.PRI-EOP signal (ECM). |
| **U01070** | Polarity reversal was detected during handshake. |
| **U01071** | Polarity reversal was detected during message transmission. |
| **U01072** | A break in loop current was detected during transmission. |
| **U01073** | During reverse polling in V.34 mode at the receiver unit, a CM signal was not detected when transmitting after reception. |
| **U01080** | A PIP signal was received after transmission of a PPS.NULL signal. |
| **U01091** | During transmission in V.34 mode, communication was interrupted because a PPR signal was received over 10 times even after reducing the communication speed to the minimum with the symbol speed maintained at the level of connection. |
| **U01092** | During transmission in V.34 mode, communication was interrupted because of an impossible combination of the symbol speed and communication speed. |

## (2-6) U011XX error code table: G3 reception

| Error code | Description |
|---|---|
| **U01100** | Function of the unit differs from that indicated by a DCS signal. |
| **U01101** | Function of the unit (excl. communication mode select) differs from that indicated by an NSS signal. |
| **U01102** | A DTC (NSC) signal was received when no transmission data was in the unit. |
| **U01110** | No response after transmission of a DIS signal. |
| **U01111** | No response after transmission of a DTC (NSC) signal. |
| **U01112** | No training reception after reception of a DCS or NSS signal. |
| **U01113** | No response after transmission of an FTT signal. |
| **U01114** | No message reception after transmission of a CFR signal. |
| **U01115** | No message reception after transmission of an MCF signal. |
| **U01116** | No message reception after transmission of a PPR signal. |
| **U01117** | No message reception after transmission of a CTR signal. |
| **U01118** | No message reception after transmission of an ERR signal. |
| **U01119** | No further signals were received after reception of a message. |
| **U01120** | No response after transmission of an MCF signal. |
| **U01121** | No response after transmission of an RTP signal. |
| **U01122** | No response after transmission of an RTN signal. |
| **U01123** | No response after transmission of a PIP signal. |
| **U01124** | No response after transmission of a PIN signal. |
| **U01125** | No response after transmission of a CNS signal (between units of our make). |
| **U01126** | No response after transmission of a PPR signal (ECM). |
| **U01127** | No response after transmission of an ERR signal (ECM). |
| **U01128** | No response after transmission of an RNR signal (ECM). |
| **U01129** | No response after transmission of an SPA signal (short protocol). |
| **U01140** | A DCN signal was received after transmission of a DIS signal. |
| **U01141** | A DCN signal was received after transmission of a DTC signal. |
| **U01142** | A DCN signal was received after transmission of a DCS or NSS signal. |
| **U01143** | A DCN signal was received after transmission of an FTT signal. |
| **U01144** | A DCN signal was received after transmission of a CFR signal. |
| **U01145** | A DCN signal was received after reception of a message. |
| **U01146** | A DCN signal was received after transmission of an MCF signal (interoffice communication after reception of an MPS, EOM signal or confidential interoffice communication). |
| **U01147** | A DCN signal was received after transmission of an RTP signal. |
| **U01148** | A DCN signal was received after transmission of an RTN signal. |
| **U01149** | A DCN signal was received after transmission of a PIP signal. |
| **U01150** | A DCN signal was received after transmission of a PIN signal. |
| **U01151** | A DCN signal was received after transmission of a PPR signal (ECM). |

| Error code | Description |
|---|---|
| **U01152** | A DCN signal was received after transmission of a CTR signal (ECM). |
| **U01153** | A DCN signal was received after transmission of an ERR signal (ECM). |
| **U01154** | A DCN signal was received after transmission of an RNR signal (ECM). |
| **U01155** | A DCN signal was received after transmission of an SPA signal (short protocol). |
| **U01160** | During message reception, transmission time exceeded the maximum transmission time per line. |
| **U01161** | Number of error lines exceeded limits during message reception. |
| **U01162** | A break in loop current was detected during message reception. |
| **U01163** | Polarity reversal was detected during message reception. |
| **U01164** | One page length exceeded the specified length during message reception. |
| **U01170** | A decoding error occurred during MMR message reception. |
| **U01172** | During reverse polling in V.34 mode at the transmitting unit, a JM signal was not detected after transmission of a CM signal when receiving after transmission. |
| **U01191** | Communication was interrupted because an error occurred during an image data reception sequence in the V.34 mode. |
| **U01199** | A DIS signal with different FIF was received after transmission of a DIS signal. |

## (2-7) U017XX error code table: V.34 transmission

| Error code | Description |
|---|---|
| **U01700** | A communication error occurred in phase 2 (line probing). |
| **U01720** | A communication error occurred in phase 4 (modem parameter exchange). |
| **U01721** | Operation was interrupted due to the absence of a common communication speed between units. |

U01700: A communication error that occurs at the transmitting unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/A/Abar (B/Bbar, for polling transmission)/INFOh was not detected.
U01720: A communication error that occurs at the transmitting unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.
U01721: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange; 1) a DCN signal was received from the destination unit, and the line was cut; or 2) a DIS (NSF, CSI) signal was received from the destination unit and, in response to the signal, the unit transmitted a DCN signal, and the line was cut.

## (2-8) U018XX error code table: V.34 reception

| Error code | Description |
|---|---|
| **U01800** | A communication error occurred in phase 2 (line probing). |
| **U01810** | A communication error occurred in phase 3 (primary channel equivalent device training). |
| **U01820** | A communication error occurred in phase 4 (modem parameter exchange). |
| **U01821** | Operation was interrupted due to the absence of a common communication speed between units. |

U01800: A communication error that occurs at the receiver unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/B/Bbar (A/Abar, for polling reception)/probing tone was not detected.
U01810: A communication error that occurs at the receiver unit in phase 3 (primary channel equivalent device training).
For example, S/Sbar/PP/TRN was not detected.
U01820: A communication error that occurs at the receiver unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.
U01821: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange, a DCN signal was transmitted to the destination unit and the line was cut.

## (2-9) U023XX error code table: Relay command abnormal reception

| Error code | Description |
|---|---|
| **U02303** | Timeout was detected before a correct DNL signal was received. |
| **U02304** | A signal other than MPS or EOM signal was received after a DNL signal was received. |

## (2-10) U044XX error code table: Encrypted transmission

| Error code | Description |
|---|---|
| **U04400** | Encrypted transmission was interrupted because encryption keys did not agree. |
| **U04401** | Calling failed during encrypted transmission because the encryption key was not registered. |

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# 1-5-1 Precautions for assembly and disassembly

## (1) Precautions

Before starting disassembly, press the Power key on the operation panel to off. Make sure that the Power lamp is off before turning off the power switch. Unplug the power cable from the wall outlet.
When the fax kit is installed, be sure to disconnect the modular code before starting disassembly.
When handling PWBs (printed wiring boards), do not touch parts with bare hands.
The PWBs are susceptible to static charge.
Do not touch any PWB containing ICs with bare hands or any object prone to static charge.
When removing the hook of the connector, be sure to release the hook.
Take care not to get the cables caught.
To reassemble the parts, use the original screws. If the types and the sizes of screws are not known, refer to the PARTS LIST.

## (2) Drum unit

Note the following when handling or storing the drum unit.
When removing the drum unit, never expose the drum surface to strong direct light.
Do not leave it for a long time even if it is weak light such as fluorescent lamps.
Keep the drum unit at an ambient temperature between -20°C/-4°F and 40°C/104°F and at a relative humidity not higher than 85% RH. Avoid abrupt changes in temperature and humidity.
Avoid exposure to any substance which is harmful to or may affect the quality of the drum unit.
Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

## (3) Toner

Store the toner container in a cool, dark place.
Avoid direct light and high humidity.

## (4) How to tell a genuine Kyocera toner container

As a means of brand protection, the Kyocera toner container utilizes an optical security technology to enable visual validation. A validation viewer is required to accomplish this.
Hold the validation viewer over the left side part of the brand protection seal on the toner container. Through each window of the validation viewer, the left side part of the seal should be seen as follows:

A black-colored band when seen through the left side window ( ● )

A shiny or gold-colored band when seen through the right side window ( ☼ )

The above will reveal that the toner container is a genuine Kyocera branded toner container, otherwise, it is a counterfeit.

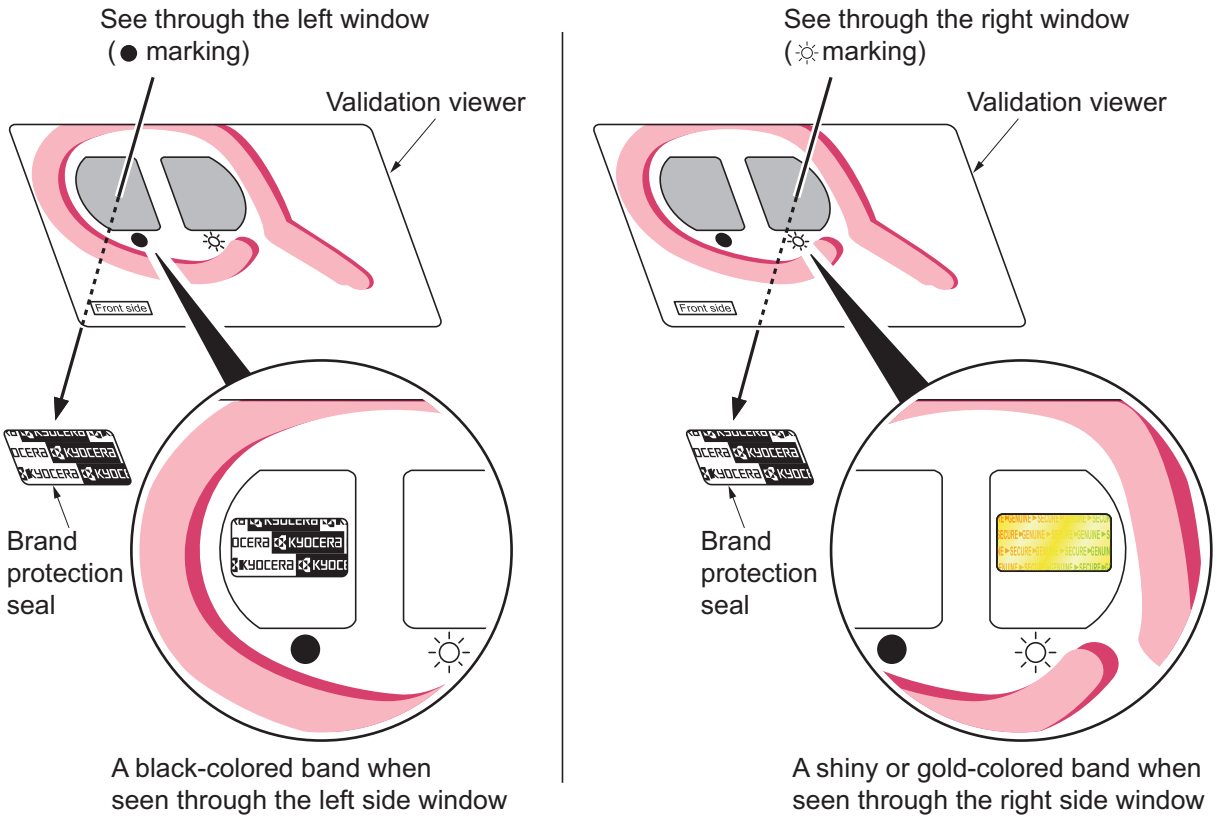


**Figure 1-5-1**

The brand protection seal has an incision as shown below to prohibit reuse.

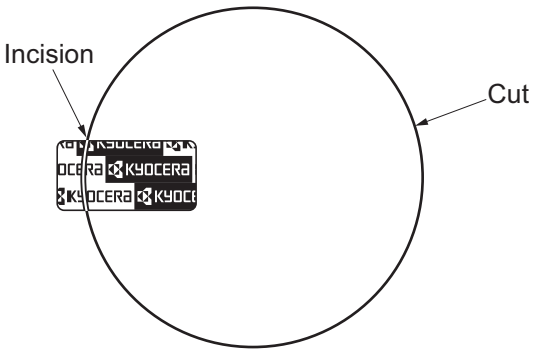


**Figure 1-5-2**

# 1-5-2 Outer covers

## (1) Detaching and refitting the left cover and right cover

**Procedure**

1. Remove the screw.
2. Unhook four hooks and then remove the rear upper cover.

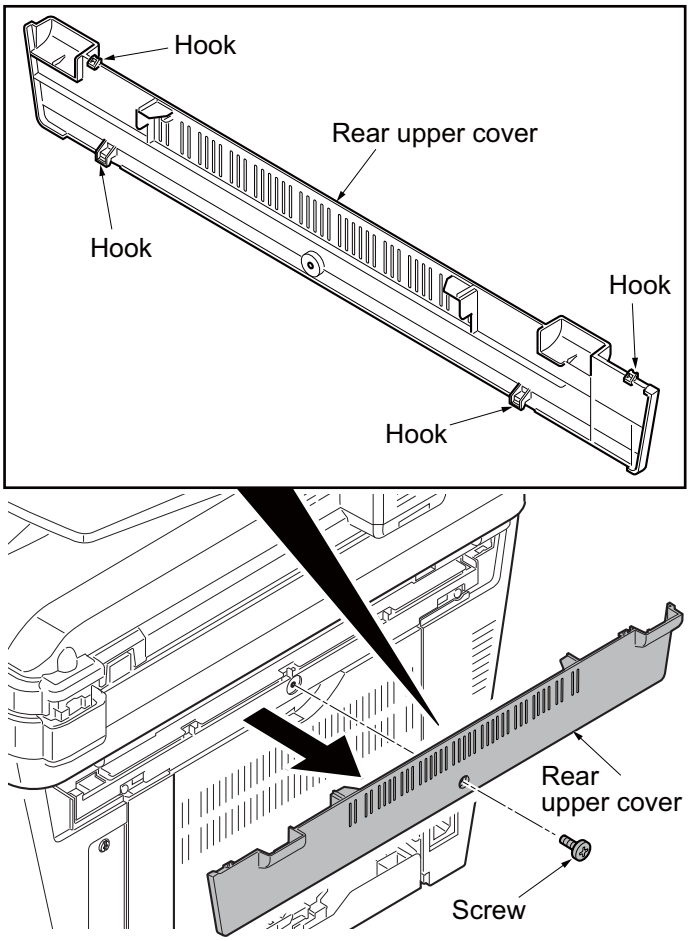


**Figure 1-5-3**

3. Remove the cassette (See page 1-5-6).
4. Open the front cover.
5. Unhook the hook and then remove the controller box cover.

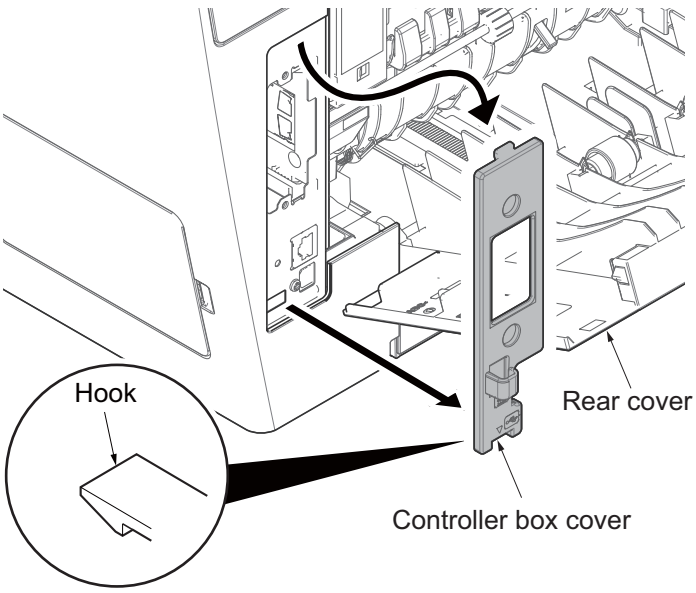


**Figure 1-5-4**

6. Unhook seven hooks and then remove the right cover.

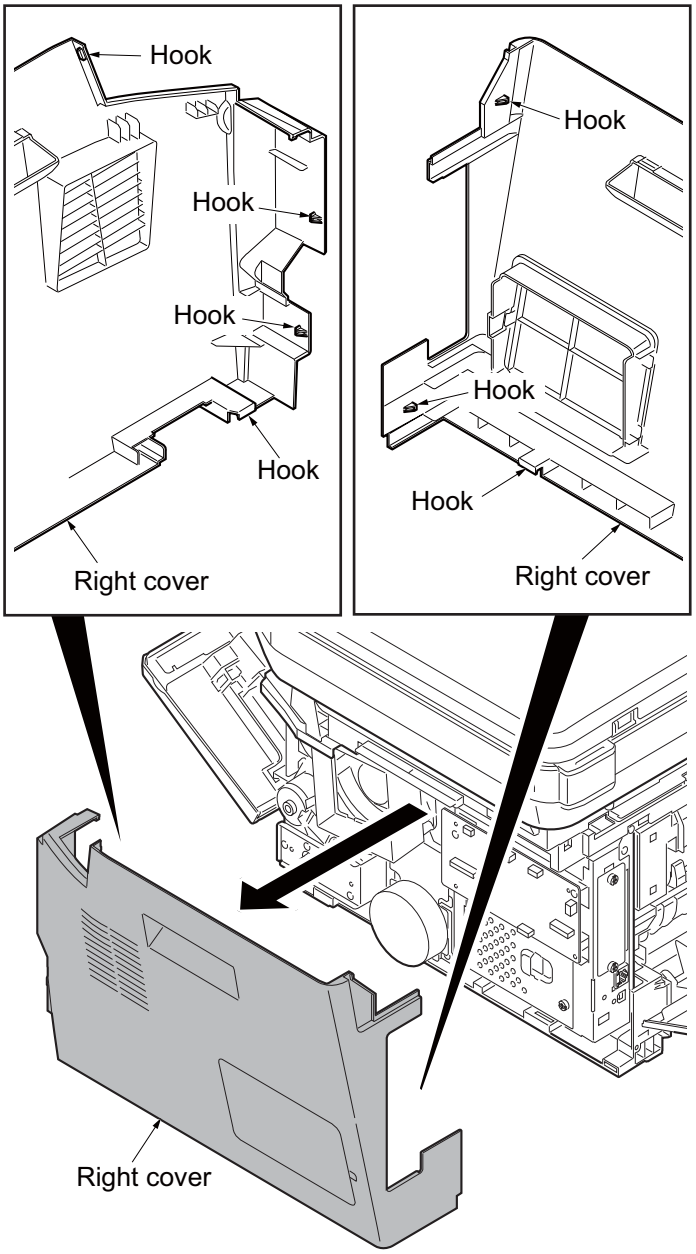


**Figure 1-5-5**

7. Unhook six hooks and then remove the left cover.

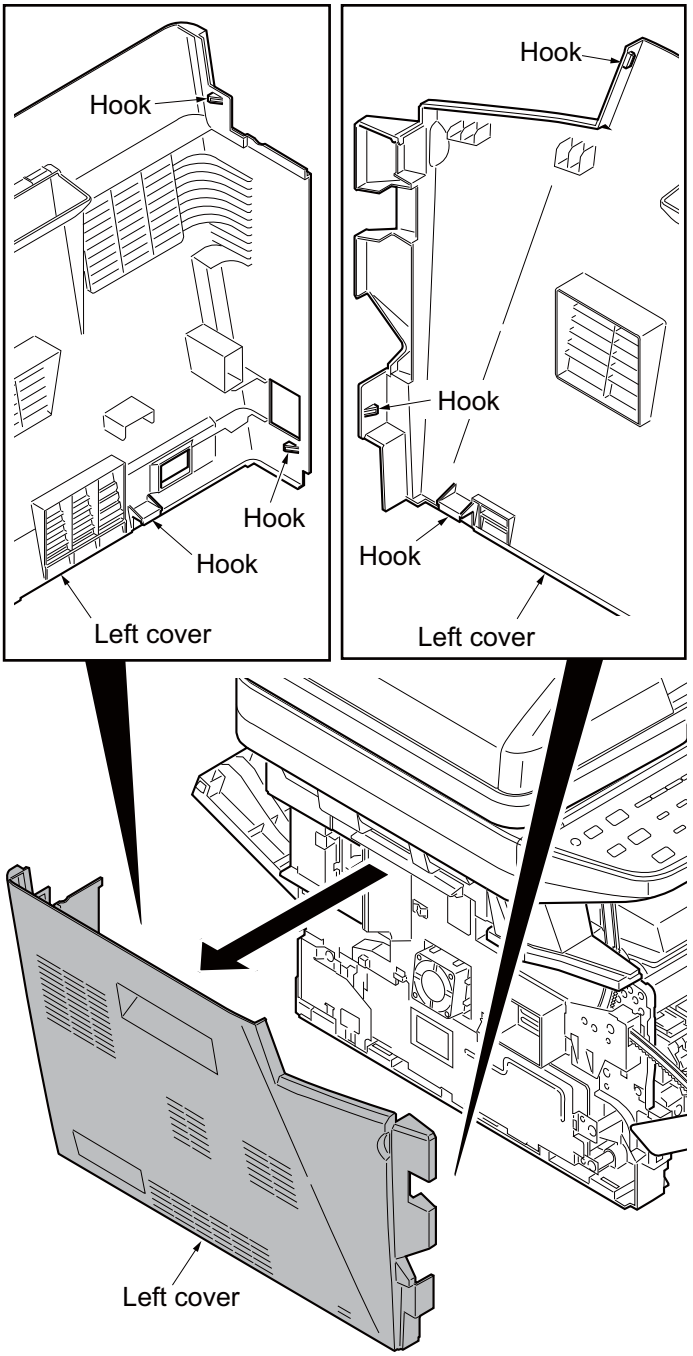


**Figure 1-5-6**

# 1-5-3 Paper feed section

## (1) Detaching and refitting the paper feed assembly (paper feed roller and pickup roller)

**Procedure**

1. Remove the cassette.

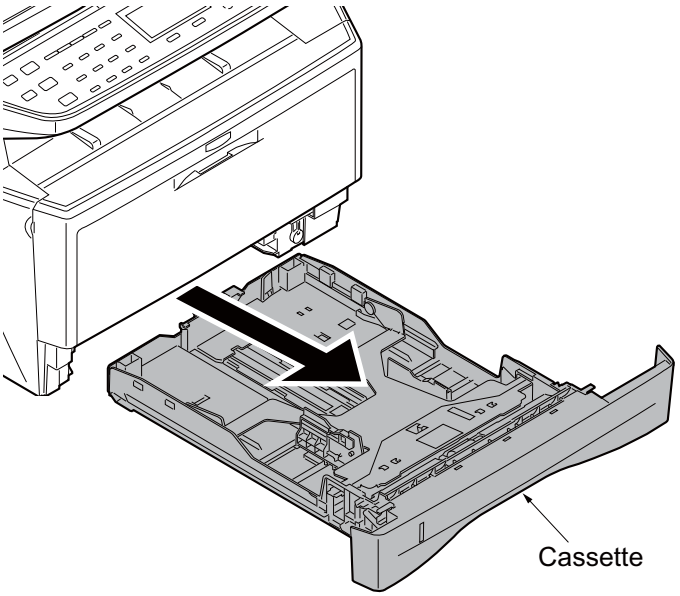


**Figure 1-5-7**

2. Slide the feed shaft.
3. While pressing the lever and then remove the paper feed roller assembly.

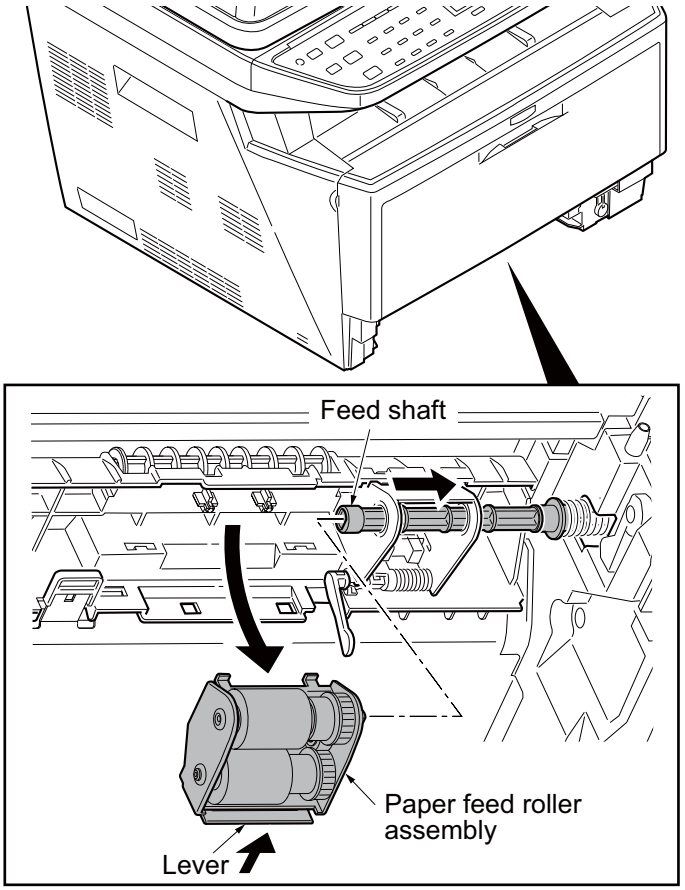


**Figure 1-5-8**

4. Check or replace the paper feed assembly and refit all the removed parts.

   When refitting the paper feed roller assembly, be sure to align the paper feed roller pivot with the slotted hole on the feed shaft.

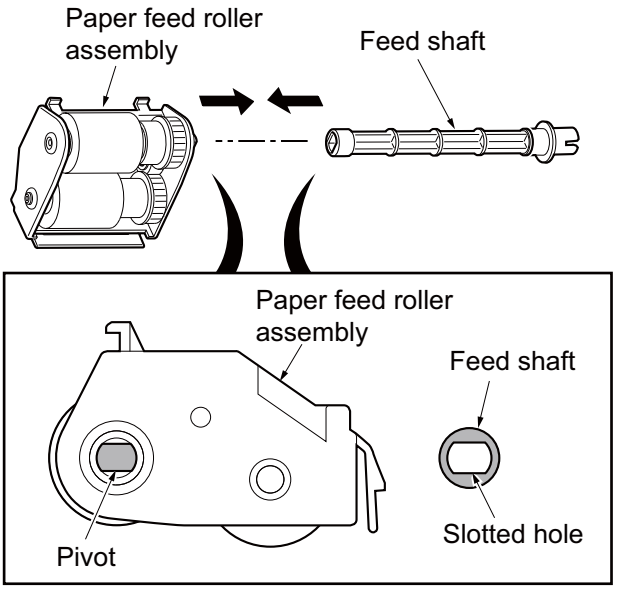


**Figure 1-5-9**

## (2) Detaching and refitting the retard roller assembly

**Procedure**

1. Remove the cassette (See page 1-5-6).
2. Push the bottom plate down until it locks.
3. Unhook two hooks and then remove the retard guide.

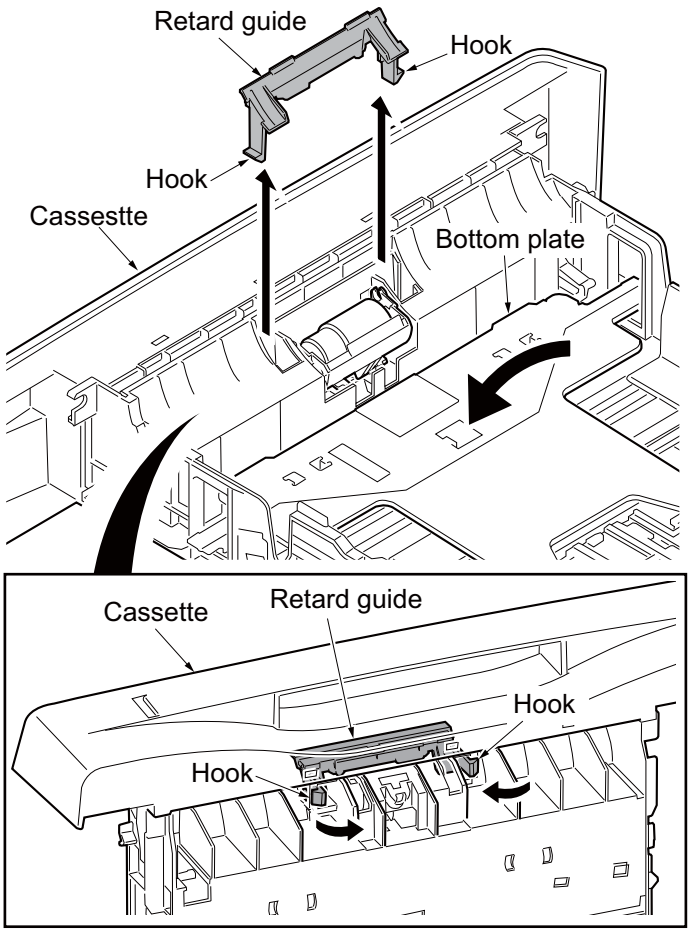


**Figure 1-5-10**

4. Remove the retard roller assembly.

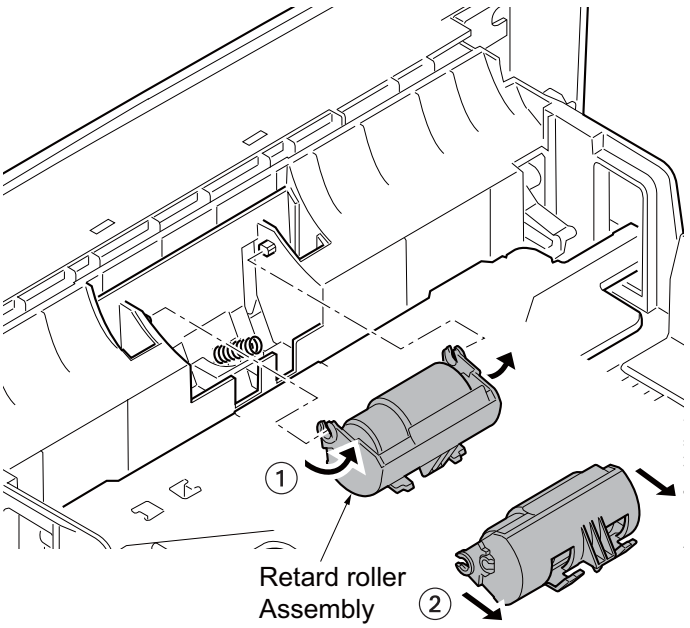


**Figure 1-5-11**

5. Check or replace the retard roller assembly and refit all the removed parts.

   Caution: Before refitting the retard roller assembly, firmly install the spring onto the projection of the retard roller assembly.

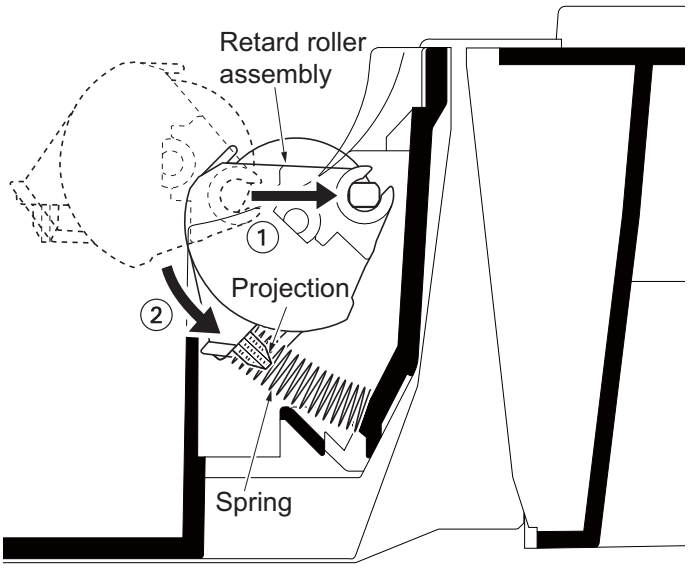


**Figure 1-5-12**

## (3) Detaching and refitting the MP paper feed roller

**Procedure**

1. Open the front cover.
2. Pull the MP feed holder (lever) down. :1
3. Slide the MP feed holder. :2
4. Remove the MP paper feed roller. :3

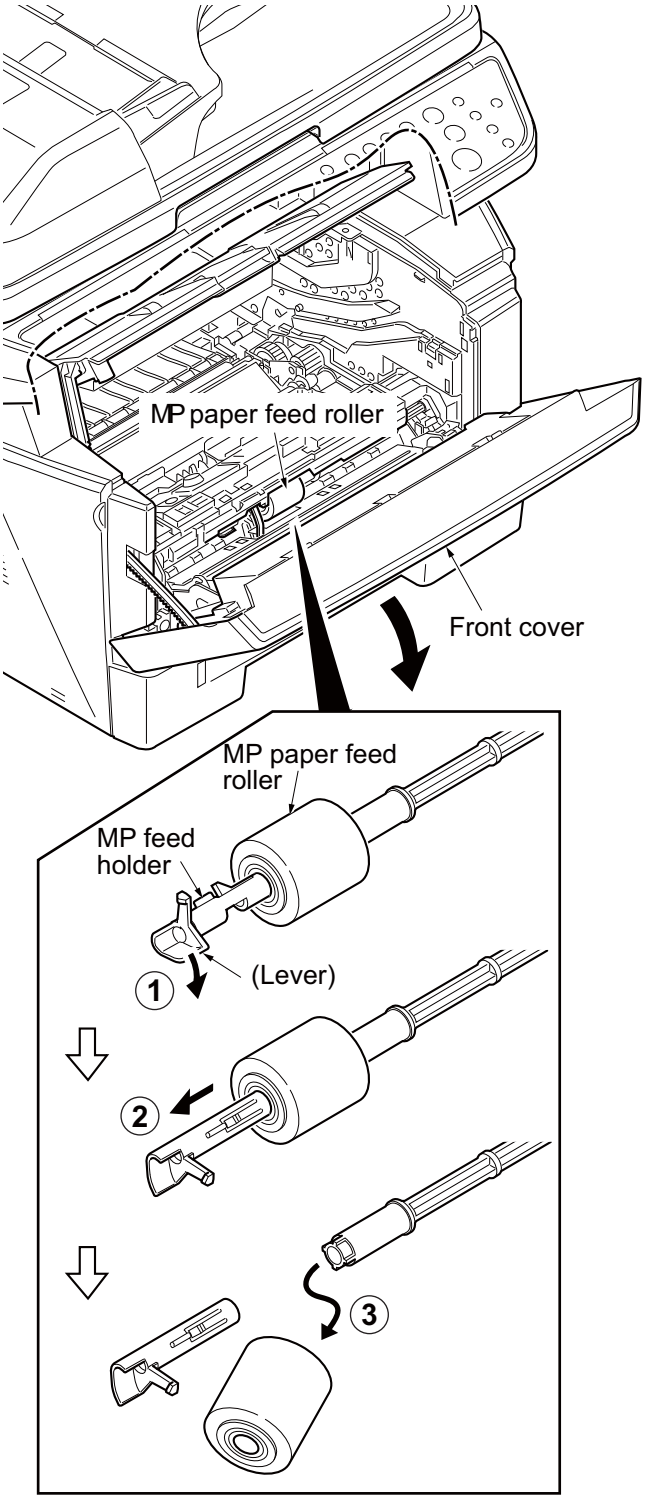


**Figure 1-5-13**

5. Check or replace the MP paper feed roller and refit all the removed parts.

   When refitting the MP paper feed roller, be sure to align the paper feed roller pivot with the slotted hole on the MPF feed shaft.
   When refitting the MP paper feed roller, be sure to align the MPF feed shaft pivot with the slotted hole on the MP paper feed roller.

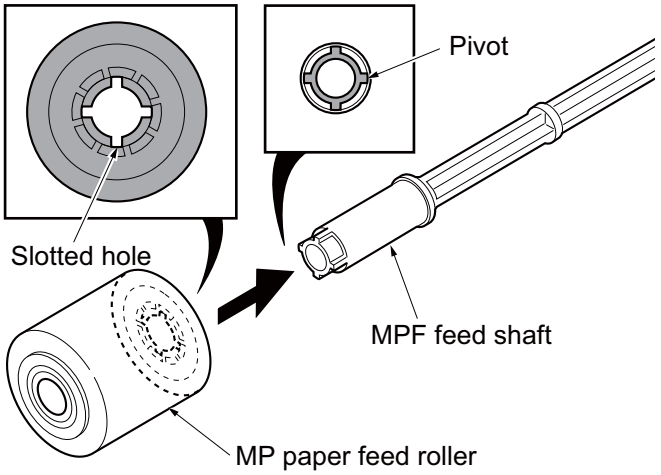


**Figure 1-5-14**

## (4) Note on removing and Installing the upper registration roller and lower registration roller

When reinstalling the upper registration roller or lower registration roller, be sure to use a new registration L spring and registration R spring. Otherwise, paper feeding may be deteriorated due to the spring hooks possibly being distorted during the spring is unhooked.

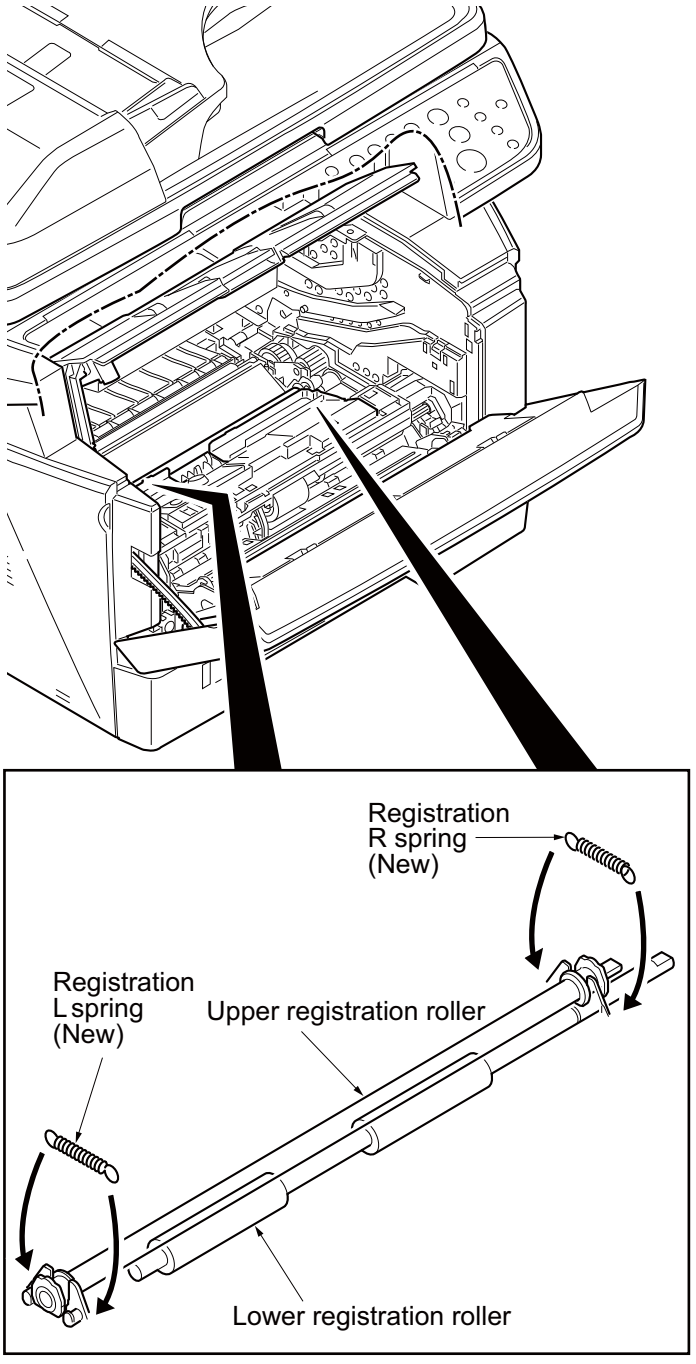


**Figure 1-5-15**

# 1-5-4 Optical section

## (1) Detaching and refitting the DP

**Procedure**

1. Pull the DP out.

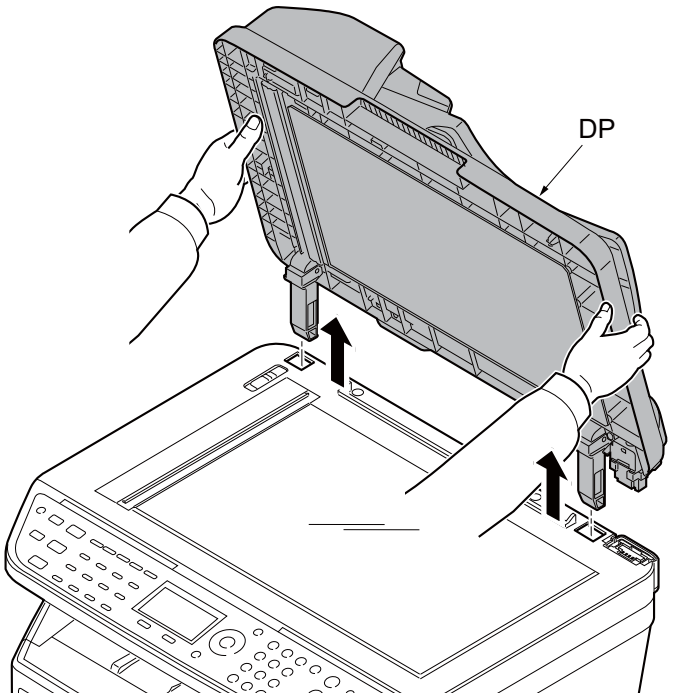


**Figure 1-5-16**

## (2) Detaching and refitting the scanner unit

**Procedure**

1. Remove the DP (See page 1-5-13).
2. Remove the left cover and right cover (See page 1-5-3).
3. Remove the FFC and connector from the control PWB.
4. Remove three connectors from the scanner PWB.

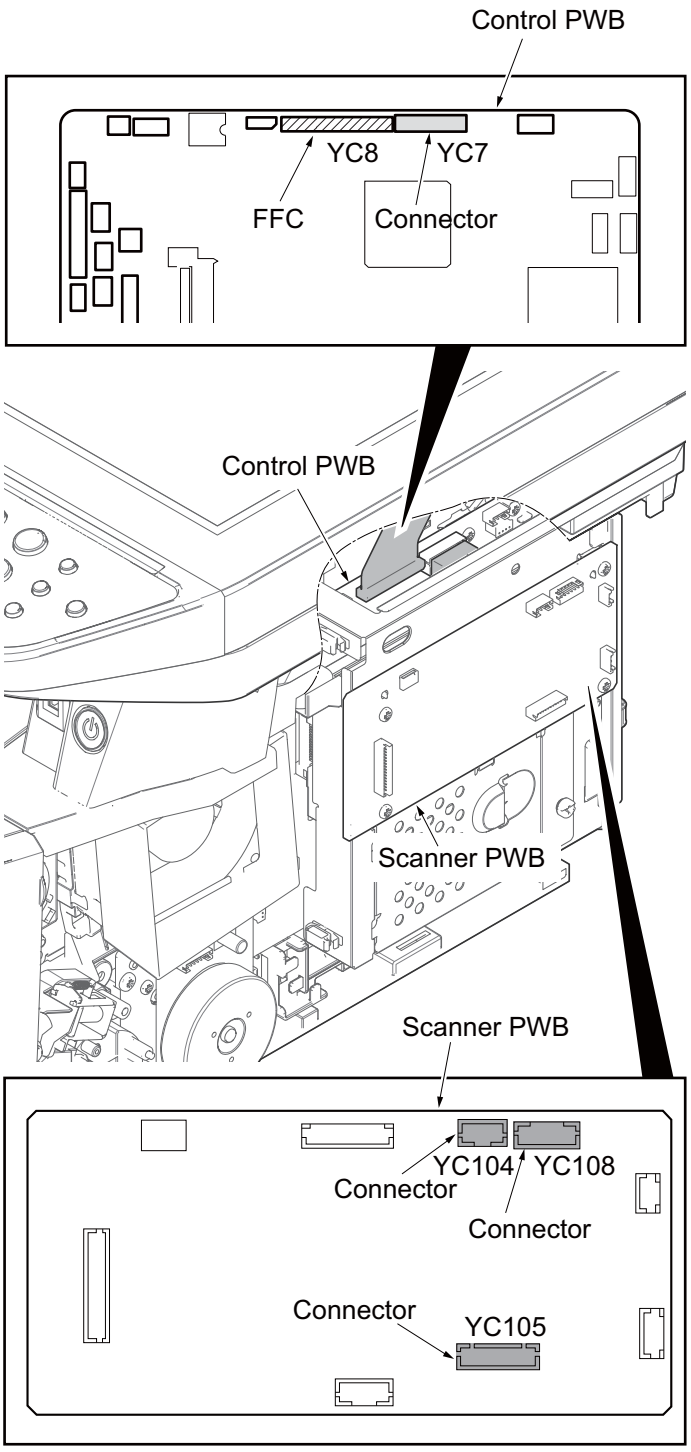


**Figure 1-5-17**

5. Release three clamps and then remove the wires.

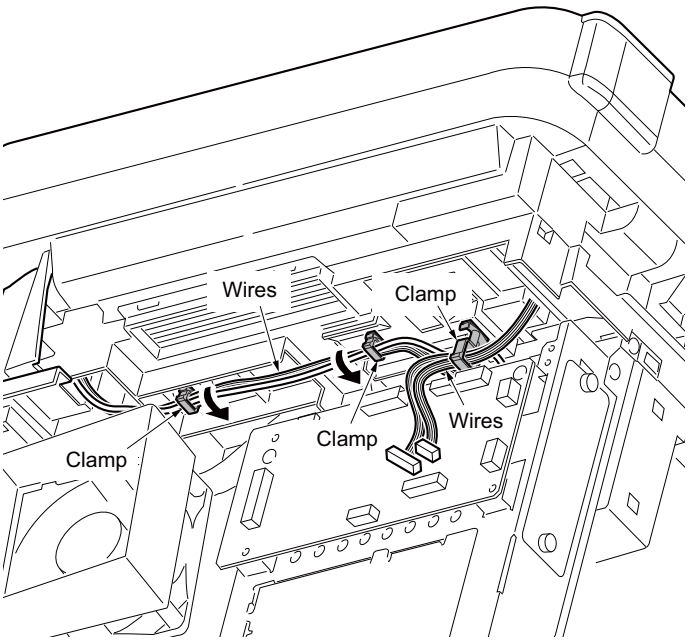


**Figure 1-5-18**

6. Remove two screws.

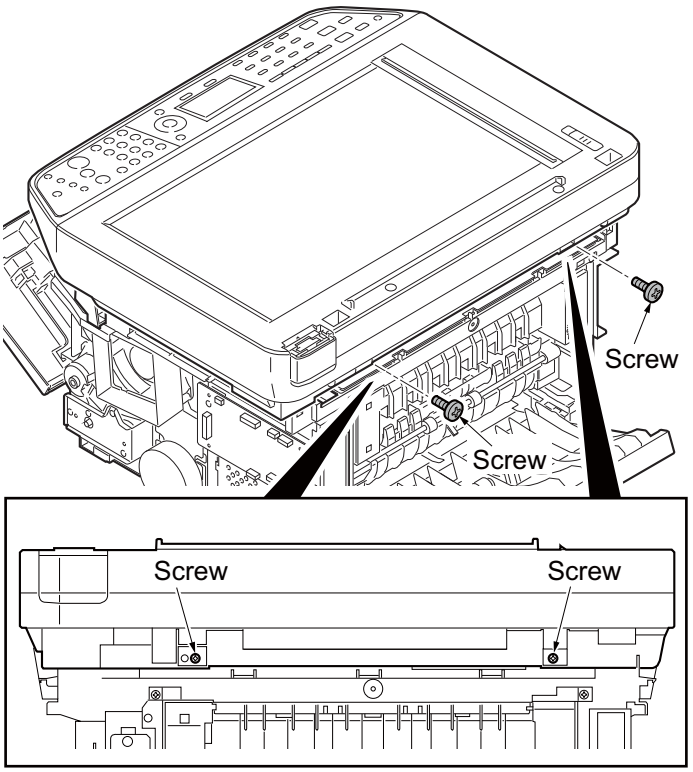


**Figure 1-5-19**

7. Unhook four hooks and then remove the scanner unit.

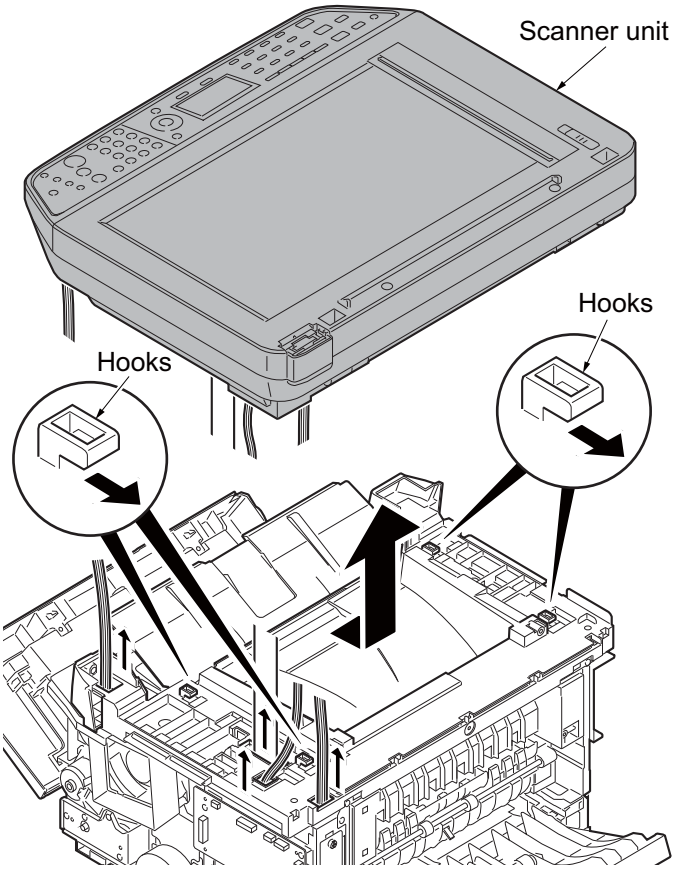


**Figure 1-5-20**

## (3) Detaching and refitting the laser scanner unit (LSU)

**Procedure**

1. Remove the scanner unit (See page 1-5-14).
2. Remove the screw and then remove the grounding terminal.
3. Remove three connectors from the control PWB.

