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# KM-C2630 KM-C2630D

## SERVICE MANUAL

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Revision 1



## **CAUTION**

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## **CAUTION**

Double-pole/neutral fusing.

## Revision history

Revision	Date	Replaced pages	Remarks
1	19 August 2004	-	Overall revised

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# Safety precautions

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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. .... 
- Advise 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. ....



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## 1-1-1 Specifications

Type .....	Desktop with separate type scanner
Copying system .....	Color electro-photographic 4-drum tandem
Originals .....	Sheets of paper, books and 3-dimensional objects Maximum size: A3/11" x 17"
Original feed system .....	Fixed
Copy paper .....	<i>Weight</i> <i>Cassette: 60 - 105 g/m<sup>2</sup> (inch specifications), 60 - 90 g/m<sup>2</sup> (metric specifications)</i> <i>Bypass table: 60 - 220 g/m<sup>2</sup></i> <i>For thick paper</i> <i>Under A4/11" x 8 1/2": 91 - 220 g/m<sup>2</sup></i> <i>Over A4/11" x 8 1/2": 106 - 135 g/m<sup>2</sup> (inch specifications), 91 - 135 g/m<sup>2</sup> (metric specifications)</i>  <i>Types</i> <i>Cassette: Plain paper, colored paper</i> <i>Bypass table: Plain paper, special paper (colored paper, transparencies, etc.) and envelopes (when using the printer function only)</i>
Copying sizes .....	Maximum: A3/11" x 17" Minimum: A6R/5 1/2" x 8 1/2" (When the bypass table is used)
Magnification ratios .....	Manual mode: 25 - 400%, 1% increments Auto copy mode: fixed ratios Metric 1:1 ± 1.0%, 1:4.00/1:2.00/1:1.41/1:1.15/1:0.81/1:0.70/1:0.50/1:0.25 Inch 1:1 ± 1.0%, 1:4.00/1:2.00/1:1.29/1:1.21/1:0.78/1:0.64/1:0.50/1:0.25
Copy speed .....	11" x 17" [A3] size original at 100% (1:1) magnification ratio: 13 copies/min. (full color); 13 copies/min. (monochrome) 8 1/2" x 14" [B4] size original at 100% (1:1) magnification ratio: 13 copies/min. (full color); 13 copies/min. (monochrome) 11" x 8 1/2" [A4] size original at 100% (1:1) magnification ratio: 26 copies/min. (full color); 26 copies/min. (monochrome) 8 1/2" x 11" [A4R] size original at 100% (1:1) magnification ratio: 13 copies/min. (full color); 13 copies/min. (monochrome) 11" x 8 1/2" [A4] size original during 2-sided copying: 24.5 copies/ min. (full color); 24.5 copies/ min. (monochrome)
First copy time .....	9.4 s or less/9.4 s or less [Color/Monochrome]
Warm-up time .....	Within 179 s (room temperature 20°C/68°F, 65% RH)
Paper feed system .....	Automatic feeding from cassettes (500 sheet capacity [80 g/m <sup>2</sup> ]) or manual feed from the Bypass table (150 sheet capacity [80 g/m <sup>2</sup> ])
Paper eject system .....	Top tray: 500 sheets Left tray (optional): 150 sheets
Continuous copying .....	1 - 999 sheets
Photoconductor .....	a-Si (drum diameter 30 mm)
Charging system .....	Scorotron (positive charging)
Exposure light source .....	LED (Advanced Beam Array)
Developing system .....	Dry, reverse developing (magnetic brush) Developer: 2-component Toner replenishing: automatic from a toner container
Transfer system .....	Primary: Transfer belt Secondary: Transfer roller
Separation system .....	Small diameter separation
Fixing system .....	Heat roller (soft type, diameter 45 mm) Heat source: 2 halogen heaters (upper:600 W, lower:400 W) Control temperature: 185°C/365°F (at normal ambient temperature) Abnormally high temperature protection device: thermostat
Charge erasing system .....	Exposure by cleaning lamp (LED array)
Cleaning system .....	Drum: Cleaning blade Transfer belt: Collecting to the drum by applying the reverse transfer bias
Scanning system .....	Flat bed scanning by CCD image sensor
Resolution .....	600 x 600 dpi
Light source .....	Rare gas lamp
Dimensions .....	699 (W) x 804 (D) x 1122 (H) mm 27 1/2" (W) x 31 5/8" (D) x 44 1/8" (H)
Weight .....	Approx. 115 kg/253.5 lbs. (Simplex copier) Approx. 120 kg/264.6 lbs. (Duplex copier)
Floor requirements .....	1019 (W) x 804 (D) mm 40 1/16" (W) x 31 5/8" (D)

Functions .....	<p>Color balance adjustment, Color hue adjustment, One-touch image quality adjustment, Mono-color mode, Gloss mode, Auto paper selection mode, Image quality selection, Auto magnification selection mode, Zoom mode, Preset zoom mode, XY zoom mode, 2-sided copy modes*<sup>1</sup>, Page separation/Split copy modes, Margin mode, Centering/Image shift mode, Memo mode*<sup>2</sup>, Border erase modes, Combine/Merge Copy modes*<sup>2</sup>, Print page numbers mode*<sup>2</sup>, Poster mode*<sup>2</sup>, Booklet/Stitching mode*<sup>1</sup>, Book to Booklet mode*<sup>1</sup>, Sort/Finished mode*<sup>2</sup>, Auto rotation function, Cover mode*<sup>2</sup>, Transparency + backing sheet mode*<sup>2</sup>, Invert mode, Mirror image mode, Proof mode*<sup>2</sup>, Repeat copy mode*<sup>2</sup>, Batch scanning mode*<sup>2</sup>, Color/BW selection mode*<sup>2</sup>, Eco print mode, Program function, Job build mode*<sup>2</sup>, Copy management mode*<sup>2</sup>, Language selection function</p> <p>*1: Only available in duplex copiers *2: Requires the optional memory copy board in simplex copiers</p>
Power source .....	<p>120 V AC, 60 Hz, 12.0 A 220 - 240 V AC, 50/60 Hz, 7.5 A</p>
Power consumption .....	Maximum rated power consumption 1500 W
Options .....	<p>DP, 500-sheet paper feeder (500 sheets [80 g/m<sup>2</sup>] x 1 cassette, A3, B4, A4, A5, B5, ledger, legal, letter, custom), 1500-sheet paper feeder (500 sheets [80 g/m<sup>2</sup>] x 3 cassettes, A3, B4, A4, A5, B5, ledger, legal, letter, custom), 3000-sheet paper feeder (500 sheets [80 g/m<sup>2</sup>] x 1 cassette, 1000 sheets [80 g/m<sup>2</sup>] x 1 deck, 1500 sheets [80 g/m<sup>2</sup>] x 1 deck, A3, B4, A4, A5, B5, ledger, legal, letter, custom), Document Finisher, Memory Copy Board*, Casters, Key Counter, Printer Board, Fax Kit, Network Scanner Board, Duplex unit*, Left tray</p> <p>*: Standard equipment in duplex copiers</p>



## 1-1-2 Parts names

## (1) Copier

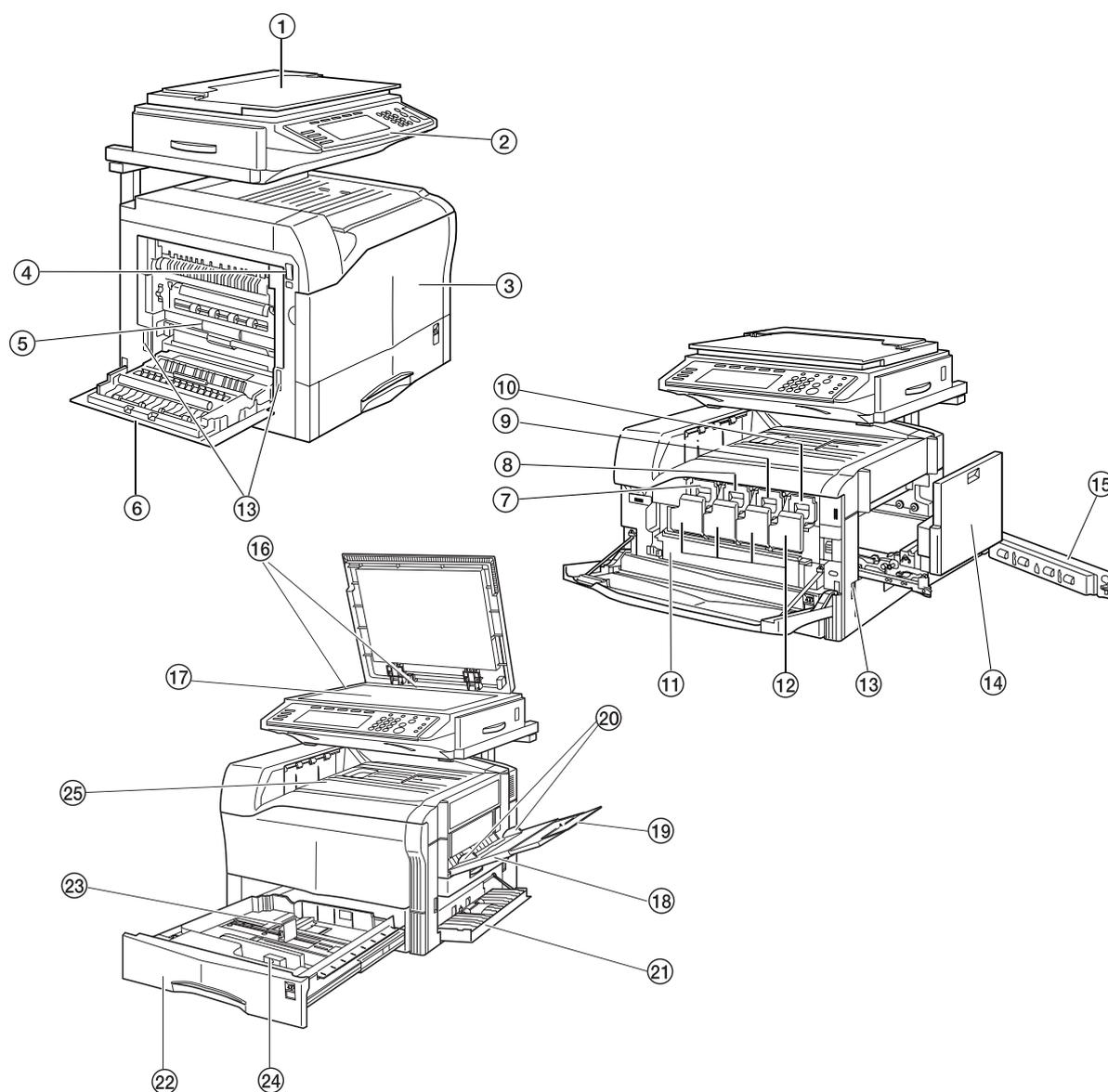
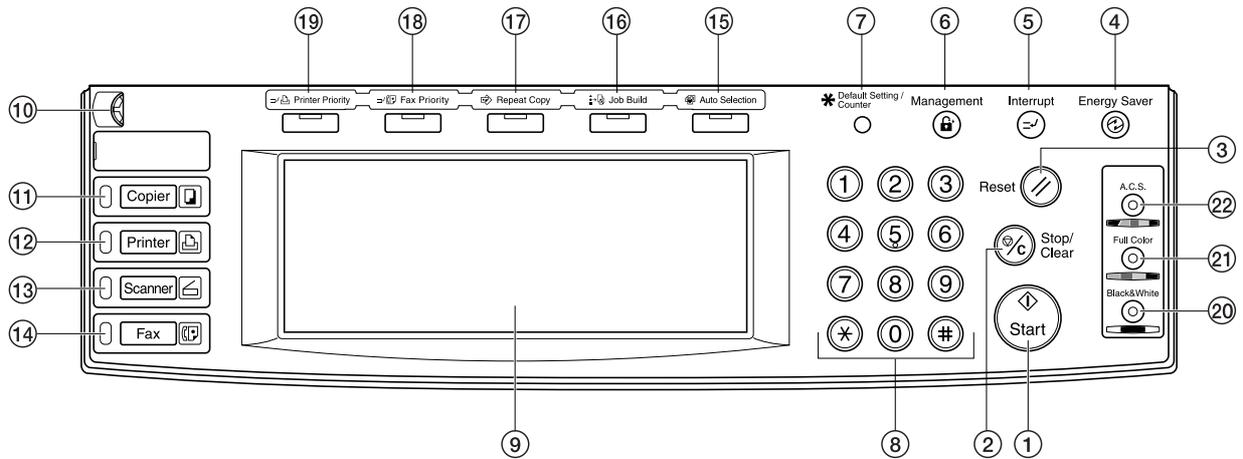


Figure 1-1-1

- |                              |                                       |
|------------------------------|---------------------------------------|
| 1. Original cover (optional) | 14. Paper conveying unit              |
| 2. Operation panel           | 15. Right cover 1                     |
| 3. Front cover               | 16. Original size indicator plate     |
| 4. Power switch              | 17. Platen                            |
| 5. Fuser unit                | 18. Bypass tray                       |
| 6. Left cover                | 19. Bypass extension                  |
| 7. Black toner container     | 20. Insert guides                     |
| 8. Yellow toner container    | 21. Right cover 2                     |
| 9. Cyan toner container      | 22. Cassette 1 (simplex copier)       |
| 10. Magenta toner container  | Duplex section (duplex copier)        |
| 11. Waste toner box          | 23. Paper length guide release levers |
| 12. Toner container cover    | 24. Paper width guide release levers  |
| 13. Handle                   | 25. Top tray                          |

**(2) Operation panel**



**Figure 1-1-2**

- |  |                                      |
|--|--------------------------------------|
| 1. Start key (Indicator)               | 12. Printer key (Lamp/Indicator)     |
| 2. Stop/clear key                      | 13. Scanner key (Lamp/Indicator)     |
| 3. Reset key                           | 14. Fax key (Lamp/Indicator)         |
| 4. Energy saver key (Indicator)        | 15. Auto selection key (Indicator)   |
| 5. Interrupt key (Indicator)           | 16. Job build key (Indicator)        |
| 6. Management key                      | 17. Repeat copy key (Indicator)      |
| 7. Default setting/Counter key         | 18. Fax priority key (Indicator)     |
| 8. Numeric keys                        | 19. Printer priority key (Indicator) |
| 9. Touch panel                         | 20. Black & white key (Indicator)    |
| 10. Brightness adjustment control dial | 21. Full color key (Indicator)       |
| 11. Copier key (Lamp/Indicator)        | 22. A.C.S. key (Indicator)           |

### 1-1-3 Cross section view

#### (1) Simplex copier

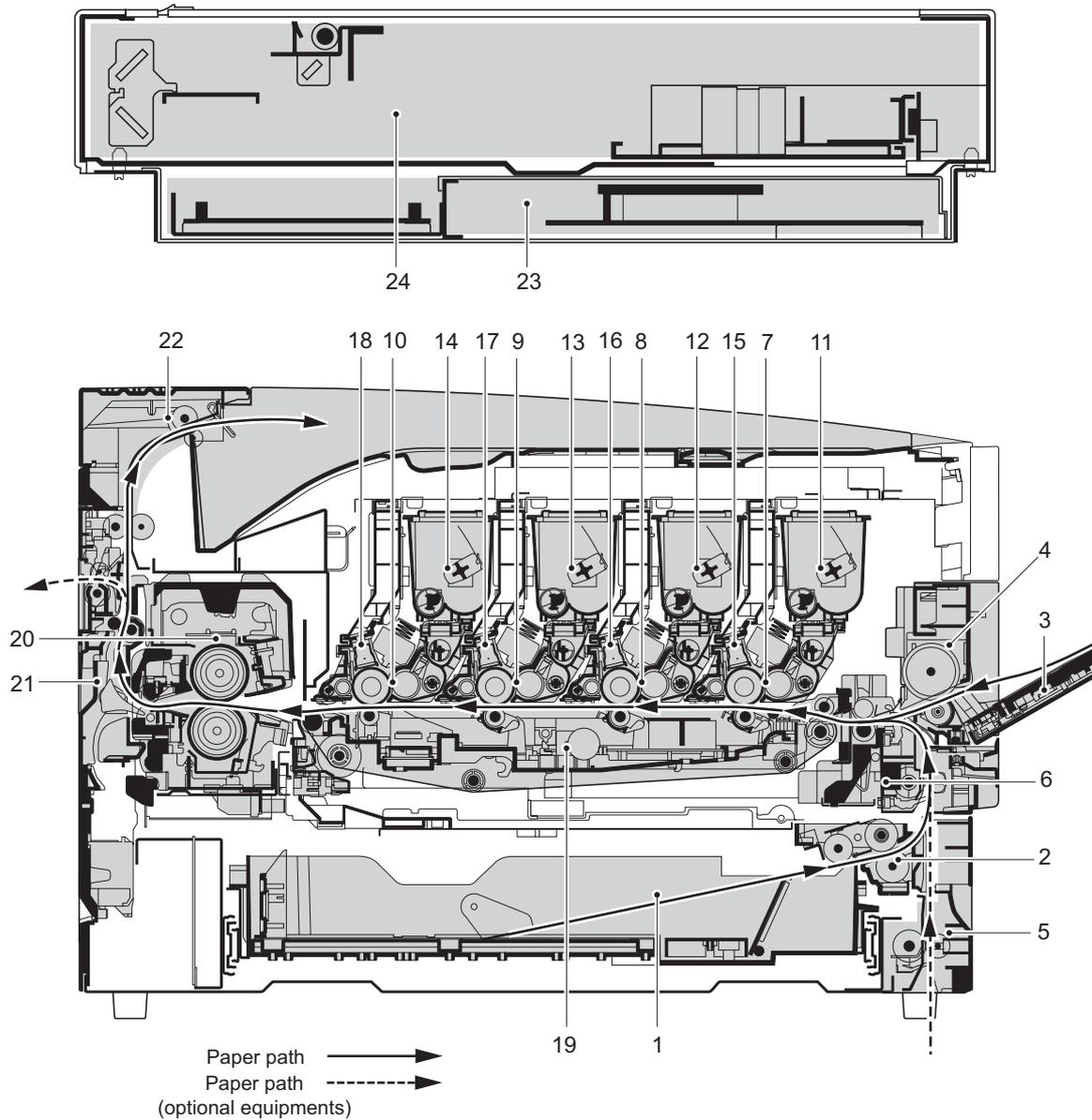


Figure 1-1-3

- |                              |                               |
|------------------------------|-------------------------------|
| 1. Paper cassette            | 13. Yellow toner container    |
| 2. Primary paper feed unit   | 14. Black toner container     |
| 3. Bypass tray               | 15. Magenta main charger unit |
| 4. Bypass tray feed unit     | 16. Cyan main charger unit    |
| 5. Paper feeder feed section | 17. Yellow main charger unit  |
| 6. Paper feed unit           | 18. Black main charger unit   |
| 7. Magenta process unit      | 19. Transfer unit             |
| 8. Cyan process unit         | 20. Fuser unit                |
| 9. Yellow process unit       | 21. Eject unit                |
| 10. Black process unit       | 22. Face-down exit section    |
| 11. Magenta toner container  | 23. Scanner unit              |
| 12. Cyan toner container     | 24. Electrical component unit |

(2) Duplex copier

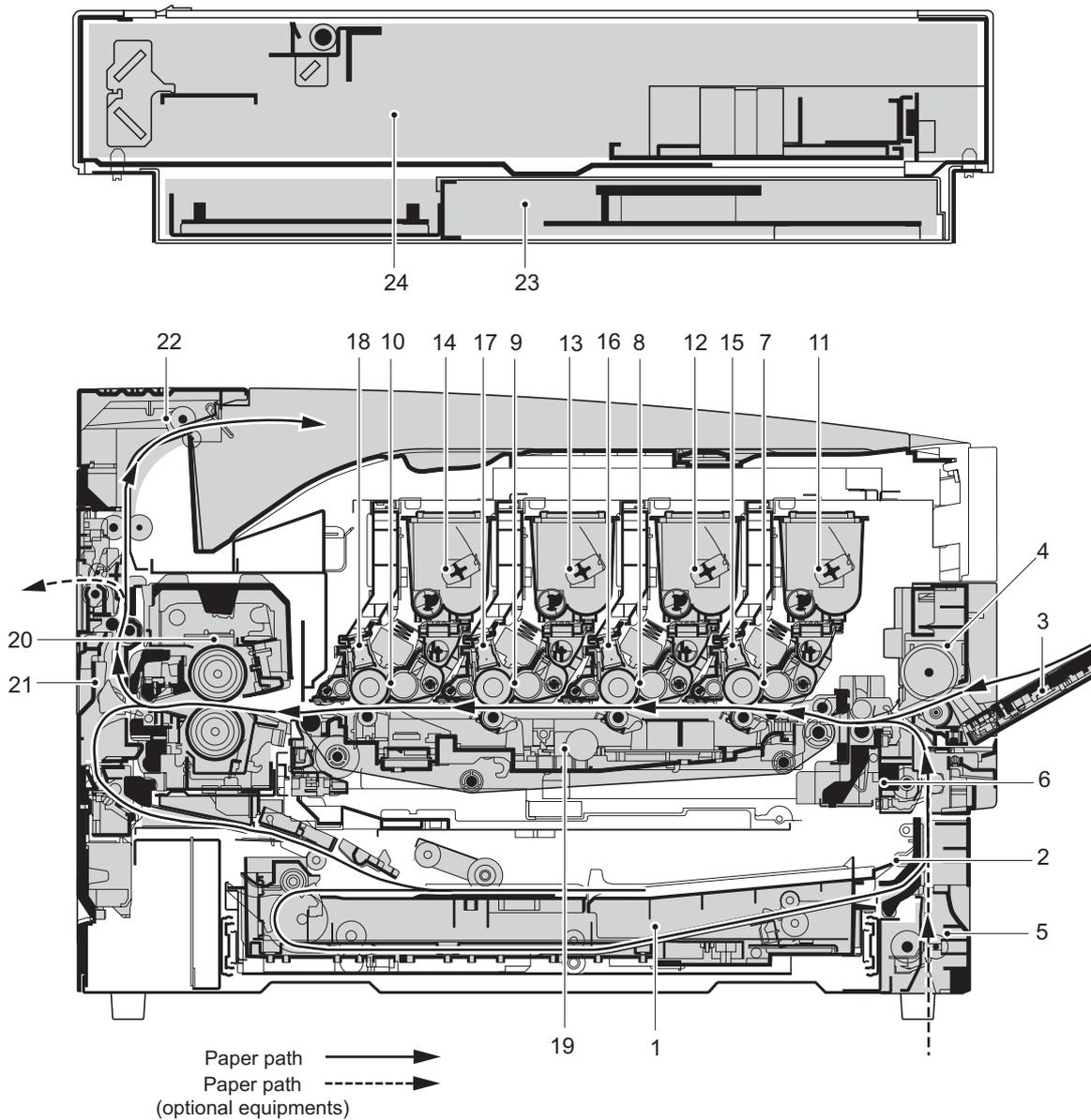


Figure 1-1-4

- |                              |                               |
|------------------------------|-------------------------------|
| 1. Paper cassette            | 13. Yellow toner container    |
| 2. Primary paper feed unit   | 14. Black toner container     |
| 3. Bypass tray               | 15. Magenta main charger unit |
| 4. Bypass tray feed unit     | 16. Cyan main charger unit    |
| 5. Paper feeder feed section | 17. Yellow main charger unit  |
| 6. Paper feed unit           | 18. Black main charger unit   |
| 7. Magenta process unit      | 19. Transfer unit             |
| 8. Cyan process unit         | 20. Fuser unit                |
| 9. Yellow process unit       | 21. Eject unit                |
| 10. Black process unit       | 22. Face-down exit section    |
| 11. Magenta toner container  | 23. Scanner unit              |
| 12. Cyan toner container     | 24. Electrical component unit |



### 1-2-1 Drum unit (process unit)

Note the following when handling or storing the drum unit.

- When removing the drum unit (process unit), never expose the drum surface to strong direct light.
- Avoid abrupt changes in temperature and humidity.
- Avoid exposure to any substance which is harmful to or may affect the quality of the drum.
- Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

### 1-2-2 Drum unit (process unit) and toner container

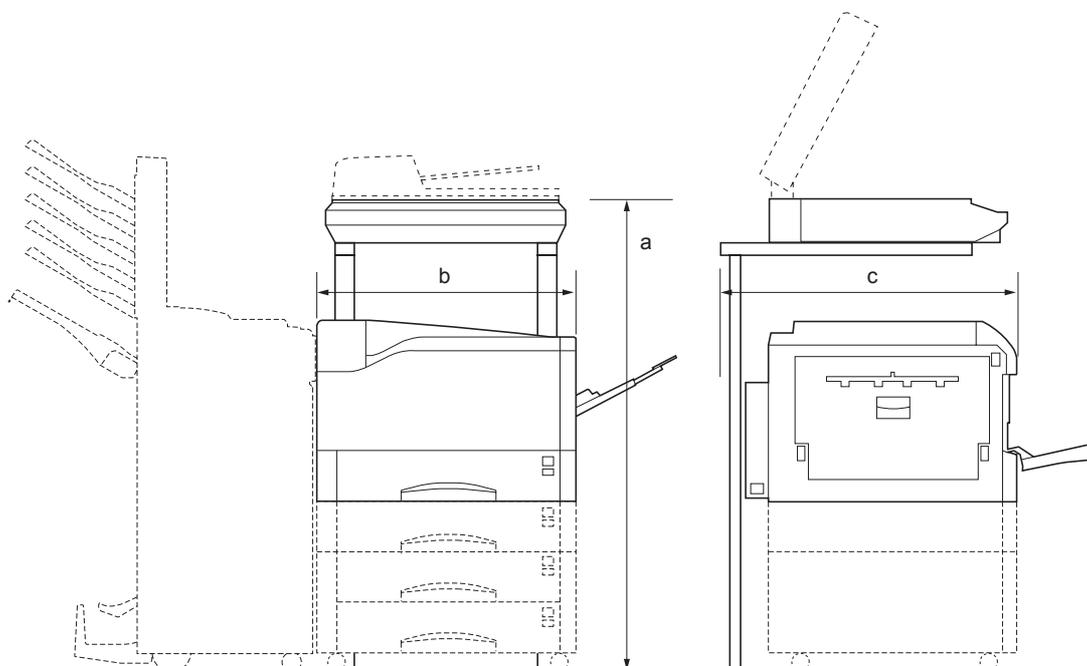
- Store the drum unit (process unit) and toner container in a cool, dark place.
- Avoid direct light and high humidity.
- *When the machine is not used for the long term, pack the process units and loosen the fuser press screws.*

### 1-2-3 Installation environment

1. Temperature: 10 - 32.5 °C/50 - 90.5 °F
2. Humidity: 15 - 80%RH
3. Power supply: 120 V AC, 12.0 A  
220 - 240 V AC, 7.5 A
4. Power source frequency: 50 Hz  $\pm 2\%$ /60 Hz  $\pm 2\%$
5. Installation location
  - Avoid direct sunlight or bright lighting. Ensure that the photo-conductor will not be exposed to direct sunlight or other strong light when removing paper jams.
  - Avoid extremes of temperature and humidity, abrupt ambient temperature changes, and hot or cold air directed onto the machine.
  - Avoid dust and vibration.
  - 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 photo-conductor, such as mercury, acidic or alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
  - Select a room with good ventilation.
6. Allow sufficient access for proper operation and maintenance of the machine.

Machine front: 1000 mm/39 $\frac{5}{16}$ " Machine rear: 300 mm/11 $\frac{13}{16}$ "

Machine right: 300 mm/11 $\frac{13}{16}$ " Machine left: 300 mm/11 $\frac{13}{16}$ "



a: 1122 mm/44 $\frac{1}{8}$ "  
b: 699 mm/27 $\frac{1}{2}$ "  
c: 804 mm/31 $\frac{5}{8}$ "

# TONER

[www.tonerplus.com.ua](http://www.tonerplus.com.ua)

Figure 1-2-1 Installation dimensions

## 1-3-1 Unpacking and installation

### (1) Installation procedure

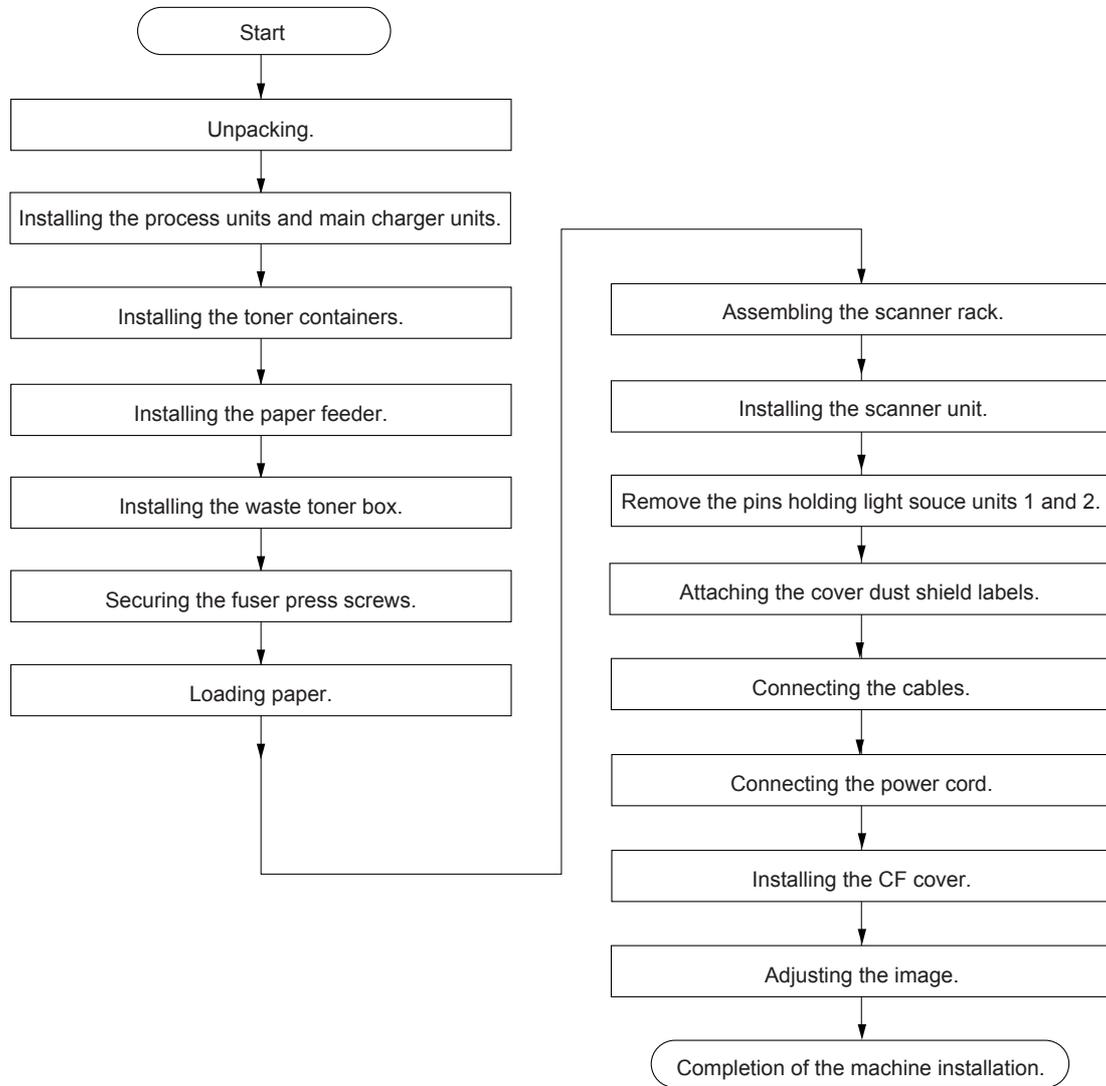


Figure 1-3-1

Unpacking.

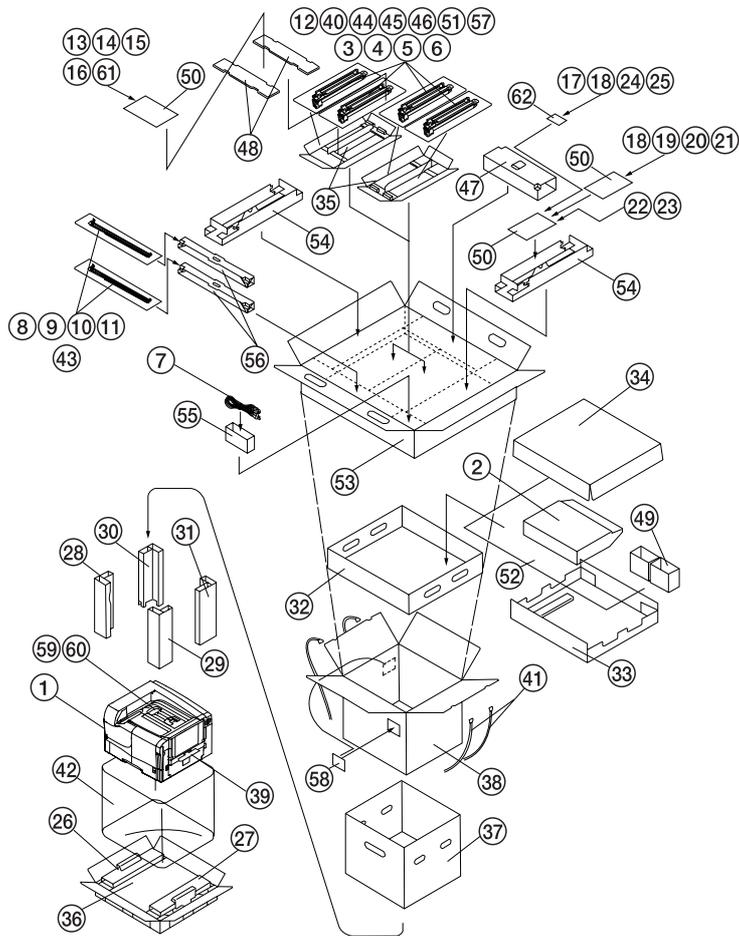


Figure 1-3-2 Unpacking

- |                                   |                                       |                              |
|-----------------------------------|---------------------------------------|------------------------------|
| 1. Copier                         | 23. Core                              | 44. Developer spacers A      |
| 2. Scanner unit                   | 24. M3 x 10 tap tight screws*         | 45. Developer spacers B      |
| 3. Magenta process unit           | 25. S Tite chromate screws<br>M3 x 06 | 46. Developer spacers C      |
| 4. Cyan process unit              |                                       | 47. Tank spacer              |
| 5. Yellow process unit            |                                       | 48. Developer top spacers    |
| 6. Black process unit             | 26. Bottom left pad                   | 49. Scanner front spacer     |
| 7. Power cord                     | 27. Bottom right pad                  | 50. Plastic bags             |
| 8. Magenta main charger unit      | 28. Front left stay                   | 51. Developer protect papers |
| 9. Cyan main charger unit         | 29. Front right stay                  | 52. Plastic sheet            |
| 10. Yellow main charger unit      | 30. Rear left stay                    | 53. Accessory case           |
| 11. Black main charger unit       | 31. Rear right stay                   | 54. Toner spacers            |
| 12. Silicagel                     | 32. Scanner accessory case            | 55. Accessory spacer         |
| 13. Function sheet                | 33. Scanner bottom pad                | 56. Charger spacers          |
| 14. Cover dust shield label set   | 34. Scanner top pad                   | 57. Plastic bags             |
| 15. Connector protective fittings | 35. Developer spacers                 | 58. Bar cord labels          |
| 16. CF cover                      | 36. Pallet                            | 59. Air-packed bag           |
| 17. Optical section dowel pin     | 37. Inner frame                       | 60. Air-packed bag           |
| 18. Clamps EMT-6N                 | 38. Outer case                        | 61. Operation guide          |
| 19. Clamp EMT-5N                  | 39. Cassette spacer*                  | 62. Plastic bag              |
| 20. Shield gaskets 1              | 40. Developer seals                   |                              |
| 21. Shield gaskets 2              | 41. Belts                             |                              |
| 22. FGM-150-M4                    | 42. Machine cover                     |                              |
|                                   | 43. Plastic bags                      |                              |

\*Simplex copiers only



### Installing the process units and main charger units.

1. Open the front cover.
2. Pull out the paper feed unit (transfer unit).
3. Push up the four LED print heads (levers) while pushing down each lock levers.
4. Remove the two screws, and pull the two release levers and remove the drum holder.

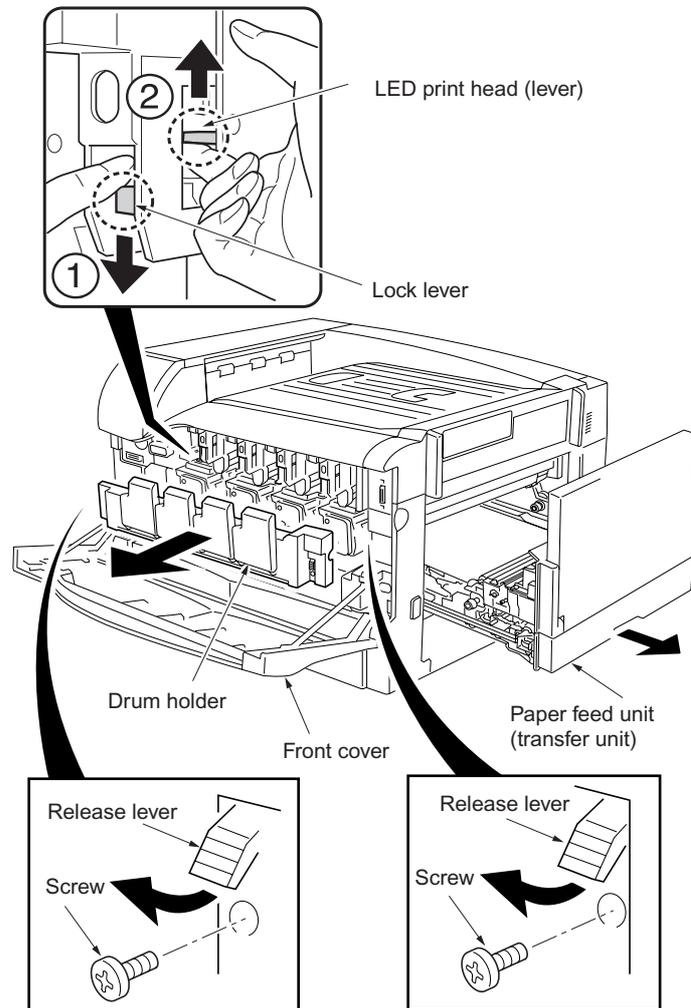


Figure 1-3-3

5. Remove the packing paper from the process unit.  
Hold the developing section and the cleaning section by putting them in and remove the protective paper from inside the process unit by pulling it a little from the lower part.  
\* Take care not to hold the guide of the main charger.
6. Shake the process unit four or five times back and forth to make the developer uniform.

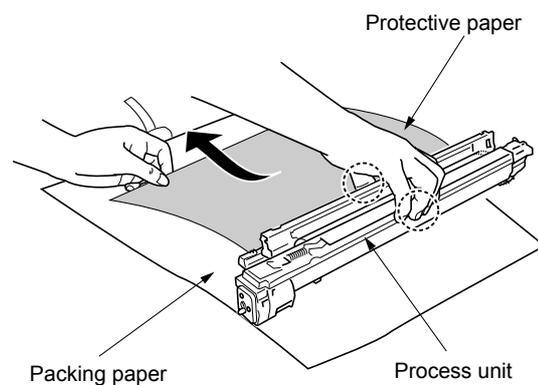


Figure 1-3-4

7. Turn the lock lever to the left (to release).
8. Install the four process units in order of magenta, cyan, yellow and black.
9. Turn the lock lever to the right (to lock).
10. Refit the drum holder,

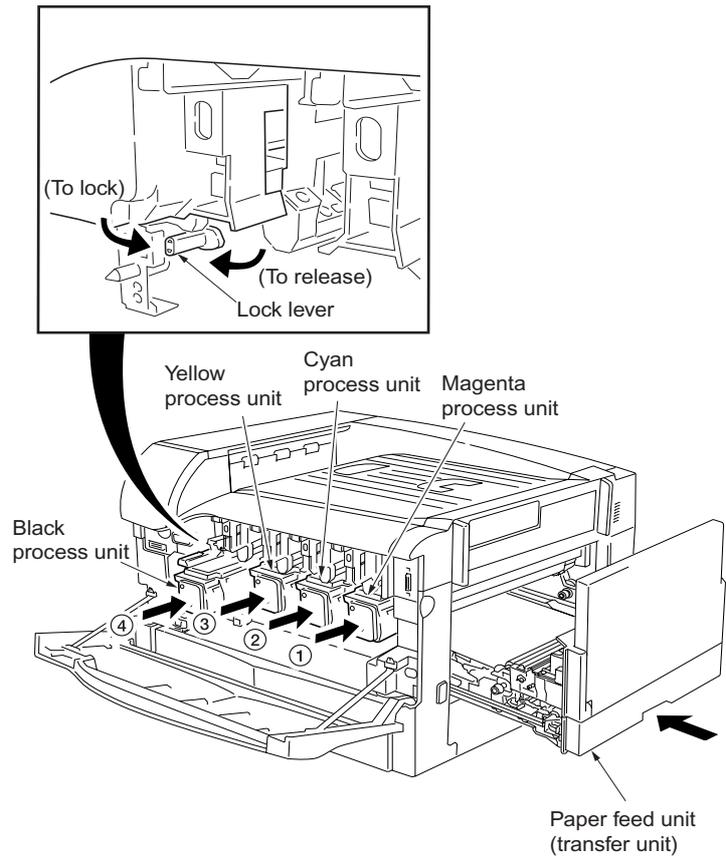


Figure 1-3-5

11. Open the four toner container covers.
12. Referring to the color of the attached seal, install the main charger units to the process units for the same color.
13. Push down the four LED print head (levers).
14. Close the paper feed unit (transfer unit).

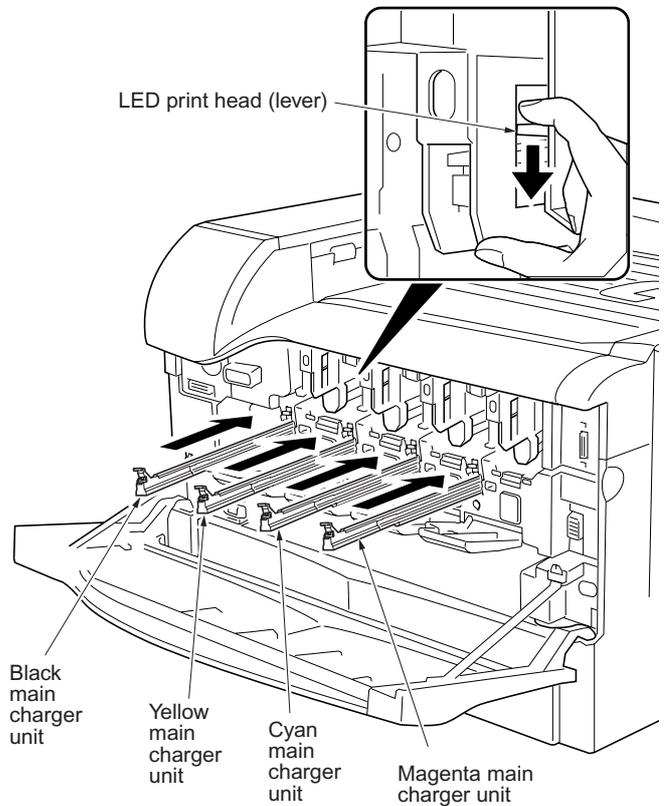
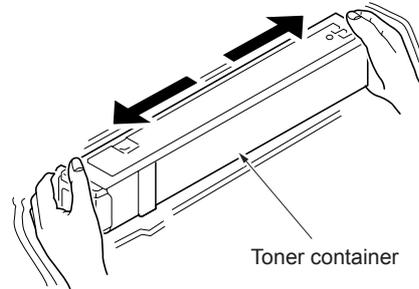


Figure 1-3-6

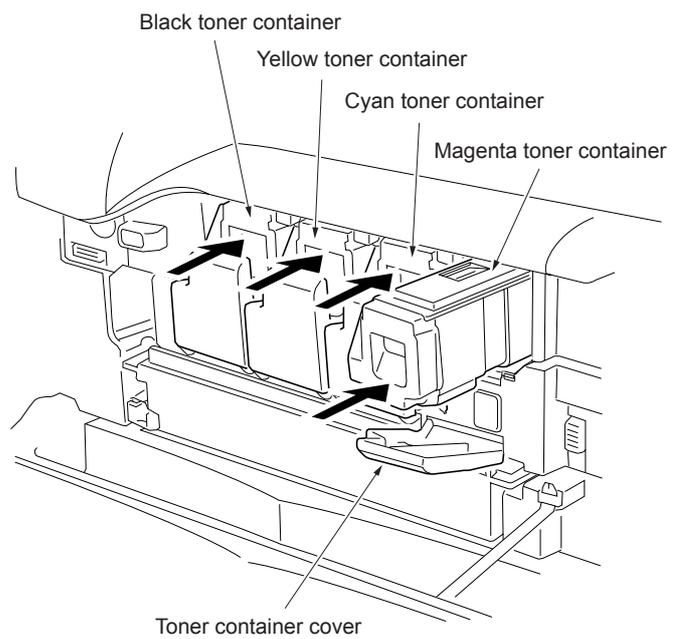


**Installing the toner containers.**

1. Shake the four toner containers second to third times.

**Figure 1-3-7**

2. Install the toner containers.
3. Close the toner container covers.

**Figure 1-3-8**

Installing the waste toner box.

1. Remove the four caps and attach the cap holder section.

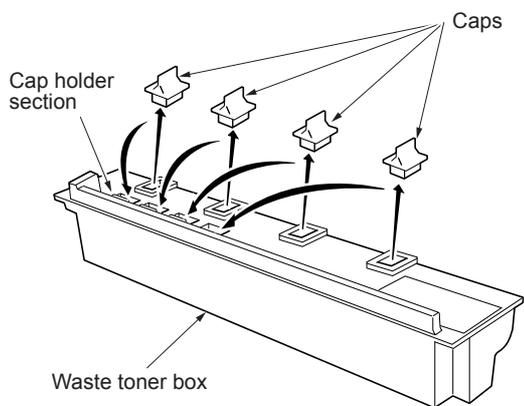


Figure 1-3-9

2. Install the waste toner box to the printer.

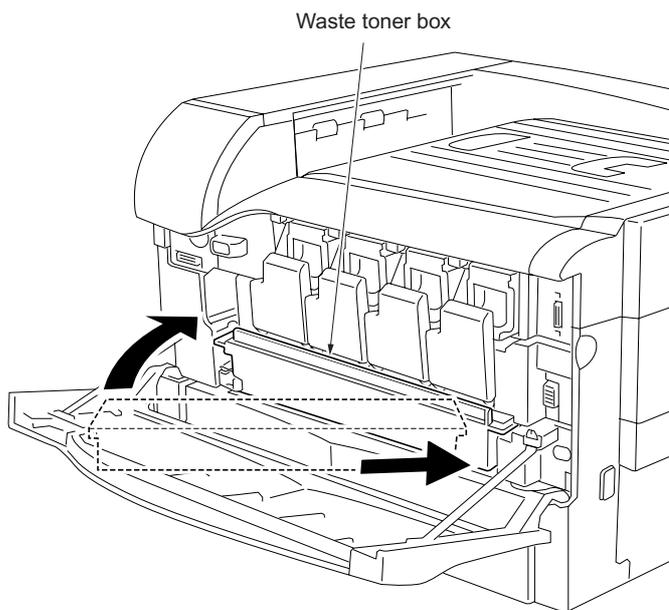
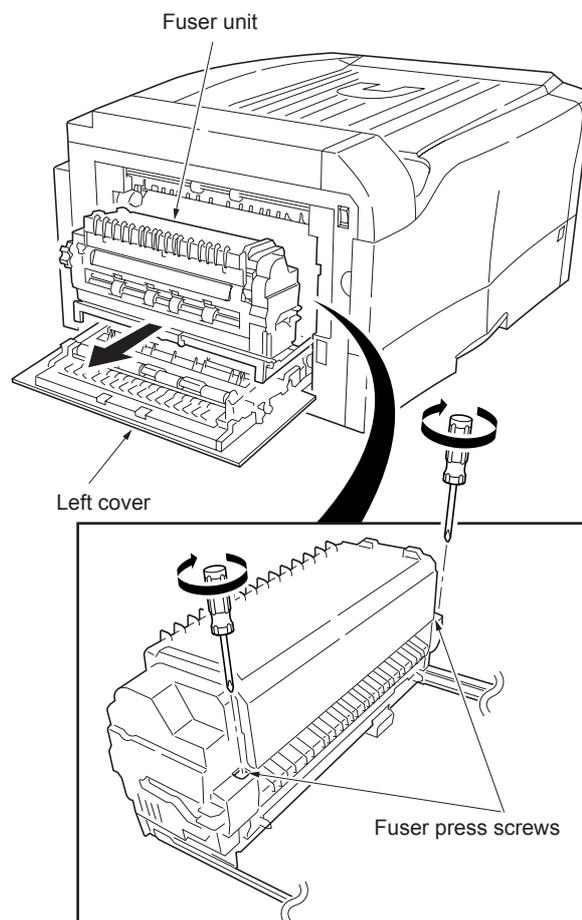


Figure 1-3-10

**Securing the fuser press screws.**

1. Open the left cover.
2. Pull out the fuser unit.
3. Tighten the two fuser press screws until they stop.
4. Close the fuser unit and left cover.

**Figure 1-3-11**

Loading paper.

1. Pull out the paper cassette.
2. Remove the cassette spacer.
3. Load the paper to the cassette and adjust the paper guides according to the paper size.
4. Open bypass tray and remove the protect sheet.
5. Load the paper to bypass tray and adjust the paper guides according to the paper size.

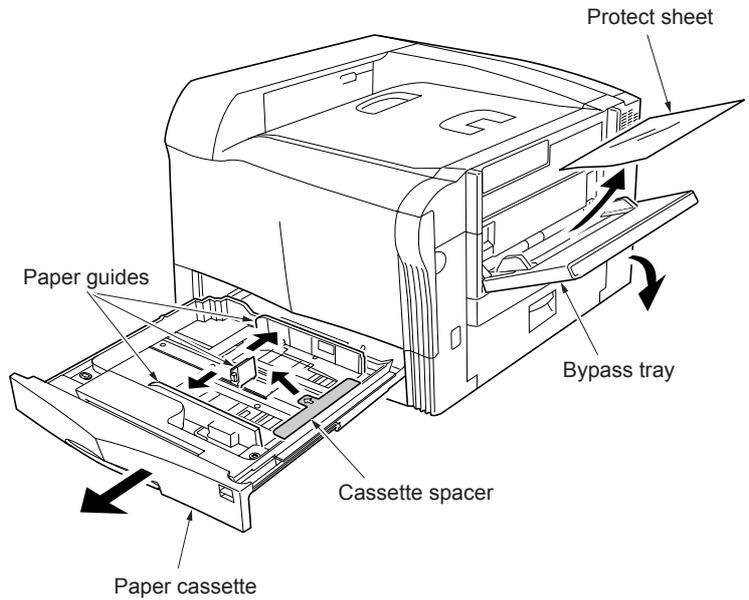


Figure 1-3-12

Assembling the scanner rack.

**Caution**

The scanner rack must be installed by two persons.

1. Secure the base section assembly to the securing column section assembly using four hexagon socket bolts M8 x 25 passed through spring washers and flat washers and four cross recessed head screws M6 x 12.
- \* The positions of the screws differ depending on the installation location of the scanner unit. The positions indicated with (a) in the illustration are for the case where the scanner unit is installed at a side of the machine.

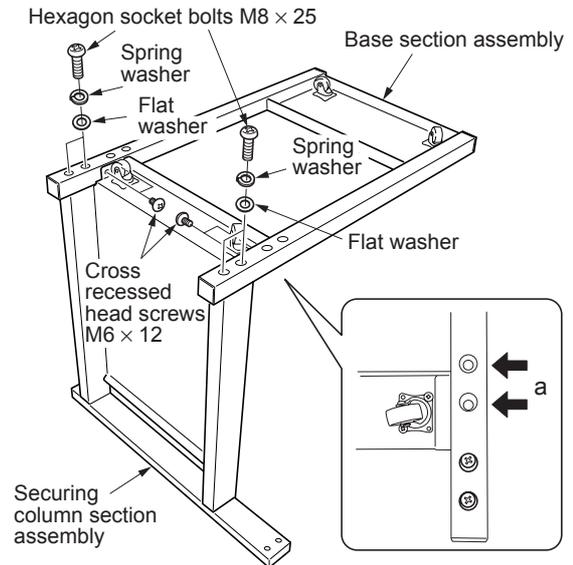


Figure 1-3-13

- Secure the right and left upper stay assemblies to the securing column section assembly using four hexagon socket bolts M8 x 40 passed through spring washers and flat washers.

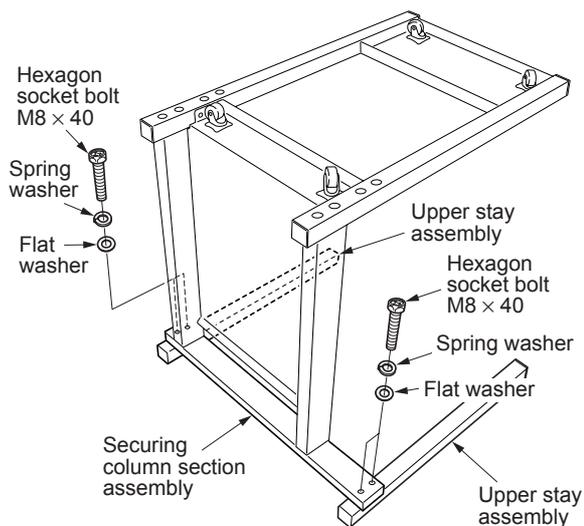


Figure 1-3-14

- Secure the right and left securing fittings using four cross recessed head screws M6 x 12.

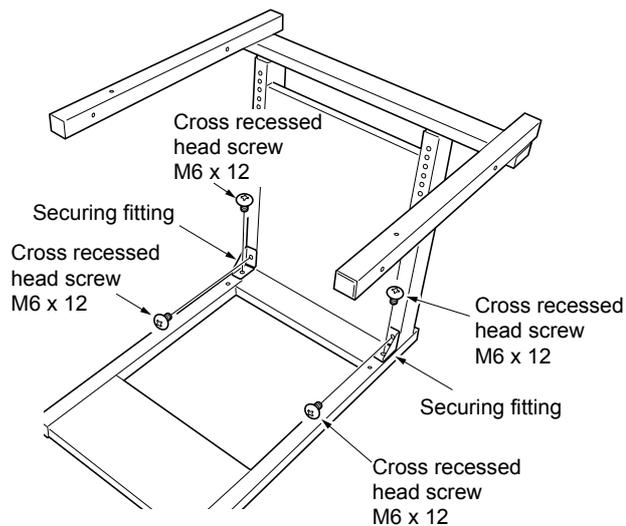


Figure 1-3-15

4. Pull out the slide column section and secure it using four cross recessed head screws M6 x 12.

When installing the scanner unit on the machine: The securing positions of the cross recessed head screws M6 x 12 are indicated with (b) in the illustration.