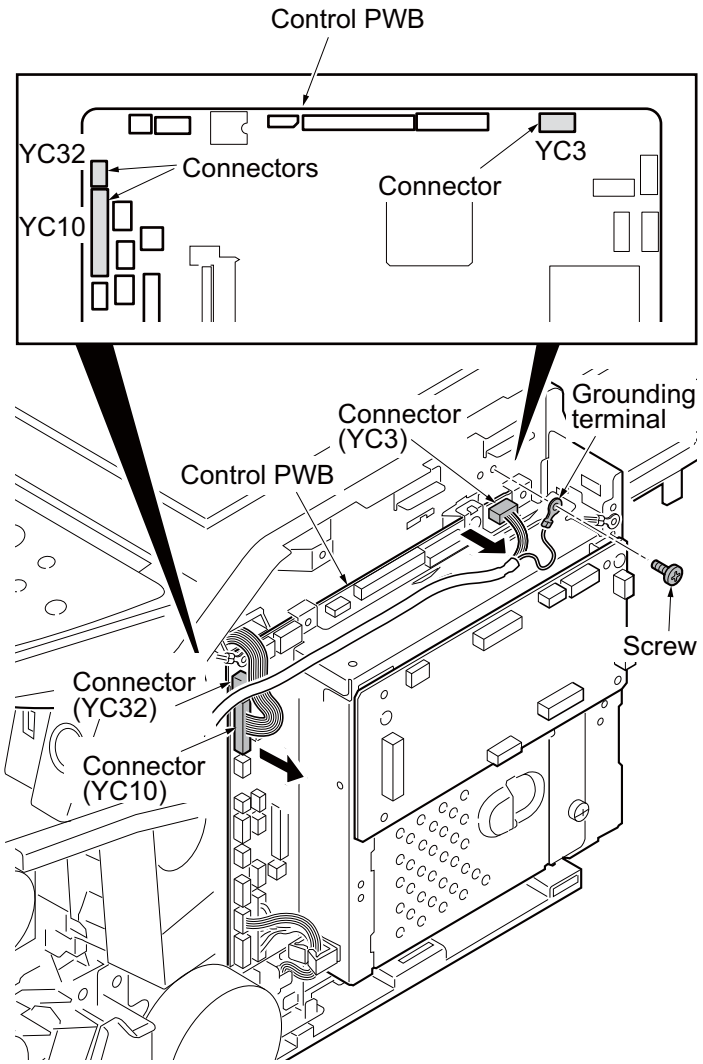


**Figure 1-5-21**

4. Remove the wires from three clamps.
5. Remove the connector from the power source PWB.

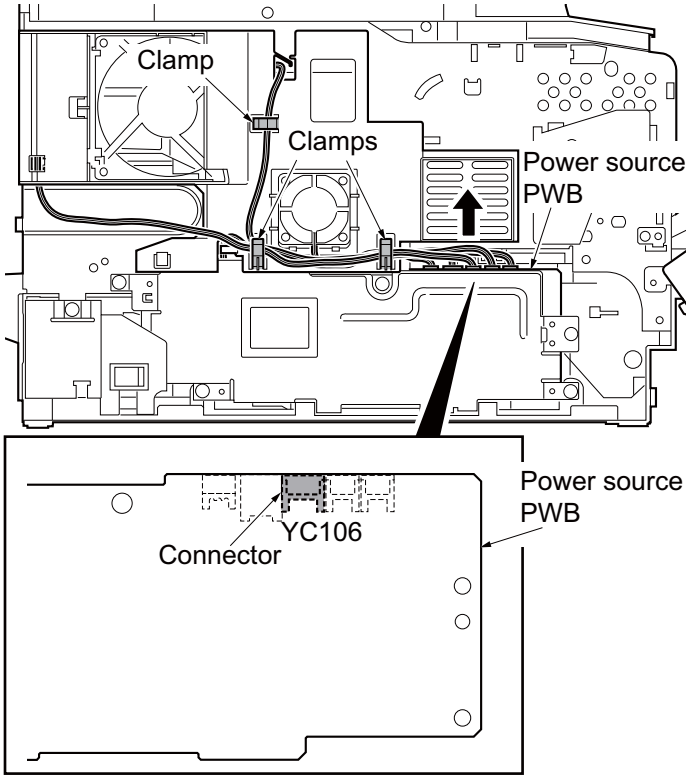


**Figure 1-5-22**

6. Unhook four hooks and then remove the frame left duct.
7. Remove the wires from the clamp.

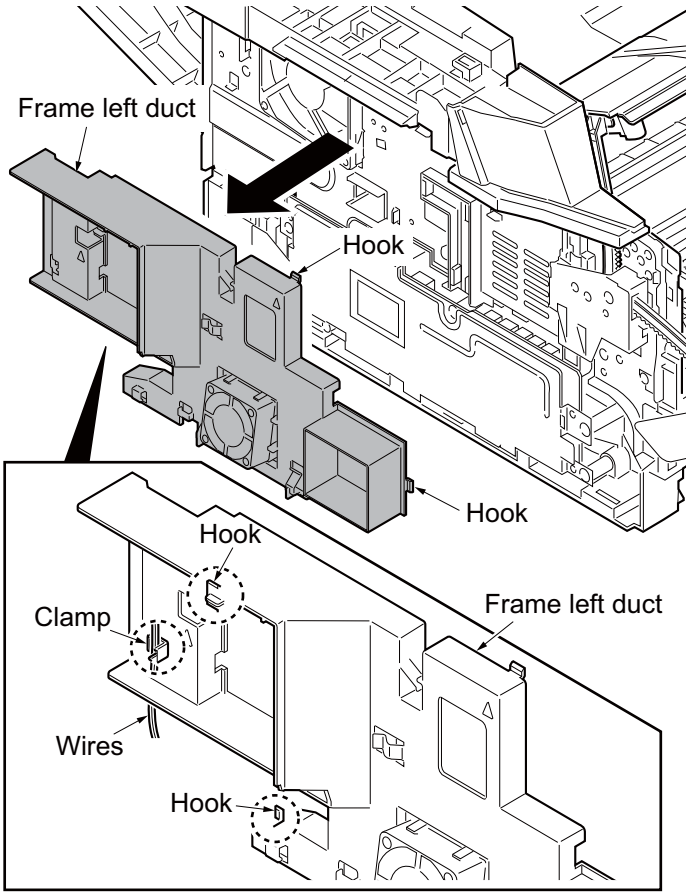


**Figure 1-5-23**

8. Release the hook and then remove the top cover rack-L from the top cover.

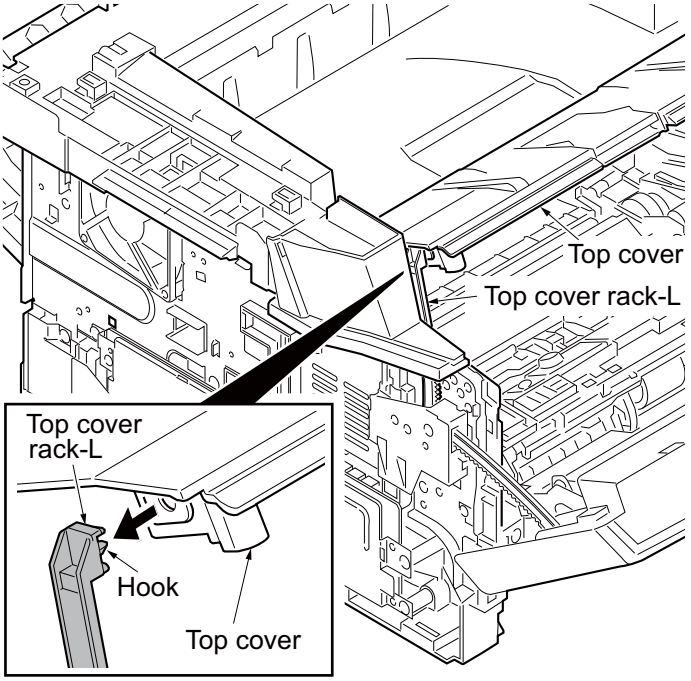


**Figure 1-5-24**

9. Remove four screws from the top cover.

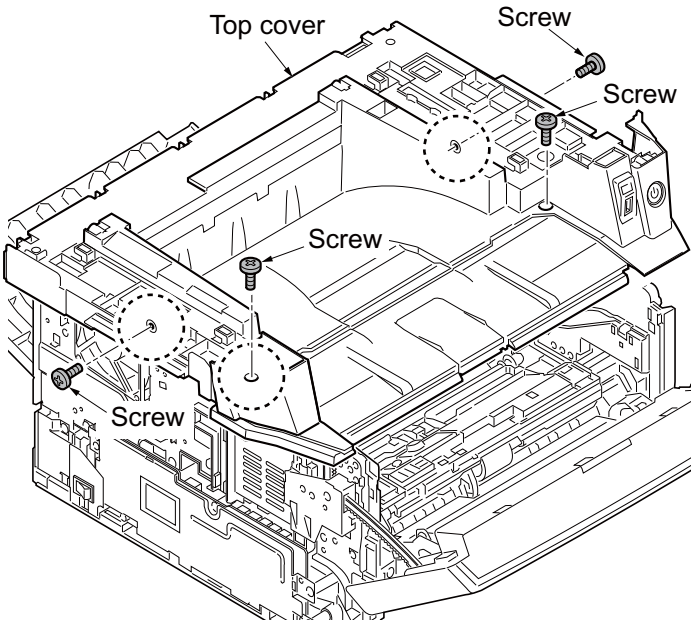


**Figure 1-5-25**

10. Unhook two hooks and then remove the top cover.

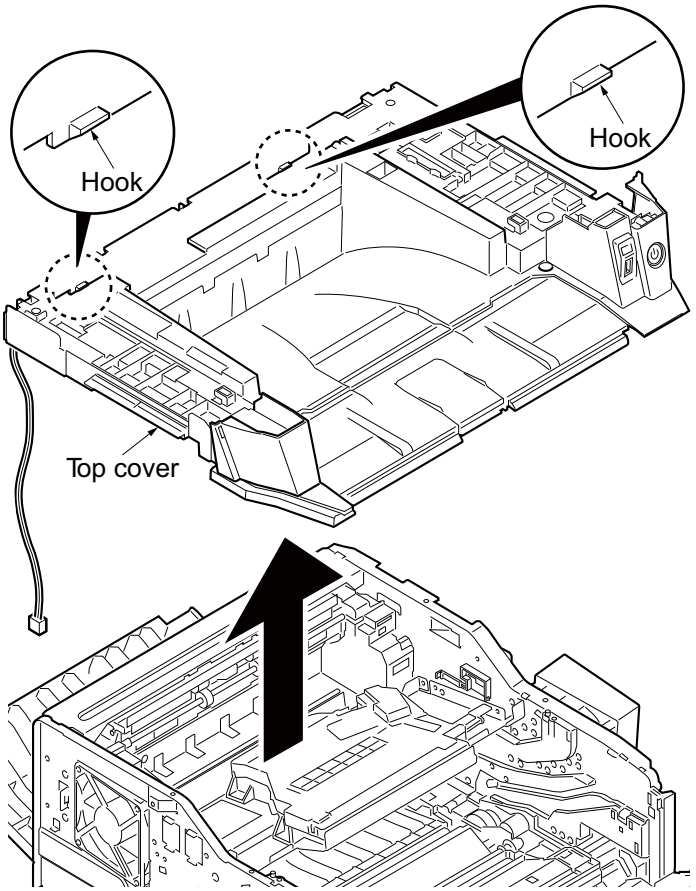


**Figure 1-5-26**

11. Release the clamp and then pull out the wires.
12. Remove four screws and then remove the laser scanner unit (LSU).
13. Check or replace the laser scanner unit (LSU) and refit all the removed parts.

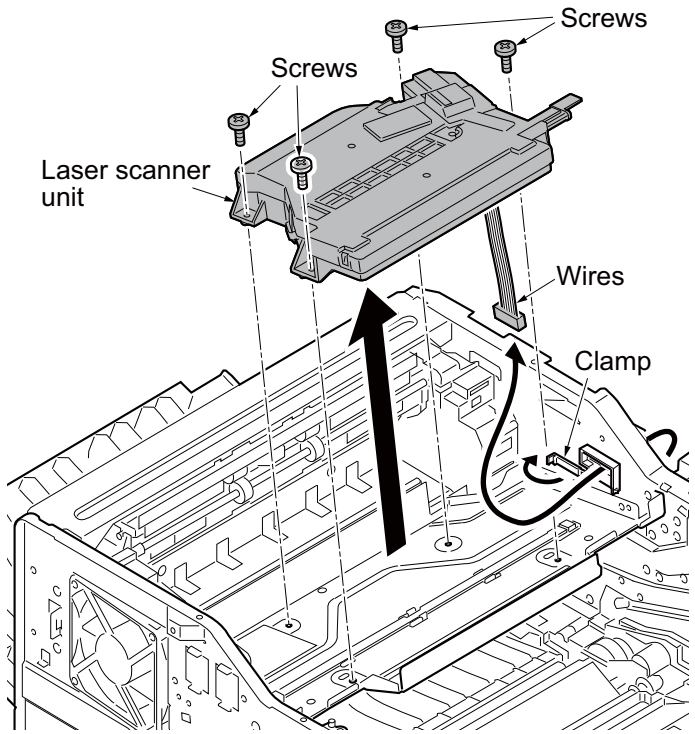


**Figure 1-5-27**

## (4) Replacing the image scanner unit (ISU)

**Procedure**

**Removing the image scanner unit (ISU)**

1. Remove the DP (See page 1-5-13).
2. Unhook two hooks by using a flat screwdriver from the pits.
3. Remove the connector and then remove the operation panel.

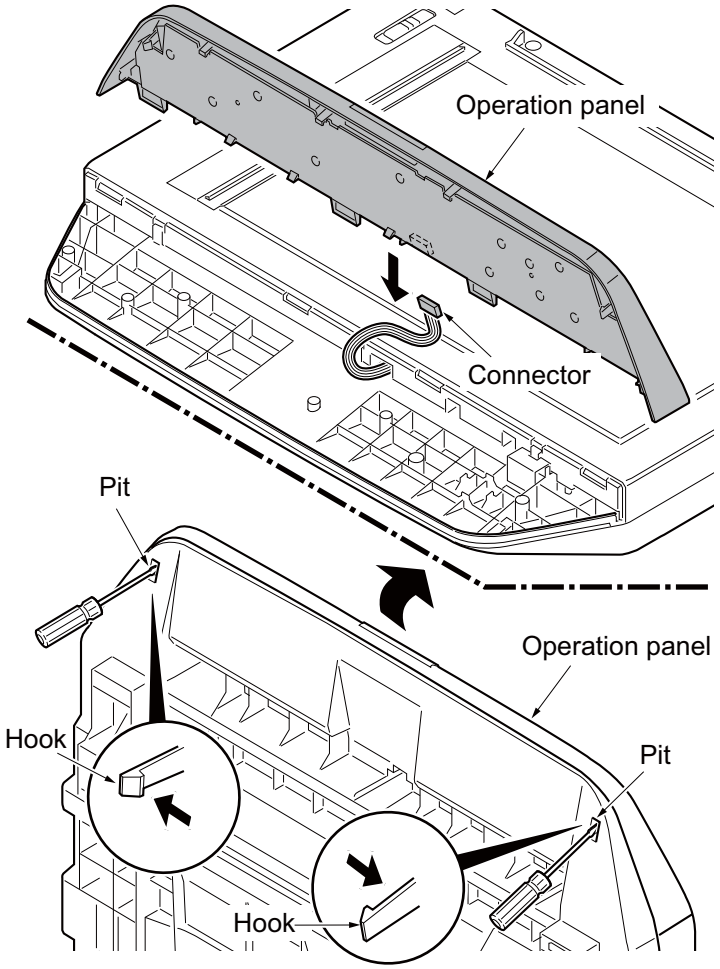


**Figure 1-5-28**

4. Remove two screws.
5. Unhook three hooks and then remove the ISU upper frame.

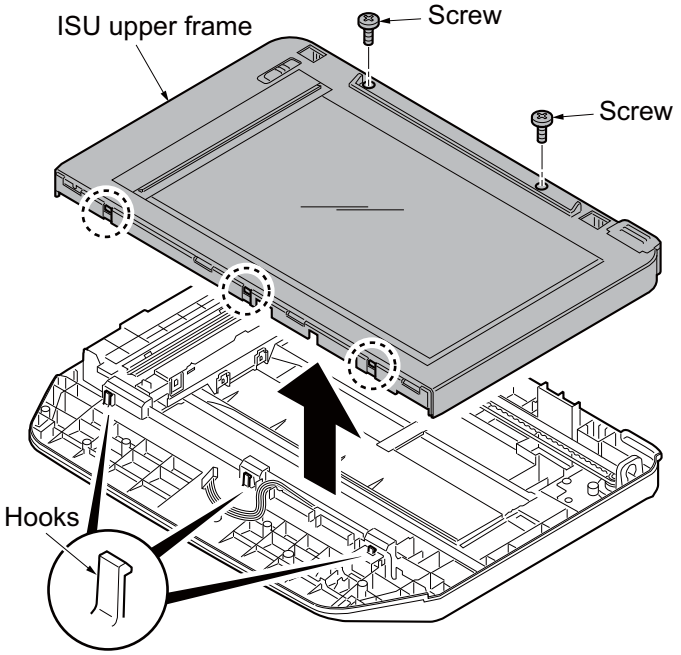


**Figure 1-5-29**

6. Move the image scanner unit (ISU) in the middle of the ISU shaft.
7. Detach the ISU shaft from the holder by lifting it.
8. Pull the ISU shaft out from the ISU.

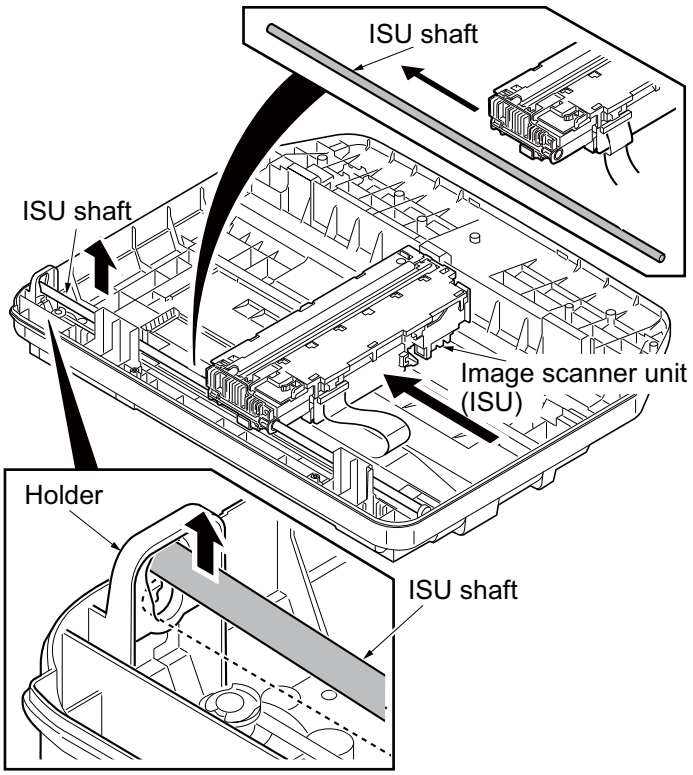


**Figure 1-5-30**

9. Remove the ISU belt from the tension pulley and ISU gear 63/32.
10. Remove the ISU belt from the hooks of the ISU.

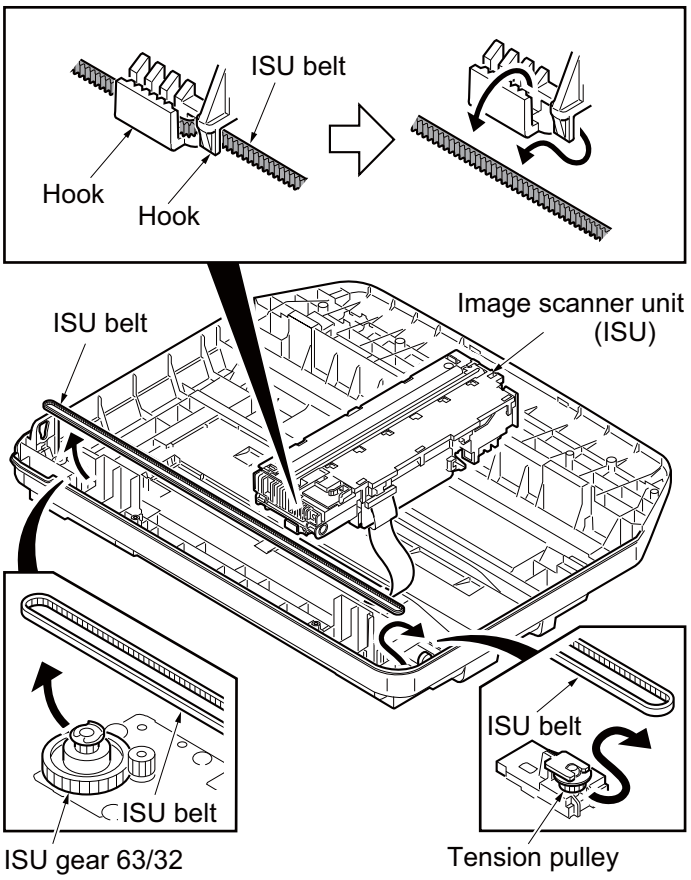


**Figure 1-5-31**

11. Remove the FFC center stopper.

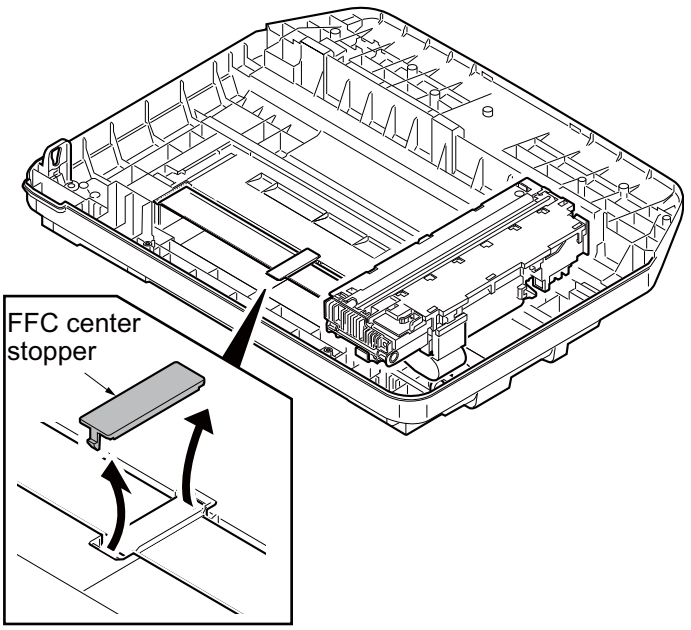


**Figure 1-5-32**

12. Remove the FFC from the FFC tape D.
13. Remove the ferrite core from the pit.
14. Remove the FFC from the FFC tape A.

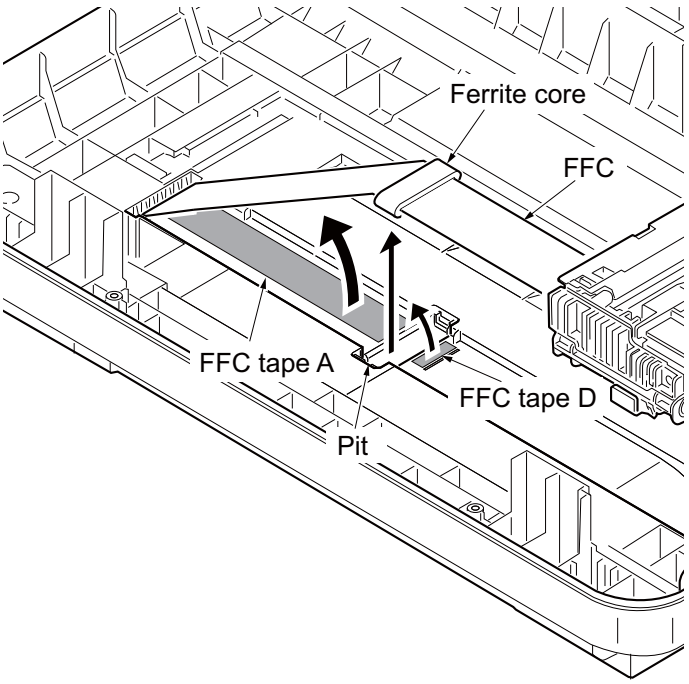


**Figure 1-5-33**

15. Fold the end of the FFC and then pull the FFC out from the ISU lower frame.
16. Remove the FFC tape D and A from the ISU lower frame.
17. Clean the adhesive residue of the FFC tape D and A.

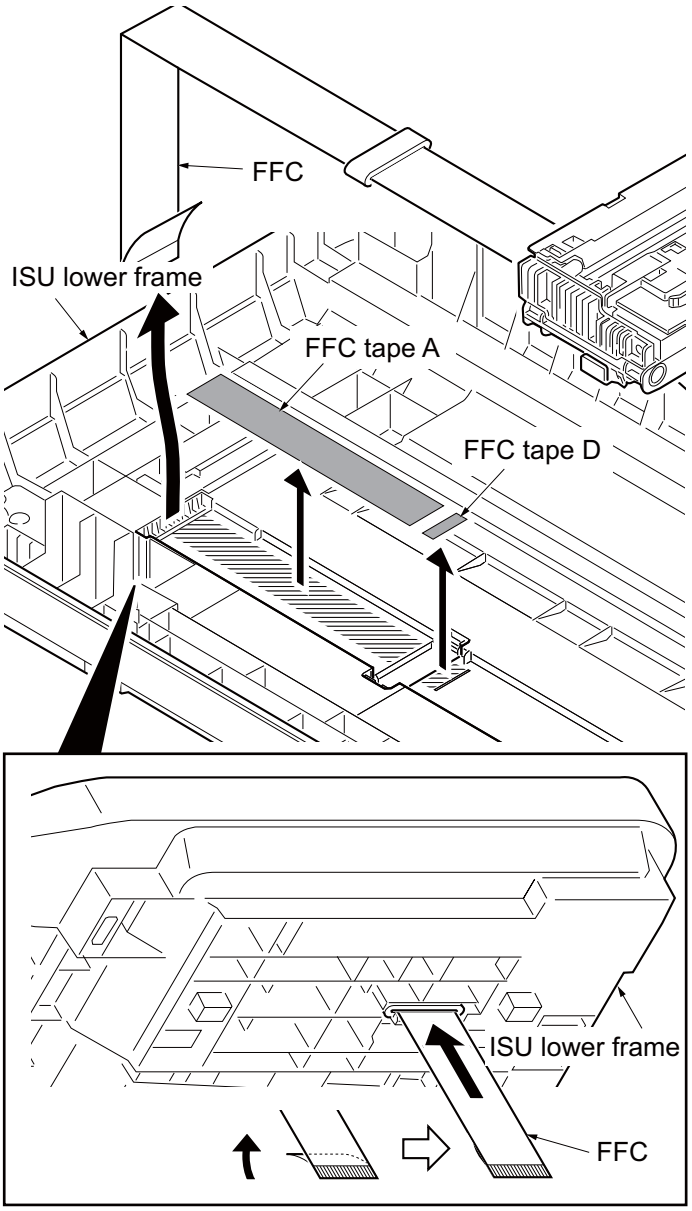


**Figure 1-5-34**

18. Remove the ferrite core from the FFC.

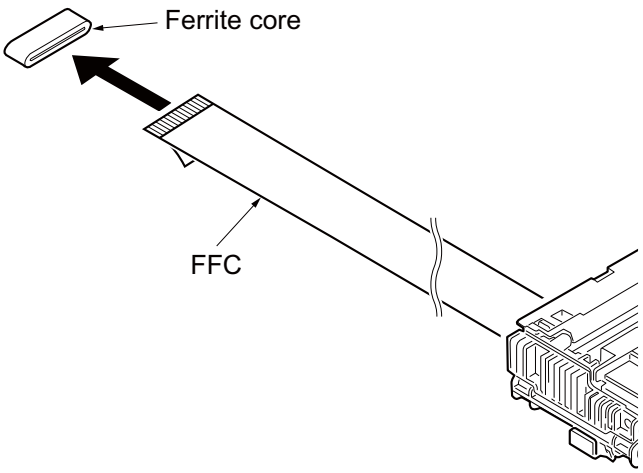


**Figure 1-5-35**

**Installing the image scanner unit (ISU)**

1. Peel off the protective seal on one side from the FFC tape D.
2. Stick the FFC tape D on the ISU lower frame, aligned with the marking of the frame.
   (Sticking standards: See right figure)
3. Peel off the protective seal on the other side of the FFC tape A.
4. Stick the FFC tape A on the ISU lower frame.
   (At the right for how to correctly sick the tape in position, see the figure.)

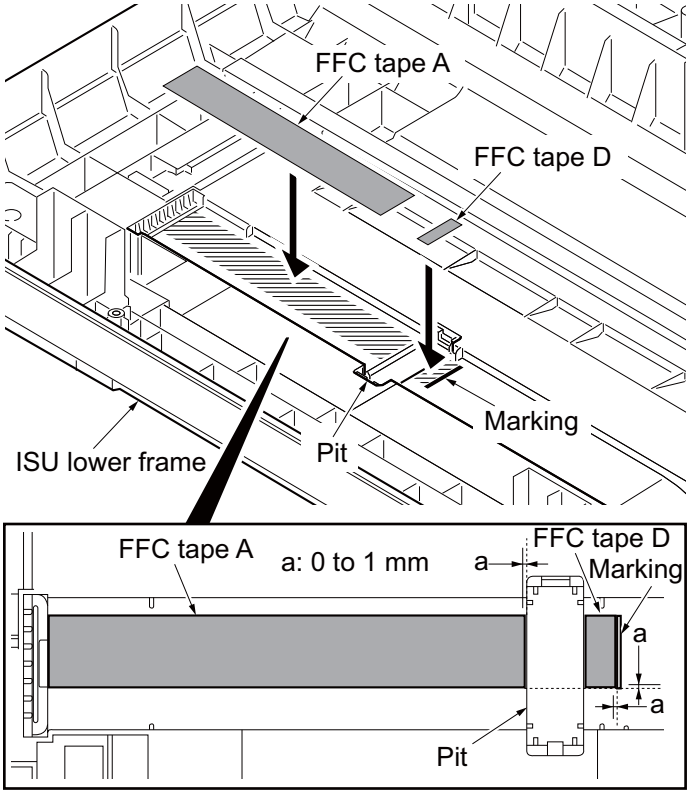


**Figure 1-5-36**

5. Fix the ferrite core onto the FFC.

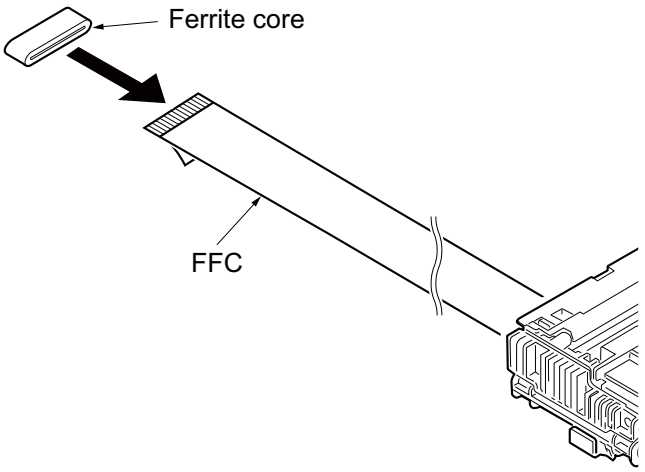


**Figure 1-5-37**

6. Peel off the protective seal from the FFC tape D.
7. Align the line marking on the FFC with the rib on the ISU lower frame, then fix the FFC to the FFC tape D.
8. Install the ferrite core in the pit.
9. Peel off the released paper from the FFC tape A.
10. Stick the FFC on the FFC tape A.

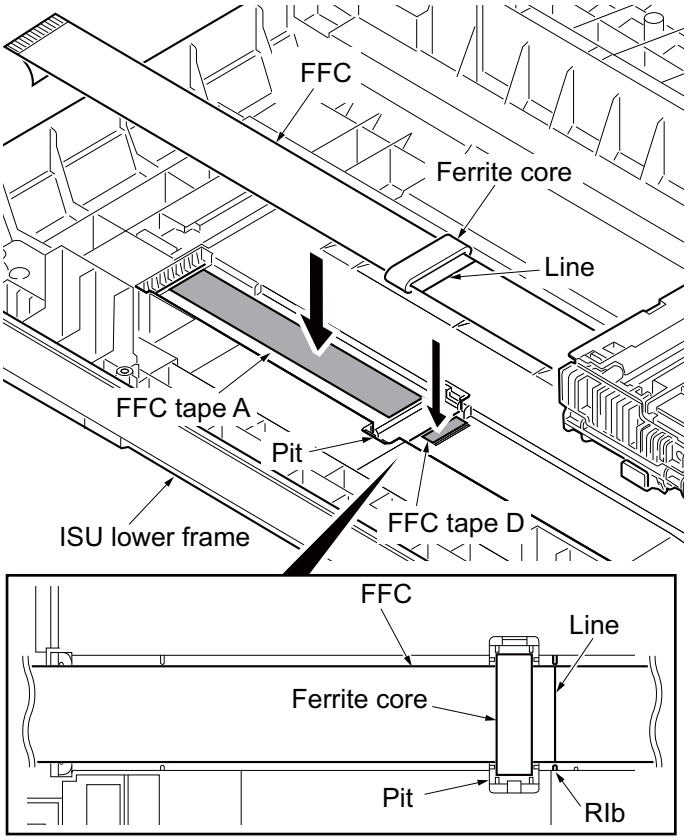


**Figure 1-5-38**

11. Thread an end of the FFC through the ISU lower frame.
12. Refer to the step 11 to 1 and refit all the removed parts.

NOTE:
When the replacing the image scanner unit (ISU), perform following maintenance modes.

1. U425 Setting the target (see page 1-3-42)
2. U411 Adjusting the scanner automatically (see page 1-3-39)

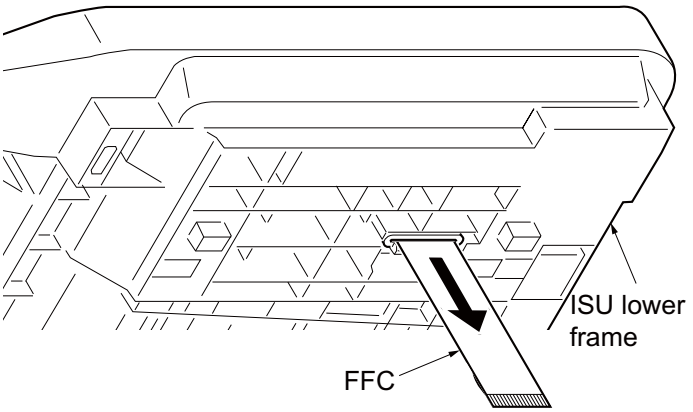


**Figure 1-5-39**

# 1-5-5 Developer section

## (1) Detaching and refitting the developer unit

**Procedure**

1. Open the front cover.
2. Remove the developer unit.
3. Check or replace the developer unit and refit all the removed parts.

NOTE:
When the periodic maintenance (replacing the maintenance kit, see page 2-4-4), perform following maintenance modes.

1. U251 Clearing the maintenance count (see page 1-3-31)

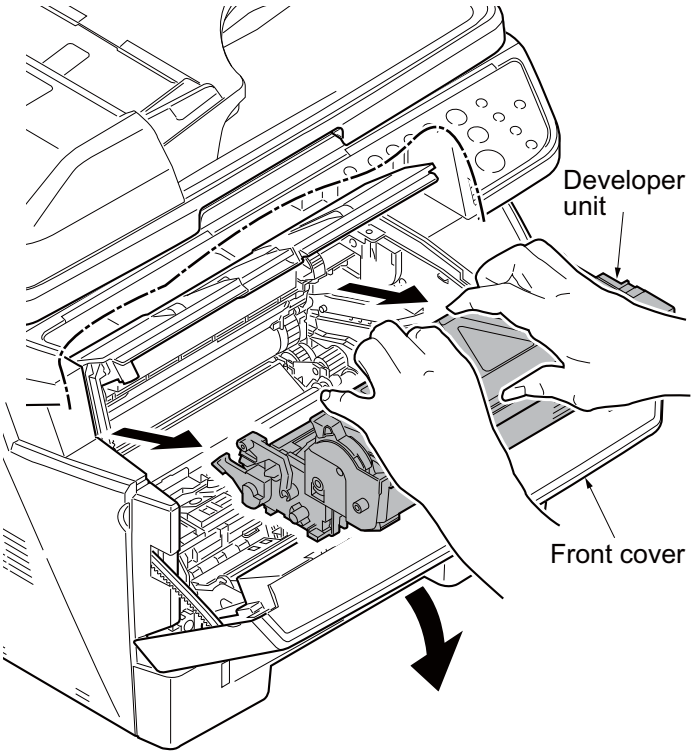


**Figure 1-5-40**

# 1-5-6 Drum section

## (1) Detaching and refitting the drum unit

**Procedure**

1. Remove the developer unit (See page 1-5-27).
2. Remove the drum unit.
3. Check or replace the drum unit and refit all the removed parts.

NOTE:
When the periodic maintenance (replacing the maintenance kit, see page 2-4-4), perform following maintenance modes.

1. U251 Clearing the maintenance count (see page 1-3-31)

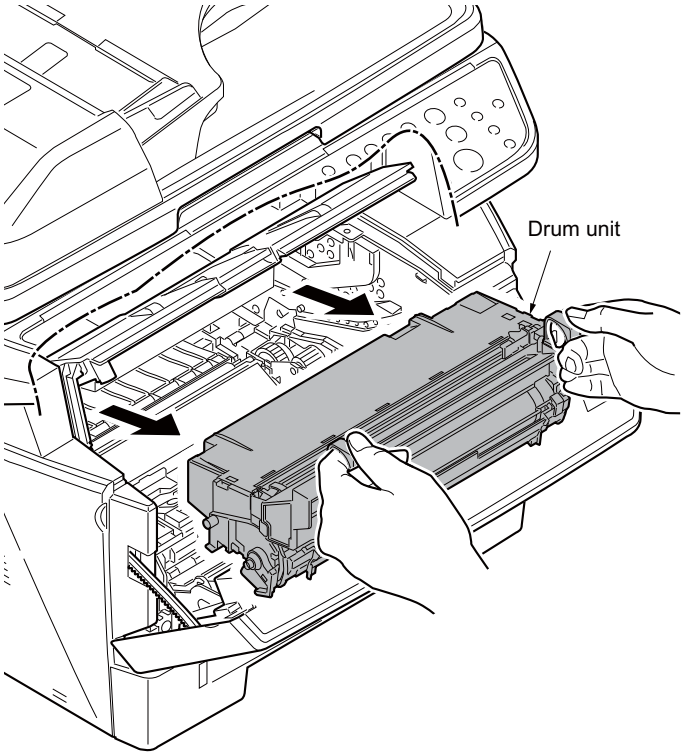


**Figure 1-5-41**

## (2) Detaching and refitting the main charger unit

**Procedure**

1. Remove the developer unit (See page 1-5-27).
2. Remove the drum unit (See page 1-5-28).
3. Remove the tape.
4. While pushing on the main plate 1, slide the main charger unit 2.

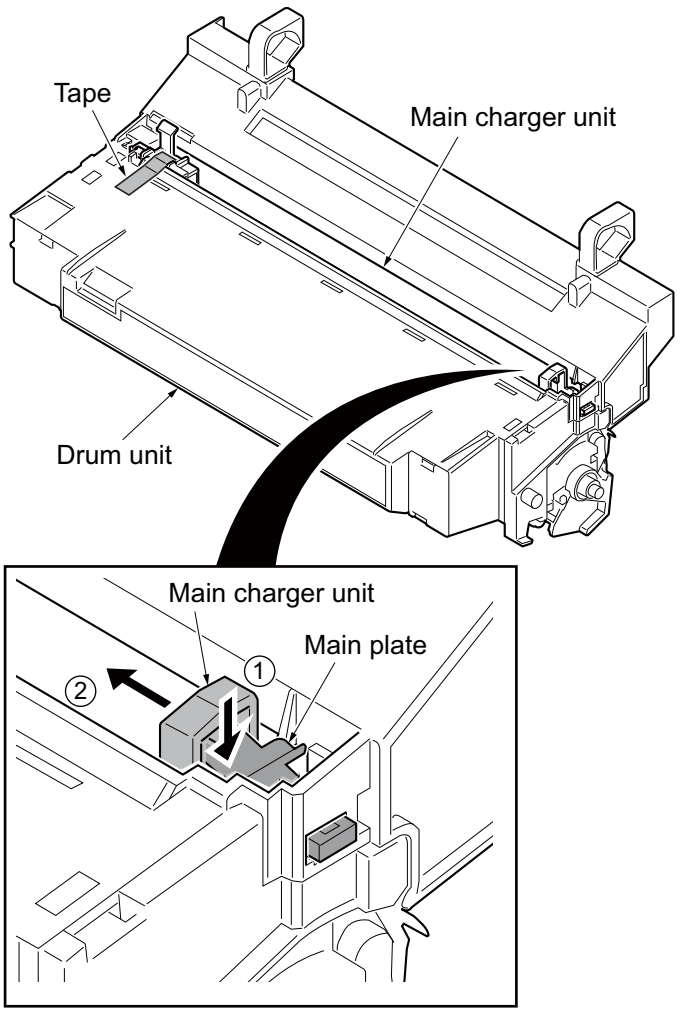


**Figure 1-5-42**

5. Remove the main charger unit by lifting it.
6. Check or replace the main charger unit and refit all the removed parts.

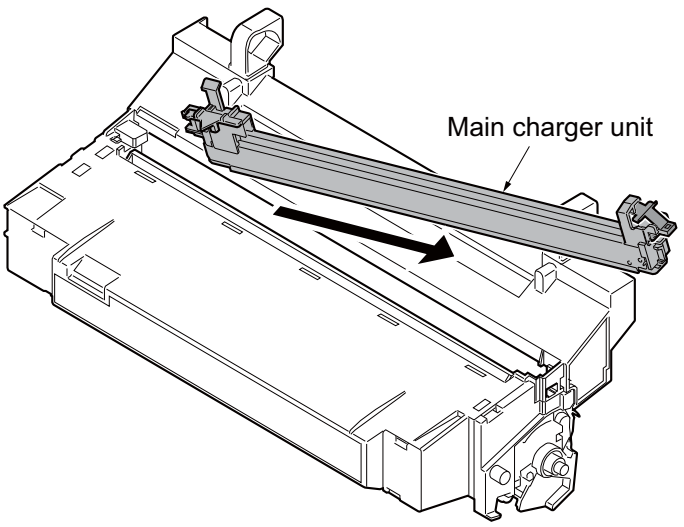


**Figure 1-5-43**

# 1-5-7 Transfer/separation section

## (1) Detaching and refitting the transfer roller

**Procedure**

1. Remove the developer unit (See page 1-5-27).
2. Remove the drum unit (See page 1-5-28).
3. Slide the paper chute guide and unhook the hooks.
4. Remove the paper chute guide.

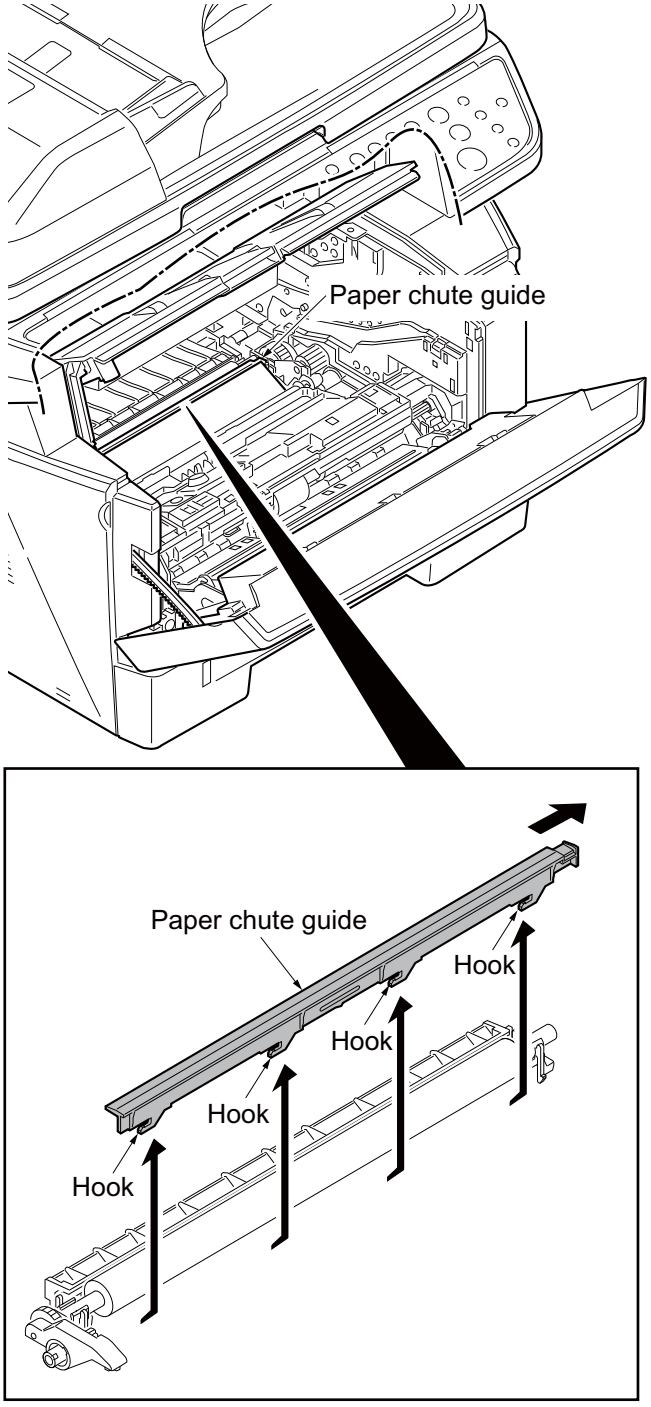


**Figure 1-5-44**

5. Remove the transfer roller's shaft from the both transfer bushes.
6. Remove the gear Z16 from the transfer roller.

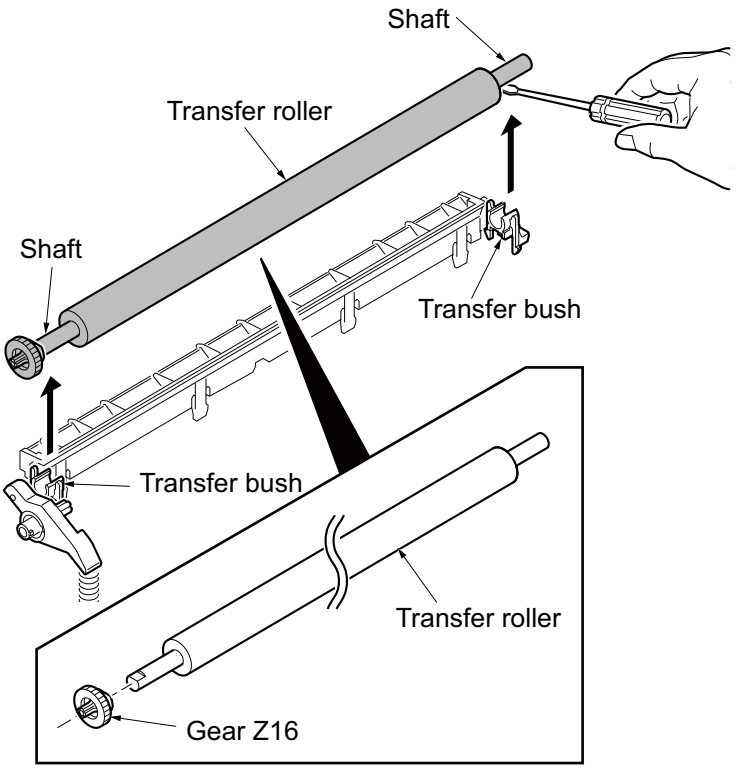


**Figure 1-5-45**

7. Check or replace the transfer roller and refit all the removed parts.

   Caution: When refitting the transfer roller, be careful about following point. Push the release lever to raise the lever end, then insert the front of gear Z16 under the release lever end.

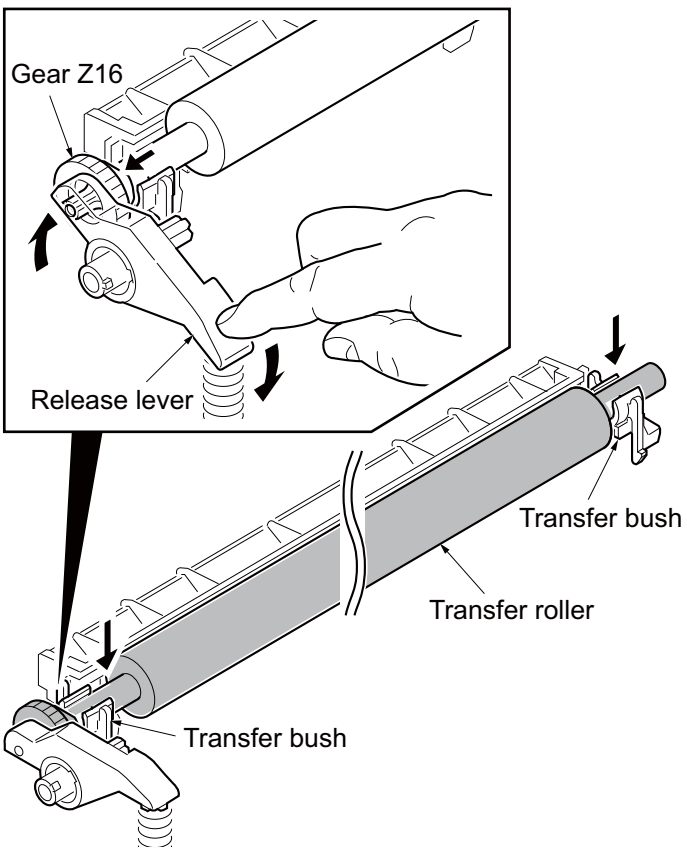


**Figure 1-5-46**

# 1-5-8 Fuser section

## (1) Detaching and refitting the fuser unit

**Procedure**

1. Remove the left cover and right cover (See page 1-5-3).
2. Remove the wires from three clamps.
3. Remove the connector from the power source PWB.

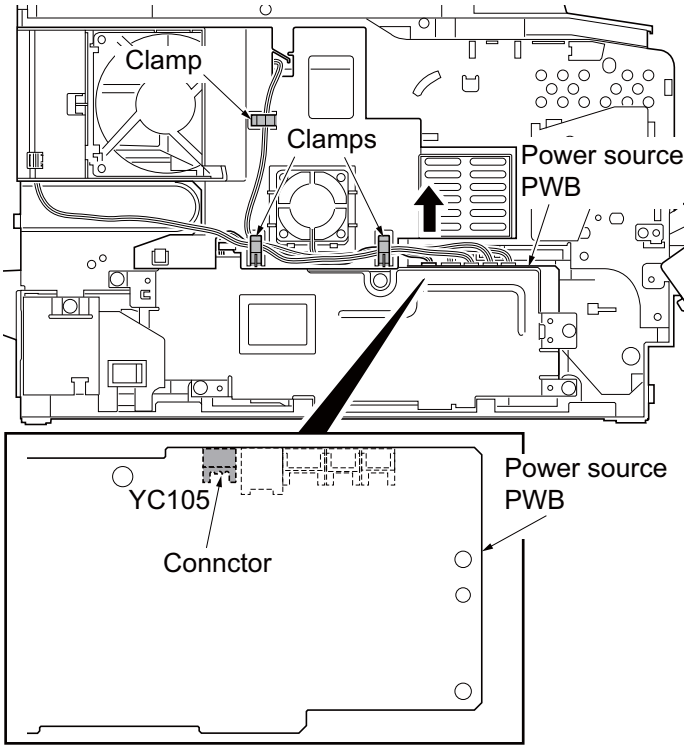


**Figure 1-5-47**

4. Unhook four hooks and then remove the frame left duct.
5. Remove the wires from the clamp.

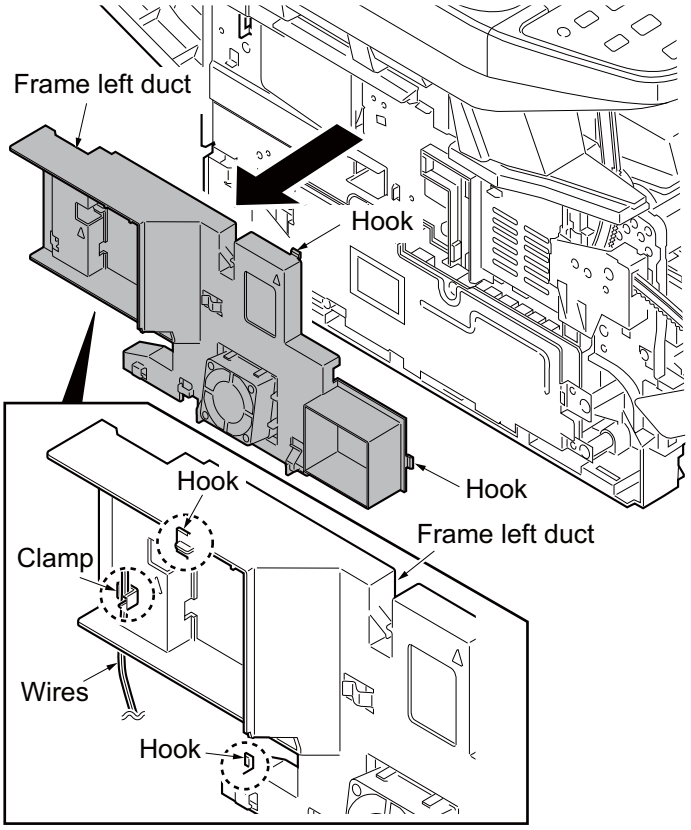


**Figure 1-5-48**

6. Remove the connector from the power source PWB.

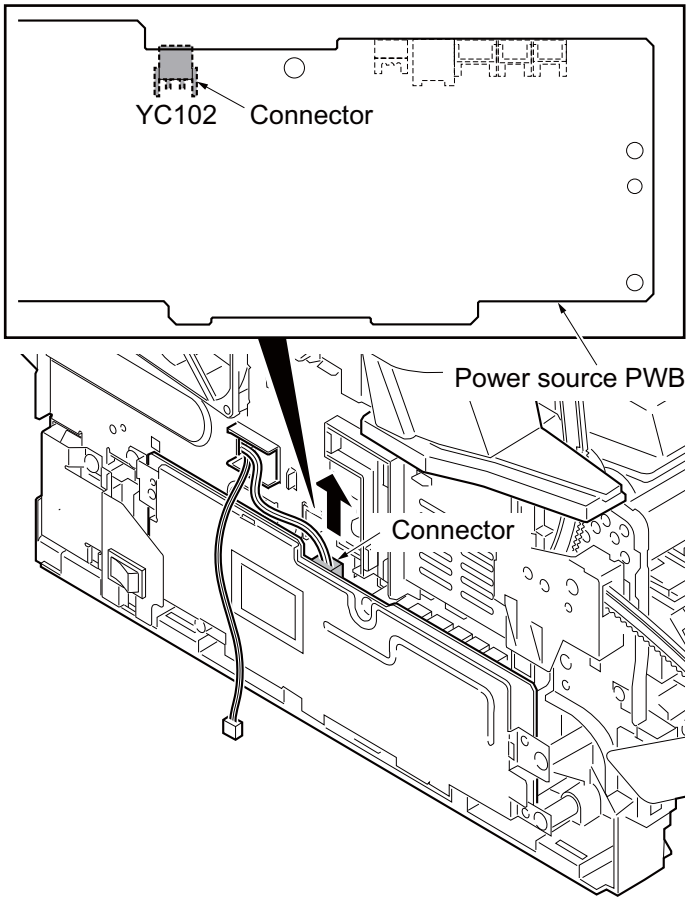


**Figure 1-5-49**

7. Remove the connector from the control PWB.

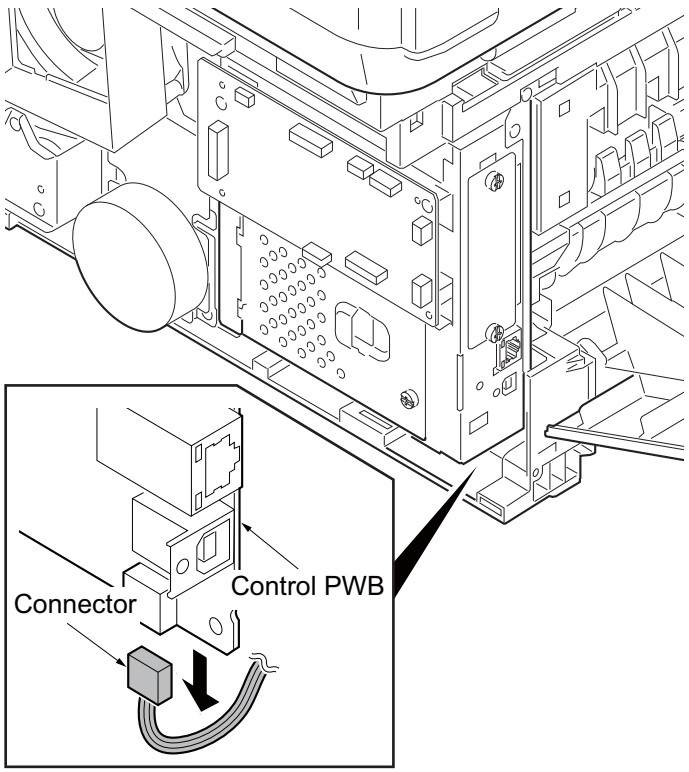


**Figure 1-5-50**

8. Remove the rear cover.

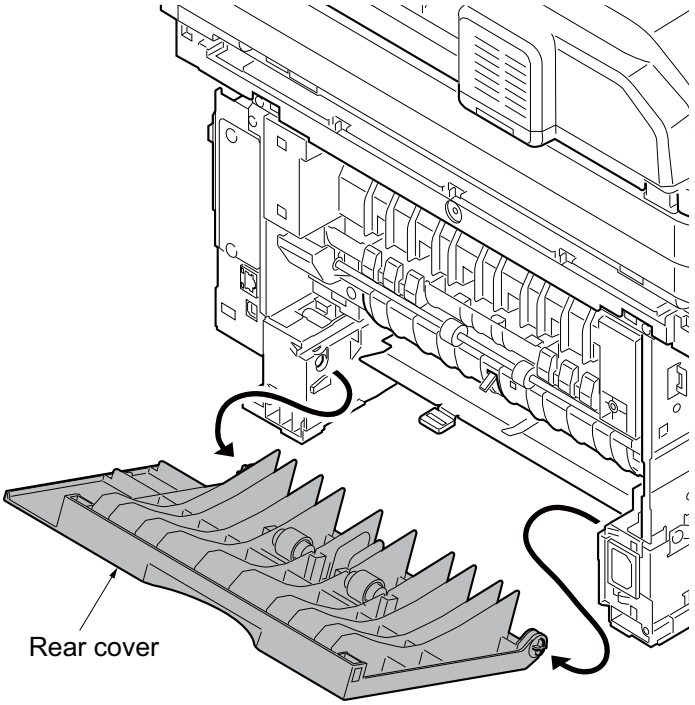


**Figure 1-5-51**

9. Remove two screws and then remove the fuser unit.

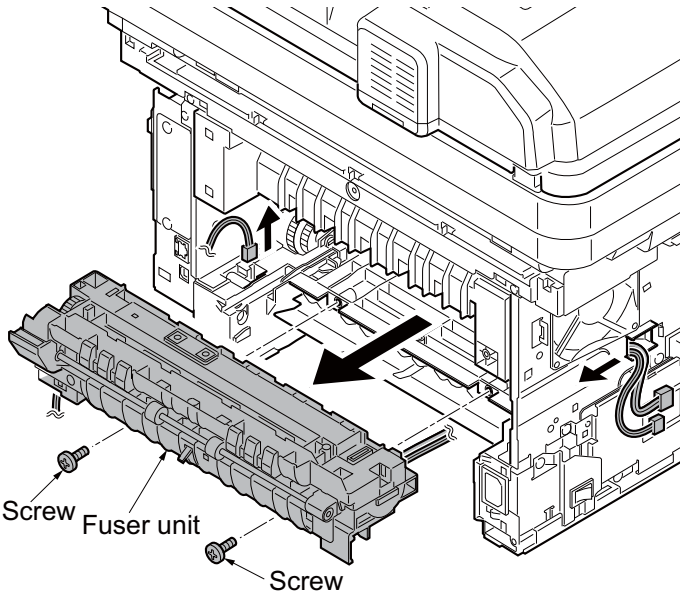


Figure 1-5-52

10. Check or replace the fuser unit and refit all the removed parts.

    Caution: When reinstalling the fuser unit, tighten up a screw while pressing the fuser unit in order of 1 to 2.

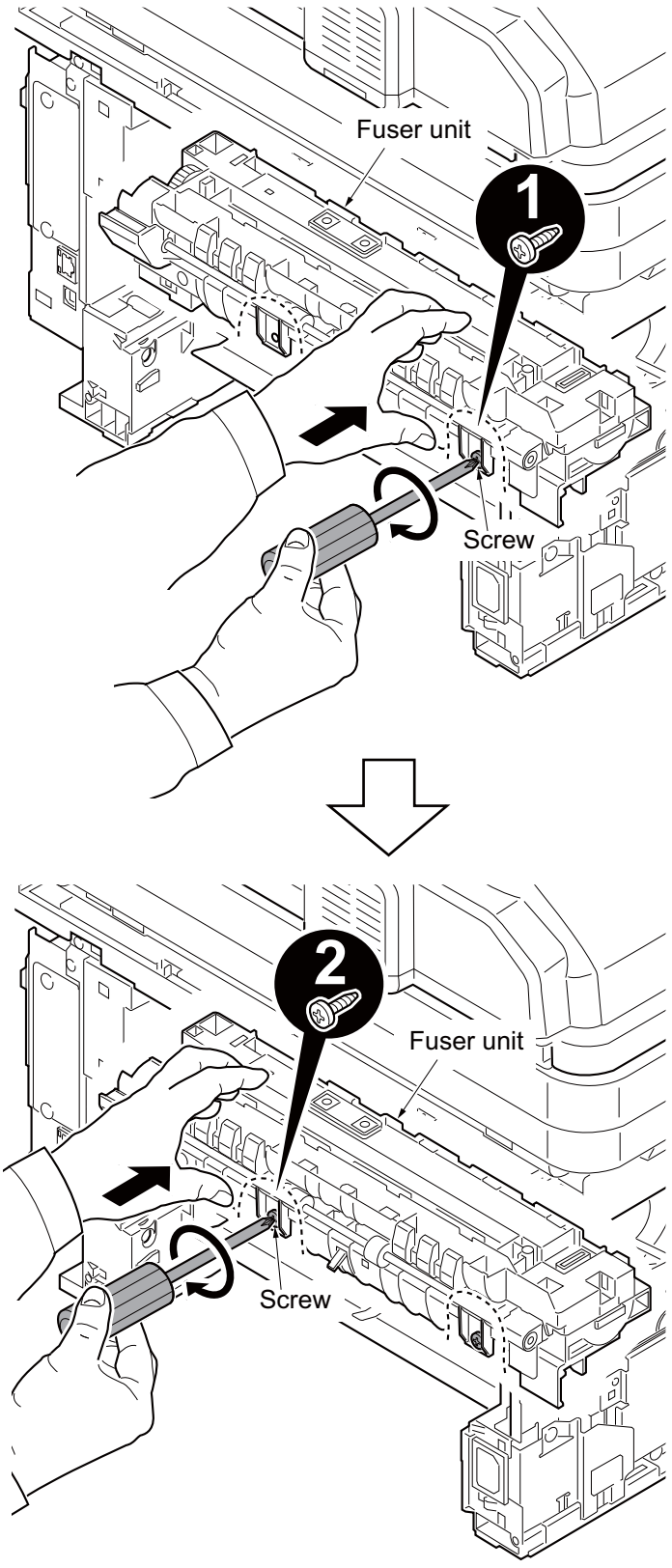


**Figure 1-5-53**

## (2) Switching the fuser pressure

The fuser pressure may be decreased to suppress the print quality problems such as paper creases and curls.
It must be cautioned that decreasing the fuser pressure could cause loose toner fusing.

**Procedure**

1. Remove the cassette (See page 1-5-6).
2. Open the duplex cover.
3. Slide the fuser lever R and L.
   Normal: Flush with the front of the machine.
   Fuser pressure decreased: Flush with the rear of the machine.

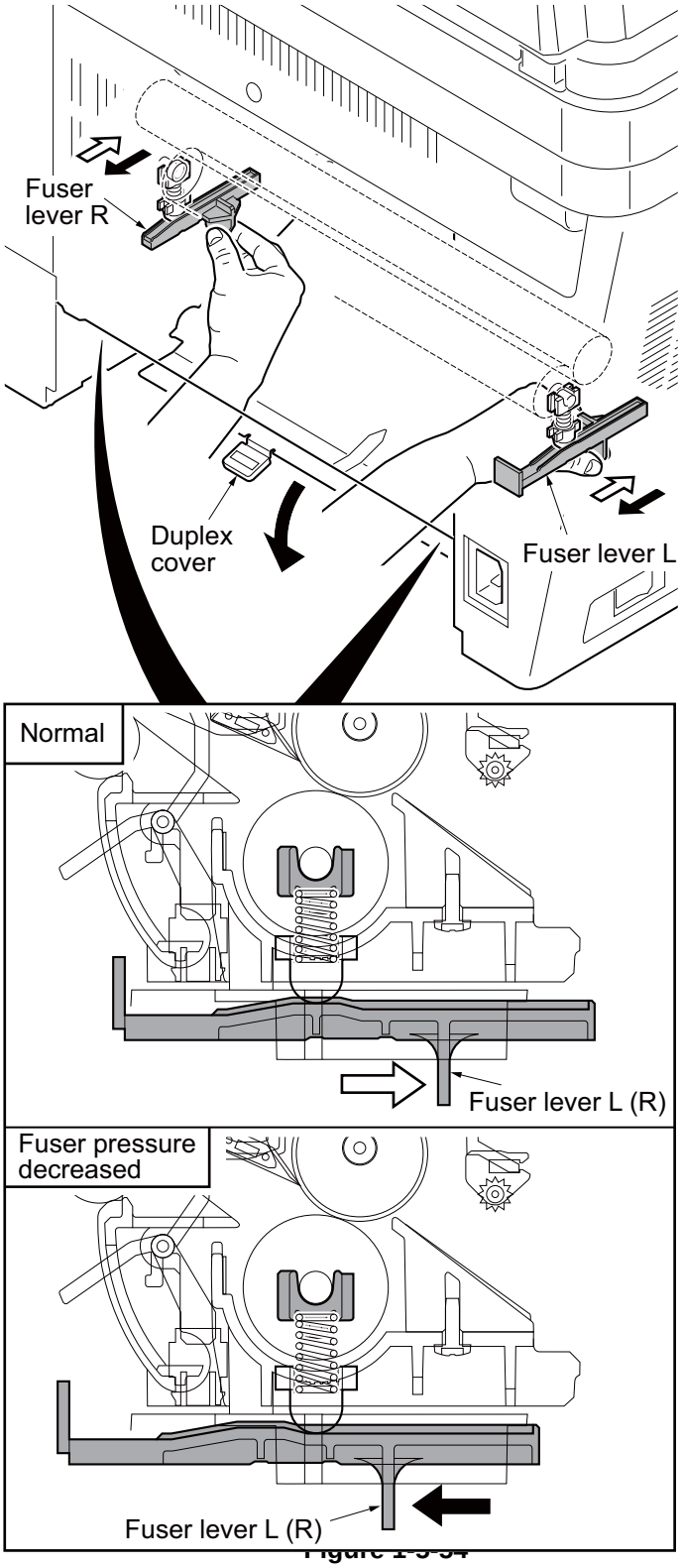


Figure 1-5-34

# 1-5-9 PWBs

## (1) Detaching and refitting the control PWB

**Procedure**

1. Remove the FAX control PWB. (See page 1-5-48)
2. Remove the right cover. (See page 1-5-3)
3. Remove the five connectors from the scanner PWB.
4. Remove twenty connectors and two FFCs from the control PWB.
5. Remove the wires from the clamp.

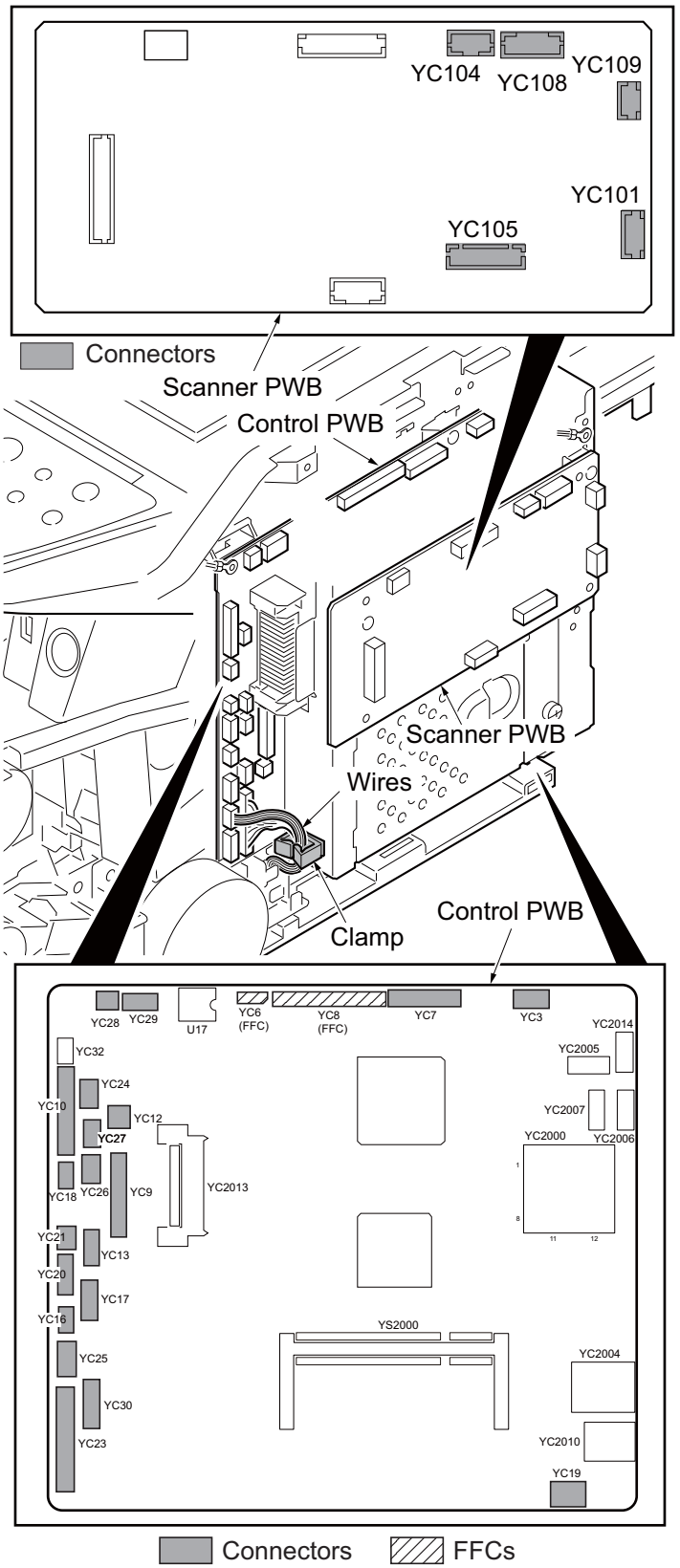


**Figure 1-5-55**

6. Remove five screws and the grounding terminal and then remove the control box.

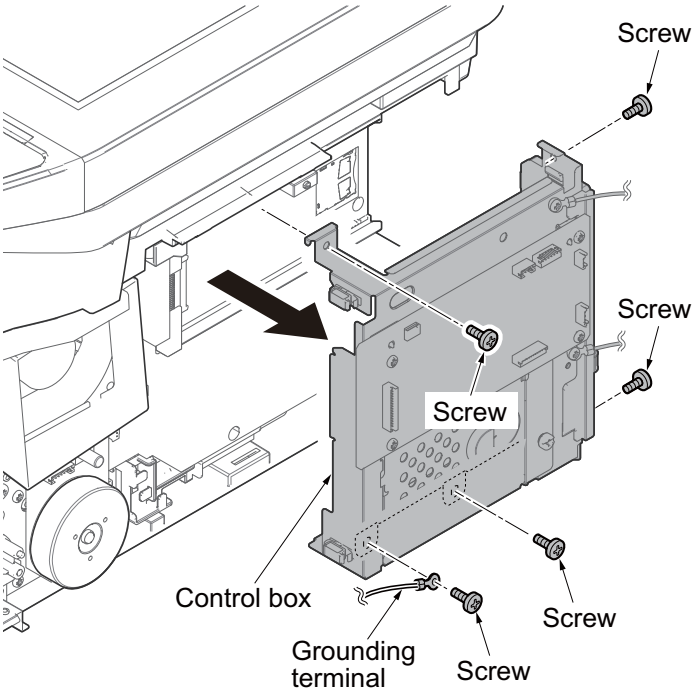


**Figure 1-5-56**

7. Remove seven screws and the grounding terminal and then remove the control PWB.

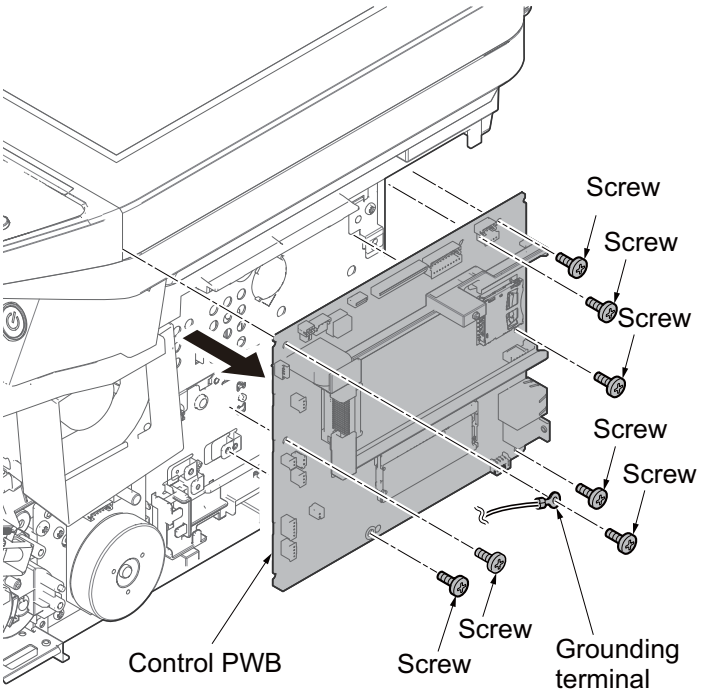


**Figure 1-5-57**

8. Check or replace the control PWB and refit all the removed parts.

   To replace the control PWB, remove the EEPROM (U17) from the old control PWB and mount it to the new control PWB.

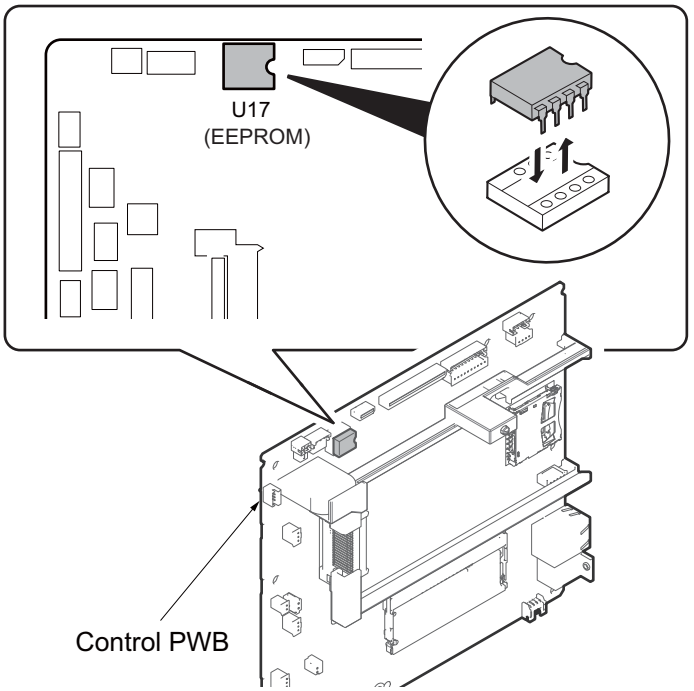


**Figure 1-5-58**

## (2) Detaching and refitting the power source PWB

**Procedure**

1. Remove the left cover (See page 1-5-3).
2. Remove the wires from three clamps.
3. Remove five connectors from the power source PWB.

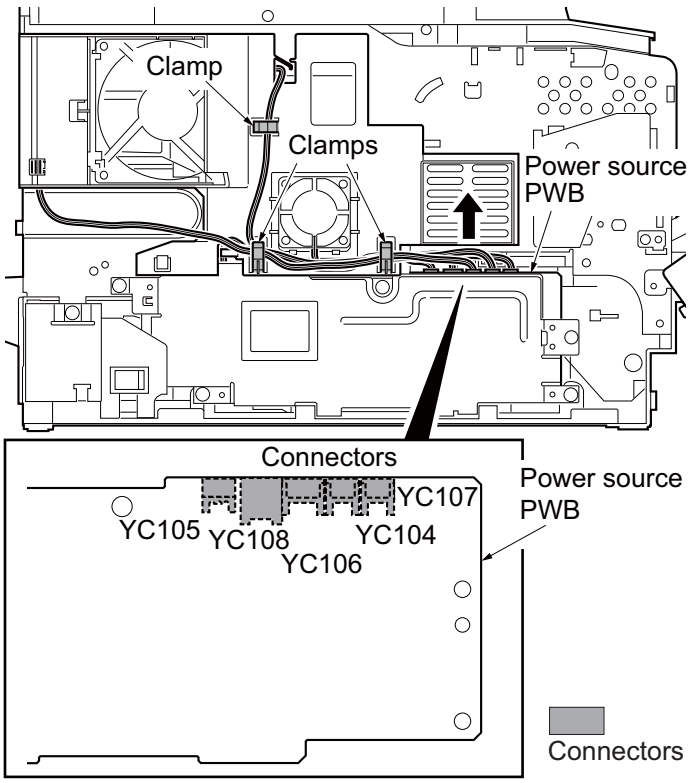


**Figure 1-5-59**

4. Unhook four hooks and then remove the frame left duct.
5. Remove the wire from the clamp.

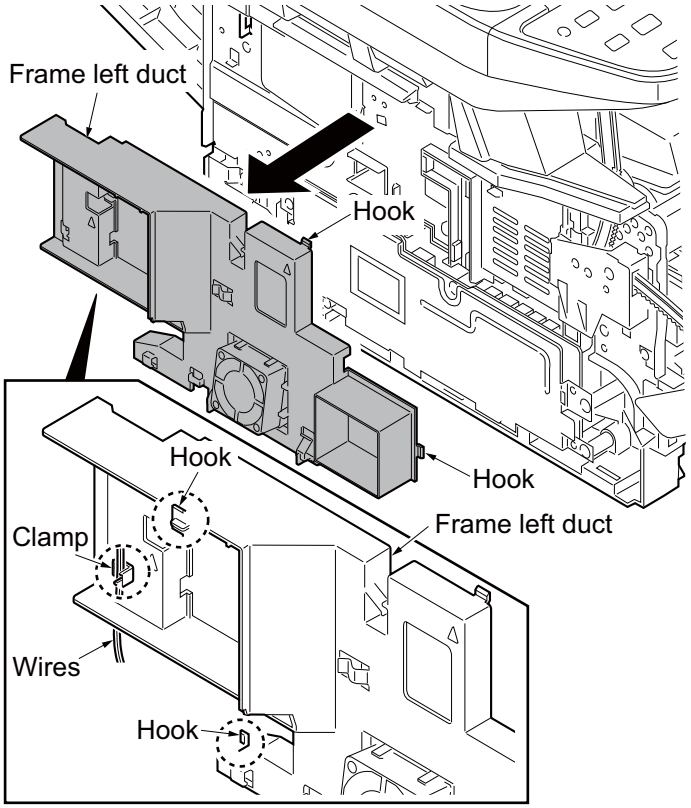


**Figure 1-5-60**

6. Remove the screw and then detach the inlet mount.

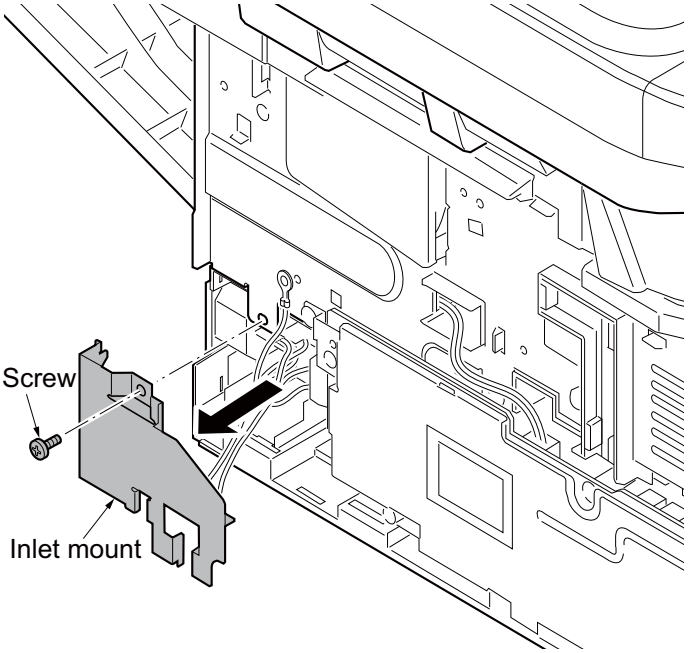


**Figure 1-5-61**

7. Remove five screws.
8. Remove two connectors and then remove the power source PWB assembly.

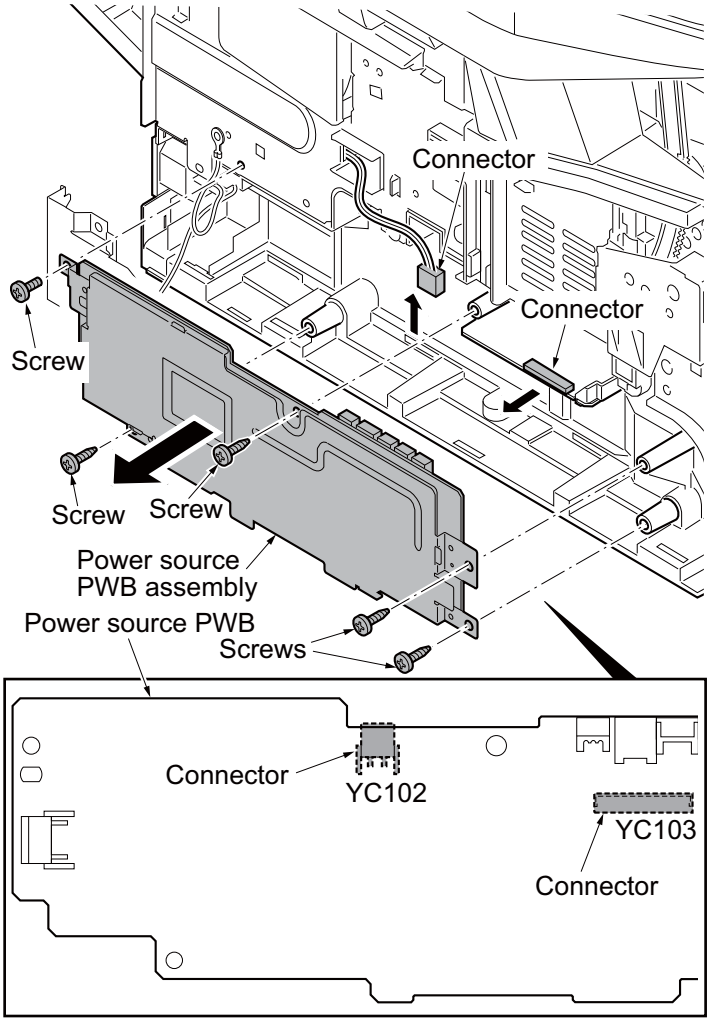


**Figure 1-5-62**

9. Remove four screws and then remove the power source PWB from the power source PWB plate.
10. Check or replace the power source PWB and refit all the removed parts.

    Caution: The power source PWB sheet must be installed in the specified position.

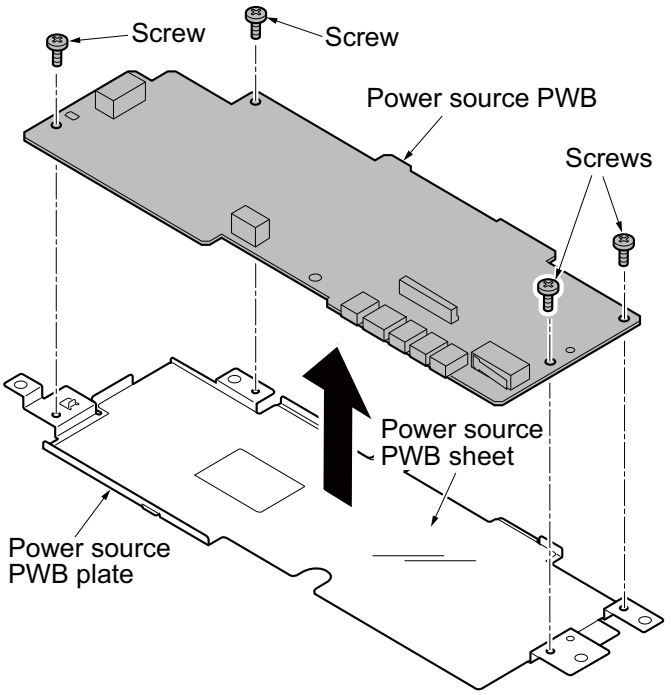


**Figure 1-5-63**

## (3) Detaching and refitting the high voltage PWB

**Procedure**

1. Remove the developer unit (See page 1-5-27).
2. Remove the drum unit (See page 1-5-28).
3. Remove the cassette (See page 1-5-6).
4. Remove the left cover and right cover (See page 1-5-3).
5. Remove the power source PWB (See page 1-5-40).
6. Turn the machine with the front side up.
7. Remove the stopper.
8. Remove the DU holder.