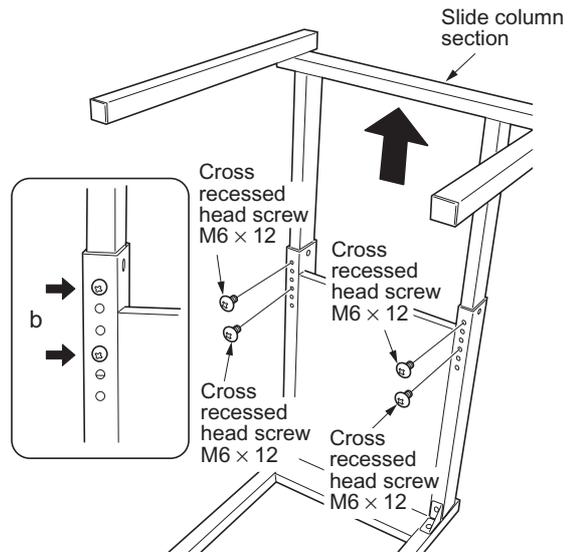


Figure 1-3-16

When installing the scanner unit at a side of the machine: The height of the scanner can be changed by adjusting the four cross recessed head screws M6 x 12 on the slide column section.

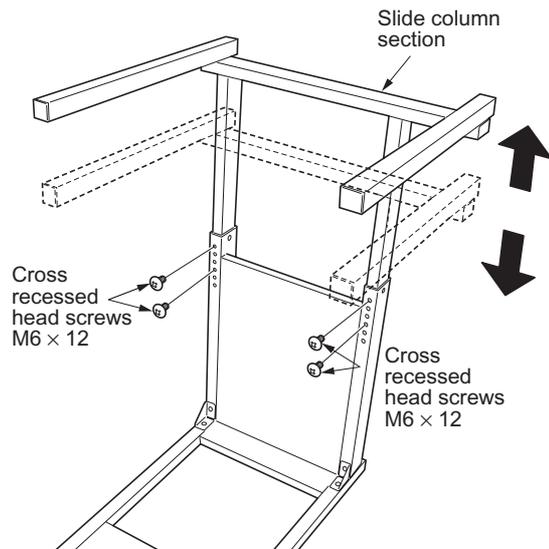


Figure 1-3-17

5. When installing the scanner unit at a side of the machine: Secure the right and left stays to the base section assembly using four cross recessed head screws M4 x 12.  
(When installing the scanner unit on the copier, this step is not needed.)

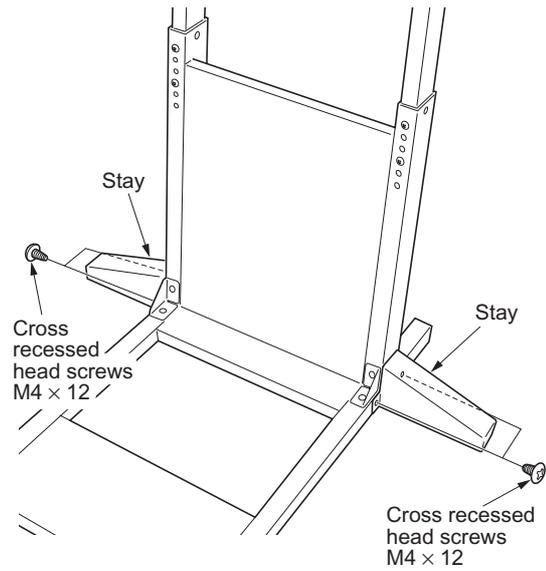


Figure 1-3-18

6. Attach four gaskets 1 to the locations on the scanner rack base section indicated in the illustration.

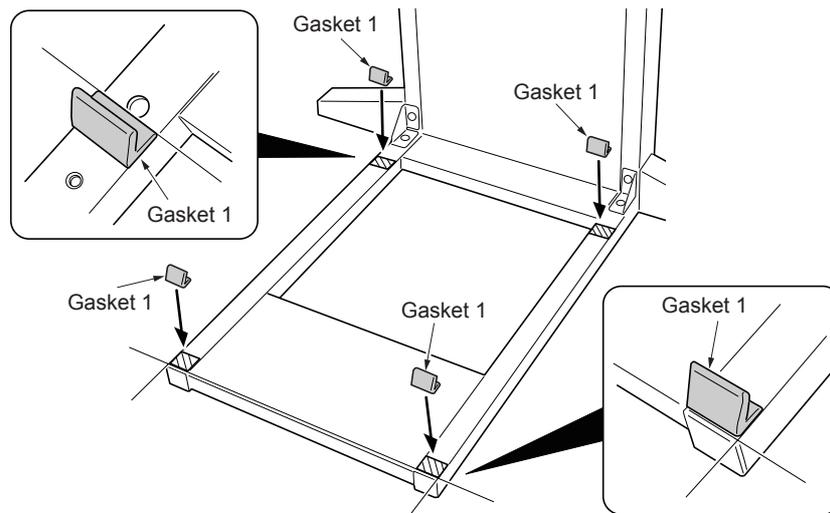


Figure 1-3-19

- Attach each gasket 2 to the locations on the right and left stays of the scanner rack indicated in the illustration.

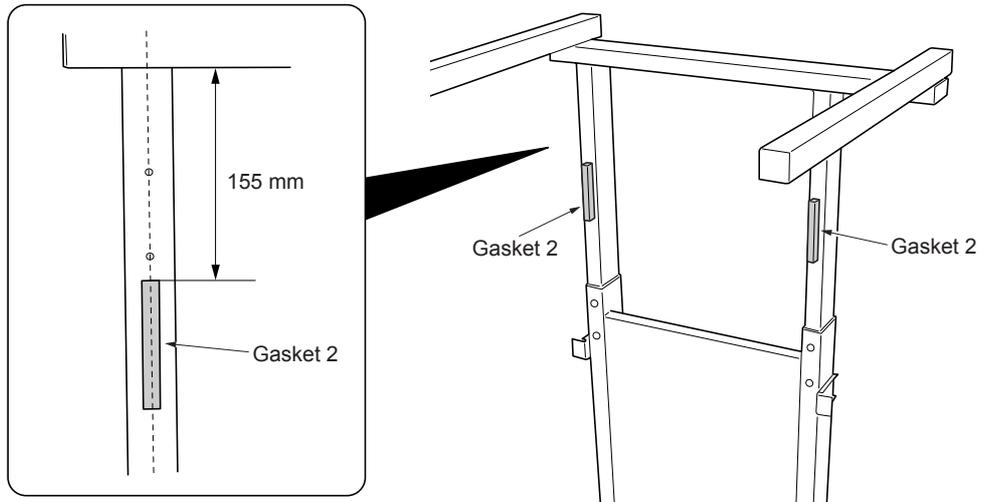


Figure 1-3-20

Installing the scanner unit.

- Attach the optical section dowel pin to the right part of the upper stay section assembly viewing from the front of the scanner rack.
- Place the scanner unit by positioning its hole on the bottom to the projection of the optical section dowel pin, fit the crown washers to the S Tite screws M4 x 45, and secure the upper stay assembly and the scanner using the four screws.

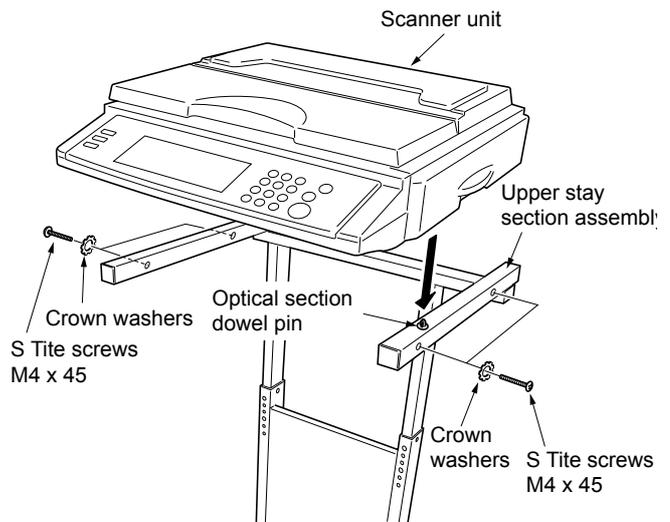


Figure 1-3-21

3. Secure the right and left plate racks to the securing column section assembly by tightening temporarily four cross recessed head screw M4 x 12.
4. Remove the two screws that secure the rear cover of the machine and tighten them to secure the plate racks and the machine together. Also tighten the cross recessed head screw M4 x 12 securely that have been tightened temporarily in step 3.

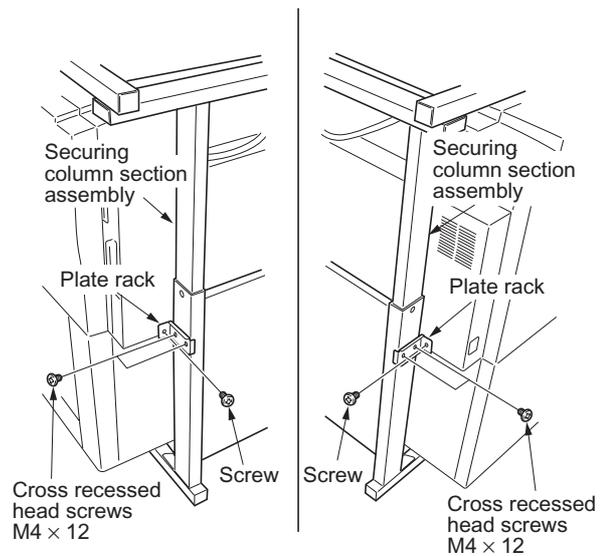


Figure 1-3-22

Remove the pins holding light source units 1 and 2.

1. Remove the two pins for light source unit 1 and the pin for light source unit 2.

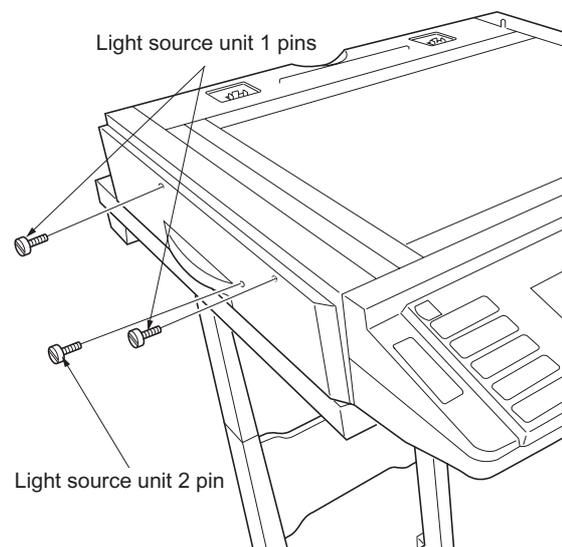
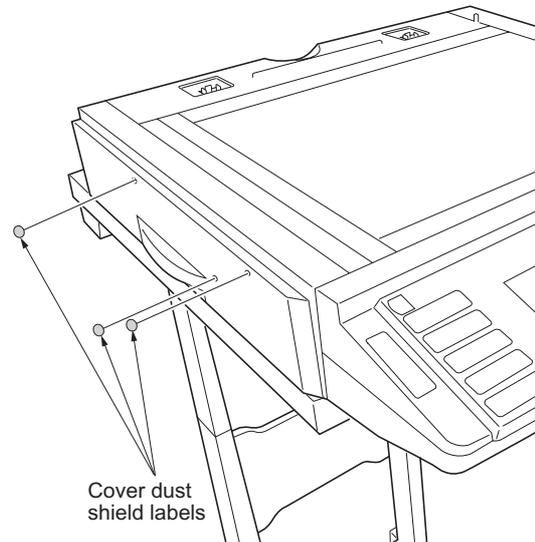


Figure 1-3-23

### Attaching the cover dust shield labels.

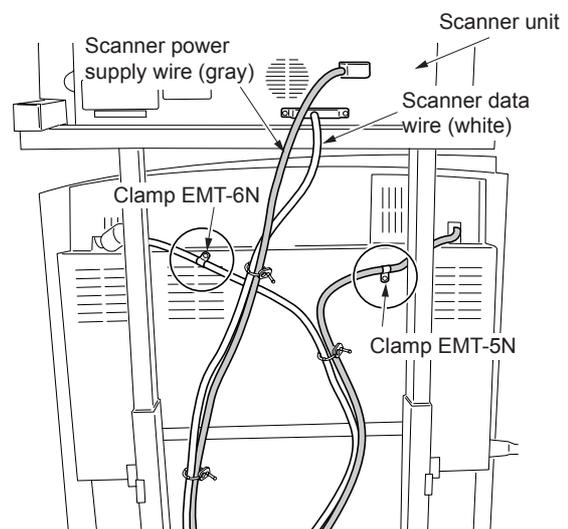
1. Attach the three cover dust shield labels to the holes which removed the two pins for light source unit 1 and the pin for light source unit 2.



**Figure 1-3-24**

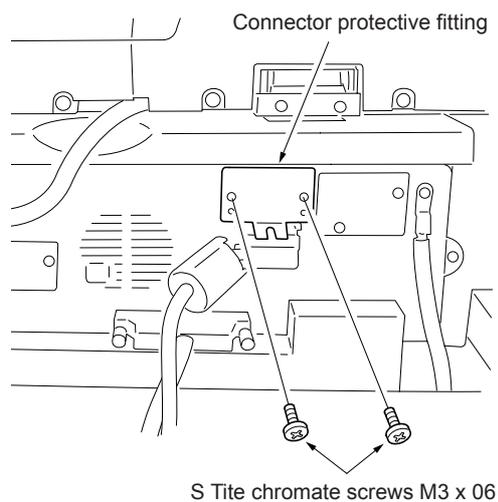
### Connecting the cables.

1. Connect the scanner power supply wire (gray) and the scanner data wire (white) from the machine to the scanner unit by passing the wires outside the scanner rack.
2. Pass the scanner power supply wire (gray) and the scanner data wire (white) through the clamp EMT-5N and the clamp EMT-6N and tighten the clamps with a screw at the locations of the rear cover indicated in the illustration.



**Figure 1-3-25**

3. While positioning the projection of the connector protective fitting, attach it with the two S Tite chromate screws M3 x 06.



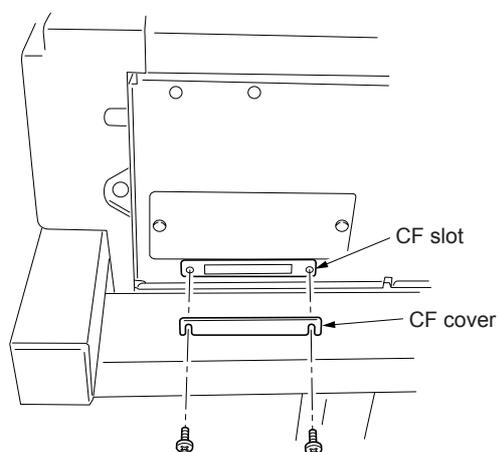
**Figure 1-3-26**

#### Connecting the power cord.

1. Connect the power cord to the machine.  
Connect the power plug to the wall outlet.
2. Turn on the power switch.

#### Installing the CF cover.

1. After upgrading a firmware if needed, loosen the two screws of CF slot, and install the CF cover tighten with the CF slot.



**Figure 1-3-27**

Adjusting the image.

1. Enter "034" using the numeric keys and press the start key. Firstly, perform the adjusting the leading edge registration of image printing. Press "ADJ. READ EDGE TIMING" on the touch panel. Select "Cassette" and press the interrupt key. Set A3/11" x 17" paper in the cassette and press the start key to output a test pattern. Check the leading edge registration is correct and if it is, perform the same adjustment in case of paper is fed from the bypass tray.
2. *Perform the adjusting the center line. Press "ADJ. MIDDLE LINE TIMING" on the touch panel. Select "BLACK" and press the interrupt key. Press the start key to output a test pattern. Check the center line is correct and if it is not, change the value of BLACK (see page 1-6-13).  
If it is, output a test pattern is fed from the cassette. Check the center line is correct and if it is not, loosen the three screws and adjust the position of the paper guide.*
3. Use the numeric keys to enter "089" and run "MIP-PG check" to output the test pattern. Select "GRAY" on the touch panel and press the Interrupt key. Set A3/11" x 17" paper in the cassette and press the start key to output the test pattern including gray images.
4. If horizontal white stripes are found on the gray images described above in the paper conveying direction of approximately 20 mm width, carry out drum refresh. If horizontal white stripes are not found, proceed to automatic halftone adjustment.
5. Carry out drum refresh.  
Use the numeric keys to enter "001" and press the start key to change the mode from the maintenance mode to the normal mode.  
Press the "Initialize" key and select "User Adjustment". Use the touch panel to select "Drum Refresh" and press the "On" key on the touch panel to carry out drum refresh.  
After drum refresh is complete, carry out again gray image output in step 3 and horizontal white stripe image check in step 4. If any problem is found, carry out drum refresh again (steps 3 to 5). If no problem is found, proceed to automatic halftone adjustment.
6. *Enter "410" using the numeric keys and press the start key to perform the adjusting the halftone automatically.  
Press "ENGINE ADJUSTMENT" on the touch panel. Select "DENSITY ADJUSTMENT" to perform automatic correction.  
Select "COLOR REGIST ADJUSTMENT" to perform the color registration correction.*
7. *Carry out color registration  
Use the numeric keys to enter "001" and press the start key to change the mode from the maintenance mode to the normal mode.  
Press the "Initialize" key and select "User Adjustment". Use the touch panel to select "Color Regist." ["Colour Regist. "] and enter the management code. Press the "PRT Chart" key on the touch panel to output the chart. Check the chart and correct the printing position of each color (cyan, magenta, yellow). See page 1-4-8.*
8. *Make a test copy and proceed to step 9 when the color tone of the original and the copied image differs.*
9. *Enter "410" using the numeric keys and press the start key to perform the adjusting the halftone automatically.  
Set A4/11" x 8 1/2" paper in the cassette. Press "ENGINE ADJUSTMENT" on the touch panel. Select "CONTINUATION ADJUST" to output a test pattern. Place the output test pattern as the original and press the start key.  
Select "RETRY" at first and second times.*
10. *Select "END" to set the data at third time.*
11. *Enter "001" using the numeric keys to exit the maintenance mode.*  
\* If "blurred image" occurs in test copying when adjusting images, carry out drum refresh.

Completion of the machine installation.

### 1-3-2 Setting initial copy modes

Factory settings are as follows:

Maintenance item No.	Contents	Factory setting
U253	Switching between double and single counts	Double count for A3/11" x 17" paper only
U254	Turning auto start function on/off	ON
U255	Setting auto clear time	90s
U260	Selecting the timing for copy counting	After ejection
U263	Setting the paper ejection when copying from the DP	Normal
U264	Setting the display order of the date	Month/Day/Year (inch) Day/Month/Year (metric)
U276	Setting the copy count mode	2 count rate
U277	Setting auto application change time	30s
U326	Setting the black line cleaning indication	ON
U330	Setting the number of copies to be handled by the stacking mode during sorting	100
U343	Switching between duplex/simplex copy mode	OFF

### 1-3-3 Installing the key counter (option)

Key counter installation requires the following parts:

- Key counter cover (P/N 2A360010)
- Key counter retainer (P/N 66060030)
- Key counter cover retainer (P/N 2BG60120)
- Key counter mount (P/N 66060040)
- Key counter assembly (P/N 41529210)
- Three (3) M4 x 6 bronze TP-A screws (P/N B4304060)
- One (1) M3 x 6 bronze flat-head screw (P/N B2303060)
- One (1) M4 x 6 tap-tight S binding screw (P/N B1A54060)
- One (1) M4 x 10 tap-tight S binding screw (P/N B1A54100)
- One (1) M3 bronze nut (P/N C2303000)

The following parts are also required when the scanner rack is not used.

- Four (4) rubber bases (P/N 66102140)
- Four (4) M4 x 14 tap-tight S binding screws (P/N B3024140)

#### Note

Before installation, be sure to fit four rubber bases to the lower part of the scanner unit with one tap-tite S binding screw M4 x 14 for each when the scanner rack is not used.

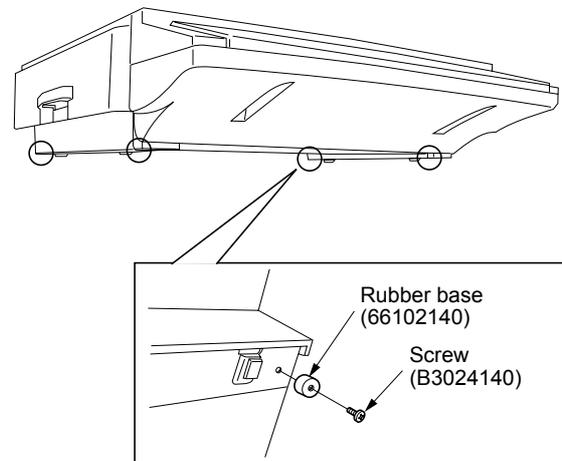


Figure 1-3-28

#### Procedure

1. Fit the key counter socket assembly to the key counter retainer using the two screws and nut.
2. Fit the key counter mount to the key counter cover using the two screws, and attach the key counter retainer to the mount using the two screws.

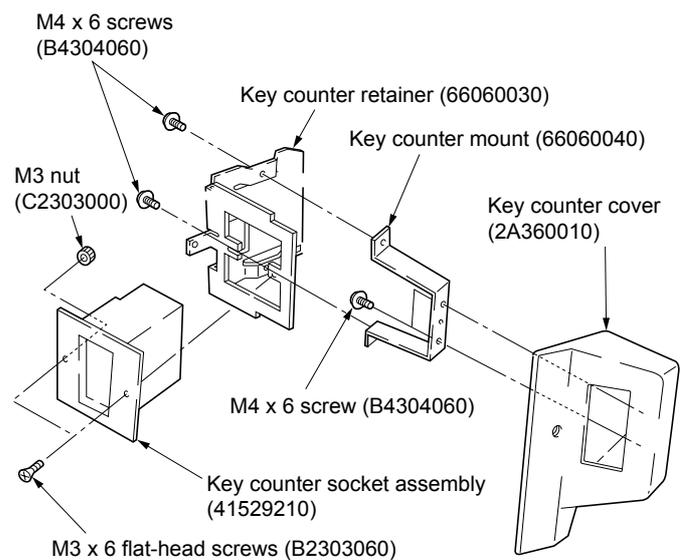


Figure 1-3-29

3. Cut out the aperture plate on the upper right cover using nippers.
4. Seat the projection of the key counter cover retainer on the right ISU assembly inside the aperture in the upper right cover, and fasten it to the copier using a screw.
- \* Fasten the key counter cover retainer so that it is positioned near the front side.

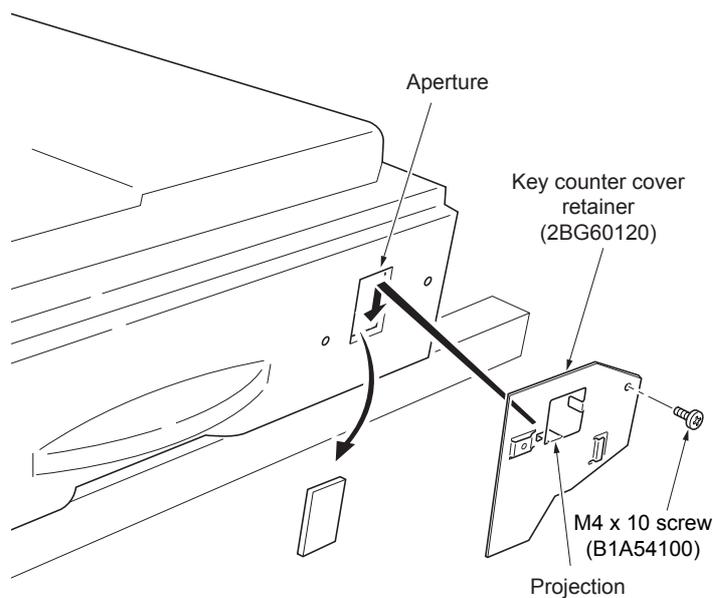


Figure 1-3-30

5. Connect the connector of the key counter to the connector pulled out from inside the machine.
6. Fit the key counter cover with the key counter socket assembly inserted to the key counter cover retainer on the copier using the screw.

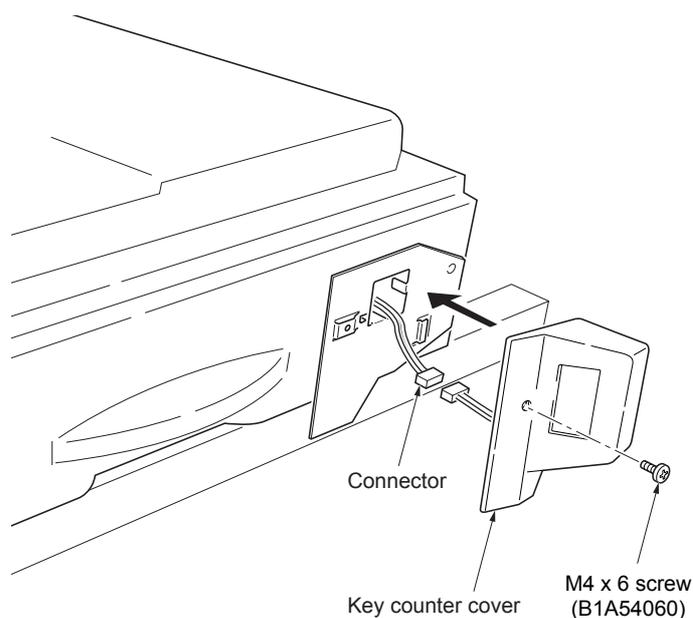


Figure 1-3-31

7. Insert the key counter into the key counter socket assembly.
8. Turn the power switch on and enter the maintenance mode.
9. Run maintenance item U204 and select "KEY-COUNTER".
10. Exit the maintenance mode.

2BG

11. Check that the message requesting the key counter to be inserted is displayed on the message display when the key counter is pulled out.
12. Check that the counter counts up as copies are made.



### 1-3-4 Installing the dehumidifier heater (optional)

Dehumidifier heater installation requires the following parts:

Dehumidifier heater (P/N 2BG28740): for 120 V specifications

Dehumidifier heater (P/N 2BG28750): for 220 - 240 V specifications

Two (2) binding screws [bind tap tight-S M3 x 6 trivalent chromate] (P/N B1A53060A)

#### Procedure

1. Remove the cassette (or duplex unit).
2. Remove the paper feed unit [transfer unit] (See page 1-6-37).
3. Remove the rear cover (See page 1-6-6).
4. Attach the dehumidifier heater by using the two screws.
5. Insert the connector of the dehumidifier heater to square hole.
6. Connect the connector and connector for power supply.

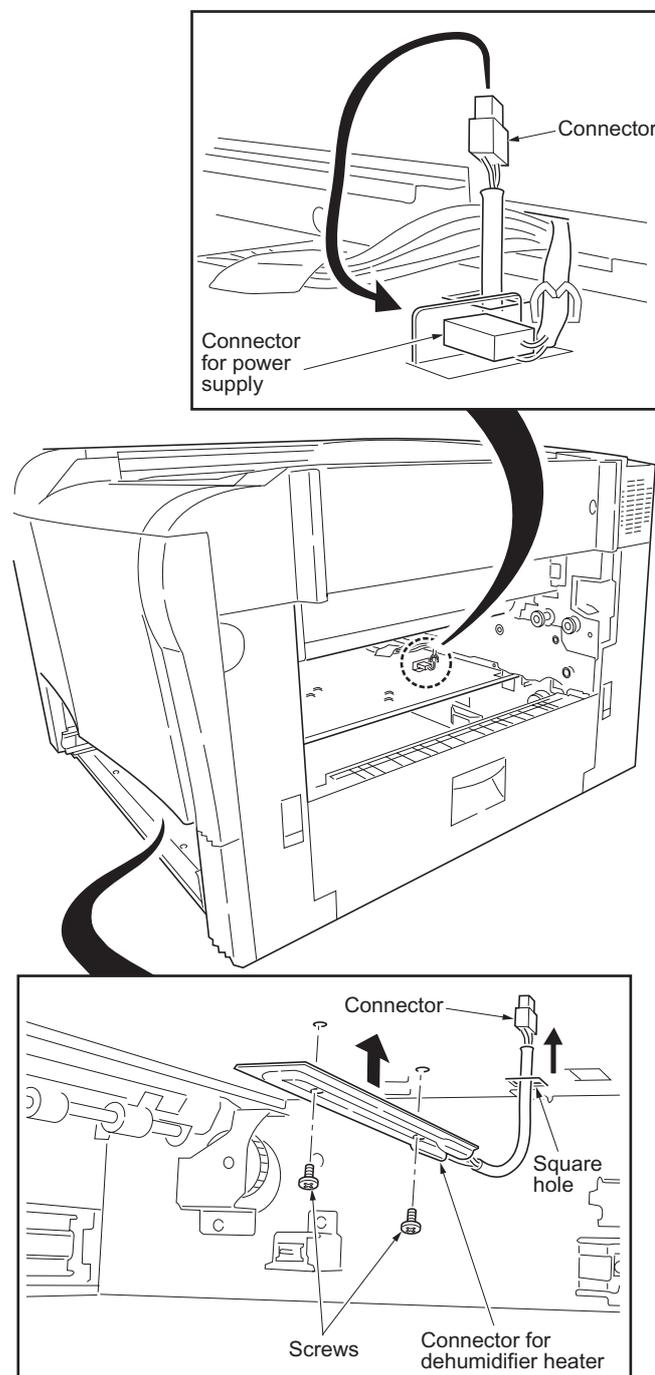
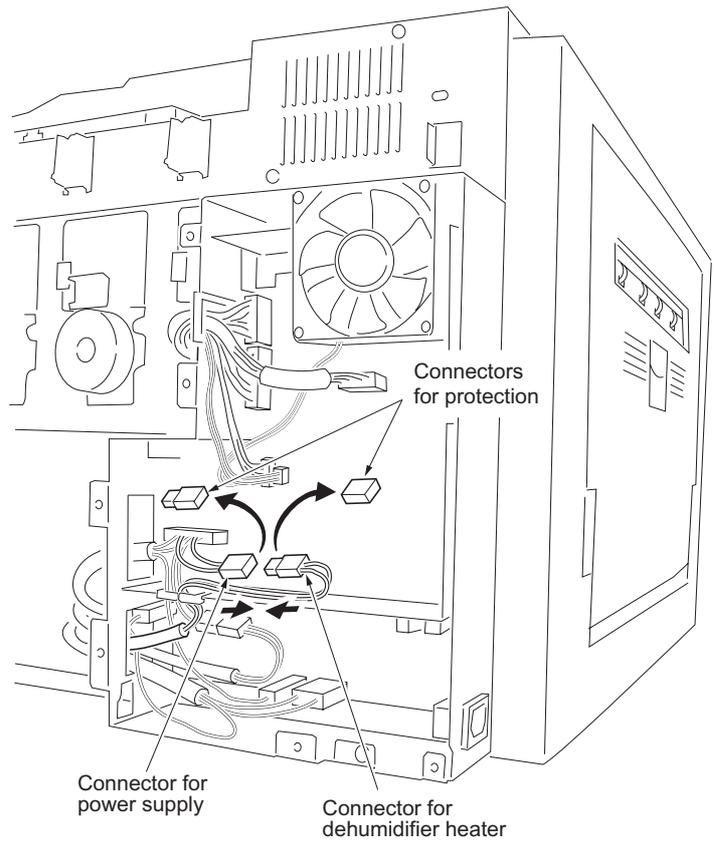


Figure 1-3-32

7. Remove the connectors for protection from the connectors for power supply and dehumidifier heater.
8. Connect the connector for power supply and connector for dehumidifier heater.
9. Refit all the removed parts.



**Figure 1-3-33**

### 1-3-5 Installing the 500-sheet paper feeder (option)

Be sure to perform the following procedure before installing the paper feeder.

1. Stand the paper feeder on end with its front side facing upward.
2. Remove the tape and then the spacer.
3. Set the paper feeder down horizontally.
4. Remove the tape and then pull out the cassette.
5. Remove the cassette from its rails.

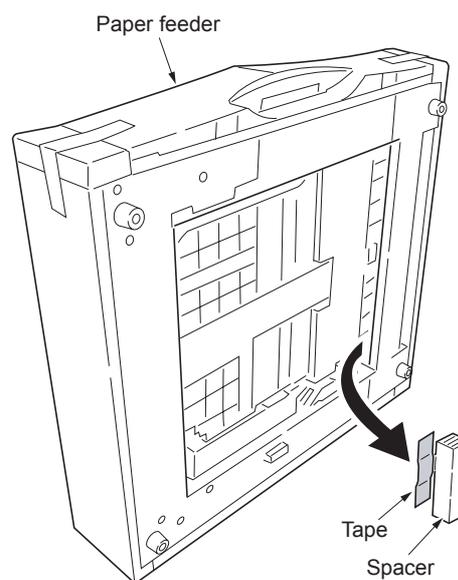


Figure 1-3-34

6. Remove the tape and then the spacer.
7. Remove the tape and then the spacer.
8. Remove the tape.
9. Remove the spacer.
10. Remove the tape.
11. Set the cassette back on its rails.
12. Push the cassette back in.

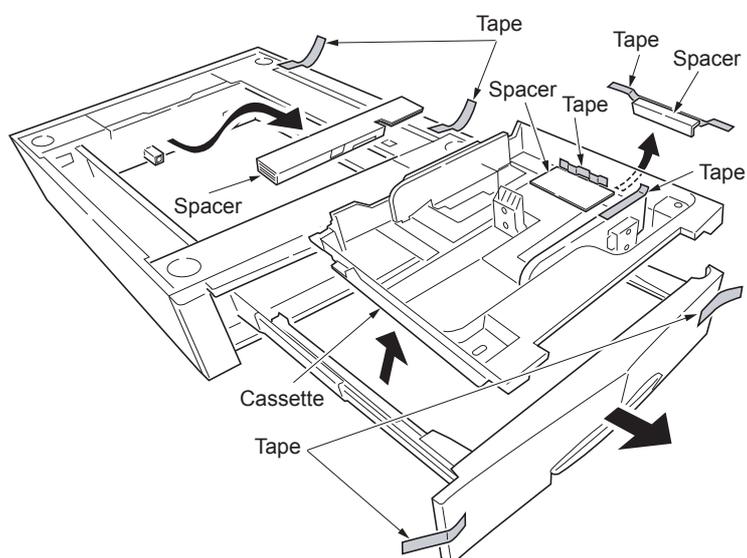
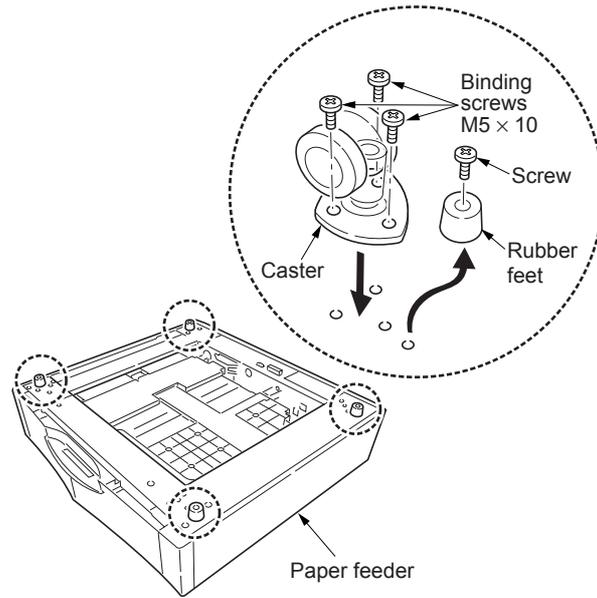


Figure 1-3-35

**Only if an optional caster kit is installed**

1. Place the paper feeder bottom up.
2. Remove the four rubber feet by removing a screw respectively.
3. Fit the four casters using three binding screws M5 x 10 respectively.

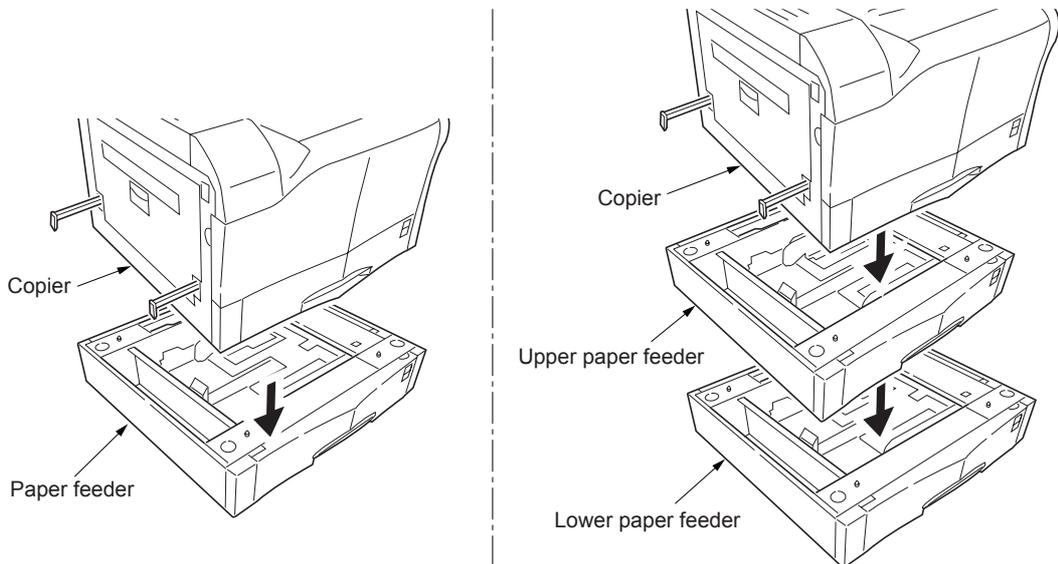


**Figure 1-3-36**

**Procedure**

Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the paper feeder.

1. Place the copier on the paper feeder.
  - \* When installing two paper feeders, place an upper paper feeder on the other lower paper feeder in advance.



**Figure 1-3-37**

2. Remove the two screws and remove the rear cover of the upper paper feeder.
- \* When installing two paper feeders, remove the screws and remove also the rear cover of the lower paper feeder.

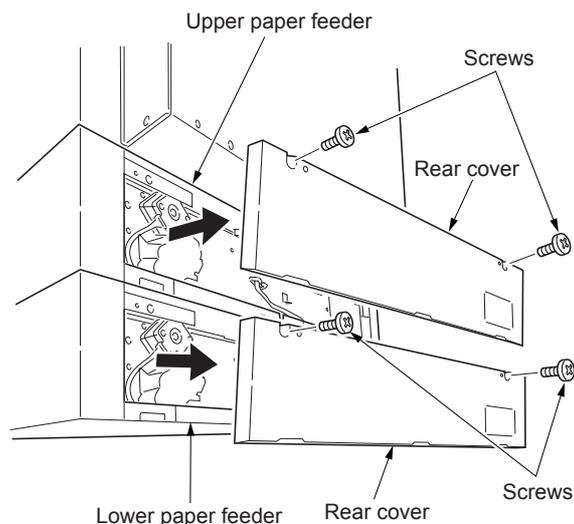


Figure 1-3-38

3. Remove the cap from the connector of the copier.
4. Connect the connector of the upper paper feeder to the connector of the copier.
5. Attach the cap to the connector of the lower-most paper feeder.
- \* When installing two paper feeders, connect also the connector of the lower paper feeder to the connector of the upper paper feeder.

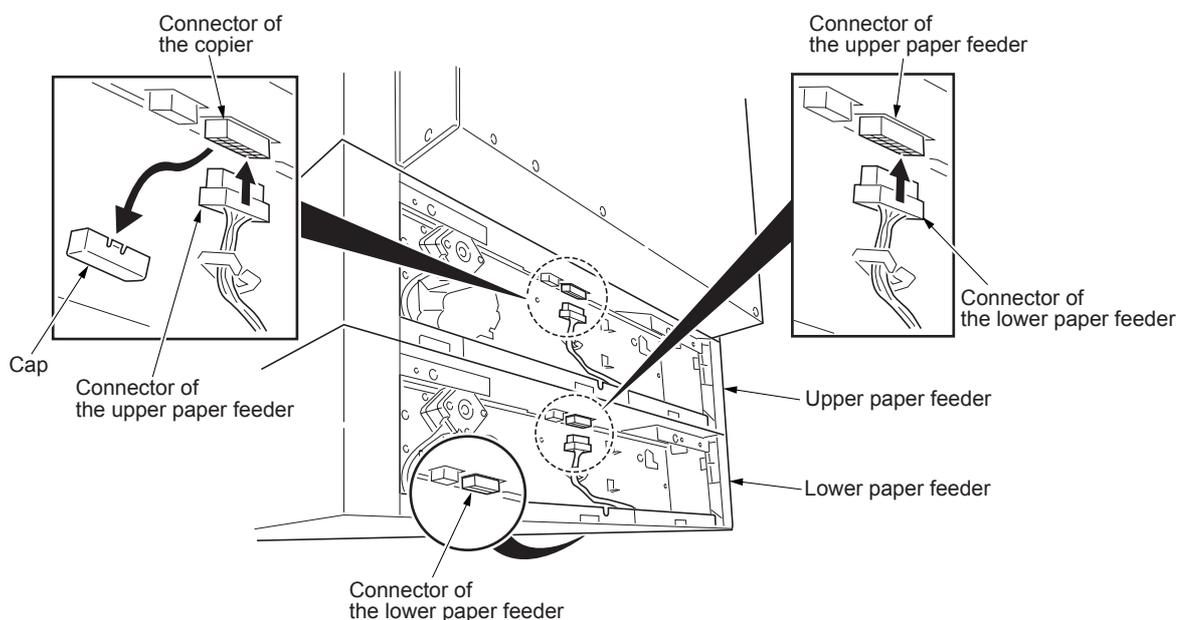


Figure 1-3-39

6. Reattach the rear cover to its original position.
7. Insert the paper size plate into the cassette cover.
8. Attach or reattach the number plates to the cassette cover in the proper order of numbers.

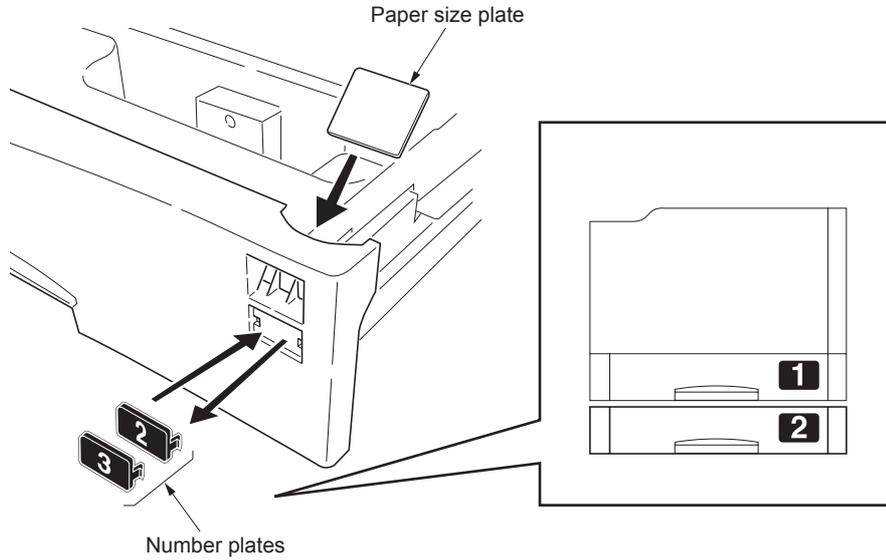


Figure 1-3-40

**Adjusting the center line**

1. Connect the copier power plug to the wall outlet and turn the copier power switch on.
2. Load the paper into the cassette and make a test copy to check the operation.
3. Run maintenance item U034. Select "ADJUST MIDDLE TIMING" and output a test pattern.
4. Check if the center line of the paper and that of the test pattern output are aligned. If not, perform the following adjustment.

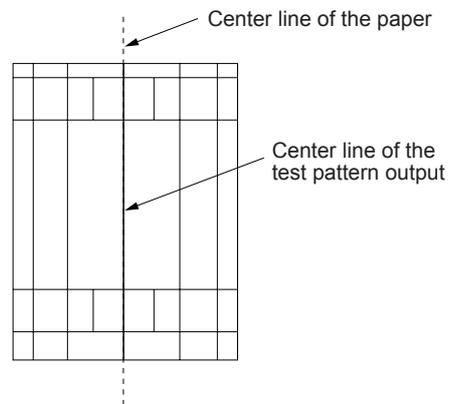


Figure 1-3-41

5. Open the cassette of the paper feeder and loosen the three screws securing the paper guide.
6. If the test pattern output example looks like (a), move the paper guide in the direction of the white arrow ( $\Rightarrow$ ) and retighten the screws.  
If the test pattern output example looks like (b), move the paper guide in the direction of the black arrow ( $\Rightarrow$ ) and retighten the screws.
7. Output the test pattern again.
8. Repeat steps 5 to 7 until the centers of the paper and the test pattern are aligned.

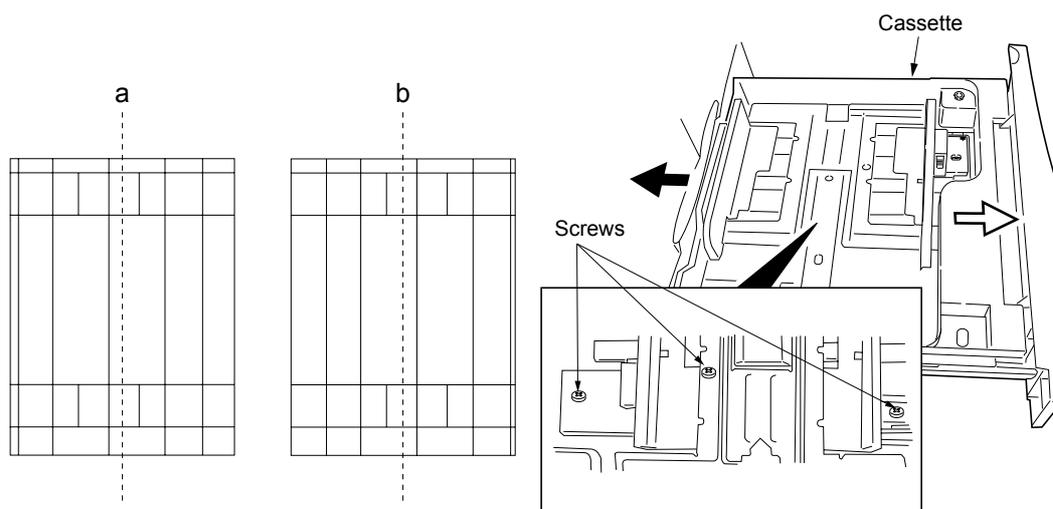


Figure 1-3-42

**Attention**

Head tapping screws to use the screws for preventing paper guide setting errors are included in a plastic bag in the cassette.

Use the screws to fix the paper guide after the customer approves the paper size.

Inform the customer that the paper size cannot be changed after this procedure.

1. There are holes for setting each paper size. Tighten the screws in the holes indicated by the arrows in the illustration.

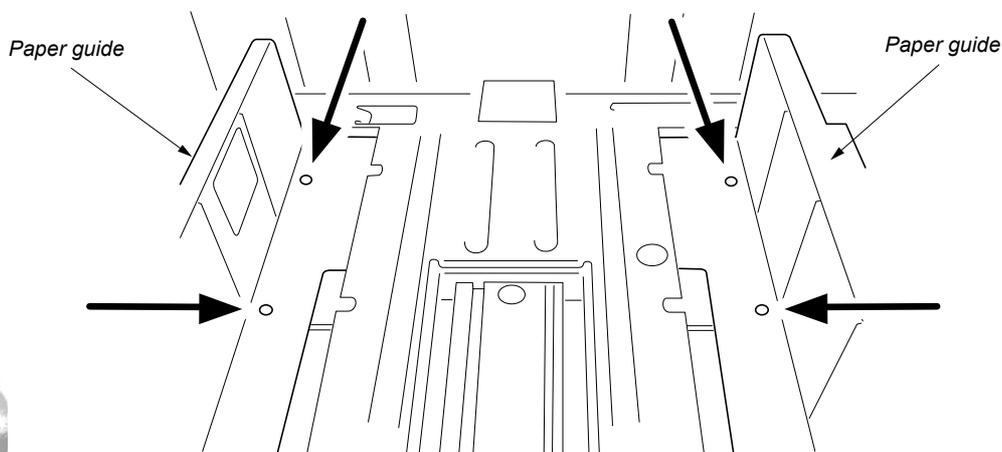


Figure 1-3-43

### 1-3-6 Installing the 1500-sheet paper feeder (option)

#### Procedure

Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the paper feeder.

1. Place the copier on the paper feeder.

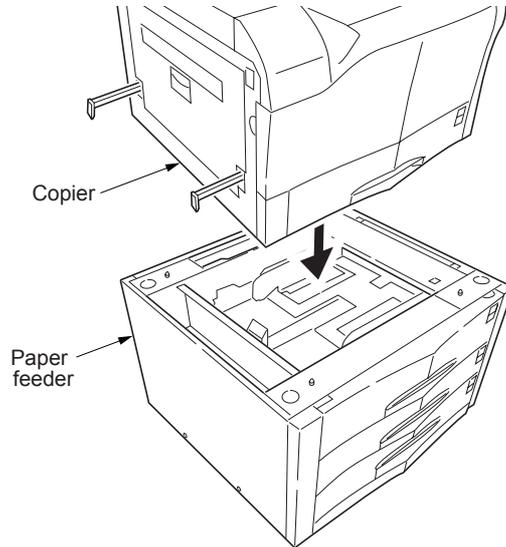


Figure 1-3-44

2. Remove the screw and remove the rear connector cover.
3. Remove the cap from the connector of the copier.
4. Connect the connector of the paper feeder to the connector of the copier.

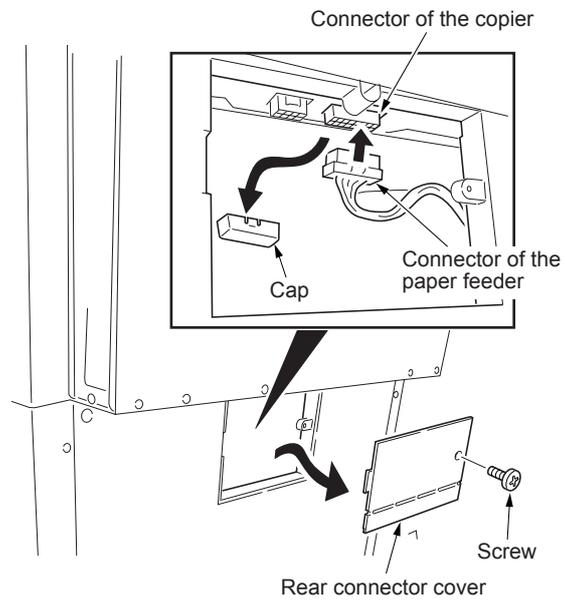


Figure 1-3-45

5. Reattach the rear connector cover to its original position.
6. Insert a paper size plate into each cassette cover.
7. Attach or reattach the number plates to the cassette cover in the proper order of numbers.

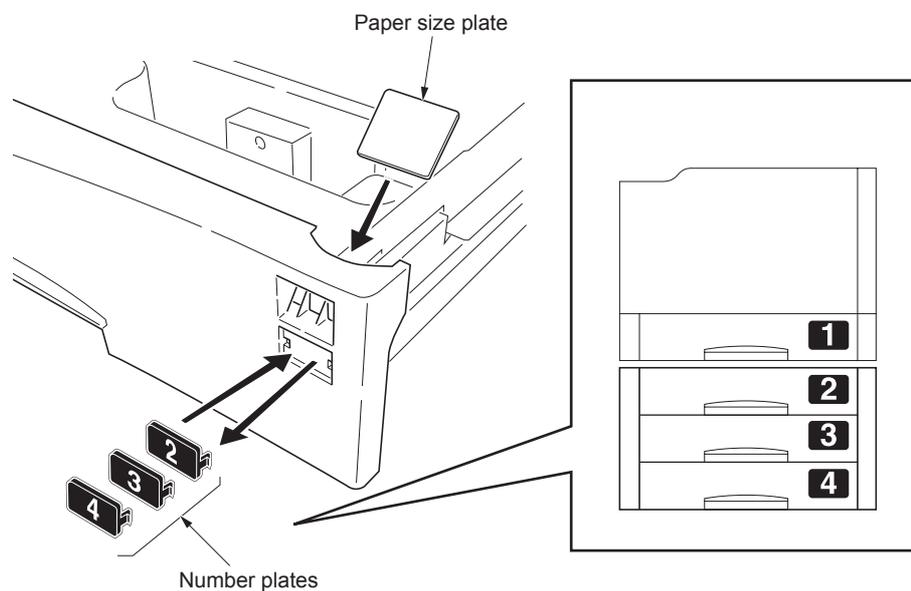


Figure 1-3-46

#### Adjusting the center line

1. Connect the copier power plug to the wall outlet and turn the copier power switch on.
2. Load the paper into the cassette and make a test copy to check the operation.
3. Run maintenance item U034. Select "ADJUST MIDDLE TIMING" and output a test pattern.
4. Check if the center line of the paper and that of the test pattern output are aligned. If not, perform the following adjustment.

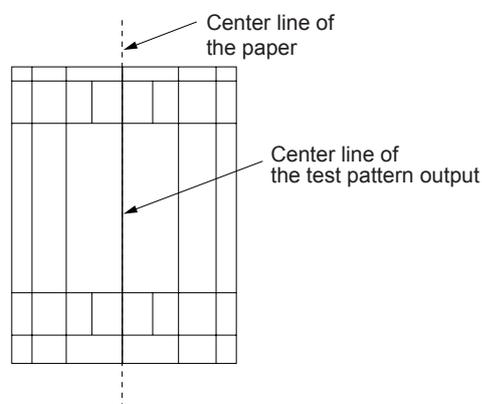


Figure 1-3-47

5. Open the cassette of the paper feeder and loosen the three screws securing the paper guide.
6. If the test pattern output example looks like (a), move the paper guide in the direction of the white arrow (⇒) and retighten the screws.  
If the test pattern output example looks like (b), move the paper guide in the direction of the black arrow (⇨) and retighten the screws.
7. Output the test pattern again.
8. Repeat steps 5 to 7 until the centers of the paper and the test pattern are aligned.

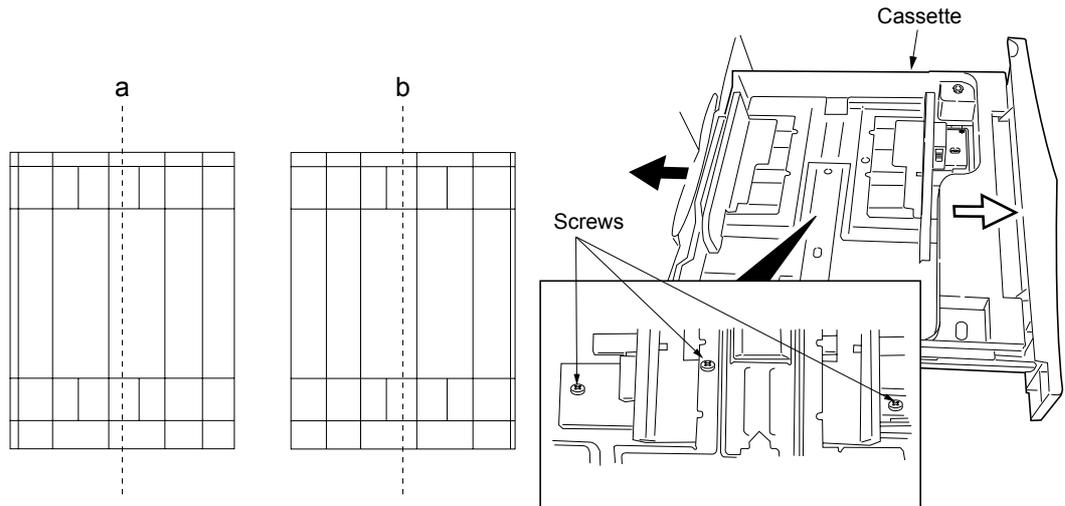


Figure 1-3-48

**Attention**

Head tapping screws to use the screws for preventing paper guide setting errors are included in a plastic bag in the cassette.

Use the screws to fix the paper guide after the customer approves the paper size.