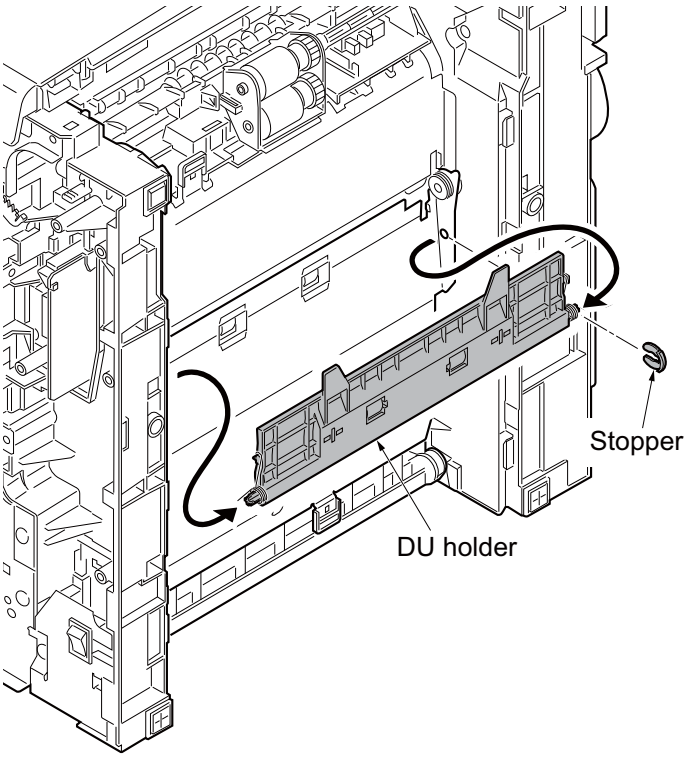


**Figure 1-5-64**

9. Pull the DU bush out.
10. Remove the DU cover assembly.

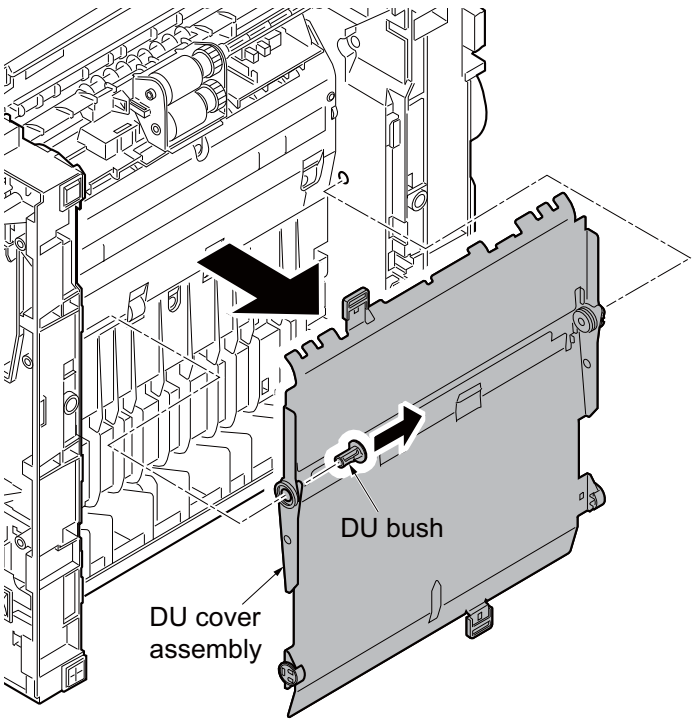


**Figure 1-5-65**

11. Remove four screws.
12. Unhook three hooks and then remove the lower base cover.

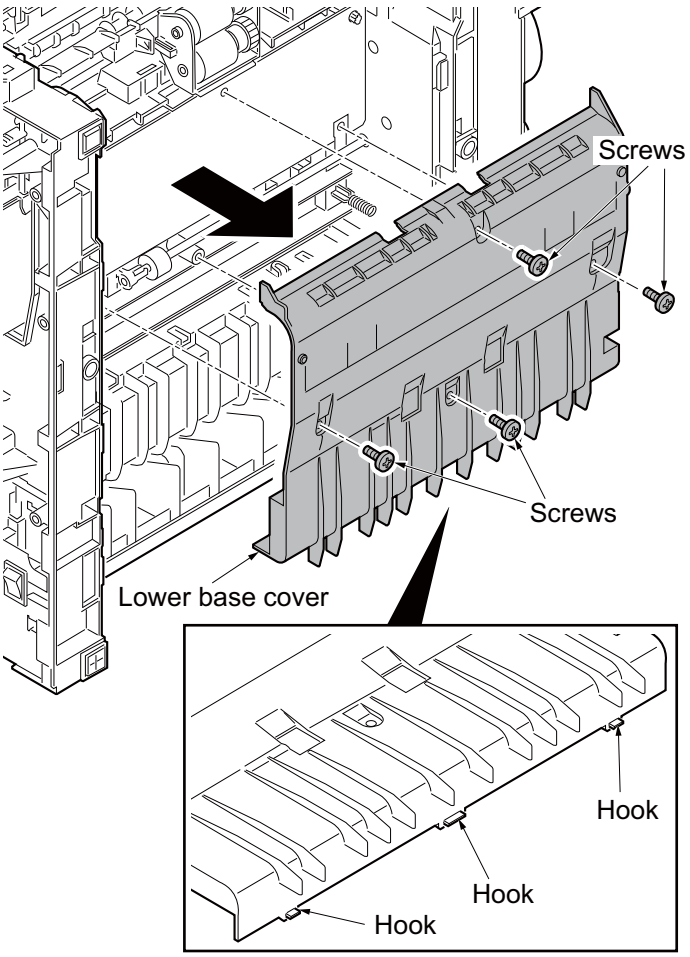


**Figure 1-5-66**

13. Remove the spring.
14. Remove the cassette pin.

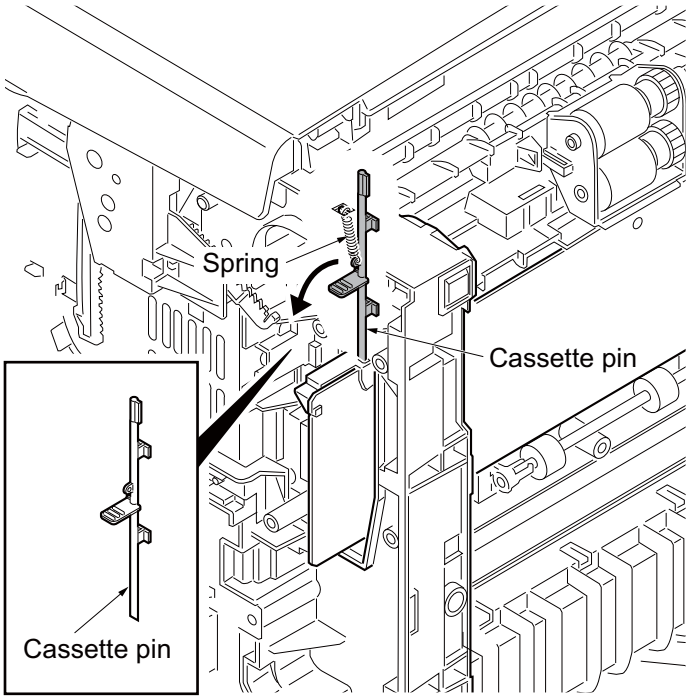


**Figure 1-5-67**

15. Remove two connectors and then remove the high voltage PWB.
16. Remove the cassette pin holder from the high voltage PWB.

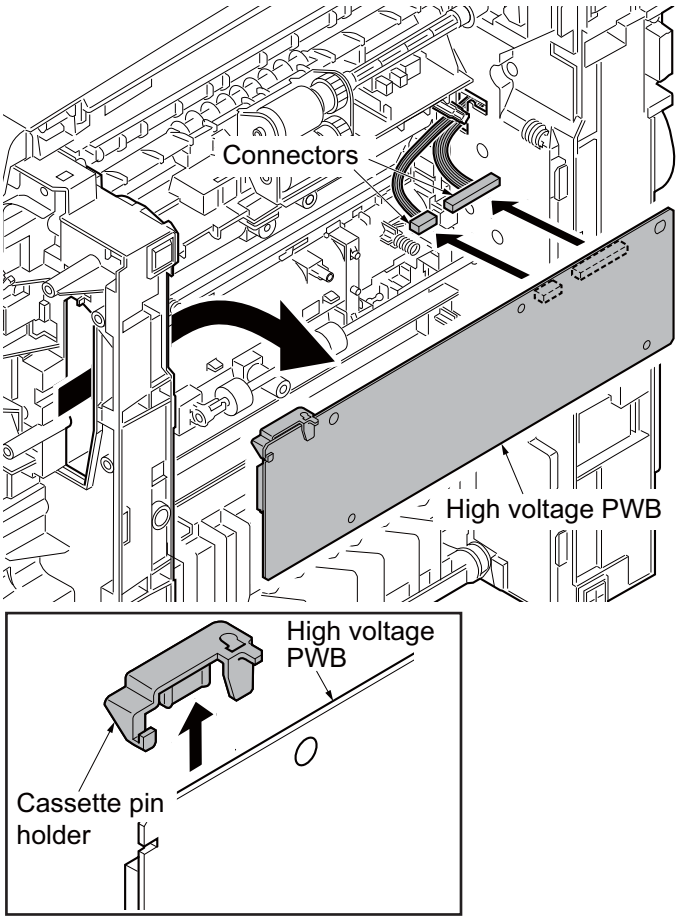


**Figure 1-5-68**

17. Check or replace the high voltage PWB and refit all the removed parts.

    When refitting the high voltage PWB, be careful about following points.

    - Position the ground plate so that it is atop the high voltage PWB.
    - Each interface is firmly in contact with each spring.
    - The bias contact pin must be installed in the specified position.
    - The cassette pin must be inserted in the cassette pin holder.

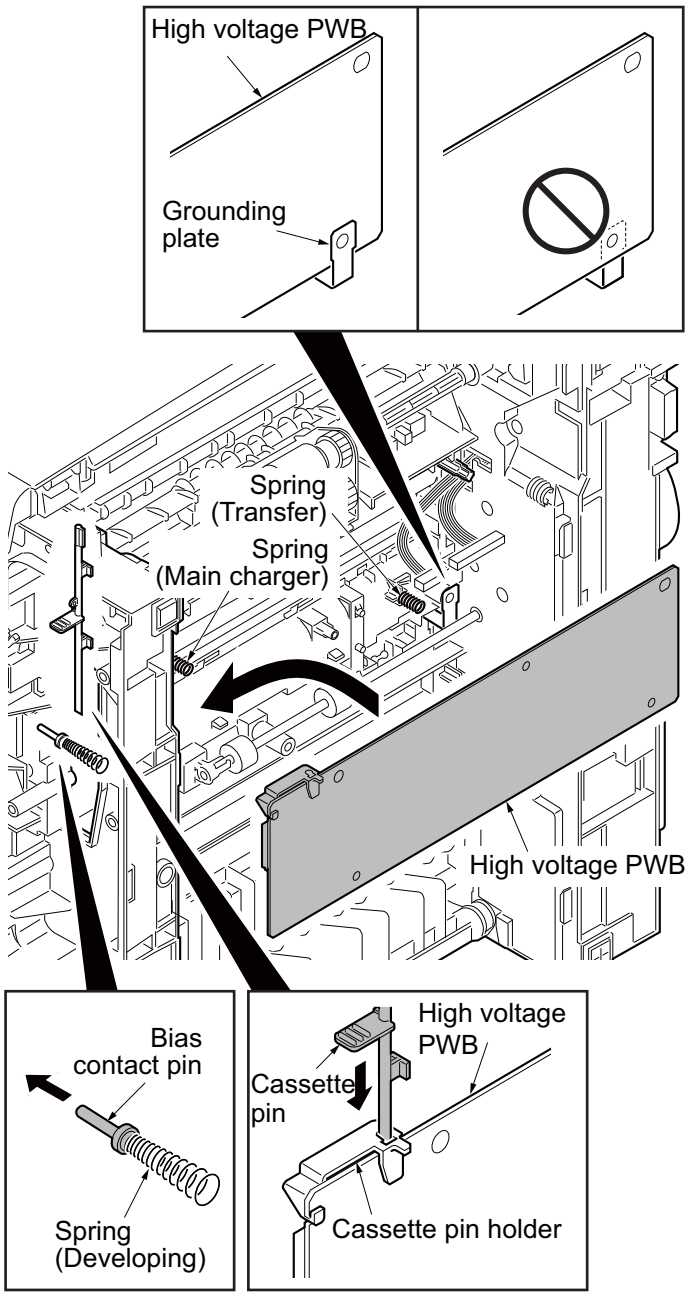


**Figure 1-5-69**

## (4) Detaching and refitting the scanner PWB

**Procedure**

1. Remove the right cover (See page 1-5-3).
2. Remove six connectors and the FFC from the scanner PWB.

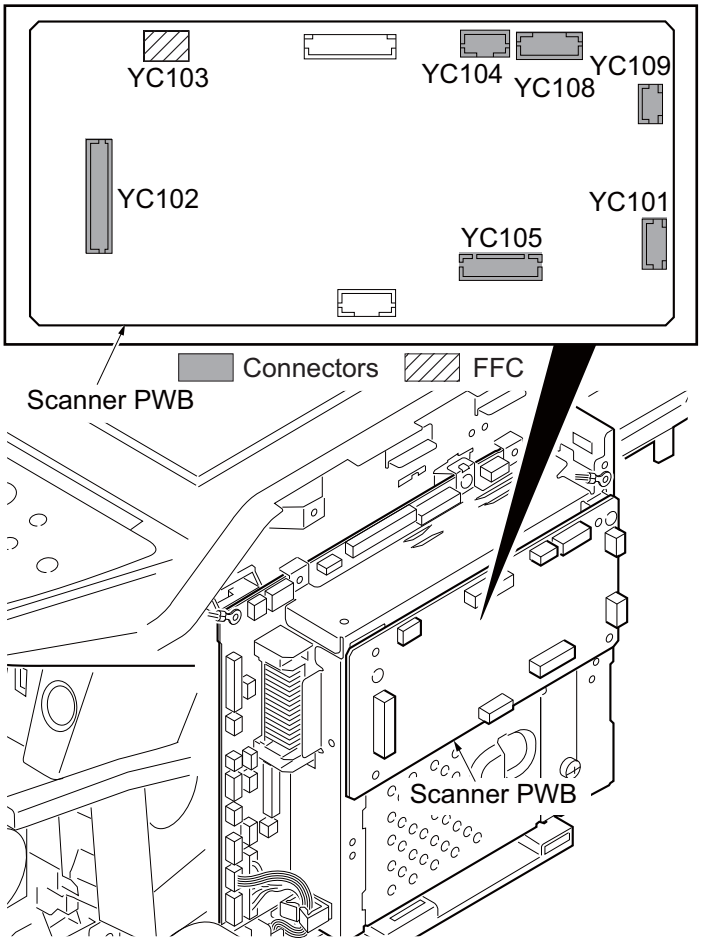


**Figure 1-5-70**

3. Remove four screws and then remove the scanner PWB.
4. Check or replace the scanner PWB and refit all the removed parts.

NOTE:
When the replacing the scanner PWB, perform following maintenance modes.

1. U425 Setting the target (see page 1-3-42)
2. U411 Adjusting the scanner automatically (see page 1-3-39)

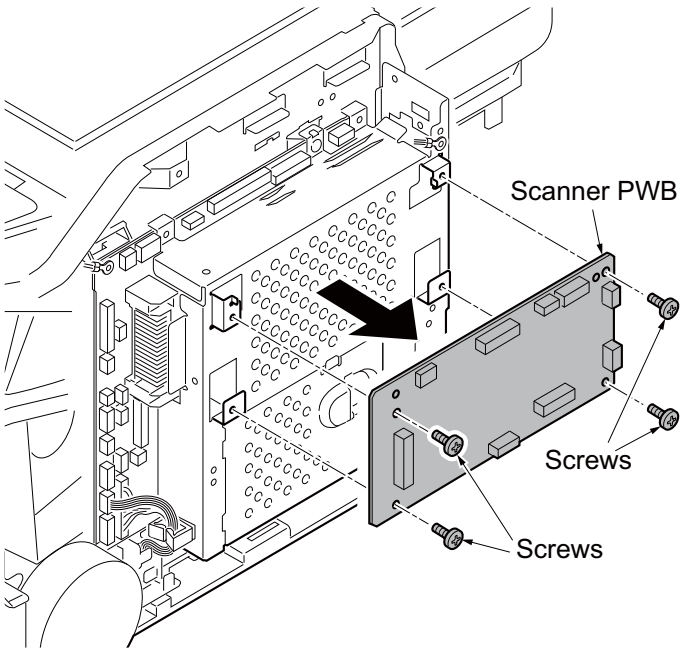


**Figure 1-5-71**

## (5) Detaching and refitting the FAX control PWB

**Procedure**

1. Open the rear cover.
2. Unhook the hook and then remove the controller box cover.

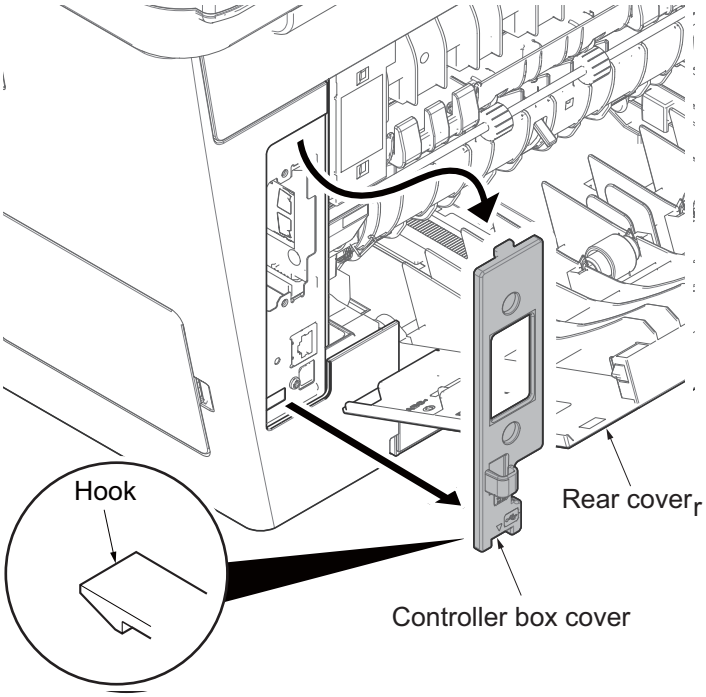


**Figure 1-5-72**

3. Remove two screws and then remove the FAX control PWB.
4. Check or replace the FAX control PWB and refit all the removed parts.

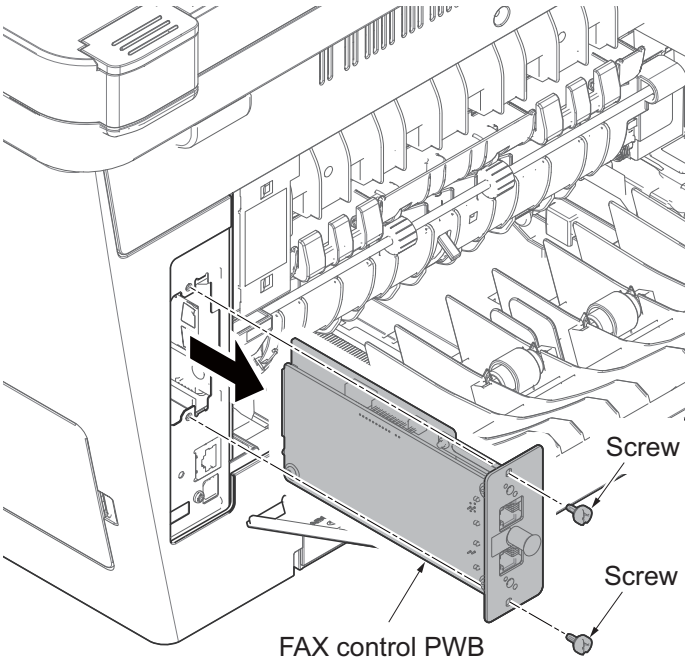


**Figure 1-5-73**

# 1-5-10 Others

## (1) Detaching and refitting the main motor

**Procedure**

1. Remove the right cover (See page 1-5-3).
2. Remove the connector.
3. Remove the M3 screw and two M4 screws.
4. Remove the main motor.
5. Check or replace the main motor and refit all the removed parts.

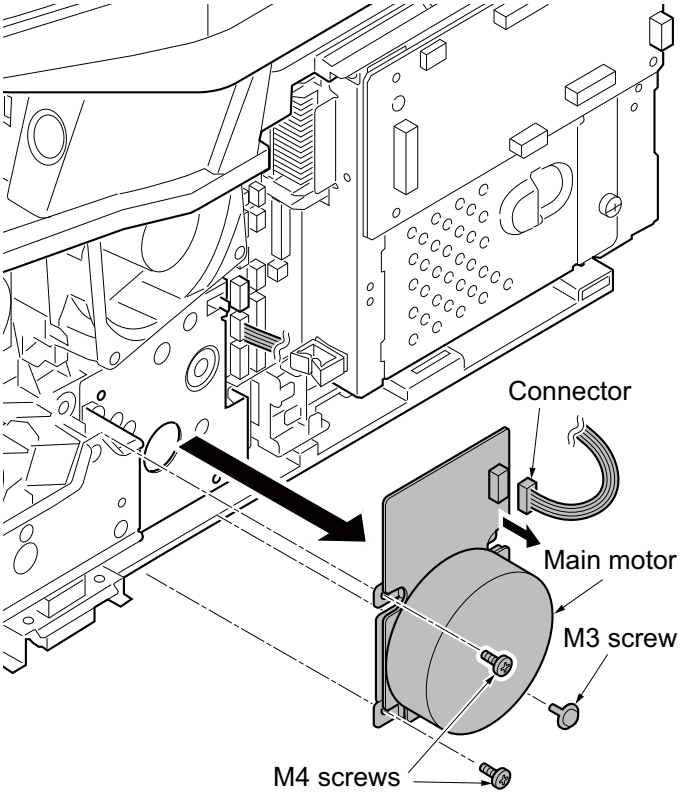


**Figure 1-5-74**

## (2) Direction of installing the left cooling fan motor, right cooling fan motor

When detaching or refitting a fan motor, be careful of the airflow direction (intake or exhaust).

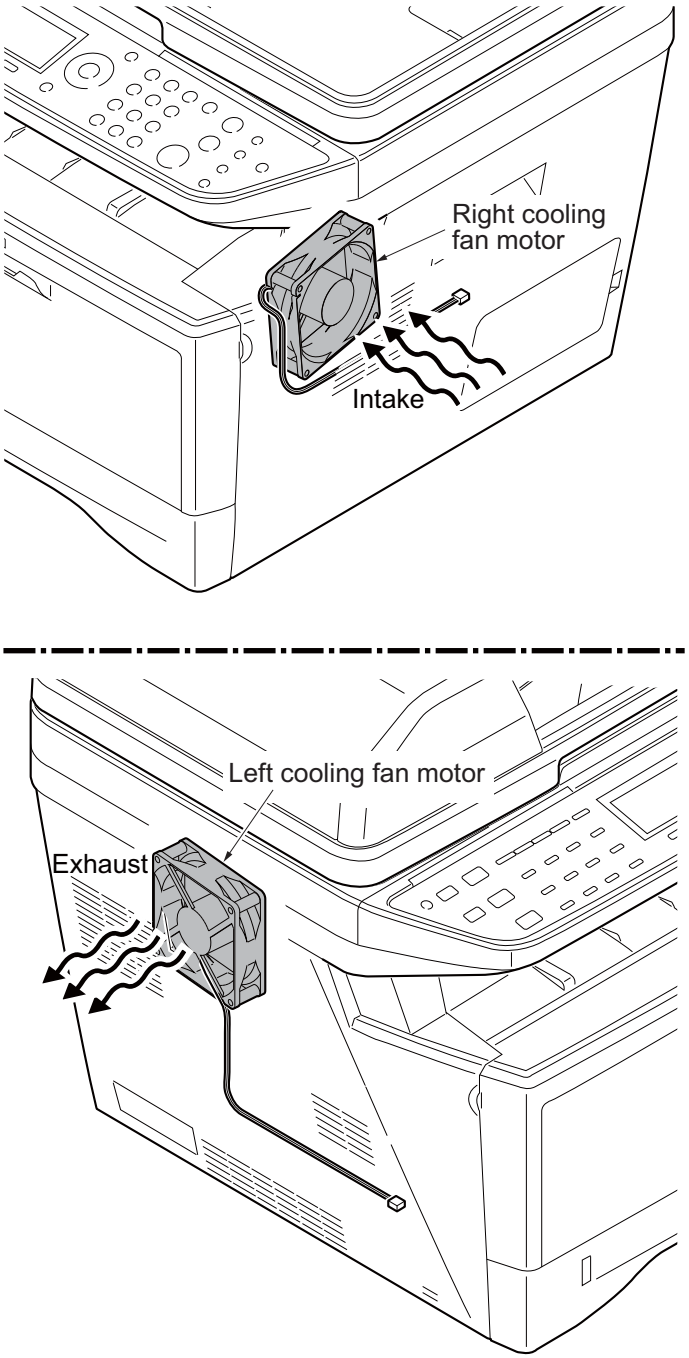


**Figure 1-5-75**

# 1-5-11 Document processor

## (1) Detaching and refitting the DP rear cover and DP front cover

**Procedure**

1. Open the DP top cover.
2. Remove two screws.
3. Unhook the hook and then remove the DP rear cover.

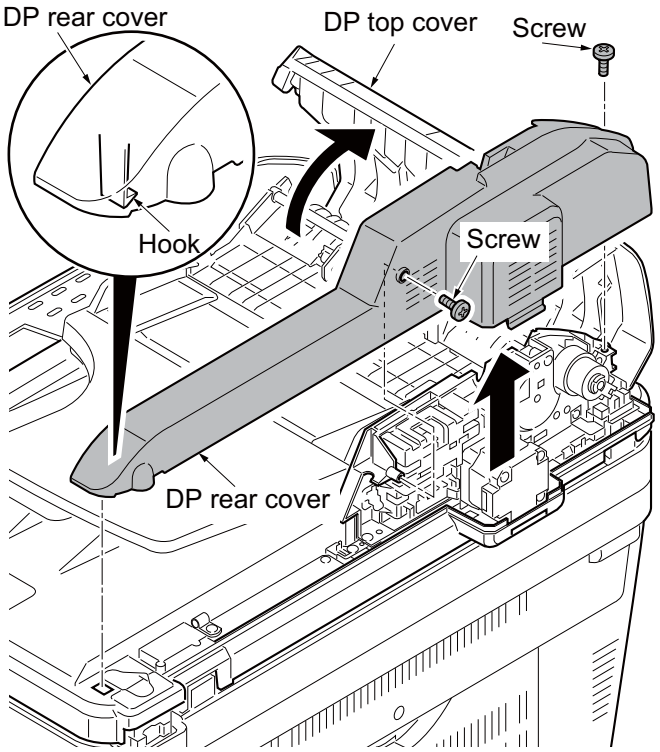


**Figure 1-5-76**

4. Unhook two hooks and then remove the DP front cover.

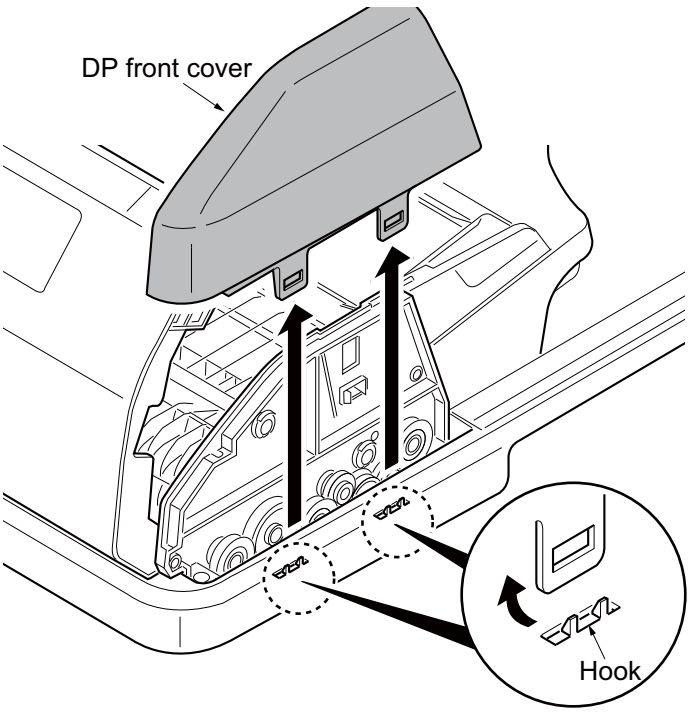


**Figure 1-5-77**

## (2) Detaching and refitting the DP drive PWB

Follow the procedure below to check or replace the DP drive PWB.

**Procedure**

1. Remove the DP rear cover.
   (See page 1-5-51).
2. Remove eight connectors from the DP drive PWB.
3. Remove the screw and then remove the DP drive PWB.
4. Check or replace the DP drive PWB. Refit all the removed parts.

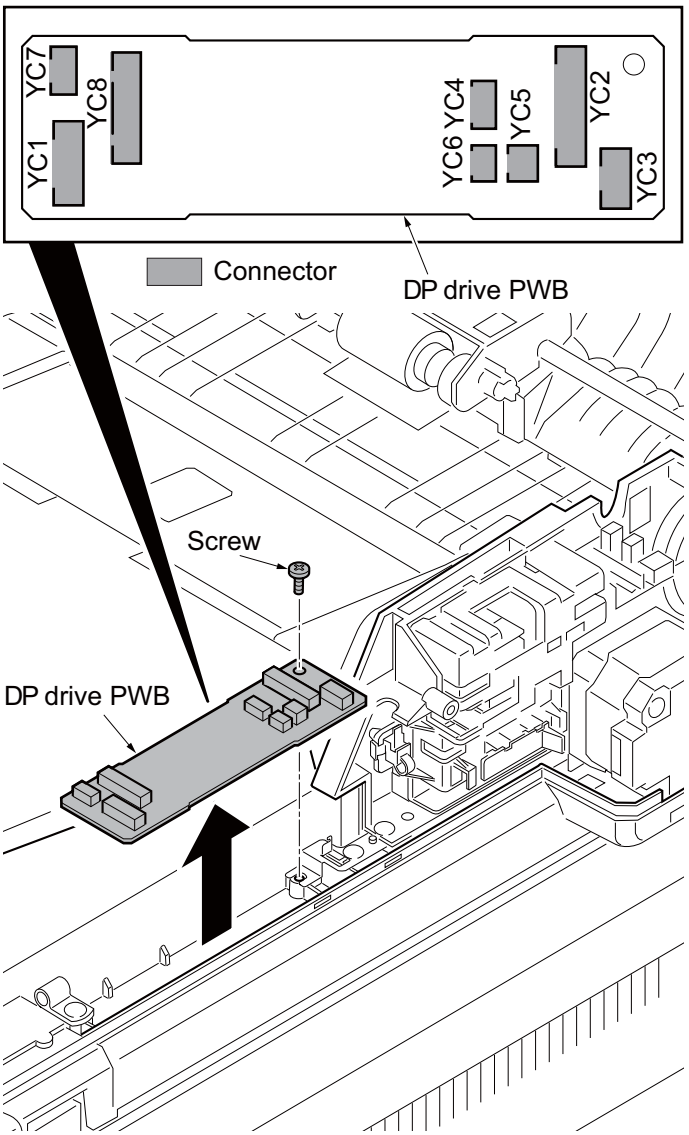


**Figure 1-5-78**

## (3) Detaching and refitting the feed pulley and forwarding pulley

Follow the procedure below to clean or replace the feed pulley or forwarding pulley.

**Procedure**

1. Remove the DP rear cover and DP front cover (See page P.1-5-51).
2. Remove the stopper.
3. Remove the bush.

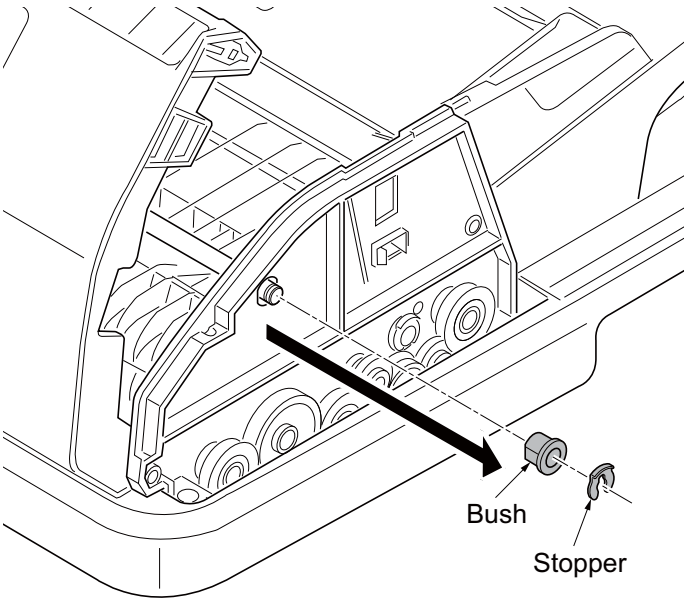


**Figure 1-5-79**

4. Remove the stopper A and then remove the DP paper feed clutch.
5. Remove the stopper B and then remove the PF collar, spring, spring collar S, pin and bush from the PF shaft.

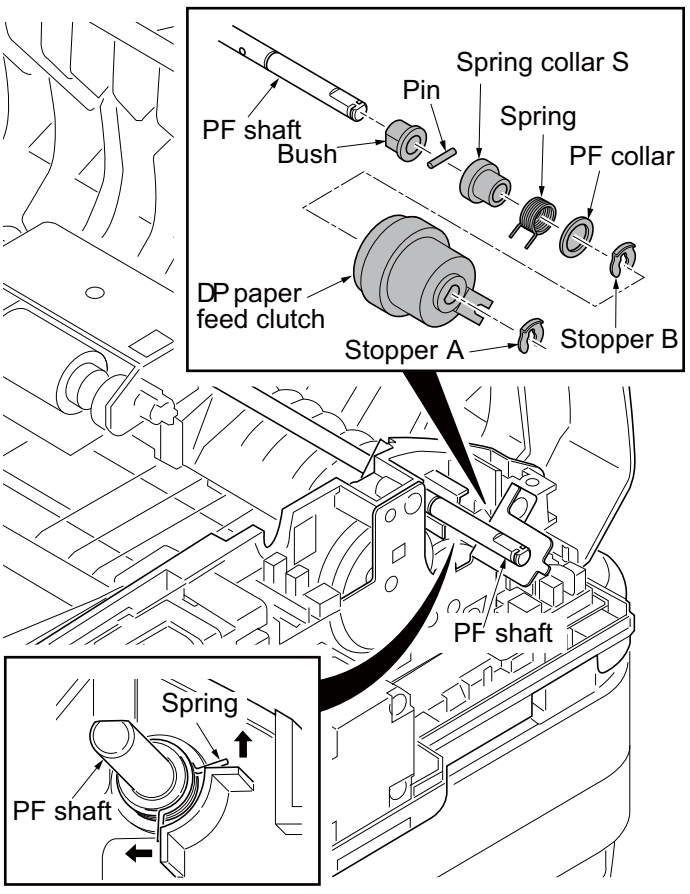


**Figure 1-5-80**

6. Remove the forwarding pulley assembly.

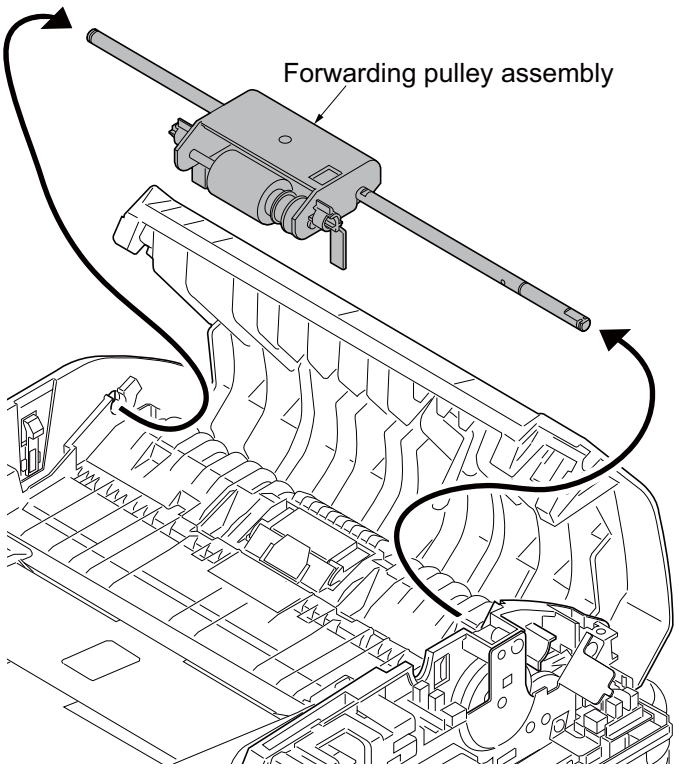


**Figure 1-5-81**

**Detaching the feed pulley**

7. Remove the stopper A.
8. Remove the feed pulley assembly from the LF holder.
9. Remove the stopper B.
10. Remove the PF collar, spring, spring collar S and pin from the PF shaft.
11. Remove the feed pulley, one-way clutch, PF pulley gear and pin from the PF shaft.

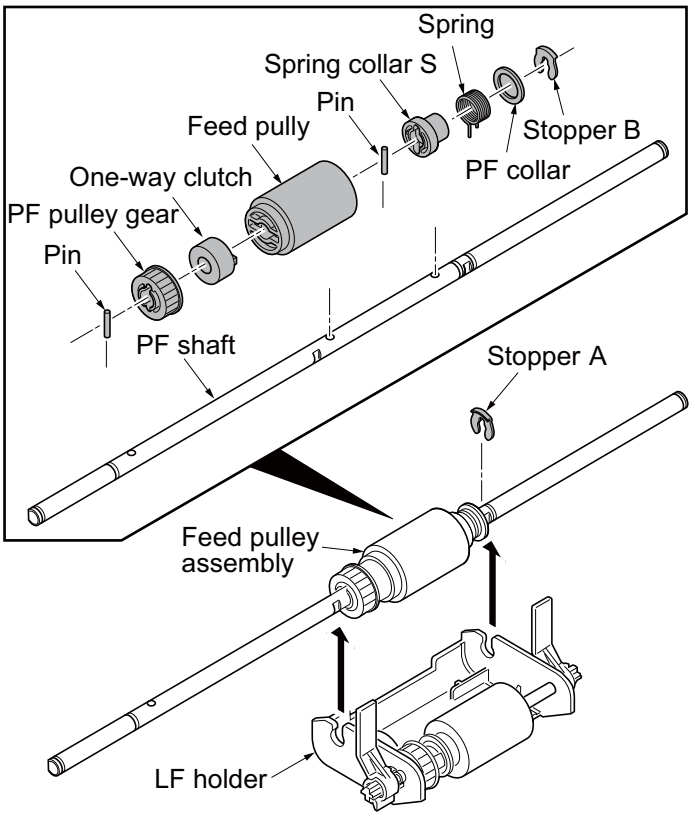


**Figure 1-5-82**

**Detaching the forwarding pulley**

12. Remove the PF stopper from the LF holder.
13. Remove the stopper.
14. Pull out the LF shaft and then remove the LF gear 18, forwarding feed joint gear and forwarding pulley.
15. Clean or replace the feed pulley and forwarding pulley.
    Refit all the removed parts.

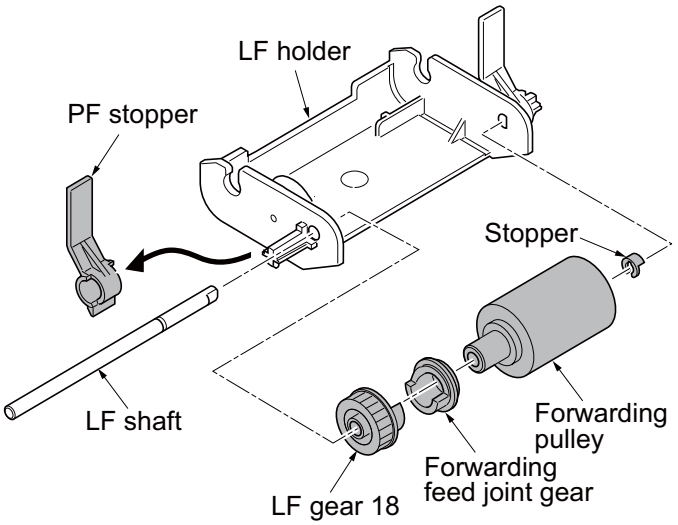


**Figure 1-5-83**

## (4) Detaching and refitting the separation pad assembly

Follow the procedure below to clean or replace the separation pad assembly.

**Procedure**

1. Remove the forwarding pulley assembly (See page P.1-5-53).
2. Remove the separation pad assembly.
3. Clean or replace the separation pad assembly.
   Refit all the removed parts.

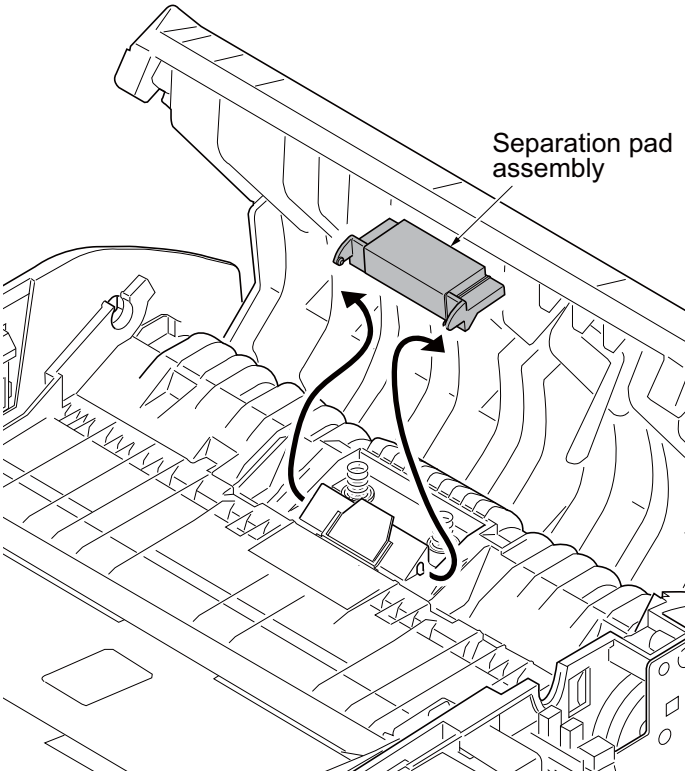


**Figure 1-5-84**

# 1-6-1 Upgrading the firmware

Follow the procedure below to upgrade the firmware of control PWB (main controller and engine) and scanner PWB.

**Preparation**

Extract the file that has the download firmware and put them in the USB Memory.

**Procedure**

1. Turn ON the power switch and confirm if the screen shows “Ready to print” then, turn OFF the power switch.
2. Insert USB memory that has the firmware in the USB memory slot.
3. Turn ON the power switch.
4. About 40 seconds later, “FW-Update” will be displayed and blinking the memory LED (this shows to start the download).
5. Display the software that now upgrading (5 minutes).

   “FW- Update [CTRL]”
   “[ENGN]”
   “[SCAN]”
6. Display the completion of the upgrade (Memory LED is ON condition).
7. Cut the power supply by pulling out the power cable and remove the USB memory.

* : After the print engine farm is downloaded, it is not possible to turn it off with the power switch.

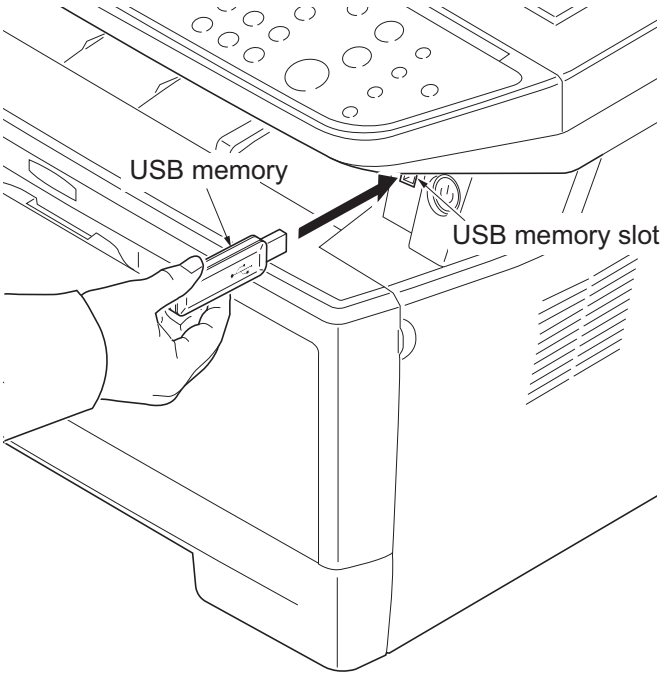


**Figure 1-6-1**

**Check the result of the version up**

1. Output the service status by the U000 and confirm the firmware version.

**Safe-UPDATE**

If the device is accidentally switched off or the USB memory is disconnected and upgrading is incomplete, perform the following.
If the power is accidentally switched off, turn the power on without removing the USB memory and perform the above steps 3 through 7.
If the USB memory is disconnected, reinsert it, then turn the power on and perform the above steps 3 through 7.
In any case, complete the steps to the end.

**Emergency-UPDATE**

If Safe Update is processed to the end, the firmware update is complete. In case the message below is indicated, update the firmware after recovery with the steps below.
Note that this is unoperable when the device is operating normally.

| FW-Update |
| --- |
| Error FFFF |

**Preparation**

The USB memory must be formatted in FAT or FAT32 in advance.
Extract the main firmware to download from the file.
Rename the file which was extracted from the archive.
[DL_CTRL.2PK] to [KM_EMRG.2PK] : 3 in 1 model
[DL_CTRL.2PL] to [KM_EMRG.2PL] : 4 in 1 model
Copy the all extracted files to the root of the USB memory.

**Procedure**

1. Turn the main power switch off.
2. Insert the USB memory which contains the firmware into the USB memory slot.
3. Turn the main power switch on.
4. Rewriting of the PWB software will start for restoration.
   “Emergency Update” is displayed on the LCD of the operation panel.
5. "Completed" will be displayed when rewriting is successful.
   * : "Failed" will be displayed when rewriting is failed.
6. Turn the main power switch off.
7. Wait for several seconds and then remove the USB memory from the USB memory slot.
8. Extract the firmware to download from the archive and copy to the root of the formatted USB memory.

   **NOTE:** Deletes the "ES_SKIP.on" file When it is contained directly under the USB memory.

9. Insert the USB memory in which the firmware was copied in the USB memory slot.
10. Perform steps 3 to 7 on the previous page.
11. Turn the main power switch on.
12. Perform maintenance item U000 (Print a maintenance report) to check that the version of ROM U019 has been upgraded.

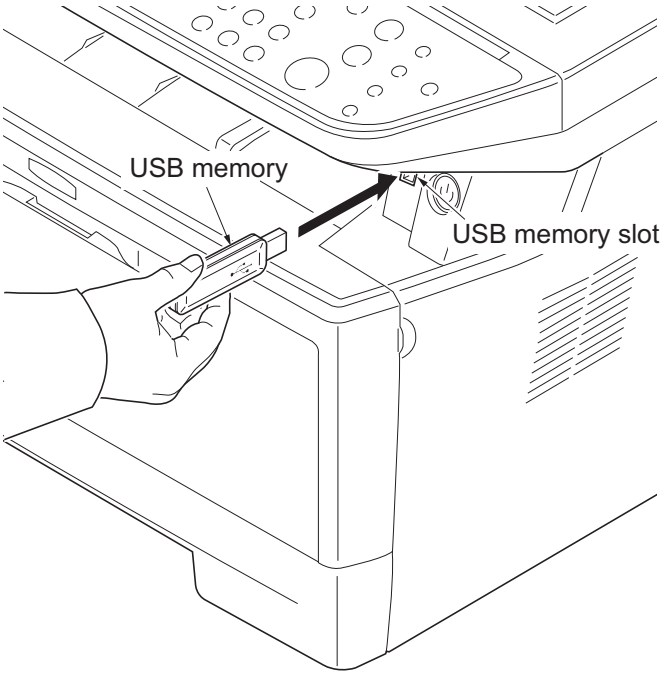


**Figure 1-6-2**

# 1-6-2 Remarks on control PWB replacement

When replacing the control PWB, remove the EEPROM (U17) from the control PWB that has been removed and then reattach it to the new control PWB.