Inform the customer that the paper size cannot be changed after this procedure.

Use four Head tapping screws for each cassette.

1. There are holes for setting each paper size. Tighten the screws in the holes indicated by the arrows in the illustration.

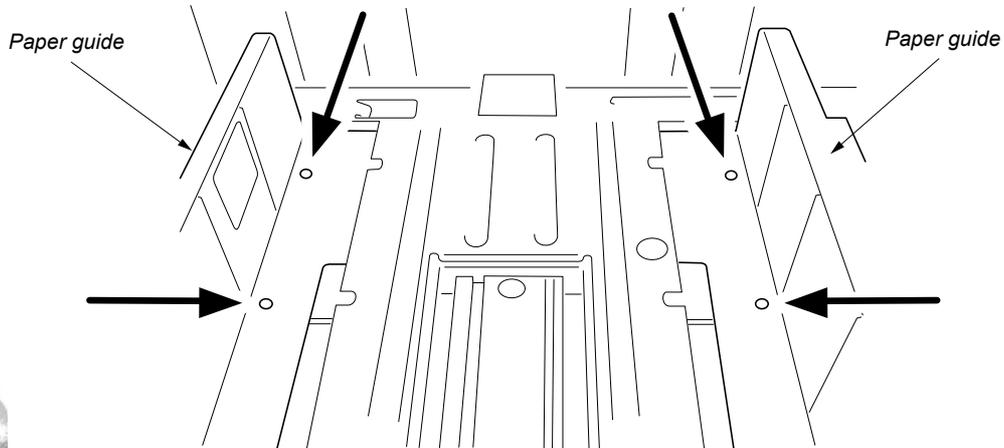


Figure 1-3-49

### 1-3-7 Installing the 3000-sheet paper feeder (option)

#### Procedure

Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the paper feeder.

1. Pull out the upper cassette.
2. Remove the tape and then remove the pin.
3. Remove and then discard the spacer.
4. Remove the two tapes.
5. Install the pin in the anchor hole.
6. Push the upper cassette back in.

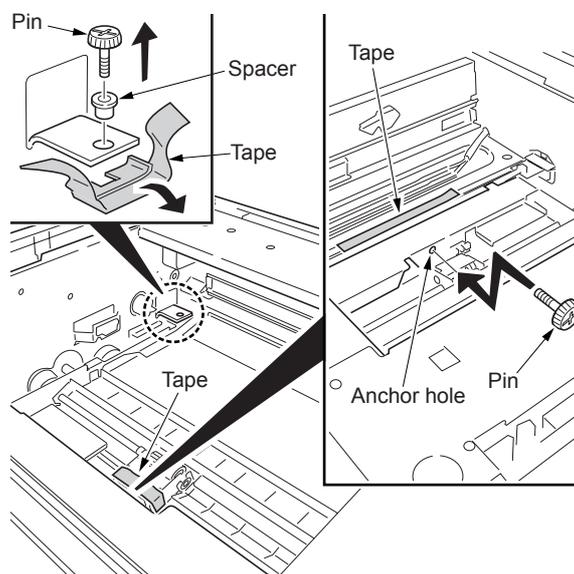


Figure 1-3-50

7. Place the copier on the paper feeder.

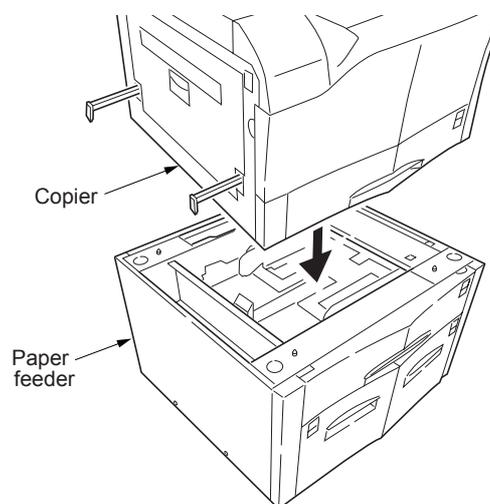


Figure 1-3-51

8. Remove the screw and remove the rear connector cover.
9. Remove the cap from the connector of the copier.
10. Connect the connector of the paper feeder to the connector of the copier.

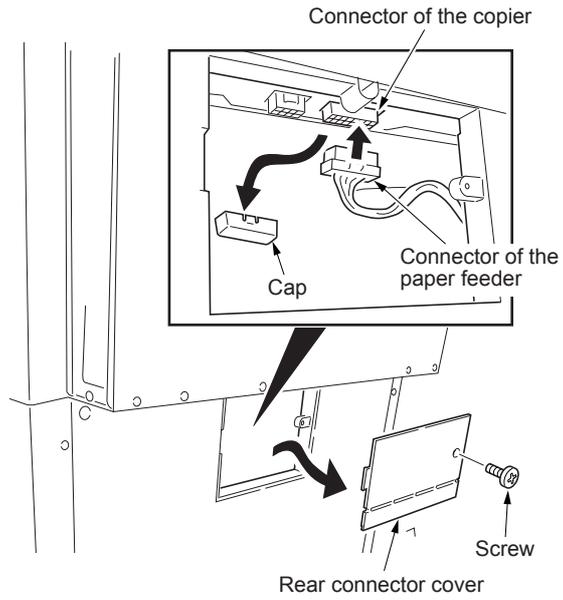


Figure 1-3-52

11. Reattach the rear connector cover to its original position.
12. Insert the paper size plates into the cassette cover and the deck covers.
13. Attach or reattach the number plates to the cassette cover in the proper order of numbers.

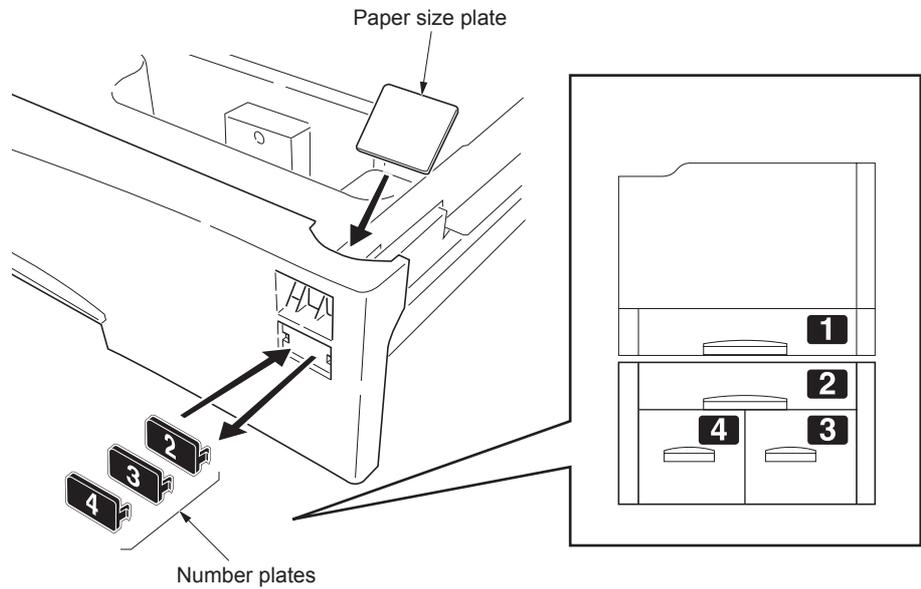
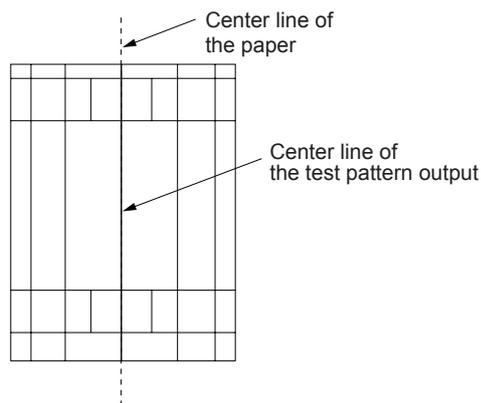


Figure 1-3-53

**Adjusting the center line**

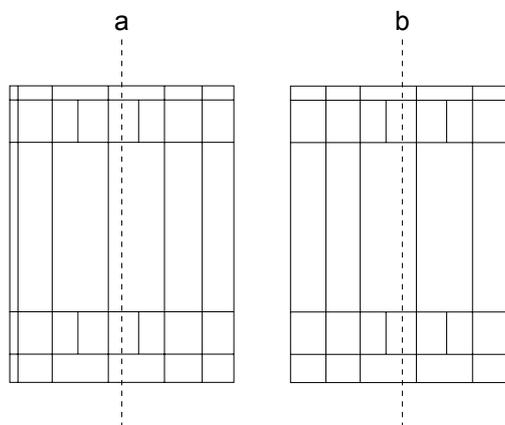
1. Connect the copier power plug to the wall outlet and turn the copier power switch on.
2. Load the paper into the cassette and make a test copy to check the operation.
3. Run maintenance item U034. Select "ADJUST MIDDLE TIMING" and output a test pattern.
4. Check if the center line of the paper and that of the test pattern output are aligned. If not, perform the following adjustment.



**Figure 1-3-54**

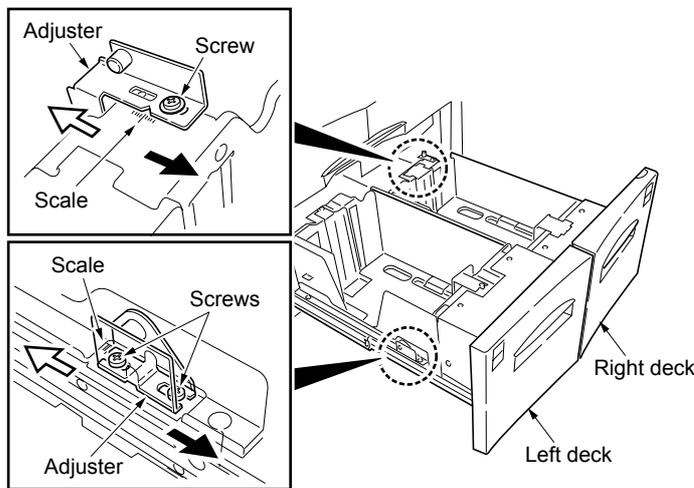
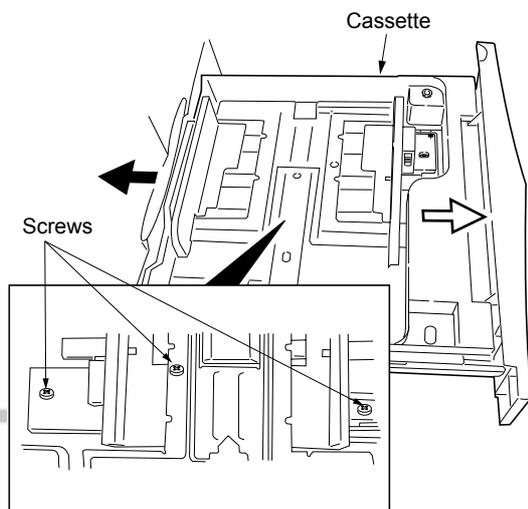
5. Adjust the cassette, left deck, and right deck separately.
  - \* *Cassette:* Pull out the cassette and loosen the three screws of the paper guide.
  - \* *Right deck:* Pull out the right deck and loosen the screw of the adjuster.
  - \* *Left deck:* Pull out the left deck and loosen the two screws of the adjuster.

6. *Cassette:* If the test pattern output example looks like (a), move the paper guide in the direction of the white arrow (⇨) and retighten the screws.  
 If the test pattern output example looks like (b), move the paper guide in the direction of the black arrow (⇨) and retighten the screws.



- Right deck/Left deck:* If the test pattern output example looks like (a), move the adjuster in the direction of the white arrow (⇨) referring to the scale and retighten the screws.  
 If the test pattern output example looks like (b), move the adjuster in the direction of the black arrow (⇨) referring to the scale and retighten the screws.

7. Output the test pattern again.



**Figure 1-3-55**

- Repeat steps 5 to 7 until the centers of the paper and the test pattern are aligned.

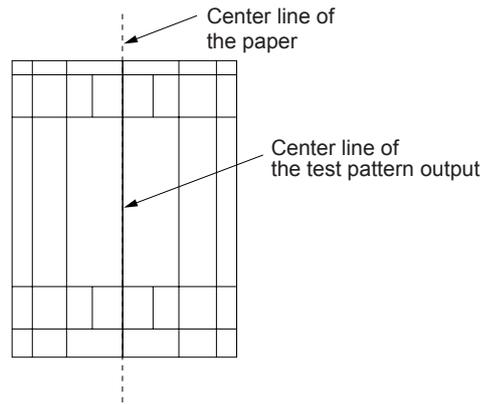


Figure 1-3-56

- If the right or the left deck is adjusted in step 5, perform the following procedure.
- Loosen the four screws of each deck cover, move the deck cover by the amount the same as the adjustment amount in step 6, and adjust the engagement with the copier to fix it.

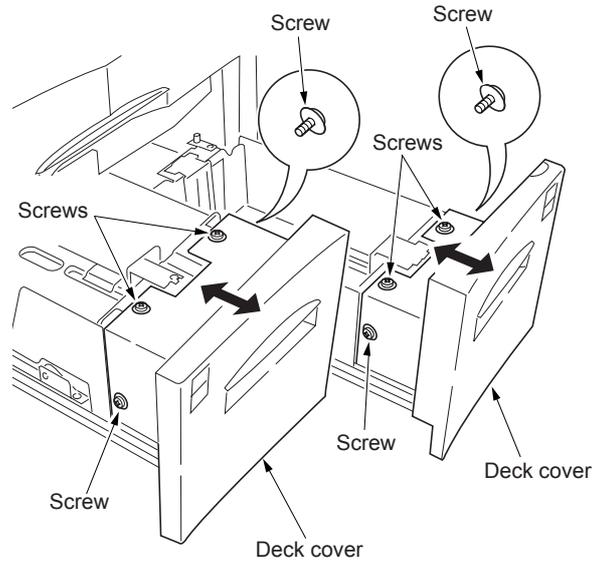


Figure 1-3-57

**Attention**

Head tapping screws to use the screws for preventing paper guide setting errors are included in a plastic bag in the upper cassette.

Use the screws to fix the paper guide after the customer approves the paper size.

Inform the customer that the paper size in the upper cassette cannot be changed after this procedure.

- There are holes for setting each paper size. Tighten the screws in the holes indicated by the arrows in the illustration.

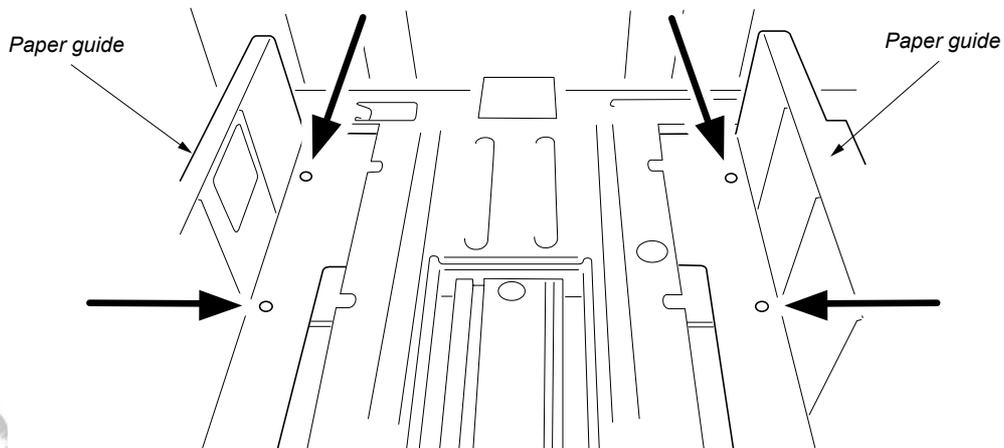


Figure 1-3-58

### 1-3-8 Installing the document finisher (option)

#### Procedure

1. Remove the screws and then remove the rubber feet from the finisher.

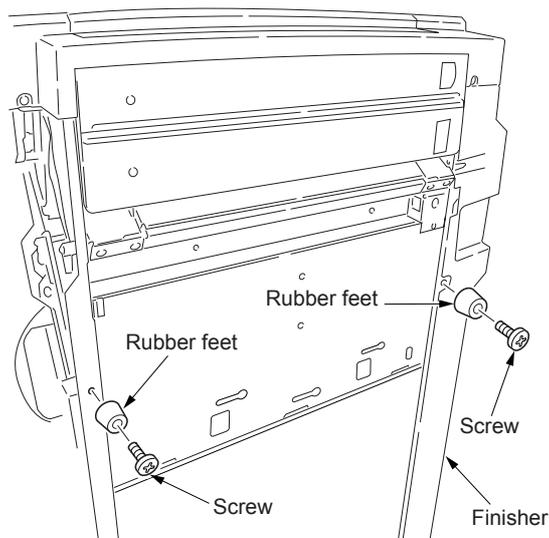


Figure 1-3-59

2. Attach the gasket to the assembly release plate at the location shown in the illustration.

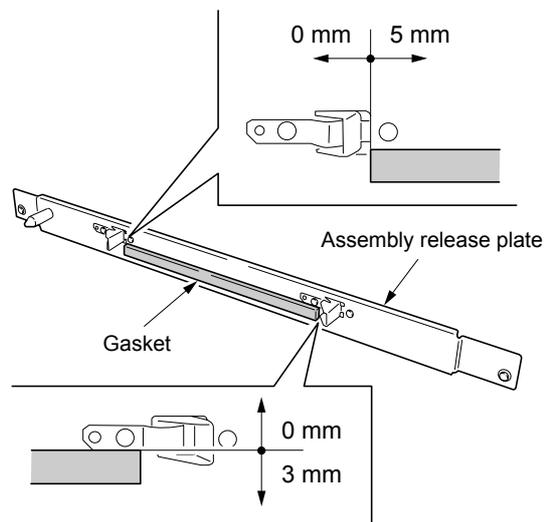


Figure 1-3-59-1

3. Use the two M3 x 5 TP screws to attach the two rubber feet that were removed in step 1 to the assembly release plate.

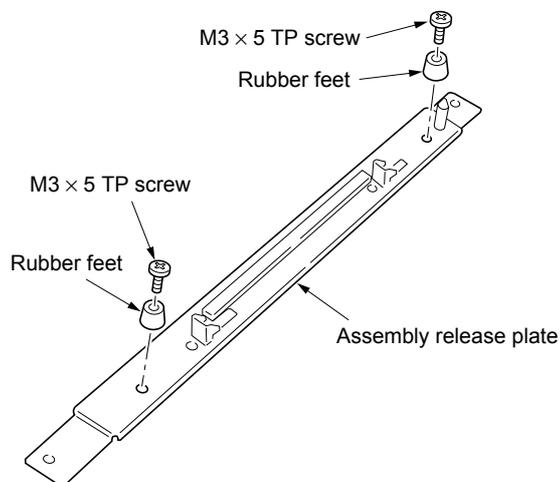


Figure 1-3-60

4. Make sure that the end of the assembly release plate that has the positioning pin is located towards the rear side of the copier or printer, and use the two M4 x 14 S-tight screws to attach the plate to the copier. Use two of the M4 x 8 P-tight screws to attach the safety switch trigger plate at its lowermost position.

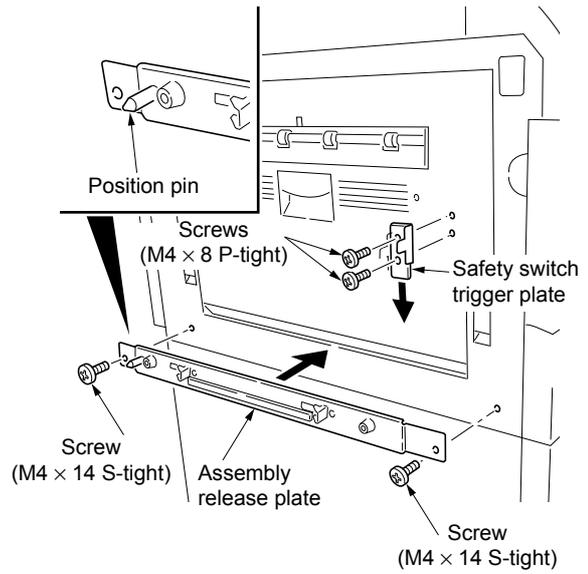


Figure 1-3-61

5. Attach a gasket to the assembly mounting plate at the location shown in the illustration. Use the two M4 x 20 TPS-tight screws to attach the assembly mounting plate at its lowermost position.

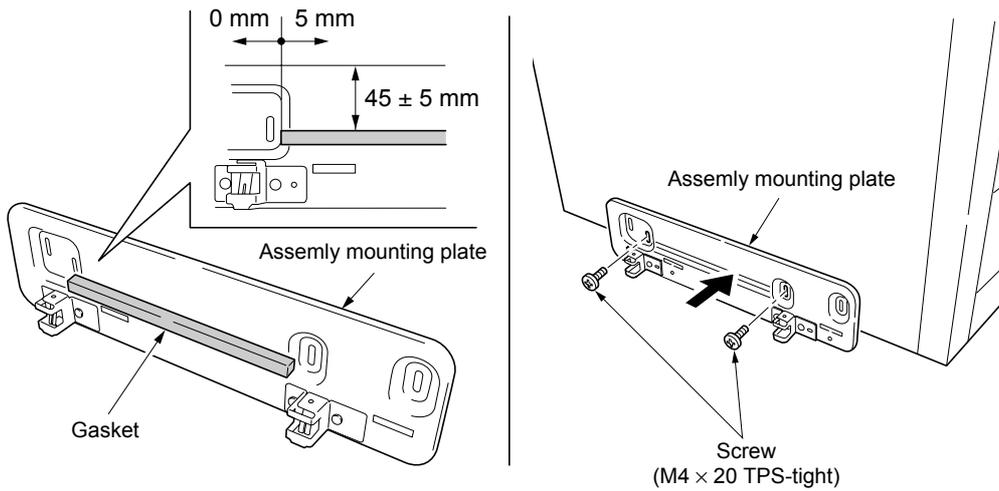


Figure 1-3-62

6. Attach the connecting sponge to the side plate of the finisher by aligning it to the lower end "a" of the narrow area and the front end "b" of the side plate.

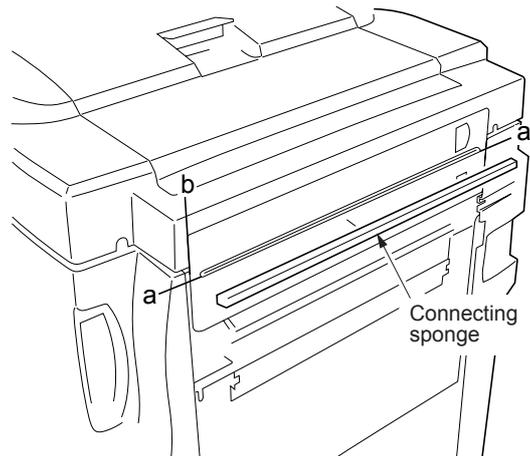


Figure 1-3-63

7. Remove the screw and then remove the release hook.
8. Remove the three pins and then remove the connecting rail.

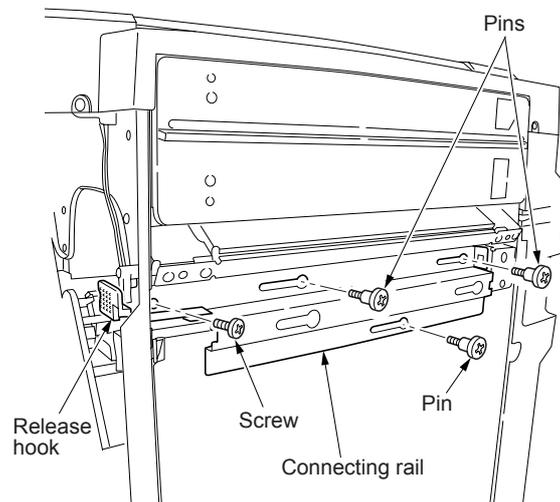


Figure 1-3-64

9. Remove the screw and then remove the gray handle of the release hook. Fit the green release hook handle with the removed screw.

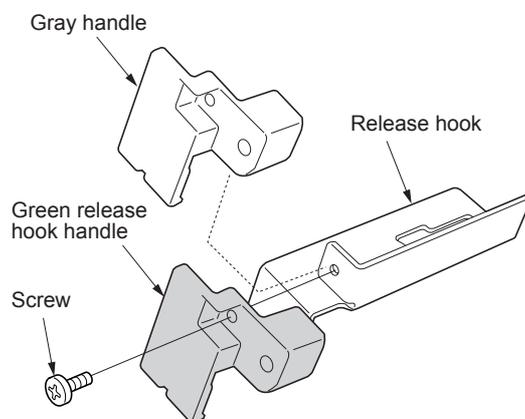
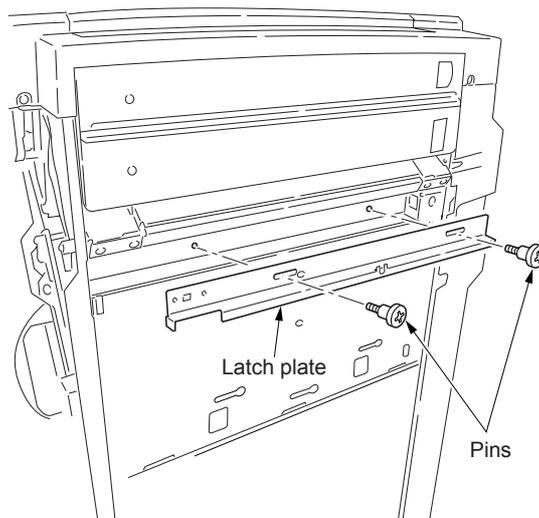


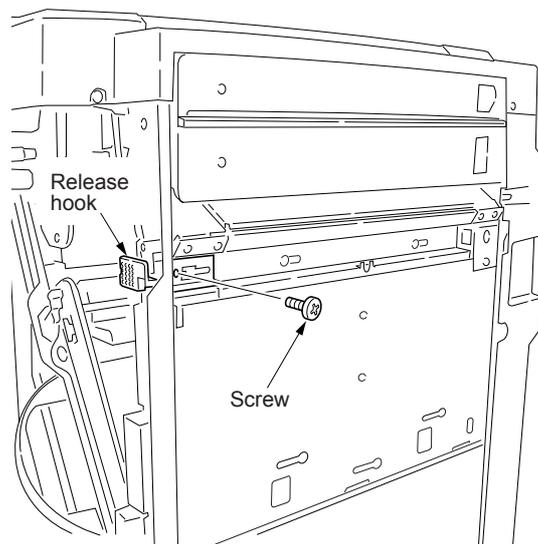
Figure 1-3-65

10. Fit the latch plate with the two pins that were removed in step 8.



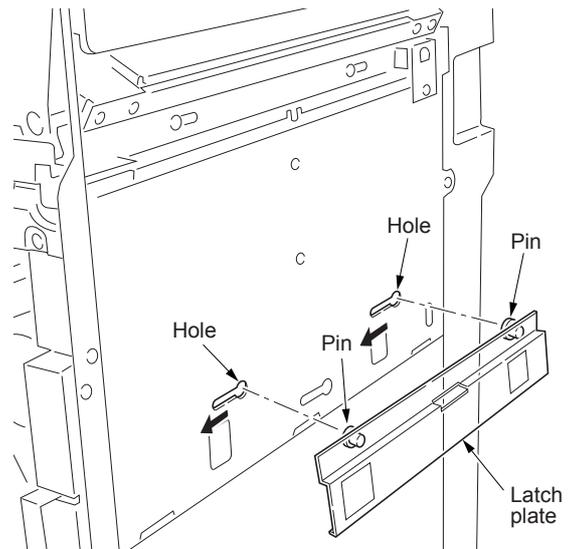
**Figure 1-3-66**

11. Fit the release hook with the screw that was removed in step 7.



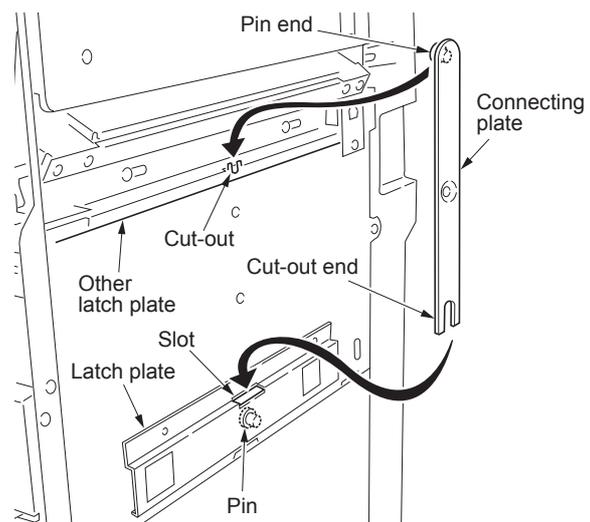
**Figure 1-3-67**

12. Fit the two pins of the latch plate into the two holes on the stay plate and slide the latch plate to the side in order to fix it in place.



**Figure 1-3-68**

13. Slip the cut-out end of the connecting plate down into the slot on the latch plate and then slide it around the pin that is on the inner side of the latch plate.
14. Fit the pin end of the connecting plate into the cut-out in the other latch plate.



**Figure 1-3-69**

- 15. Use one of the pins that were removed in step 8 to fix the connecting plate in place.
- 16. Pull out on the release hook handle and confirm that the latch plate operates smoothly.

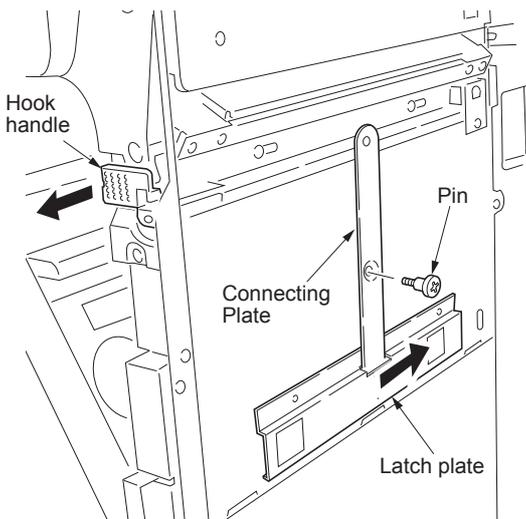


Figure 1-3-70

- 17. Open the front cover.
- 18. Remove the four blue screws locking each of the two separate retainers to the intermediate tray and detach both retainers.

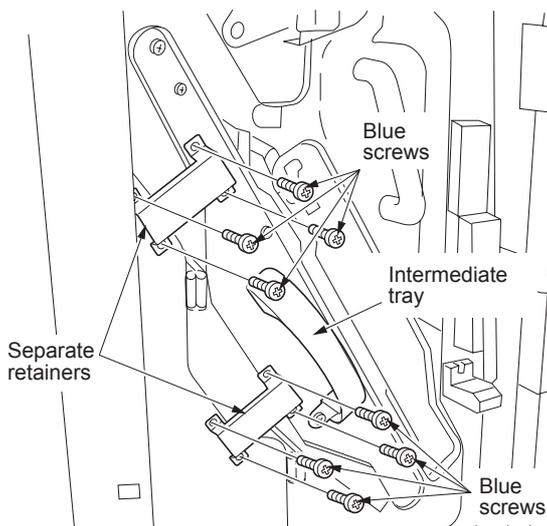
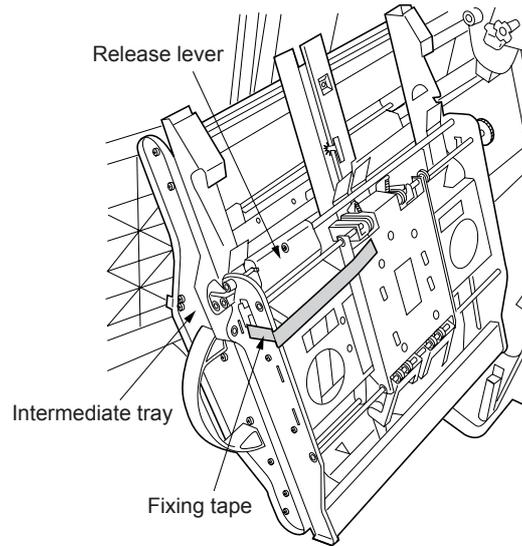


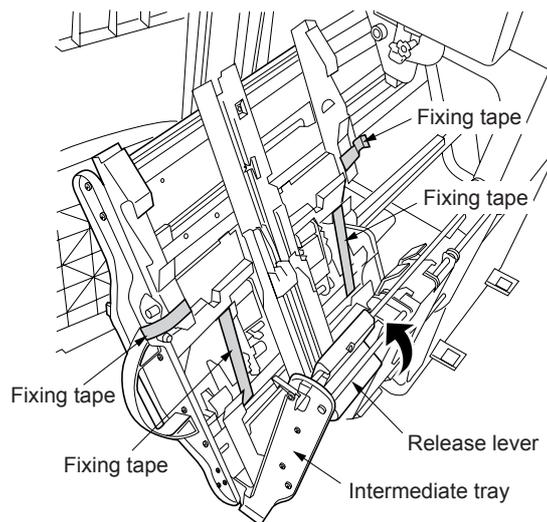
Figure 1-3-71

19. Pull out the intermediate tray.
20. Remove the strip of fixing tape from the release lever.



**Figure 1-3-72**

21. Raise the release lever to open the intermediate tray, and then remove the four strips of fixing tape.



**Figure 1-3-73**

22. Insert a stapler cartridge into each of the staplers of the intermediate tray. Press on the cartridges until they are securely locked.

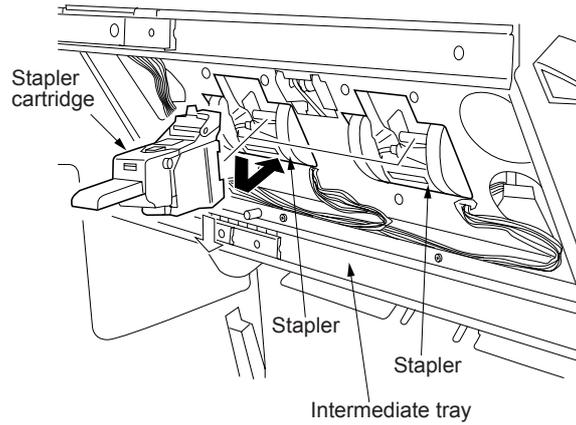


Figure 1-3-74

23. Push the release lever to close the intermediate tray and insert it into its original position.
24. Fit the main tray with two hexagonal nuts.
25. Secure the main tray with two pins.
26. Attach the sub tray to the finisher by inserting the projections at the front and back of the sub tray into the holes of the finisher.
27. Attach label A to the recessed portion on the side of the main tray.
28. Attach label B to the recessed portion on the side of the sub tray.

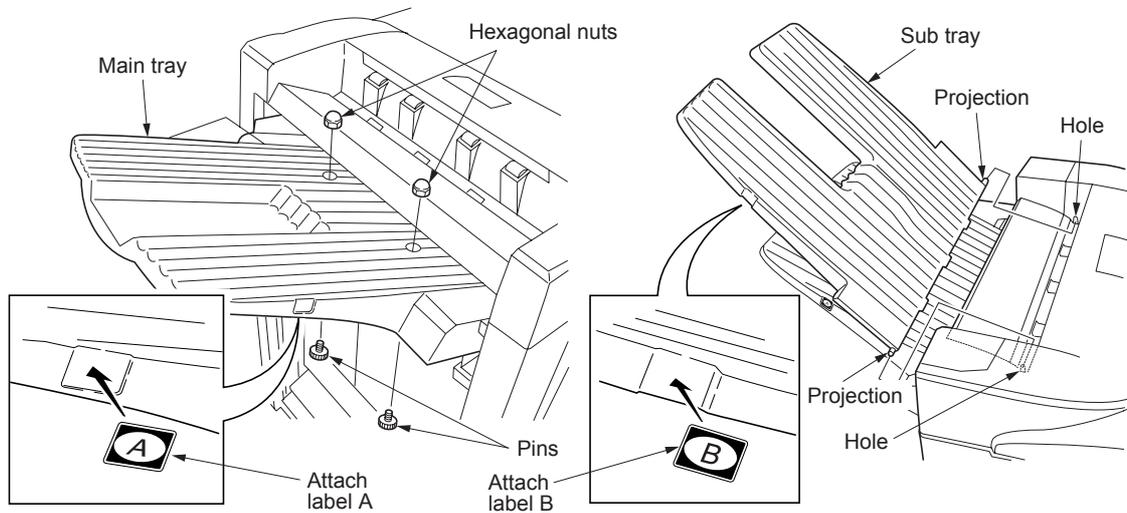
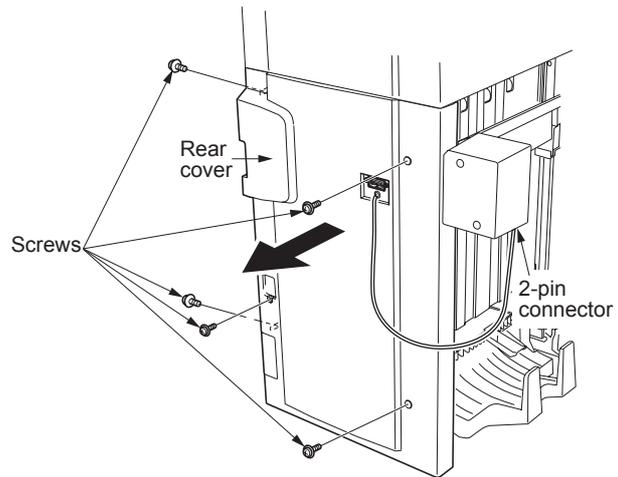


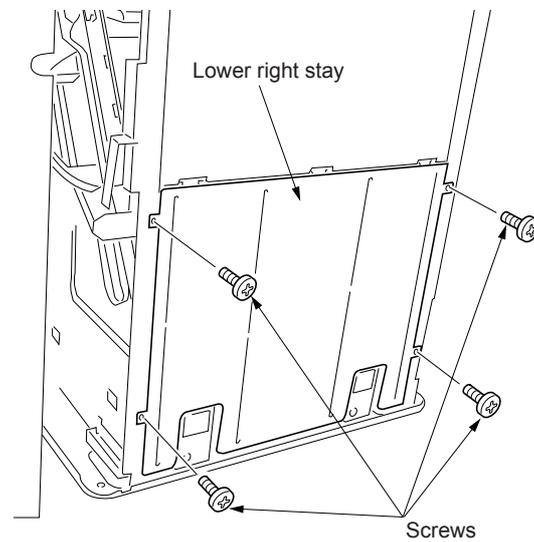
Figure 1-3-75

29. Remove the 2-pin connector from the main tray unit and then remove the five screws to remove the rear cover.



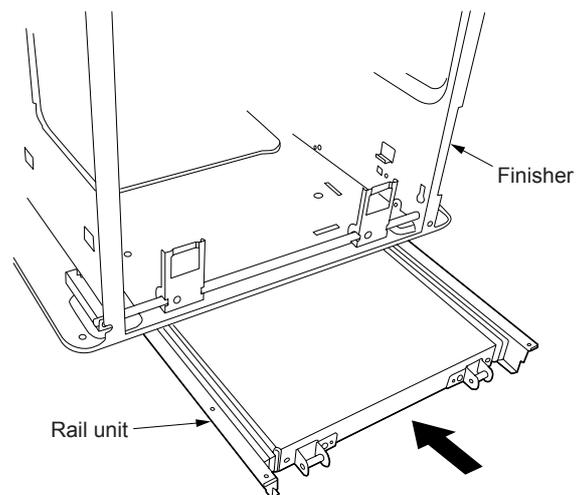
**Figure 1-3-76**

30. Remove the four screws and then remove the lower right stay.



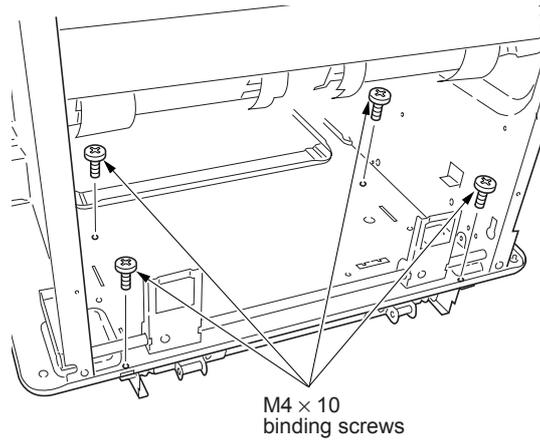
**Figure 1-3-77**

31. Insert the rail unit into the lower part of the finisher.  
32. Pull out the intermediate tray.



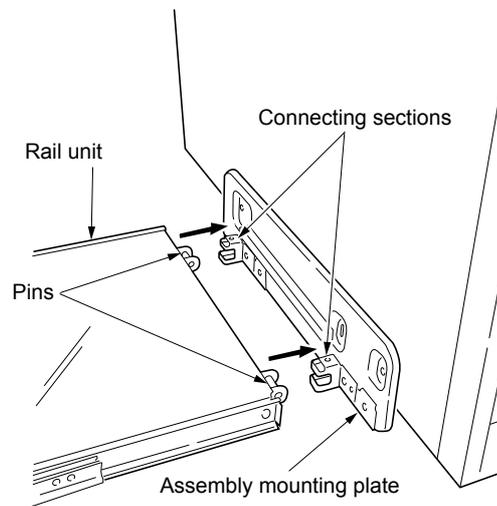
**Figure 1-3-78**

- 33. Fix the rail unit with the four M4 x 10 binding screws.
- 34. Insert the intermediate tray into its original position.



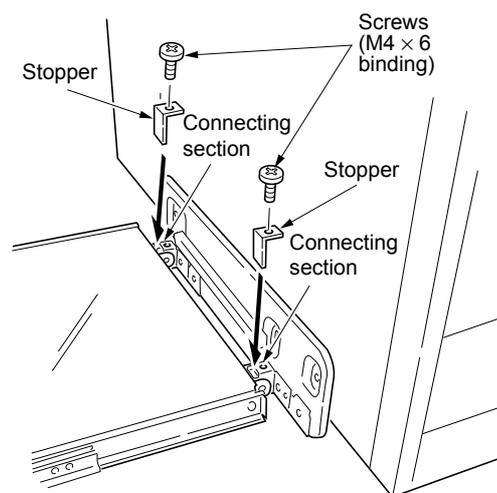
**Figure 1-3-79**

- 35. Refit the lower right stay to its original position.
- 36. Refit the rear cover to its original position and connect the 2-pin connector of the main tray unit.
- 37. Pull out the rail unit and insert the pin of the rail unit to the connecting section of the assembly mounting plate.



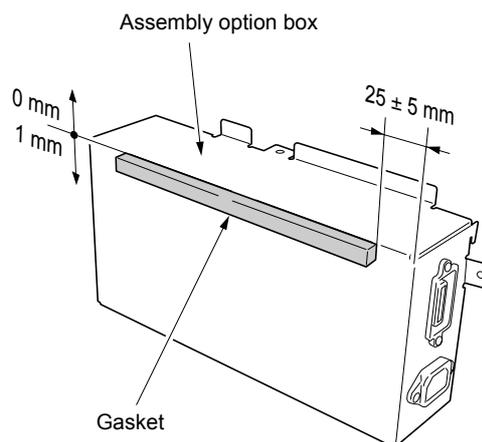
**Figure 1-3-80**

- 38. Insert the stopper to the connecting section and fix it with the two M4 x 6 binding screws.



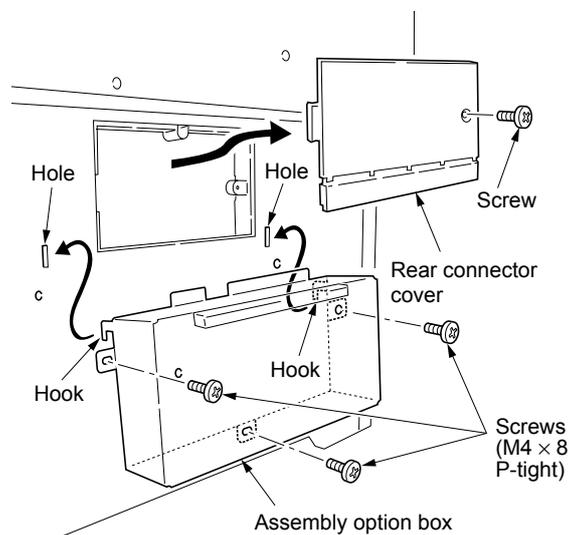
**Figure 1-3-81**

39. Attach a gasket to the assembly option box at the location shown in the illustration.



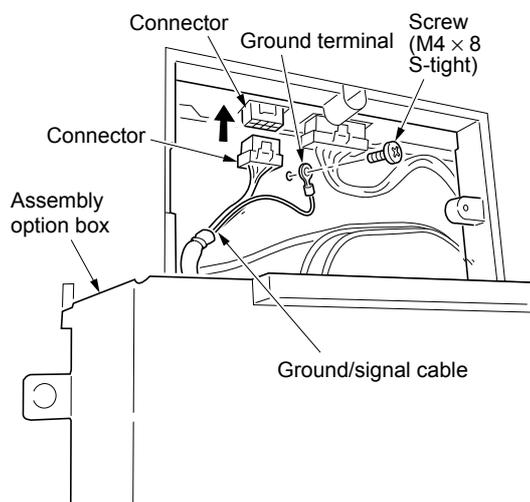
**Figure 1-3-81-1**

40. Remove the screw and then remove the rear connector cover.  
Insert the two hooks on the assembly option box into the two holes and use the remaining three M4 x 8 P-tight screws to fix the assembly option box in place.



**Figure 1-3-82**

41. Use the M4 x 8 S-tight screw to secure the ground terminal of the ground/signal cable coming from the assembly option box.  
42. Insert the connector of the ground/signal cable into the female connector.



**Figure 1-3-83**

- 43. Use nippers or other such tool to cut off the bottom portion of the rear connector cover.
- 44. Use the screw to reattach the rear connector cover in its original position.
- 45. Reattach the rear cover to the paper feeder.

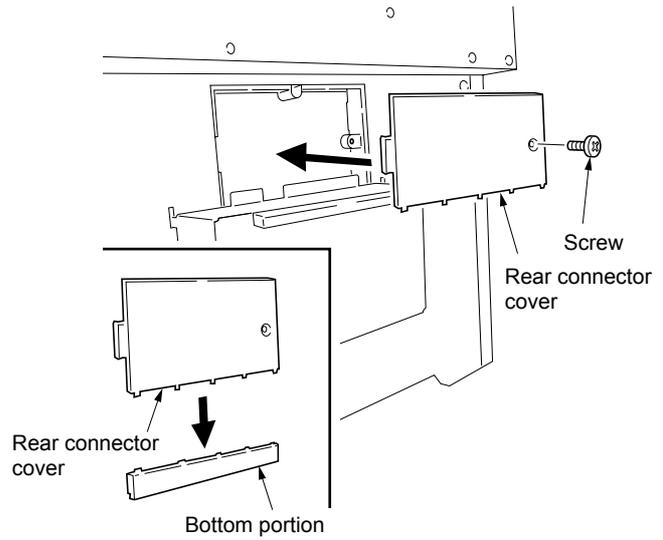


Figure 1-3-84

- 46. Attach the core to the connector of signal cable at the location shown in the illustration.

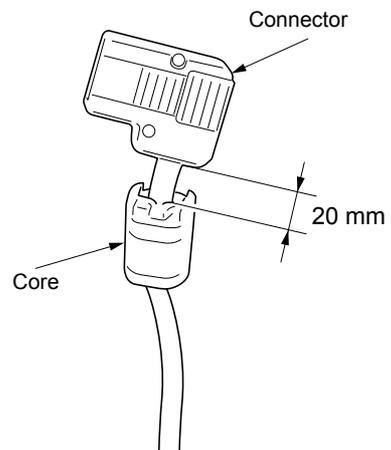


Figure 1-3-84-1

- 47. Connect the signal cable from the finisher and the plug to the power cable into their respective connectors on the assembly option box. Plug the power cable into a power outlet.

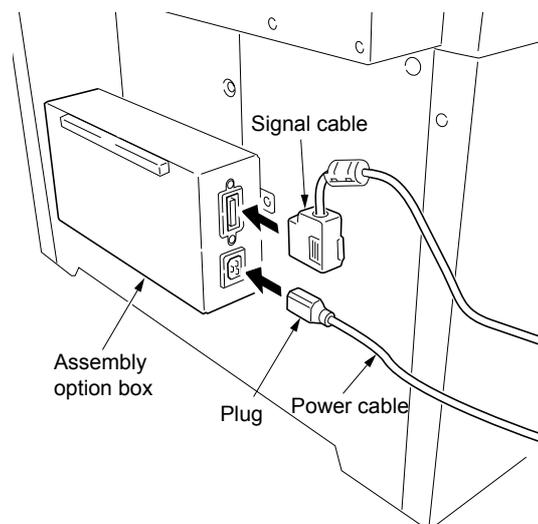
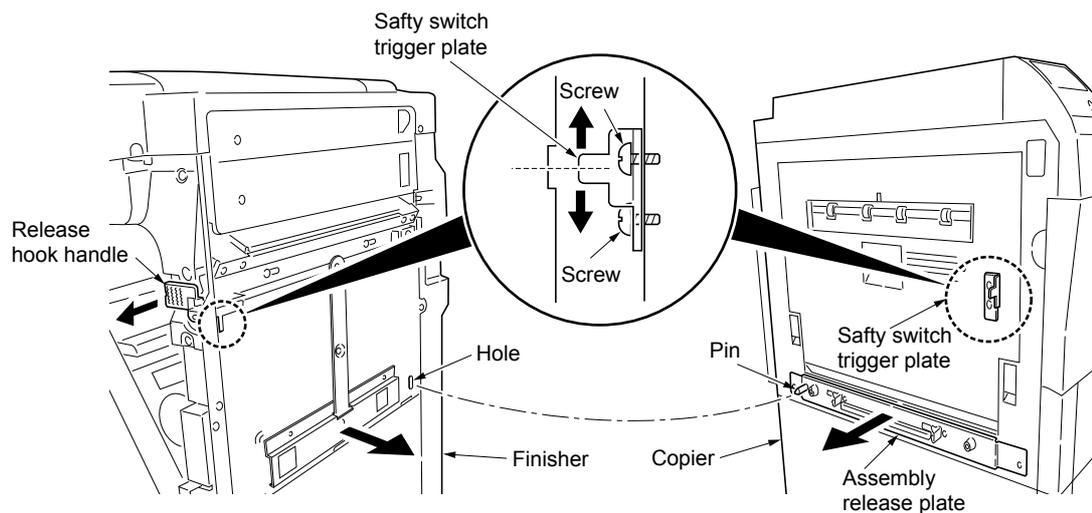


Figure 1-3-85

48. Pull out on the release hook handle and connect the finisher to the copier.
- \* Make sure that the pin on the assembly release plate fits into the hole on the finisher.
49. Confirm the height of the finisher in relation to the copier. If the finisher is in a relatively higher position, loosen the two screws on the safety switch trigger plate, move the trigger plate until its protuberance is aligned with the safety switch and then secure the safety switch trigger plate in place once again.



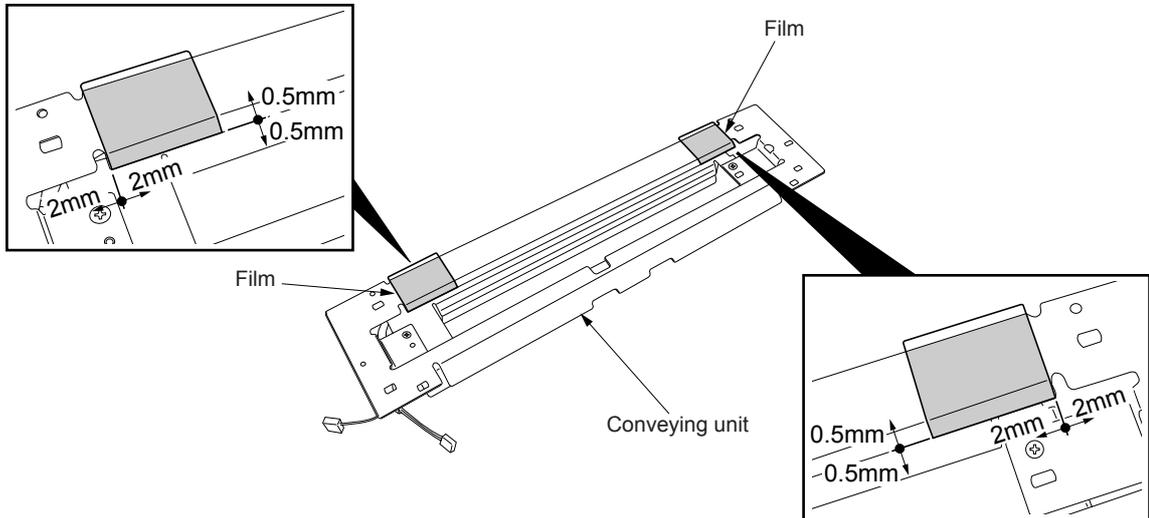
**Figure 1-3-86**

50. Close the front cover.
51. Plug the power cable to the copier back into the wall outlet and turn the power switch back on.
52. Set the paper type and the attribute of paper type (paper weight) for each cassette referring to the operation guide of the copier.
- \* When using paper for color copying only, select "High quality" and "Custom 1 (to 8)" for the paper type.

**Notes in Installing the Punch Unit**

The film is required only if you install the punch unit to the document finisher. The procedure for installing the film is shown below.

1. Take off the release paper from the film.
2. Paste the film to the conveying unit of the punch unit.

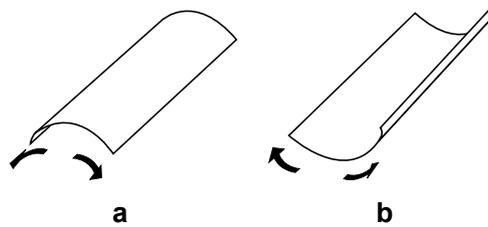


**Figure 1-3-87**

Then, follow the procedure for installing the punch unit.

**Correcting Paper Curling**

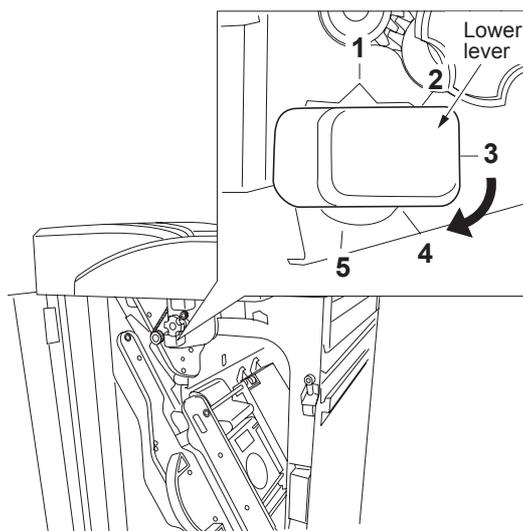
1. Set the machine in the non-sort mode and run paper through the machine to make a test copy.
2. Check if the paper that is ejected from the finisher is curled. If it is, make the following adjustment.



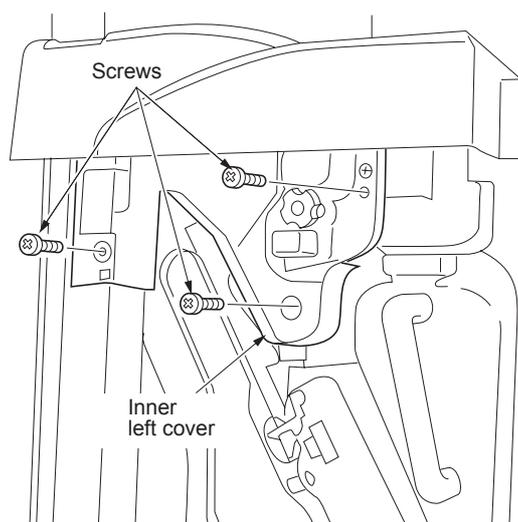
**Figure 1-3-88**

**If the Paper Curls Downward (figure “a”)**

1. Open the front cover.
2. Rotate the lower lever by one mark in the direction of the higher numbers.  
**Note:** There are 5 marks. The lever is set to the first mark when shipped.
3. Close the front cover.
4. Run paper through the machine and check if it is still curled downward.
5. Repeat steps 1 to 4 until the ejected paper does not curl downward anymore.

**Figure 1-3-89****If the Paper Curls Upward (figure “b”)**

1. Open the front cover.
2. Remove the three screws locking down the inner left cover followed by the cover.

**Figure 1-3-90**

3. Rotate the upper lever by one mark in the direction of the higher numbers.  
**Note:** There are 5 marks. The lever is set to the first mark when shipped.
4. Close the front cover.
5. Run paper through the machine and check if it is still curled upward.
6. Repeat steps 1 to 5 until the ejected paper does not curl upward anymore.
7. When the correction is completed, reattach the inner left cover.

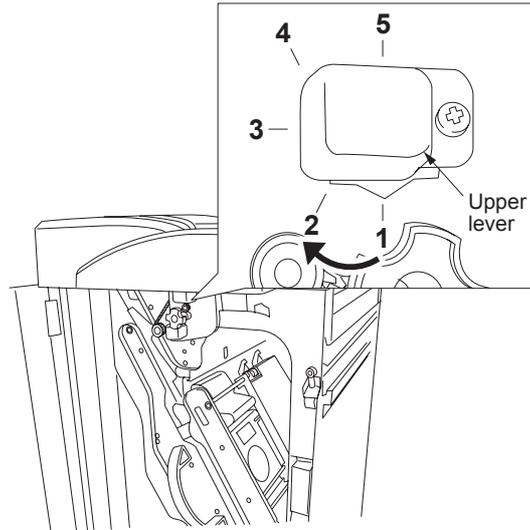


Figure 1-3-91

**Correcting centerfold-stapling**

1. Set the machine in the centerfold-stapling mode and make a test copy with paper ejected onto the main tray. Use the following sizes of paper.  
A4R, A3, B4, LDR (11" x 17") and LTR (11" x 8 1/2")
2. Unfold the copied paper that has been centerfold-stapled, with the inside faced down as shown in the illustration. Check that the paper is stapled at the center.

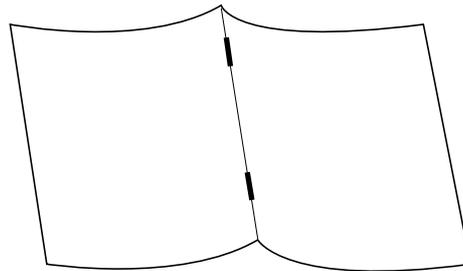


Figure 1-3-92

3. If stapling is done in the wrong position, perform the following adjustment for each paper size by running maintenance item U248.
4. Select the "SADDLE STAPLE ADJUST" mode.
5. Set the setting value for each paper size.  
If the paper is stapled too far toward the paper eject side (as shown in "c" in the illustration), decrease the setting value.  
If the paper is stapled too far toward the paper feed side (as shown in "d" in the illustration), increase the setting value.  
Setting range: -10 to +10  
Initial setting: 0  
Changing the value by 1 moves the stapling position by approximately 0.6 mm (reference value).

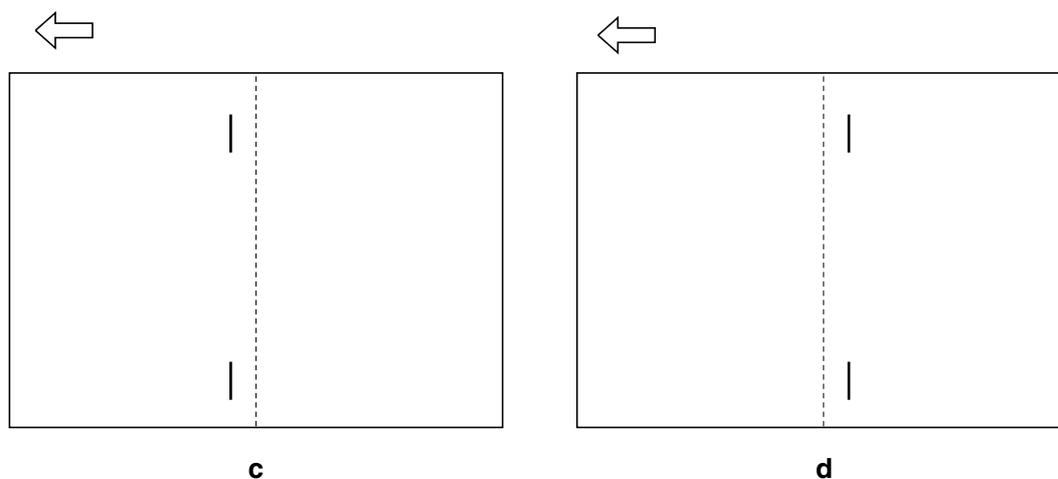


Figure 1-3-93

6. Exit the maintenance mode.

### 1-3-9 Installing the duplex unit (optional for simplex copiers)

Be sure to perform the following procedure before installing the duplex unit.

1. Stand the duplex unit on end with its front side facing upward.
2. Remove the tape.
3. Remove the tape and then the spacer.

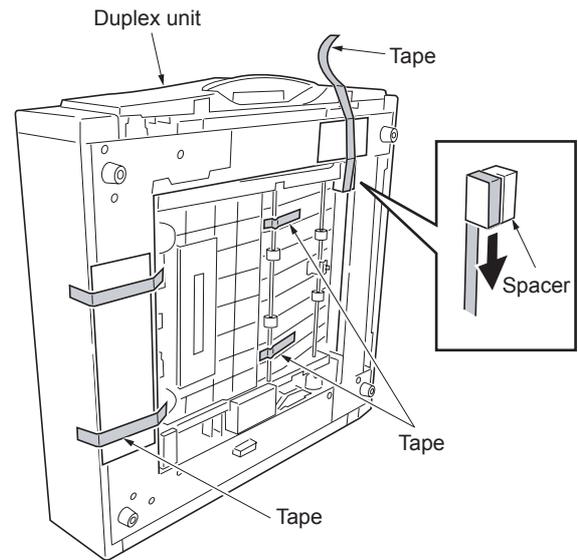


Figure 1-3-94

4. Set the duplex unit down horizontally.
5. Remove the tape and then pull out the duplexer.
6. Remove the tape.
7. Remove the spacer.
8. Remove the tape.
9. Push the duplexer back in.

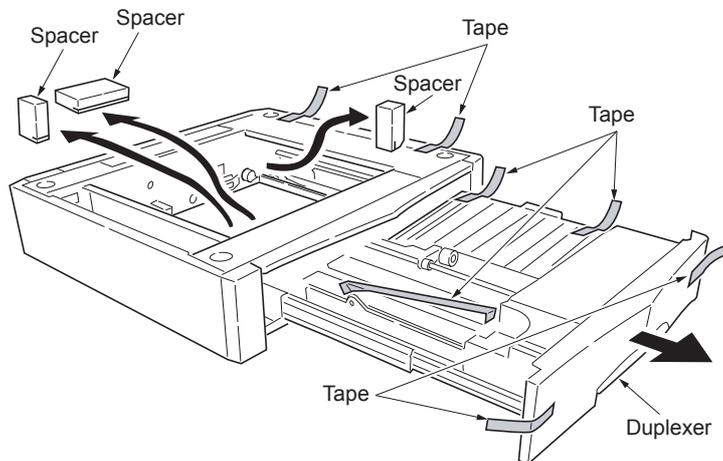
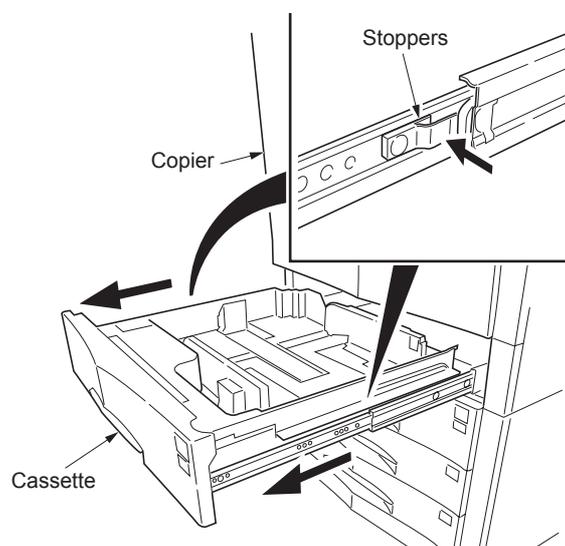


Figure 1-3-95

**Procedure**

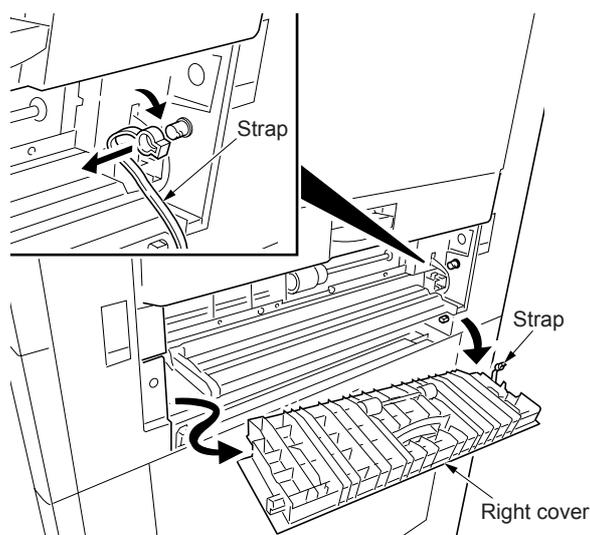
Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the duplex unit.

1. Pull the cassette out from the copier.
2. Push in on the stoppers on both sides of the rails in order to remove the cassette completely.



**Figure 1-3-96**

3. Open the right cover of the copier and remove the strap.
4. Remove the right cover.



**Figure 1-3-97**

5. Remove the connector.
6. Pull the paper feed unit out slightly.
7. While pressing the hook to release it, take the primary paper feed assembly out.

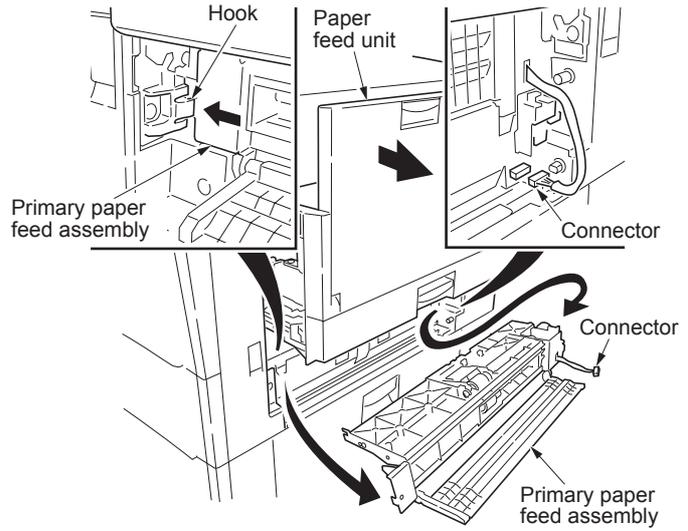


Figure 1-3-98

8. After inserting the rear end of the duplex ejection guide assembly into the copier, put the front end to the hook, and while pushing it toward the front side of the copier, push the guide assembly in until the front end is locked in place by the hook.

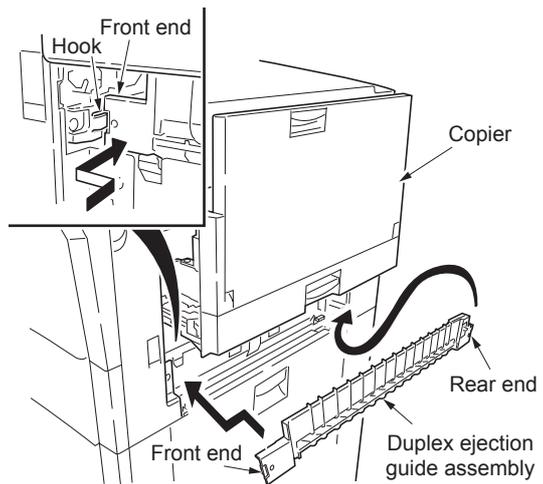


Figure 1-3-99

9. Attach the right cover and the strap back in their original positions.
10. Close the right cover.

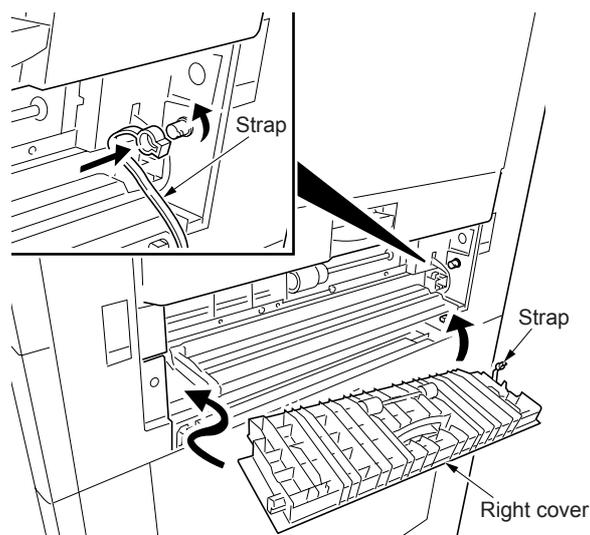


Figure 1-3-100

11. Open the left cover of the copier.
12. Align the cutout portion properly and set the ejection separator assembly in its receptacle.
13. Slide the ejection separator assembly to the side until the hook is locked in place.

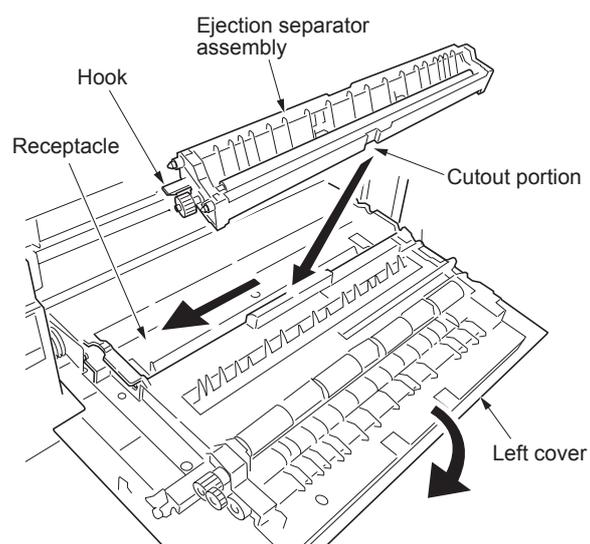


Figure 1-3-101

- 14. Remove the stop ring and then remove the gear.
- \* At this time, take care not to drop the spring pin of the pulley.
- 15. Hook the separator belt between one pulley and the other pulley.
- 16. Attach the gear and the stop ring back in their original positions.

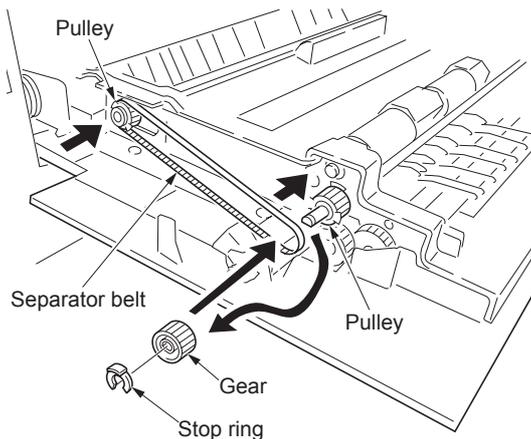


Figure 1-3-102

- 17. Take the fuser unit out of the copier.

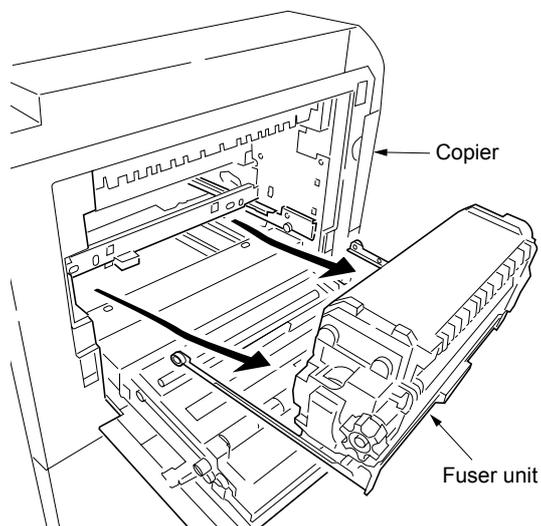


Figure 1-3-103

18. Turn the fuser unit so that its bottom side faces up.
19. Insert the six hooks of the duplex conveyer assembly A into the holes of the fuser unit.
20. Slide the duplex conveyer assembly A to the side to secure the hooks.

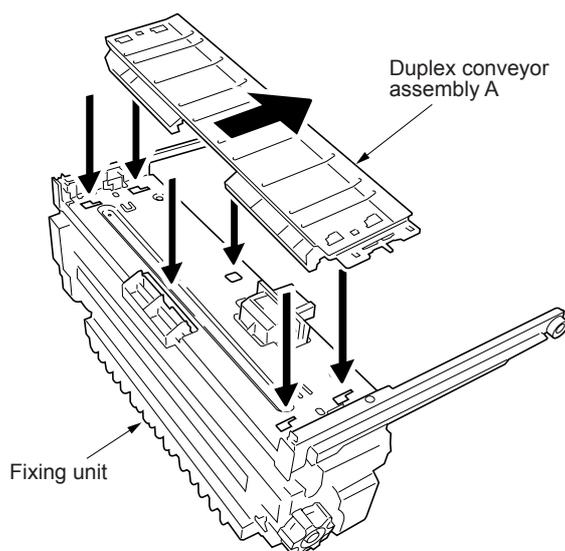


Figure 1-3-104

21. Insert the connector of the duplex conveyer assembly B into the connector of the copier.

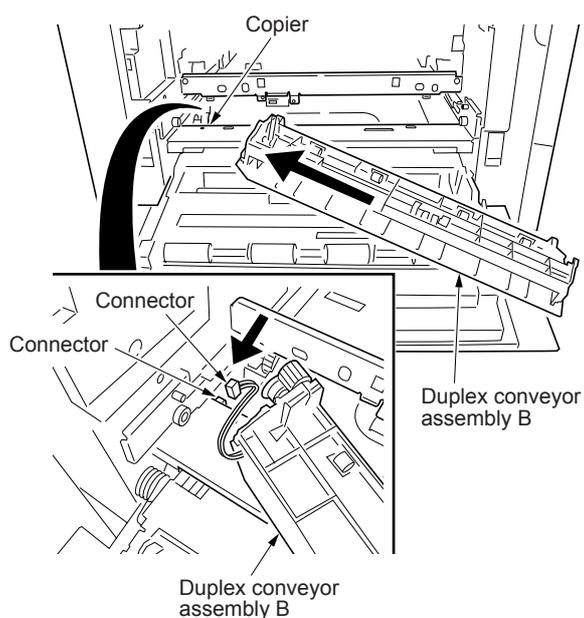


Figure 1-3-105

- 22. Fit the four hooks of the duplex conveyer assembly B onto the hook receptacles on the copier.
- 23. Push on the duplex conveyer assembly B until the hooks are locked in place.

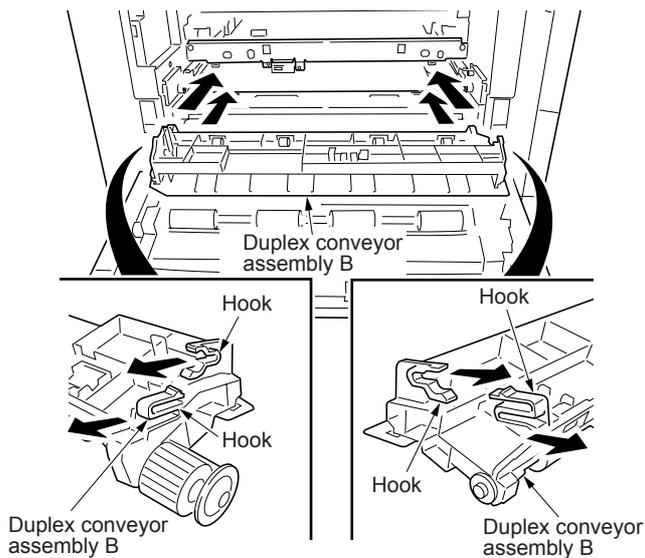


Figure 1-3-106

- 24. Insert the mini clamp into the hole of the copier and secure the electric cable of the duplex conveyer assembly B.

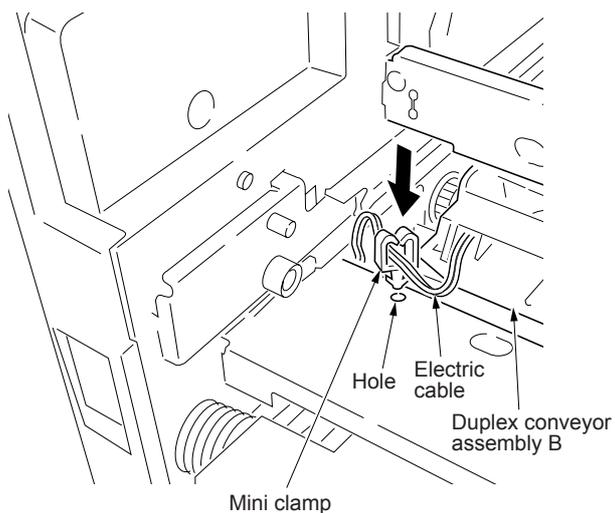


Figure 1-3-107

25. Install the fuser unit back in its original position in the copier and close the left cover.

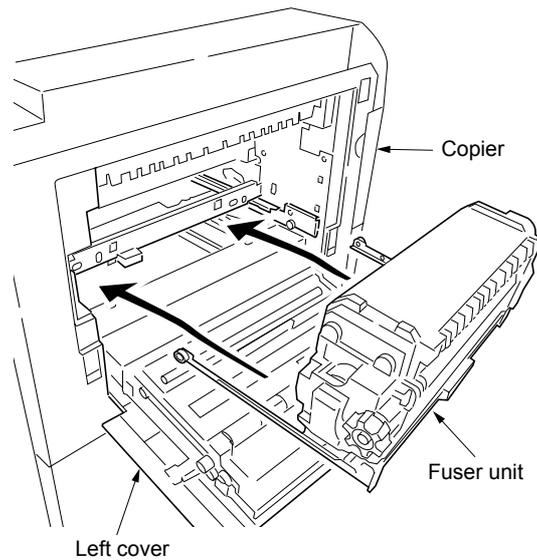


Figure 1-3-108

26. Pull the duplex unit out of the paper feeder case.
27. Push in on the stoppers on both sides of the rails in order to remove the duplex unit completely.

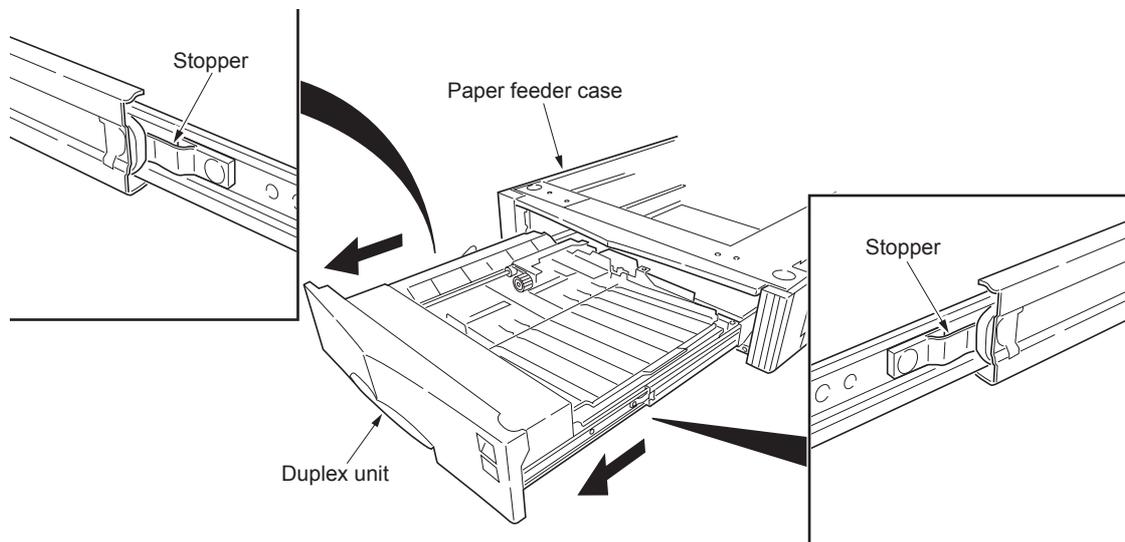


Figure 1-3-109

28. Install the duplex unit in the copier.

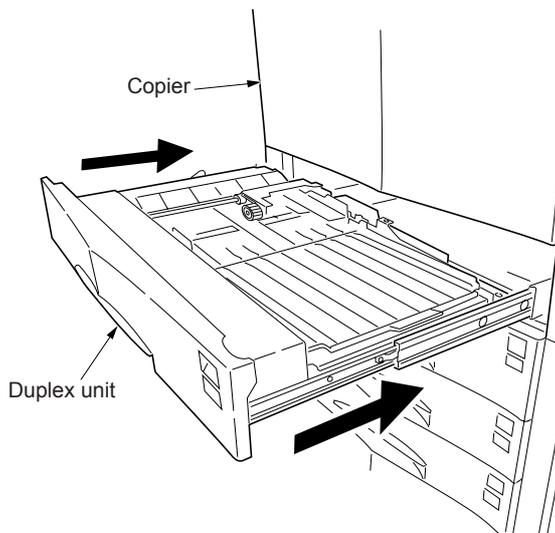


Figure 1-3-110

29. Lead the electric cable of the primary paper feed assembly in and secure it in place with the hook.

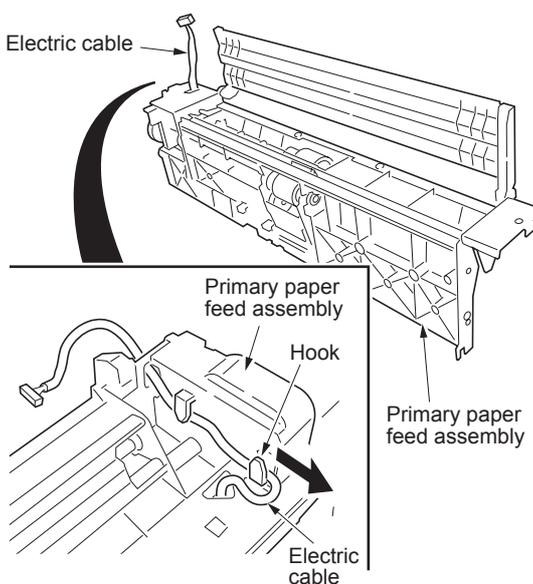


Figure 1-3-111

30. Open the right cover of the paper feeder case.

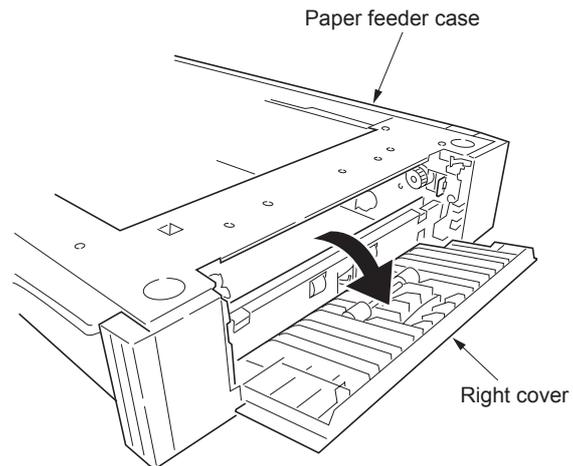


Figure 1-3-112

31. Insert the rear end of the primary paper feed assembly into the paper feeder case. Then put the front end to the hook, and while pushing it toward the front side of the paper feeder case, push the paper feed assembly in until the front end is locked in place by the hook.
32. Insert the connector of the primary paper feed assembly into the connector of the paper feeder case.

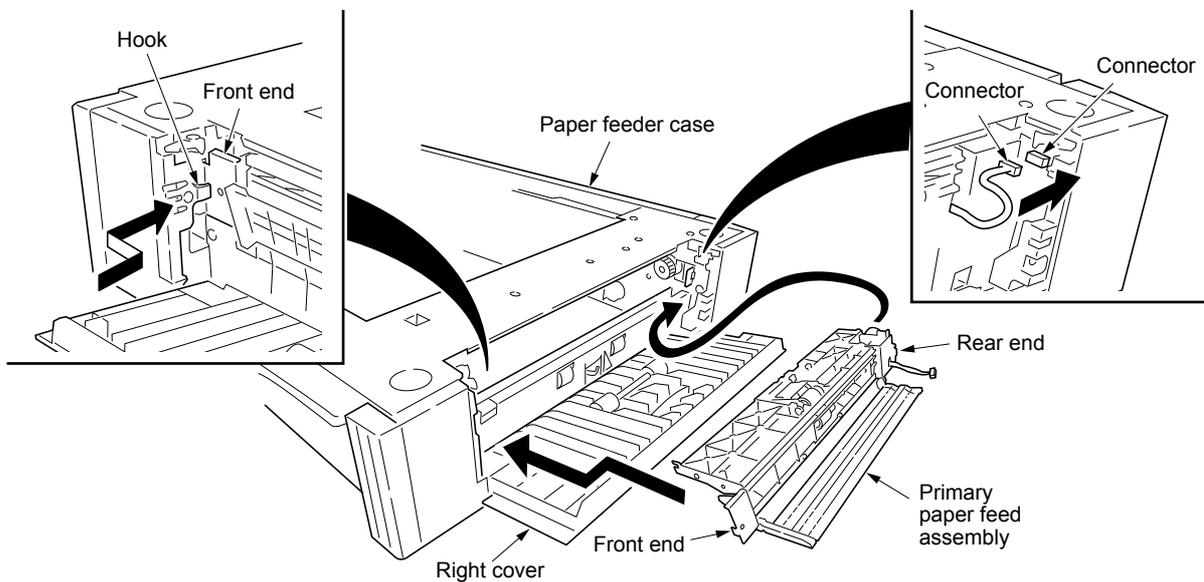


Figure 1-3-113

- 33. Hook the bent portion of the connector cover into the opening at the bottom part of the connector. Then slip the hole over the end of the pin to fix the connector cover in place.
- 34. Close the right cover to the paper feeder case.

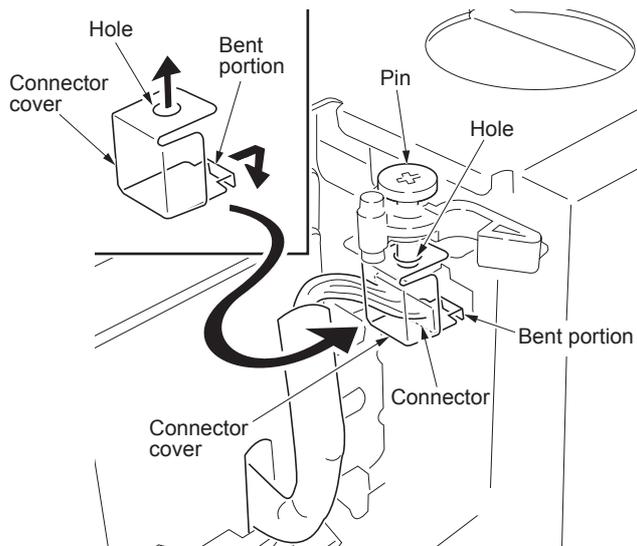


Figure 1-3-114

- 35. Install the cassette into the paper feeder case and use it as a paper feeder.

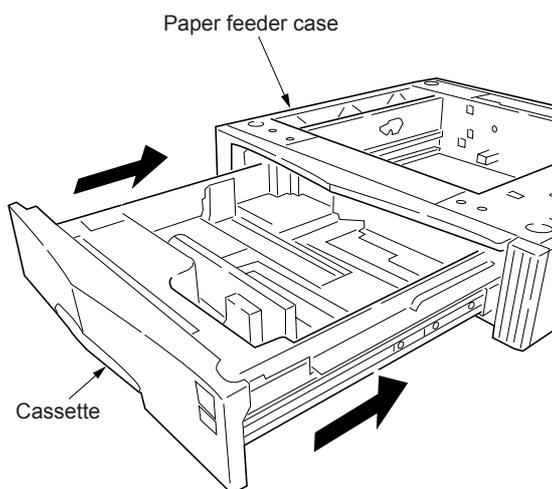


Figure 1-3-115

36. Remove the number plate [number 1] from the cassette and attach it to the duplex unit.
37. Attach the number plate [number 2] to the cassette.
38. Attach the paper size plate to the duplex unit so that the indication [OFII/ADPLX] faces forward.

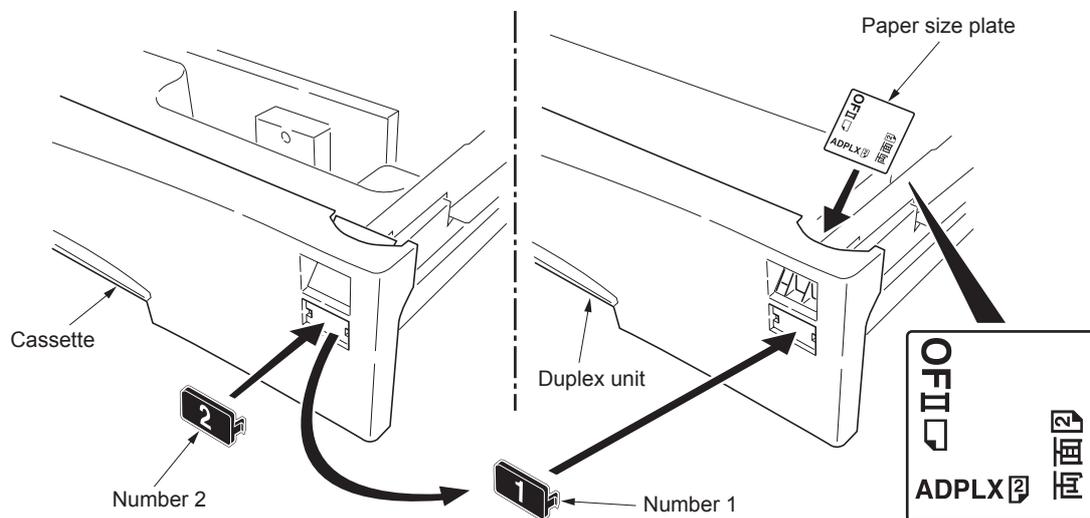


Figure 1-3-116

### 1-3-10 Installing the left tray (option)

#### Procedure

1. Insert the right and left brackets into the left and right square holes of the left cover.
2. Use an M4 x 10 Taptite P binding screw to secure the right and left brackets respectively.

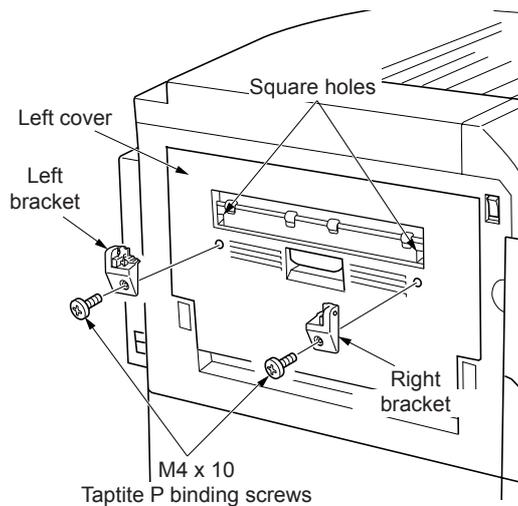


Figure 1-3-117

3. Insert the left tray into the right and left brackets.

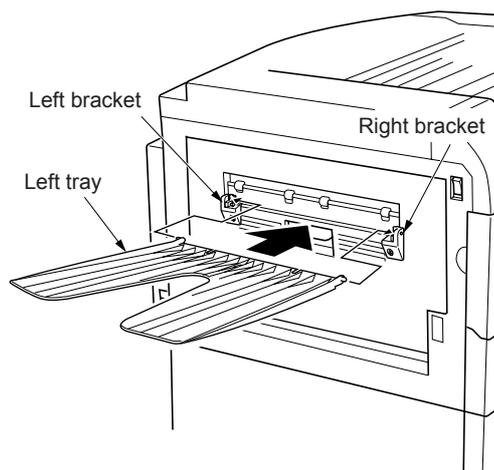


Figure 1-3-118

### 1-3-11 Installing the memory copy board/network scanner kit (option)

#### Procedure

1. Remove the two screws and remove the operation section lower cover.

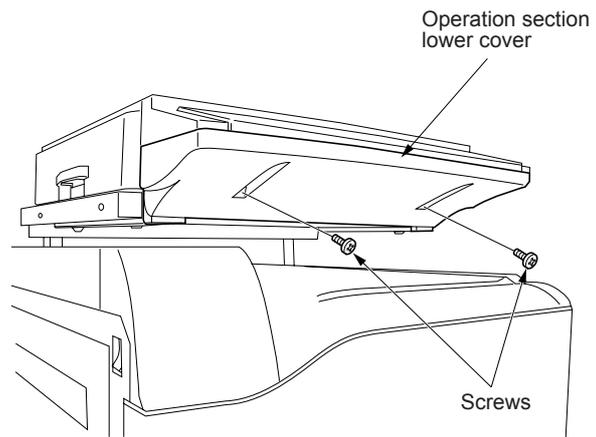


Figure 1-3-119

2. Remove the three connectors under the panel.  
Remove the two screws.
3. If the scanner unit is fixed to the scanner rack, remove the four screws from the scanner rack and place the scanner unit on a stable location.

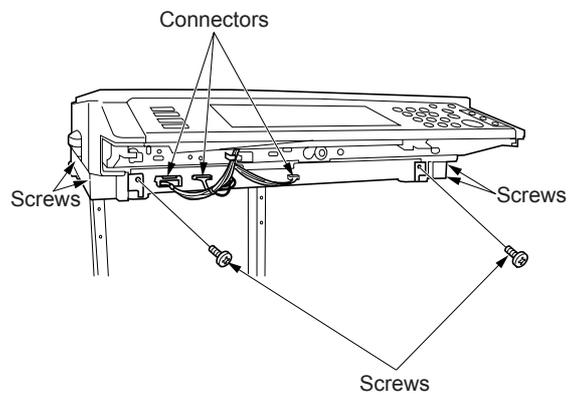


Figure 1-3-120

4. Remove the screw, slide the upper right cover toward the rear side and remove it. Remove the five screws and pull out the electrical component mounting plate a little.

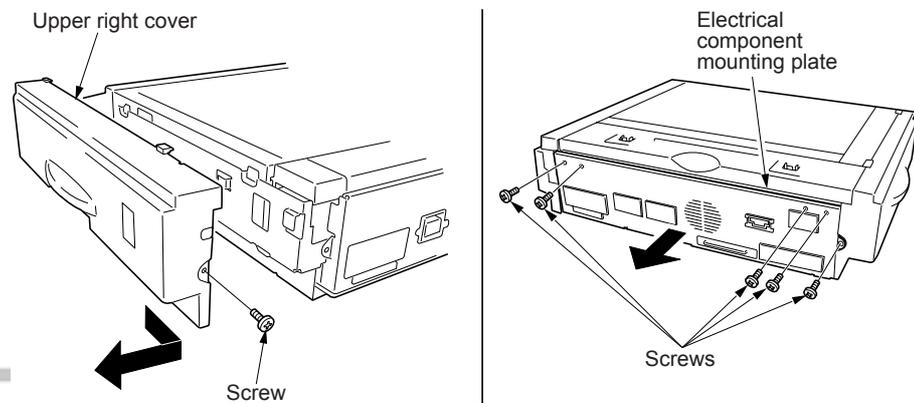


Figure 1-3-121

5. Remove the connector from the scanner motor.
6. Remove the two connectors from the scanner sub PWB.
7. Remove the two connectors from the scanner main PWB.  
Pull out the electrical component mounting plate.

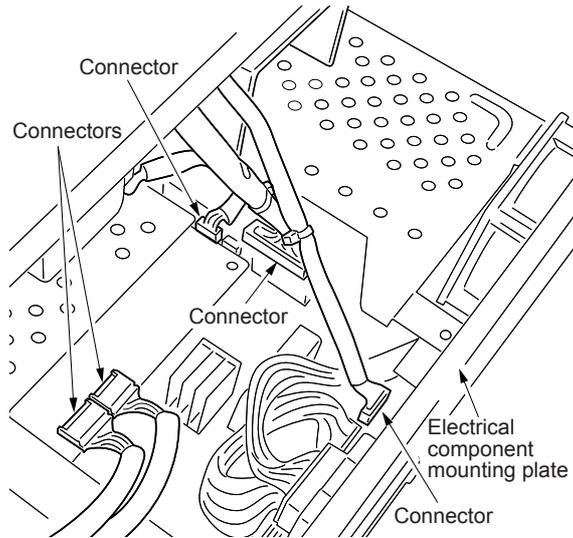


Figure 1-3-122

8. Remove the twelve screws and then remove the electrical component cover.

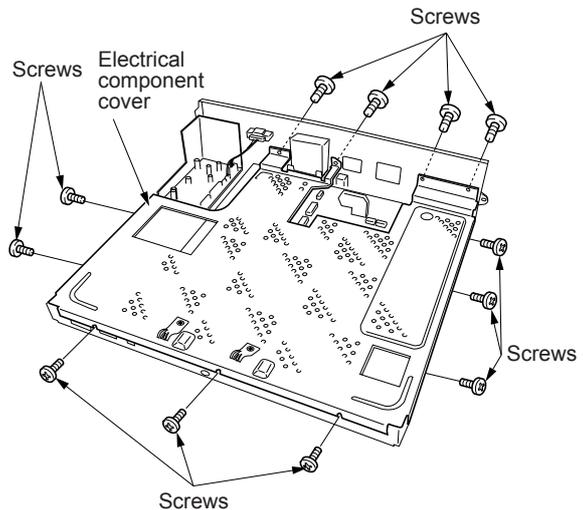


Figure 1-3-123

To install a memory copy board, proceed to step 9.  
To install a network scanner kit, proceed to step 12.  
To install both units, follow step 9 and after sequentially.

- 9-1. Remove the metal fittings from the core, put the flat cable of the assembly for 3CV into the core, and then reattach the metal fittings to the original position.

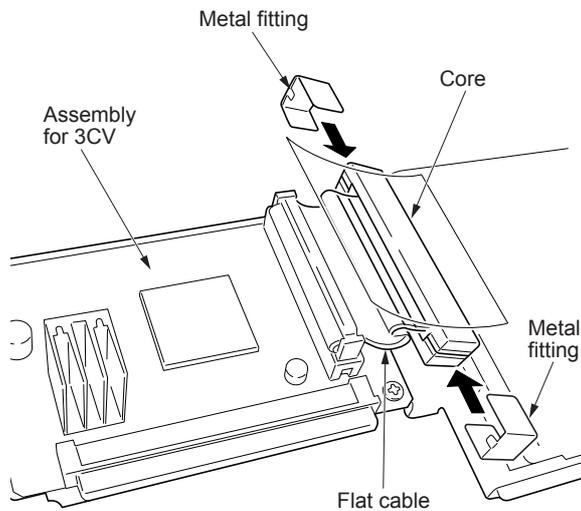


Figure 1-3-124

- 9-2. Connect the assembly for 3CV to the connector shown in the scanner main PWB. Ensure that the connector is inserted all the way into the other connector. Fix the assembly for 3CV with the three binding Taptite S M3 x 06 screws.

\* Take care not to get the wire caught.

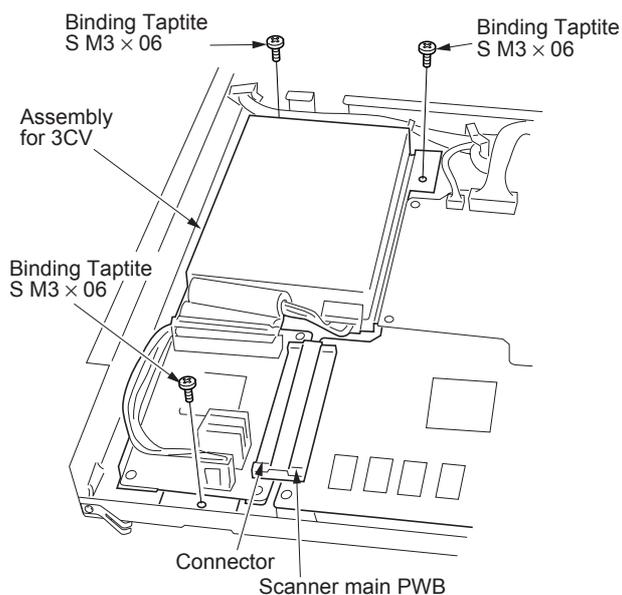


Figure 1-3-125

#### Installing the optional memory DIMM

10. Open the hooks on both sides of the memory slot and then insert the optional memory DIMM into the memory slot until the hooks on both sides are closed.

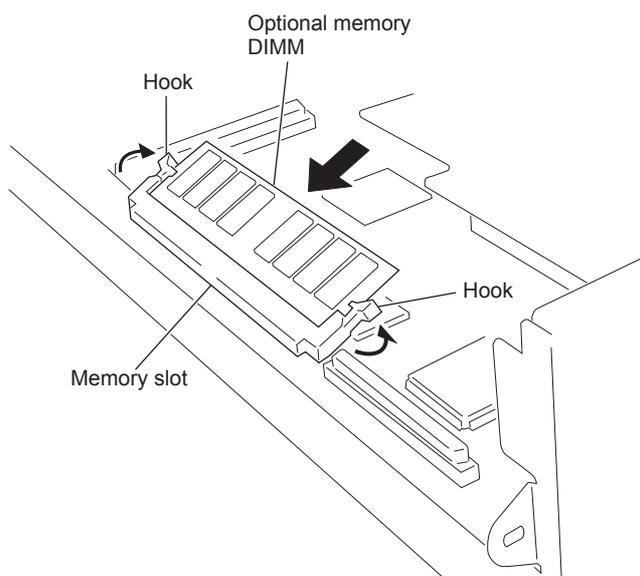


Figure 1-3-126

11. Carry out the following step only if a memory copy board has been installed. Execute maintenance mode U024 (HDD format).
- \* Check that "0000" is displayed after completing of initialization.

If installation of a network scanner kit is not needed, proceed to step 15.

- 12. Remove the two screws from the electrical component mounting plate and then remove the rear cover.

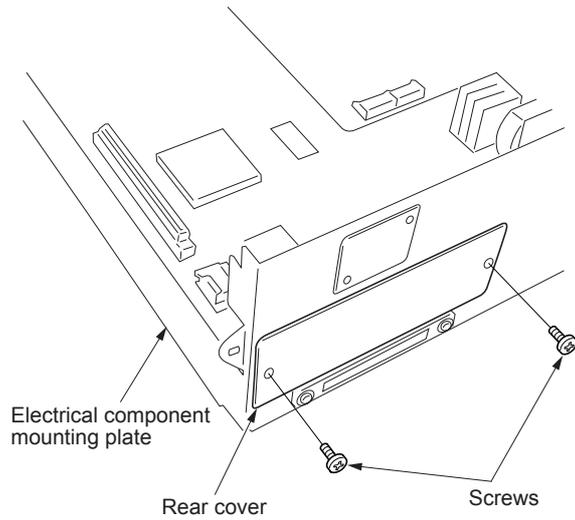


Figure 1-3-127

- 13. Insert the assembly for scanner NIC and fix it to the connector as shown in the illustration. Ensure that the connector is inserted all the way into the other connector.

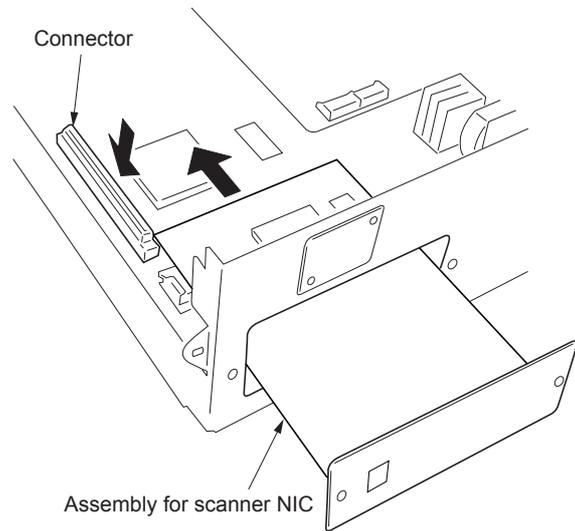


Figure 1-3-128

- 14. Fix the assembly for scanner NIC with the two screws that have been removed in step 12.

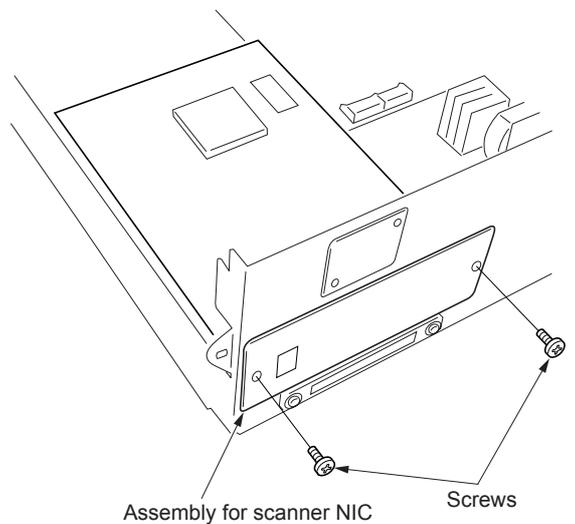
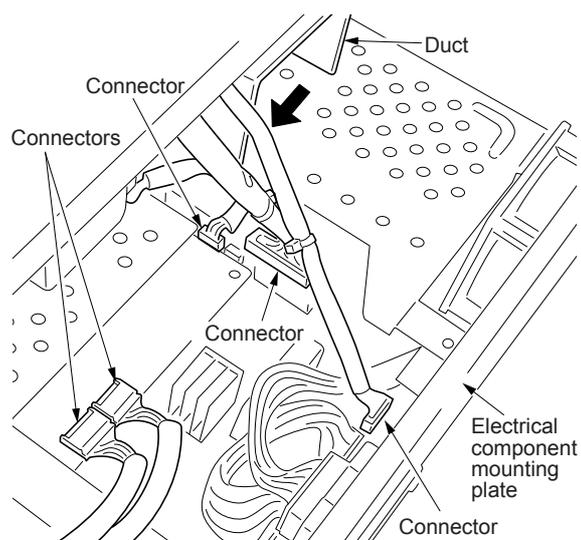


Figure 1-3-129

15. Reattach the electrical component cover that has been removed in step 8 to its original position.
16. Reattach the connectors and the electrical component mounting plate that have been removed in steps 5 to 7 to their original positions.
- \* Return the electrical component mounting plate so that the cable of the connector is positioned on the left of the duct.



**Figure 1-3-130**

17. Reattach the upper right cover to its original position on the scanner unit.
18. Reattach the scanner unit to its original position in the scanner rack.
19. Reattach the connectors and the two screws that have been removed in step 2 to their original positions.
20. Reattach the operation section lower cover to its original position.
- \* Insert five claws of the operation section lower cover to the copier and reattach the cover by fitting it into the copier.

### 1-3-12 Installing the printing system (option)

#### Procedure

Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the printing system.

1. Remove the two screws and open the right lower rear cover.

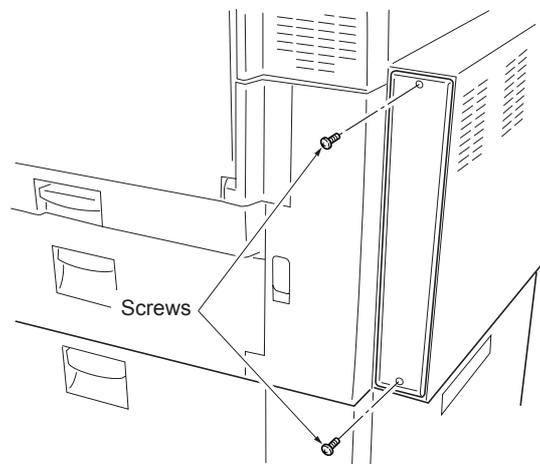


Figure 1-3-131

2. Insert the assembly for printer controller all the way into the copier.
  - \* Remove the filament tape pasted on the assembly for printer controller and then insert the assembly.

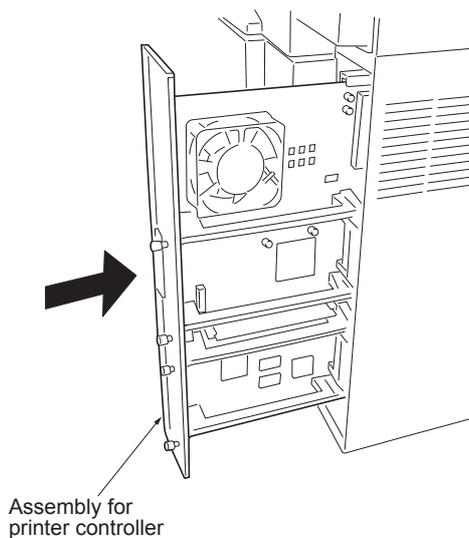


Figure 1-3-132

- Fix the assembly for printer controller with the two screws that have been removed in step 1.

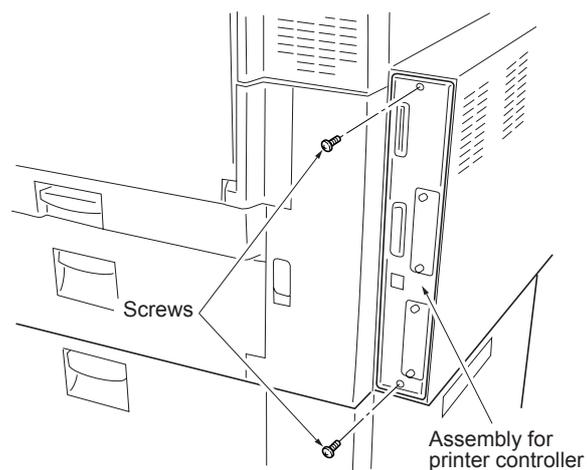


Figure 1-3-133

#### Installing the optional printer network kit

- Remove the two screws located on the slot with marking OPT2 and take off the cover.
- Push the printer network kit all the way in along the rails, and fasten it to the controller box with two screws.

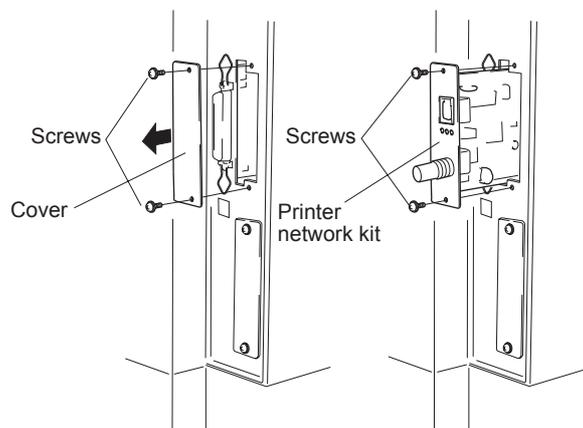


Figure 1-3-134

#### Installing the optional hard disk

- Remove the two screws located on the slot with marking OPT1/HDD and take off the cover.
  - Push the hard disk all the way in along the rails, and fasten it to the controller box with two screws.
- After installation, the hard disk must be formatted. Turn ON the power, go to the printer screen and select the "Printer Menu" followed by "Hard Disk" and then "Format".