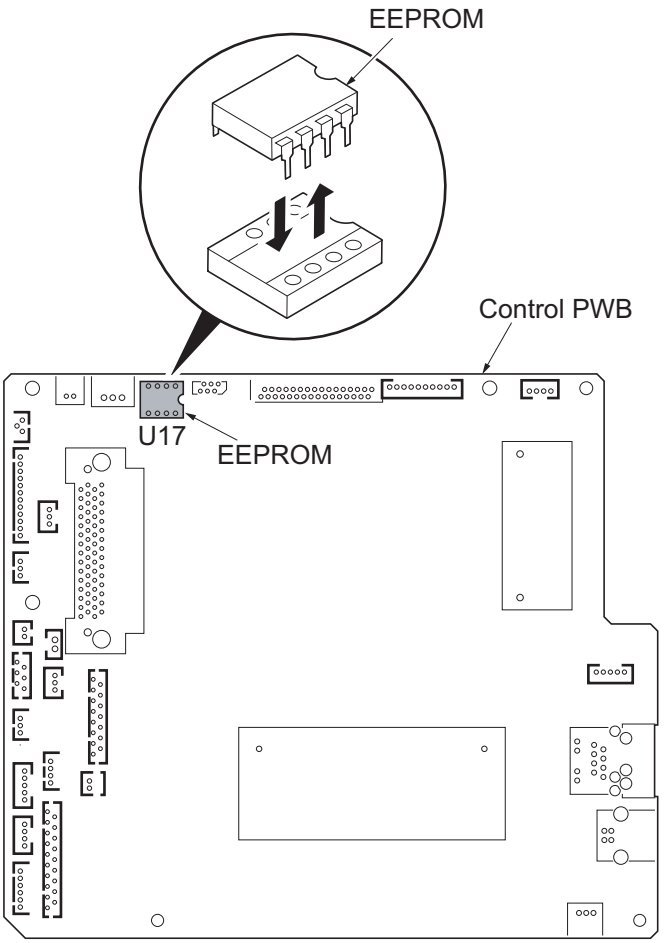


**Figure 1-6-3**

Detaching of EEPROM

1. The flat screwdriver is inserted between EEPROM and socket.
2. Detach it little by little right and left and alternately while noting the transformation and the damage of the pin.

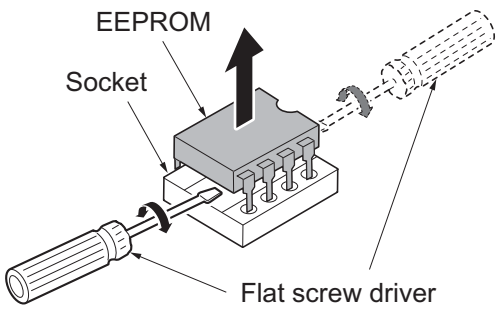


**Figure 1-6-4**

# 2-1-1 Paper feed/conveying section

Paper feed/conveying section consists of the paper feed unit that feeds paper from the cassette and the MP tray paper feed unit that feeds paper from the MP tray, and the paper conveying section that conveys the fed paper to the transfer/separation section.

## (1) Cassette paper feed section

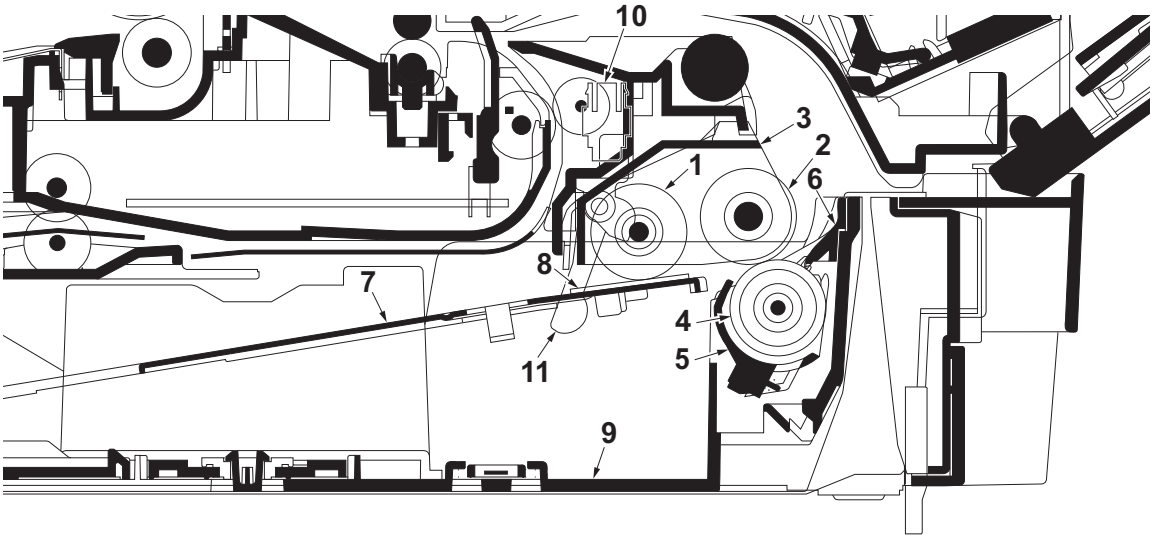


**Figure 2-1-1 Cassette paper feed section**

1. Pickup roller
2. Paper feed roller
3. Feed holder
4. Retard roller
5. Retard holder
6. Retard guide
7. Bottom plate
8. Bottom pad
9. Cassette base
10. Paper sensor
11. Actuator (paper sensor)

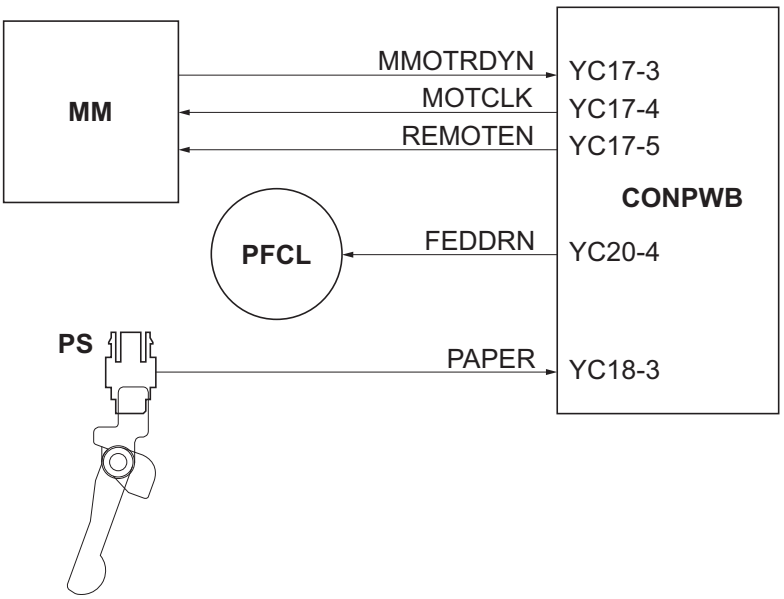


**Figure 2-1-2 Cassette paper feed section block diagram**

## (2) MP tray paper feed section

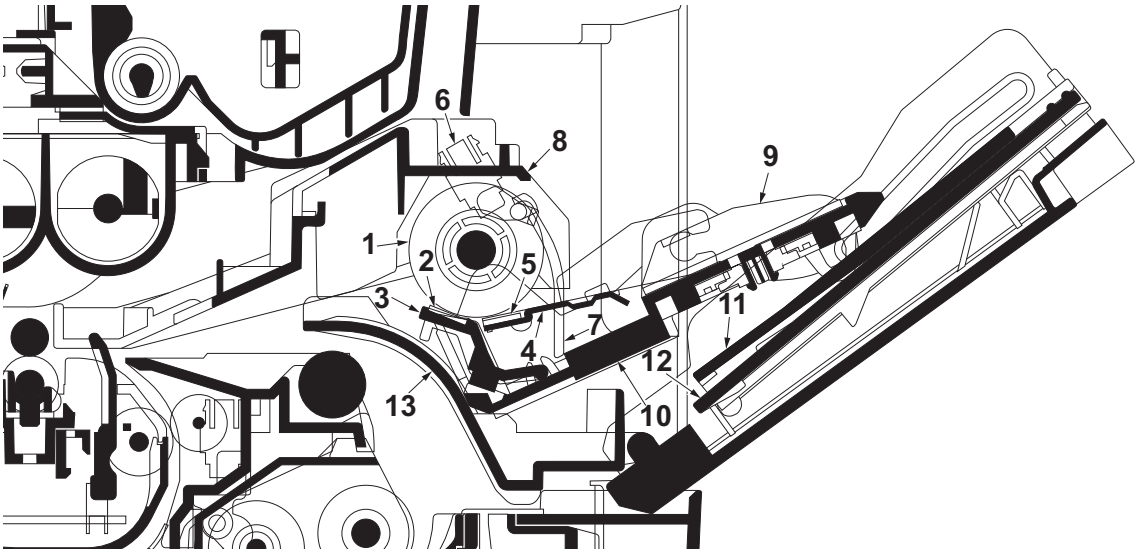


**Figure 2-1-3 MP tray paper feed section**

1. MP paper feed roller
2. MPF separation pad
3. MPF separator
4. MPF bottom plate
5. MPF friction pad
6. MP paper sensor
7. Actuator (MP paper sensor)
8. MPF frame
9. MPF guide R/L
10. MPF base
11. MPF middle tray
12. MPF upper tray
13. MPF turn guide

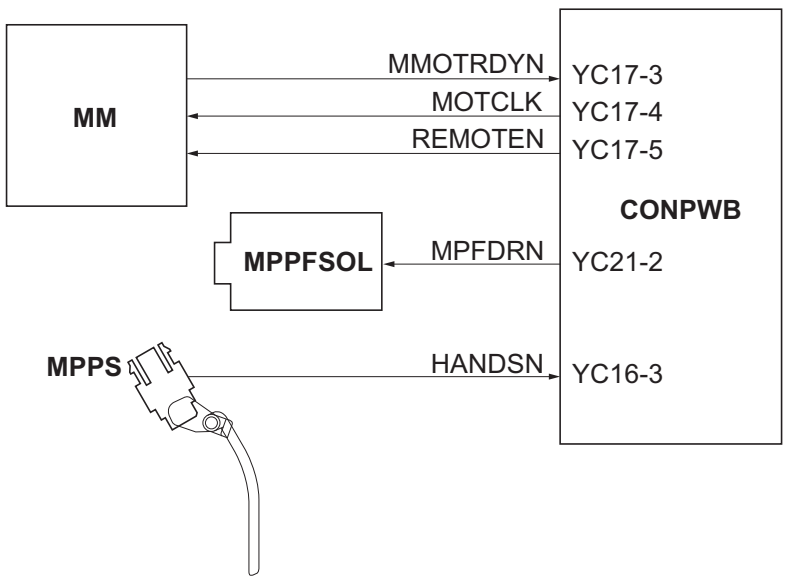


**Figure 2-1-4 MP tray paper feed section block diagram**

## (3) Paper conveying section

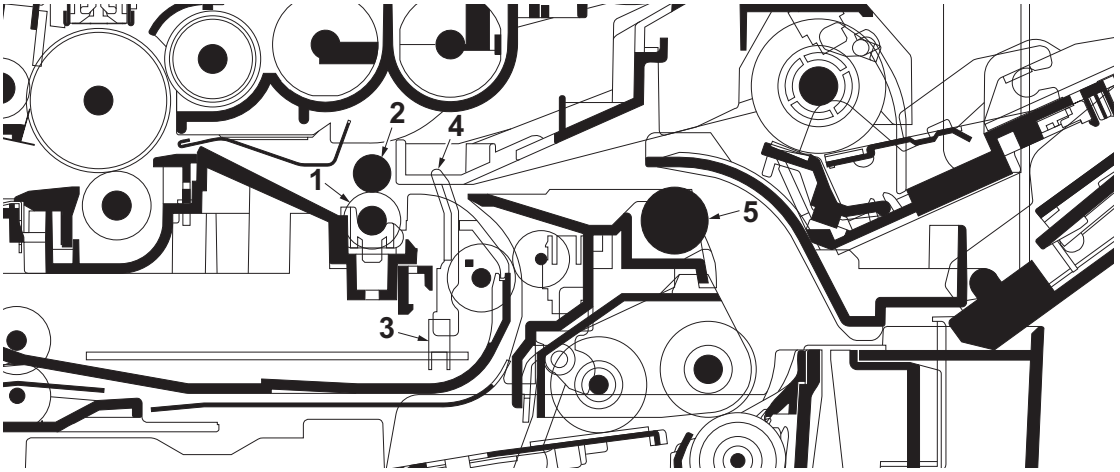


**Figure 2-1-5 Paper conveying section**

1. Lower registration roller
2. Upper registration roller
3. Registration sensor
4. Actuator (registration sensor)
5. Feed pulley

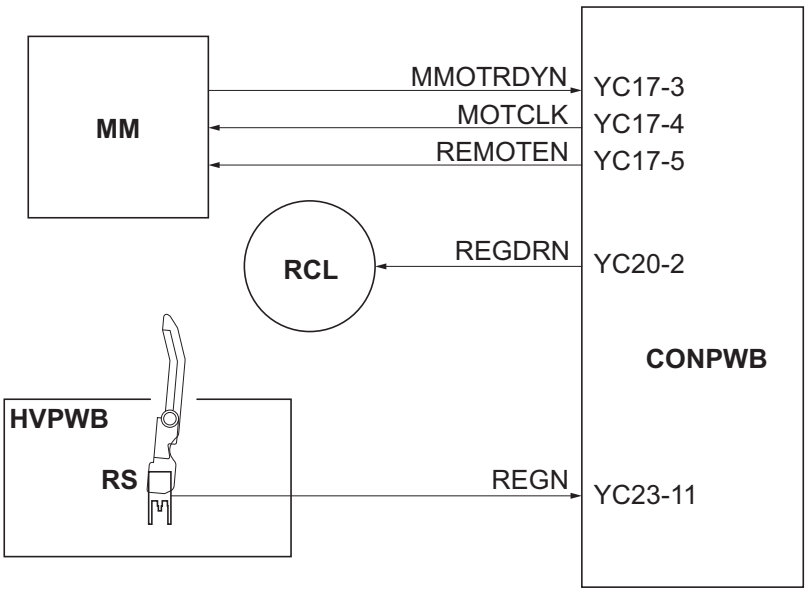


**Figure 2-1-6 Paper conveying section block diagram**

# 2-1-2 Drum section

## (1) Drum section

The durable layer of organic photoconductor (OPC) is coated over the aluminum cylinder base. The OPC tend to reduce its own electrical conductance when exposed to light. After a cyclic process of charging, exposure, and development, the electrostatic image is constituted over the OPC layer.
Since the OPC is materialized by resin, it is susceptible to damage caused by sharp edges such as a screwdriver, etc., resulting in a print quality problem. Also, finger prints can cause deterioration of the OPC layer, therefore, the drum (in the drum unit) must be handled with care. Substances like water, alcohol, organic solvent, etc., should be strictly avoided.
As with all other OPC drums, the exposure to a strong light source for a prolonged period can cause a print quality problem. The limit is approximately 500 lux for less than five minutes. If the drum (drum unit) remains removed from the machine, it should be stored in a cool, dark place.
.

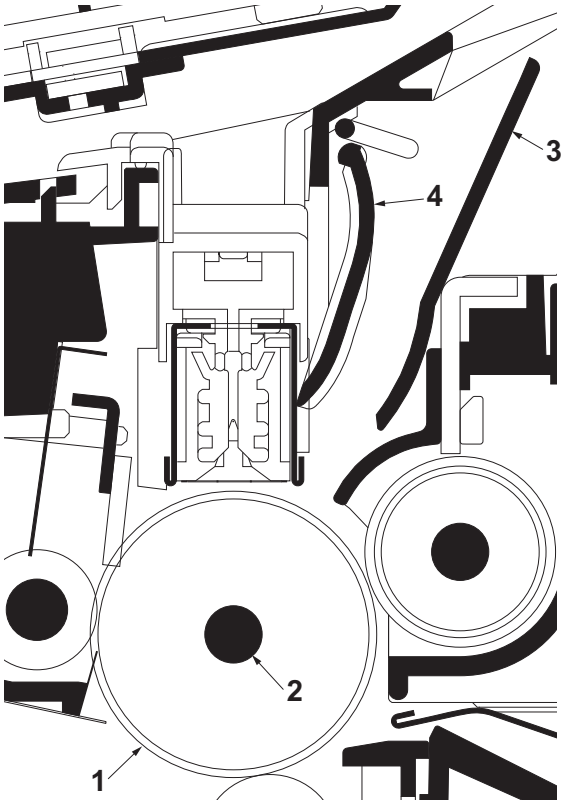


**Figure 2-1-7 Drum unit**

1. Drum
2. Drum shaft
3. Drum cover A
4. Drum cover B

## (2) Main charger unit

As the drum rotates in a “clean (neutral)” state, its photoconductive layer is given a uniform, positive (+) corona charge dispersed by the main charger wire. Due to high-voltage scorotron charging, the charging wire can get contaminated by oxidization after a long run. Therefore, the charger wire must be cleaned at a specific interval. Cleaning the charging wire prevents print quality problems such as black streaks.

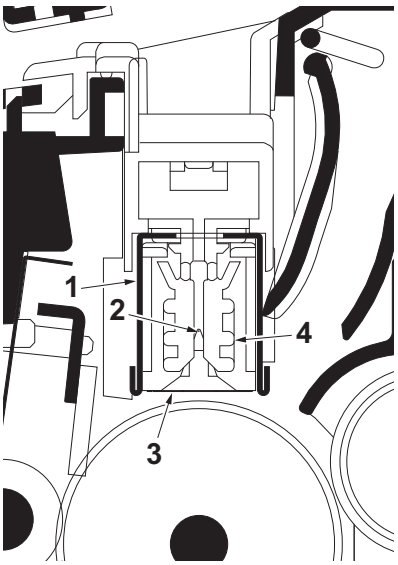


**Figure 2-1-8 Main charger unit**

1. Main charger shield
2. Main charger wire
3. Main charger grid
4. Main charger wire cleaner

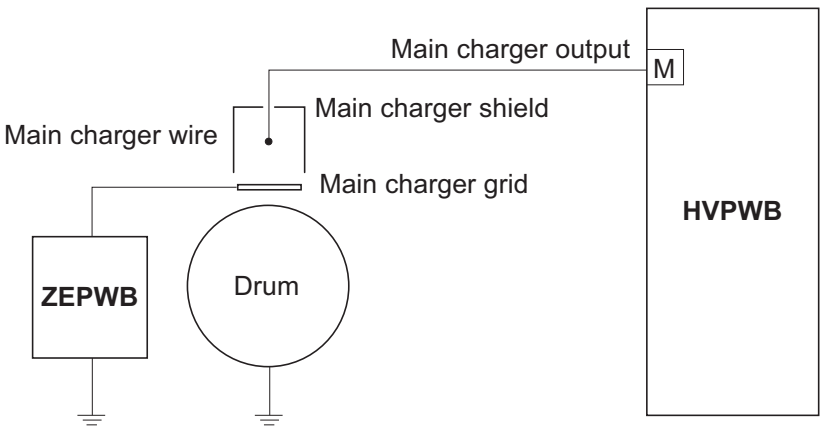


**Figure 2-1-9 Drum unit and main charger unit block diagram**

# 2-1-3 Optical section

## (1) Scanner unit

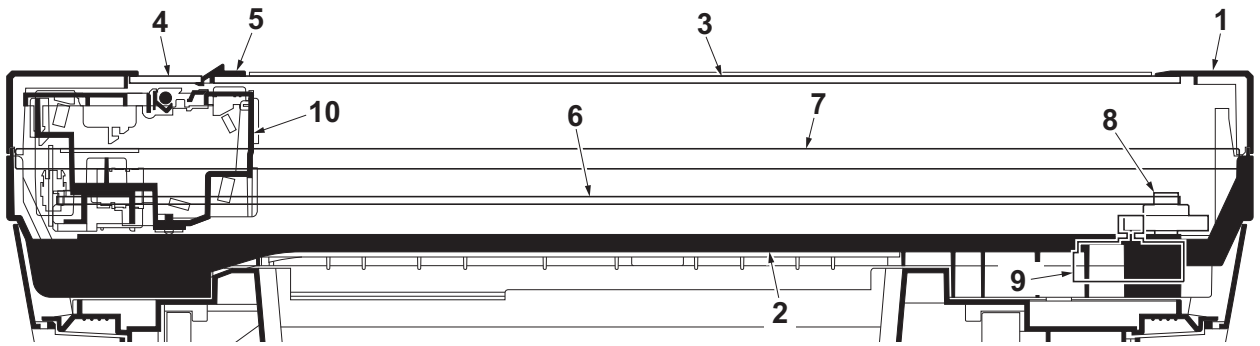


**Figure 2-1-10 Scanner unit**

1. ISU top frame
2. ISU bottom frame
3. Contact glass
4. DP contact glass
5. Size indicator plate
6. ISU belt
7. ISU shaft
8. ISU gear 63/32
9. ISU motor
10. Image scanner unit (ISU)

## (2) Image scanner unit (ISU)

The original image is illuminated by the LED and scanned by the CCD image sensor in the CCD PWB (CCD-PWB) via the four mirrors and ISU lens, the reflected light being converted to an electrical signal.
If a document processor (DP) is used, the image scanner unit stops at the position of the DP contact glass and scans sequentially one row of the image on the original in synchronization with the moving timing of the original in the sub scan direction by driving the DP.

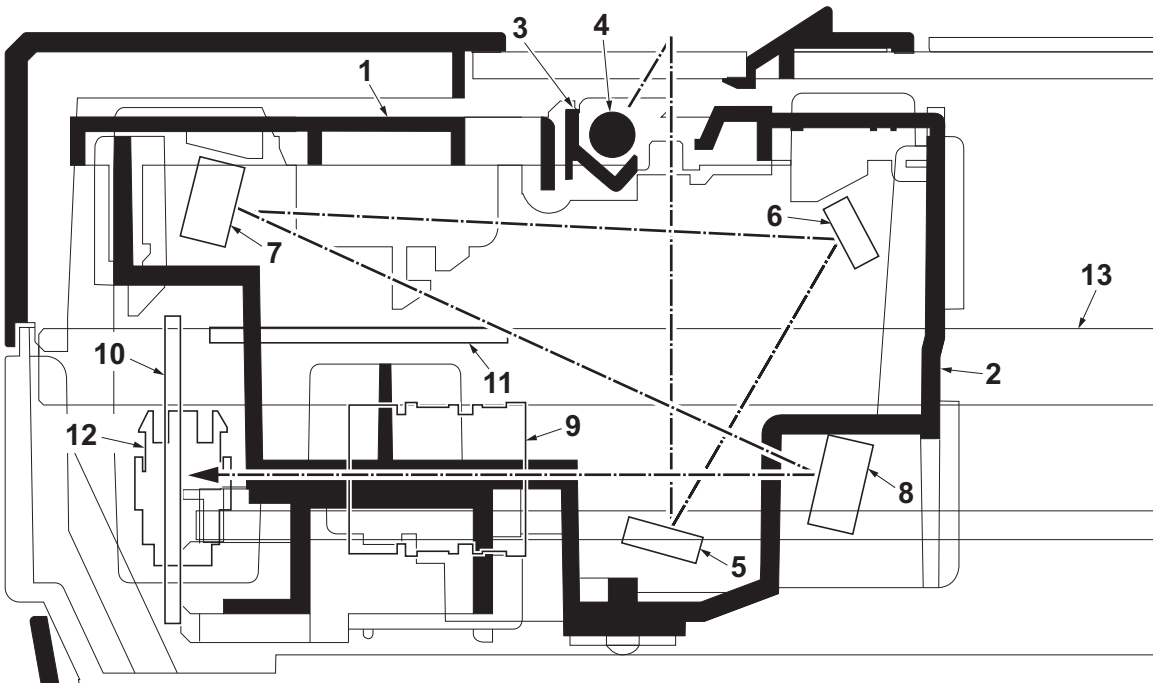


**Figure 2-1-11 Image scanner unit (ISU)**

1. Lamp mount
2. ISU housing
3. ISU reflector
4. Transparent material
5. Mirror A
6. Mirror B
7. Mirror C
8. Mirror D
9. ISU lens
10. CCD PWB (CCDPWB)
11. LED drive PWB (LEDDRPWB)
12. Home position sensor (HPS)
13. ISU shaft

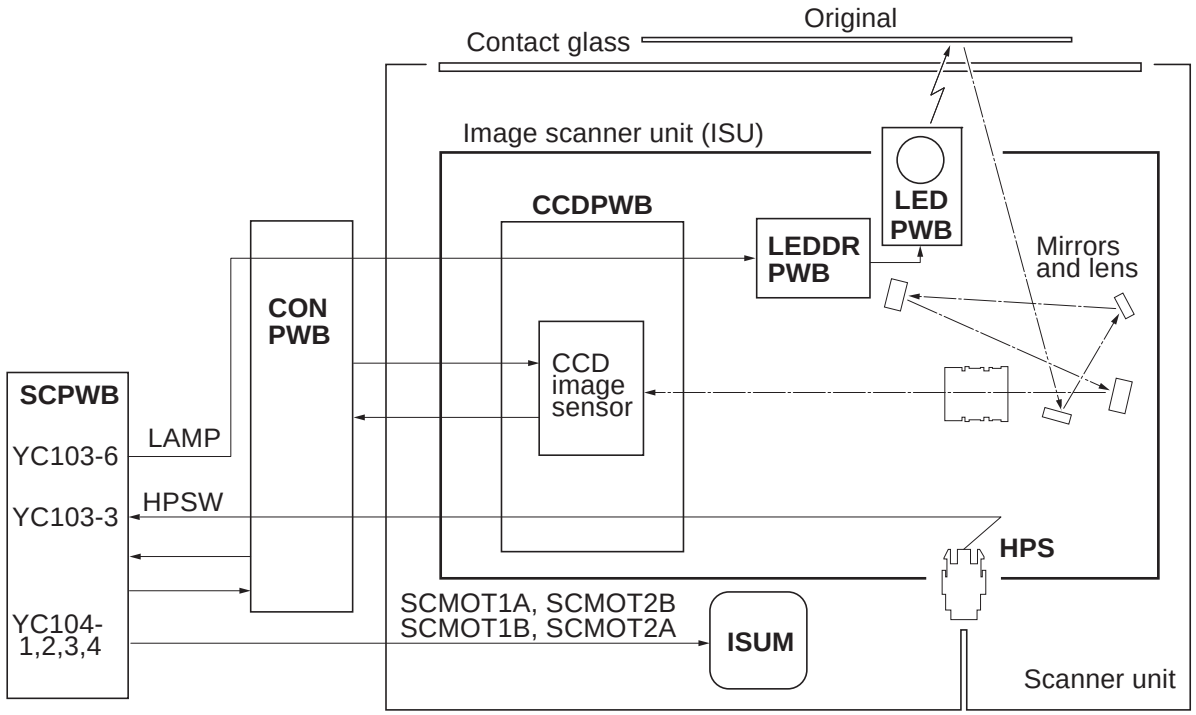


**Figure 2-1-12 Scanner unit block diagram**

## (3) Laser scanner unit

The charged surface of the drum is then scanned by the laser beam from the laser scanner unit.
The laser beam (780 nm wavelength) beam is dispersed as the polygon motor revolves to reflect the laser beam over the drum. Various lenses and mirror are housed in the laser scanner unit, adjust the diameter of the laser beam, and focalize it at the drum surface.

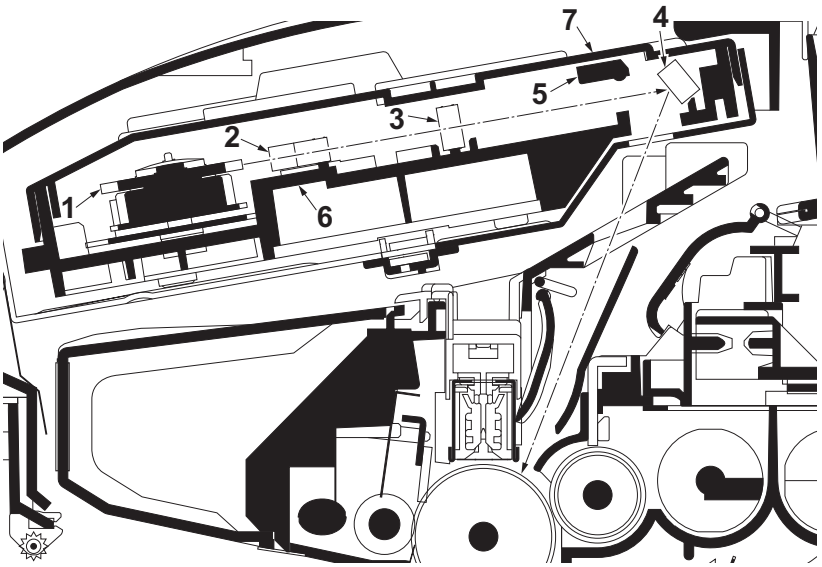


**Figure 2-1-13 Laser scanner unit**

1. Polygon motor (mirror)
2. F-q lens
3. F-q lens
4. LSU mirror
5. LSU shutter
6. LSU frame
7. LSU cover

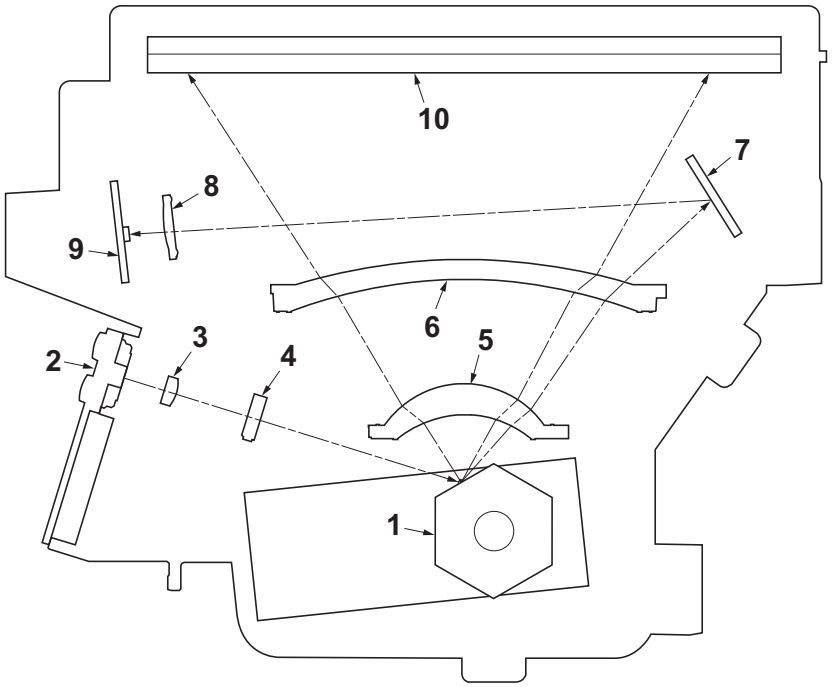


**Figure 2-1-14 Laser scanner unit**

1. Polygon motor (mirror)
2. Laser diode (APC PWB)
3. Collimator lens
4. Cylindrical lens
5. F-q lens
6. F-q lens
7. PD mirror
8. SOS lens
9. Pin photo diode sensor (PD PWB)
10. LSU mirror

# 2-1-4 Developing section

The latent image constituted on the drum is developed into a visible image. The developing roller contains a 3-pole (S-NS) magnet roller and an aluminum cylinder rotating around the magnet roller. Toner attracts to the magnet sleeve since it is powdery ink made of black resin bound to iron particles. Developing blade, magnetized by magnet, is positioned approximately 0.3 mm above the magnet sleeve to constitute a smooth layer of toner in accordance with the magnet sleeve revolution.

The developing roller is applied with the AC-weighted, positive DC power source. Toner on the magnet sleeve is given a positive charge. The positively charged toner is then attracted to the areas of the drum which was exposed to the laser light. (The gap between the drum and the magnet sleeve is approximately 0.32 mm.) The non-exposed areas of the drum repel the positively charged toner as these areas maintain the positive charge.
The developing roller is also AC-biased to ensure contrast in yielding by compensating the toner's attraction and repelling action during development.

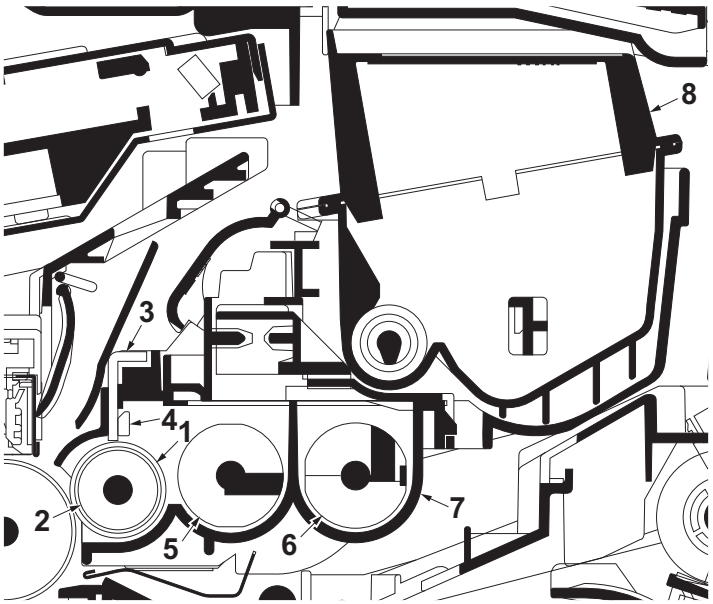


**Figure 2-1-15 Developing unit and toner container**

1. Magnet sleeve
2. Magnet roller
3. Developing blade
4. Blade magnet
5. DLP screw A
6. DLP screw B
7. DLP case
8. Toner container

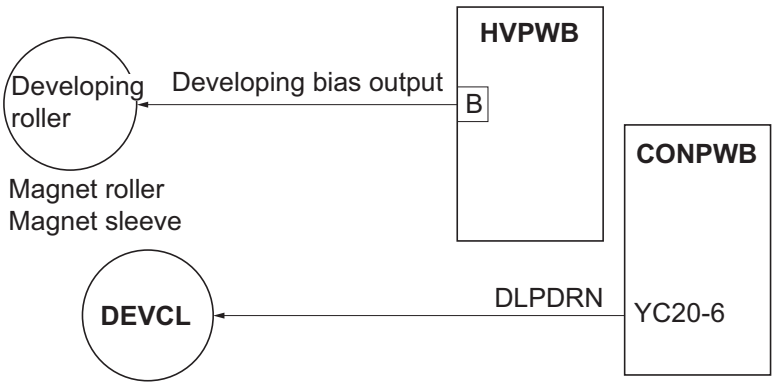


**Figure 2-1-16 Developing section block diagram**

## 2-1-5 Transfer/separation section

The transfer/separation section consists of the transfer roller, discharge electrode and paper chute guide. A high voltage generated by the high voltage PWB is applied to the transfer roller for transfer charging. Paper after transfer is separated from the drum.

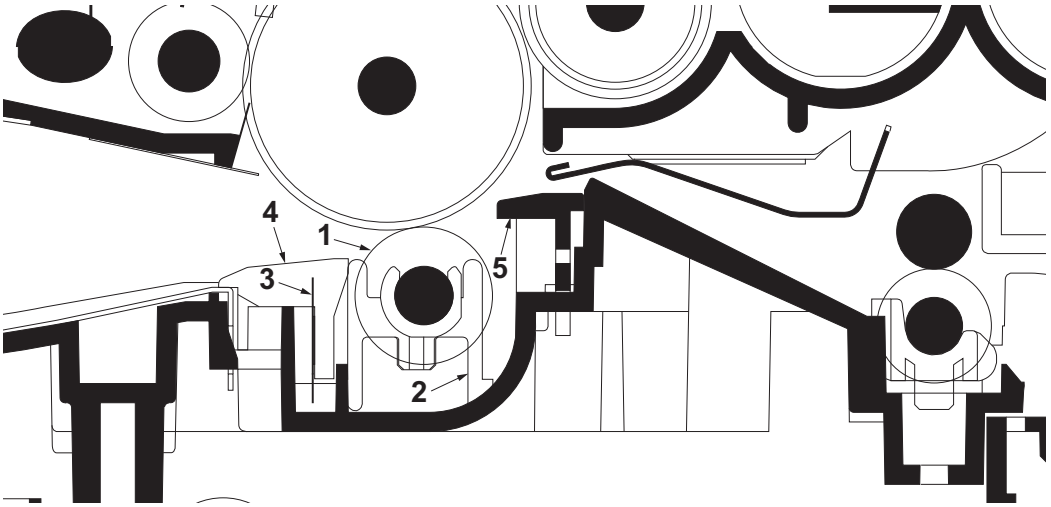


**Figure 2-1-17 Transfer/separation section**

1. Transfer roller
2. Transfer bushes
3. Discharge electrode
4. DC brush holder
5. Paper chute guide

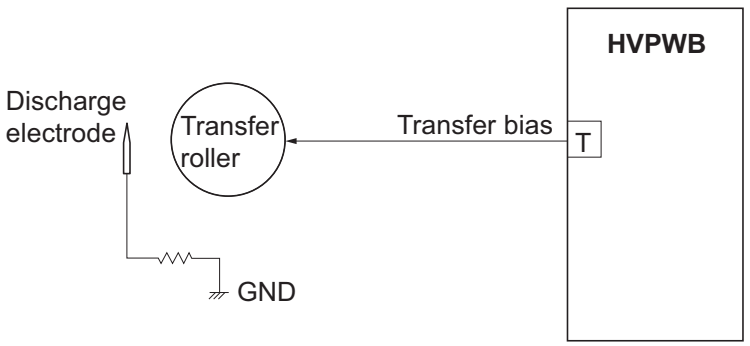


**Figure 2-1-18 Transfer/separation section block diagram**

# 2-1-6 Cleaning section

After the transferring process, the drum needs to be physically cleaned of toner which is residual after the development
process. The cleaning blade is constantly pressed against the drum and scrapes the residual toner off to the sweep roller.
The waste toner is collected at the output end of the sweep roller and sent back to the toner container, into the waste toner
reservoir.
After the drum is physically cleaned, it then must be cleaned to the electrically neutral state. This is necessary to erase any
residual positive charge, ready to accept the uniform charge for the next print process. The residual charge is canceled by
exposing the drum to the light emitted from the cleaning lamp (PWB). This lowers the electrical conductivity of the drum surface making the residual charge on the drum surface escape to the ground.

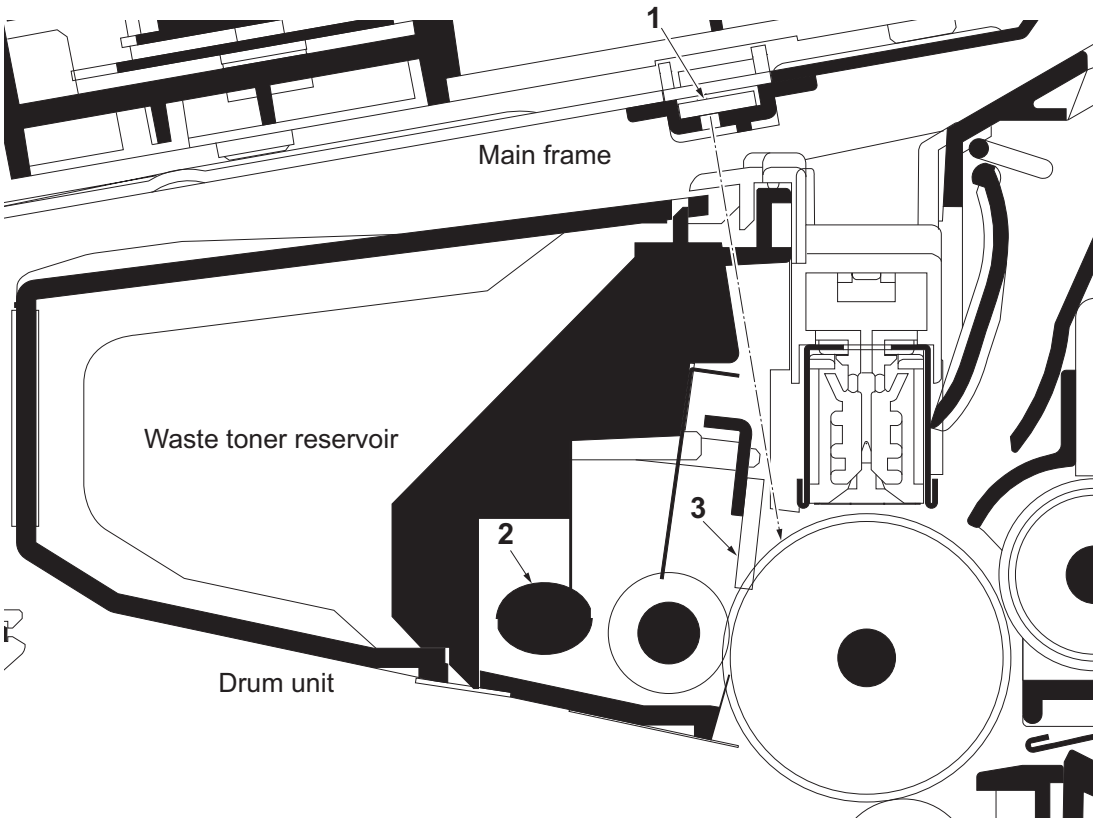


**Figure 2-1-19 Cleaning section**

1. Cleaning lamp (PWB)
2. Sweep roller
3. Cleaning blade

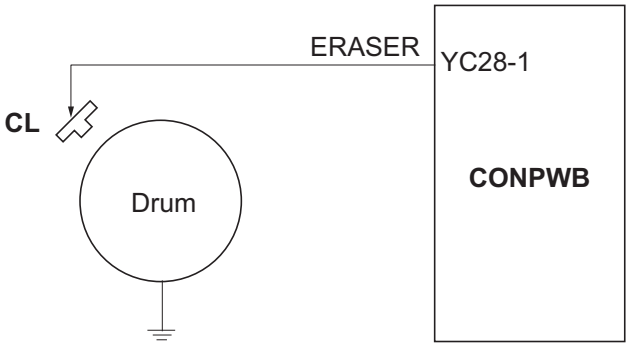


**Figure 2-1-20 Cleaning section block diagram**

# 2-1-7 Fuser section

The toner on the paper is molten and pressed into the paper as it passes between the heat roller and the press roller in the fuser unit. The heat roller has a heater inside which continuously turns on and off by the fuser thermistor to maintain the constant temperature onto the heat roller surface. The heat roller is resin coated by florin to prevent toner from accumulating on the roller after a long run. Care must be taken while handling the heat roller not to scratch the roller surface as doing so may result in print problems. Fuser temperature is optimized to the paper type. The heat roller has four separators (claws) which are continuously in contact with its surface. These separators (claws) prevent the paper on which toner has been fused from being wound around the heat roller causing paper jam. The press roller is made of the heat-resistant silicon rubber. This roller is used to strongly press the paper towards the heat roller by means of press springs. The temperature of the heat roller is constantly monitored by the control PWB using the fuser thermistor. Should the temperature of the heat roller exceed the predetermined value, the fuser thermal cutout is activated to effectively disconnect the heater from power.