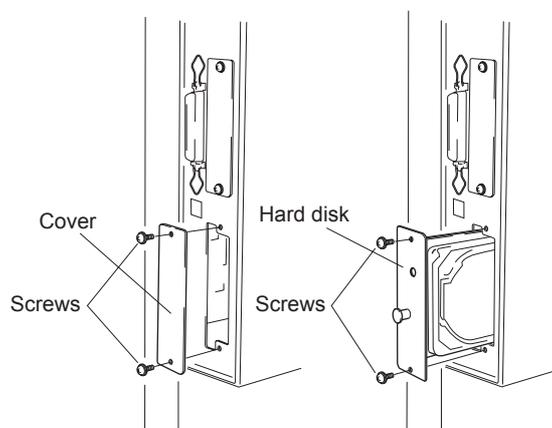


Figure 1-3-135

### Installing the optional serial interface

8. Remove the assembly for printer controller, remove the two screws located on the slot with marking OPT2, and take off the cover. Pass the connector of the serial interface through the slot and insert it into connector YC-11.
9. Insert the serial interface all the way along the rail and fix it to the controller box with the two screws.

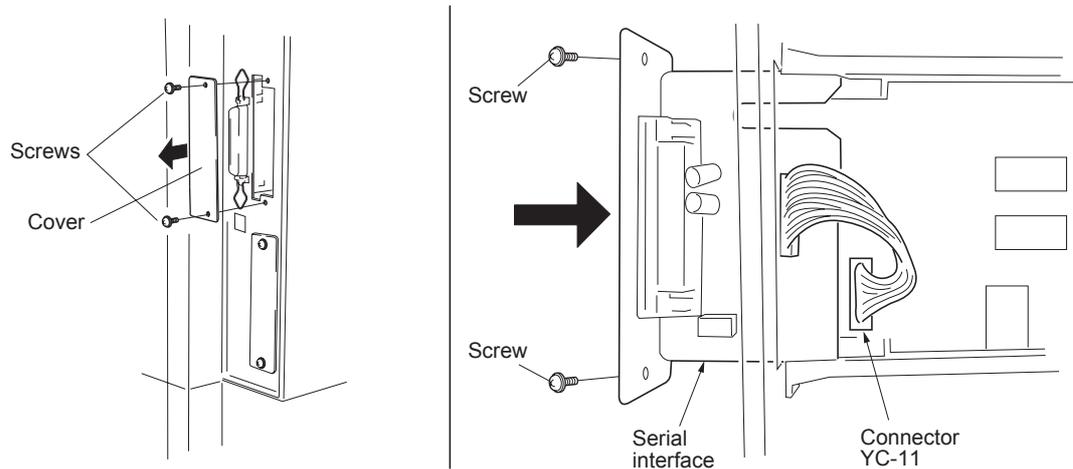


Figure 1-3-136

### Installing the optional memory DIMM

10. Remove the assembly for printer controller, and insert the optional memory DIMM firmly into either of the memory slots. Push the DIMM firmly into the slot so that the two hooks (one hook at each end of the slot) snap closed.
- The board provides two DIMM slots, and a 128 MB DIMM is installed as standard.

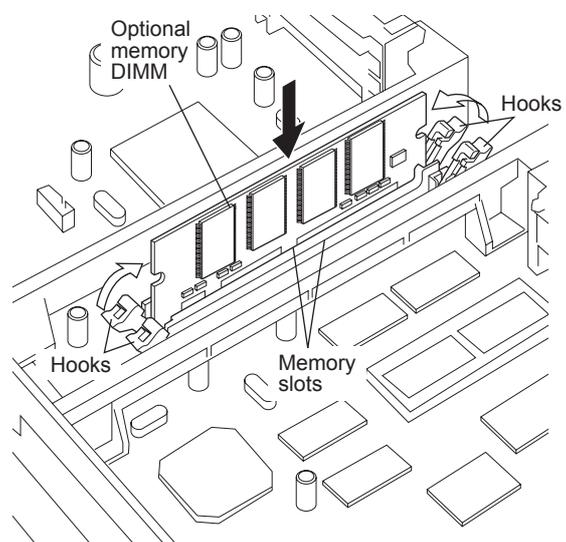


Figure 1-3-137

### 1-3-13 Installing the fax system (option)

#### Note

Be sure to fit four rubber bases to the lower part of the scanner unit with one tap-tite S binding screw M4 x 14 for each when the scanner rack is not used.

- \* Order the parts with the following numbers.
- Four (4) rubber bases (P/N 66102140)
- Four (4) M4 x 14 tap-tite S binding screws (P/N B3024140)

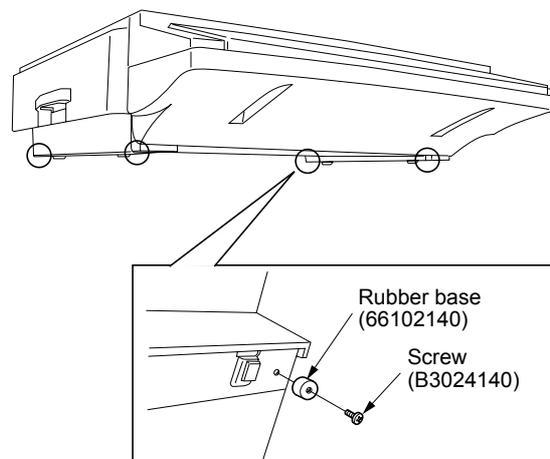


Figure 1-3-138

#### Procedure

Be sure to turn the copier power switch off and disconnect the copier power plug from the wall outlet before starting to install the fax system.

1. Remove the eleven screws and take off the rear cover.

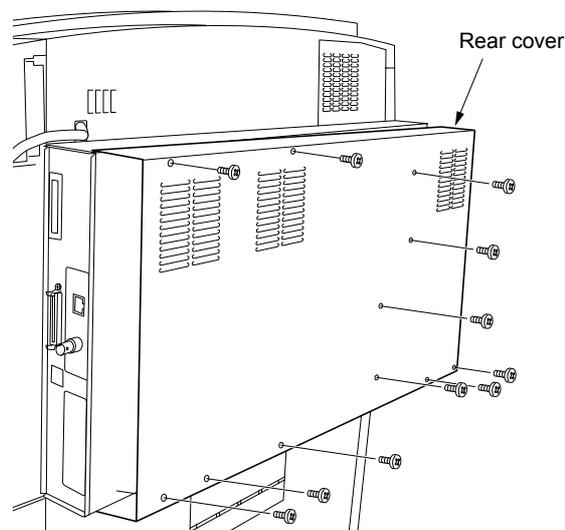


Figure 1-3-139

2. Pass the cable with positive connectors of the FAX power supply assembly through the opening of the copier.
3. Connect the connector of the black cable of the power connection wire to the YC14 connector of the engine controller PWB.

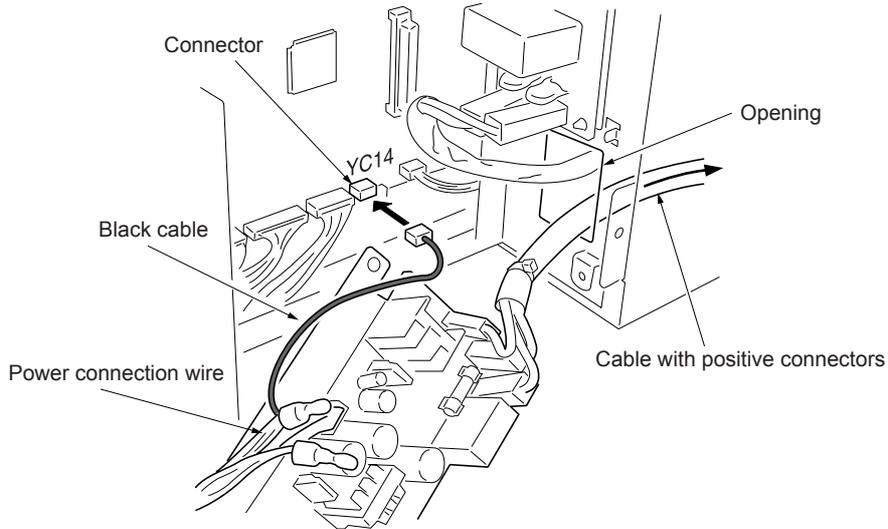


Figure 1-3-140

4. Connect the connector of the yellow cable of the power connection wire to the connector of the copier and secure the cable with two wire saddles.
- \* Take care so that the cable does not touch the motor.

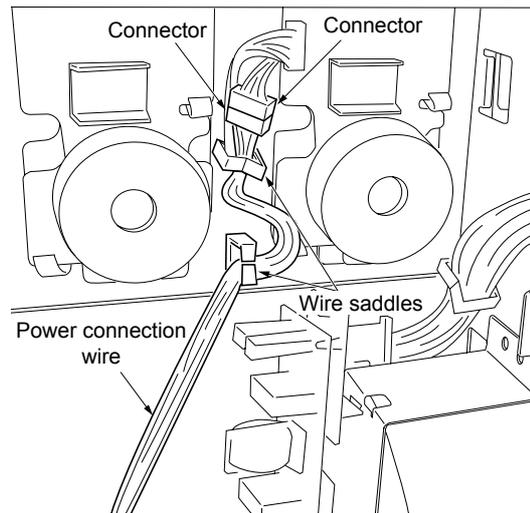


Figure 1-3-141

5. Use two S Tite screws M4 x 8 to fit the FAX power supply assembly.
6. Pass the power connection wire through the edging of the FAX power supply assembly.

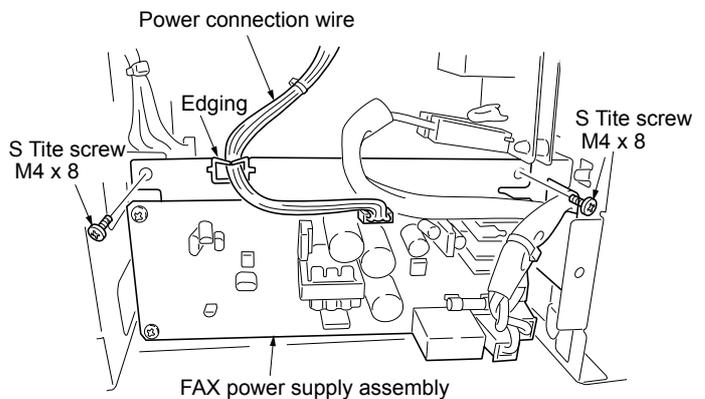
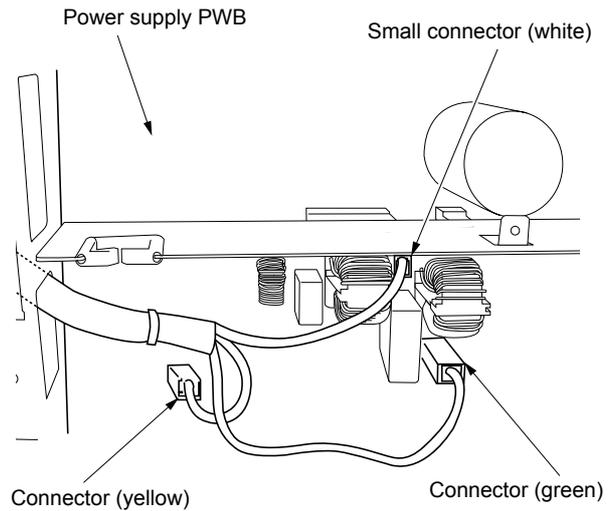


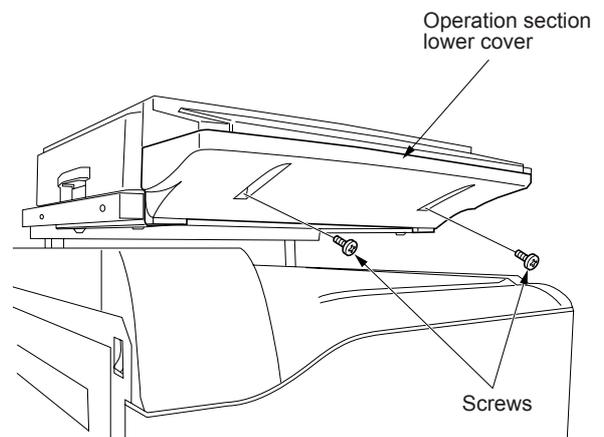
Figure 1-3-142

7. Connect the cable with positive connectors to the following connectors of the power supply PWB. (Connector names are printed on the PWB.)  
 Connector (green) TB3  
 Connector (yellow) TB4 (YELLOW)  
 Small connector (white) TB5 (WHITE)



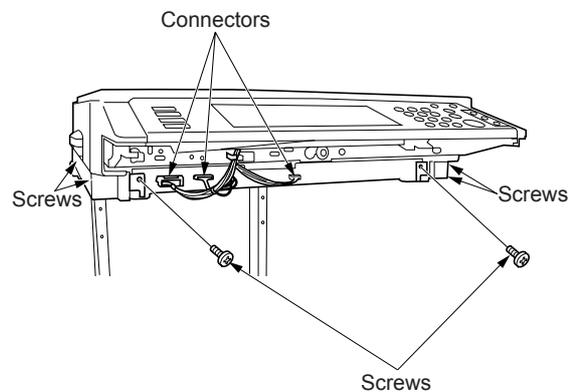
**Figure 1-3-143**

8. Remove the two screws and remove the operation section lower cover.



**Figure 1-3-144**

9. Remove the three connectors under the panel.  
 Remove the two screws.
10. If the scanner unit is fixed to the scanner rack, remove the four screws from the scanner rack and place the scanner unit on a stable location.



**Figure 1-3-145**

11. Remove the screw, slide the upper right cover toward the rear side and remove it. Remove the five screws and pull out the electrical component mounting plate a little.

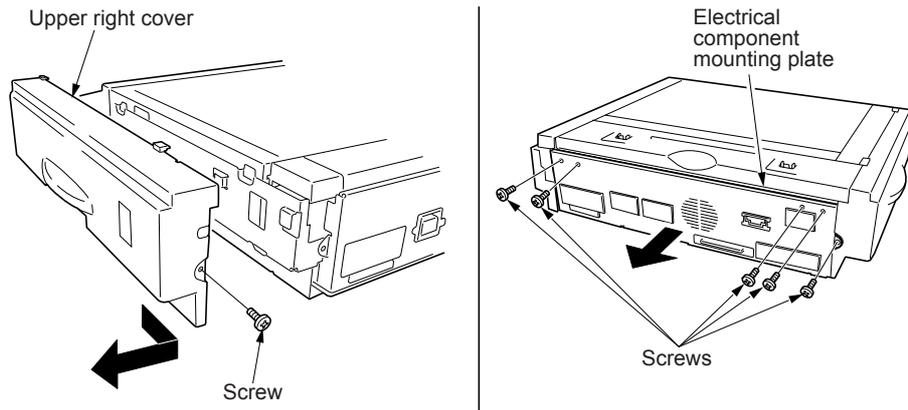


Figure 1-3-146

12. Remove the connector from the scanner motor.
13. Remove the two connectors from the scanner sub PWB.
14. Remove the two connectors from the scanner main PWB. Pull out the electrical component mounting plate.

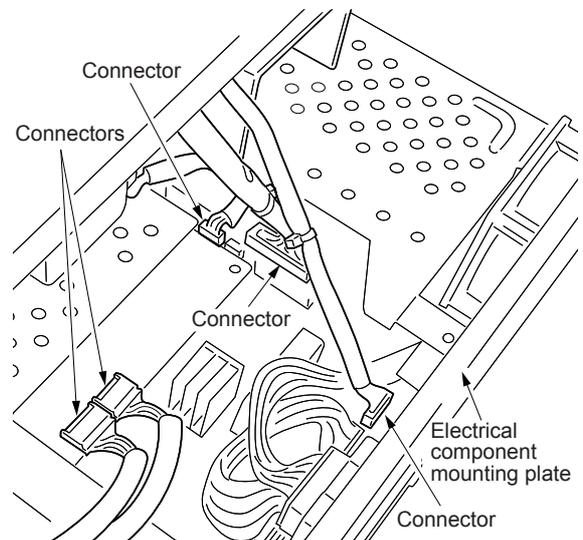


Figure 1-3-147

15. Remove the twelve screws and then remove the electrical component cover.

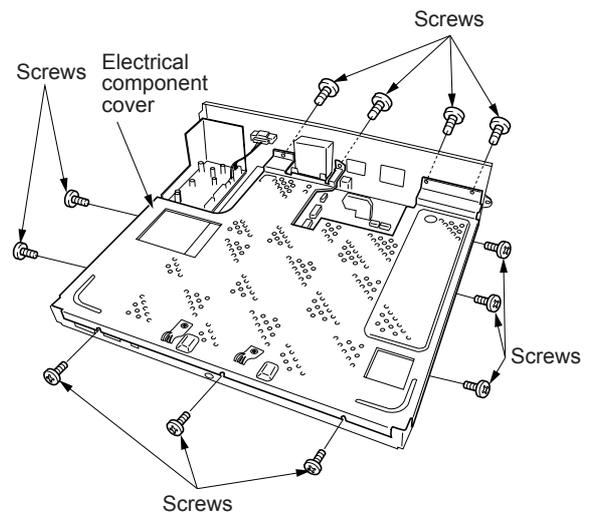


Figure 1-3-148

16. Remove the two screws and then remove the cover.

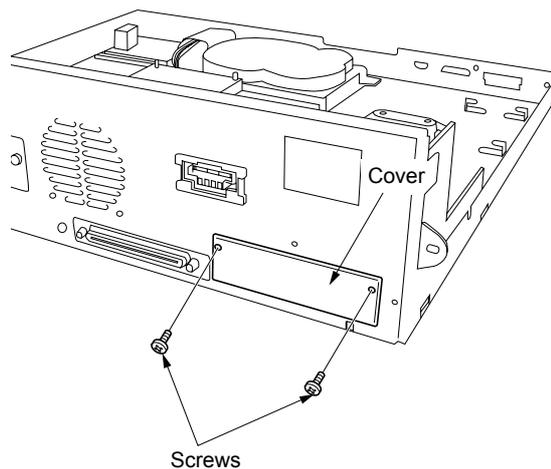


Figure 1-3-149

17. Remove the four screws and the five connectors and then remove the scanner power supply PWB.

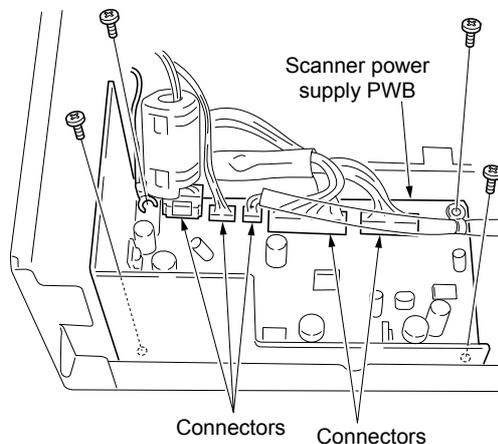


Figure 1-3-150

18. Take off the release paper from the SHEET FAX LOW.

Attach the SHEET FAX LOW to the electrical component mounting plate so that the screw of the electrical component mounting plate passes through the hole of the SHEET FAX LOW and that the edges match.

19. Take off the release paper from the SHEET FAX REAR.

Attach the SHEET FAX REAR to the opening of the electrical component mounting plate by the direction of the arrow.

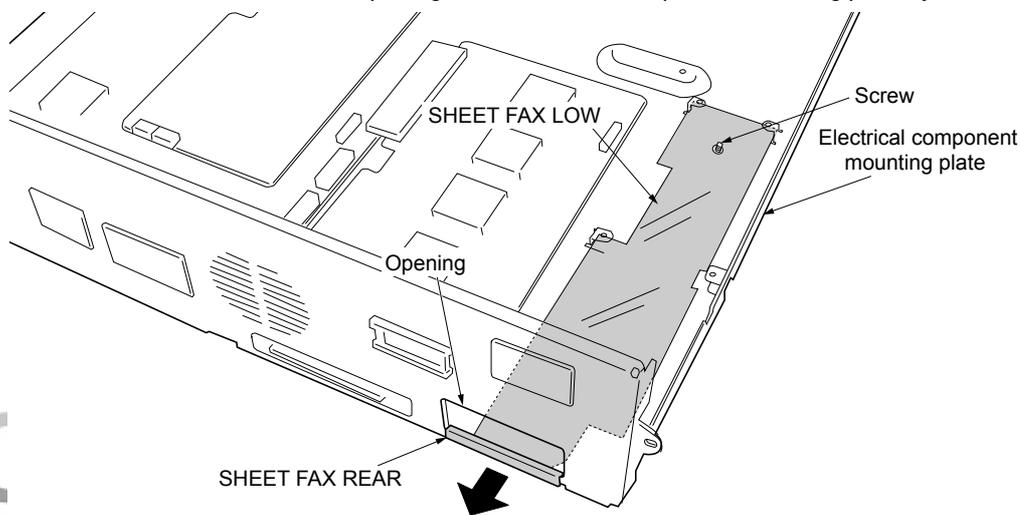
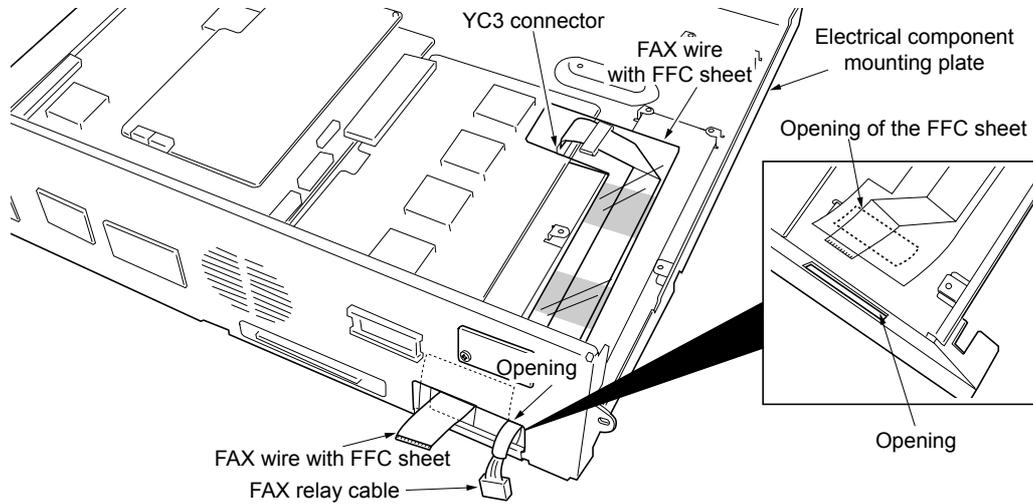


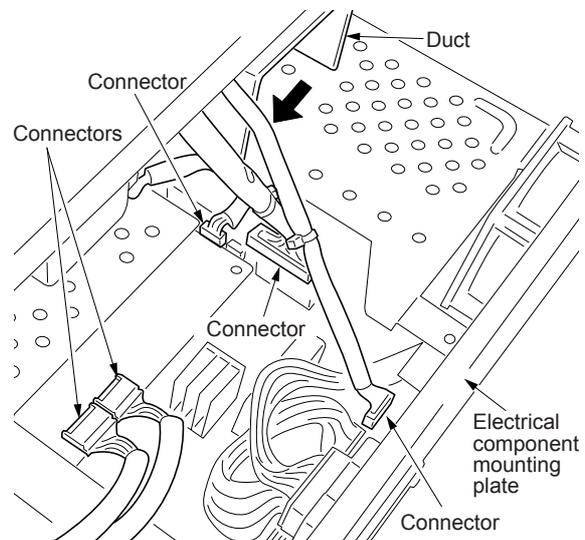
Figure 1-3-151

20. Pull out the housing of the YC3 connector of the scanner MIP PWB to unlock the connector.  
After inserting the FAX wire with FFC sheet into the YC3 connector, push the housing in to lock the connector.
21. Attach the FAX wire with FFC sheet to the electrical component mounting plate so that the opening of the FFC sheet matches the opening of the electrical component mounting plate.
22. Pull out the FAX wire with FFC sheet and the FAX relay cable through the opening of the electrical component mounting plate.



**Figure 1-3-152**

23. Reattach the scanner power supply PWB that has been removed in step 17.
24. Reattach the electrical component cover that has been removed in step 15.
25. Reattach the connectors and the electrical component mounting plate that have been removed in steps 12 to 14 to their original positions.  
\* Return the electrical component mounting plate so that the cable of the connector is positioned on the left of the duct.



**Figure 1-3-153**

26. Reattach the upper right cover that has been removed in step 11 to its original position on the scanner unit.  
Reattach the scanner unit that has been removed in step 10 to its original position in the scanner rack.  
Reattach the connectors and the two screws that have been removed in step 9 to their original positions.
27. Reattach the operation section lower cover that has been removed in step 8 to its original position by inserting five claws and fitting the cover into the copier.
28. Reattach the rear cover that has been removed in step 1 to its original position.

29. Remove the tape and then remove the spacer from the FAX control assembly.  
 Pass the wire of the FAX control assembly through the wire saddle.

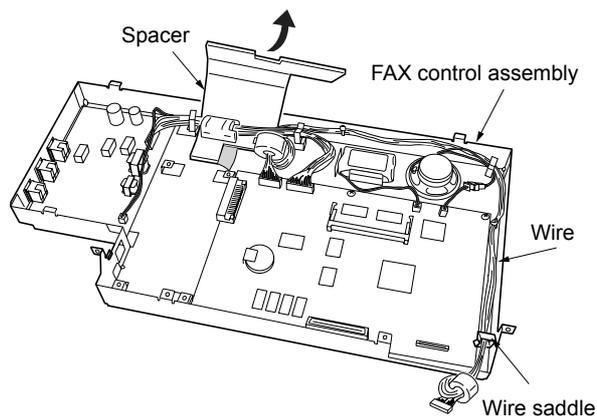


Figure 1-3-154

**Installing the optional memory DIMM**

30. Insert the memory DIMM into the YC4 connector of the FAX control assembly at an angle.  
 \* Push the side of the memory opposite to the insertion slot toward the PWB until it clicks.

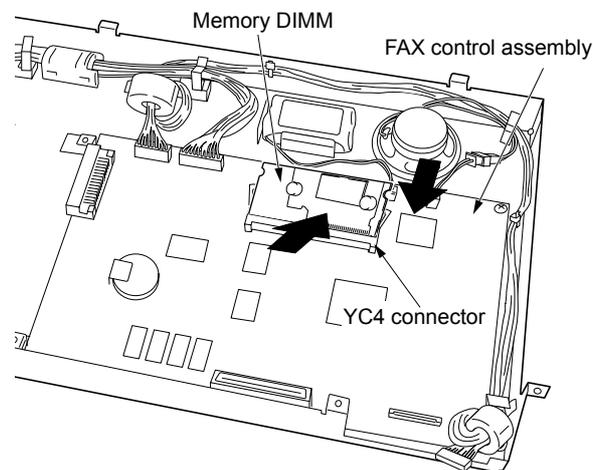


Figure 1-3-155

31. Stick the gasket to the inside of the scanner rack (reference position in the illustration).

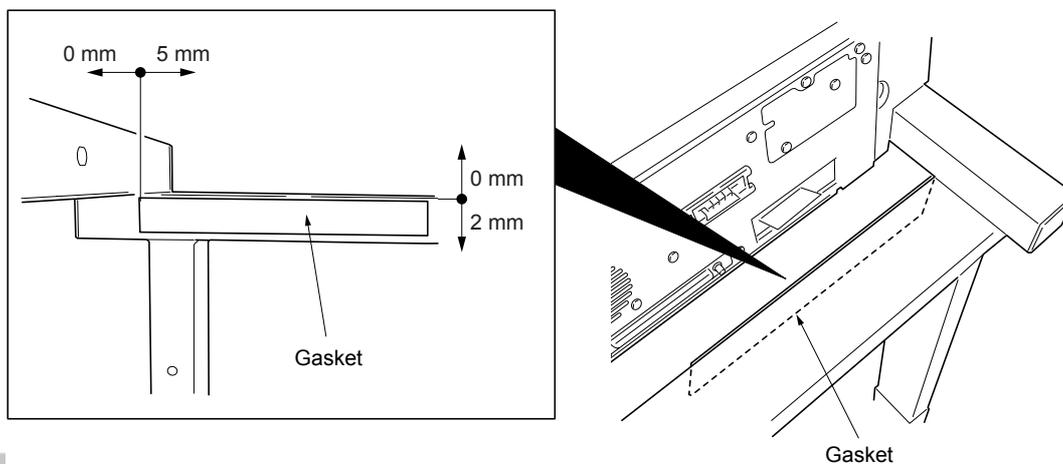


Figure 1-3-156

- 32. Hook the four claws (front three and rear one) of the FAX control assembly on the lower part of the scanner unit and fit the FAX control assembly.

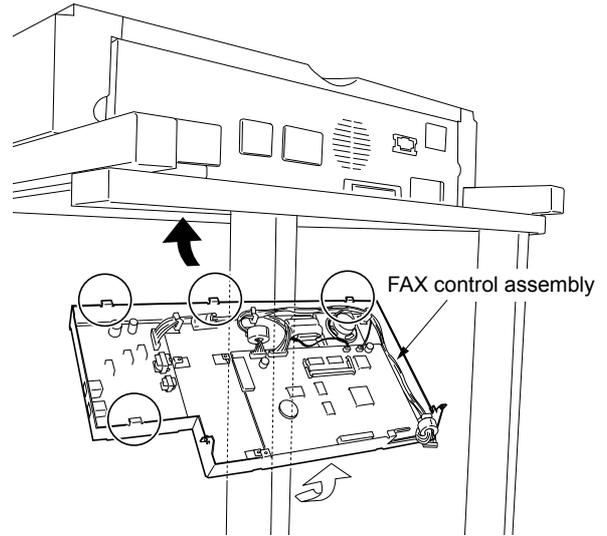


Figure 1-3-157

- 33. Secure the FAX control assembly with the two screws that have been removed in step 16.
- 34. Pass the FAX wire with FFC sheet through the core.  
As shown in the illustration, pass the FAX wire with FFC sheet into the notch of the film.  
Unlock the YC1 connector of the FAX control assembly, connect the FAX wire with FFC sheet to the YC1 connector, and lock the connector.
  - \* When connecting, insert the FAX wire all the way into the connector. Improper connection such as oblique insertion may cause various types of trouble.
- 35. Connect the FAX relay cable to the connector of the FAX control assembly.

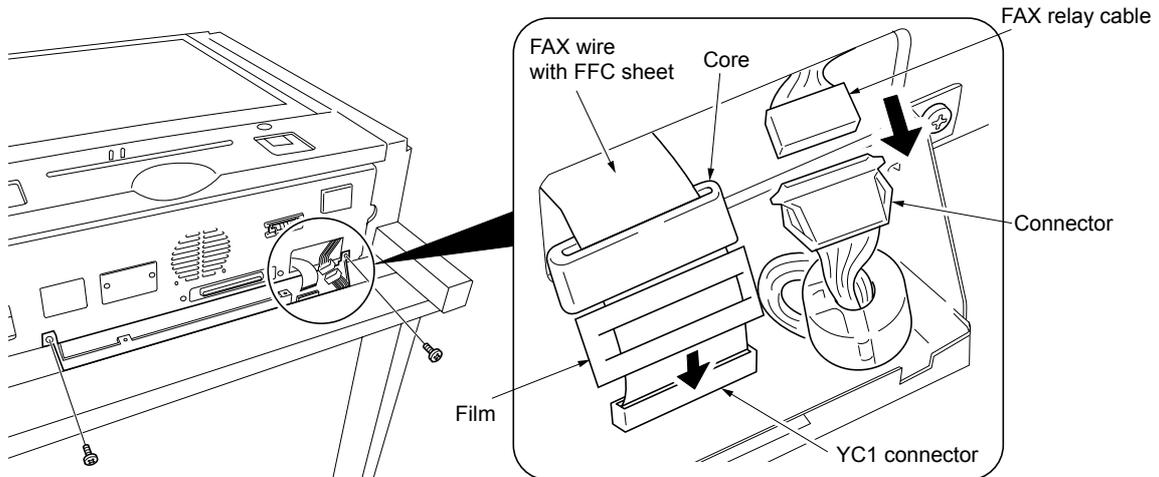


Figure 1-3-158

36. Use four S Tite screws M3 x 8 to fit FAX cover A and FAX cover B.
- \* Fit the FAX cover B by putting it to the rear plate of the scanner unit.
  - \* Fit the FAX cover A and FAX cover B properly so that the connection of the covers is as shown in the illustration.

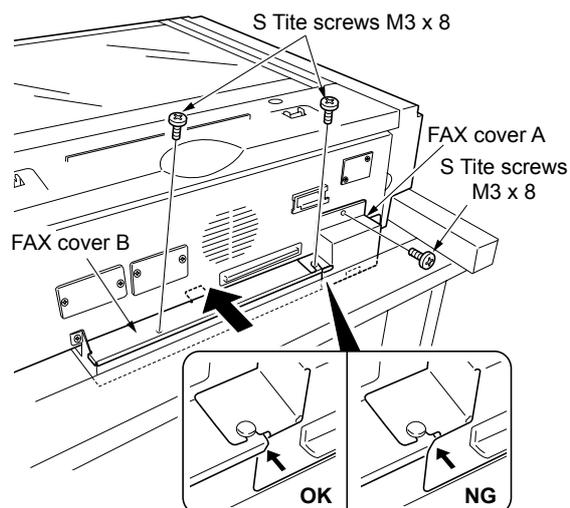


Figure 1-3-159

37. Connect the connector at two locations.

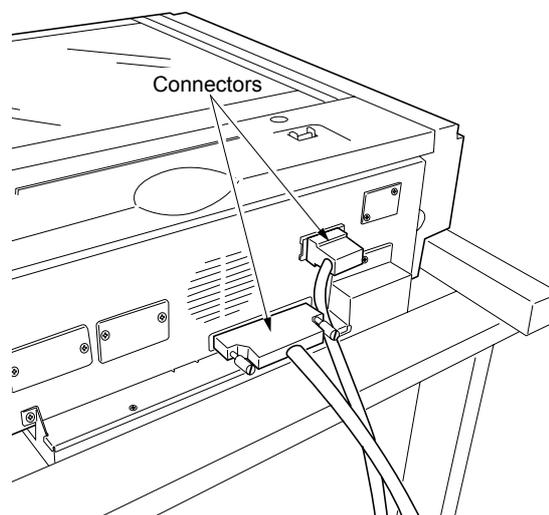


Figure 1-3-160

#### 120 V specifications only

38. Attach the FCC label near the rating plate.

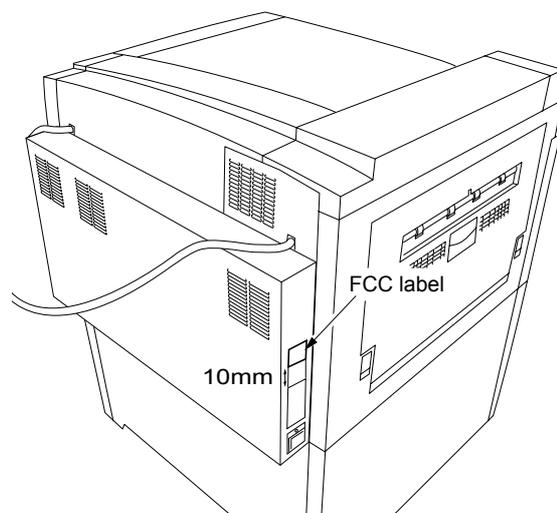


Figure 1-3-161

39. Attach the power label of the FAX kit label to the part under the power switch.

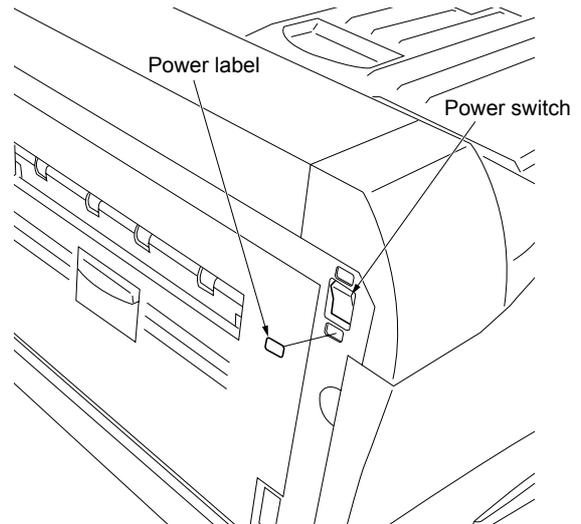


Figure 1-3-162

40. Take the alphabet labels from the FAX kit label, and adhere them above the corresponding numeric keys on the operation panel.
- \* In Asia and Oceania, use the "PQRS TUV WXYZ" label, and do not use the "PRS TUV WXZ" and "OPER" labels.

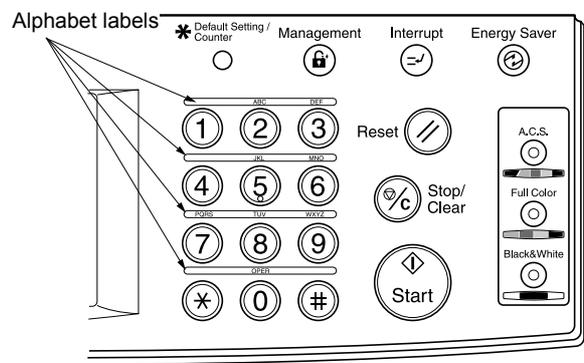


Figure 1-3-163

41. Secure the ground wire with the three cable ties (a, b, c) that tie up the scanner power supply wire and the scanner data wire of the machine.
- Take care not to shift the cable ties from the original positions, and tie up the wires individually in the order of (a), (b), and (c).

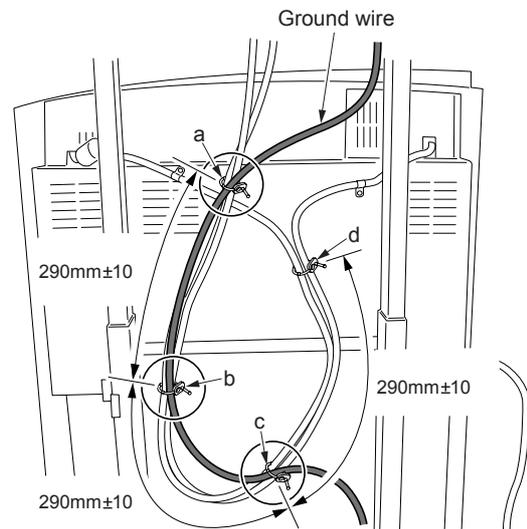


Figure 1-3-164

42. Pass the clamps through the ground wire on both ends and secure the ground wire to the scanner unit and the left side of the copier.
- \* Secure the ground wire of the scanner unit by passing it through the inside of the scanner rack.
  - \* Secure the scanner unit with two S Tite screws M4 x 8 and the left side of the copier with one S Tite screw M4 x 8 and the fixing screw for the rear cover.

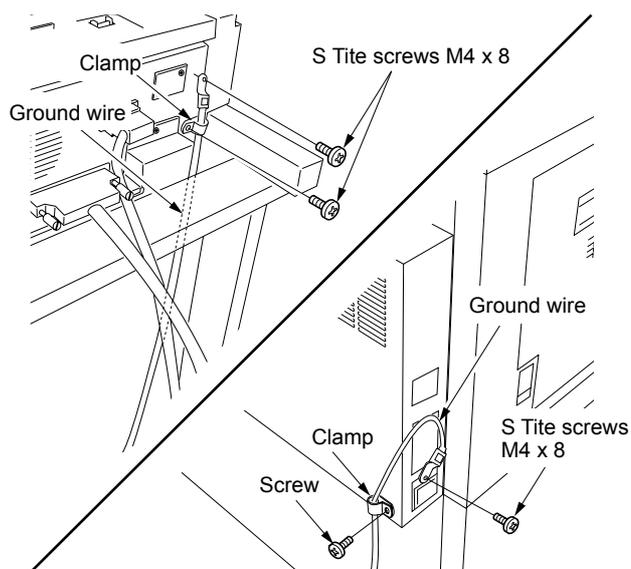


Figure 1-3-165

43. Insert the modular connector cable to the line terminal to connect it to the telephone line.
- \* For 120 V specifications, use supplied modular cord B.

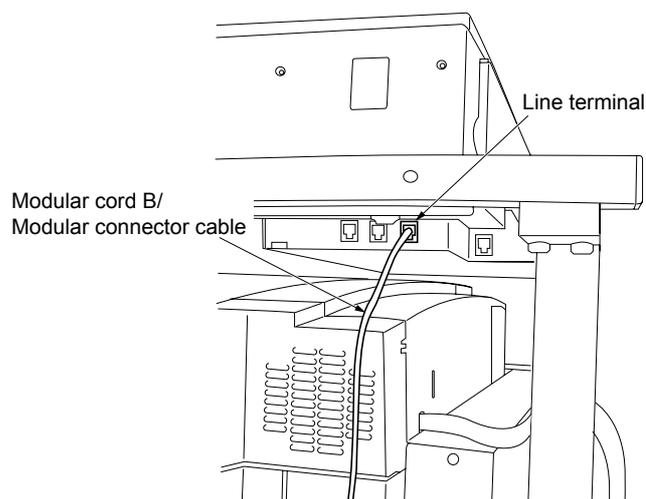


Figure 1-3-166

### 1-3-14 Installing the sheet-through Document Processor (option)

Be sure to perform the following procedure before installing the DP.

1. Open the left cover of DP and remove the two screws, and then remove the paper feed cover.

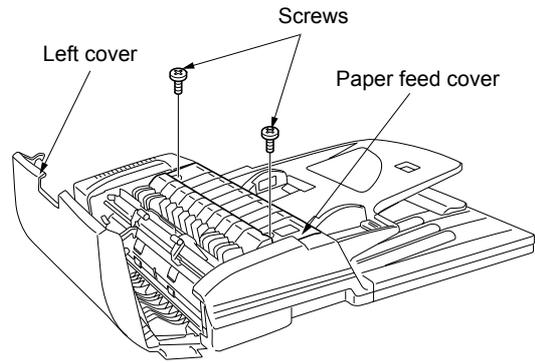


Figure 1-3-166-1

2. Remove the two screws and then the lift plate.

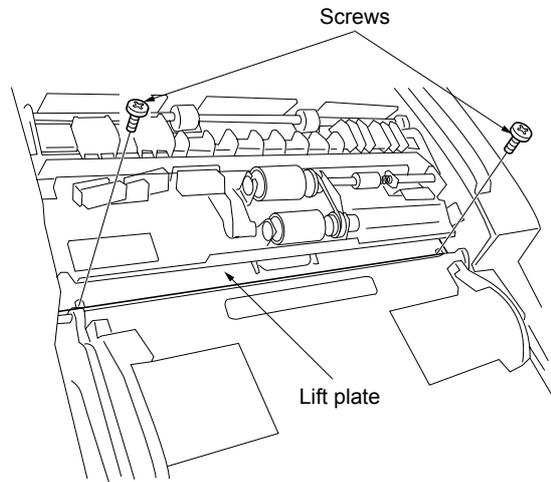


Figure 1-3-166-2

3. Peel off the sticking pad and clean the lift plate by the alcohol. Stick the pad (P/N: 3BC07320) to the original position.

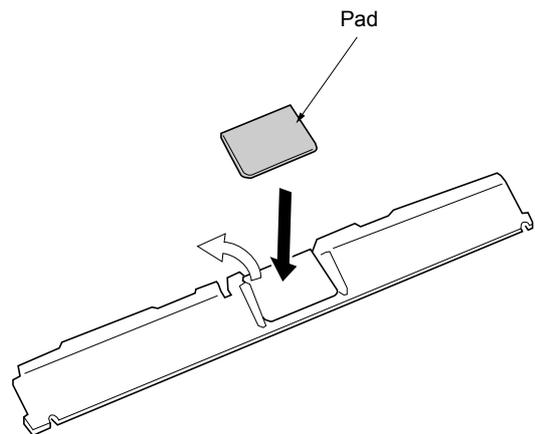
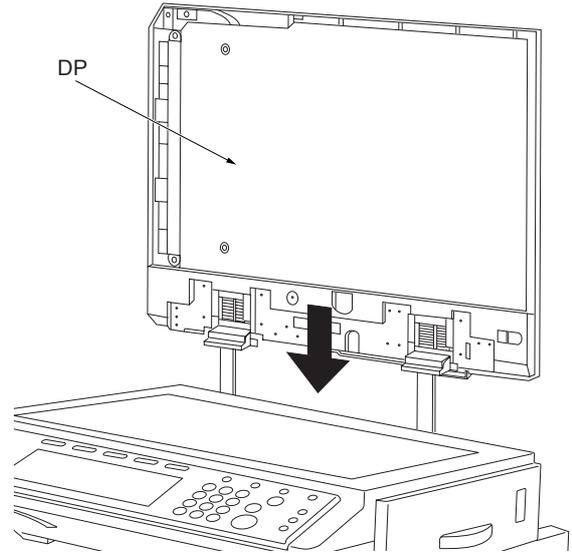


Figure 1-3-166-3

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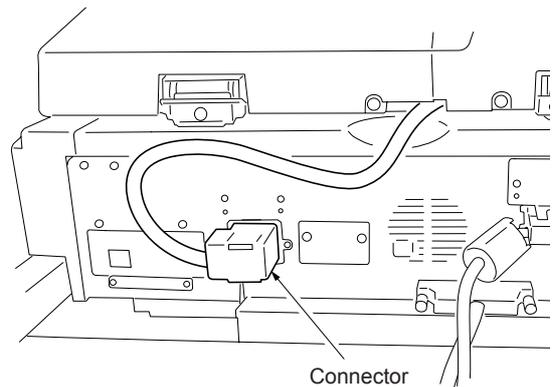
**Procedure**

1. Insert the DP into the machine.



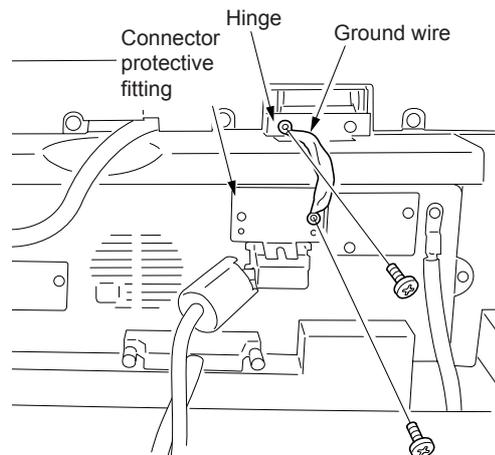
**Figure 1-3-167**

2. Connect the connector of the DP to the machine.



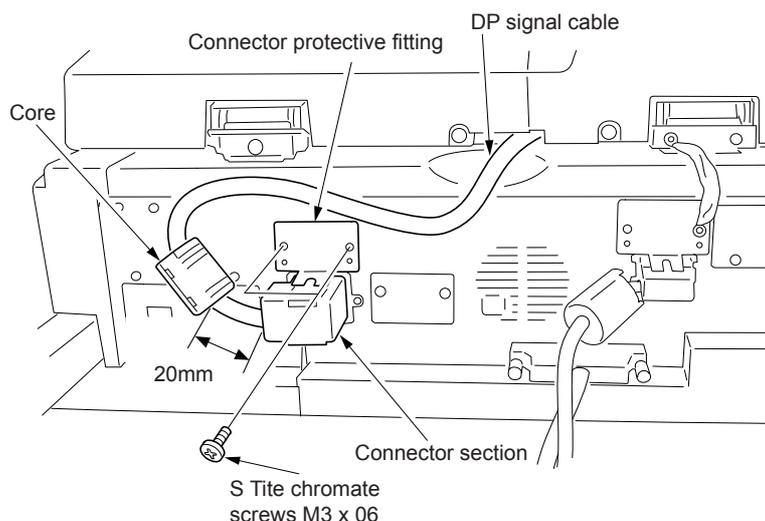
**Figure 1-3-168**

3. Remove the screw from the hinge of the DP and attach one side of the ground wire to the hinge with the removed screw.
4. Remove the screw from the connector protective fitting and attach the other side of the ground wire to the connector protective fitting with the removed screw by tightening them together.



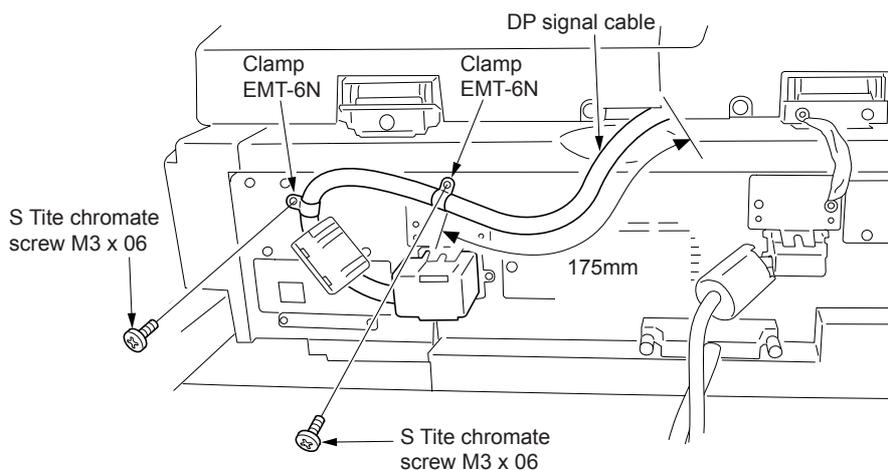
**Figure 1-3-169**

5. While positioning the projection of the connector protective fitting, attach it with the two S Tite chromate screws M3 x 06.
6. Attach the core to the DP signal cable at a location approximately 20 mm from the connector section.



**Figure 1-3-170**

7. Pass the DP signal cable into the two clamps EMT-6N. Secure the clamps EMT-6N at the locations indicated in the illustration with an S Tite chromate screw M3 x 06 for each so that the length of the signal cable to the right clamp is approximately 175 mm.
8. Open and close the DP to check that the signal cable is not pulled when the DP is opened.



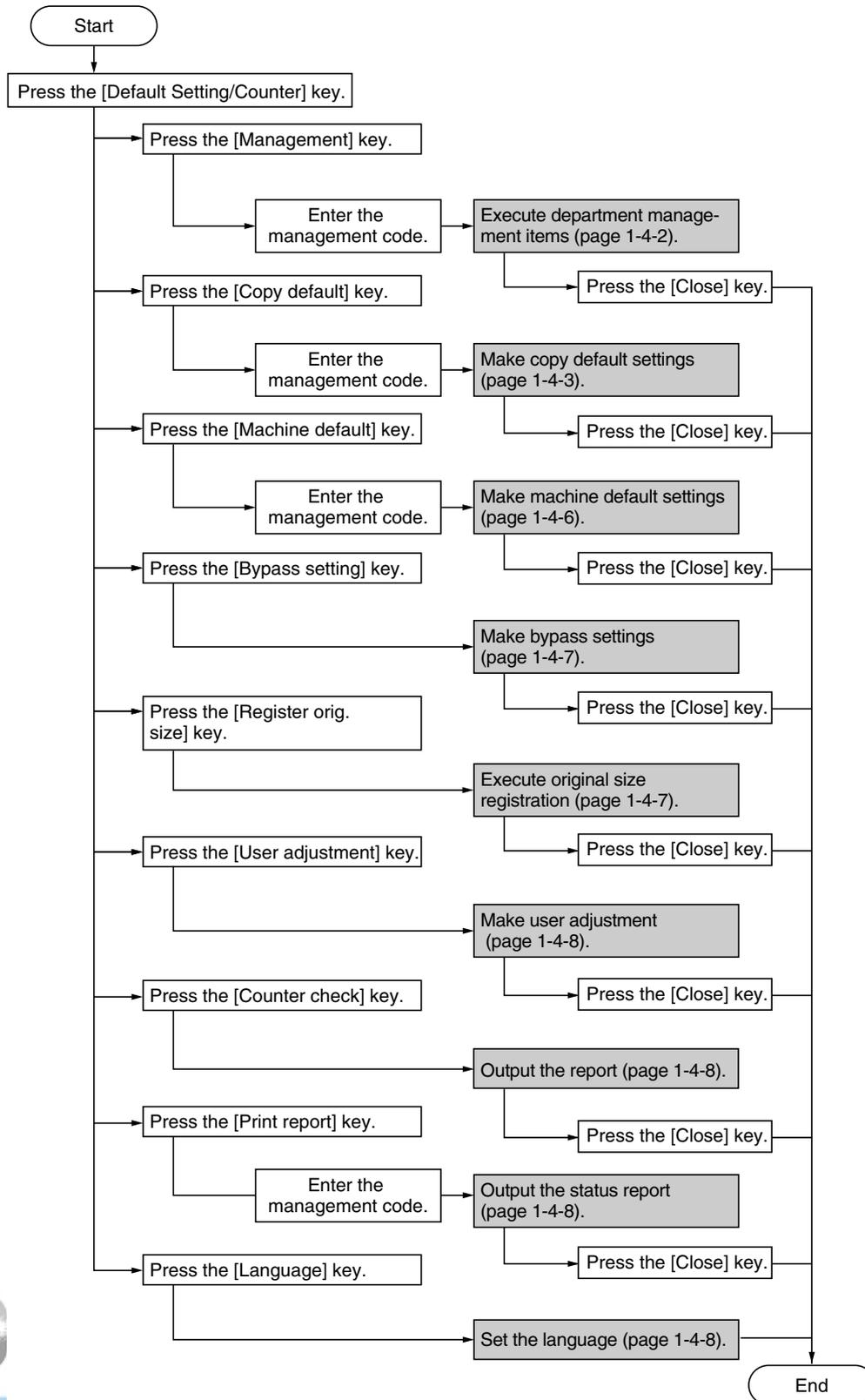
**Figure 1-3-171**

9. Insert the copier power plug to the wall outlet and turn the power switch on.
10. Place the original on the DP and make a test copy. Check the operation and the copy image.
11. If the copy image is different from the original, run the following adjustment.
  - \* Maintenance item U070 (sub-scan line adjustment) (see page 1-4-27)
  - \* Maintenance item U071 (leading edge timing adjustment) (see page 1-4-28)
  - \* Maintenance item U072 (center line adjustment) (see page 1-4-29)

## 1-4-1 Copier management

In addition to a maintenance function for service, the copier is equipped with a management function which can be operated by users (mainly by the copier administrator). In this copier management mode, settings such as default settings can be changed.

### (1) Using the copier management mode



## (2) Setting department management items

### Register new department ID-codes

Registers department ID-codes and the corresponding department name, and set certain restrictions for using the copier under that ID-code.

1. Press the "Management edit" key.
2. Press the "Register" key.
3. Select "ID-code" and then press the "Change #" key.
4. Enter the department ID-code to register (up to 8 digits) using the numeric keys.
5. Select "Name to display" and then press the "Change #" key.
6. Enter the name for that department, and then press the "End" key.
7. Set the restrictions for using the copier under that department ID-code and then press the "Registr." key.

### Delete department ID-codes

1. Press the "Management edit" key.
2. Select the department ID-code to delete, and then press the "Delete" key.
3. Verify that this is the ID-code to delete, and press the "Yes" key.

### Change registered information

1. Press the "Management edit" key.
2. Select the department ID-code to change the registered information, and then press the "Mgt. Inf. Correction" key.
3. Select "ID-code" and then press the "Change #" key.
4. Press the "Clear" key to delete the old ID-code.
5. Enter the new ID-code (up to 8 digits) using the numeric keys.
6. Select "Name to display" and then press the "Change #" key.
7. Press the "AllDel." key to delete the old department name, then enter the new name.
8. Press the "End" key.