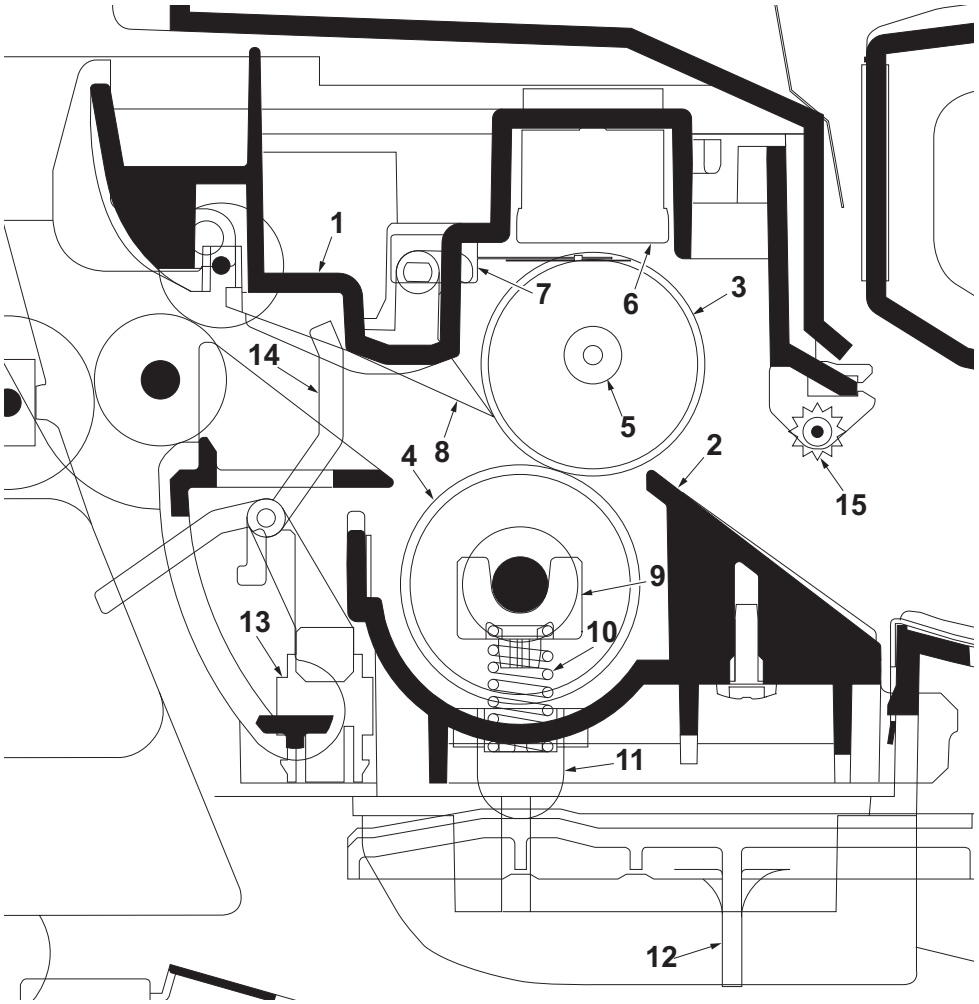


**Figure 2-1-21 Fuser unit**

1. Upper fuser frame
2. Lower fuser frame
3. Heat roller
4. Press roller
5. Fuser heater
6. Fuser thermostat
7. Fuser thermistor
8. Separators
9. Fuser bushes
10. Press springs
11. Press spring holders
12. Fuser lever L (R)
13. Exit sensor
14. Actuator (exit sensor)
15. Fuser guide pulley

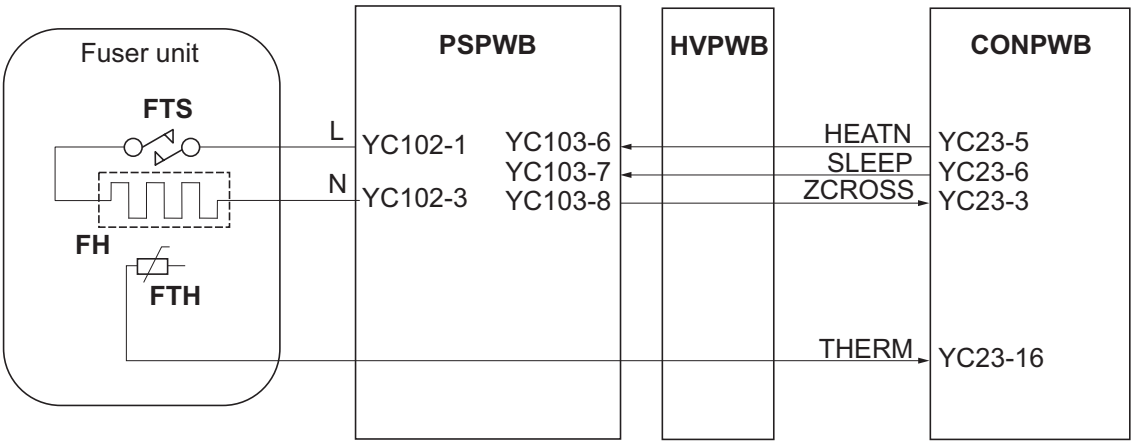


**Figure 2-1-22 Fuser unit block diagram**

# 2-1-8 Paper exit section

The paper exit section transports the paper which passed the fuser unit towards the top tray. The paper which passed through the fuser unit turns on the actuator (exit sensor) in the fuser unit, and is led by the guide comprised of the rear cover, frame and the FD cover guide, finally reaching the upper FD roller. The paper is delivered to the top tray by the rotation of the upper FD roller.

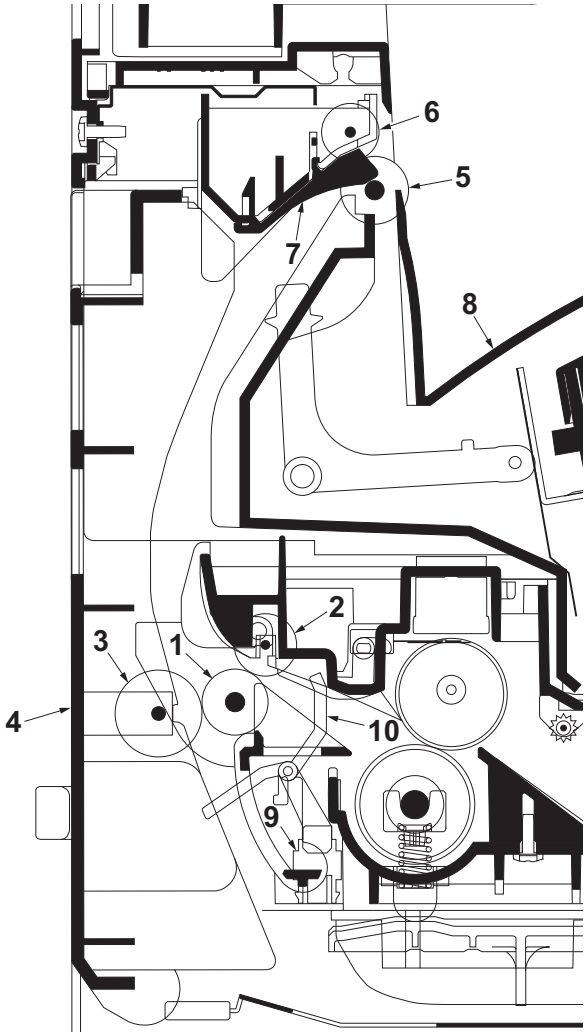


**Figure 2-1-23 Paper exit section**

1. Exit roller
2. Fuser exit pulley
3. Middle pulley
4. Rear cover
5. Upper FD roller
6. Exit pulley
7. FD cover
8. Top tray
9. Exit sensor
10. Actuator (exit sensor)

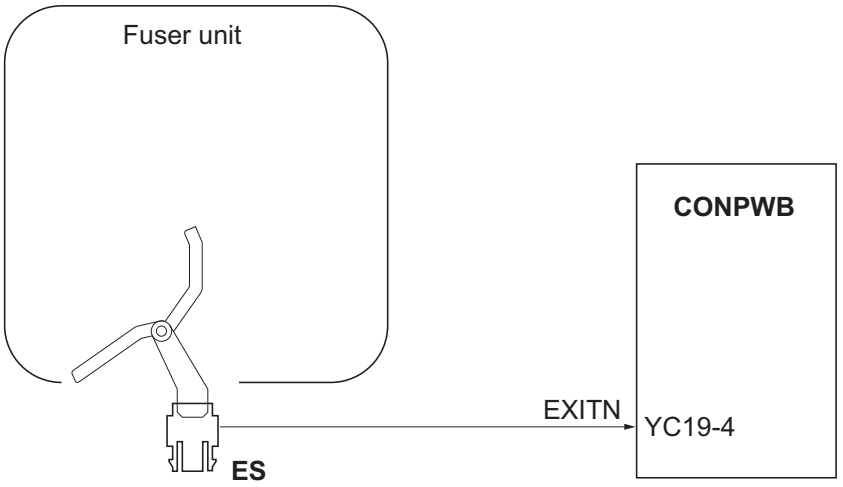


**Figure 2-1-24 Paper exit section block diagram**

## 2-1-9 Duplex/conveying section

The duplex/conveying section consists of conveying path which sends the paper sent from the exit section to the paper feed/conveying section when duplex printing.

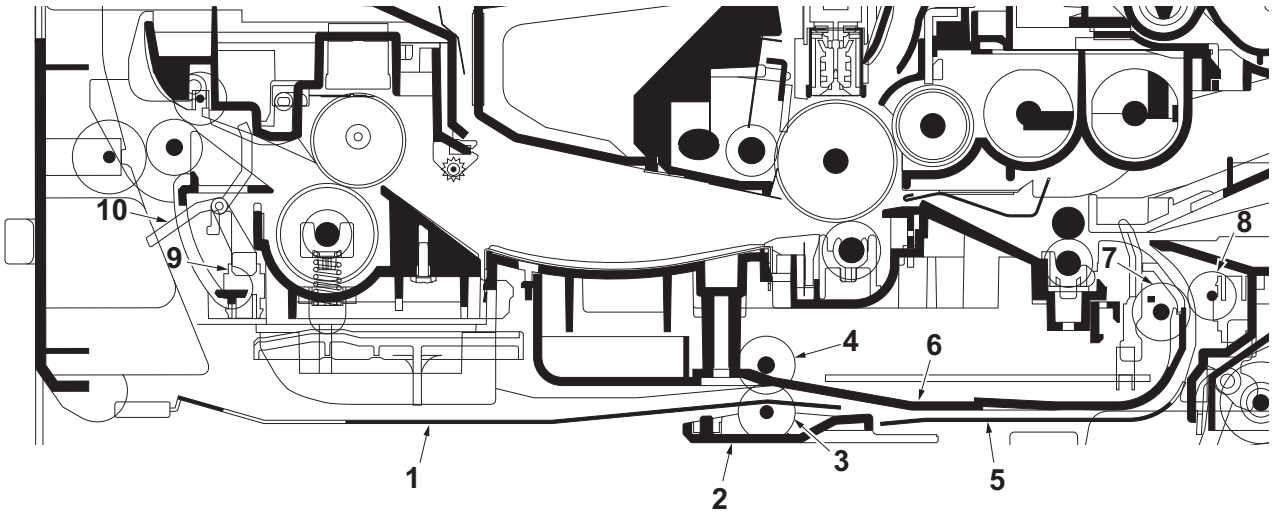


**Figure 2-1-25 Duplex/conveying section**

1. DU cover B
2. DU holder
3. Middle pulley B
4. DU roller
5. DU cover A
6. Lower base cover
7. Feed roller
8. Feed pulley
9. Exit sensor
10. Actuator (exit sensor)

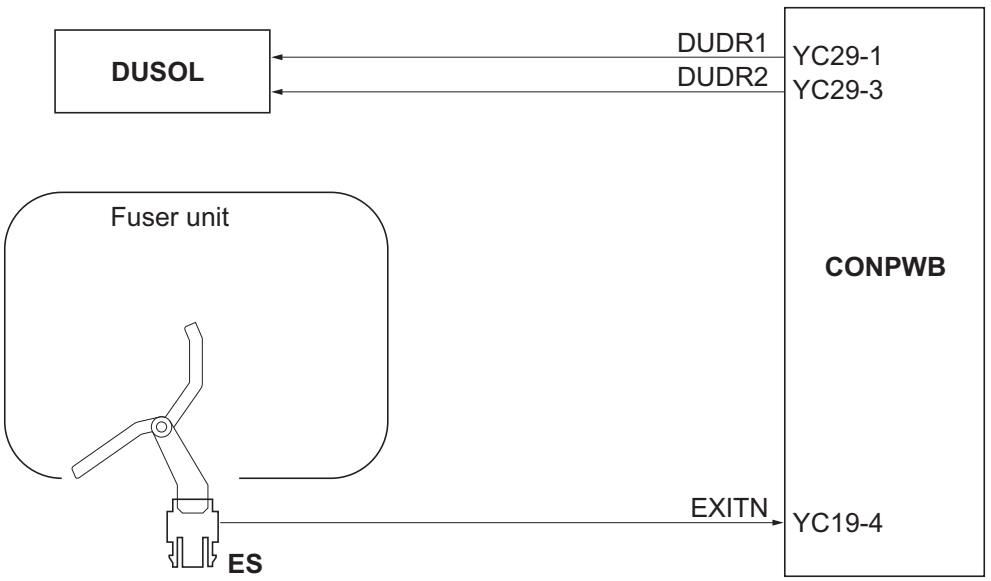


**Figure 2-1-26 Duplex/paper conveying section block diagram**

# 2-1-10 Document processor

## (1) Original feed section

The original feed section consists of the parts shown in figure. An original placed on the original table is conveyed to the original conveying section. Original is fed by the rotation of the DP forwarding pulley and DP feed pulley.

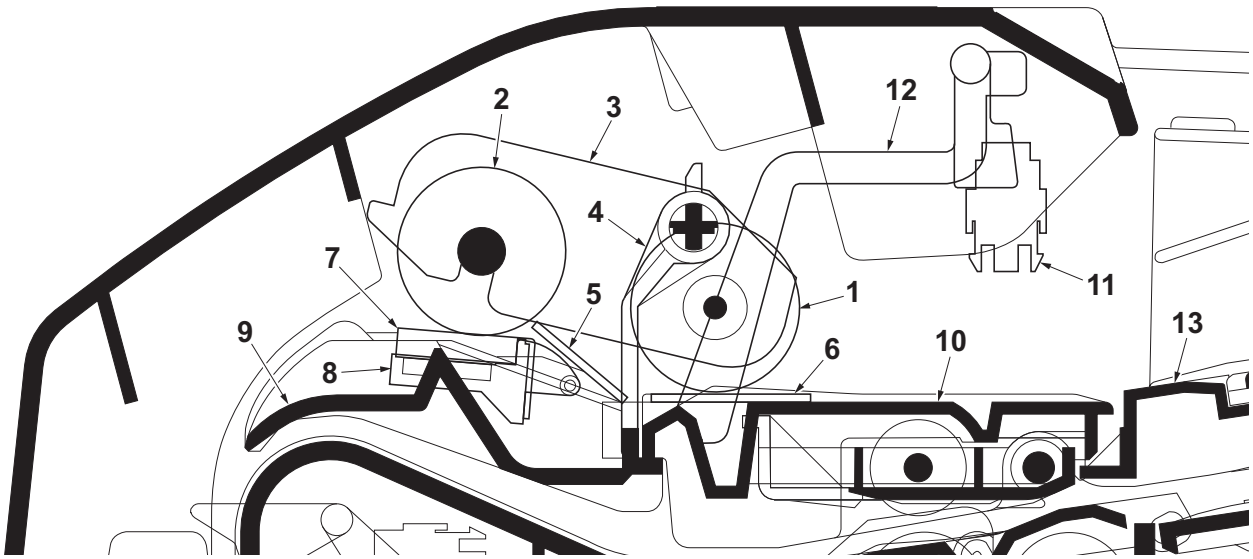


**Figure 2-1-27 Original feed section**

1. DP forwarding pulley
2. DP feed pulley
3. LF holder
4. PF stopper
5. Front separation pad
6. LF friction plate
7. DP separation pad
8. Separation mount
9. Upper guide
10. Switchback guide
11. DP original sensor (DPOS)
12. Actuator (DP original sensor)
13. Original table

]

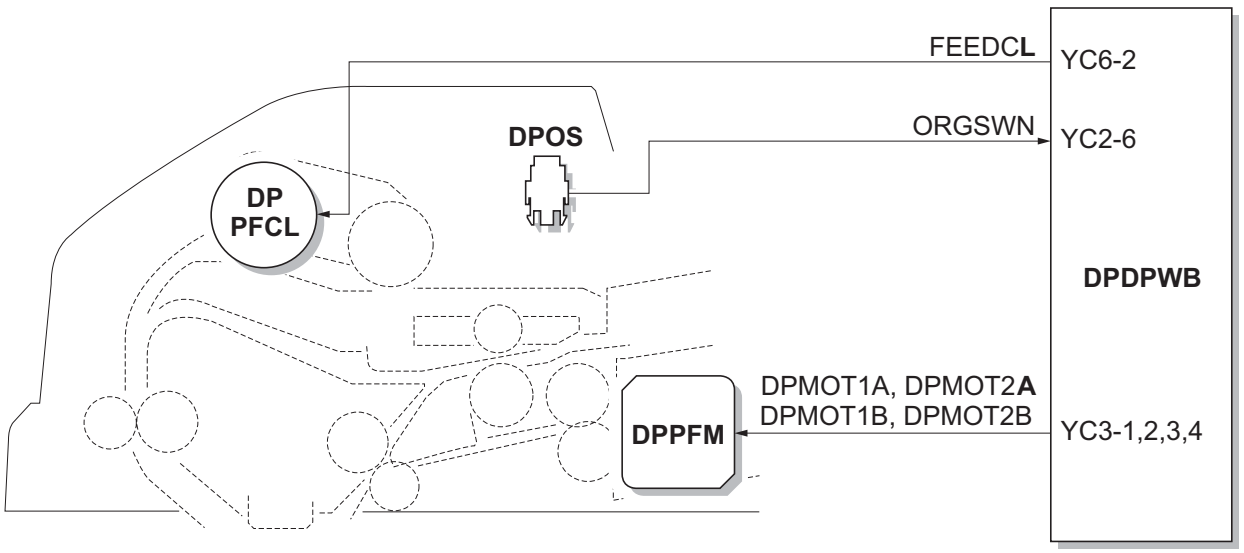


**Figure 2-1-28 Original feed section block diagram**

## (2) Original conveying section

The original conveying section consists of the parts shown in figure. A conveyed original is scanned by the optical section (CCD) of main machine when it passes through the DP contact glass of main machine.

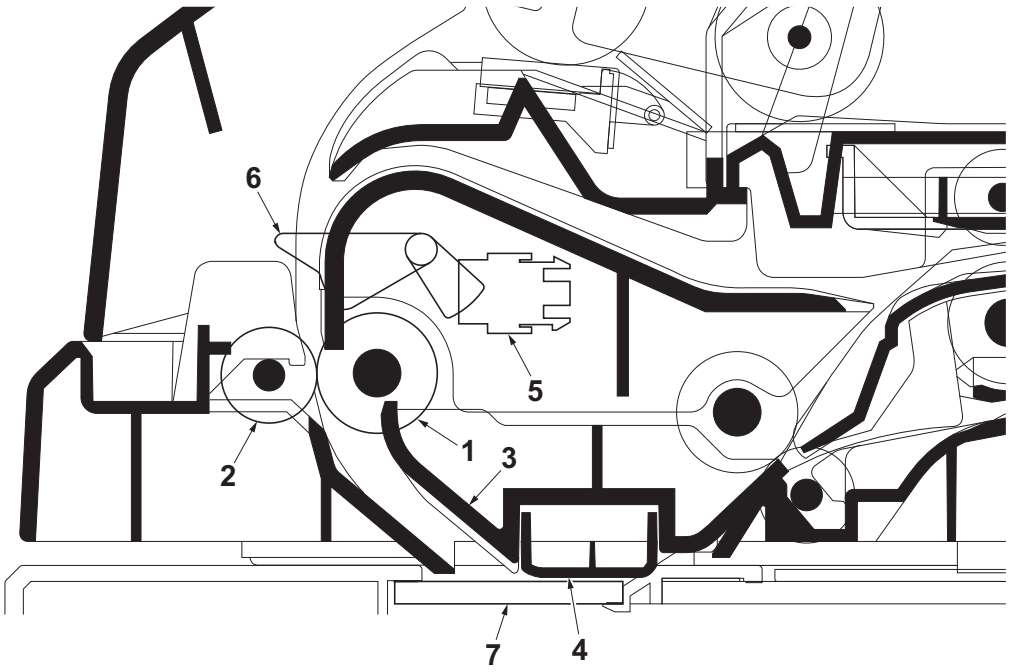


**Figure 2-1-29 Original conveying section**

1. Conveying roller A
2. Conveying pulley
3. Conveying bottom
4. Reading guide
5. DP timing sensor (DPTS)
6. Actuator (DP timing sensor)
7. DP contact glass

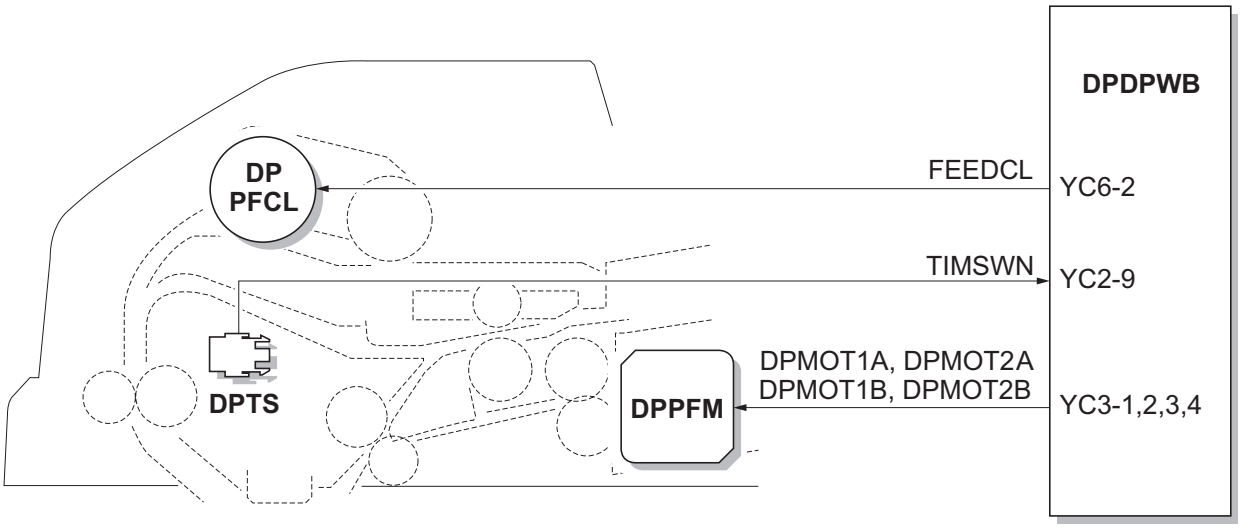


**Figure 2-1-30 Original conveying section block diagram**

## (3) Original switchback/eject sections

The original switchback/eject sections consists of the parts shown in figure. An original of which scanning is complete is ejected to the original eject table by the eject roller. In the case of duplex switchback scanning, an original is conveyed temporarily to the switchback tray and conveyed again to the original conveying section by the switchback roller.

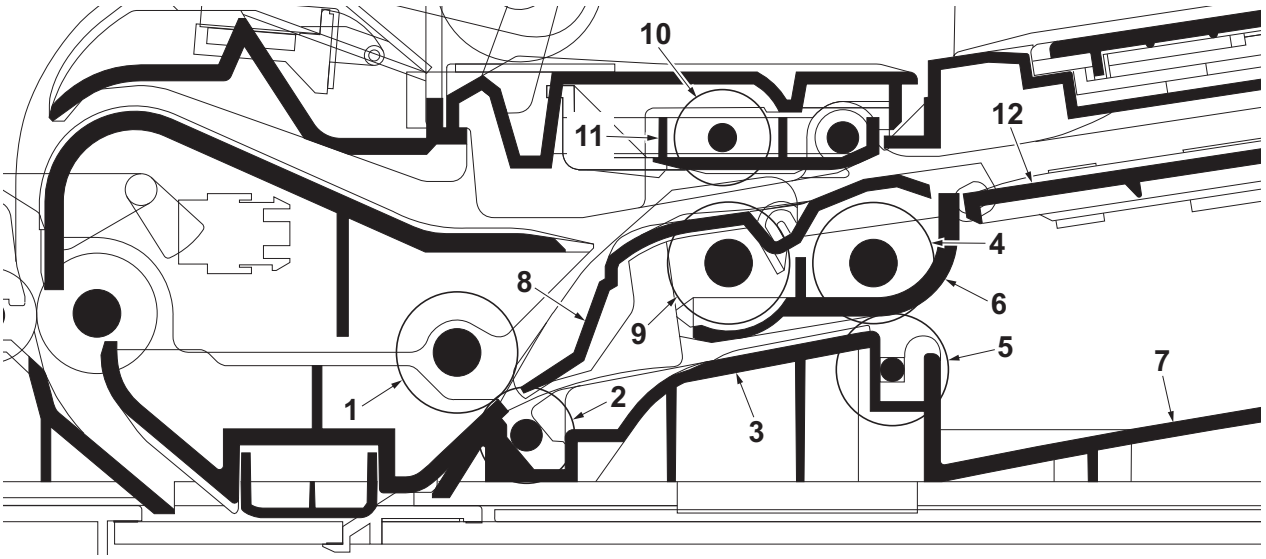


**Figure 2-1-31 Original switchback/eject sections**

1. Conveying roller B
2. Conveying pulley
3. DP base
4. Eject roller
5. Eject pulley
6. PF housing
7. Original eject table
8. Switchback guide
9. Switchback roller
10. Switchback pulley
11. Switchback pulley mount
12. Switchback tray

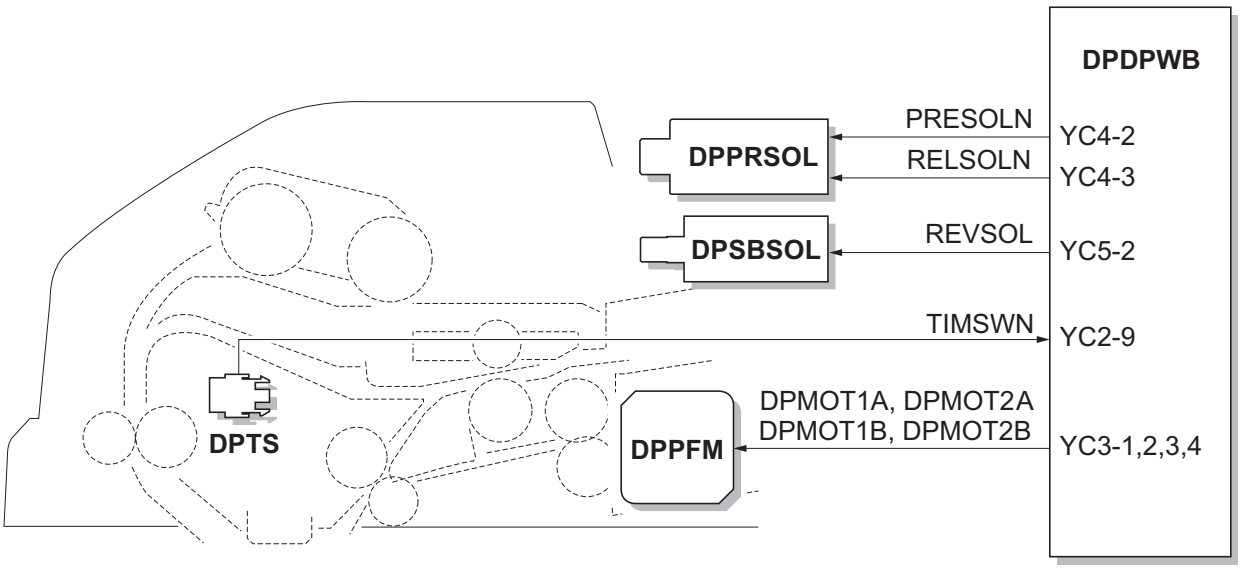


**Figure 2-1-32 Original switchback/eject sections block diagram**

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# 2-2-1 Electrical parts layout

## (1) PWBs

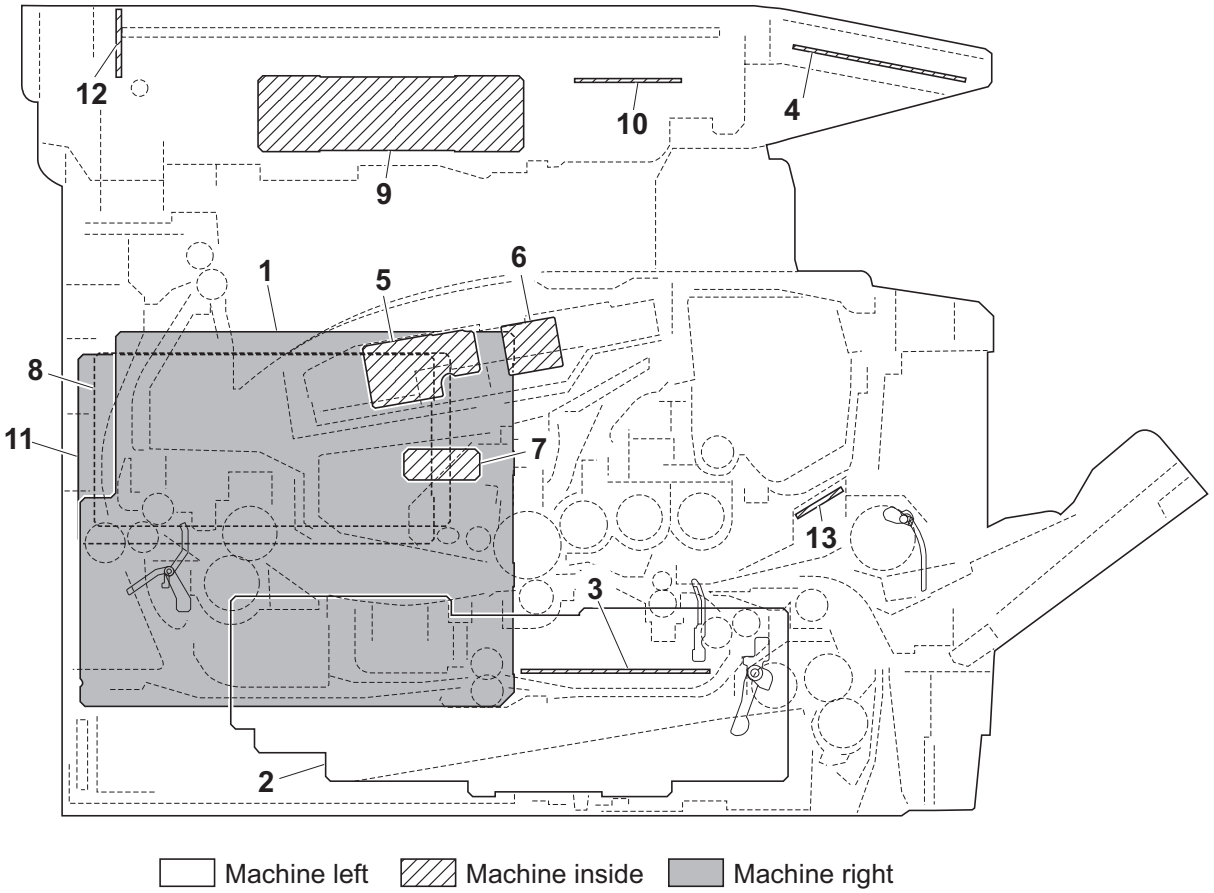


**Figure 2-2-1 PWBs**

1. Control PWB (CONPWB)..... Main controller: Controls the software such as the print data processing and provides the interface with computers. Engine: Controls machine hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc.
2. Power source PWB (PSPWB) ..... After full-wave rectification of AC power source input, switching for converting to 24 V DC for output. Controls the Fuser heater.
3. High voltage PWB (HVPWB) ..... Generates main charging, developing bias and transfer bias.
4. Operation panel PWB (OPPWB) ..... Consists the LCD, LED indicators and key switches.
5. APC PWB (APCPWB) ..... Generates and controls the laser beam.
6. PD PWB (PDPWB) ..... Controls horizontal synchronizing timing of laser beam.
7. Zener PWB (ZEPWB) ..... Adjusts the drum surface potential.
8. Scanner PWB (SCPWB)..... Controls the scanner section.
9. CCD PWB (CCDPWB)..... Reads the image of originals.
10. LED drive PWB (LEDDRPWB) ..... Controls the exposure lamp.
11. FAX control PWB (FCPWB)..... Modulates, demodulates, compresses, decompresses and smoothes out image data, and converts resolution of image data.
12. LED PWB (LEDPWB) ..... Exposes originals.
13. RFID PWB (RFPWB)..... Reads the container information.

**List of correspondences of PWB names**

| No. | Name used in service manual | Name used in parts list |
|---|---|---|
| **1** | Control PWB | PARTS MAIN PWB ASSY FS SP |
| **1** | Control PWB | PARTS MAIN PWB ASSY FS SP EU |
| **2** | Power source PWB | PARTS SWITCHING REGULATOR 120V SP |
| **2** | Power source PWB | PARTS SWITCHING REGULATOR 230V SP |
| **3** | High voltage PWB | HIGH VOLTAGE UNIT |
| **4** | Operation panel PWB | PARTS PANEL PWB ASSY SP |
| **5** | APC PWB | - |
| **6** | PD PWB | - |
| **7** | Zener PWB | - |
| **8** | Scanner PWB | PARTS SCANNER PWB ASSY SP |
| **9** | CCD PWB | - |
| **10** | LED drive PWB | - |
| **11** | FAX control PWB | PARTS MAIN FAX ASSY U SP |
| **11** | FAX control PWB | PARTS MAIN FAX ASSY E SP |
| **12** | LED PWB | - |
| **13** | RFID PWB (RFPWB) | PARTS PWB RFID ASSY SP |

## (2) Switches and sensors

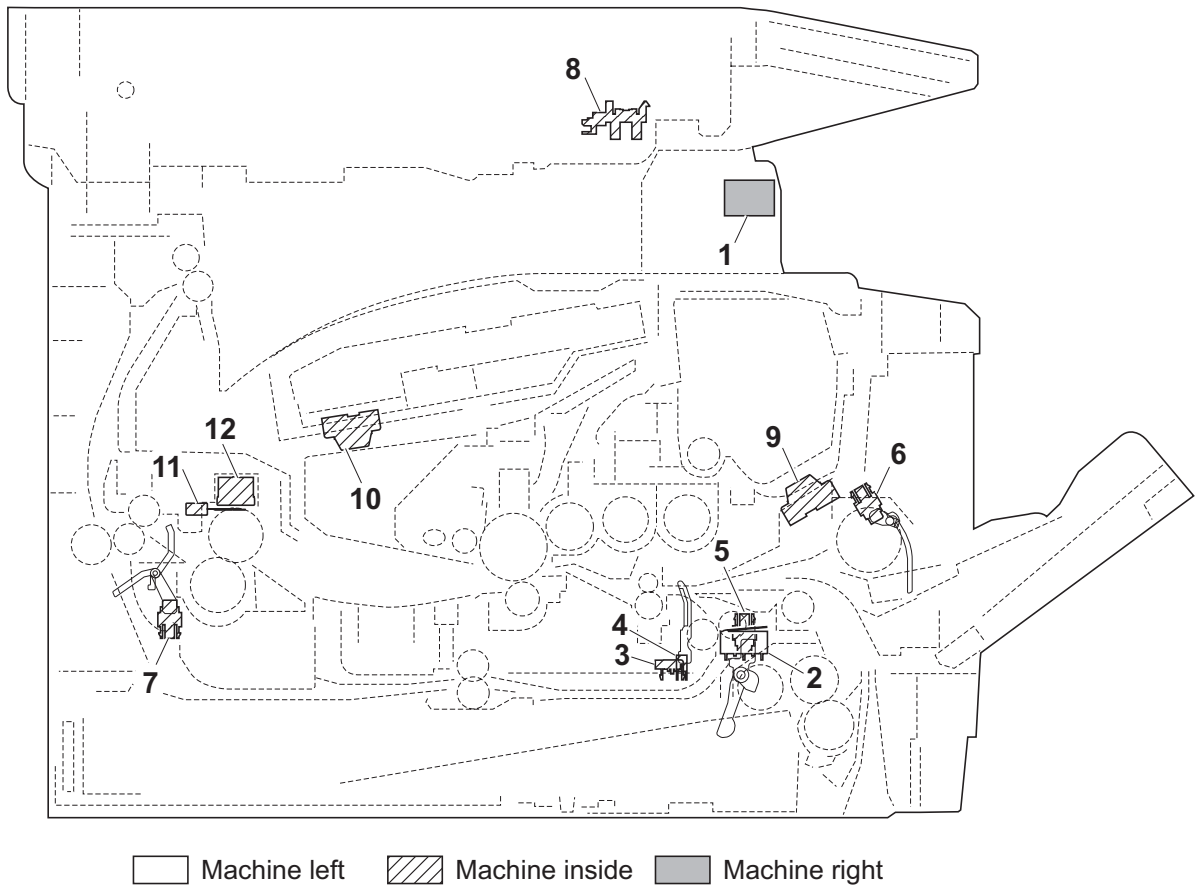


**Figure 2-2-2 Switches and sensors**

1. Power switch (MSW)..... Switches of main body operation.
2. Interlock switch (ILSW) ..... Shuts off 24 V DC power line when the front cover is opened.
3. Cassette switch (COCSW)..... Detects open/close cassette.
4. Registration sensor (RS)..... Detects the timing of primary paper feed.
5. Paper sensor (PS) ..... Detects the presence of paper in the cassette.
6. MP paper sensor (MPPS) ..... Detects the presence of paper on the MP tray.
7. Exit sensor (ES)..... Detects paper jam in the fuser or duplex conveying section.
8. Home position sensor (HPS) ..... Detects the ISU in the home position.
9. Toner sensor (TS) ..... Detects the quantity of toner in a toner container.
10. Waste toner sensor (WTS)..... Detects when the waste toner reservoir (Drum unit) is full.
11. Fuser thermistor (FTH) ..... Measures the heat roller temperature.
12. Fuser thermostat (FTS)..... Shuts off the power source to the Fuser heater when the heat roller reaches extremely high temperature.

## (3) Other electrical components

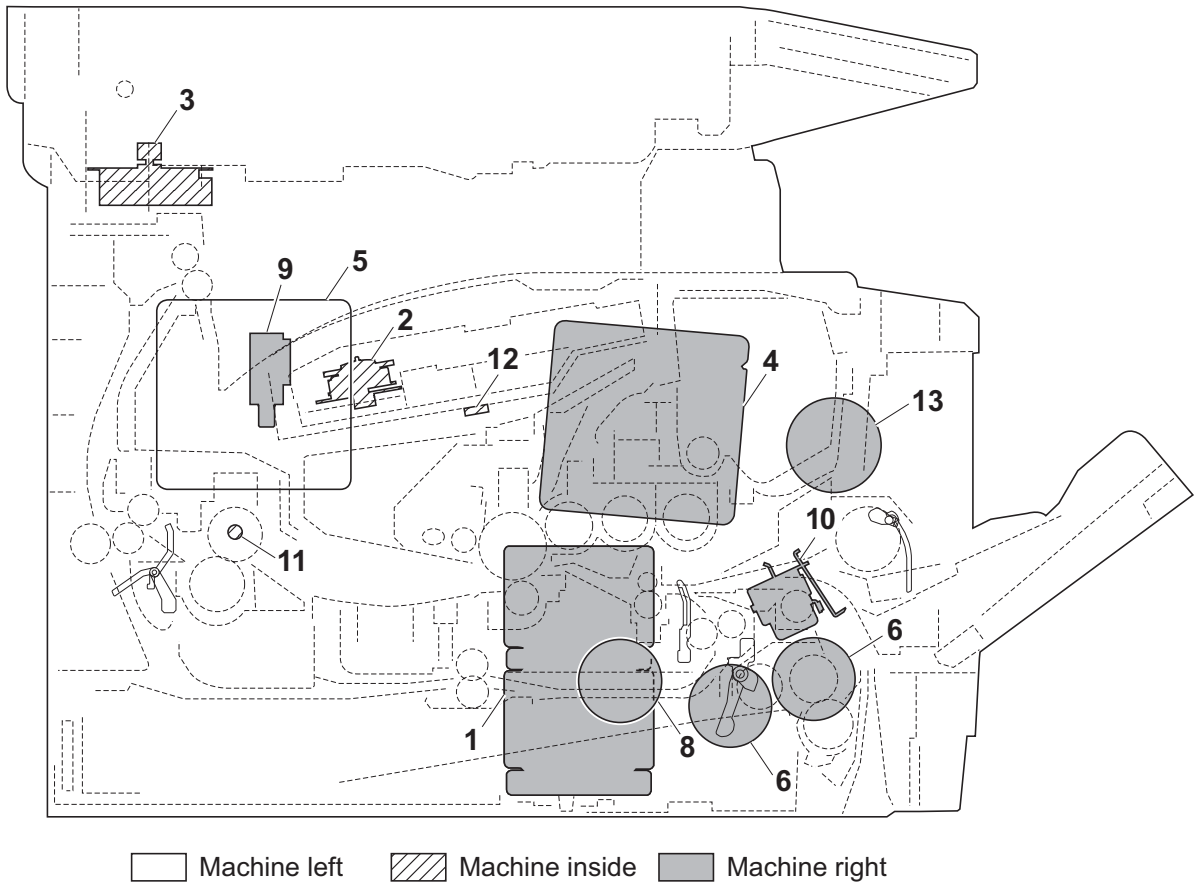


**Figure 2-2-3 Other electrical components**

1. Main motor (MM)..... Drives the paper feed/conveying section and fuser unit.
2. Polygon motor (PM)..... Drives the polygon mirror.
3. ISU motor (ISUM) ..... Drives the ISU.
4. Right cooling fan motor (RFM ..... Cools the interior of machine.
5. Left cooling fan motor (LFM)..... Cools the interior of machine.
6. Registration clutch (RCL)..... Controls the secondary paper feed.
7. Paper feed clutch (PFCL) ..... Controls the paper cassette paper feed.
8. Developing clutch (DEVCL) ..... Controls the toner feed.
9. Duplex solenoid (DUCL) ..... Controls the paper conveying at the duplex conveying section.
10. MP paper feed solenoid (MPPFSOL) ... Controls the MPF bottom plate of the MP tray.
11. Fuser heater (FH) ..... Heats the heat roller.
12. Cleaning lamp (CL)..... Eliminates the residual electrostatic charge on the drum.
13. Speaker (SP..... Outputs buzzer, monitoring and speaker sounds.

## (4) Document processor

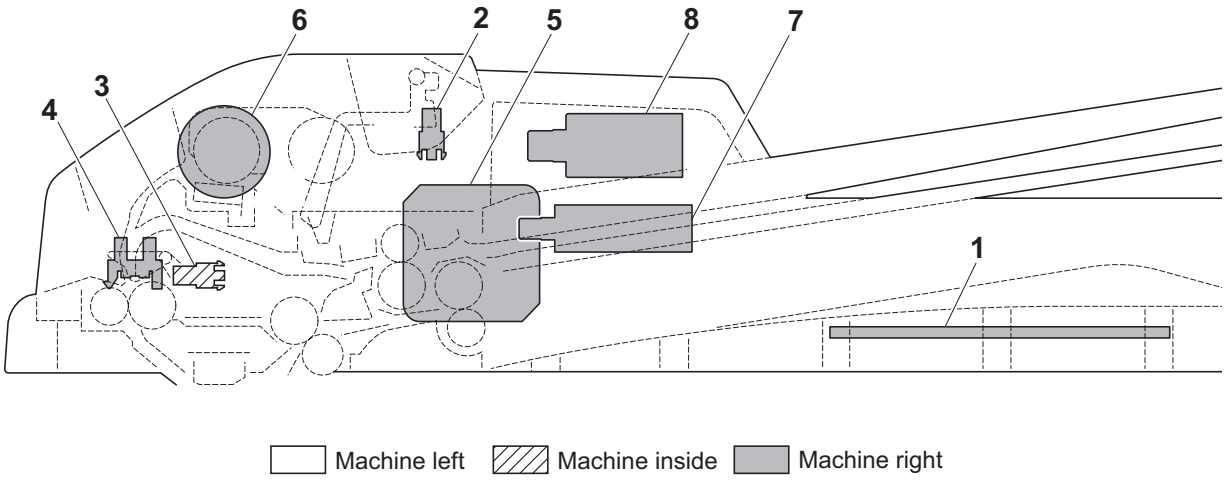


**Figure 2-2-4 Document processor**

1. DP drive PWB (DPDPWB)..... Consists the solenoids and clutch driver circuit and wiring relay circuit.
2. DP original sensor (DPOS)..... Detects the presence of an original.
3. DP timing sensor (DPTS)..... Detects the original scanning timing.
4. DP open/close sensor (DPOCS)..... Detects the opening/closing of the DP.
5. DP paper feed motor (DPPFM)..... Drives the original feed section.
6. DP paper feed clutch (DPPFCL)..... Controls the drive of the forwarding pulley and feed pulley.
7. DP switchback solenoid (DPSBSOL).... Operates the switchback guide.
8. DP pressure solenoid (DPPRSOL)..... Operates the switchback pulley.