### Check all departments

Checks the total number of copies made under all department ID-codes as a whole, print out a copy management report and clear the copy counts for all of the registered department ID-codes.

1. Press the "Management total" key.  
The total number of copies made under all department ID-codes as a whole will be displayed.
2. Press the "Print report" key.  
The copy management report is printed out.
3. Press the "Counter clear" key to clear all of the copy counts.
4. Press the "Yes" key.

### Check individual departments

Checks the total number of copies made under each individual department ID-code and/or clears the copy counts for individual departments as well.

1. Press the "Each Mgt. Total" key.
2. Select the department ID-code to check the copy counts, and then press the "Total" key.  
The total number of copies made under that department ID-code will be displayed.
3. Press the "Counter clear" key to clear all of the copy counts for that ID-code.
4. Press the "Yes" key.

### Turning the copy management function ON/OFF

1. Select "On" or "Off" key.

### Copier function management ON/OFF

1. Press the "Management Def. Set." key.
2. Select "Copy management" and then press the "Change #" key.
3. Press the "On" key.

### Printer function management ON/OFF

Note: This setting is only available when the optional printer board is installed in the copier.

### Printer error report

Note: This setting is only available when the optional printer board is installed in the copier.

### Non-standard printer driver printout

Note: This setting is only available when the optional printer board is installed in the copier.

### Copy/Printer output management

1. Press the "Management Def. Set." key.
2. Select "Copy/Printer output mgt." and then press the "Change #" key.
3. Select "All" or "Each" key.

### Scanner function management ON/OFF

Note: This setting is only available when the optional network scanner board is installed in the copier.

### Fax function management ON/OFF

Note: This setting is only available when the optional fax kit is installed in the copier.

### Response to exceeded restriction

Determines whether further use of the machine will be canceled or an error message will be generated when a department ID-code has exceeded its set limit.

1. Press the "Management Def. Set." key.
2. Select "Excess of limit Setting" and then press the "Change #" key.
3. Select "Is not permitted" or "Only warning" key.



**Default copy limit**

1. Press the "Management Def. Set." key.
2. Select "Def. Val. of coun. limit" and then press the "Change #" key.
3. Enter the default copy limit using the numeric keys. The limit can be set to any 1-page increment up to 999,999.

**Total count for specified paper size (1 to 5)**

1. Press the "Management Def. Set." key.
2. Select one of the "Total size 1" through "Total size 5" settings and then press the "Change #" key.
3. Press the "On" key.
4. Press the "Select size" key.
5. Press the key that corresponds to the desired paper size, and then press the "Close" key.
6. To specify a paper type as well, press the "Select paper type" key.
7. Press the key that corresponds to the desired paper type, and then press the "Close" key.

**(3) Copy default****Exposure mode**

Selects the exposure mode at power-on.

1. Select "Exposure mode" and then press the "Change #" key.
2. Select "Manual" or "Auto" key.

**Exposure adjustment step**

Sets the number of exposure steps for the manual exposure mode.

1. Select "Exposure steps" and then press the "Change #" key.
2. Select "1 step" or "0.5 step" key.

**Original quality**

Sets the default mode for the image quality.

1. Select "Original image quality" ["Image quality original"] and then press the "Change #" key.
2. Select "Text+Photo", "Photo original", "Print original", "Text" or "Map" key.

**Copy mode**

Sets the default mode for color copying.

1. Select "Auto Color/Full-Color/B&W" ["Auto colour/full col./ B&W"] and then press the "Change #" key.
2. Select "Auto color" ["Auto colour"], "Full color" ["Full colour"] or "Black&White" ["Black white"] key.

**A.C.S. adjustment**

Adjusts the level of detection between color and black&white originals in the auto color selection mode.

1. Select "Auto Color Correction" ["Auto colour Correction"] and then press the "Change #" key.
2. Adjust the sensitivity level using the cursor left/right keys.

Setting range: 1 to 5

**Eco print mode ON/OFF**

Determines whether or not the eco print mode will be the default setting in the initial mode.

1. Select "Eco Print" and then press the "Change #" key.
2. Select "On" or "Off" key.

**Paper selection**

Sets whether the copier will automatically select the same size of copy paper as the original once an original is set, or whether the designated default cassette will be automatically selected.

1. Select "Select paper" and then press the "Change #" key.
2. Select "APS" or "Default drawer[cassette]" key.

**Paper type (Auto color paper selection)**

Selects the types of paper that will be available for selection under the APS (Auto Paper Selection) mode when making color copies.

1. Select "Pap. Type(Auto col. pap.)" and then press the "Change #" key.
2. Press the "On" key and then press the keys that correspond to the types of paper to allow to be used under the auto paper selection mode.



**Paper type (Auto B/W paper selection)**

Select the types of paper that will be available for selection under the APS (Auto Paper Selection) mode when making black and white copies.

1. Select "Paper Type(Auto BW Paper)" ["Paper Type (Auto B&W paper)"] and then press the "Change #" key.
2. Press the "On" key and then press the keys that correspond to the types of paper to allow to be used under the auto paper selection mode.

**Default cassette**

Sets one cassette that will be selected automatically regardless of the size of paper loaded in that cassette.

1. Select "Default drawer[cassette]" and then press the "Change #" key.
2. Press the key that corresponds to the desired drawer[cassette].

Settings: 1st paper/2nd paper/3rd paper/4th paper

\* The setting for cassette 1 will not be available on duplex copiers.

\* The setting for cassette 2 through 4 will only be available when the optional paper feeder is installed.

**Cover cassette**

Sets which cassette will be used to feed the cover sheets in the cover mode, the booklet/stitching mode and the book to booklet mode.

1. Select "Drawer for cover paper" ["Cassette for cover paper"] and then press the "Change #" key.
2. Press the key that corresponds to the desired cassette.

Settings: 1st paper/2nd paper/3rd paper/4th paper/  
Bypass

\* The setting for cassette 1 will not be available on duplex copiers.

\* The setting for cassette 2 through 4 will only be available when the optional paper feeder is installed.

**Default magnification ratio**

Sets whether or not the appropriate magnification ratio to be calculated automatically when selecting the size of copy paper.

1. Select "Default magnification" ["Default mode"] and then press the "Change #" key.
2. Select "Manual" or "AMS" key.

**Auto exposure adjustment (color)**

Adjusts the overall exposure level for the auto exposure mode when making color copies.

1. Select "Adjust auto expo.(color)" ["Adjust auto expo.(colour)"] and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Auto exposure adjustment (B/W)**

Adjusts the overall exposure level for the auto exposure mode when making black and white copies.

1. Select "Adjust auto exposure(B&W)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Auto exposure adjustment (OCR)**

Adjusts the overall exposure level for scanning with OCR (Optical Character Recognition) software when using the optional scanner functions of this copier.

1. Select "Adjust auto exposure (OCR)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Manual exposure adjustment (text+photo mode)**

Adjusts the median exposure value when the text+photo mode is selected for the image quality.

1. Select "Adj. manual expo. (Mixed)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Manual exposure adjustment (photo mode)**

Adjusts the median exposure value when the photo mode is selected for the image quality.

1. Select "Adj. manual expo. (photo)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Manual exposure adjustment (print mode)**

Adjusts the median exposure value when the print mode is selected for the image quality.

1. Select "Adj. manual expo. (print)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Manual exposure adjustment (text mode)**

Adjusts the median exposure value when the text mode is selected for the image quality.

1. Select "Adj. manual expo. (Text)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3

**Manual exposure adjustment (map mode)**

Adjusts the median exposure value when the map mode is selected for the image quality.

1. Select "Adj. manual expo. (map)" and then press the "Change #" key.
2. Adjust the exposure using the "Lighter" key or the "Darker" key.

Setting range: -3 to 3



**Sort mode ON/OFF**

Determines whether or not the Sort mode will be the default setting in the initial mode.

1. Select "Sort" and then press the "Change #" key.
2. Select "Sort:On" or "Sort:Off" key.

**Auto Rotation mode ON/OFF**

Determines whether or not the Auto Rotation mode will be the default setting in the initial mode.

1. Select "Auto Rotation" and then press the "Change #" key.
2. Select "Rotate" or "No Rotate" key.

**Margin width**

Determines the default value of the location and width of the margins in the margin mode.

1. Select "Default margin width" and then press the "Change #" key.
2. Press the cursor up/down and left/right keys, as desired, to change the default margins and margin widths to the desired setting.

Setting range: 0 to 3/4"(inch specifications)  
0 to 18 mm (metric specifications)

**Erased border width**

Determines the default value for the width of the border to be erased in the two border erase modes.

1. Select "Default erase width" and then press the "Change #" key.
2. Press the +/- keys to change the displayed widths to those desired.

Setting range

(Inch specifications)

Outside border: 0 to 3/4"

Center area: 0 to 1 1/2"

(Metric specifications)

Outside border: 0 to 18 mm

Center area: 0 to 36 mm

**Copy limit**

Sets the limit for the number of copies (or copy sets) that can be made at a time.

1. Select "Preset limit" and then press the "Change #" key.
2. Press the +/- keys to change the copy limit to the desired setting.

Setting range: 1 to 999

**Repeat copying ON/OFF**

Sets whether or not to prohibit repeat copying, as well as whether or not to make repeat copying the default setting in the initial mode.

1. Select "Modify Copy" and then press the "Change #" key.
2. Select "On" or "Off" key to set the repeat copying. Select "On" or "Off" key to set the repeat copying in the initial mode.

**Registration keys ON/OFF**

Sets whether or not to allow a "Register" key to be displayed in the screen for those function and modes which can be registered under the registration keys. Functions and/or modes can only be registered under registration keys through the "Register" key.

1. Select "Display register key" ["Display "Register" key"] and then press the "Change #" key.
2. Select "On" or "Off" key.

**Customize screen layout (Main functions)**

Changes the order of the main functions and modes that are displayed in the "Basic" and the "User choice" tabs in order to make the display more appropriate to the way you use the copier.

1. Select "Customize(Main function)" and then press the "Change #" key.
2. Press the cursor up/down keys, "Move Ahead" key or the "Move Behind" ["Move backward"] key to change the order of the basic functions and modes.

**Customize screen layout (Add functions)**

Adds often-used functions and/or modes, or to change the order of their layout, in order to make the display more appropriate to the way use of the copier.

1. Select "Customize(Add function)" and then press the "Change #" key.
2. Press the cursor up/down keys and "←" key to change the order of layout.

**(4) Machine default****Auto cassette switching ON/OFF**

Turns automatic cassette switching ON or OFF.

1. Select "Auto drawer switching" ["Auto cassette switching"] and then press the "Change #" key.
2. Select "On" or "Off" key.
3. Select "All types of paper" or "Feed same paper type" key.

**Paper size (cassette 1 - 4)**

Sets the size of paper that is loaded in cassette 1 through 4.

1. Select one of the "Paper size" settings ("1st drawer[cassette]" through "4th drawer[cassette]") and then press the "Change #" key.
2. If you select "Standard sizes" (standard paper size) here, simply press the key that corresponds to the size of paper that is loaded in that cassette.
  - \* The setting for cassette 1 will not be available on duplex copiers.
  - \* The setting for cassette 2 through 4 will only be available when the optional paper feeder is installed.

**Paper type (cassette 1 - 4)**

Sets the type of paper that is loaded in cassette 1 through 4.

1. Select one of the "Paper type" settings ("1st drawer[cassette]" through "4th drawer[cassette]") and then press the "Change #" key.
2. Press the key that corresponds to the type of paper.
  - \* The setting for cassette 1 will not be available on duplex copiers.
  - \* The setting for cassette 2 through 4 will only be available when the optional paper feeder is installed.

**Bypass tray settings display ON/OFF**

1. Select "Check bypass sizing" and then press the "Change #" key.
2. Select "On" or "Off" key.

**Paper weight**

Sets the weight of each paper type.

1. Select "Paper type (Paper weight)" and then press the "Change #" key.
2. Select the paper type to change the setting and then press the "Change #" key.
3. Select a paper weight.

**Custom paper type for 2-sided copying**

Sets whether or not each custom type of paper (custom 1 - custom 8) will be available for use in 2-sided copying.

1. Select "Select paper type (2sided)" and then press the "Change #" key.
2. Select one of the custom paper type settings ("Custom 1" through "Custom 8") and then press the "On or Off" key to change the setting.

**Auto sleep time**

Sets the amount of time that will elapse after copying, or if no operation is performed, before the auto sleep function turns the copier OFF.

[www.tonerplus.com.ua](http://www.tonerplus.com.ua)

1. Select "Sleep mode changing time" and then press the "Change #" key.
2. Press the +/- keys to change the displayed time to the desired setting.  
Setting range: 1/5/15/30/45/60/90/120/180/240 minutes

**Auto low power time**

Sets the amount of time between the point that copying ends and the energy-saving low power mode engages.

1. Select "Low power mode chng. time" and then press the "Change #" key.
2. Press the +/- keys to change the displayed time to the desired setting.  
Setting range: 1/5/15/30/45/60/90/120/180/240 minutes

**Copy eject location**

Sets where finished copies will be ejected.

1. Select "Select Copy output mode" and then press the "Change #" key.
2. Select the desired location.  
Select "Top Tray" or "Finisher" when an optional document finisher is installed. Select from among "Top Tray", "Tray A" and "Tray 1" through "Tray 5" when the multi job tray is installed.  
Select "Top tray" or "Left tray" when the optional left tray is installed.

**Fax eject location**

Sets where incoming faxes will be ejected. This setting is only available when the optional fax kit and document finisher are installed.

1. Select "Select FAX output mode" and then press the "Change #" key.
2. Select the desired location.  
Select "Top Tray" or "Finisher" when an optional document finisher is installed. Select from among "Top Tray", "Tray A" and "Tray 1" through "Tray 5" when the Multi Job Tray is installed.

**Default operation mode**

Sets whether the display that appears after power is turned on to the copier will be the one for the copy operation mode or for the fax operation mode.

This setting is only available when the optional fax kit is installed.

1. Select "Select the main mode" ["Select main mode"] and then press the "Change #" key.
2. Select "Copy mode" or "FAX mode" key.

**Touch panel sound ON/OFF**

Sets whether or not the touch panel will emit a "beep" sound each time a key is pressed.

1. Select "Key sound ON/OFF" and then press the "Change #" key.
2. Select "On" or "Off" key.

**Day and time**

Sets the current date and time.

1. Select "Date/Time" and then press the "Change #" key.
2. Press the +/- keys to change the displayed information for each field ("Year", "Month", "Day" and "Time") to the current time and date.

**Time difference**

Sets a designated time difference.

1. Select "Time difference" and then press the "Change #" key.
2. Press the +/- keys to change the displayed time difference to the desired setting.  
Setting range: +12:00 to -12:00

**Changing the management code**

Changes the management code used by the copy manager.

1. Select "Management code change" ["Change MGMT code with #"] and then press the "Change #" key.
2. Enter a new 4-digit management code using the numeric keys.

**Auto sleep ON/OFF**

Sets whether or not to have the auto sleep function automatically turn the power switch OFF a certain amount of time after copying, or if no operation has been performed on the copier during that time.

1. Select "Auto sleep" and then press the "Change #" key.
2. Select "On" or "Off" key.

**Color/B&W Mix**

Sets the priority mode when copying a document that mixes color and monochrome.

1. Select "Color/B&W Mix" ["Color/B&W Mix"] and then press the "Change #" key.
2. Select "Color priority" ["Colour priority"] or "B&W priority".

**High density print**

*Specifies the priority mode for continuous copying of high density documents.*

1. Select "High Density Print" and then press the "Change #" key.
2. Select the priority mode.

**(5) Bypass setting****Paper size and type**

Sets the paper size and paper type for the bypass settings.

When using special papers such as transparency, cards, and postcards, be sure to set the paper type to prevent faulty transfer and faulty fixing.

1. Press the key that corresponds to the size of paper to be used. If To set the custom size, press the "Input size" key.  
Press the +/- keys to change each of the displayed sizes (length and width) to the desired settings. In metric specifications, the desired sizes can also be entered directly by pressing the corresponding "#-Keys" key and then using the numeric keys.  
Setting range: inch specifications  
Width: 37/8" - 115/8"  
Length: 57/8" - 17"  
metric specifications  
Width: 98 - 297 mm  
Length: 148 - 432 mm
2. Press the "Select paper type" key.
3. Press the key that corresponds to the type of paper to be used.

**Selecting other standard sizes**

Sets a special standard size.

1. Press the "Others Standard" key.
2. Press the "Select size" key.
3. Press the key that corresponds to the size of paper to use, and then press the "Close" key.
4. Press the "Select paper type" key. Press the key that corresponds to the type of paper to use, and then press the "Close" key.

**(6) Original size registration**

Sets a custom original size that can be used under the "Original size selection" procedure.

1. Press the "Register orig. size" key.
2. Select of the "Original size (custom 1)" to "Original size (custom 4)" settings and then press the "Change #" key.
3. Press the +/- keys to change each of the displayed sizes (Y = width and X = length) to the desired settings.

**(7) User adjustment****Auto color adjustment**

Adjusts the color if the color on the originals and that which appears on the copies begins to differ greatly.

1. Press the "Auto gray adjust" ["Auto Gray Adjust"] key.
2. Enter the management code.
3. Press the "On" key.  
A corresponding color pattern will be printed out.
4. Set the color pattern on the platen and then press the start key.

**Drum refresh**

This operation should be performed when high humidity causes the copy image to become blurred or faded.

1. Press the "Drum refresh" key.
2. Press the "On" key. The drum refreshing process will begin. This operation will take approximately 5 minutes.

**Color calibration**

Corrects the color calibration and enable optimal color printing.

1. Press the "Color Calibrat" ["Colour Calibrat"] key.
2. Press the "On" key. The color calibration will begin. This operation will take approximately 2 to 3 minutes.

**Black and white density adjustment**

Adjusts the black and white density.

1. Press the "B & W Densit Adjustment" key.
2. Press the "On" key. The B&W density adjustment process will begin.

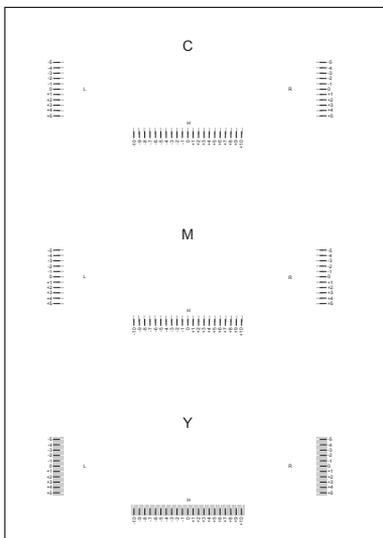
**Color registration**

Correts the printing position of each color (cyan, magenta, yellow) and cancels the color shear.

1. Press the "Color Regist." ["Colour Regist."] key.
2. Enter the management code.
3. Press the "PRT Chart" key.

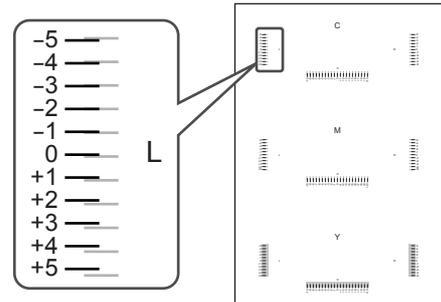
The chart will be printed out.

The printing directions of left (L), right (R) and horizontal (H) positions for each color (cyan, magenta, yellow) are printed on the color chart.



4. Verify the chart. Check the value where the line of graduation (-5 to +5) and printing position overlap each other most closely. If this item is located at the position "0", no registra-tion is required.

In the figure below, "-2" should be registered.



5. Press the "Input Reg. value" key.
6. Enter the value of the position that is closest to straight line for L, H, R of cyan using the + and - keys.
7. Press the "Next" key.
8. Enter the value of the position that is closest to straight line for L, H, R of magenta using the + and - keys.
9. Press the "Next" key.
10. Enter the value of the position that is closest to straight line for L, H, R of yellow using the + and - keys.
11. Press the "Completed" key. The color registration process will begin.
12. Press the "Close" key.
13. Press the "End" key.

**(8) Checking the total counter and printing out the counter report**

Checks the total count of copies, etc., and prints out the information as a counter report.

1. Press the "Counter check" key. The total number of copies and printouts made will be displayed.
2. Press the "Print report" key to print out a counter report.

**(9) Status report print out**

Prints out one of the status report.

1. Press the "Print report" key.
2. Enter the management code.
3. Press the key of the report to print out.
  - <Copy status report>
  - <Machine status report>
  - <Toner coverage report>
  - Total toner coverage report
  - Copy toner coverage report
  - Printer toner coverage report
  - Fax toner coverage report
 The selected status report will be printed out.

**(10) Language selection function**

Switches the language to be displayed on the touch panel.

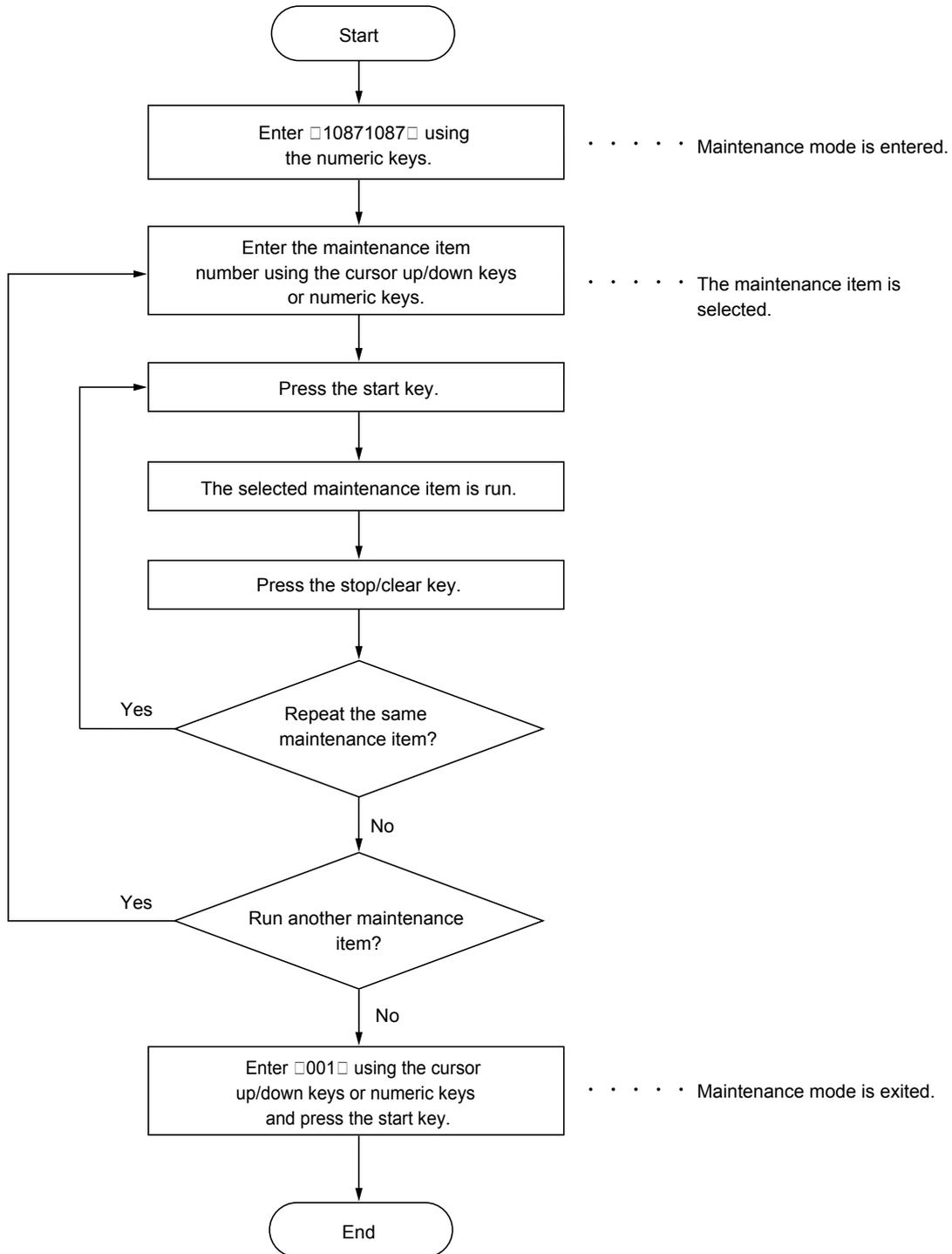
1. Press the "Language" key.
2. Press the key that corresponds to the language to use.
  - Available languages:
  - Inch specifications
  - Japanese, English, French and Spanish
  - Metric specifications
  - English, German, French, Spanish and Italian



**1-4-2 Maintenance mode**

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

(1) Executing a maintenance item



## (2) Maintenance mode item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U000	Printing out an own-status report	-
	U001	Exiting the maintenance mode	-
	U002	Setting the factory default data	-
	U003	Setting the service telephone number	*****
	U004	Displaying the machine number	-
	U018	Displaying the ROM checksum	-
	U019	Displaying the ROM version	-
Initialization	U020	Initializing all data	-
	U021	Memory initializing	-
	U024	HDD formatting	-
	U026	Evacuation of backup data	-
	U027	Return of backup data	-
Drive, paper feed, paper conveying and cooling systems	U030	Checking the operation of the motors	-
	U031	Checking sensors for paper conveying	-
	U032	Checking the operation of the clutches	-
	U033	Checking the operation of the solenoids	-
	U034	Adjusting the print start timing Leading edge adjustment Center line adjustment Paper feed pulley OFF timing	1.9/0.9/0/-0.1/-0.4/0.3/-5 -24/-24/-24/-24 140
	U035	Setting the printing area for folio paper Length Width	330 210
	U037	Checking the operation of the fan motors	-
	U051	Adjusting the amount of slack in the paper	0
	U052	Adjusting duplex	0
	U053	Setting the adjustment of the motor speed Transfer motor Drum motor Paper feed motor 1 Paper feed motor 2 Fuser motor	-115/4/12 0/0/0/50/-80/20/0 -60/-60/-60/-60/-60 -10/0/0/0/0/-10 125
Optical	U061	Checking the operation of the exposure lamps	-
	U063	Adjusting the shading position	0
	U065	Adjusting the scanning magnification	0/0
	U066	Adjusting the scanner leading edge registration	0
	U067	Adjusting the optical axis (center line)	0
	U068	Adjusting the DP scanning start position	0
	U070	Adjusting the DP magnification	0

\*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Optical	U071	Adjusting the DP scanning timing	0
		DP leading edge registration	0
		DP trailing edge registration	0
	U072	Adjusting the DP center line	0
		1 sided	0
		2 sided front	0
	U073	Checking the scanner operation	-
		U076	Executing DP automatic adjustment
	U080	Setting the economy mode	1
	U087	Setting DP reading position modification operation	35
U089	Outputting the MIP-PG pattern	-	
U093	Adjusting the exposure density gradient	0	
	Text mode	0	
	Text and photo mode	0	
	Other mode	0	
	Fax text mode	0	
U099	Fax photo mode	0	
	Adjusting original size detection	160/160/160/0/240	
High voltage	U100	Adjusting the surface potential	0/0/0/0
	U101	Setting the voltage for the transfer	-
	U110	Checking the drum count	-
	U116	Adjusting adhesion output	-
	U117	Checking the drum number	-
	U118	Displaying the drum history	-
	U127	Checking/clearing the transfer belt count	-
	U128	Setting transfer high-voltage timing	-
Developing	U131	Adjusting the toner sensor control voltage	-
	U132	Replenishing toner forcibly	-
	U135	Checking toner motors operation	-
	U139	Displaying the temperature and humidity outside the machine	-
	U140	Setting the developing bias output	191
	U147	Setting for toner applying operation	85/85/85/74
		Setting the operation count for applying toner during printing	80/80/80/69
		Setting the operation count for applying toner at the end of printing	200/266/400/537
		Setting the standard print coverage ratio during printing	200/266/400/537
		Setting the standard print coverage ratio at the end of printing	OFF
Setting the permission/prohibition of applying toner at the time of forced belt cleaning during printing		OFF	
Setting the permission/prohibition of applying toner at the time of forced belt cleaning at power on		ON	
Setting the toner applying operation on the blade		100 ms	
Setting the toner applying time	10		
U155	Setting the toner applying operation count	85	
	Displaying the toner sensor output	-	
U156	Setting the toner replenishment level	102	
	Toner supply level	24	
U157	Toner empty level	-	
U158	Checking/clearing the developing drive time	-	
	Checking the developing count	-	

\*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Fixing and cleaning	U161	Setting the fixing control temperature Primary stabilization fixing temperature Secondary stabilization fixing temperature Fixing temperature for ready Fixing correct temperature for thick paper Fixing correct temperature for transparencies	100/100 140/140 140/135 25/30 25/30
	U162	Stabilizing fixing forcibly	-
	U163	Resetting the fixing problem data	-
	U167	Checking/clearing the fixing count	-
Operation panel/ Optional units	U200	Turning all LEDs ON	-
	U201	Initializing the touch panel	-
	U202	Setting the KMAS host monitoring system	-
	U203	Operating the DP separately	-
	U204	Setting the presence or absence of a key card or key counter	OFF
	U206	Setting the presence or absence of the coin vender	OFF
	U207	Checking the keys on the operation panel	-
	U208	Setting paper feeder paper size	11 x 8.5 (inch) A4 (metric)
	U209	Setting the date and time	-
	U219	Setting the total count indication	OFF
	U237	Setting the maximum number of sheets for finisher stacking	-
	U240	Checking the operation of the finisher	-
	U241	Checking the operation of the switches of the finisher	-
	U243	Checking the operation of the DP motors, clutches and solenoids	-
U244	Checking the operation of the DP switches	-	
U245	Checking messages	-	
U248	Changing the paper ejection device settings	-	
Mode setting	U250	Setting the maintenance cycle	-
	U251	Checking/clearing the maintenance count	-
	U252	Setting the destination	-
	U253	Switching between double and single counts	Double count
	U254	Turning the auto start function ON/OFF	ON
	U255	Setting auto clear time	90 s
	U260	Selecting the timing for copy counting	Eject
	U263	Setting the paper ejection when copying from the DP	Normal
	U264	Setting the display order of the date	Month/Day/Year (inch) Day/Month/Year (metric)
	U265	Selecting destination mode	0
U276	Setting the copy count mode	MODE0	

\*Initial setting for executing maintenance item U020

Section	Item No.	Content of maintenance item	Initial setting*
Mode setting	U277	Setting auto application change time	30 s
	U326	Setting the black line cleaning indication	ON
	U330	Setting the number of copies to be handled by the stacking mode during sorting	100
	U332	Setting the size coefficient	1.0
	U341	Specific paper feed location setting for printing function	-
	U343	Switching between duplex/simplex copy mode	OFF
	U345	Setting the value for maintenance due indication	-
Image processing	U402	Adjusting the margins for the image printing	-
	U403	Adjusting the margins for scanning an original on the contact glass	-
	U404	Adjusting the margins for scanning an original from the DP	-
	U407	Adjusting the leading edge registration for memory image printing	-
	U410	Adjusting the halftone automatically	-
	U411	Adjusting the scanner automatically	-
	U416	Changing the base curve for scanner output	0/0/0
	U425	Setting the target	-
	U429	Setting the offset for the color balance	0
	U432	Setting the center offset for the exposure	0
	U464	Setting the ID correction operation ID correction ON/OFF Number of copies after ID correction is initiated	ON 500/0
	U465	Data reference for ID correction	-
	U467	Setting the color registration adjustment	ON OFF 0
	U468	Checking the color registration data	-
	U470	Setting the compression ratio	-
	U475	Setting the smudge compensation mode	0/0/0
	U485	Setting the image processing mode	0
Network scanner	U504	Initializing the scanner NIC	-
	U505	Setting data base assistant	ON
	U506	Setting the time out	10
	U508	Setting the LDAP	OFF
Other	U901	Checking/clearing total copy counts by paper feed location	-
	U903	Checking/clearing the paper jam count	-
	U904	Checking/clearing the call fir service counts	-
	U905	Checking count by optional devices	-

\*Initial setting for executing maintenance item U020  
[www.tonerplus.com.ua](http://www.tonerplus.com.ua)

Section	Item No.	Content of maintenance item	Initial setting*
Other	U906	Resetting partial operational control	-
	U908	Checking the total count	-
	U910	Clearing the black ratio data	-
	U911	Checking/clearing the paper feed counts by paper size	-
	U917	Setting backup data reading/writing	-
	U920	Checking the copy counts	-
	U925	Checking/clearing the system error counts	-
	U926	Rewriting FAX program	-
	U927	Clearing the all copy counts and machine life counts	-
	U928	Checking machine life counts	-
	U941	Setting the default magnification ratio of the default cassette	-
	U965	Setting the cassette disconnection	OFF
	U991	Checking the scanner operation count	-
	U998	Printing from memory	-

\*Initial setting for executing maintenance item U020

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## (3) Contents of the maintenance mode items

Maintenance item No.	Description								
<b>U000</b>	<p><b>Printing out an own-status report</b></p> <p><b>Description</b> Prints out a list of the current settings of all maintenance items, and occurrences of paper jams and service calls.</p> <p><b>Purpose</b> To check the current setting of the maintenance items, or the occurrences of paper jams and service calls. Before initializing or replacing the backup RAM, print out a list of the current settings of the maintenance items so that you can reenter the same settings after initialization or replacement.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be output. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 633 1398 786"> <thead> <tr> <th data-bbox="336 633 635 674">Display</th> <th data-bbox="635 633 1398 674">List to be printed out</th> </tr> </thead> <tbody> <tr> <td data-bbox="336 674 635 707">MAINTENANCE</td> <td data-bbox="635 674 1398 707">List of the current settings of all maintenance items</td> </tr> <tr> <td data-bbox="336 707 635 741">JAM</td> <td data-bbox="635 707 1398 741">List of paper jams</td> </tr> <tr> <td data-bbox="336 741 635 775">SERVICE CALL</td> <td data-bbox="635 741 1398 775">List of service calls</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The interrupt copy mode is entered and a list is output. When A4/11" x 8 1/2" paper is available, a report of this size is output. If not, specify the paper feed location. When output is complete, the screen for selecting an item is displayed.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	List to be printed out	MAINTENANCE	List of the current settings of all maintenance items	JAM	List of paper jams	SERVICE CALL	List of service calls
Display	List to be printed out								
MAINTENANCE	List of the current settings of all maintenance items								
JAM	List of paper jams								
SERVICE CALL	List of service calls								
<b>U001</b>	<p><b>Exiting the maintenance mode</b></p> <p><b>Description</b> Exits the maintenance mode and returns to the normal copy mode.</p> <p><b>Purpose</b> To exit the maintenance mode.</p> <p><b>Method</b> Press the start key. The normal copy mode is entered.</p>								
<b>U002</b>	<p><b>Setting the factory default data</b></p> <p><b>Description</b> Restores the machine conditions to the factory default settings.</p> <p><b>Purpose</b> To move the mirror frame of the scanner to the position for transport (position in which the frame can be fixed).</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key.</li> </ol> <p>The mirror frame of the scanner returns to the position for transport.</p> <p><b>Completion</b> The power switch turns off.</p>								

Maintenance item No.	Description												
<p><b>U003</b></p>	<p><b>Setting the service telephone number</b>  <b>Description</b>  Sets the telephone number to be displayed when a service call code is detected.  <b>Purpose</b>  To set (during initial set-up of the machine) the telephone number for contacting service.  <b>Method</b>  Press the start key. The currently set telephone number is displayed.  <b>Setting</b>  1. Use the numeric keys to enter the telephone number (up to 15 digits).  * To enter symbols such as hyphens and parentheses, select as required from the symbols displayed on the touch panel as shown below. To move the cursor, press Left or Right in the bottom row.</p> <table border="1" data-bbox="335 600 526 728"> <tr> <td>*</td> <td>#</td> </tr> <tr> <td>(</td> <td>)</td> </tr> <tr> <td>-</td> <td>(Space)</td> </tr> <tr> <td>Left</td> <td>Right</td> </tr> </table> <p>2. Press the start key. The telephone number is set, and the screen for selecting a maintenance item No. is displayed.  <b>Completion</b>  To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	*	#	(	)	-	(Space)	Left	Right				
*	#												
(	)												
-	(Space)												
Left	Right												
<p><b>U004</b></p>	<p><b>Displaying the machine number</b>  <b>Description</b>  Displays the machine number.  <b>Purpose</b>  To check the machine number.  <b>Method</b>  Press the start key. The currently machine number is displayed.  <b>Completion</b>  Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
<p><b>U018</b></p>	<p><b>Displaying the ROM checksum</b>  <b>Description</b>  Displays the checksum of ROM.  <b>Purpose</b>  To check the checksum.  <b>Method</b>  Press the start key. The ROM checksum is displayed.</p> <table border="1" data-bbox="335 1377 1396 1608"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCANNER</td> <td>Scanner main PWB ROM checksum</td> </tr> <tr> <td>ENGINE</td> <td>Engine controller PWB ROM checksum</td> </tr> <tr> <td>LANGUAGE(Stand.)</td> <td>Standard language ROM checksum</td> </tr> <tr> <td>LANGUAGE(Optional)</td> <td>Optional language ROM checksum</td> </tr> <tr> <td>FINISHER</td> <td>Document finisher* ROM checksum</td> </tr> </tbody> </table> <p>*Optional.</p> <p><b>Completion</b>  Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SCANNER	Scanner main PWB ROM checksum	ENGINE	Engine controller PWB ROM checksum	LANGUAGE(Stand.)	Standard language ROM checksum	LANGUAGE(Optional)	Optional language ROM checksum	FINISHER	Document finisher* ROM checksum
Display	Description												
SCANNER	Scanner main PWB ROM checksum												
ENGINE	Engine controller PWB ROM checksum												
LANGUAGE(Stand.)	Standard language ROM checksum												
LANGUAGE(Optional)	Optional language ROM checksum												
FINISHER	Document finisher* ROM checksum												



Maintenance item No.	Description																												
<b>U019</b>	<p><b>Displaying the ROM version</b></p> <p><b>Description</b> Displays the part number for the ROM fitted to each PWB.</p> <p><b>Purpose</b> To check the part number or to decide, based on the last digit of the number, if the newest version of ROM is installed.</p> <p><b>Method</b> Press the start key. The ROM version (the last 6 digits of the part number) is displayed.</p> <table border="1" data-bbox="331 504 1396 1030"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCANNER</td> <td>Scanner main PWB ROM IC</td> </tr> <tr> <td>ENGINE</td> <td>Engine controller PWB ROM IC</td> </tr> <tr> <td>LANGUAGE (Stand.)</td> <td>Standard language ROM IC</td> </tr> <tr> <td>LANGUAGE(Optional)</td> <td>Optional language ROM IC</td> </tr> <tr> <td>SCANNER BOOT</td> <td>Scanner main PWB booting</td> </tr> <tr> <td>ENGINE BOOT</td> <td>Engine controller PWB booting</td> </tr> <tr> <td>PRINTER</td> <td>Printer board ROM IC</td> </tr> <tr> <td>NETWORK SCANNER</td> <td>Network scanner ROM IC</td> </tr> <tr> <td>LPH</td> <td>LPH drive PWB ROM IC</td> </tr> <tr> <td>CASSETTE1</td> <td>Paper feeder main PWB ROM IC</td> </tr> <tr> <td>CASSETTE2</td> <td>Paper feeder main PWB ROM IC</td> </tr> <tr> <td>FINISHER</td> <td>Document finisher main PWB ROM IC</td> </tr> <tr> <td>FINISHER BOOT</td> <td>Document finisher main PWB booting</td> </tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SCANNER	Scanner main PWB ROM IC	ENGINE	Engine controller PWB ROM IC	LANGUAGE (Stand.)	Standard language ROM IC	LANGUAGE(Optional)	Optional language ROM IC	SCANNER BOOT	Scanner main PWB booting	ENGINE BOOT	Engine controller PWB booting	PRINTER	Printer board ROM IC	NETWORK SCANNER	Network scanner ROM IC	LPH	LPH drive PWB ROM IC	CASSETTE1	Paper feeder main PWB ROM IC	CASSETTE2	Paper feeder main PWB ROM IC	FINISHER	Document finisher main PWB ROM IC	FINISHER BOOT	Document finisher main PWB booting
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FINISHER BOOT	Document finisher main PWB booting																												
<b>U020</b>	<p><b>Initializing all data</b></p> <p><b>Description</b> Initializes the backup memory on the scanner main PWB and engine controller PWB in order to return to the factory default settings. Also checks the accuracy of the real-time clock (RTC).</p> <p><b>Purpose</b> Used when replacing backup memory on the scanner main PWB and engine controller PWB.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Use the numeric keys to enter the current date, and then press the start key. * Be sure to enter the date. If the date is not entered and initialization is executed, RTC PWB problem is detected. * The screen for initializing is displayed.</li> <li>3. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>4. Press the start key. All data in the backup memory is initialized and the default setting for the inch specifications is registered. Run maintenance item U020 to return the setting according to the destination. The date in the real time clock is compared with the entered date. When initializing is complete, the machine automatically returns to the same status as when the power switch is turned on.</li> </ol> <p><b>Completion</b> To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																												

Maintenance item No.	Description								
U021	<p><b>Memory initializing</b></p> <p><b>Description</b> Initializes all settings, except those pertinent to the type of copier, 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."</p> <p><b>Purpose</b> To return the machine settings to their factory default.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing the maintenance item is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key. All data except that pertinent to the type of copier is initialized and the default setting for each destination is registered. When initializing is complete, the machine automatically returns to the same status as when the power switch is turned on.</li> </ol> <p><b>Completion</b> To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
U024	<p><b>HDD formatting</b></p> <p><b>Description</b> Formats the HDD backup data areas for the network scanner and department administration.</p> <p><b>Purpose</b> To initialize the HDD when installing or replacing the HDD after shipping.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing the maintenance item is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key to initialize the hard disk. The EXECUTE display flashes during initializing. Initialization results is displayed when initializing is completed.</li> <li>4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
U026	<p><b>Evacuation of backup data</b></p> <p><b>Description</b> Transfers the backup data of the scanner main PWB to the EEPROM.</p> <p><b>Purpose</b> Used when replacing the scanner main PWB.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key to transfer the backup data. The screen displays the result.</li> </ol> <p>EXECUTE CHECK SUM **** CODE XXXX Where XXX is the code indicating the contents. See the table below.</p> <table border="1" data-bbox="331 1668 1436 1818"> <thead> <tr> <th>Code</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0000</td> <td>Processing ends correctly.</td> </tr> <tr> <td>0101</td> <td>Verification abnormality occurs.</td> </tr> <tr> <td>0102</td> <td>Verification abnormality occurs at the time of check sum entry.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without transferring the data, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Code	Meaning	0000	Processing ends correctly.	0101	Verification abnormality occurs.	0102	Verification abnormality occurs at the time of check sum entry.
Code	Meaning								
0000	Processing ends correctly.								
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0102	Verification abnormality occurs at the time of check sum entry.								

Maintenance item No.	Description														
U027	<p><b>Return of backup data</b></p> <p><b>Description</b> Transfers the backup data of the EEPROM which was transferred with the U026 to flash memory.</p> <p><b>Purpose</b> To use after the scanner main PWB replaced.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key to transfer the backup data. The screen displays the result.</li> </ol> <p>EXECUTE CHECK SUM **** CODE XXXX Where XXX is the code indicating the contents. See the table below.</p> <table border="1" data-bbox="331 705 1436 817"> <thead> <tr> <th>Code</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0000</td> <td>Processing ends correctly.</td> </tr> <tr> <td>0203</td> <td>Check sum does not agree when reading out from the EEPROM.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Disconnect and connect the power plug.</li> </ol> <p><b>Completion</b> To exit this maintenance item without transferring the data, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Code	Meaning	0000	Processing ends correctly.	0203	Check sum does not agree when reading out from the EEPROM.								
Code	Meaning														
0000	Processing ends correctly.														
0203	Check sum does not agree when reading out from the EEPROM.														
U030	<p><b>Checking the operation of the motors</b></p> <p><b>Description</b> Drives each motor.</p> <p><b>Description</b> To check the operation of each motor.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the motor to be operated. The selected item is displayed in reverse and the operation starts.</li> </ol> <table border="1" data-bbox="331 1198 1396 1601"> <thead> <tr> <th>Display</th> <th>Motor</th> </tr> </thead> <tbody> <tr> <td>BK</td> <td>The drum motor K, developing K/fuser motor and transfer roller lift motor are turned ON.</td> </tr> <tr> <td>COLOR</td> <td>The drum motor M, drum motor C, drum motor Y, drum motor K, developing K/fuser motor, developing MCY motor and transfer roller lift motor are turned ON.</td> </tr> <tr> <td>FEED</td> <td>The paper feed motor is turned ON.</td> </tr> <tr> <td>TC UP/DOWN</td> <td>The transfer roller lift motor is turned ON.</td> </tr> <tr> <td>OP.FEED1</td> <td>The paper feeder main motor of upper paper feeder* is turned ON.</td> </tr> <tr> <td>OP.FEED2</td> <td>The paper feeder main motor of lower paper feeder* is turned ON.</td> </tr> </tbody> </table> <p>*Optional.</p> <ol style="list-style-type: none"> <li>3. To stop the operation, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor	BK	The drum motor K, developing K/fuser motor and transfer roller lift motor are turned ON.	COLOR	The drum motor M, drum motor C, drum motor Y, drum motor K, developing K/fuser motor, developing MCY motor and transfer roller lift motor are turned ON.	FEED	The paper feed motor is turned ON.	TC UP/DOWN	The transfer roller lift motor is turned ON.	OP.FEED1	The paper feeder main motor of upper paper feeder* is turned ON.	OP.FEED2	The paper feeder main motor of lower paper feeder* is turned ON.
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OP.FEED2	The paper feeder main motor of lower paper feeder* is turned ON.														

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U031	<p><b>Checking sensors for paper conveying</b></p> <p><b>Description</b> Displays the ON/OFF status of each paper detection sensor on the paper conveying path.</p> <p><b>Purpose</b> To check the operation of the switches for paper conveying.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. A list of sensors, the on-off status of which can be checked, are displayed.</li> <li>2. Turn each sensor on and off manually to check the status.</li> </ol> <p>When the on-status of a sensor is detected, that sensor is displayed in reverse.</p> <table border="1" data-bbox="331 533 1398 1361"> <thead> <tr> <th data-bbox="338 542 635 573">Display</th> <th data-bbox="635 542 1391 573">Sensor</th> </tr> </thead> <tbody> <tr> <td data-bbox="338 573 635 604">FEED SW</td> <td data-bbox="635 573 1391 604">Upper feed sensor (UFS)</td> </tr> <tr> <td data-bbox="338 604 635 636">FEED2 SW</td> <td data-bbox="635 604 1391 636">Lower feed sensor (LFS)</td> </tr> <tr> <td data-bbox="338 636 635 667">RES SW</td> <td data-bbox="635 636 1391 667">Registration sensor (REGS)</td> </tr> <tr> <td data-bbox="338 667 635 698">FIX SW</td> <td data-bbox="635 667 1391 698">Fuser conveying sensor (FUCS)</td> </tr> <tr> <td data-bbox="338 698 635 730">EJE U SW</td> <td data-bbox="635 698 1391 730">Face-up exit sensor (FDES)</td> </tr> <tr> <td data-bbox="338 730 635 761">EJE D SW</td> <td data-bbox="635 730 1391 761">Face-down exit sensor (FDES)</td> </tr> <tr> <td data-bbox="338 761 635 792">DUP1 SW</td> <td data-bbox="635 761 1391 792">Duplex conveying sensor (DUPCS)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 792 635 824">DUP2 SW</td> <td data-bbox="635 792 1391 824">Duplex guide sensor (DUPGS)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 824 635 855">DUP3 SW</td> <td data-bbox="635 824 1391 855">Duplex paper entrance sensor (DUPPENS)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 855 635 887">DUP4 SW</td> <td data-bbox="635 855 1391 887">Duplex registration sensor (DUPREGS)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 887 635 918">DUP5 SW</td> <td data-bbox="635 887 1391 918">Duplex conveying sensor (DUPCONVS)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 918 635 949">DUP6 SW</td> <td data-bbox="635 918 1391 949">Duplex paper eject sensor (DUPES)<sup>*1</sup></td> </tr> <tr> <td data-bbox="338 949 635 981">FEED3 SW</td> <td data-bbox="635 949 1391 981">Paper feeder feed sensor (PFFS)<sup>*2</sup></td> </tr> <tr> <td data-bbox="338 981 635 1012">FEED4 SW</td> <td data-bbox="635 981 1391 1012">Paper feeder upper feed sensor (PFFS-U)<sup>*3</sup></td> </tr> <tr> <td data-bbox="338 1012 635 1043">FEED5 SW</td> <td data-bbox="635 1012 1391 1043">Paper feeder lower feed sensor (PFFS-L)<sup>*3</sup></td> </tr> <tr> <td data-bbox="338 1043 635 1075">FEED6 SW</td> <td data-bbox="635 1043 1391 1075">-</td> </tr> <tr> <td data-bbox="338 1075 635 1106">FEED7 SW</td> <td data-bbox="635 1075 1391 1106">Paper feeder lower feed sensor (PFFS-L)<sup>*4</sup></td> </tr> <tr> <td data-bbox="338 1106 635 1137">OVER F SW</td> <td data-bbox="635 1106 1391 1137">Face-down paper full sensor (FDPFS)</td> </tr> <tr> <td data-bbox="338 1137 635 1169">DECK SW</td> <td data-bbox="635 1137 1391 1169">Paper feeder upper feed sensor (PFFS-U)<sup>*4</sup></td> </tr> <tr> <td data-bbox="338 1169 635 1200">LEFT COV SW</td> <td data-bbox="635 1169 1391 1200">Left deck right conveying sensor (LDCONS-R)<sup>*4</sup></td> </tr> <tr> <td data-bbox="338 1200 635 1232">FEED7 SW</td> <td data-bbox="635 1200 1391 1232">Left deck left conveying sensor (LDCONS-L)<sup>*4</sup></td> </tr> </tbody> </table> <p>*1: Duplex copier only. *2: Optional 500-sheet paper feeder. *3: Optional 1500-sheet paper feeder. *4: Optional 3000-sheet paper feeder.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Sensor	FEED SW	Upper feed sensor (UFS)	FEED2 SW	Lower feed sensor (LFS)	RES SW	Registration sensor (REGS)	FIX SW	Fuser conveying sensor (FUCS)	EJE U SW	Face-up exit sensor (FDES)	EJE D SW	Face-down exit sensor (FDES)	DUP1 SW	Duplex conveying sensor (DUPCS) <sup>*1</sup>	DUP2 SW	Duplex guide sensor (DUPGS) <sup>*1</sup>	DUP3 SW	Duplex paper entrance sensor (DUPPENS) <sup>*1</sup>	DUP4 SW	Duplex registration sensor (DUPREGS) <sup>*1</sup>	DUP5 SW	Duplex conveying sensor (DUPCONVS) <sup>*1</sup>	DUP6 SW	Duplex paper eject sensor (DUPES) <sup>*1</sup>	FEED3 SW	Paper feeder feed sensor (PFFS) <sup>*2</sup>	FEED4 SW	Paper feeder upper feed sensor (PFFS-U) <sup>*3</sup>	FEED5 SW	Paper feeder lower feed sensor (PFFS-L) <sup>*3</sup>	FEED6 SW	-	FEED7 SW	Paper feeder lower feed sensor (PFFS-L) <sup>*4</sup>	OVER F SW	Face-down paper full sensor (FDPFS)	DECK SW	Paper feeder upper feed sensor (PFFS-U) <sup>*4</sup>	LEFT COV SW	Left deck right conveying sensor (LDCONS-R) <sup>*4</sup>	FEED7 SW	Left deck left conveying sensor (LDCONS-L) <sup>*4</sup>
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Maintenance item No.	Description																																										
U032	<p><b>Checking the operation of the clutches</b></p> <p><b>Description</b> Turns each clutch ON.</p> <p><b>Purpose</b> To check the operation of each clutch.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the clutch to be operated. The selected item is displayed in reverse.</li> <li>3. Press the start key. The selected clutch turns on for 1 s.</li> </ol> <table border="1" data-bbox="331 533 1396 1406"> <thead> <tr> <th data-bbox="339 539 635 577">Display</th> <th data-bbox="635 539 1396 577">Clutch</th> </tr> </thead> <tbody> <tr> <td>BYP</td> <td>Bypass feed clutch (BYPCL)</td> </tr> <tr> <td>RES</td> <td>Registration clutch (REGCL)</td> </tr> <tr> <td>CONV1 H</td> <td>Conveying H clutch (CONHCL)</td> </tr> <tr> <td>CONV1 L</td> <td>Conveying L clutch (CONLCL)</td> </tr> <tr> <td>CONV2 H</td> <td>Paper feeder feed H clutch (PFFHCL)</td> </tr> <tr> <td>CONV2 L</td> <td>Paper feeder feed L clutch (PFFLCL)</td> </tr> <tr> <td>FEED1 H</td> <td>Primary paper feed H clutch (PPFHCL)</td> </tr> <tr> <td>FEED1 L</td> <td>Primary paper feed L clutch (PPFLCL)</td> </tr> <tr> <td>FEED2 H</td> <td>Paper feeder upper feed H clutch (PFFHCL-U)<sup>*1*2</sup></td> </tr> <tr> <td>FEED2 L</td> <td>Paper feeder upper feed L clutch (PFFLCL-U)<sup>*1*2</sup></td> </tr> <tr> <td>FEED3</td> <td>Paper feeder middle feed H clutch (PFFHCL-M)<sup>*1</sup></td> </tr> <tr> <td>FEED4</td> <td>Paper feeder lower feed H clutch (PFFHCL-L)<sup>*1</sup></td> </tr> <tr> <td>CONV3 H</td> <td>Paper feeder conveying H clutch (PFCONHCL)<sup>*1</sup></td> </tr> <tr> <td>CONV3 L</td> <td>Paper feeder conveying L clutch (PFCONLCL)<sup>*1</sup></td> </tr> <tr> <td>CONV4</td> <td>Paper feeder conveying H clutch (PFCONHCL)<sup>*1</sup></td> </tr> <tr> <td>DUP</td> <td>Duplex feed clutch (DUPFCL)<sup>*3</sup></td> </tr> <tr> <td>DECK</td> <td>Paper feeder conveying H clutch (PFCONHCL)<sup>*2</sup></td> </tr> <tr> <td>FEED6</td> <td>Right deck feed clutch (RDFCL)<sup>*2</sup></td> </tr> <tr> <td>LEFT</td> <td>Left deck conveying clutch (LDCONCL)<sup>*2</sup></td> </tr> <tr> <td>FEED7</td> <td>Left deck feed clutch (LDFCL)<sup>*2</sup></td> </tr> </tbody> </table> <p>*1:Optional 1500-sheet paper feeder. *2:Optional 3000-sheet paper feeder. *3:Duplex copier only.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Clutch	BYP	Bypass feed clutch (BYPCL)	RES	Registration clutch (REGCL)	CONV1 H	Conveying H clutch (CONHCL)	CONV1 L	Conveying L clutch (CONLCL)	CONV2 H	Paper feeder feed H clutch (PFFHCL)	CONV2 L	Paper feeder feed L clutch (PFFLCL)	FEED1 H	Primary paper feed H clutch (PPFHCL)	FEED1 L	Primary paper feed L clutch (PPFLCL)	FEED2 H	Paper feeder upper feed H clutch (PFFHCL-U) <sup>*1*2</sup>	FEED2 L	Paper feeder upper feed L clutch (PFFLCL-U) <sup>*1*2</sup>	FEED3	Paper feeder middle feed H clutch (PFFHCL-M) <sup>*1</sup>	FEED4	Paper feeder lower feed H clutch (PFFHCL-L) <sup>*1</sup>	CONV3 H	Paper feeder conveying H clutch (PFCONHCL) <sup>*1</sup>	CONV3 L	Paper feeder conveying L clutch (PFCONLCL) <sup>*1</sup>	CONV4	Paper feeder conveying H clutch (PFCONHCL) <sup>*1</sup>	DUP	Duplex feed clutch (DUPFCL) <sup>*3</sup>	DECK	Paper feeder conveying H clutch (PFCONHCL) <sup>*2</sup>	FEED6	Right deck feed clutch (RDFCL) <sup>*2</sup>	LEFT	Left deck conveying clutch (LDCONCL) <sup>*2</sup>	FEED7	Left deck feed clutch (LDFCL) <sup>*2</sup>
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Maintenance item No.	Description																
<p><b>U033</b></p>	<p><b>Checking the operation of the solenoids</b>  <b>Description</b>                      Applies current to each solenoid in order to check its ON status.  <b>Purpose</b>                      To check the operation of each solenoid.  <b>Method</b>                      1. Press the start key. The screen for selecting an item is displayed.                      2. Select the solenoid to be operated. The selected item is displayed in reverse.                      3. Press the start key. The selected solenoid turns on for 1 s.</p> <table border="1" data-bbox="331 535 1398 837"> <thead> <tr> <th>Display</th> <th>Solenoid</th> </tr> </thead> <tbody> <tr> <td>BYP U/D</td> <td>Lift plate up/down solenoid</td> </tr> <tr> <td>EJE U/D</td> <td>Face-up exit solenoid</td> </tr> <tr> <td>DUP1</td> <td>Duplex exit solenoid</td> </tr> <tr> <td>DUP2</td> <td>Duplex exit solenoid</td> </tr> <tr> <td>TRAY PRESS</td> <td>Duplex tapping solenoid*</td> </tr> <tr> <td>TRAY FEED</td> <td>Duplex forwarding solenoid*</td> </tr> <tr> <td>MSW OFF</td> <td>Power switch is turned off.</td> </tr> </tbody> </table> <p>*Duplex copier only.</p> <p><b>Completion</b>                      Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Solenoid	BYP U/D	Lift plate up/down solenoid	EJE U/D	Face-up exit solenoid	DUP1	Duplex exit solenoid	DUP2	Duplex exit solenoid	TRAY PRESS	Duplex tapping solenoid*	TRAY FEED	Duplex forwarding solenoid*	MSW OFF	Power switch is turned off.
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DUP2	Duplex exit solenoid																
TRAY PRESS	Duplex tapping solenoid*																
TRAY FEED	Duplex forwarding solenoid*																
MSW OFF	Power switch is turned off.																
<p><b>U034</b></p>	<p><b>Adjusting the print start timing</b>  <b>Adjustment</b>                      See pages 1-6-12 and 13.</p>																
<p><b>U035</b></p>	<p><b>Setting the printing area for folio paper</b>  <b>Description</b>                      Changes the printing area for copying on folio paper.  <b>Purpose</b>                      To prevent cropped images on the trailing edge or left/right side of copy paper by setting the actual printing area for folio paper.  <b>Method</b>                      Press the start key. The setting screen is displayed.  <b>Setting</b>                      1. Select the item to be set. The selected item is displayed in reverse.                      2. Use the cursor up/down keys to change the setting value.</p> <table border="1" data-bbox="331 1395 1398 1509"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>LENGTH DATA</td> <td>Length</td> <td>330 to 356 (mm)</td> <td>330</td> </tr> <tr> <td>WIDTH DATA</td> <td>Width</td> <td>200 to 220 (mm)</td> <td>210</td> </tr> </tbody> </table> <p>3. Press the start key. The value is set.</p> <p><b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	LENGTH DATA	Length	330 to 356 (mm)	330	WIDTH DATA	Width	200 to 220 (mm)	210				
Display	Setting	Setting range	Default setting														
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Maintenance item No.	Description																		
<b>U037</b>	<p><b>Checking the operation of the fan motors</b></p> <p><b>Description</b> Drives the fan motors.</p> <p><b>Description</b> To check the operation of the fan motors.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to operate. The selected item is displayed in reverse and starts driving the fan motor.</li> </ol> <table border="1" data-bbox="331 510 1398 846"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>INNER FAN FL SP</td> <td>The main charger fan motor is turned ON at full speed.</td> </tr> <tr> <td>INNER FAN HLF SP</td> <td>The main charger fan motor is turned ON at half speed.</td> </tr> <tr> <td>FIX. FAN FULL SP</td> <td>The main cooling fan motor is turned ON at full speed.</td> </tr> <tr> <td>FIX. FAN HALF SP</td> <td>The main cooling fan motor is turned ON at half speed.</td> </tr> <tr> <td>P.S FAN FULL SP</td> <td>The power supply PWB cooling fan motor is turned ON at full speed.</td> </tr> <tr> <td>P.S. FAN HALF SP</td> <td>The power supply PWB cooling fan motor is turned ON at half speed.</td> </tr> <tr> <td>CONTR. FAN FL SP</td> <td>Printer board cooling fan motor* is turned ON at full speed.</td> </tr> <tr> <td>CONTR. FAN HALF</td> <td>Printer board cooling fan motor* is turned ON at half speed.</td> </tr> </tbody> </table> <p>*Optional.</p> <ol style="list-style-type: none"> <li>3. To stop the motor, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key when the motor stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operation	INNER FAN FL SP	The main charger fan motor is turned ON at full speed.	INNER FAN HLF SP	The main charger fan motor is turned ON at half speed.	FIX. FAN FULL SP	The main cooling fan motor is turned ON at full speed.	FIX. FAN HALF SP	The main cooling fan motor is turned ON at half speed.	P.S FAN FULL SP	The power supply PWB cooling fan motor is turned ON at full speed.	P.S. FAN HALF SP	The power supply PWB cooling fan motor is turned ON at half speed.	CONTR. FAN FL SP	Printer board cooling fan motor* is turned ON at full speed.	CONTR. FAN HALF	Printer board cooling fan motor* is turned ON at half speed.
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CONTR. FAN FL SP	Printer board cooling fan motor* is turned ON at full speed.																		
CONTR. FAN HALF	Printer board cooling fan motor* is turned ON at half speed.																		
<b>U051</b>	<p><b>Adjusting the amount of slack in the paper</b></p> <p><b>Adjustment</b> See page 1-6-15.</p>																		
<b>U052</b>	<p><b>Adjusting duplex</b></p> <p><b>Description</b> Adjusts the side registration of the duplex section. In addition, drives the duplex side registration motor.</p> <p><b>Purpose</b> To check the operation of the duplex side registration motor.</p> <p><b>Method: Adjusting the side registration.</b></p> <ol style="list-style-type: none"> <li>1. Press the start key and select ADJUST POSITION on the screen for selecting an item.</li> </ol> <p><b>Method: Checking the operation of the duplex side registration motor</b></p> <ol style="list-style-type: none"> <li>1. Press the start key and select MOTOR MOVING TEST on the screen for selecting an item. The selected item is displayed in reverse and drives the motor. To stop the motor, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>																		