**List of correspondences of PWB names**

| No. | Name used in service manual | Name used in parts list |
|---|---|---|
| **1** | DP drive PWB | PARTS DRIVER PWB ASSY SP |

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# 2-3-1 Power source PWB

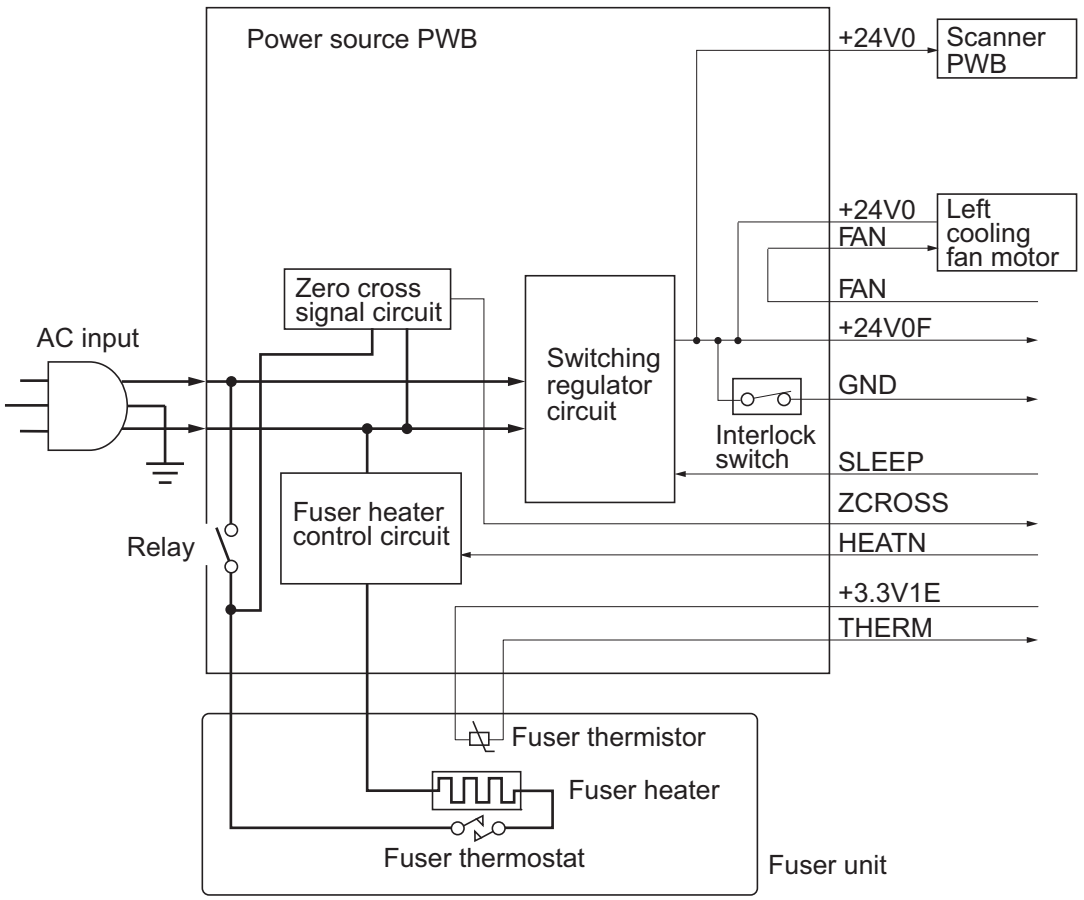



**Figure 2-3-1 Power source PWB block diagram**

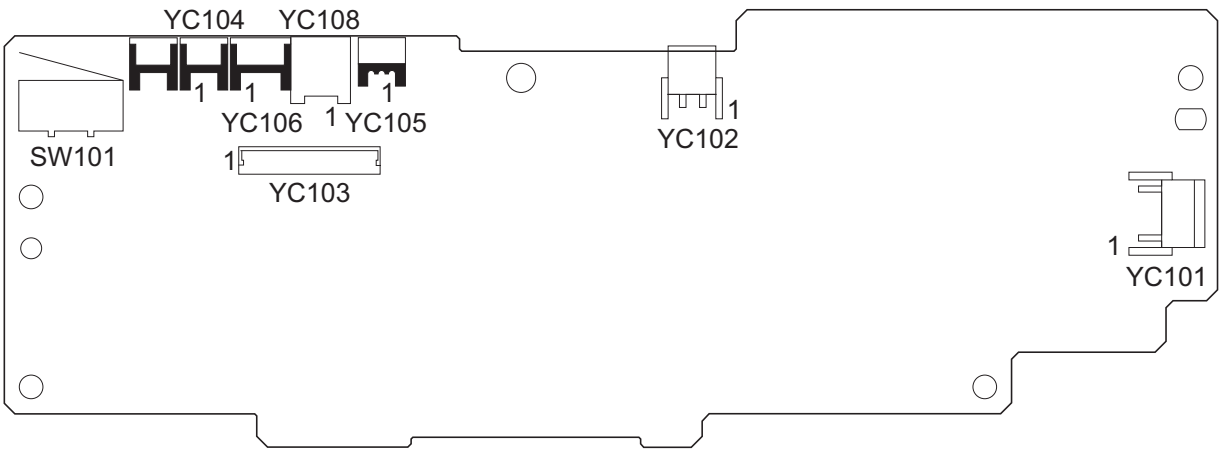



**Figure 2-3-2 Power source PWB silk-screen diagram**

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC101** | 1 | NEUTRAL | I | 120 V AC | AC power input |
| Connected to the AC inlet | | | | 220 - 240 V AC | |
| | 2 | LIVE | I | 120 V AC | AC power input |
| | | | | 220 - 240 V AC | |
| **YC102** | 1 | LIVE | O | 120 V AC | Fuser heater output |
| Connected to the Fuser heater | | | | 220 - 240 V AC | |
| | 2 | NEUTRAL | O | 120 V AC | Fuser heater output |
| | | | | 220 - 240 V AC | |
| **YC103** | 1 | +24V0 | O | 24 V DC | 24 V DC power source |
| Connected to the high voltage PWB | 2 | SGND | - | - | Ground |
| | 3 | FAN | I | 0/24 V DC | Left cooling fan motor: On/Off |
| | 4 | THERM | O | Analog | Fuser thermistor detection voltage |
| | 5 | +3.3V1E | I | 3.3 V DC | 3.3 V DC power source |
| | 6 | HEATN | I | 0/3.3 V DC | Fuser heater: On/Off |
| | 7 | SLEEP | I | 0/3.3 V DC | Sleep mode signal: On/Off |
| | 8 | ZCROSS | O | 0/3.3 V DC (pulse) | Zero cross signal |
| | 9 | +24V0IL | O | 24 V DC | 24 V DC power source (via interlock switch) |
| | 10 | +24V0IL | O | 24 V DC | 24 V DC power source (via interlock switch) |
| | 11 | PGND | - | - | Ground |
| | 12 | PGND | - | - | Ground |
| **YC104** | 1 | +24V0 | O | 24 V DC | 24 V DC power source |
| Connected to the left cooling fan motor | 2 | FAN | O | 0/24 V DC | Left cooling fan motor: On/Off |
| **YC105** | 1 | +3.3V1E | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the fuser thermistor | 2 | N.C. | - | - | Not used |
| | 3 | THERM | I | Analog | Fuser thermistor detection voltage |
| **YC106** | 1 | +24V0F | O | 24 V DC | 24 V DC power source |
| Connected to the scanner PWB | 2 | N.C. | - | - | Not used |
| | 3 | GND | - | - | Ground |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC108** | 1 | - | - | - | Frame ground (Control PWB) |
| Connected to the ground terminals | 2 | - | - | - | Frame ground (Frame) |
| | 3 | - | - | - | Frame ground (Frame) |

## 2-3-2 Control PWB

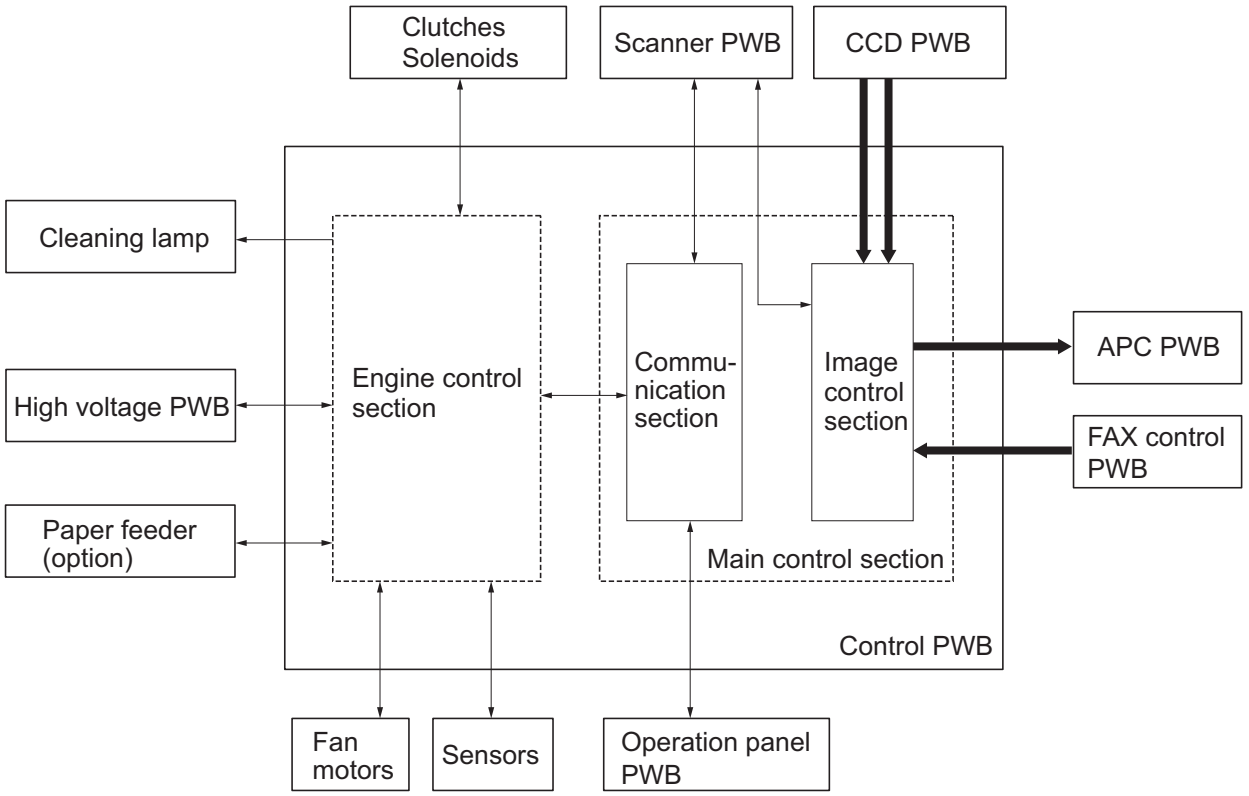



**Figure 2-3-3 Control PWB block diagram**

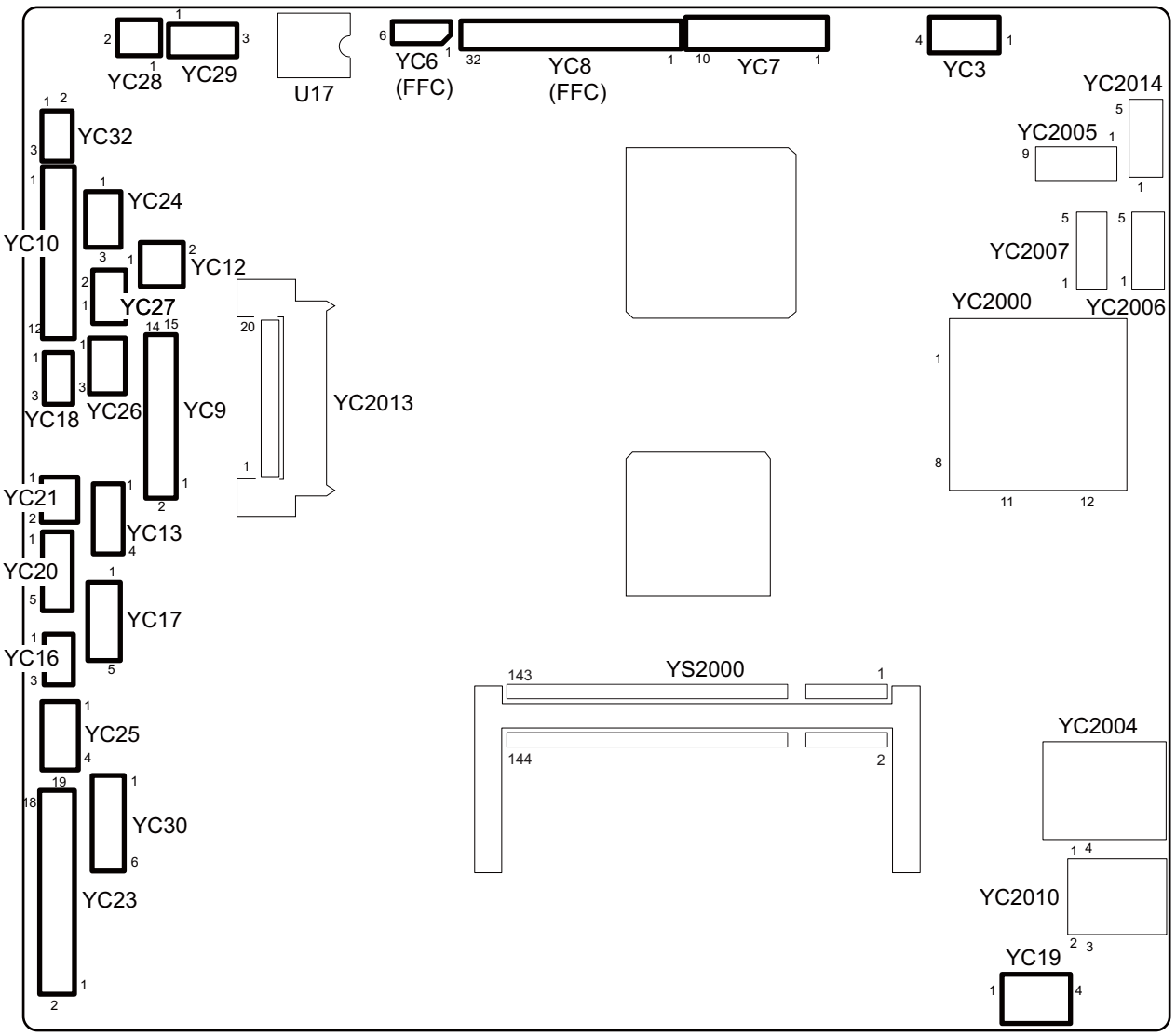



**Figure 2-3-4 Control PWB silk-screen diagram**

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC3** | 1 | VBUS | O | 5 V DC | 5 V DC power source |
| Connected to USB host | 2 | DATA - | I/O | - | USB data signal |
| | 3 | DATA + | I/O | - | USB data signal |
| | 4 | GND | - | - | Ground |
| **YC6** | 1 | +12V3 | O | 12 V DC | 12 V DC power source |
| Connected to the scanner PWB | 2 | GND | - | - | Ground |
| | 3 | HPSW | O | 0/3.3 V DC | Home position sensor: On/Off |
| | 4 | GND | - | - | Ground |
| | 5 | NC | - | - | Not used |
| | 6 | LAMP | I | 0/24 V DC | Exposure lamp drive signal |
| **YC7** | 1 | GND | - | - | Ground |
| Connected to the operation panel PWB | 2 | PANCTS | I | 0/3.3 V DC (pulse) | Transmitting enable signal |
| | 3 | PANRTS | O | 0/3.3 V DC (pulse) | Receiving enable signal |
| | 4 | +3.3V1C | O | 0/3.3 V DC | Home position sensor: On/Off |
| | 5 | PANRXD | I | 0/3.3 V DC (pulse) | Operation panel PWB receiving data |
| | 6 | PANTXD | O | 0/3.3 V DC (pulse) | Operation panel PWB transmitting data |
| | 7 | FPRSTN | O | 3.3/0 V DC | Operation panel PWB reset signal |
| | 8 | GND | - | - | Ground |
| | 9 | POWERKEY | I | 3.3/0 V DC | Power key input signal |
| | 10 | +5V1C | O | 5 V DC | 5 V DC power source |
| **YC8** | 1 | LAMP | O | 0/24 V DC | Exposure lamp drive signal |
| Connected to the CCD PWB | 2 | NC | - | - | Not used |
| | 3 | GND | - | - | Ground |
| | 4 | GND | - | - | Ground |
| | 5 | HPSW | I | 0/3.3 V DC | Home position sensor: On/Off |
| | 6 | +3.3V3C | O | 3.3 V DC | 3.3 V DC power source |
| | 7 | NC | - | - | Not used |
| | 8 | CCDRSN | O | LVDS | CCD reset signal (-) |
| | 9 | CCDRSP | O | LVDS | CCD reset signal (+) |
| | 10 | NC | - | - | Not used |
| | 11 | CCDCLPP | O | LVDS | CCD reset signal (-) |
| | 12 | CCDCLPN | O | LVDS | CCD reset signal (+) |
| | 13 | NC | - | - | Not used |
| | 14 | CCDPH1N | O | LVDS | CCD shift register clock signal (-) |
| | 15 | CCDPH1P | O | LVDS | CCD shift register clock signal (+) |
| | 16 | NC | - | - | Not used |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC8** | 17 | CCDPH2P | O | LVDS | CCD shift register clock signal (-) |
| Connected to the CCD PWB | 18 | CCDPH2N | O | LVDS | CCD shift register clock signal (+) |
| | 19 | NC | - | - | Not used |
| | 20 | CCDSH | O | LVDS | CCD shift gate signal (-) |
| | 21 | CCDSW | O | LVDS | CCD color/BW change signal (+) |
| | 22 | GND | - | - | Ground |
| | 23 | CCDDATAR | I | LVDS | CCD image output signal (Red) |
| | 24 | GND | - | - | Ground |
| | 25 | CCDDATAG | I | LVDS | CCD image output signal (Green) |
| | 26 | GND | - | - | Ground |
| | 27 | CCDDATAB | I | LVDS | CCD image output signal (Blue) |
| | 28 | GND | - | - | Ground |
| | 29 | +12V3 | O | 12 V DC | 12 V DC power source (For exposure lamp) |
| | 30 | GND | - | - | Ground |
| | 31 | +5V3E2 | O | 5 V DC | 5 V DC power source |
| | 32 | +5V3E2 | O | 5 V DC | 5 V DC power source |
| **YC9** | 1 | GND | - | - | Ground |
| Connected to the scanner PWB | 2 | +3.3V3C | O | 3.3 V DC | 3.3 V DC power source |
| | 3 | CPUCLK | I | 0/3.3 V DC (pulse) | Serial communications clock signal |
| | 4 | CPUSI | I | 0/3.3 V DC (pulse) | Serial communications data input |
| | 5 | CPUSO | O | 0/3.3 V DC (pulse) | Serial communications data output |
| | 6 | CPUSEL | I | 0/3.3 V DC | Communications select signal |
| | 7 | CPURDY | O | 0/3.3 V DC | Communications ready signal |
| | 8 | OVANOHLD | O | 0/3.3 V DC | Communications ready signal |
| | 9 | PAGESET | O | 0/3.3 V DC | Vertical synchronizing monitor signal |
| | 10 | SEGSO | I | 0/3.3 V DC | Vertical synchronizing signal |
| | 11 | SSCKN | O | 0/3.3 V DC (pulse) | Serial communications clock |
| | 12 | SEGSI | O | 0/3.3 V DC (pulse) | Serial communications data input |
| | 13 | SSBSY | I | 0/3.3 V DC | Impossible transmission/Completion notice signal |
| | 14 | SSDIR | I | 0/3.3 V DC | Serial communications T/R switching signal |
| | 15 | SEGIR | I | 0/3.3 V DC | Serial communications interruption demand signal |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC10** | 1 | +24V4IL | O | 24 V DC | 24 V DC power source |
| Connected to the laser scanner unit | 2 | GND | - | - | Ground |
| | 3 | PLGDRN | O | 0/3.3 V DC | Polygon motor: On/Off |
| | 4 | PLGRDY | I | 0/3.3 V DC | Polygon motor ready signal |
| | 5 | PLGCLK | O | 0/3.3 V DC (pulse) | Polygon motor clock signal |
| | 6 | PDN | I | 0/3.3 V DC (pulse) | Horizontal synchronizing signal |
| | 7 | GND | - | - | Ground |
| | 8 | VDON | O | 0/3.3 V DC (pulse) | Video data signal (+) |
| | 9 | VDOP | O | 0/3.3 V DC (pulse) | Video data signal (-) |
| | 10 | OUTPEN | O | 0/3.3 V DC | Laser output enable signal |
| | 11 | SAMPLEN | O | 0/3.3 V DC | Sample/hold timing switching signal |
| | 12 | +3.3V4A | O | 3.3 V DC | 3.3 V DC power source |
| **YC12** | 1 | OUT- | O | Analog | Speaker sound signal (-) |
| Connected to the speaker | 2 | OUT+ | O | Analog | Speaker sound signal (+) |
| **YC16** | 1 | PILED | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the MP paper sensor | 2 | GND | - | - | Ground |
| | 3 | HANDSN | I | 0/3.3 V DC | MP paper sensor: On/Off |
| **YC17** | 1 | +24V4IL | O | 24 V DC | 24 V DC power source |
| Connected to the main motor | 2 | GND | - | - | Ground |
| | 3 | MMOTRDYN | I | 0/3.3 V DC | Main motor ready signal |
| | 4 | MMOTCLK | O | 0/3.3 V DC (pulse) | Main motor clock signal |
| | 5 | REMOTEN | O | 0/3.3 V DC | Main motor: On/Off |
| **YC18** | 1 | PILED | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the paper sensor | 2 | GND | - | - | Ground |
| | 3 | PAPER | I | 0/3.3 V DC | Paper sensor: On/Off |
| **YC19** | 1 | - | - | - | Not used |
| Connected to the exit sensor | 2 | PILED | O | 3.3 V DC | 3.3 V DC power source |
| | 3 | GND | - | - | Ground |
| | 4 | EXITN | I | 0/3.3 V DC | Exit sensor: On/Off |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC20** | 1 | +24V4IL | O | 24 V DC | 24 V DC power source |
| Connected to the registration clutch, paper feed clutch and developing clutch | 2 | REGDRN | O | 0/24 V DC | Registration clutch: On/Off |
| | 3 | +24V4IL | O | 24 V DC | 24 V DC power source |
| | 4 | FEDDRN | O | 0/24 V DC | Paper feed clutch: On/Off |
| | 5 | +24V4IL | O | 24 V DC | 24 V DC power source |
| | 6 | DLPDRN | O | 0/24 V DC | Developing clutch: On/Off |
| **YC21** | 1 | +24V4IL | O | 24 V DC | 24 V DC power source |
| Connected to the MP paper feed solenoid | 2 | MPFDRN | O | 0/24 V DC | MP paper feed solenoid: On/Off |
| **YC23** | 1 | +24V0 | I | 24 V DC | 24 V DC power source |
| Connected to the high voltage PWB | 2 | +3.3V1E | O | 3.3 V DC | 3.3 V DC power source |
| | 3 | ZCROSS | I | 0/3.3 V DC (pulse) | Zero cross signal |
| | 4 | FAN | O | 0/24 V DC | Left cooling fan motor: On/Off |
| | 5 | HEATN | O | 0/3.3 V DC | Fuser heater: On/Off |
| | 6 | SLEEP | O | 0/3.3 V DC | Sleep mode signal: On/Off |
| | 7 | MHVDR | O | 0/3.3 V DC | Main charger output signal: On/Off |
| | 8 | RTHVDR | O | 0/3.3 V DC | Transfer (reverse) bias output signal: On/Off |
| | 9 | PSEL1 | O | 0/3.3 V DC | Transfer (reverse) bias control signal: On/Off |
| | 10 | HVCLK | O | 0/3.3 V DC (pulse) | Developing bias clock signal |
| | 11 | REGN | I | 0/3.3 V DC | Registration sensor: On/Off |
| | 12 | TCNT | O | PWM | Transfer current control signal |
| | 13 | MCNT | O | PWM | Main charger output control signal |
| | 14 | THVDR | O | 0/3.3 V DC | Transfer bias output signal: On/Off |
| | 15 | CASE | I | Analog | Cassette switch: On/Off |
| | 16 | THERM | I | Analog | Fuser thermistor detection voltage |
| | 17 | +24V4ILR | O | 24 V DC | 24 V DC power source |
| | 18 | SGND | - | - | Ground |
| | 19 | SEPA | - | - | - |
| **YC24** | 1 | +3.3V1E | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the waste toner sensor | 2 | TNFULL | I | 0/3.3 V DC | Waste toner full detection signal |
| | 3 | SGND | - | - | Ground |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC25** | 1 | +24V0IL | I | 24 V DC | 24 V DC power source |
| Connected to the high voltage PWB | 2 | +24V0IL | I | 24 V DC | 24 V DC power source |
| | 3 | PGND | - | - | Ground |
| | 4 | PGND | - | - | Ground |
| **YC26** | 1 | +3.3V1E | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the toner sensor | 2 | TEMPTY | I | 0/3.3 V DC | Toner quantity detection signal |
| | 3 | SGND | - | - | Ground |
| **YC27** | 1 | +24V0 | O | 24 V DC | 24 V DC power source |
| Connected to the right cooling fan motor | 2 | FAN | O | 0/24 V DC | Right cooling fan motor: On/Off |
| **YC28** | 1 | ERASER | O | 0/24 V DC | Eraser lamp: On/Off |
| Connected to the eraser lamp | 2 | ERASRW | O | 24 V DC | 24 V DC power source |
| **YC29** | 1 | DUDR1 | O | 0/24 V DC | Duplex solenoid (activate): On/Off |
| Connected to the duplex solenoid | 2 | COMMON | O | 24 V DC | 24 V DC power source |
| | 3 | DUDR2 | O | 0/24 V DC | Duplex solenoid (return): On/Off |
| **YC30** | 1 | +24V4IL | O | 24 V DC | 24 V DC power source |
| Connected to the optional paper feeder (PF main PWB) | 2 | PGND | - | - | Ground |
| | 3 | PFSI | I | 0/3.3 V DC (pulse) | Serial communication data input signal |
| | 4 | PFSO | O | 0/3.3 V DC (pulse) | Serial communication data output signal |
| | 5 | PSEL | O | 0/3.3 V DC | Paper feeder selection signal |
| | 6 | +3.3V1 | O | 3.3 V DC | 3.3 V DC power source |
| **YC32** | 1 | POWERSW | I | 0/3.3 V DC | Power switch: On/Off |
| Connected to the power switch | 2 | NC | - | - | Not used |
| | 3 | GND | - | - | Ground |

## 2-3-3 Scanner PWB

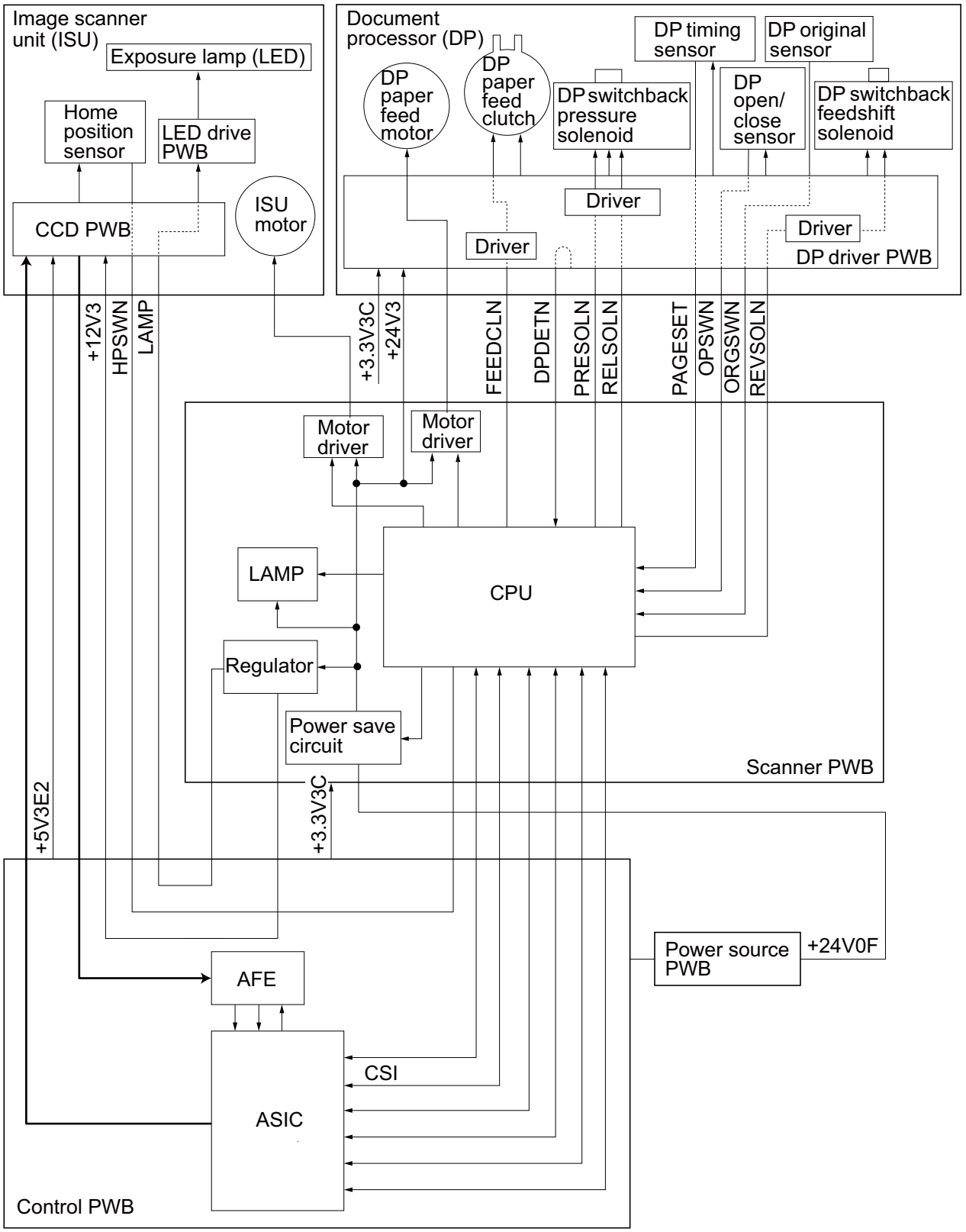



**Figure 2-3-5 Scanner PWB block diagram**

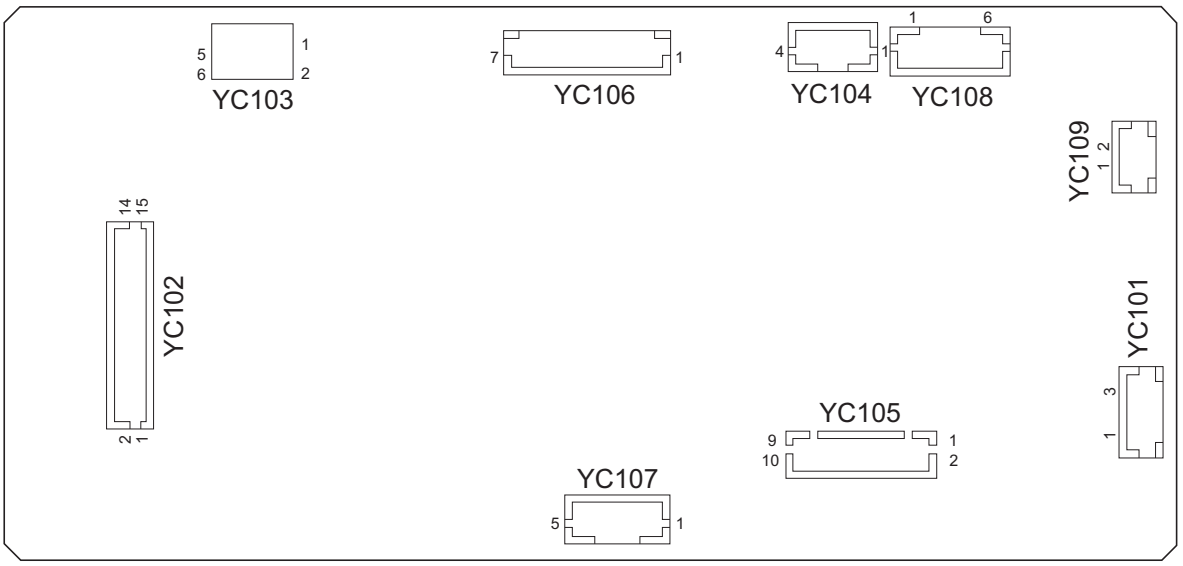



**Figure 2-3-6 Scanner PWB silk-screen diagram**

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC101** | 1 | +24V0F | O | 24 V DC | 24 V DC power source |
| Connected to the power source PWB | 2 | N.C. | - | - | Not used |
| | 3 | GND | - | - | Ground |
| **YC102** | 1 | SEGIR | O | 0/3.3 V DC | Serial communications interruption demand |
| Connected to the control PWB | 2 | SSDIR | O | 0/3.3 V DC | Serial communications trans./recep. change |
| | 3 | SSBSY | O | 0/3.3 V DC | Impossible transmission/Completion notice |
| | 4 | SEGSI | I | 0/3.3 V DC (pulse) | Serial communications data output |
| | 5 | SSCKN | I | 0/3.3 V DC (pulse) | Serial communications clock |
| | 6 | SEGSO | O | 0/3.3 V DC | Vertical synchronizing signal |
| | 7 | PAGESET | I | 0/3.3 V DC | Vertical synchronizing monitor signal |
| | 8 | OVMONOUT | I | 0/3.3 V DC | Communications ready signal |
| | 9 | CPURDY | I | 0/3.3 V DC | Communications ready signal |
| | 10 | CPUSEL | O | 0/3.3 V DC | Communications select signal |
| | 11 | CPUSO | I | 0/3.3 V DC (pulse) | Serial communications data input |
| | 12 | CPUSI | O | 0/3.3 V DC (pulse) | Serial communications data output |
| | 13 | CPUCLK | O | 0/3.3 V DC (pulse) | Serial communications clock signal |
| | 14 | +3.3V3C | I | 3.3 V DC | 3.3 V DC power source |
| | 15 | GND | - | - | Ground |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC103** | 1 | +12V | I | 12 V DC | 12 V DC power source |
| Connected to the control PWB | 2 | GND | - | - | Ground |
| | 3 | HPSW | I | 0/3.3 V DC | Home position sensor: On/Off |
| | 4 | GND | - | - | Ground |
| | 5 | NC | - | - | Not used |
| | 6 | LAMP | I | 0/24 V DC | Exposure lamp drive signal |
| **YC104** | 1 | SCMOT1A | O | 0/24 V DC (pulse) | ISU motor drive pulse |
| Connected to the ISU motor | 2 | SCMOT2A | O | 0/24 V DC (pulse) | ISU motor drive pulse |
| | 3 | SCMOT1B | O | 0/24 V DC (pulse) | ISU motor drive pulse |
| | 4 | SCMOT2B | O | 0/24 V DC (pulse) | ISU motor drive pulse |
| **YC105** | 1 | +3.3V3C | O | 3.3 V DC | 3.3 V DC power source |
| Connected to the DP driver PWB | 2 | GND | - | - | Ground |
| | 3 | TIMSWN | I | 0/3.3 V DC | DP timing sensor: On/Off |
| | 4 | ORGSWN | I | 0/3.3 V DC | DP original sensor: On/Off |
| | 5 | OPSWN | I | 0/3.3 V DC | DP open/close sensor: On/Off |
| | 6 | DPDETN | I | 0/3.3 V DC | DP installation detection signal |
| | 7 | RELSOLN | O | 0/24 V DC | DP switchback pressure solenoid: (Release) On/Off |
| | 8 | PRESOLN | O | 0/24 V DC | DP switchback pressure solenoid (Press.): On/Off |
| | 9 | REVSOL | O | 0/24 V DC | DP switchback feedshift solenoid: On/Off |
| | 10 | FEEDCL | O | 0/24 V DC | DP paper feed clutch: On/Off |
| **YC108** | 1 | MOT1A | O | 0/24 V DC (pulse) | DP paper feed motor drive pulse |
| Connected to the DP driver PWB | 2 | MOT2A | O | 0/24 V DC (pulse) | DP paper feed motor drive pulse |
| | 3 | MOT1B | O | 0/24 V DC (pulse) | DP paper feed motor drive pulse |
| | 4 | MOT2B | O | 0/24 V DC (pulse) | DP paper feed motor drive pulse |
| | 5 | +24V3 | O | 24 V DC | 24 V DC power source |
| | 6 | GND | - | - | Ground |
| **YC109** | 1 | +24V3 | O | 24 V DC | 24 V DC power source |
| Connected to the DP driver PWB | 2 | GND | - | - | Ground |

## 2-3-4 DP drive PWB

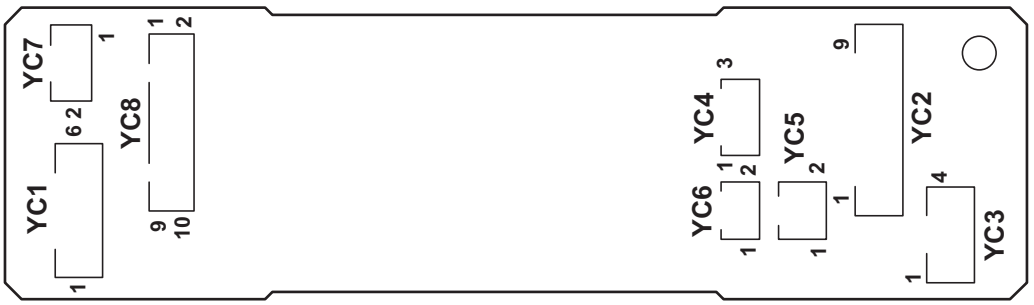


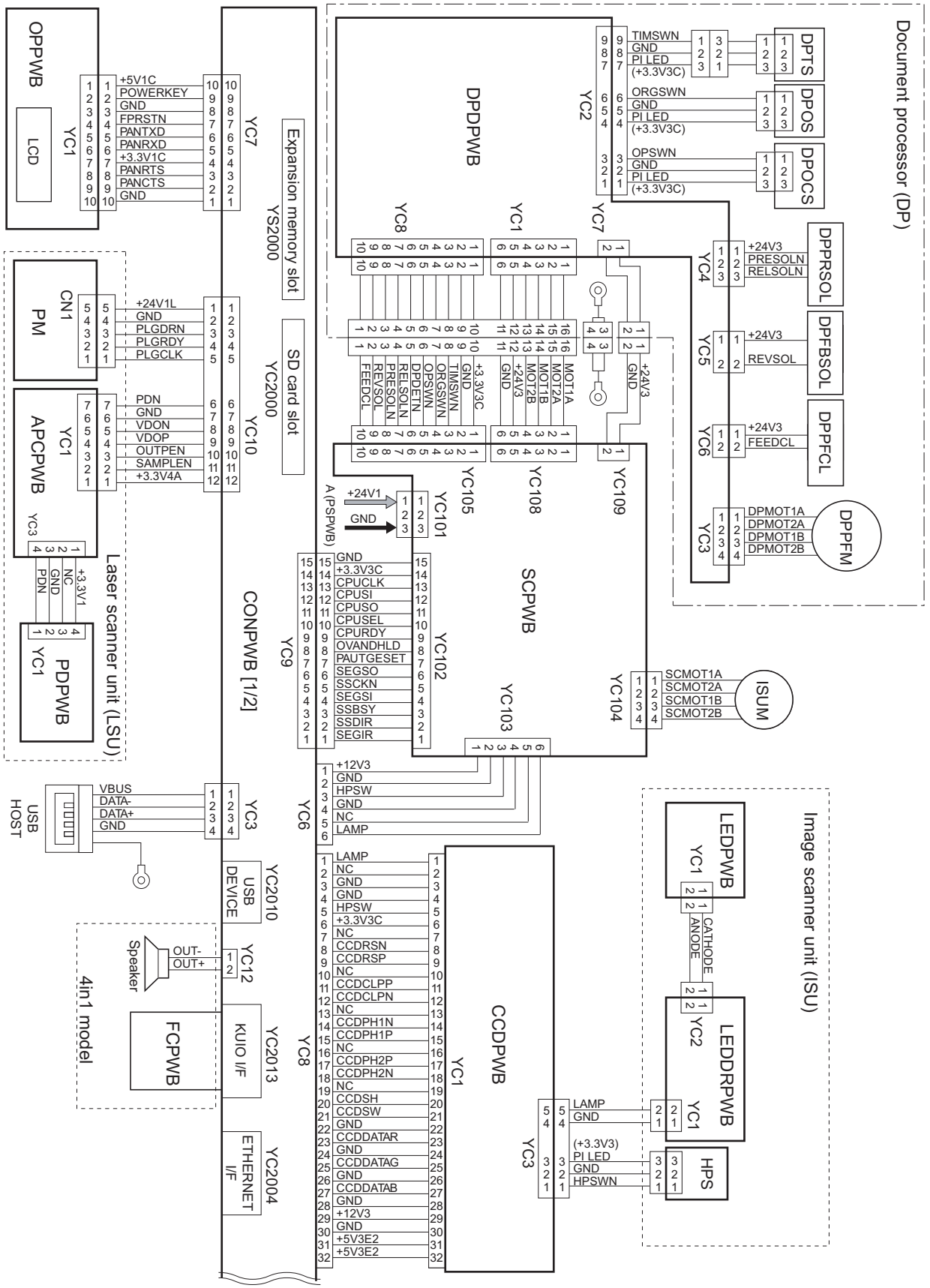

**Figure 2-3-7 DP drive PWB silk-screen diagram**

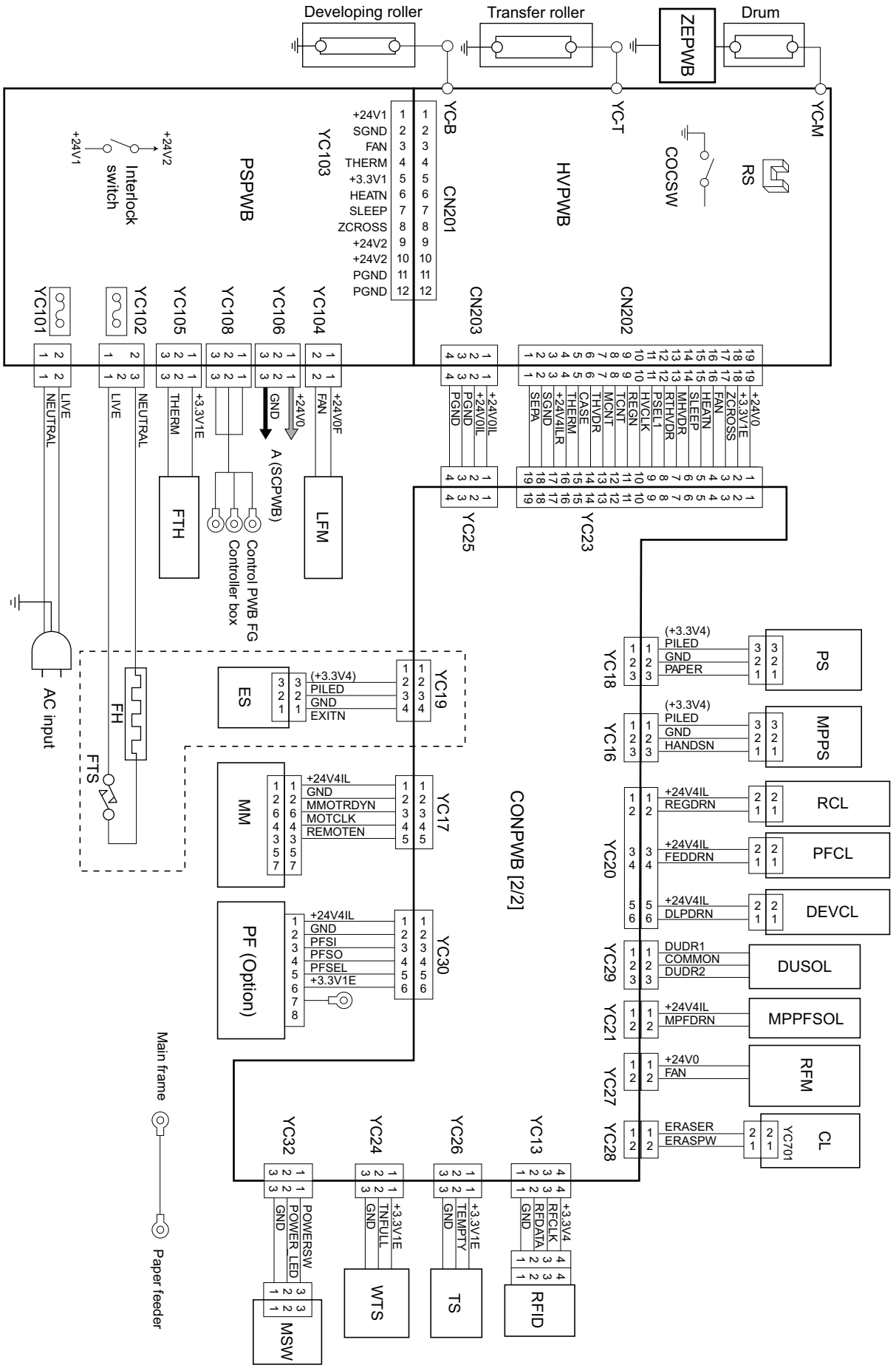
| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC1** | 1 | MOT1A | I | 0/24 V DC (pulse) | DPPFM drive control signal |
| Connected to scanner PWB | 2 | MOT2A | I | 0/24 V DC (pulse) | DPPFM drive control signal |
| | 3 | MOT1B | I | 0/24 V DC (pulse) | DPPFM drive control signal |
| | 4 | MOT2B | I | 0/24 V DC (pulse) | DPPFM drive control signal |
| | 5 | +24V3 | I | 24 V DC | 24 V DC power from MPWB |
| | 6 | GND | - | - | Ground |
| **YC2** | 1 | PILED | O | 3.3 V DC | 3.3 V DC power to DPOCS |
| Connected to DP open/ close sensor, DP original sensor and DP timing sensor | 2 | GND | - | - | Ground |
| | 3 | OPSWN | I | 0/3.3 V DC | DPOCS: On/Off |
| | 4 | PILED | O | 3.3 V DC | 3.3 V DC power to DPOS |
| | 5 | GND | - | - | Ground |
| | 6 | ORGSWN | I | 0/3.3 V DC | DPOS: On/Off |
| | 7 | PILED | O | 3.3 V DC | 3.3 V DC power to DPTS |
| | 8 | GND | - | - | Ground |
| | 9 | TIMSWN | I | 0/3.3 V DC | DPTS: On/Off |
| **YC3** | 1 | DPMOT1A | O | 0/24 V DC (pulse) | DPPFM drive control signal |
| Connected to DP paper feed motor | 2 | DPMOT2A | O | 0/24 V DC (pulse) | DPPFM drive control signal |
| | 3 | DPMOT1B | O | 0/24 V DC (pulse) | DPPFM drive control signal |
| | 4 | DPMOT2B | O | 0/24 V DC (pulse) | DPPFM drive control signal |
| **YC4** | 1 | +24V3 | O | 24 V DC | 24 V DC power to DPPRSOL |
| Connected to DP pressure solenoid | 2 | PRESOLN | O | 0/24 V DC | DPPRSOL: ON (Press)/Off |
| | 3 | RELSOLN | O | 0/24 V DC | DPPRSOL: On (Release)/Off |
| **YC5** | 1 | +24V3 | O | 24 V DC | 24 V DC power to DPSBSOL |
| Connected to DP switch-back solenoid | 2 | REVSOL | O | 0/24 V DC | DPSBSOL: On/Off |
| **YC6** | 1 | +24V3 | O | 24 V DC | 24 V DC power to DPPFCL |
| Connected to DP paper feed clutch | 2 | FEEDCL | O | 0/24 V DC | DPPFCL: On/Off |
| **YC7** | 1 | +24V3 | I | 24 V DC | 24 V DC power from SCPWB |
| Connected to scanner PWB | 2 | GND | - | - | Ground |

| Connector | Pin | Signal | I/O | Voltage | Description |
|---|---|---|---|---|---|
| **YC8** | 1 | +3.3V3C | I | 3.3 V DC | 3.3 V DC power from MPWB |
| Connected to scanner PWB | 2 | GND | - | - | Ground |
| | 3 | TIMSWN | O | 0/3.3 V DC | DPTS: On/Off |
| | 4 | ORGSWN | O | 0/3.3 V DC | DPOS: On/Off |
| | 5 | OPSWN | O | 0/3.3 V DC | DPOCS: On/Off |
| | 6 | DPDETN | O | 0/3.3 V DC | DP set signal |
| | 7 | RELSOLN | I | 0/24 V DC | DPPRSOL: On (Release)/Off |
| | 8 | PRESOLN | I | 0/24 V DC | DPPRSOL: ON (Press)/Off |
| | 9 | REVSOL | I | 0/24 V DC | DPSBSOL: On/Off |
| | 10 | FEEDCL | I | 0/24 V DC | DPPFCL: On/Off |

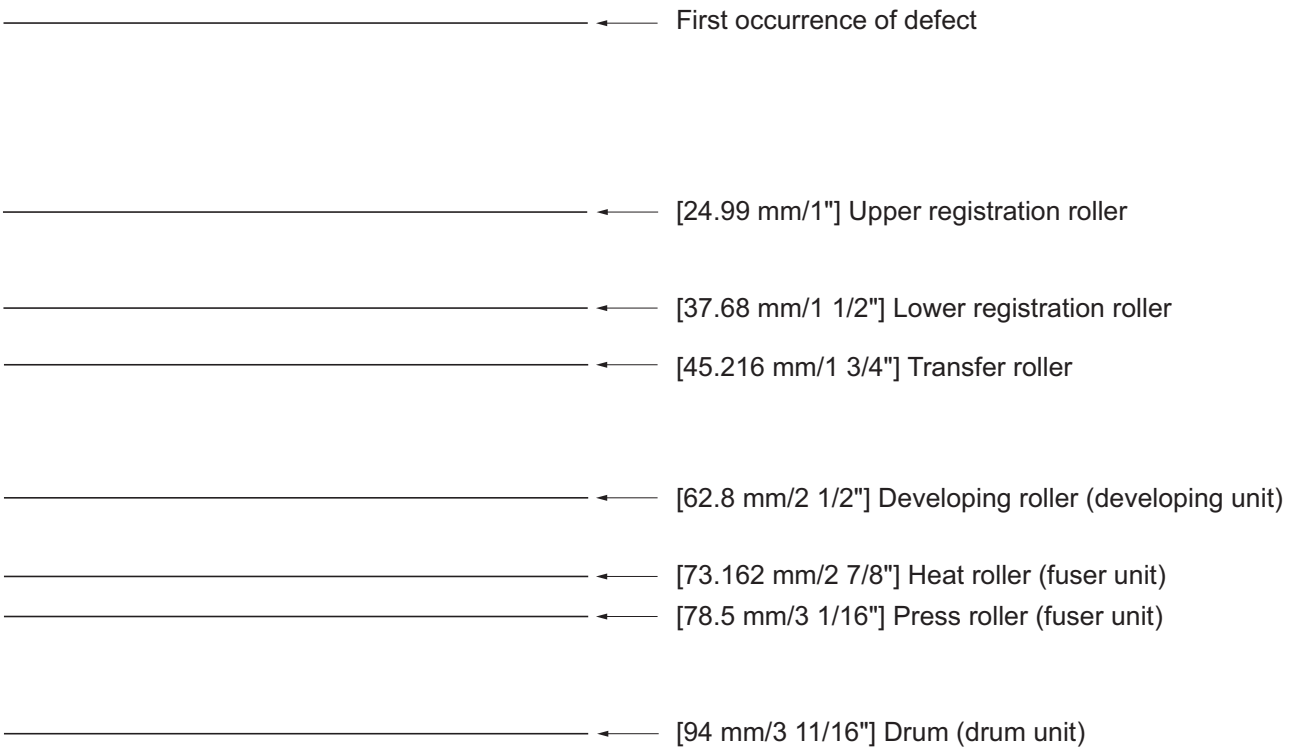
# 2-4-1 Appendixes

## (1) Wiring diagram




Developing roller
Transfer roller
Drum
ZEPWB
YC-M
YC-T
YC-B
RS
COCSW
HVPWB
CN201
CN202
CN203
YC103
+24V1
SGND
FAN
THERM
+3.3V1
HEATN
SLEEP
ZCROSS
+24V2
+24V2
PGND
PGND
+24V0
+3.3V1E
ZCROSS
FAN
HEATN
SLEEP
MHVDR
RTHVDR
PSEL1
HVCLK
REGN
TCNT
MCNT
THVDR
CASE
THERM
+24V4ILR
SGND
SEPA
+24V0IL
+24V0IL
PGND
PGND
PSPWB
Interlock switch
+24V2
+24V1
YC101
YC102
YC105
YC108
YC106
YC104
YC25
YC23
LIVE
NEUTRAL
NEUTRAL
LIVE
THERM
+3.3V1E
GND
+24V0
FAN
+24V0F
A (SCPWB)
Control PWB FG
Controller box
FTH
LFM
AC input
FH
FTS
ES
YC19
(+3.3V4)
PILED
GND
EXITN
MM
YC17
+24V4IL
GND
MMOTRDYN
MOTCLK
REMOTEN
PF (Option)
YC30
+24V4IL
GND
PFSI
PFSO
PFSEL
+3.3V1E
CONPWB [2/2]
YC18
YC16
YC20
YC29
YC21
YC27
YC28
(+3.3V4)
PILED
GND
PAPER
PS
(+3.3V4)
PILED
GND
HANDSN
MPPS
+24V4IL
REGDRN
RCL
+24V4IL
FEDDRN
PFCL
+24V4IL
DLPDRN
DEVCL
DUDR1
COMMON
DUDR2
DUSOL
+24V4IL
MPFDRN
MPPFSOL
+24V0
FAN
RFM
ERASER
ERASPW
YC701
CL
YC32
YC24
YC26
YC13
POWERSW
POWER_LED
GND
+3.3V1E
TNFULL
GND
+3.3V1E
TEMPTY
GND
+3.3V4
RFCLK
RFDATA
GND
MSW
WTS
TS
RFID
Main frame
Paper feeder

## (2) Repetitive defects gauge




* : The repetitive marks interval may vary depending on operating conditions.

## (3) Maintenance parts list

| Maintenance part name | | Part No. | Alternative part No. |
|---|---|---|---|
| **Name used in service manual** | **Name used in parts list** | | |
| Maintenance kit<br>(For 30ppm, 100,000page) | MK-1130/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-132(U) | 1702MJ0NL0 | 072MJ0NL |
| | MK-1132/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-130(E) | 1702MJ0KL0 | 072MJ0KL |
| | MK-1134/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-134(AO) | 1702MJ0AS0 | 072MJ0AS |
| Maintenance kit<br>(For 35ppm, 100,000page) | MK-1140/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-132(U) | 1702ML0NL0 | 072ML0NL |
| | MK-1142/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-130(E) | 1702ML0KL0 | 072ML0KL |
| | MK-1144/MAINTENANCE KIT (OPTION)<br>DK-150<br>DV-134(AO) | 1702ML0AS0 | 072ML0AS |

## (4) Firmware Environment Commands

The printer maintains a number of printing parameters in its memory. There parameters may be changed permanently with the FRPO (Firmware RePrOgram) commands.
This section provides information on how to use the FRPO command and its parameters using examples.

## Using FRPO Commands for Reprogramming Firmware

The current settings of the FRPO parameters are listed as optional values on the service status page.

Note: Before changing any FRPO parameter, print out a service status page, so you will know the parameter values before the changes are made. To return FRPO parameters to their factory default values, send the FRPO INIT (FRPO-INITialize) command.(!R! FRPO INIT; EXIT;)

The FRPO command is sent to the printer in the following sequence:
!R! FRPO parameter, value; EXIT;
Example: Changing emulation mode to PC-PR201/65A
!R! FRPO P1, 11; EXIT;

**FRPO Parameters**

| Environment | Parameter | Values | Factory setting |
|---|---|---|---|
| Top margin | A1<br>A2 | Integer value in inches<br>Fraction value in 1/100 inches | 0<br>0 |
| Left margin | A3<br>A4 | Integer value in inches<br>Fraction value in 1/100 inches | 0<br>0 |
| Page length | A5<br>A6 | Integer value in inches<br>Fraction value in 1/100 inches | 13<br>61 |
| Page width | A7<br>A8 | Integer value in inches<br>Fraction value in 1/100 inches | 13<br>61 |
| Default pattern resolution | B8 | 0: 300 dpi<br>1: 600 dpi | 0 |
| Copy count | C0 | Number of copies to print:1-999 | 1 |
| Page orientation | C1 | 0: Portrait<br>1: Landscape | 0 |
| Default font No. * | C2<br>C3<br>C5 | Middle two digits of power-up font<br>Last two digits of power-up font<br>First two digits of power-up font | 0<br>0<br>0 |
| PCL font switch | C8 | 0:HP compatibility mode (Characters higher than 127 are not printed.)<br>32:Conventional mode (Characters higher than 127 are printed. Supported symbol sets: ISO-60 Norway [00D], ISO-15 Italian [00I], ISO-11 Sweden [00S], ISO-6 ASCII [00U], ISO-4 U.K. [01E], ISO-69 France [01F], ISO-21 Germany [01G], ISO-17 Spain [02S], Symbol [19M][a]) | 0 |
| Total host buffer size | H8 | 0 to 99 in units of the size defined by FRPO S5 | 5 |
| Form feed time-out value | H9 | Value in units of 5 seconds (0 to 99). | 6 |
| KIR mode | N0 | 0: Off<br>2: On | 2 |

| Environment | Parameter | Values | Factory setting |
|---|---|---|---|
| Duplex binding | N4 | 0: Off<br>1: Long edge<br>2: Short edge | 0 |
| Sleep timer time-out time | N5 | 1 to 240 minutes [0: Off] | 15 |
| Ecoprint level | N6 | 0:Off<br>2:On | 0 |
| Printing resolution | N8 | 0: 300dpi<br>1: 600dpi<br>3: 1200dpi | 1 |
| Default emulation mode | P1 | 0: Line Printer<br>1: IBM Proprinter X24E<br>2: Diablo 630<br>5: Epson LQ-850<br>6: PCL 6<br>9: KPDL | 9 (U.S.A)<br>or<br>6 (Euro and other) |
| Carriage-return action * | P2 | 0: Ignores 0x0d<br>1: Carriage-return<br>2: Carriage-return+linefeed | 1 |
| Linefeed action * | P3 | 0: Ignores 0x0d<br>1: Linefeed<br>2: Linefeed+carriage-return | 1 |
| Automatic emulation sensing<br>(For KPDL3) | P4 | 0:AES disabled<br>1:AES enabled | 1 (U.S.A)<br>or<br>0 (Euro and other) |
| Alternative emulation<br>(For KPDL3) | P5 | Same as the P1 values except that 9 is ignored. | 6 |
| Automatic emulation switching trigger<br>(For KPDL3) | P7 | 0: Page eject commands<br>1: None<br>2: Page eject and Prescribe EXIT<br>3: Prescribe EXIT<br>4: Formfeed (^L)<br>6: Page eject, Prescribe EXIT and formfeed<br>10: Page eject commands; if AES fails, resolves to KPDL | 11 (U.S.A)<br>or<br>10 (Euro and other) |
| Command recognition character | P9 | ASCII code of 33 to 126 | 82 (R) |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| Default paper size | R2 | 0: Size of the default paper cassette (See R4.)<br>1: Monarch (3-7/8 × 7-1/2 inches)<br>2: Business (4-1/8 × 9-1/2 inches)<br>3: International DL (11 × 22 cm)<br>4: International C5 (16.2 × 22.9 cm)<br>5: Executive (7-1/4 × 10-1/2 inches)<br>6: US Letter (8-1/2 × 11 inches)<br>7: US Legal (8-1/2 × 14 inches)<br>8: A4 (21.0 × 29.7 cm)<br>9: B5 (18.2 × 25.7 cm)<br>13: A5<br>14: A6 (10.5 × 14.8 cm)<br>15: B6 (12.8 × 18.2 cm)<br>16: Commercial #9 (3-7/8 × 8-7/8 inches)<br>17: Commercial #6 (3-5/8 × 6-1/2 inches)<br>18: B5 (17.6 × 25 cm)<br>19: Custom (11.7 × 17.7 inches)f<br>20: B4→A4 reduces<br>21: A3→A4 reduces<br>22: A4→A4 98% reduces<br>23: Stock form→A4 reduces<br>31: Hagaki (10 × 14.8 cm)f<br>32: Ofuku-Hagaki (14.8 × 20 cm)f<br>33: Officio II<br>40: 16K<br>42: 21.6 x 34 cm<br>50: Statement<br>51: Folio<br>52: Youkei 2<br>53: Youkei 4 | 0 |
| Default cassette | R4 | 0: Multi-purpose tray 1<br>1: Cassette 1<br>2: Cassette 2<br>3: Cassette 3 | 1 |
| MP tray paper size | R7 | Same as the R2 values except: 0 | 6 (U.S.A)<br>or<br>8 (Euro and other) |
| Daisywheel data length | R8 | 7:7-bit<br>8:8-bit | 7 |
| A4/letter equation | S4 | 0:Off<br>1:On | 1 |
| Host buffer size | S5 | 0: 10kB (x H8)<br>1: 100kB (x H8)<br>2: 1024kB (x H8) | 1 |
| RAM disk size | S6 | 1 to 1024 MB | 400 |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| RAM disk mode | S7 | 0: Off<br>1: On | 0 |
| Cassette 1 paper size | T1 | 4: International C5 (16.2 × 22.9 cm)<br>5: Executive (7-1/4 × 10-1/2 inches)<br>6: US Letter (8-1/2 × 11 inches)<br>7: US Legal (8-1/2 × 14 inches)<br>8: A4 (21.0 × 29.7 cm)<br>9: B5 (18.2 × 25.7 cm)<br>13: A5<br>14: A6 (10.5 × 14.8 cm)<br>18: B5 (17.6 × 25 cm)<br>19: Custom (11.7 × 17.7 inches)f<br>33: Officio II<br>40: 16K<br>42:216x340<br>50: Statement<br>51: Folio | 6 (U.S.A)<br>or<br>8 (Euro and other) |
| Cassette 1 paper size | T2 | 4: International C5 (16.2 × 22.9 cm)<br>5: Executive (7-1/4 × 10-1/2 inches)<br>6: US Letter (8-1/2 × 11 inches)<br>7: US Legal (8-1/2 × 14 inches)<br>8: A4 (21.0 × 29.7 cm)<br>9: B5 (18.2 × 25.7 cm)<br>13: A5<br>18: B5 (17.6 × 25 cm)<br>19: Custom (11.7 × 17.7 inches)f<br>33: Officio II<br>40: 16K<br>42:216x340<br>51: Folio | 6 (U.S.A)<br>or<br>8 (Euro and other) |
| Cassette 1 paper size | T3 | Same as above. | 6 (U.S.A)<br>or<br>8 (Euro and other) |
| Wide A4 | T6 | 0:Off<br>1:On | 0 |
| Line spacing * | U0 | Lines per inch (integer value) | 6 |
| Line spacing * | U1 | Lines per inch (fraction value) | 0 |
| Character spacing * | U2 | Characters per inch (integer value) | 10 |
| Character spacing * | U3 | Characters per inch (fraction value) | 0 |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| Country code | U6 | 0: US-ASCII<br>1: France<br>2: Germany<br>3: UK<br>4: Denmark<br>5: Sweden<br>6: Italy<br>7: Spain<br>8: Japan<br>9: US Legal<br>10: IBM PC-850 (Multilingual)<br>11: IBM PC-860 (Portuguese)<br>12: IBM PC-863 (Canadian French)<br>13: IBM PC-865 (Norwegian)<br>14: Norway<br>15: Denmark 2<br>16: Spain 2<br>17: Latin America<br>21: US ASCII (U7=50 SET)<br>77: HP Roman-8 (U7=52 SET) | 41 |
| Code set at power up in daisywheel emulation | U7 | 0: Same as the default emulation mode (P1)<br>1: IBM<br>6: IBM PC-8<br>50: US ASCII (U6=21 SET)<br>52: HP Roman-8 (U6=77 SET) | 53 |
| Font pitch for fixed pitch scalable font | U8 | Integer value in cpi: 0 – 99 | 10 |
| | U9 | Fraction value in 1/100 cpi: 0 – 99 | 0 |
| Font height for the default scalable font * | V0 | Integer value in 100 points: 0–9 | 0 |
| | V1 | Integer value in points: 0–99 | 12 |
| | V2 | Fraction value in 1/100 points: 0, 25, 50, 75 | 0 |
| Default scalable font * | V3 | Name of typeface of up to 32 characters, enclosed with single or double quotation marks | Courier |
| Default weight (courier and letter Gothic) | V9 | 0:Courier = darkness<br>Letter Gothic = darkness<br>1:Courier = regular letter Gothic = darkness<br>4:Courier = darkness<br>Letter Gothic = regular<br>5:Courier = regular letter Gothic = regular | 5 |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| Paper type for the MP tray | X0 | 1: Plain 1<br>2: Transparency<br>3: Preprinted<br>4: Label<br>5: Bond<br>6: Recycle<br>7: Vellum<br>9: Letterhead<br>10: Color<br>11: Prepunched<br>12: Envelope<br>13: Cardstock<br>16: Thick<br>17: High Quality<br>21: Custom1<br>22: Custom2<br>23: Custom3<br>24: Custom4<br>25: Custom5<br>26: Custom6<br>27: Custom7<br>28: Custom8 | 1 |
| Paper type for paper cassettes 1 | X1 | 1: Plain<br>3: Preprinted<br>5: Bond<br>6: Recycled<br>9: Letterhead<br>10: Color<br>11: Prepunched<br>17: High Quality<br>21: Custom1<br>22: Custom2<br>23: Custom3<br>24: Custom4<br>25: Custom5<br>26: Custom6<br>27: Custom7<br>28: Custom8 | 1 |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| Paper type for paper cassettes 2 to 4 | X2<br>X3 | 1: Plain<br>3: Preprinted<br>5: Bond<br>6: Recycled<br>9: Letterhead<br>10: Color<br>11: Prepunched<br>17: High Quality<br>21: Custom1<br>22: Custom2<br>23: Custom3<br>24: Custom4<br>25: Custom5<br>26: Custom6<br>27: Custom7<br>28: Custom8 | 1 |
| PCL paper source | X9 | 0: Performs paper selection depending on media type.<br>1: Performs paper selection depending on paper sources. | 0 |
| Automatic continue for ‘Press GO’ | Y0 | 0:Off<br>1:On | 0 |
| Automatic continue timer | Y1 | number from 0 to 99 in increments of 5 seconds | 6<br>(30secons) |

| Environment | Para meter | Values | Factory setting |
|---|---|---|---|
| Error message for device error | Y3 | 0:Not Detect<br>1:Detect | 127 |
| Duplex operation for specified paper type<br>(Prepunched, Preprintedand Letter-head) | Y4 | 0:Off<br>1:On | 0 |
| Default operation for PDF direct printing | Y5 | 0: Enlarges or reduces the image to fit in the current paper size. Loads paper from the current paper cassette.<br>1: Through the image. Loads paper which is the same size as the image.<br>2: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the image size.<br>3: Through the image. Loads Letter, A4 size paper depending on the image size.<br>8: Through the image. Loads paper from the current paper cassette.<br>9: Through the image. Loads Letter, A4 size paper depending on the image size.<br>10: Enlarges or reduces the image to fit in the current paper size. Loads Letter, A4 size paper depending on the imagesize. | 0 |

a. Characters higher than 127 are printed regardless of the C8 value. However, setting C8 to 0 does not print character code 160.

*. Ignored in some emulation modes.

**(5) Maintenance Commands**

This section provides information on how to use the maintenance command and its parameters using examples.

**Adjusting the print start timing (alternative command for the maintenance mode U034)**

**Description**

Adjusts the leading edge registration or left edge.

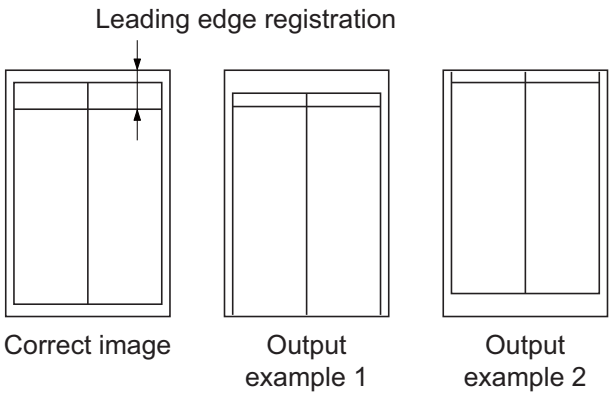
**Purpose**

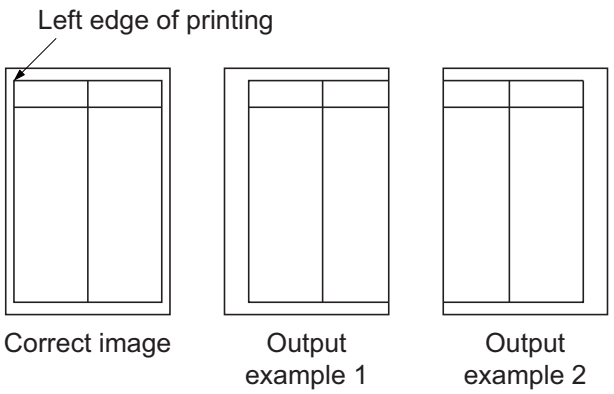
Make the adjustment if there is a regular error between the leading edges of the copy image and original.
Make the adjustment if there is a regular error between the left edges of the copy image and original.

| | | |
|---|---|---|
| **Format** | !R! KCFG“PFRC”,#1 ,#2 ,#3; | |
| **Parameter** | #1 | Paper source number<br>0: MP tray<br>2-6 : Cassette2-6<br>100: Duplex (e.g. landscape images short-edge bind)<br>200: Rotated duplex (e.g. portrait images long-edge bind) |
| | #2 | Edge to adjust<br>1: Leading edge<br>2: Left edge |
| | #3 | Adjustable range (-128 to +127)<br>number of dot in 600dpi |

**Example: Set the leading edge of MP tray to +30 dots**

!R! KCFG “PFRC”,0,1,30;EXIT;



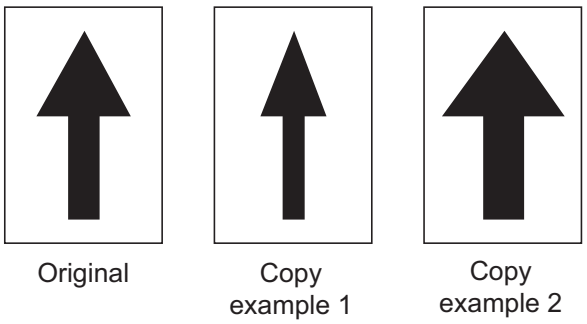



**Adjusting the scanner magnification (alternative command for the maintenance mode U065)**

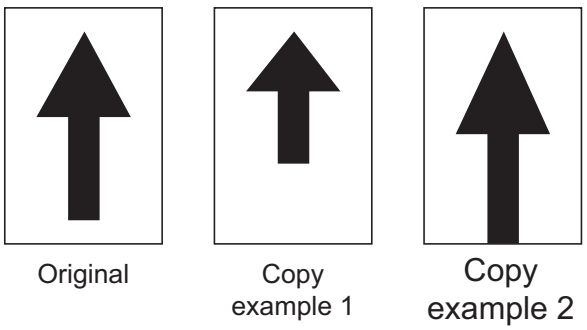
**Description**
Adjusts the magnification of the original scanning.
**Purpose**
Make the adjustment if the magnification in the main scanning direction is incorrect.
Make the adjustment if the magnification in the auxiliary scanning direction is incorrect.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,8, #1,#2;EXIT; | |
| **Parameter** | #1 | 1: Y SCAN ZOOM Scanner magnification in the main scanning direction<br>2: X SCAN ZOOM Scanner magnification in the auxiliary scanning direction |
| | #2 | #1=1: Adjustable range: -32 to 127 (in 0.1% increment) (0: default)<br>#2=2 : Adjustable range: -25 to 25 (in 0.1% increment) (0: default) |

**Example: Y SCAN ZOOM set to 55, X SCAN ZOOM set to 10**
!R! KCFG “SCAN”,8,1,55; KCFG “SCAN”,8,2,10;EXIT;




Magnified in the main scanning direction



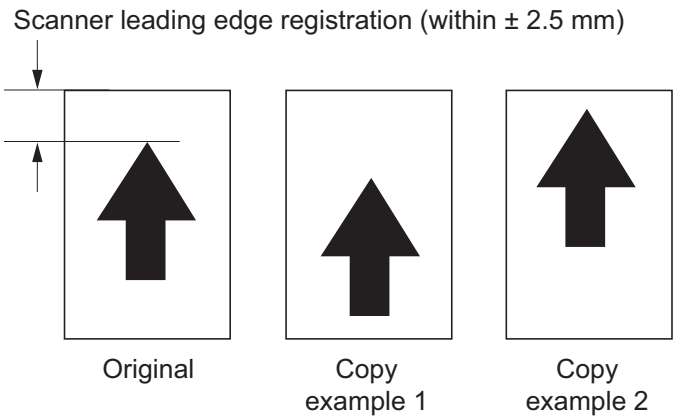

Magnified in the auxiliary scanning direction

**Adjusting the scanner leading edge registration (alternative command for the maintenance U066)**

**Description**
Adjusts the scanner leading edge registration of the original scanning.
**Purpose**
Make the adjustment if there is a regular error between the leading edges of the copy image and original.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,5,#1,#2;;EXIT; | |
| **Parameter** | #1 | 1: Scanner leading edge registration<br>2: Scanner leading edge registration of rotated scan |
| | #2 | Adjustable range: -45 to 45 (in 0.086mm increment) (0: default) |

**Example: Scanner leading edge registration set to 10 to increase 0.86mm**
!R! KCFG “SCAN”,5,1,”10”;EXIT;

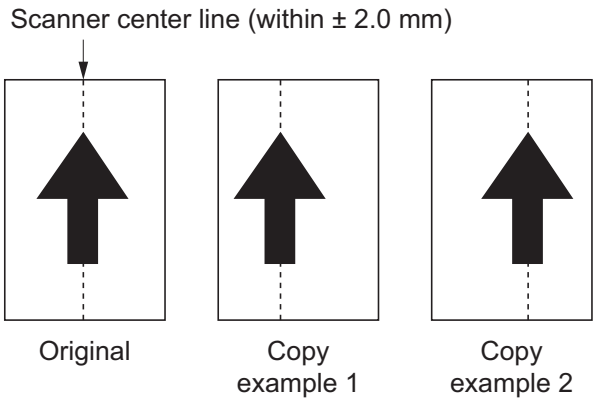


**Adjusting the scanner center line (alternative command for the maintenance mode U067)**

**Description**
Adjusts the scanner center line of the original scanning.
**Purpose**
Make the adjustment if there is a regular error between the center lines of the copy image and original.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,6, #1;#2;EXIT; | |
| **Parameter** | #1 | 1: Scanner center line<br>2: Scanner center line of rotated scan |
| | #2 | #1=1: Adjustable range: -70 to 70 (in 0.086mm increment) (0: default)<br>#1=2: Adjustable range: -40 to 40 (in 0.086mm increment) (0: default) |

**Example: Scanner leading edge registration set to 20 to increase 1.72mm**
!R! KCFG “SCAN”,6,1,20;EXIT;



**Adjusting the scanning position for originals from the DP (alternative command for the maintenance mode U068)**

**Description**
Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting.
**Purpose**
Used when the image fogging occurs because the scanning position is not proper when the DP is used. Execute KCFG “EESS”,4, 107, 1, “#1”; command to adjust the timing of DP leading edge when the scanning position is changed.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,9, #1,#2;EXIT; | |
| **Parameter** | #1 | 1: DP READ Starting position adjustment for scanning originals<br>2: BLACK LINE Scanning position for the test copy originals |
| | #2 | #1=1: Adjustable range: -33 to 33 (in 0.086mm increment) (0: default)<br>#1=2: Adjustable range: 0 to 3 (in 0.22mm increment) (0: default) |

**Example: DP READ set to 15, BLACK LINE set to 3**
!R! KCFG “SCAN”,9,1,15; KCFG “SCAN”,9,2,3;EXIT;

**Adjusting the DP magnification (alternative command for the maintenance mode U070)**

**Description**
Adjusts the DP original scanning speed.
**Purpose**
Make the adjustment if the magnification is incorrect in the auxiliary scanning direction when the DP is used.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,4, #1;#2;EXIT; | |
| **Parameter** | #1 | 2: CONVEYING SPEED  Magnification in the auxiliary scanning direction |
| | #2 | Adjustable range: --25 to 25 (in 0.1% increment)  (0: default) |

**Example: DP scanning magnification set to 20 to increase 2%**
!R! KCFG “SCAN”,4,2,20;EXIT;

**Leading edge registration**

Original　Copy example 1　Copy example 2

**Adjusting the DP scanning timing (alternative command for the maintenance mode U071)**

**Description**
Adjusts the DP original scanning timing.
**Purpose**
Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used.

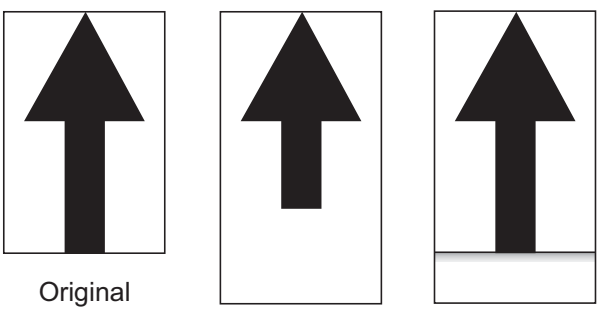
| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,2,#1,#2;EXIT; | |
| **Parameter** | #1 | 1: FRONT HEAD Leading edge registration (first page)<br>2: FRONT TAIL Trailing edge registration (first page)<br>3: BACK HEAD Leading edge registration (second page)<br>4: BACK TAIL Trailing edge registration (second page)<br>5: ROTATE Leading edge registration (rotate scan) |
| | #2 | #1=1: Adjustable range: -32 to 32 (in 0.196mm increment) (0: default)<br>#1=2: Adjustable range: -32 to 32 (in 0.196mm increment) (0: default)<br>#1=3: Adjustable range: -45 to 45 (in 0.196mm increment) (0: default)<br>#1=4: Adjustable range: -45 to 45 (in 0.196mm increment) (0: default)<br>#1=5: Adjustable range: -128 to 128 (in 0.196mm increment) (0: default) |

**Example: FRONT HEAD set to 10, FRONT TAIL set to 15, BACK HEAD set to 10, BACK TAIL 15**
!R! KCFG “SCAN”,2,1,10; KCFG “SCAN”,2,2,15; KCFG “SCAN”,2,3,10; KCFG “SCAN”,2,4,15;EXIT;

**Leading edge registration**

Original　Copy example 1　Copy example 2

**Trailing edge registration**



Original　Copy example 1　Copy example 2

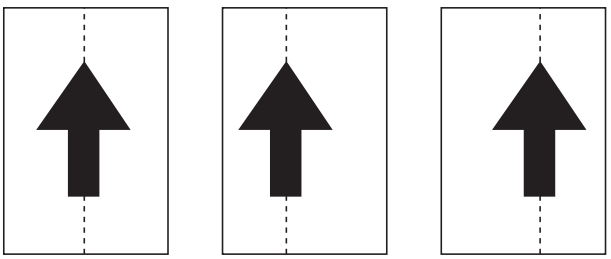
**Adjusting the DP center line (alternative command for the maintenance mode U072)**

**Description**
Adjusts the scanning center line for the DP original.
**Purpose**
Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used.

| | | |
|---|---|---|
| **Format** | !R! KCFG “SCAN”,3, #1,#2;EXIT; | |
| **Parameter** | #1 | 1: FRONT Center line (first page)<br>2: BACK Center line (second page)<br>3: ROTATE Center line (rotated scan) |
| | #2 | Setting range: -39 to 39 (in 0.086mm increment) (initial: 0) |

**Example: FRONT set to 15, BACK set to 3**
!R! KCFG “SCAN”,3,1,15; KCFG “SCAN”,3,2,3;EXIT;

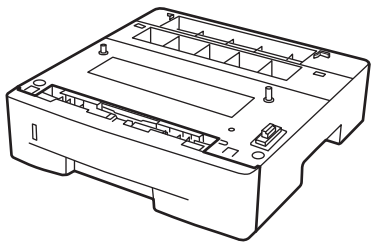
**DP center line**



# INSTALLATION GUIDE FOR PAPER FEEDER

# PF-120

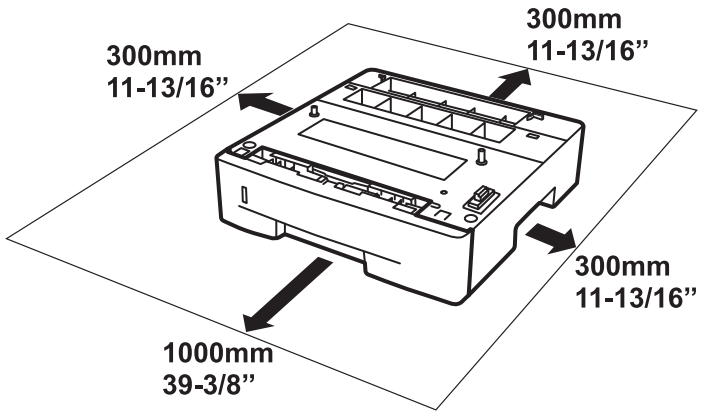
安装手册
インストールガイド
**Installation Guide**
**Guide d'installation**
**Guía de instalación**
**Installationsanleitung**
**Guida all'installazione**



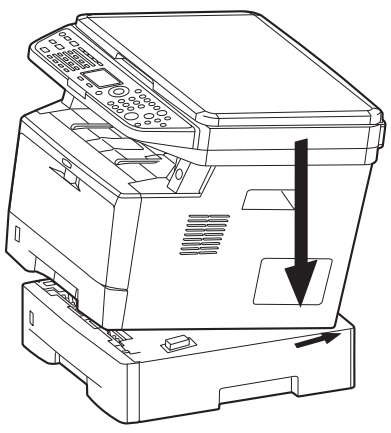
**[120 V specifications only]**
**NOTICE**
This accessory is for use only with the following Applicant's Listed Machine. Refer to the supplied guide to install the accessory in the field.
Machine: FS-1030MFP, FS-1130MFP, FS-1035MFP, FS-1135MFP

**PF-120的安装**
**PF-120の設置**
**Installation of PF-120**
**Installation de PF-120**
**Instalación de PF-120**
**Installation von PF-120**
**Installazione di PF-120**

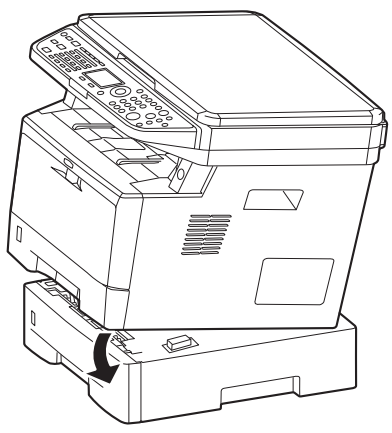
**1**



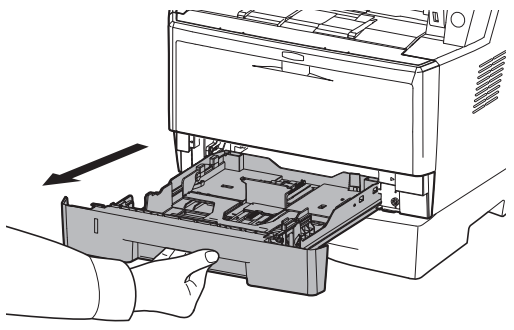

**2**



**3**



**4**



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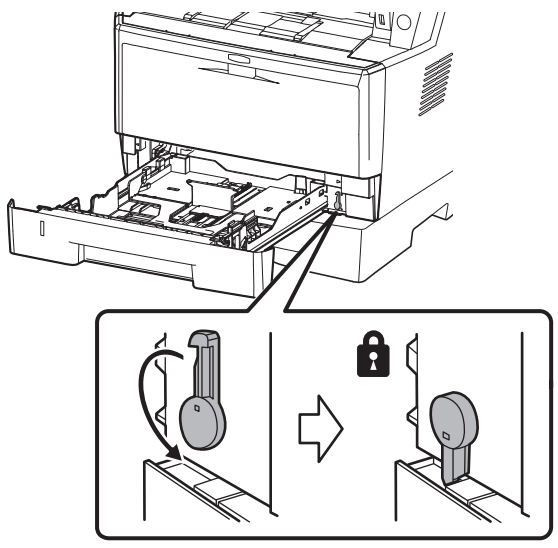

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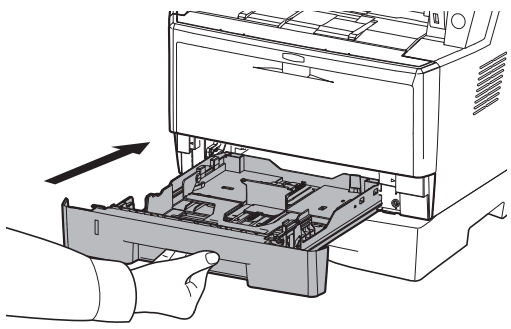
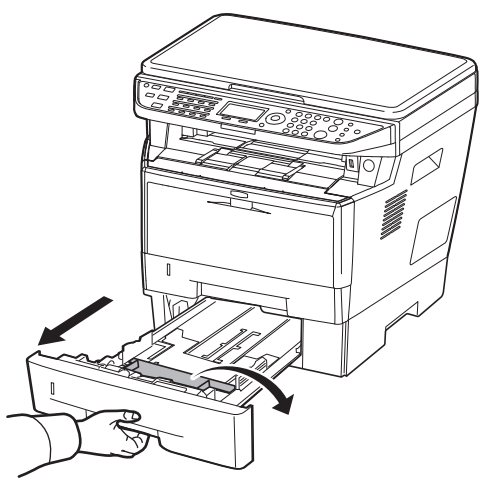


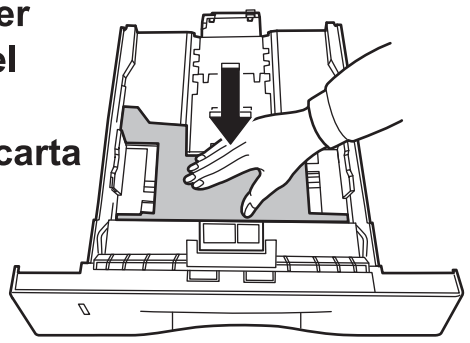
**7**



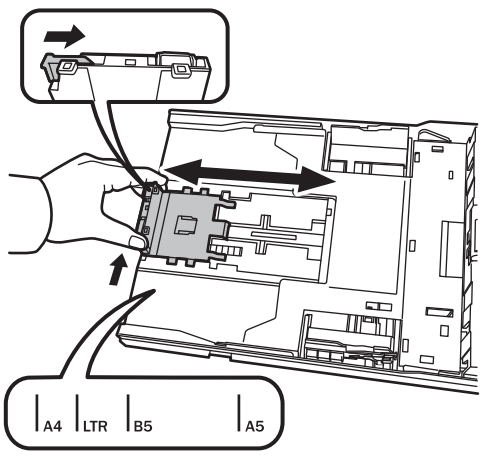
2

纸张大小的调整
用紙サイズの調整
**Adjustment of paper size**
**Ajustement de format papier**
**Ajuste del tamaño del papel**
**Justage des Papierformats**
**Registrazione del formato carta**

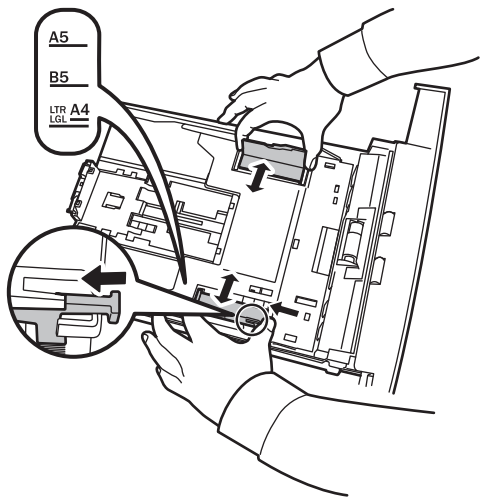
**8**



**9**

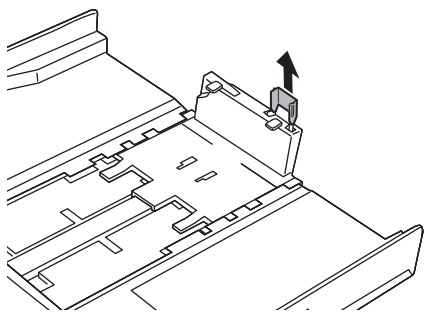



**10**

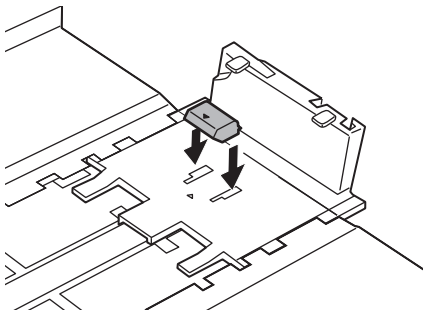



**Folio / Oficio II**

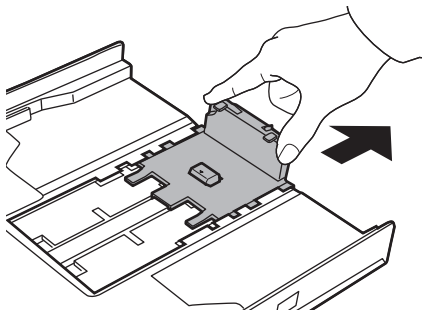
**(1)**



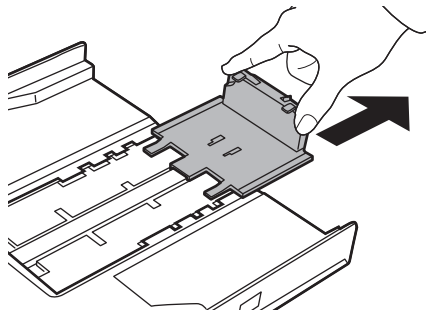
**(2)**



**(3)**

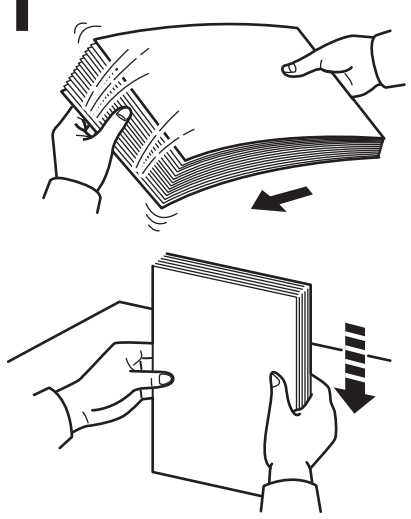


**Legal**

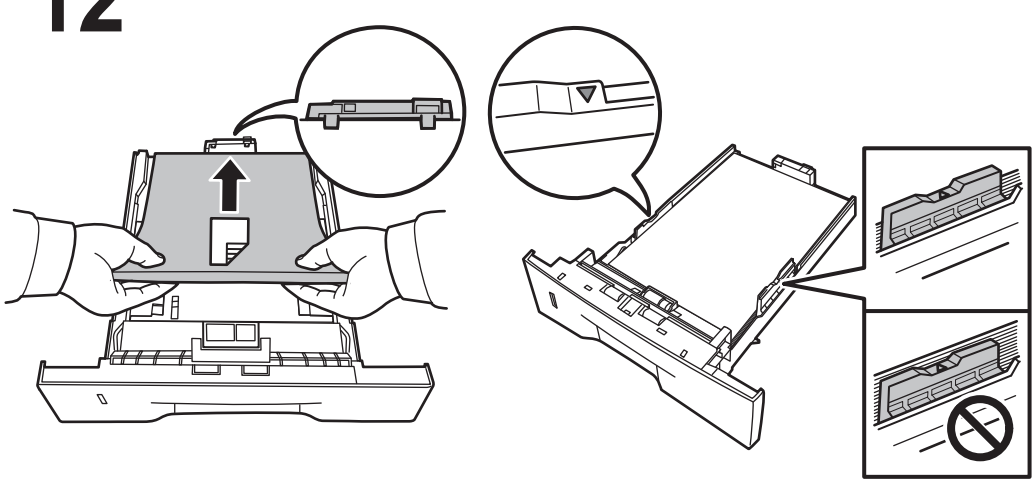


装纸
用紙のセット
**Loading paper**
**Papier de chargement**
**Papel del cargamento**
**Ladenpapier**
**Carta da caricamento**

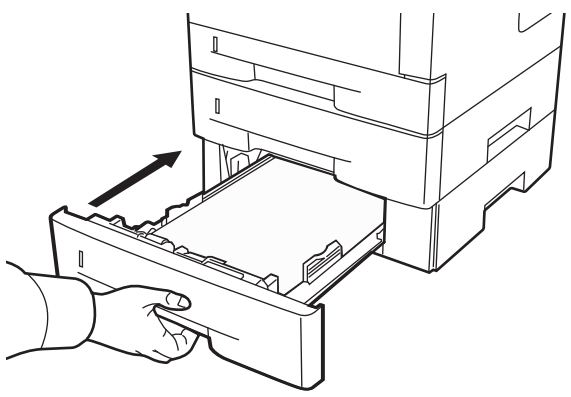
**11**



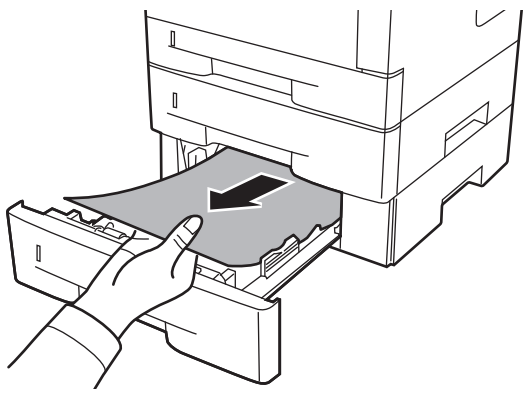
**12**



**13**



取出卡纸
紙づまりの処理
**Removing Paper Jams**
**Solution pour les bourrages papier**
**Eliminación de los atascos de papel**
**Entfernen von Papierstaus**
**Rimozione degli inceppamenti carta**



关于纸张的规格，请参阅机器的操作手册。
用紙の仕様については、本体使用説明書を参照してください。

For paper specification, refer to the machine's Operation Guide.
Avec les spécifications de papier, référez-vous au guide de l'opération de machine.
Para la especificación de papel, refiera a la guía de la operación de máquina.
Für Papierspezifikation beziehen Sie sich den auf Führer Rechneroperation.
Per la specifica di carta, riferiscasi alla guida di funzionamento della macchina.

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