Maintenance item No.	Description																																																																
<p><b>U053</b></p>	<p><b>Setting the adjustment of the motor speed</b>  <b>Description</b>                      Performs fine adjustment of the speeds of the motors.  <b>Purpose</b>                      Basically, the setting need not be changed. If faulty images occur, change the setting.  <b>Setting</b>                      1. Press the start key. The screen for selecting an item is displayed.                      2. Select the item to be set.</p> <table border="1" data-bbox="331 506 1398 806"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>TC BELT MOTOR</td> <td>Transfer motor speed adjustment</td> </tr> <tr> <td>DRUM MOTOR</td> <td>Drum motor K/C/M/Y speed adjustment</td> </tr> <tr> <td>PAPER FEED MOTOR 1</td> <td>Paper feed motor speed adjustment for each paper feed location</td> </tr> <tr> <td>PAPER FEED MOTOR 2</td> <td>Paper feed motor speed adjustment for each paper type and each mode</td> </tr> <tr> <td>FIXING MOTOR</td> <td>Developing K/fuser motor speed adjustment</td> </tr> </tbody> </table> <p>The setting screen for selected item is displayed.</p> <p><b>Setting: transfer motor speed adjustment</b>                      1. Select the item to be set. The selected item is displayed in reverse.                      2. Change the value using the cursor up/down keys.</p> <table border="1" data-bbox="331 940 1398 1240"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>BELT MOTOR FULL</td> <td>Transfer motor speed adjustment at full speed</td> <td>-500 to 500</td> <td>-115</td> </tr> <tr> <td>BELT MOTOR HALF</td> <td>Transfer motor speed adjustment at half speed</td> <td>-500 to 500</td> <td>4</td> </tr> <tr> <td>BELT MOTOR H OHP</td> <td>Transfer motor speed adjustment at half speed and for copying onto transparencies</td> <td>-500 to 500</td> <td>12</td> </tr> </tbody> </table> <p>3. Press the start key. The value is set.</p> <p><b>Setting: drum motor K/M/C/Y speed adjustment</b>                      1. Select the item to be set. The selected item is displayed in reverse.                      2. Change the value using the cursor up/down keys.</p> <table border="1" data-bbox="331 1366 1398 1921"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>DRUM MOTOR BK</td> <td>Drum motor K speed adjustment at full speed</td> <td>-999 to 999</td> <td>0</td> </tr> <tr> <td>DRUM MOTOR C</td> <td>Drum motor C speed adjustment at full speed</td> <td>-999 to 999</td> <td>0</td> </tr> <tr> <td>DRUM MOTOR M</td> <td>Drum motor M speed adjustment at full speed</td> <td>-999 to 999</td> <td>0</td> </tr> <tr> <td>DRUM MOTOR Y</td> <td>Drum motor Y speed adjustment at full speed</td> <td>-999 to 999</td> <td>0</td> </tr> <tr> <td>DRUM MOTOR POST</td> <td>All drum motor speed adjustment at half speed and for copying onto postcards</td> <td>-999 to 999</td> <td>50</td> </tr> <tr> <td>DRUM MOTOR OHP</td> <td>All drum motor speed adjustment at half speed and for copying onto transparencies</td> <td>-999 to 999</td> <td>-80</td> </tr> <tr> <td>DRUM MOTOR ENVE</td> <td>All drum motor speed adjustment at half speed and for copying onto envelopes</td> <td>-999 to 999</td> <td>20</td> </tr> <tr> <td>DRUM MOTOR OHTER</td> <td>All drum motor speed adjustment at half speed and for copying onto other paper</td> <td>-999 to 999</td> <td>0</td> </tr> </tbody> </table> <p>3. Press the start key. The value is set.</p>	Display	Description	TC BELT MOTOR	Transfer motor speed adjustment	DRUM MOTOR	Drum motor K/C/M/Y speed adjustment	PAPER FEED MOTOR 1	Paper feed motor speed adjustment for each paper feed location	PAPER FEED MOTOR 2	Paper feed motor speed adjustment for each paper type and each mode	FIXING MOTOR	Developing K/fuser motor speed adjustment	Display	Description	Setting range	Default setting	BELT MOTOR FULL	Transfer motor speed adjustment at full speed	-500 to 500	-115	BELT MOTOR HALF	Transfer motor speed adjustment at half speed	-500 to 500	4	BELT MOTOR H OHP	Transfer motor speed adjustment at half speed and for copying onto transparencies	-500 to 500	12	Display	Description	Setting range	Default setting	DRUM MOTOR BK	Drum motor K speed adjustment at full speed	-999 to 999	0	DRUM MOTOR C	Drum motor C speed adjustment at full speed	-999 to 999	0	DRUM MOTOR M	Drum motor M speed adjustment at full speed	-999 to 999	0	DRUM MOTOR Y	Drum motor Y speed adjustment at full speed	-999 to 999	0	DRUM MOTOR POST	All drum motor speed adjustment at half speed and for copying onto postcards	-999 to 999	50	DRUM MOTOR OHP	All drum motor speed adjustment at half speed and for copying onto transparencies	-999 to 999	-80	DRUM MOTOR ENVE	All drum motor speed adjustment at half speed and for copying onto envelopes	-999 to 999	20	DRUM MOTOR OHTER	All drum motor speed adjustment at half speed and for copying onto other paper	-999 to 999	0
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Maintenance item No.	Description			
<b>U053</b>	<b>Setting: paper feed motor speed adjustment for each paper feed location</b>			
	1. Select the item to be set. The selected item is displayed in reverse. 2. Change the value using the cursor up/down keys.			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	FEED MOTOR BYP.	Paper feed motor speed adjustment at full speed (bypass tray)	-999 to 999	-60
	<i>FEED MOT CASS.1</i>	<i>Paper feed motor speed adjustment at full speed (cassette 1)</i>	-999 to 999	-60
	<i>FEED MOT CASS.2</i>	<i>Paper feed motor speed adjustment at full speed (cassette 2)</i>	-999 to 999	-60
	<i>FEED MOT CASS.3</i>	<i>Paper feed motor speed adjustment at full speed (cassette 3*/right deck*)</i>	-999 to 999	-60
	<i>FEED MOT CASS.4</i>	<i>Paper feed motor speed adjustment at full speed (cassette 4*/left deck*)</i>	-999 to 999	-60
	<i>*Optional.</i>			
	3. Press the start key. The value is set.			
	<b>Setting: paper feed motor speed adjustment</b>			
	1. Select the item to be set. The selected item is displayed in reverse. 2. Change the value using the cursor up/down keys.			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	FEED MOTOR BK	Paper feed motor speed adjustment for black single color copying	-500 to 500	-10
	FEED MOTOR HALF1	Paper feed motor speed adjustment for copying onto thick paper, copying onto transparencies, for black single color copying, and at half speed	-500 to 500	0
FEED MOTOR HALF2	Paper feed motor speed adjustment for copying onto thick paper, copying onto transparencies, for black single color copying, and at half speed	-500 to 500	0	
FEED MOTOR HALF3	Paper feed motor speed adjustment for copying onto thick paper, copying onto transparencies, for black single color copying, and at half speed	-500 to 500	0	
FEED MOT 2ND 4C	Paper feed motor speed adjustment for full-color copying and for copying onto the second side in duplex copy	-500 to 500	0	
FEED MOT 2ND BW	Paper feed motor speed adjustment for mono-chrome copying and for duplex copying	-500 to 500	-10	
3. Press the start key. The value is set.				
<b>Setting: developing K/fuser motor speed adjustment</b>				
1. Change the value using the cursor up/down keys.				
<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>	
FIXING MOTOR	Developing K/fuser motor speed adjustment at full speed	-500 to 500	125	
2. Press the start key. The value is set.				

Maintenance item No.	Description								
<p><b>U053</b></p>	<p><b>Interrupt copy mode</b>                      While this maintenance item is being performed, a VTC pattern shown below is output in interrupt copy mode. Correct values for an A3/11" x 17" output are:                      A = 350 ± 1.5 mm                      B = 250 ± 1.0 mm</p> <p><b>Adjustment</b></p> <ol style="list-style-type: none"> <li>1. Output an A3/11" x 17" VTC pattern in interrupt mode.</li> <li>2. Measure A and B on the VTC pattern (Figure 1-4-1), and perform the following adjustments if they are different from the correct sizes:</li> </ol> <div data-bbox="735 584 970 875" style="text-align: center;"> </div> <p><b>Figure 1-4-1</b></p> <p><b>Completion</b>                      Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>								
<p><b>U061</b></p>	<p><b>Checking the operation of the exposure lamps</b></p> <p><b>Description</b>                      Lights the exposure lamps.</p> <p><b>Purpose</b>                      To check whether the exposure lamps are turned ON.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press the start key. The exposure lamp lights.</li> <li>3. To turn the exposure lamp off, press the stop/clear key.</li> </ol> <p><b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
<p><b>U063</b></p>	<p><b>Adjusting the shading position</b></p> <p><b>Description</b>                      Changes the shading position of the scanner.</p> <p><b>Purpose</b>                      Used when the white line continue to appear longitudinally on the image after the shading plate is cleaned. This is due to flaws or stains inside the shading plate. To prevent this problem, the shading position should be changed so that shading is possible without being affected by the flaws or stains.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The setting screen is displayed.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1655 1398 1767"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>Shading position</td> <td>-8 to 2</td> <td>0</td> <td>0.23288 mm</td> </tr> </tbody> </table> <p>Increasing the value moves the shading position toward the machine right, and decreasing it moves the position toward the machine left.</p> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Interrupt copy mode</b>                      While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p><b>Completion</b>                      Press the stop/clear key at the screen for adjustment. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Change in value per step	Shading position	-8 to 2	0	0.23288 mm
Setting item	Setting range	Default setting	Change in value per step						
Shading position	-8 to 2	0	0.23288 mm						

Maintenance item No.	Description										
U065	<b>Adjusting the scanning magnification Adjustment</b> See pages 1-6-32 and 33.										
U066	<b>Adjusting the scanner leading edge registration Adjustment</b> See page 1-6-34.										
U067	<b>Adjusting the optical axis (center line) Adjustment</b> See page 1-6-35.										
U068	<b>Adjusting the DP scanning start position Description</b> Adjust the scanning start position of originals fed from the optional DP. <b>Purpose</b> Used if there is a regular error between the leading edge of the original and that of the copy image when the optional DP is used. <b>Method</b> Press the start key. The setting screen is displayed. <b>Setting</b> 1. Use the cursor up/down keys to change the setting value. <table border="1" data-bbox="331 857 1398 936"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>DP original scanning position</td> <td>-9 to 9</td> <td>0</td> <td>0.23288 mm</td> </tr> </tbody> </table> Increasing the value moves the copy image toward the trailing edge, and decreasing it moves the copy image toward the leading edge. 2. Press the start key. The value is set. <b>Interrupt copy mode</b> While this maintenance item is being executed, copying from an original can be made in interrupt copy mode. <b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.	Setting item	Setting range	Default setting	Change in value per step	DP original scanning position	-9 to 9	0	0.23288 mm		
Setting item	Setting range	Default setting	Change in value per step								
DP original scanning position	-9 to 9	0	0.23288 mm								
U070	<b>Adjusting the DP magnification Description</b> Adjusts the DP original scanning speed. <b>Purpose</b> Used if the correct magnification is not obtained in the auxiliary scanning direction when the optional DP is used. <b>Caution</b> Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode. <div style="text-align: center; margin: 10px 0;"> <span style="border: 1px solid black; padding: 2px;">U053</span> → <span style="border: 1px solid black; padding: 2px;">U065</span> → <span style="border: 1px solid black; padding: 2px;">U070</span> </div> <b>Method</b> Press the start key. The setting screen is displayed. <b>Setting</b> 1. Use the cursor up/down keys to change the setting value. <table border="1" data-bbox="331 1624 1398 1776"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Initial setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>CONVEY SPEED</td> <td>DP original conveying motor speed</td> <td>-25 to 25</td> <td>0</td> <td>0.1%</td> </tr> </tbody> </table> Increasing the value makes the image longer, and decreasing it makes the image shorter. 2. Press the start key. The value is set. <b>Interrupt copy mode</b> While this maintenance item is being executed, copying from an original can be made in interrupt copy mode. <b>Completion</b> Press the stop/clear key when the setting screen is displayed. The screen for selecting a maintenance item No. is displayed.	Display	Setting	Setting range	Initial setting	Change in value per step	CONVEY SPEED	DP original conveying motor speed	-25 to 25	0	0.1%
Display	Setting	Setting range	Initial setting	Change in value per step							
CONVEY SPEED	DP original conveying motor speed	-25 to 25	0	0.1%							

Maintenance item No.	Description															
<p><b>U071</b></p>	<p><b>Adjusting the DP scanning timing</b></p> <p><b>Description</b> Adjust the DP original scanning timing.</p> <p><b>Purpose</b> Used if there is a regular error between the leading or trailing edge of the copy image and the leading edge of the original when the optional DP is used.</p> <p><b>Caution</b> Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p style="text-align: center;">  </p> <p><b>Method</b> Press the start key. The setting screen is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 757 1398 981"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>LEAD EDGE ADJ</td> <td>DP leading edge registration</td> <td>-32 to 32</td> <td>0</td> <td>0.19 mm</td> </tr> <tr> <td>TRAIL EDGE ADJ</td> <td>DP trailing edge registration</td> <td>-32 to 32</td> <td>0</td> <td>0.19 mm</td> </tr> </tbody> </table> <p style="text-align: center;">Increasing the value moves the image backward, and decreasing the value moves the image forward.</p> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Interrupt copy mode</b> While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. In the interrupt copy mode, make a copy using the DP.</li> <li>2. Check the copy image and adjust the registration as follows.             <ul style="list-style-type: none"> <li>* For copy example 1, decrease the setting value of "LEAD EDGE ADJ".</li> <li>* For copy example 2, increase the setting value of "LEAD EDGE ADJ".</li> </ul> </li> </ol> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Figure 1-4-2</b></p> <p><b>Completion</b> Press the stop/clear key when the setting screen is displayed. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	Change in value per step	LEAD EDGE ADJ	DP leading edge registration	-32 to 32	0	0.19 mm	TRAIL EDGE ADJ	DP trailing edge registration	-32 to 32	0	0.19 mm
Display	Setting	Setting range	Default setting	Change in value per step												
LEAD EDGE ADJ	DP leading edge registration	-32 to 32	0	0.19 mm												
TRAIL EDGE ADJ	DP trailing edge registration	-32 to 32	0	0.19 mm												



Maintenance item No.	Description																				
U072	<p><b>Adjusting the DP center line</b></p> <p><b>Description</b> Adjusts the scanning position for an original fed from the DP.</p> <p><b>Purpose</b> Used if there is a regular error between the center line of an original and that of the copy image when the optional DP is used.</p> <p><b>Caution</b> Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U034 → U067 → U072</p> <p><b>Method</b> Press the start key. The setting screen is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 728 1396 996"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>1 sided</td> <td>Simplex copy mode</td> <td>-20 to 20</td> <td>0</td> <td>0.42 mm</td> </tr> <tr> <td>2 sided front</td> <td>Front face in duplex copy mode</td> <td>-10 to 10</td> <td>0</td> <td>0.42 mm</td> </tr> <tr> <td>2 sided back</td> <td>Reverse face in duplex copy mode</td> <td>-10 to 10</td> <td>0</td> <td>0.42 mm</td> </tr> </tbody> </table> <p>Increasing the value moves the image rightward, and decreasing it moves the image leftward.</p> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Interrupt copy mode</b> While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p><b>Adjustment</b></p> <ol style="list-style-type: none"> <li>In the interrupt copy mode, make a copy using the DP.</li> <li>Check the copy image and adjust the center line as follows. <ul style="list-style-type: none"> <li>* For copy example 1, increase the setting value.</li> <li>* For copy example 2, decrease the setting value.</li> </ul> </li> </ol> <div data-bbox="587 1288 1125 1512" style="text-align: center;"> </div> <p><b>Figure 1-4-3</b></p> <p><b>Completion</b> Press the stop/clear key when the setting screen is displayed. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	Change in value per step	1 sided	Simplex copy mode	-20 to 20	0	0.42 mm	2 sided front	Front face in duplex copy mode	-10 to 10	0	0.42 mm	2 sided back	Reverse face in duplex copy mode	-10 to 10	0	0.42 mm
Display	Setting	Setting range	Default setting	Change in value per step																	
1 sided	Simplex copy mode	-20 to 20	0	0.42 mm																	
2 sided front	Front face in duplex copy mode	-10 to 10	0	0.42 mm																	
2 sided back	Reverse face in duplex copy mode	-10 to 10	0	0.42 mm																	

Maintenance item No.	Description																
<b>U073</b>	<p><b>Checking the scanner operation</b></p> <p><b>Description</b> Simulates the scanner operation under the arbitrary conditions.</p> <p><b>Purpose</b> To check the scanner operation.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be operated. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 506 1398 770"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>SCAN(4C)</td> <td>Scanner operation in full-color copying</td> </tr> <tr> <td>SCAN(B/W)</td> <td>Scanner operation in monochrome copying</td> </tr> <tr> <td>SHD</td> <td>Shading operation</td> </tr> <tr> <td>HOME POSITION</td> <td>Home position operation</td> </tr> <tr> <td>DP READ</td> <td>DP scanning position operation</td> </tr> <tr> <td>GLASS CHECK</td> <td>Dust adhesion check operation with lamp on</td> </tr> </tbody> </table> <p><b>Setting: Scanning size for the full-color or monochrome mode</b></p> <ol style="list-style-type: none"> <li>1. Select SCAN(4C) or SCAN(B/W) in the screen for selecting an item.</li> <li>2. Select the scanning size, and then press the start key.</li> </ol> <p><b>Completion</b> Press the stop/clear key with the scanning operation stopped. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operation	SCAN(4C)	Scanner operation in full-color copying	SCAN(B/W)	Scanner operation in monochrome copying	SHD	Shading operation	HOME POSITION	Home position operation	DP READ	DP scanning position operation	GLASS CHECK	Dust adhesion check operation with lamp on		
Display	Operation																
SCAN(4C)	Scanner operation in full-color copying																
SCAN(B/W)	Scanner operation in monochrome copying																
SHD	Shading operation																
HOME POSITION	Home position operation																
DP READ	DP scanning position operation																
GLASS CHECK	Dust adhesion check operation with lamp on																
<b>U076</b>	<p><b>Executing DP automatic adjustment</b></p> <p><b>Description</b> Uses a specified original and automatically adjusts the following items in the DP scanning section. Adjusting the DP magnification (U070) Adjusting the DP scanning timing (U071) Adjusting the DP center line (U072) Adjusting the margins for scanning an original from the DP (U404) When you run this maintenance mode, the preset values of U070, U071, U072, and U404 will also be updated.</p> <p><b>Purpose</b> To perform automatic adjustment of various items in the optional DP scanning section.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Set a specified original (part number: 2A068021) in the DP.</li> <li>2. Press the start key. The screen for executing is displayed.</li> <li>3. Press DP automatic adjustment on the touch panel. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed.</li> </ol> <table border="1" data-bbox="331 1447 1398 1749"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CONVEY SPEED</td> <td>DP magnification in the auxiliary scanning direction</td> </tr> <tr> <td>LEAD EDGE ADJ</td> <td>DP leading edge registration</td> </tr> <tr> <td>DP CENTER</td> <td>DP original center line</td> </tr> <tr> <td>DP A MARGIN</td> <td>DP scanning margin (A side)</td> </tr> <tr> <td>DP B MARGIN</td> <td>DP scanning margin (B side)</td> </tr> <tr> <td>DP C MARGIN</td> <td>DP scanning margin (C side)</td> </tr> <tr> <td>DP D MARGIN</td> <td>DP scanning margin (D side)</td> </tr> </tbody> </table> <p>If a problem occurs during auto adjustment, DATA: XX (XX is replaced by an error code) is displayed and operation stops. Should this happen, determine the details of the problem and either repeat the procedure from the beginning, or adjust the remaining items manually by running the corresponding maintenance items.</p> <p><b>Completion</b> Press the stop/clear key after auto adjustment is complete. The screen for selecting a maintenance item is displayed. If the stop/clear key is pressed during auto adjustment, adjustment stops and no settings are changed.</p>	Display	Description	CONVEY SPEED	DP magnification in the auxiliary scanning direction	LEAD EDGE ADJ	DP leading edge registration	DP CENTER	DP original center line	DP A MARGIN	DP scanning margin (A side)	DP B MARGIN	DP scanning margin (B side)	DP C MARGIN	DP scanning margin (C side)	DP D MARGIN	DP scanning margin (D side)
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DP D MARGIN	DP scanning margin (D side)																

Maintenance item No.	Description												
U080	<p><b>Setting the economy mode</b></p> <p><b>Description</b> Sets the level in the economy mode.</p> <p><b>Purpose</b> Set according to the preference of the user.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys (0: low/1: middle/2: high) to change the setting value.</li> </ol> <table border="1" data-bbox="331 562 1398 712"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>ADJUST DATA</td> <td>For monochrome and single color mode</td> <td>0 to 2</td> <td>1</td> </tr> <tr> <td>ADJUST DATA2</td> <td>For full-color mode</td> <td>0 to 2</td> <td>1</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	ADJUST DATA	For monochrome and single color mode	0 to 2	1	ADJUST DATA2	For full-color mode	0 to 2	1
Display	Setting	Setting range	Default setting										
ADJUST DATA	For monochrome and single color mode	0 to 2	1										
ADJUST DATA2	For full-color mode	0 to 2	1										
U087	<p><b>Setting DP reading position modification operation</b></p> <p><b>Description</b> Sets the black line inspection at the time of reading the original from the optional DP.</p> <p><b>Method</b> Press the start key. The screen for adjustment is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Change the setting using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 1025 1398 1104"> <thead> <tr> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>10 to 95</td> <td>35</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting range	Initial setting	10 to 95	35								
Setting range	Initial setting												
10 to 95	35												
U089	<p><b>Outputting the MIP-PG pattern</b></p> <p><b>Description</b> Selects and outputs the MIP-PG pattern created by the copier.</p> <p><b>Purpose</b> To check copier status other than scanner when adjusting image printing, using MIP-PG pattern output (without scanning).</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key.</li> <li>2. Select the MIP-PG pattern to be output.</li> </ol> <table border="1" data-bbox="331 1480 1398 1704"> <thead> <tr> <th>Display</th> <th>Output items</th> </tr> </thead> <tbody> <tr> <td>256GRADATION</td> <td>256-gradation PG</td> </tr> <tr> <td>COLOR BELT</td> <td>Four color belts PG</td> </tr> <tr> <td>GRAY</td> <td>Gray PG</td> </tr> <tr> <td>WHITE</td> <td>Blank paper PG</td> </tr> <tr> <td>GRADATION GRAY</td> <td>256-graduation gray PG</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. A MIP-PG pattern is output.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Output items	256GRADATION	256-gradation PG	COLOR BELT	Four color belts PG	GRAY	Gray PG	WHITE	Blank paper PG	GRADATION GRAY	256-graduation gray PG
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Maintenance item No.	Description																																																
U093	<p><b>Adjusting the exposure density gradient</b></p> <p><b>Description</b> Changes the exposure density gradient in the manual density mode, depending on respective image quality modes.</p> <p><b>Purpose</b> To set how the image density is altered by a change of one step in the manual density adjustment for respective image quality modes. Also used to make copy images darker or lighter.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the image quality mode. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 562 1398 826"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>TEXT</td> <td>Density in the text mode</td> </tr> <tr> <td>MIXED</td> <td>Density in the text and photo mode</td> </tr> <tr> <td>Other</td> <td>Density in modes other than the text mode or the text and photo mode</td> </tr> <tr> <td>FAX TEXT</td> <td>Density in the text in fax mode</td> </tr> <tr> <td>FAX PHOTO</td> <td>Density in the photo in fax mode</td> </tr> </tbody> </table> <p><b>Setting: Gradient in the text mode</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 920 1398 1070"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>TEXT mono color</td> <td>Gradient for monochrome copy in the text mode</td> <td>0 to 2</td> <td>0</td> </tr> <tr> <td>TEXT full color</td> <td>Gradient for full-color copy in the text mode</td> <td>0 to 2</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> <li>4. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Setting: Gradient in the text and photo mode</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1229 1398 1453"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>MIXED mono color</td> <td>Gradient for monochrome copy in the text and photo mode</td> <td>0 to 2</td> <td>0</td> </tr> <tr> <td>MIXED full color</td> <td>Gradient for full-color copy in the text and photo mode</td> <td>0 to 2</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> <li>4. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Setting: Gradient in other modes</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1610 1398 1760"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>OTHER mono color</td> <td>Gradient for monochrome copy in other modes</td> <td>0 to 2</td> <td>0</td> </tr> <tr> <td>OTHER full color</td> <td>Gradient for full-color copy in other modes</td> <td>0 to 2</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> <li>4. To return to the screen for selecting an item, press the stop/clear key.</li> </ol>	Display	Setting	TEXT	Density in the text mode	MIXED	Density in the text and photo mode	Other	Density in modes other than the text mode or the text and photo mode	FAX TEXT	Density in the text in fax mode	FAX PHOTO	Density in the photo in fax mode	Display	Setting	Setting range	Default setting	TEXT mono color	Gradient for monochrome copy in the text mode	0 to 2	0	TEXT full color	Gradient for full-color copy in the text mode	0 to 2	0	Display	Setting	Setting range	Default setting	MIXED mono color	Gradient for monochrome copy in the text and photo mode	0 to 2	0	MIXED full color	Gradient for full-color copy in the text and photo mode	0 to 2	0	Display	Setting	Setting range	Default setting	OTHER mono color	Gradient for monochrome copy in other modes	0 to 2	0	OTHER full color	Gradient for full-color copy in other modes	0 to 2	0
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U093	<p><b>Setting: Gradient in the text in fax mode</b></p> <ol style="list-style-type: none"> <li>Select the item to be set. The selected item is displayed in reverse.</li> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 353 1401 510"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>FAX TEXT DARKER</td> <td>Gradient for darker setting</td> <td>0 to 9</td> <td>0</td> </tr> <tr> <td>FAX TEXT LIGHTER</td> <td>Gradient for lighter setting</td> <td>0 to 4</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> <li>To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Setting: Gradient in the photo in fax mode</b></p> <ol style="list-style-type: none"> <li>Select the item to be set. The selected item is displayed in reverse.</li> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 667 1401 824"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>FAX PHOTO DARKER</td> <td>Gradient for darker setting</td> <td>0 to 6</td> <td>0</td> </tr> <tr> <td>FAX PHOTO LIGHTER</td> <td>Gradient for lighter setting</td> <td>0 to 6</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> <li>To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Completion</b></p> <p>Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	FAX TEXT DARKER	Gradient for darker setting	0 to 9	0	FAX TEXT LIGHTER	Gradient for lighter setting	0 to 4	0	Display	Setting	Setting range	Default setting	FAX PHOTO DARKER	Gradient for darker setting	0 to 6	0	FAX PHOTO LIGHTER	Gradient for lighter setting	0 to 6	0								
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U099	<p><b>Adjusting original size detection</b></p> <p><b>Description</b></p> <p>Checks the setting value and operation for original width detection by CCD.</p> <p><b>Purpose</b></p> <p>To change the setting when paper width is not accurately detected.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for selecting an item is displayed.</li> <li>Select the item and then press the start key. The screen for executing the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 1214 1401 1370"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DATA</td> <td>Displaying the transmitted data</td> </tr> <tr> <td>ADJUST</td> <td>Setting the original size detection threshold</td> </tr> <tr> <td>LEVEL</td> <td>Checking the original size detection threshold</td> </tr> </tbody> </table> <p><b>Method: Displaying color data</b></p> <ol style="list-style-type: none"> <li>Press the start key. The color data to be transmitted is displayed.</li> <li>To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Method: Setting the detection threshold</b></p> <ol style="list-style-type: none"> <li>Select the item to be set.</li> </ol> <table border="1" data-bbox="331 1527 1401 1765"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Data range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>LEVEL-R</td> <td>Original size threshold (R)</td> <td>0 to 255</td> <td>160</td> </tr> <tr> <td>LEVEL-G</td> <td>Original size threshold (G)</td> <td>0 to 255</td> <td>160</td> </tr> <tr> <td>LEVEL-B</td> <td>Original size threshold (B)</td> <td>0 to 255</td> <td>160</td> </tr> <tr> <td>WAIT TIME</td> <td>Stand-by time after original size</td> <td>0 to 100</td> <td>0</td> </tr> <tr> <td>A4R AREA</td> <td>Threshold value in the main scan</td> <td>220(mm)/240(mm)</td> <td>240</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to change the setting value.</li> <li>Press the start key. The value is set. To return to the screen for selecting an item, press the stop/clear key.</li> </ol>	Display	Description	DATA	Displaying the transmitted data	ADJUST	Setting the original size detection threshold	LEVEL	Checking the original size detection threshold	Display	Description	Data range	Default setting	LEVEL-R	Original size threshold (R)	0 to 255	160	LEVEL-G	Original size threshold (G)	0 to 255	160	LEVEL-B	Original size threshold (B)	0 to 255	160	WAIT TIME	Stand-by time after original size	0 to 100	0	A4R AREA	Threshold value in the main scan	220(mm)/240(mm)	240
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Maintenance item No.	Description																				
U099	<p><b>Method: Setting and checking the detection threshold</b></p> <p>1. The current setting is displayed. Press the stop/clear key to return to the screen for selecting an item.</p> <table border="1" data-bbox="331 358 1396 698"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ORIGINAL AREA</td> <td>Original width (mm)</td> </tr> <tr> <td>SIZE</td> <td>Original width code</td> </tr> <tr> <td>MAX-DATA-R</td> <td>Maximum R detection value in the original area</td> </tr> <tr> <td>MIN-DATA-R</td> <td>Minimum R detection value in the original area</td> </tr> <tr> <td>MAX-DATA-G</td> <td>Maximum G detection value in the original area</td> </tr> <tr> <td>MIN-DATA-G</td> <td>Minimum G detection value in the original area</td> </tr> <tr> <td>MAX-DATA-B</td> <td>Maximum B detection value in the original area</td> </tr> <tr> <td>MIN-DATA-B</td> <td>Minimum B detection value in the original area</td> </tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ORIGINAL AREA	Original width (mm)	SIZE	Original width code	MAX-DATA-R	Maximum R detection value in the original area	MIN-DATA-R	Minimum R detection value in the original area	MAX-DATA-G	Maximum G detection value in the original area	MIN-DATA-G	Minimum G detection value in the original area	MAX-DATA-B	Maximum B detection value in the original area	MIN-DATA-B	Minimum B detection value in the original area		
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MAX-DATA-B	Maximum B detection value in the original area																				
MIN-DATA-B	Minimum B detection value in the original area																				
U100	<p><b>Adjusting the surface potential</b></p> <p><b>Description</b> Changes the compensation value of drum surface potential for each developing color.</p> <p><b>Purpose</b> To change the setting value to adjust the image if an image failure (dark or light density, background blur, carrier sticking, etc.) occurs.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting the surface potential at high speed</b></p> <ol style="list-style-type: none"> <li>1. Select HIGH SPEED on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1169 1396 1543"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Main high-voltage control standard value in black developing (high speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>CYAN</td> <td>Main high-voltage control standard value in cyan developing (high speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>MAGENTA</td> <td>Main high-voltage control standard value in magenta developing (high speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>Main high-voltage control standard value in yellow developing (high speed)</td> <td>0 to 255</td> <td>0</td> </tr> </tbody> </table> <p>4. Press the start key. The value is set.</p>	Display	Setting	Setting range	Default setting	BLACK	Main high-voltage control standard value in black developing (high speed)	0 to 255	0	CYAN	Main high-voltage control standard value in cyan developing (high speed)	0 to 255	0	MAGENTA	Main high-voltage control standard value in magenta developing (high speed)	0 to 255	0	YELLOW	Main high-voltage control standard value in yellow developing (high speed)	0 to 255	0
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Maintenance item No.	Description																														
U100	<p><b>Setting the surface potential at low speed</b></p> <ol style="list-style-type: none"> <li>1. Select LOW SPEED on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 387 1399 759"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Main high-voltage control standard value in black developing (low speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>CYAN</td> <td>Main high-voltage control standard value in cyan developing (low speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>MAGEN TA</td> <td>Main high-voltage control standard value in magenta developing (low speed)</td> <td>0 to 255</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>Main high-voltage control standard value in yellow developing (low speed)</td> <td>0 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the item to operate on the screen for selecting an item. The selected item is displayed in reverse and starts driving.</li> </ol> <table border="1" data-bbox="331 893 1399 1084"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>HIGH SPEED DRIVE (COLOR)</td> <td>Drives all four drums.</td> </tr> <tr> <td>LOW SPEED DRIVE (COLOR)</td> <td>Drives all four drums.</td> </tr> <tr> <td>HIGH SPEED DRIVE (MONO)</td> <td>Drives the drum K.</td> </tr> <tr> <td>LOW SPEED DRIVE (MONO)</td> <td>Drives the drum K.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. To stop the operation, press the stop/clear key.</li> </ol> <p><b>Completion</b></p> <p>Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	BLACK	Main high-voltage control standard value in black developing (low speed)	0 to 255	0	CYAN	Main high-voltage control standard value in cyan developing (low speed)	0 to 255	0	MAGEN TA	Main high-voltage control standard value in magenta developing (low speed)	0 to 255	0	YELLOW	Main high-voltage control standard value in yellow developing (low speed)	0 to 255	0	Display	Description	HIGH SPEED DRIVE (COLOR)	Drives all four drums.	LOW SPEED DRIVE (COLOR)	Drives all four drums.	HIGH SPEED DRIVE (MONO)	Drives the drum K.	LOW SPEED DRIVE (MONO)	Drives the drum K.
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U101	<p><b>Setting the voltage for the transfer</b></p> <p><b>Description</b> Sets the voltage for the transfer at every paper type.</p> <p><b>Purpose</b> To change the setting when any density problems, such as too dark or light, occur.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The setting screen for each item is displayed.</li> </ol> <table border="1" data-bbox="331 510 1396 1032"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>PLAIN 1</td> <td>Adjustment of the transfer voltage for plain paper (for Japan specifications)</td> </tr> <tr> <td>PLAIN 2</td> <td>Adjustment of the transfer voltage for plain paper</td> </tr> <tr> <td>PLAIN 2 (HIGH GROSS)</td> <td>Transfer current adjustment for plain paper in the gloss mode</td> </tr> <tr> <td>THICK PAPER</td> <td>Adjustment of the transfer voltage for thick paper</td> </tr> <tr> <td>CALIBRATION</td> <td>Transfer voltage for calibration</td> </tr> <tr> <td>EXTRA TABLE</td> <td>Transfer voltage on the auxiliary table</td> </tr> <tr> <td>BELT CLEANING</td> <td>Belt cleaning voltage</td> </tr> <tr> <td>TRANSFER OFFSET</td> <td>Setting the transfer offset time and transfer offset amount</td> </tr> <tr> <td>PAPER SPACE REMOTE</td> <td>Paper interval setting ON/OFF</td> </tr> <tr> <td>PAPER SPACE</td> <td>Paper interval setting</td> </tr> <tr> <td>OHP 1</td> <td>Adjustment of the transfer voltage for transparencies</td> </tr> <tr> <td>OHP 2</td> <td>Adjustment of the transfer voltage for transparencies</td> </tr> </tbody> </table> <p><b>Setting: Transfer control voltage for plain paper</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1133 1396 1435"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>1ST SIDE, W≤160</td> <td>Small-size plain paper (front)</td> <td>0 to 255</td> <td>180</td> </tr> <tr> <td>1ST S, 160&lt;W&lt;220</td> <td>Middle-size plain paper (front)</td> <td>0 to 255</td> <td>175</td> </tr> <tr> <td>1ST SIDE, 220≤W</td> <td>Large-size plain paper (front)</td> <td>0 to 255</td> <td>165</td> </tr> <tr> <td>2ND SIDE, W≤160</td> <td>Small-size plain paper (back)</td> <td>0 to 255</td> <td>180</td> </tr> <tr> <td>2ND S, 160&lt;W&lt;220</td> <td>Middle-size plain paper (back)</td> <td>0 to 255</td> <td>160</td> </tr> <tr> <td>2ND SIDE, 220≤W</td> <td>Large-size plain paper (back)</td> <td>0 to 255</td> <td>140</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol>	Display	Description	PLAIN 1	Adjustment of the transfer voltage for plain paper (for Japan specifications)	PLAIN 2	Adjustment of the transfer voltage for plain paper	PLAIN 2 (HIGH GROSS)	Transfer current adjustment for plain paper in the gloss mode	THICK PAPER	Adjustment of the transfer voltage for thick paper	CALIBRATION	Transfer voltage for calibration	EXTRA TABLE	Transfer voltage on the auxiliary table	BELT CLEANING	Belt cleaning voltage	TRANSFER OFFSET	Setting the transfer offset time and transfer offset amount	PAPER SPACE REMOTE	Paper interval setting ON/OFF	PAPER SPACE	Paper interval setting	OHP 1	Adjustment of the transfer voltage for transparencies	OHP 2	Adjustment of the transfer voltage for transparencies	Display	Description	Setting range	Default setting	1ST SIDE, W≤160	Small-size plain paper (front)	0 to 255	180	1ST S, 160<W<220	Middle-size plain paper (front)	0 to 255	175	1ST SIDE, 220≤W	Large-size plain paper (front)	0 to 255	165	2ND SIDE, W≤160	Small-size plain paper (back)	0 to 255	180	2ND S, 160<W<220	Middle-size plain paper (back)	0 to 255	160	2ND SIDE, 220≤W	Large-size plain paper (back)	0 to 255	140
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WIDTH<=220(Y)	Small-size transparencies (yellow)	0 to 255	130																																																																														
WIDTH<=220(CBK)	Small-size transparencies (black)	0 to 255	125																																																																														
WIDTH<=220(MBK)	Small-size transparencies (monochrome)	0 to 255	60																																																																														
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WIDTH>220(Y)	Large-size transparencies (yellow)	0 to 255	120																																																																														

Maintenance item No.	Description																				
<b>U101</b>	<p><b>Setting: Transfer control voltage for transparencies 2</b></p> <ol style="list-style-type: none"> <li>Select the item to be set.</li> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 358 1401 510"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>WIDTH&gt;220(CBK)</td> <td>Large-size transparencies (black)</td> <td>0 to 255</td> <td>80</td> </tr> <tr> <td>WIDTH&gt;220(MBK)</td> <td>Large-size transparencies (monochrome)</td> <td>0 to 255</td> <td>55</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Default setting	WIDTH>220(CBK)	Large-size transparencies (black)	0 to 255	80	WIDTH>220(MBK)	Large-size transparencies (monochrome)	0 to 255	55								
Display	Description	Setting range	Default setting																		
WIDTH>220(CBK)	Large-size transparencies (black)	0 to 255	80																		
WIDTH>220(MBK)	Large-size transparencies (monochrome)	0 to 255	55																		
<b>U110</b>	<p><b>Checking the drum count</b></p> <p><b>Description</b> Displays the drum counts for checking.</p> <p><b>Purpose</b> To check the drum status.</p> <p><b>Method</b> Press the start key. The current drum counts and total drum counts are displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				
<b>U116</b>	<p><b>Adjusting adhesion output</b></p> <p><b>Description</b> Sets the suction voltage for each paper type.</p> <p><b>Purpose</b> Basically, the setting need not be changed. If any problem such as folds of leading edge of paper or dirt occurs, change the setting.</p> <p><b>Start</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting the suction voltage for plain paper in the color mode</b></p> <ol style="list-style-type: none"> <li>Select PLAIN 1 (COLOR) on the screen for the selecting an item.</li> <li>Select the item to be set.</li> </ol> <table border="1" data-bbox="331 1243 1401 1702"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>1ST SIDE FULL</td> <td>Suction voltage value for copying onto the first side of plain paper in the color mode at full speed</td> <td>0 to 255</td> <td>128</td> </tr> <tr> <td>1ST SIDE HALF</td> <td>Suction voltage value for copying onto the first side of plain paper in the color mode at half speed</td> <td>0 to 255</td> <td>128</td> </tr> <tr> <td>2ND SIDE FULL</td> <td>Suction voltage value for copying onto the second side of plain paper in the color mode at full speed</td> <td>0 to 255</td> <td>215</td> </tr> <tr> <td>2ND SIDE HALF</td> <td>Suction voltage value for copying onto the second side of plain paper in the color mode at half speed</td> <td>0 to 255</td> <td>215</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Change the value using the cursor up/down keys.</li> <li>Press the start key. The value is set.</li> </ol>	Display	Description	Setting range	Default setting	1ST SIDE FULL	Suction voltage value for copying onto the first side of plain paper in the color mode at full speed	0 to 255	128	1ST SIDE HALF	Suction voltage value for copying onto the first side of plain paper in the color mode at half speed	0 to 255	128	2ND SIDE FULL	Suction voltage value for copying onto the second side of plain paper in the color mode at full speed	0 to 255	215	2ND SIDE HALF	Suction voltage value for copying onto the second side of plain paper in the color mode at half speed	0 to 255	215
Display	Description	Setting range	Default setting																		
1ST SIDE FULL	Suction voltage value for copying onto the first side of plain paper in the color mode at full speed	0 to 255	128																		
1ST SIDE HALF	Suction voltage value for copying onto the first side of plain paper in the color mode at half speed	0 to 255	128																		
2ND SIDE FULL	Suction voltage value for copying onto the second side of plain paper in the color mode at full speed	0 to 255	215																		
2ND SIDE HALF	Suction voltage value for copying onto the second side of plain paper in the color mode at half speed	0 to 255	215																		

Maintenance item No.	Description			
<b>U116</b>	<b>Setting the suction voltage for plain paper in the monochrome mode</b>			
	<ol style="list-style-type: none"> <li>1. Select PLAIN 2 (MONO) on the screen for the selecting an item.</li> <li>2. Select the item to be set.</li> </ol>			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	1ST SIDE FULL	Suction voltage value for copying onto the first side of plain paper in the monochrome mode at full speed	0 to 255	200
	1ST SIDE HALF	Suction voltage value for copying onto the first side of plain paper in the monochrome mode at half speed	0 to 255	200
	2ND SIDE FULL	Suction voltage value for copying onto the second side of plain paper in the monochrome mode at full speed	0 to 255	215
	2ND SIDE HALF	Suction voltage value for copying onto the second side of plain paper in the monochrome mode at half speed	0 to 255	215
	<ol style="list-style-type: none"> <li>3. Change the value using the cursor up/down keys.</li> <li>4. Press the start key. The value is set.</li> </ol>			
	<b>Setting the suction voltage for thick paper</b>			
	<ol style="list-style-type: none"> <li>1. Select THICK PAPER on the screen for the selecting an item.</li> <li>2. Select the item to be set</li> </ol>			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	COLOR HALF 2ND	Suction voltage value for copying onto the second side of thick paper in the color mode at half speed	0 to 255	128
MONO HALF 1ST	Suction voltage value for copying onto the first side of thick paper in the monochrome mode at half speed	0 to 255	200	
<ol style="list-style-type: none"> <li>3. Change the value using the cursor up/down keys.</li> <li>4. Press the start key. The value is set.</li> </ol>				
<b>Setting the suction voltage for transparencies</b>				
<ol style="list-style-type: none"> <li>1. Select OHP on the screen for the selecting an item.</li> <li>2. Select the item to be set.</li> </ol>				
<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>	
COLOR HALF 1ST	Suction voltage value for copying onto the first side of transparencies in the color mode at half speed	0 to 255	128	
MONO HALF 1ST	Suction voltage value for copying onto the first side of transparencies in the monochrome mode at half speed	0 to 255	215	
<ol style="list-style-type: none"> <li>3. Change the value using the cursor up/down keys.</li> <li>4. Press the start key. The value is set.</li> </ol>				

Maintenance item No.	Description			
<b>U116</b>	<b>Setting</b>			
	1. Select OTHER 1 on the screen for the selecting an item. 2. Select the item to be set.			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	CALIBRATION	Calibration	0 to 255	107
	PAPER WIDTH<=160	Suction voltage value for small-size paper	-127 to 127	0
	160<WIDTH<220	Suction voltage value for middle-size paper	-127 to 127	0
	220<=PAPER WIDTH	Suction voltage value for large-size paper	-127 to 127	0
	3. Change the value using the cursor up/down keys.			
	4. Press the start key. The value is set.			
	<b>Setting</b>			
	1. Select OTHER 2 on the screen for the selecting an item. 2. Select the item to be set.			
	<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>
	SET ATTRACT TIME	Suction setting time for the leading edge of paper	0 to 525	150
	ATTRACT HV COLOR	Suction high voltage for the leading edge of paper in the color mode	-127 to 127	72
	ATTRACT HV MONO	Suction high voltage for the leading edge of paper in the monochrome mode	0 to 127	0
ATTRACT ROLER ON	Suction roller ON timing	0 to 60	20	
ATTRACT ROLER OFF	Suction roller OFF timing	0 to 60	25	
ATTRACT ROLER ON2	Suction roller ON timing	0 to 60	20	
3. Change the value using the cursor up/down keys.				
4. Press the start key. The value is set.				
<b>Setting</b>				
1. Select PAPER SPACE on the screen for the selecting an item. 2. Select the item to be set.				
<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>	
FULL SPEED	Paper interval suction voltage value at full speed	0 to 255	107	
HALF SPEED	Paper interval suction voltage value at full speed	0 to 255	107	
3. Change the value using the cursor up/down keys.				
4. Press the start key. The value is set.				
<b>Setting</b>				
1. Select BELT CLEANING on the screen for the selecting an item. 2. Select the item to be set.				
<b>Display</b>	<b>Description</b>	<b>Setting range</b>	<b>Default setting</b>	
A	Applying a + voltage in cleaning operation	0 to 255	107	
B	Applying a - voltage in cleaning operation	0 to 255	146	
3. Change the value using the cursor up/down keys.				
4. Press the start key. The value is set.				
<b>Completion</b>				
Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.				
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Maintenance item No.	Description								
<p><b>U117</b></p>	<p><b>Checking the drum number</b>  <b>Description</b>                      Displays the drum number for each color.  <b>Purpose</b>                      To check the drum number.  <b>Method</b>                      Press the start key. Each drum number is displayed.  <b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
<p><b>U118</b></p>	<p><b>Displaying the drum history</b>  <b>Description</b>                      Indicates the past record of machine number and the drum counter in each every color.  <b>Purpose</b>                      To check the count value of machine number and the drum counter.  <b>Start</b>                      Press the start key. The screen for the selecting an item is displayed.  <b>Displaying past record of machine number</b>                      1. Select MACHINE No. on the screen for selecting an item.                      Past record of machine number of 5 cases is indicated.  <b>Displaying past record of drum counter</b>                      1. Select DRUM COUNT on the screen for selecting an item.                      Past record of the drum counter of 5 cases is indicated.  <b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
<p><b>U127</b></p>	<p><b>Checking/clearing the transfer belt count</b>  <b>Description</b>                      Displays the counts of the transfer belt counter for checking or clearing.  <b>Purpose</b>                      To check the count after replacement of the transfer belt unit.  <b>Method</b>                      Press the start key. The current counts of the transfer belt counter is displayed.  <b>Clearing</b>                      1. Press the reset key and press the start key. The count is cleared,  <b>Completion</b>                      To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
<p><b>U128</b></p>	<p><b>Setting transfer high-voltage timing</b>  <b>Description</b>                      Adjusts the ON/OFF timing of transfer high-voltage output for each paper type and each mode.  <b>Purpose</b>                      Basically, the setting need not be changed. If any problem such as faulty images or dirt on the back surface occurs, change the setting.  <b>Start</b>                      1. Press the start key. The screen for selecting an item is displayed.                      2. Select the item to set.</p> <table border="1" data-bbox="331 1619 1398 1830"> <thead> <tr> <th data-bbox="338 1619 802 1664">Display</th> <th data-bbox="802 1619 1391 1664">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="338 1664 802 1709">TRANSFER ON TIMING</td> <td data-bbox="802 1664 1391 1709">Transfer timing adjustment for the ON timing</td> </tr> <tr> <td data-bbox="338 1709 802 1753">TRANSFER OFF TIMING</td> <td data-bbox="802 1709 1391 1753">Transfer timing adjustment for the OFF timing</td> </tr> <tr> <td data-bbox="338 1753 802 1830">BELT CLEANING SHIFT QTY.</td> <td data-bbox="802 1753 1391 1830">Setting of the number of sheets for moving to belt cleaning</td> </tr> </tbody> </table>	Display	Description	TRANSFER ON TIMING	Transfer timing adjustment for the ON timing	TRANSFER OFF TIMING	Transfer timing adjustment for the OFF timing	BELT CLEANING SHIFT QTY.	Setting of the number of sheets for moving to belt cleaning
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TRANSFER ON TIMING	Transfer timing adjustment for the ON timing								
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Maintenance item No.	Description																																																
U128	<p><b>Setting: Transfer timing adjustment for the ON timing</b></p> <ol style="list-style-type: none"> <li>Select the item to set.</li> <li>Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 353 1398 752"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>TRANSF ON COLOR</td> <td>Transfer timing adjustment for the ON timing in the color mode</td> <td>-125 to 125</td> <td>0</td> </tr> <tr> <td>TRANSFER ON MONO</td> <td>Transfer timing adjustment for the ON timing in the monochrome mode</td> <td>-125 to 125</td> <td>0</td> </tr> <tr> <td>TRANSF ON C THIN</td> <td>Transfer timing adjustment for the ON timing in the color and transparency mode</td> <td>-125 to 125</td> <td>0</td> </tr> <tr> <td>TRANSF ON M THIN</td> <td>Transfer timing adjustment for the ON timing in the monochrome and transparency mode</td> <td>-125 to 125</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Setting: Transfer timing adjustment for the OFF timing</b></p> <ol style="list-style-type: none"> <li>Select the item to set.</li> <li>Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 884 1398 1070"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>TRANSF OFF COLOR</td> <td>Transfer timing adjustment for the OFF timing in the color mode</td> <td>-125 to 50</td> <td>0</td> </tr> <tr> <td>TRANSF OFF MONO</td> <td>Transfer timing adjustment for the OFF timing in the monochrome mode</td> <td>-125 to 50</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Setting of the number of sheets for moving to belt cleaning</b></p> <ol style="list-style-type: none"> <li>Select the item to set.</li> <li>Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 1202 1398 1503"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>COLOR</td> <td>Number of sheets for moving to belt cleaning in the color mode</td> <td>0 to 500</td> <td>125</td> </tr> <tr> <td>BK (LARGE SIZE)</td> <td>Number of sheets for moving to belt cleaning in the monochrome mode for a large size</td> <td>0 to 500</td> <td>125</td> </tr> <tr> <td>BK (SMALL SIZE)</td> <td>Number of sheets for moving to belt cleaning in the monochrome mode for a small size</td> <td>0 to 500</td> <td>125</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	TRANSF ON COLOR	Transfer timing adjustment for the ON timing in the color mode	-125 to 125	0	TRANSFER ON MONO	Transfer timing adjustment for the ON timing in the monochrome mode	-125 to 125	0	TRANSF ON C THIN	Transfer timing adjustment for the ON timing in the color and transparency mode	-125 to 125	0	TRANSF ON M THIN	Transfer timing adjustment for the ON timing in the monochrome and transparency mode	-125 to 125	0	Display	Setting	Setting range	Default setting	TRANSF OFF COLOR	Transfer timing adjustment for the OFF timing in the color mode	-125 to 50	0	TRANSF OFF MONO	Transfer timing adjustment for the OFF timing in the monochrome mode	-125 to 50	0	Display	Setting	Setting range	Default setting	COLOR	Number of sheets for moving to belt cleaning in the color mode	0 to 500	125	BK (LARGE SIZE)	Number of sheets for moving to belt cleaning in the monochrome mode for a large size	0 to 500	125	BK (SMALL SIZE)	Number of sheets for moving to belt cleaning in the monochrome mode for a small size	0 to 500	125
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Maintenance item No.	Description																				
<b>U131</b>	<p><b>Adjusting the toner sensor control voltage</b></p> <p><b>Description</b> Adjusts the toner sensor control voltage.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item, The selected item is displayed in reverse.</li> <li>3. Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 474 1398 663"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>CONTROL BK</td> <td>Black toner control voltage</td> <td>0 to 255</td> <td>130</td> </tr> <tr> <td>CONTROL C</td> <td>Cyan toner control voltage</td> <td>0 to 255</td> <td>140</td> </tr> <tr> <td>CONTROL M</td> <td>Magenta toner control voltage</td> <td>0 to 255</td> <td>140</td> </tr> <tr> <td>CONTROL Y</td> <td>Yellow toner control voltage</td> <td>0 to 255</td> <td>140</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	CONTROL BK	Black toner control voltage	0 to 255	130	CONTROL C	Cyan toner control voltage	0 to 255	140	CONTROL M	Magenta toner control voltage	0 to 255	140	CONTROL Y	Yellow toner control voltage	0 to 255	140
Display	Setting	Setting range	Default setting																		
CONTROL BK	Black toner control voltage	0 to 255	130																		
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CONTROL M	Magenta toner control voltage	0 to 255	140																		
CONTROL Y	Yellow toner control voltage	0 to 255	140																		
<b>U132</b>	<p><b>Replenishing toner forcibly</b></p> <p><b>Description</b> Replenishes toner forcibly until the toner sensor output value reaches the toner feed start level.</p> <p><b>Purpose</b> Used when the toner empty is detected frequently.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press the start key. Operation starts, and the current data is displayed. Toner is replenished until the toner sensor output value reaches the toner feed start level.</li> </ol> <table border="1" data-bbox="331 1055 1398 1395"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT BK</td> <td>Black toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET BK</td> <td>Current black toner feed start level</td> </tr> <tr> <td>INPUT C</td> <td>Cyan toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET C</td> <td>Current cyan toner feed start level</td> </tr> <tr> <td>INPUT M</td> <td>Magenta toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET M</td> <td>Current magenta toner feed start level</td> </tr> <tr> <td>INPUT Y</td> <td>Yellow toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET Y</td> <td>Current yellow toner feed start level</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. To stop operation, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INPUT BK	Black toner sensor output value after start key is pressed	TERGET BK	Current black toner feed start level	INPUT C	Cyan toner sensor output value after start key is pressed	TERGET C	Current cyan toner feed start level	INPUT M	Magenta toner sensor output value after start key is pressed	TERGET M	Current magenta toner feed start level	INPUT Y	Yellow toner sensor output value after start key is pressed	TERGET Y	Current yellow toner feed start level		
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TERGET Y	Current yellow toner feed start level																				
<b>U135</b>	<p><b>Checking toner motors operation</b></p> <p><b>Description</b> Drives toner motors M/C/Y/K.</p> <p><b>Description</b> To check the operation of toner motors.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press ALL on the touch panel. It is displayed in reverse and the operation starts.</li> <li>3. To stop the operation, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>																				

Maintenance item No.	Description																																								
U139	<p><b>Displaying the temperature and humidity outside the machine</b>  <b>Description</b>  Displays the detected temperature and humidity outside the machine.  <b>Purpose</b>  To check the temperature and humidity outside the machine.  <b>Method</b>  Press the start key. The detected temperature (°C/°F) and humidity (%) outside the machine are displayed.  <b>Completion</b>  Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																																								
U140	<p><b>Setting the developing bias output</b>  <b>Description</b>  Sets the developing bias output.  <b>Purpose</b>  To change the setting when any density problems, such as too dark or light, occur.  <b>Start</b>  Press the start key. The screen for selecting an item is displayed.  <b>Setting: Developing bias at high speed</b></p> <ol style="list-style-type: none"> <li>1. Select HIGH SPEED on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the value.</li> </ol> <table border="1" data-bbox="331 869 1398 1059"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Black developing bias at high speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>CYAN</td> <td>Cyan developing bias at high speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>MAGENTA</td> <td>Magenta developing bias at high speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>YELLOW</td> <td>Yellow developing bias at high speed</td> <td>0 to 255</td> <td>191</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting: Developing bias at low speed</b></p> <ol style="list-style-type: none"> <li>1. Select LOW SPEED on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the value.</li> </ol> <table border="1" data-bbox="331 1211 1398 1402"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Black developing bias at low speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>CYAN</td> <td>Cyan developing bias at low speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>MAGENTA</td> <td>Magenta developing bias at low speed</td> <td>0 to 255</td> <td>191</td> </tr> <tr> <td>YELLOW</td> <td>Yellow developing bias at low speed</td> <td>0 to 255</td> <td>191</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Completion</b>  Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	Setting range	Initial setting	BLACK	Black developing bias at high speed	0 to 255	191	CYAN	Cyan developing bias at high speed	0 to 255	191	MAGENTA	Magenta developing bias at high speed	0 to 255	191	YELLOW	Yellow developing bias at high speed	0 to 255	191	Display	Description	Setting range	Initial setting	BLACK	Black developing bias at low speed	0 to 255	191	CYAN	Cyan developing bias at low speed	0 to 255	191	MAGENTA	Magenta developing bias at low speed	0 to 255	191	YELLOW	Yellow developing bias at low speed	0 to 255	191
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<b>U147</b>	<p><b>Setting for toner applying operation</b></p> <p><b>Description</b> Sets the quantity and time for consuming charged toner in the developer unit.</p> <p><b>Purpose</b> To change the settings of the operation count for transition and standard print coverage ratio according to the situation of use of the user.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set.</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>APPLYING TONER</td> <td>Setting the operation count for applying toner, standard print coverage ratio, permission/prohibition of applying toner operation at the time of forced belt cleaning during printing, and permission/prohibition of applying toner operation at the time of forced belt cleaning at power on.</td> </tr> <tr> <td>APPLY. TONER ON THE BLADE</td> <td>Setting permission/prohibition of applying toner on the blade, time for applying toner on the blade, operation count for applying toner on the blade at the end of printing, and developing bias value in execution of applying toner on the blade at the end of printing.</td> </tr> </tbody> </table> <p><b>Setting the operation count for applying toner during printing</b></p> <ol style="list-style-type: none"> <li>1. Select APPLYING TONER on the screen for selecting an item.</li> <li>2. Select OPERATION COUNT.</li> <li>3. Select PRINTING.</li> <li>4. 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U147	<p><b>Setting the standard print coverage ratio during printing</b></p> <ol style="list-style-type: none"> <li>1. Select APPLYING TONER on the screen for selecting an item.</li> <li>2. Select STD. PRINT COVERAGE RATIO.</li> <li>3. Select PRINTING.</li> <li>4. Use the cursor up/down keys to change the value.</li> </ol> <table border="1" data-bbox="331 416 1398 725"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>TEMP.&lt;36</td> <td>Standard print coverage ratio during printing (lower than 36°C/96.8°F)</td> <td>50 to 999</td> <td>200</td> </tr> <tr> <td>36&lt;=TEMP.&lt;39</td> <td>Standard print coverage ratio during printing (36°C/96.8°F to 39°C/102.2°F)</td> <td>50 to 999</td> <td>266</td> </tr> <tr> <td>39&lt;=TEMP.&lt;43</td> <td>Standard print coverage ratio during printing (39°C/102.2°F to 43°C/109.4°F)</td> <td>50 to 999</td> <td>400</td> </tr> <tr> <td>43&lt;=TEMP.</td> <td>Standard print coverage ratio during printing (43°C/109.4°F or higher)</td> <td>50 to 999</td> <td>537</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>5. Press the start key. The value is set.</li> </ol> <p><b>Setting the standard print coverage ratio at the end of printing</b></p> <ol style="list-style-type: none"> <li>1. Select APPLYING TONER on the screen for selecting an item.</li> <li>2. Select STD. PRINT COVERAGE RATIO.</li> <li>3. Select JOB END.</li> <li>4. 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The value is set.</li> </ol> <p><b>Setting the permission/prohibition of applying toner at the time of forced belt cleaning during printing</b></p> <ol style="list-style-type: none"> <li>1. Select APPLYING TONER on the screen for selecting an item.</li> <li>2. Select OPERATION PERMISSION 1.</li> <li>3. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1384 1398 1500"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Toner applying operation permission</td> </tr> <tr> <td>OFF</td> <td>Toner applying operation prohibition</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> <li>4. Press the start key. The setting is set.</li> </ol> <p><b>Setting the permission/prohibition of applying toner at the time of forced belt cleaning at power on</b></p> <ol style="list-style-type: none"> <li>1. Select APPLYING TONER on the screen for selecting an item.</li> <li>2. Select OPERATION PERMISSION 2.</li> <li>3. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1688 1398 1805"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Toner applying operation permission</td> </tr> <tr> <td>OFF</td> <td>Toner applying operation prohibition</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> <li>4. Press the start key. The setting is set.</li> </ol>	Display	Description	Setting range	Initial setting	TEMP.<36	Standard print coverage ratio during printing (lower than 36°C/96.8°F)	50 to 999	200	36<=TEMP.<39	Standard print coverage ratio during printing (36°C/96.8°F to 39°C/102.2°F)	50 to 999	266	39<=TEMP.<43	Standard print coverage ratio during printing (39°C/102.2°F to 43°C/109.4°F)	50 to 999	400	43<=TEMP.	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<p><b>U147</b></p>	<p><b>Setting the toner applying operation on the blade</b></p> <ol style="list-style-type: none"> <li>1. Select APPLY. TONER ON THE BLADE on the screen for selecting an item.</li> <li>2. Select PERFORM PERMISSION.</li> <li>3. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 387 1398 501"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Toner applying operation permission</td> </tr> <tr> <td>OFF</td> <td>Toner applying operation prohibition</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>4. Press the start key. The setting is set.</li> </ol> <p><b>Setting the toner applying time</b></p> <ol style="list-style-type: none"> <li>1. Select APPLY. TONER ON THE BLADE on the screen for selecting an item.</li> <li>2. Select APPLYING TONER TIME.</li> <li>3. Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 694 1398 768"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Toner applying time (ms)</td> <td>0 to 999</td> <td>100</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting the toner applying operation count</b></p> <ol style="list-style-type: none"> <li>1. Select APPLY. TONER ON THE BLADE on the screen for selecting an item.</li> <li>2. Select OPERATION COUNT.</li> <li>3. Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 934 1398 1039"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Operation count for applying toner on the blade at the end of printing</td> <td>0 to 255</td> <td>10</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting the developing bias</b></p> <ol style="list-style-type: none"> <li>1. Select APPLY. TONER ON THE BLADE on the screen for selecting an item.</li> <li>2. Select ADJUSTING BIAS.</li> <li>3. Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 1205 1398 1310"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Developing bias value at the time of applying toner operation on the blade at the end of printing</td> <td>0 to 255</td> <td>85</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Toner applying operation permission	OFF	Toner applying operation prohibition	Description	Setting range	Default setting	Toner applying time (ms)	0 to 999	100	Description	Setting range	Default setting	Operation count for applying toner on the blade at the end of printing	0 to 255	10	Description	Setting range	Default setting	Developing bias value at the time of applying toner operation on the blade at the end of printing	0 to 255	85
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<p><b>U155</b></p>	<p><b>Displaying the toner sensor output</b></p> <p><b>Description</b> Displays the toner sensor output value.</p> <p><b>Purpose</b> To check the output value for each color when any image problems occur.</p> <p><b>Method</b> Press the start key. The current setting are displayed.</p> <table border="1" data-bbox="331 1630 1398 1971"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>INPUT BK</td> <td>Black toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET BK</td> <td>Current black toner feed start level</td> </tr> <tr> <td>INPUT C</td> <td>Cyan toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET C</td> <td>Current cyan toner feed start level</td> </tr> <tr> <td>INPUT M</td> <td>Magenta toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET M</td> <td>Current magenta toner feed start level</td> </tr> <tr> <td>INPUT Y</td> <td>Yellow toner sensor output value after start key is pressed</td> </tr> <tr> <td>TERGET Y</td> <td>Current yellow toner feed start level</td> </tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	INPUT BK	Black toner sensor output value after start key is pressed	TERGET BK	Current black toner feed start level	INPUT C	Cyan toner sensor output value after start key is pressed	TERGET C	Current cyan toner feed start level	INPUT M	Magenta toner sensor output value after start key is pressed	TERGET M	Current magenta toner feed start level	INPUT Y	Yellow toner sensor output value after start key is pressed	TERGET Y	Current yellow toner feed start level						
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TERGET Y	Current yellow toner feed start level																								

Maintenance item No.	Description																																								
<b>U156</b>	<p><b>Setting the toner replenishment level</b></p> <p><b>Description</b> Sets the toner replenishment level for each color.</p> <p><b>Purpose</b> To change settings according to the original image.</p> <p><b>Start</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Method: Setting the toner supply level</b></p> <ol style="list-style-type: none"> <li>1. Select SUPPLY LEVEL on the screen for selecting an item.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 633 1398 857"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>SUPPLY LEVEL BK</td> <td>Toner replenishment level (black)</td> <td>0 to 255</td> <td>102</td> </tr> <tr> <td>SUPPLY LEVEL C</td> <td>Toner replenishment level (cyan)</td> <td>0 to 255</td> <td>102</td> </tr> <tr> <td>SUPPLY LEVEL M</td> <td>Toner replenishment level (magenta)</td> <td>0 to 255</td> <td>102</td> </tr> <tr> <td>SUPPLY LEVEL Y</td> <td>Toner replenishment level (yellow)</td> <td>0 to 255</td> <td>102</td> </tr> </tbody> </table> <p>Increasing the value makes the toner replenishment level higher.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Method: Setting the toner empty level</b></p> <ol style="list-style-type: none"> <li>1. Select EMPTY LEVEL on the screen for selecting an item.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1043 1398 1267"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>EMPTY LEVEL BK</td> <td>Toner replenishment level (black)</td> <td>0 to 255</td> <td>24</td> </tr> <tr> <td>EMPTY LEVEL C</td> <td>Toner replenishment level (cyan)</td> <td>0 to 255</td> <td>24</td> </tr> <tr> <td>EMPTY LEVEL M</td> <td>Toner replenishment level (magenta)</td> <td>0 to 255</td> <td>24</td> </tr> <tr> <td>EMPTY LEVEL Y</td> <td>Toner replenishment level (yellow)</td> <td>0 to 255</td> <td>24</td> </tr> </tbody> </table> <p>Increasing the value makes the toner replenishment level higher.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	SUPPLY LEVEL BK	Toner replenishment level (black)	0 to 255	102	SUPPLY LEVEL C	Toner replenishment level (cyan)	0 to 255	102	SUPPLY LEVEL M	Toner replenishment level (magenta)	0 to 255	102	SUPPLY LEVEL Y	Toner replenishment level (yellow)	0 to 255	102	Display	Setting	Setting range	Default setting	EMPTY LEVEL BK	Toner replenishment level (black)	0 to 255	24	EMPTY LEVEL C	Toner replenishment level (cyan)	0 to 255	24	EMPTY LEVEL M	Toner replenishment level (magenta)	0 to 255	24	EMPTY LEVEL Y	Toner replenishment level (yellow)	0 to 255	24
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<b>U157</b>	<p><b>Checking/clearing the developing drive time</b></p> <p><b>Description</b> Displays the developing drive time for checking, or clearing a figure, which is used as a reference when correcting the toner control.</p> <p><b>Purpose</b> To check the developing drive time after replacing the developer unit.</p> <p><b>Method</b> Press the start key. The developing drive time is displayed in minutes.</p> <p><b>Clearing</b></p> <ol style="list-style-type: none"> <li>1. Select the item to clear and press the reset key.</li> <li>2. Press the start key. The time is cleared, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the time, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																																								

Maintenance item No.	Description																																		
U158	<p><b>Checking the developing count</b></p> <p><b>Description</b> Displays the developing count for checking.</p> <p><b>Purpose</b> To check the developing count after replacement of the developer.</p> <p><b>Method</b> Press the start key. The current and total developing counts are displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																																		
U161	<p><b>Setting the fixing control temperature</b></p> <p><b>Description</b> Changes the fixing control temperature.</p> <p><b>Purpose</b> Normally you do not need to change the setting. However, this item can be used to prevent curling or creasing of paper, or solve a fixing problem on thick paper.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The screen for executing each item is displayed.</li> </ol> <table border="1" data-bbox="331 808 1398 920"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SETTING 1</td> <td>Sets the fixing control temperature.</td> </tr> <tr> <td>SETTING 2</td> <td>Sets the fixing correct temperature.</td> </tr> </tbody> </table> <p><b>Setting the fixing control temperature</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1037 1398 1529"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>UPPER 1ST TARGET</td> <td>Primary stabilization fixing temperature (upper)</td> <td>0 to 255 (°C)</td> <td>100</td> </tr> <tr> <td>LOWER 1ST TARGET</td> <td>Primary stabilization fixing temperature (lower)</td> <td>0 to 255 (°C)</td> <td>100</td> </tr> <tr> <td>UPPER 2ND TARGET</td> <td>Secondary stabilization fixing temperature (upper)</td> <td>0 to 255 (°C)</td> <td>140</td> </tr> <tr> <td>LOWER 2ND TARGET</td> <td>Secondary stabilization fixing temperature (lower)</td> <td>0 to 255 (°C)</td> <td>140</td> </tr> <tr> <td>UPPR READY TARG.</td> <td>Fixing temperature for ready (upper)</td> <td>0 to 255 (°C)</td> <td>140</td> </tr> <tr> <td>LOW READY TARGET</td> <td>Fixing temperature for ready (lower)</td> <td>0 to 255 (°C)</td> <td>135</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol>	Display	Description	SETTING 1	Sets the fixing control temperature.	SETTING 2	Sets the fixing correct temperature.	Display	Setting	Setting range	Default setting	UPPER 1ST TARGET	Primary stabilization fixing temperature (upper)	0 to 255 (°C)	100	LOWER 1ST TARGET	Primary stabilization fixing temperature (lower)	0 to 255 (°C)	100	UPPER 2ND TARGET	Secondary stabilization fixing temperature (upper)	0 to 255 (°C)	140	LOWER 2ND TARGET	Secondary stabilization fixing temperature (lower)	0 to 255 (°C)	140	UPPR READY TARG.	Fixing temperature for ready (upper)	0 to 255 (°C)	140	LOW READY TARGET	Fixing temperature for ready (lower)	0 to 255 (°C)	135
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Maintenance item No.	Description																				
<b>U161</b>	<p><b>Setting the fixing correct temperature</b></p> <ol style="list-style-type: none"> <li>Select the item to be set. The selected item is displayed in reverse.</li> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 353 1398 698"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>UPPER THICK PAP.</td> <td>Fixing temperature for thin paper copying (upper)</td> <td>0 to 255 (°C)</td> <td>25</td> </tr> <tr> <td>LOWER THICK PAP.</td> <td>Fixing temperature for thin paper copying (lower)</td> <td>0 to 255 (°C)</td> <td>30</td> </tr> <tr> <td>UPPER OHP</td> <td>Fixing temperature for transparencies copying (upper)</td> <td>0 to 255 (°C)</td> <td>25</td> </tr> <tr> <td>LOWER OHP</td> <td>Fixing temperature for transparencies copying (lower)</td> <td>0 to 255 (°C)</td> <td>30</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	UPPER THICK PAP.	Fixing temperature for thin paper copying (upper)	0 to 255 (°C)	25	LOWER THICK PAP.	Fixing temperature for thin paper copying (lower)	0 to 255 (°C)	30	UPPER OHP	Fixing temperature for transparencies copying (upper)	0 to 255 (°C)	25	LOWER OHP	Fixing temperature for transparencies copying (lower)	0 to 255 (°C)	30
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<b>U162</b>	<p><b>Stabilizing fixing forcibly</b></p> <p><b>Description</b> Stops the stabilization fixing drive forcibly, regardless of fixing temperature.</p> <p><b>Purpose</b> To forcibly stabilize the machine before the fuser section reaches stabilization temperature.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for executing is displayed.</li> <li>Press the start key. The forced stabilization mode is entered, and stabilization operation stops regardless of fixing temperature. The screen for selecting a maintenance item No. is displayed. To exit the forced stabilization mode, turn the power off and on.</li> </ol> <p><b>Completion</b> To exit this maintenance item without executing forced fixing stabilization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				
<b>U163</b>	<p><b>Resetting the fixing problem data</b></p> <p><b>Description</b> Resets the detection of a service call code indicating a problem in the fuser section.</p> <p><b>Purpose</b> To prevent accidents due to an abnormally high fixing temperature.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for executing is displayed.</li> <li>Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>Press the start key. The fixing problem data is initialized.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				
<b>U167</b>	<p><b>Checking/clearing the fixing count</b></p> <p><b>Description</b> Displays the fixing count for checking or clearing.</p> <p><b>Purpose</b> Used to check the fixing count after replacement of the fuser unit.</p> <p><b>Method</b> Press the start key. The fixing count and total fixing count are displayed.</p> <p><b>Clearing</b></p> <ol style="list-style-type: none"> <li>Press CLEAR on the touch panel. The count is cleared, and the screen for selecting a maintenance item No. is displayed. The total fixing count cannot be cleared.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				

Maintenance item No.	Description										
U200	<p><b>Turning all LEDs ON</b></p> <p><b>Description</b> Turns all of the LEDs on the operation panel on.</p> <p><b>Purpose</b> To check the operation of all of the LEDs on the operation panel.</p> <p><b>Method</b> Press the start key. All of the LEDs on the operation panel light up. Press the stop/clear key or wait for 10 s. The LEDs turns off, and the screen for selecting a maintenance item No. is displayed.</p>										
U201	<p><b>Initializing the touch panel</b></p> <p><b>Description</b> Automatically correct the positions of the X- and Y-axes of the touch panel.</p> <p><b>Purpose</b> To automatically correct the display positions on the touch panel after it is replaced.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed, and the + key displayed at the upper left of the touch panel flashes.</li> <li>2. Press on the center of the + key. The + key on lower right flashes.</li> <li>3. Press the center of the flashing +. Initialization of the touch panel is complete, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without initializing, press the stop/clear key. The screen for selecting a maintenance mode No. is displayed.</p>										
U202	<p><b>Setting the KMAS host monitoring system</b></p> <p><b>Description</b> Initializes or operates the KMAS host monitoring system.</p> <p><b>Purpose</b> This is an optional device which is currently supported only by Japanese specifications machines, so no setting is necessary.</p>										
U203	<p><b>Operating the DP separately</b></p> <p><b>Description</b> Simulates the original conveying operation separately in the optional DP.</p> <p><b>Purpose</b> Used to check the DP operation.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Place an original in the DP if running this simulation with paper.</li> <li>3. Select the item to be operated. The selected item is displayed in reverse and the operation starts.</li> </ol> <table border="1" data-bbox="331 1413 1398 1603"> <thead> <tr> <th>Display</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>ADP</td> <td>With paper, single-sided original</td> </tr> <tr> <td>RADP</td> <td>With paper, double-sided original</td> </tr> <tr> <td>ADP (NON P)</td> <td>Without paper, single-sided original (continuous operation)</td> </tr> <tr> <td>RADP (NON P)</td> <td>Without paper, double-sided original (continuous operation)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. To stop continuous operation, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key when the operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Operation	ADP	With paper, single-sided original	RADP	With paper, double-sided original	ADP (NON P)	Without paper, single-sided original (continuous operation)	RADP (NON P)	Without paper, double-sided original (continuous operation)
Display	Operation										
ADP	With paper, single-sided original										
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Maintenance item No.	Description						
U204	<p><b>Setting the presence or absence of a key card or key counter</b></p> <p><b>Description</b> Sets the presence or absence of the optional key card or key counter.</p> <p><b>Purpose</b> Used when the optional key card or key counter is installed.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the optional counter to be installed. The selected counter is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 533 1398 647"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>KEY-CARD</td> <td>Key card installed</td> </tr> <tr> <td>KEY-COUNTER</td> <td>Key counter installed</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	KEY-CARD	Key card installed	KEY-COUNTER	Key counter installed
Display	Description						
KEY-CARD	Key card installed						
KEY-COUNTER	Key counter installed						
U206	<p><b>Setting the presence or absence of the coin vender</b></p> <p><b>Description</b> Sets the presence or absence of the optional coin vender. Also sets the details for coin vender operation, such as mode and unit price. This is an optional device which is currently supported only by Japanese specifications machines, so no setting is necessary.</p>						
U207	<p><b>Checking the keys on the operation panel</b></p> <p><b>Description</b> Checks operations of the keys on the operation panel.</p> <p><b>Purpose</b> Used to check the operations of all the keys and LEDs on the operation panel.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for executing the maintenance item is displayed.</li> <li>COUNT1 is displayed and the leftmost LED on the operation panel lights.</li> <li>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.</li> <li>When all the keys on the operation panel have been pressed, all the LEDs light for up to 10 seconds.</li> <li>When the LEDs go off, press the start key. All the LEDs light for 10 seconds again.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
U208	<p><b>Setting paper feeder paper size</b></p> <p><b>Description</b> Sets the paper sizes for cassettes 3 (right deck) and 4 (left deck) in the optional 3000-sheet paper feeder.</p> <p><b>Purpose</b> To change the setting according to the user.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for executing is displayed.</li> <li>Select the paper sizes (11 x 8.5, A4 or B5) for cassettes 3 and 4 respectively. The selected item is displayed in reverse.</li> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						

Maintenance item No.	Description												
U209	<p><b>Setting the date and time</b></p> <p><b>Description</b> Sets the time to adjust a time difference.</p> <p><b>Purpose</b> To check the accuracy of the copier clock.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Use the cursor up/down keys to enter the value in the currently selected time zone, and then press the start key. The date and the time are displayed.</li> <li>2. Use the cursor up/down keys to enter the current date (year, month and day) and current time (hour and minutes), and press the start key. Enter the last two digits of the year.</li> <li>3. "NG" is displayed when the time difference between the real-time clock and that of the setting exceeds 24 hours. "OK" is displayed when the difference is within 24 hours.</li> <li>4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
U219	<p><b>Setting the total count indication</b></p> <p><b>Description</b> Selects whether or not to indicate the total counter in the counter report and the counter check mode on the operation panel.</p> <p><b>Purpose</b> To change the setting according to the user.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select ON or OFF. Press the start key, and the setting is set. When setting to OFF, there is no indication of the counter check mode and counter report, and then total count of the optional network scanner is indicated at total value of the rating counter.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
U237	<p><b>Setting the maximum number of sheets for finisher stacking</b></p> <p><b>Description</b> Sets the maximum number of A4/11" x 8 1/2" sheets to be stacked on the main tray of the optional document finisher.</p> <p><b>Purpose</b> To change the setting when a stack malfunction has occurred.</p> <p><b>Setting: Number of sheets to be stacked on the main tray of the multi finisher</b></p> <ol style="list-style-type: none"> <li>1. Select the desired number of sheets of paper.</li> </ol> <table border="1" data-bbox="331 1402 1398 1518"> <thead> <tr> <th>Setting value</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>3000 sheets</td> </tr> <tr> <td>1</td> <td>1500 sheets</td> </tr> </tbody> </table> <p>Initial setting: 0 (3000 sheets) If the number of originals is less than 20, the value is limited to 1,500 sheets regardless of the setting. If the optional centerfold unit is installed, the value is limited to 1,500 sheets regardless of the setting.</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Setting: Number of sheets to be stacked on the main tray of the simple finisher</b></p> <ol style="list-style-type: none"> <li>1. Select the desired number of sheets of paper.</li> </ol> <table border="1" data-bbox="331 1706 1398 1823"> <thead> <tr> <th>Setting value</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>2000 sheets</td> </tr> <tr> <td>1</td> <td>1000 sheets</td> </tr> </tbody> </table> <p>Initial setting: 0 (2000 sheets) If the number of originals is less than 20, the value is limited to 1,000 sheets regardless of the setting.</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting value	Setting	0	3000 sheets	1	1500 sheets	Setting value	Setting	0	2000 sheets	1	1000 sheets
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1	1000 sheets												

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U240	<p><b>Checking the operation of the finisher</b></p> <p><b>Description</b> Turns each clutch and solenoid of the optional document finisher ON.</p> <p><b>Purpose</b> To check the operation of each clutch and solenoid of the optional document finisher.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the clutch or solenoid to be operated. The selected item is displayed in reverse and the operation turns on for 0.5 s.</li> </ol> <table border="1" data-bbox="331 533 1398 1473"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>CONV MOTOR</td> <td>Paper conveying motor (PCM)</td> </tr> <tr> <td>PUNCH MOTOR</td> <td>Punch motor (PUNM)</td> </tr> <tr> <td>WID T MOTOR</td> <td>Font/Rear upper side-registration guide motors (SRGM-FU/SRGM-RU)</td> </tr> <tr> <td>WID U MOTPR</td> <td>Lower side-registration guide motor (SRGM-L)</td> </tr> <tr> <td>MTRAY MOTOR</td> <td>Main tray elevation motor (MTEM)</td> </tr> <tr> <td>JTRAY MOTOR</td> <td>Multi job tray elevation motor (MJTEM)</td> </tr> <tr> <td>BRA A SOL</td> <td>Feedshift solenoid A (FSSOLA)</td> </tr> <tr> <td>BRA B SOL</td> <td>Feedshift solenoid B (FSSOLB)</td> </tr> <tr> <td>BRA C SOL</td> <td>Feedshift solenoid C (FSSOLC)</td> </tr> <tr> <td>PUNCH P SOL</td> <td>Punch solenoid (PUNSOL)</td> </tr> <tr> <td>MTRAY SOL</td> <td>Paper holder solenoid (PHSOL)</td> </tr> <tr> <td>EJEC SOL</td> <td>Eject guide solenoid (EGSOL)</td> </tr> <tr> <td>PUNCH I SOL</td> <td>Paper entry guide solenoid (PEGSOL)</td> </tr> <tr> <td>MIDDLE SOL</td> <td>Movable guide solenoid (MGSOL)</td> </tr> <tr> <td>DRAM CL</td> <td>Siding drum clutch (SDCL)</td> </tr> <tr> <td>FEED IN CL</td> <td>Paper conveying clutch (PCCL)</td> </tr> <tr> <td>PUNCH CL</td> <td>Punch clutch (PUNCL)</td> </tr> <tr> <td>SADDLE ROL1</td> <td>Main motor (MM)</td> </tr> <tr> <td>SADDLE ROL2</td> <td>Main motor (MM)</td> </tr> <tr> <td>SADDLE BLD</td> <td>Centerfold blade motor (CBLM)</td> </tr> <tr> <td>SADDLE INI1</td> <td>Centering plate motor (CPM)</td> </tr> <tr> <td>SADDLE INI2</td> <td>Side-registration guide motor (SRGM)</td> </tr> <tr> <td>SADDLE SOL</td> <td>Pressure release solenoid (PRSOL)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. To stop motor driving, press the interrupt key.</li> <li>4. To return to the screen for selecting an item, press the stop/clear key when the motor stops.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	CONV MOTOR	Paper conveying motor (PCM)	PUNCH MOTOR	Punch motor (PUNM)	WID T MOTOR	Font/Rear upper side-registration guide motors (SRGM-FU/SRGM-RU)	WID U MOTPR	Lower side-registration guide motor (SRGM-L)	MTRAY MOTOR	Main tray elevation motor (MTEM)	JTRAY MOTOR	Multi job tray elevation motor (MJTEM)	BRA A SOL	Feedshift solenoid A (FSSOLA)	BRA B SOL	Feedshift solenoid B (FSSOLB)	BRA C SOL	Feedshift solenoid C (FSSOLC)	PUNCH P SOL	Punch solenoid (PUNSOL)	MTRAY SOL	Paper holder solenoid (PHSOL)	EJEC SOL	Eject guide solenoid (EGSOL)	PUNCH I SOL	Paper entry guide solenoid (PEGSOL)	MIDDLE SOL	Movable guide solenoid (MGSOL)	DRAM CL	Siding drum clutch (SDCL)	FEED IN CL	Paper conveying clutch (PCCL)	PUNCH CL	Punch clutch (PUNCL)	SADDLE ROL1	Main motor (MM)	SADDLE ROL2	Main motor (MM)	SADDLE BLD	Centerfold blade motor (CBLM)	SADDLE INI1	Centering plate motor (CPM)	SADDLE INI2	Side-registration guide motor (SRGM)	SADDLE SOL	Pressure release solenoid (PRSOL)
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<p><b>U241</b></p>	<p><b>Checking the operation of the switches of the finisher</b></p> <p><b>Description</b> Displays the status of each switch of the optional document finisher.</p> <p><b>Purpose</b> To check the operation of each switch of the optional document finisher.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key to run the maintenance item.</li> <li>2. Turn each switch on manually. When a switch is detected to be in the on position, it is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 539 1398 1664"> <thead> <tr> <th data-bbox="338 539 536 573">Display</th> <th data-bbox="536 539 1391 573">Setting</th> </tr> </thead> <tbody> <tr><td>CONV</td><td>Paper entry sensor (PES)</td></tr> <tr><td>EJECT SUB</td><td>Paper ejection sensor (PEJS)</td></tr> <tr><td>CONV TRAY</td><td>Intermediate tray paper conveying sensor (ITPCS)</td></tr> <tr><td>EJECT MAIN</td><td>Sub tray paper ejection sensor (STPES)</td></tr> <tr><td>TRAY U PAP</td><td>Upper paper sensor (PS-U)</td></tr> <tr><td>TRAY L PAP</td><td>Lower paper sensor (PS-L)</td></tr> <tr><td>MTRAY U LMT</td><td>Main tray upper limit detection sensor (MTULDS)</td></tr> <tr><td>MTRAY L LMT</td><td>Main tray lower limit detection sensor (MTLLDS)</td></tr> <tr><td>MTRAY POS</td><td>Main tray paper upper surface detection light emitting/intercepting sensors (MTPUSDLES/MTPUSDLIS)</td></tr> <tr><td>MTRAY PUSH</td><td>Paper holder detection sensor (PHDS)</td></tr> <tr><td>MTRAY OVER1</td><td>Main tray load 1000 detection sensor (MTLDS-10)</td></tr> <tr><td>MTRAY OVER2</td><td>Main tray load 1500 detection sensor (MTLDS-15)</td></tr> <tr><td>MTRAY OVER3</td><td>Main tray load 3000/2000 detection sensors (MTLDS-30/MTLDS-20)</td></tr> <tr><td>JOB U LMT</td><td>Multi job tray upper limit detection sensor (MJTULDS)</td></tr> <tr><td>JOB L LMT</td><td>Multi job tray lower limit detection sensor (MJTLLDS)</td></tr> <tr><td>JOB SAFETY</td><td>Multi job tray front/rear switches (MJTSW-F/MJTSW-R)</td></tr> <tr><td>JOB POS</td><td>Multi job tray position sensor (MJTPS)</td></tr> <tr><td>JOB OVER</td><td>Multi job tray paper upper surface detection light emitting/intercepting sensors (MJTPUSDLES/MJTPUSDLIS)</td></tr> <tr><td>JOB PAP1</td><td>Paper detection switch 1 (PDSW1)</td></tr> <tr><td>JOB PAP2</td><td>Paper detection switch 2 (PDSW2)</td></tr> <tr><td>JOB PAP3</td><td>Paper detection switch 3 (PDSW3)</td></tr> <tr><td>JOB PAP4</td><td>Paper detection switch 4 (PDSW4)</td></tr> <tr><td>JOB PAP5</td><td>Paper detection switch 5 (PDSW5)</td></tr> <tr><td>SDL CONV</td><td>Centerfold unit paper entry sensor (CUPES)</td></tr> <tr><td>SDL EJECT</td><td>Folded edge detection sensor (FEDS)</td></tr> <tr><td>SDL PAP</td><td>Eject tray paper detection switch (ETPDSW)</td></tr> <tr><td>SDL BIN PAP</td><td>Inside tray detection sensor (ITDS)</td></tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key when all operations complete. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	CONV	Paper entry sensor (PES)	EJECT SUB	Paper ejection sensor (PEJS)	CONV TRAY	Intermediate tray paper conveying sensor (ITPCS)	EJECT MAIN	Sub tray paper ejection sensor (STPES)	TRAY U PAP	Upper paper sensor (PS-U)	TRAY L PAP	Lower paper sensor (PS-L)	MTRAY U LMT	Main tray upper limit detection sensor (MTULDS)	MTRAY L LMT	Main tray lower limit detection sensor (MTLLDS)	MTRAY POS	Main tray paper upper surface detection light emitting/intercepting sensors (MTPUSDLES/MTPUSDLIS)	MTRAY PUSH	Paper holder detection sensor (PHDS)	MTRAY OVER1	Main tray load 1000 detection sensor (MTLDS-10)	MTRAY OVER2	Main tray load 1500 detection sensor (MTLDS-15)	MTRAY OVER3	Main tray load 3000/2000 detection sensors (MTLDS-30/MTLDS-20)	JOB U LMT	Multi job tray upper limit detection sensor (MJTULDS)	JOB L LMT	Multi job tray lower limit detection sensor (MJTLLDS)	JOB SAFETY	Multi job tray front/rear switches (MJTSW-F/MJTSW-R)	JOB POS	Multi job tray position sensor (MJTPS)	JOB OVER	Multi job tray paper upper surface detection light emitting/intercepting sensors (MJTPUSDLES/MJTPUSDLIS)	JOB PAP1	Paper detection switch 1 (PDSW1)	JOB PAP2	Paper detection switch 2 (PDSW2)	JOB PAP3	Paper detection switch 3 (PDSW3)	JOB PAP4	Paper detection switch 4 (PDSW4)	JOB PAP5	Paper detection switch 5 (PDSW5)	SDL CONV	Centerfold unit paper entry sensor (CUPES)	SDL EJECT	Folded edge detection sensor (FEDS)	SDL PAP	Eject tray paper detection switch (ETPDSW)	SDL BIN PAP	Inside tray detection sensor (ITDS)
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<b>U243</b>	<p><b>Checking the operation of the DP motors, clutch and solenoids</b></p> <p><b>Description</b> Turns ON the motors, clutch and solenoids of the optional DP.</p> <p><b>Purpose</b> To check the operation of the motors, clutch and solenoids of the DP.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the motor, clutch or solenoid to be operated. The selected item is displayed in reverse and the operation starts.</li> </ol> <table border="1" data-bbox="331 573 1398 875"> <thead> <tr> <th>Display</th> <th>Motor, clutch or solenoid</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>F MOT</td> <td>Original feed motor (OFM)</td> <td>In operation</td> </tr> <tr> <td>C MOT</td> <td>Original paper conveying motor (OCM)</td> <td>In operation</td> </tr> <tr> <td>FD CL</td> <td>Original feed clutch (OFCL)</td> <td>ON for 0.5 s</td> </tr> <tr> <td>EJ SL</td> <td>Eject feedshift solenoid (EFSSOL)</td> <td>ON for 0.5 s</td> </tr> <tr> <td>RJ SL</td> <td>Switchback feedshift solenoid (SBFSSOL)</td> <td>ON for 0.5 s</td> </tr> <tr> <td>FD SL</td> <td>Original feed solenoid (OFSOL)</td> <td>ON / OFF</td> </tr> <tr> <td>RP SL</td> <td>Switchback pressure solenoid (SBPSOL)</td> <td>ON / OFF</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. To turn each motor off, press the stop/clear key.</li> </ol> <p><b>Completion</b> Press the stop/clear key when operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Motor, clutch or solenoid	Operation	F MOT	Original feed motor (OFM)	In operation	C MOT	Original paper conveying motor (OCM)	In operation	FD CL	Original feed clutch (OFCL)	ON for 0.5 s	EJ SL	Eject feedshift solenoid (EFSSOL)	ON for 0.5 s	RJ SL	Switchback feedshift solenoid (SBFSSOL)	ON for 0.5 s	FD SL	Original feed solenoid (OFSOL)	ON / OFF	RP SL	Switchback pressure solenoid (SBPSOL)	ON / OFF
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<b>U244</b>	<p><b>Checking the operation of the DP switches</b></p> <p><b>Description</b> Display the status of each switch of the optional DP.</p> <p><b>Purpose</b> To check the operation of each switch of the optional DP.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the type of switches (SW or VR) to be checked. The screen for executing each item is displayed.</li> </ol> <table border="1" data-bbox="331 1223 1398 1335"> <thead> <tr> <th>Display</th> <th>Switch</th> </tr> </thead> <tbody> <tr> <td>SW</td> <td>ON/OFF switch</td> </tr> <tr> <td>VR</td> <td>Volume switch</td> </tr> </tbody> </table> <p><b>Method for the on/off switches (SW)</b></p> <ol style="list-style-type: none"> <li>1. Turn each switch on and off manually to check its status. If the on-status of a switch is detected, the corresponding switch is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1447 1398 1671"> <thead> <tr> <th>Display</th> <th>Switch</th> </tr> </thead> <tbody> <tr> <td>SET SW</td> <td>Original set switch (OSSW)</td> </tr> <tr> <td>FEED SW</td> <td>Original feed switch (OFSW)</td> </tr> <tr> <td>REV SW</td> <td>Original switchback switch (OSBSW)</td> </tr> <tr> <td>TMG SW</td> <td>DP timing switch (DPTSW)</td> </tr> <tr> <td>SZ A SW</td> <td>Original size length switch (OSLSW)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. To return to the screen for selecting an item, press the stop/clear key.</li> </ol>	Display	Switch	SW	ON/OFF switch	VR	Volume switch	Display	Switch	SET SW	Original set switch (OSSW)	FEED SW	Original feed switch (OFSW)	REV SW	Original switchback switch (OSBSW)	TMG SW	DP timing switch (DPTSW)	SZ A SW	Original size length switch (OSLSW)						
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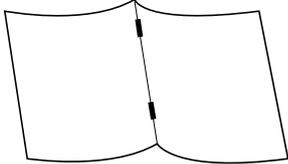
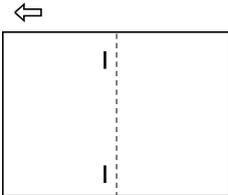
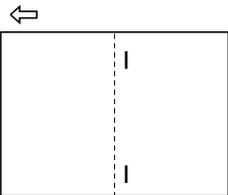
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<p><b>U244</b></p>	<p><b>Method for the volume switch (VR)</b></p> <p>1. Move the original insertion guides to check the detection status of the original size width switch. The detected original width is displayed as a numerical value.</p> <div data-bbox="590 414 1117 1332" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <table border="1"> <thead> <tr> <th data-bbox="598 421 718 470">Numerical value</th> <th colspan="2" data-bbox="718 421 1117 470">Original width to be detected</th> </tr> </thead> <tbody> <tr> <td data-bbox="598 481 718 515">000</td> <td data-bbox="718 481 925 515" rowspan="2">A5R</td> <td data-bbox="925 481 1117 515" rowspan="2"><math>5\frac{1}{2}" \times 8\frac{1}{2}"</math></td> </tr> <tr> <td data-bbox="598 526 718 560">49.664</td> </tr> <tr> <td data-bbox="598 571 718 604">50.176</td> <td data-bbox="718 571 925 604" rowspan="2">B5R</td> <td data-bbox="925 571 1117 604" rowspan="2"><math>8\frac{1}{2}" \times 14"/</math> <math>8\frac{1}{2}" \times 11"</math></td> </tr> <tr> <td data-bbox="598 616 718 649">61.440</td> </tr> <tr> <td data-bbox="598 660 718 694">61.952</td> <td data-bbox="718 660 925 694" rowspan="2">Folio/A4R</td> <td data-bbox="925 660 1117 694" rowspan="2"><math>11" \times 17"/</math> <math>11" \times 15"/</math> <math>11" \times 8\frac{1}{2}"</math></td> </tr> <tr> <td data-bbox="598 705 718 739">103.936</td> </tr> <tr> <td data-bbox="598 750 718 784">104.448</td> <td data-bbox="718 750 925 784" rowspan="2">B4/B5</td> <td data-bbox="925 750 1117 784" rowspan="2"><math>11" \times 17"/</math> <math>11" \times 15"/</math> <math>11" \times 8\frac{1}{2}"</math></td> </tr> <tr> <td data-bbox="598 795 718 828">139.264</td> </tr> <tr> <td data-bbox="598 840 718 873">139.776</td> <td data-bbox="718 840 925 873" rowspan="2">CF (11" × 15")</td> <td data-bbox="925 840 1117 873" rowspan="2"><math>11" \times 17"/</math> <math>11" \times 15"/</math> <math>11" \times 8\frac{1}{2}"</math></td> </tr> <tr> <td data-bbox="598 884 718 918">146.432</td> </tr> <tr> <td data-bbox="598 929 718 963">146.994</td> <td data-bbox="718 929 925 963" rowspan="2">A3/A4</td> <td data-bbox="925 929 1117 963" rowspan="2"><math>11" \times 17"/</math> <math>11" \times 15"/</math> <math>11" \times 8\frac{1}{2}"</math></td> </tr> <tr> <td data-bbox="598 974 718 1008">197.120</td> </tr> <tr> <td data-bbox="598 1019 718 1052">197.632</td> <td data-bbox="718 1019 925 1052"></td> <td data-bbox="925 1019 1117 1052"></td> </tr> <tr> <td data-bbox="598 1064 718 1097">197.720</td> <td data-bbox="718 1064 925 1097"></td> <td data-bbox="925 1064 1117 1097"></td> </tr> <tr> <td data-bbox="598 1108 718 1142">223.232</td> <td data-bbox="718 1108 925 1142"></td> <td data-bbox="925 1108 1117 1142"></td> </tr> <tr> <td data-bbox="598 1153 718 1187">256</td> <td data-bbox="718 1153 925 1187"></td> <td data-bbox="925 1153 1117 1187"></td> </tr> </tbody> </table> </div> <p data-bbox="327 1388 1380 1444">For example, if any value between 105 and 139 is displayed when the original insertion guides are adjusted for A4R paper, it indicates that the original width is detected correctly.</p> <p data-bbox="295 1444 1069 1478">2. To return to the screen for selecting an item, press the stop/clear key.</p> <p data-bbox="263 1478 406 1512"><b>Completion</b></p> <p data-bbox="263 1512 1444 1568">Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p> <tr> <td data-bbox="151 1579 263 2027"> <p><b>U245</b></p> </td> <td data-bbox="263 1579 1444 2027"> <p><b>Checking messages</b></p> <p><b>Description</b> Displays a list of messages and graphics that appear on the operation panel screen.</p> <p><b>Purpose</b> To check the messages to be displayed.</p> <p><b>Method</b></p> <ol data-bbox="295 1758 1300 1848" style="list-style-type: none"> <li>1. Press the start key.</li> <li>2. Select the item to be displayed.</li> <li>3. Change the screen using the cursor up/down keys to display each message one at a time.</li> </ol> <p data-bbox="327 1848 1428 1904">When a message number is entered with the numeric keys and then the start key is pressed, the message corresponding the specified number is displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p> </td> </tr>	Numerical value	Original width to be detected		000	A5R	$5\frac{1}{2}" \times 8\frac{1}{2}"$	49.664	50.176	B5R	$8\frac{1}{2}" \times 14"/$ $8\frac{1}{2}" \times 11"$	61.440	61.952	Folio/A4R	$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$	103.936	104.448	B4/B5	$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$	139.264	139.776	CF (11" × 15")	$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$	146.432	146.994	A3/A4	$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$	197.120	197.632			197.720			223.232			256			<p><b>U245</b></p>	<p><b>Checking messages</b></p> <p><b>Description</b> Displays a list of messages and graphics that appear on the operation panel screen.</p> <p><b>Purpose</b> To check the messages to be displayed.</p> <p><b>Method</b></p> <ol data-bbox="295 1758 1300 1848" style="list-style-type: none"> <li>1. Press the start key.</li> <li>2. 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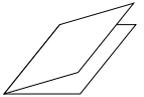
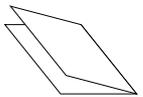
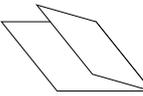
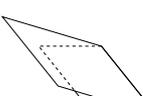
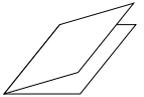
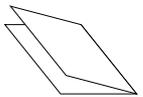
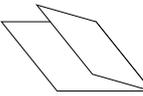
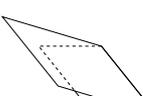
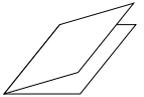
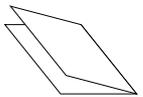
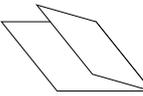
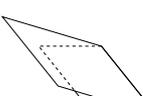


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U248	<p><b>Changing the paper ejection device settings</b></p> <p><b>Description</b> Adjusts the paper stop timing in the punch mode, the booklet stapling position, and the center folding position for the copier with an finisher installed. Also, displays and clears the punch-hole scrap count.</p> <p><b>Purpose</b> Adjustment of paper stop timing in the punch mode To adjust this item when the position of a punch hole is different from the specified one. Setting the punch limit Used to set the maximum number of punches possible in order to be informed of the timing for disposing of waste punch. Punch-hole scrap count display (clearing) Used to manually clear the punch-hole scrap count if a message requiring collection of punch-hole scrap is shown on the touch panel after collection. Adjustment of booklet stapling position Adjusts the booklet stapling position in the stitching mode if the position is not proper. Adjustment of center folding position Adjusts the center folding position in the stitching mode if the position is not proper.</p> <p><b>Implementation</b> Press the start key. The screen for selecting an item is displayed.</p> <table border="1" data-bbox="331 824 1398 1052"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>PUNCH TIMING</td> <td>Adjustment of the paper stop timing in punch mode (at full speed)</td> </tr> <tr> <td>PUNCH TIMING(HALF)</td> <td>Adjustment of the paper stop timing in punch mode (at half speed)</td> </tr> <tr> <td>PUNCH COUNT</td> <td>Punch-hole scrap count display</td> </tr> <tr> <td>SADDLE STAPLE</td> <td>Booklet stapling position adjustment</td> </tr> <tr> <td>SADDLE ADJUST</td> <td>Adjustment of center folding position</td> </tr> </tbody> </table> <p><b>Setting the paper stop timing at full speed</b></p> <ol style="list-style-type: none"> <li>Select PUNCH TIMING on the screen for selecting an item.</li> <li>Select the paper size to be set.</li> <li>Change the setting using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 1182 1398 1487"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>B5</td> <td>Paper stop timing of B5 size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A4/11 x 8.5</td> <td>Paper stop timing of A4/11" x 8 1/2" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>B5R</td> <td>Paper stop timing of B5R size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A4R/8.5 x 11</td> <td>Paper stop timing of A4R/8 1/2" x 11" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>B4/8.5 x 14</td> <td>Paper stop timing of B4/8 1/2" x 14" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A3/11 x 17</td> <td>Paper stop timing of A3/11" x 17" size</td> <td>-15 to 15</td> <td>0</td> </tr> </tbody> </table> <div data-bbox="502 1512 981 1780" style="text-align: center;"> </div> <p style="text-align: right;">Preset value A: 9.5 ± 2mm (inch) 13.0 ± 2mm (metric)</p> <p>If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value. Changing the value by 1 changes by 1.0 mm.</p> <ol style="list-style-type: none"> <li>Press the start key. The value is set.</li> <li>To return to the screen for selecting an item, press the stop/clear key.</li> </ol>	Display	Setting	PUNCH TIMING	Adjustment of the paper stop timing in punch mode (at full speed)	PUNCH TIMING(HALF)	Adjustment of the paper stop timing in punch mode (at half speed)	PUNCH COUNT	Punch-hole scrap count display	SADDLE STAPLE	Booklet stapling position adjustment	SADDLE ADJUST	Adjustment of center folding position	Display	Description	Setting range	Default setting	B5	Paper stop timing of B5 size	-15 to 15	0	A4/11 x 8.5	Paper stop timing of A4/11" x 8 1/2" size	-15 to 15	0	B5R	Paper stop timing of B5R size	-15 to 15	0	A4R/8.5 x 11	Paper stop timing of A4R/8 1/2" x 11" size	-15 to 15	0	B4/8.5 x 14	Paper stop timing of B4/8 1/2" x 14" size	-15 to 15	0	A3/11 x 17	Paper stop timing of A3/11" x 17" size	-15 to 15	0
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<p><b>U248</b></p>	<p><b>Setting the paper stop timing at half speed</b></p> <ol style="list-style-type: none"> <li>1. Select PUNCH TIMING(HALF SPEED) on the screen for selecting an item.</li> <li>2. Select the paper size to be set.</li> <li>3. Change the setting using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 387 1399 689"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>B5</td> <td>Paper stop timing of B5 size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A4/11 x 8.5</td> <td>Paper stop timing of A4/11" x 8 1/2" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>B5R</td> <td>Paper stop timing of B5R size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A4R/8.5 x 11</td> <td>Paper stop timing of A4R/8 1/2" x 11" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>B4/8.5 x 14</td> <td>Paper stop timing of B4/8 1/2" x 14" size</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>A3/11 x 17</td> <td>Paper stop timing of A3/11" x 17" size</td> <td>-15 to 15</td> <td>0</td> </tr> </tbody> </table> <div data-bbox="507 719 986 981" style="text-align: center;"> </div> <p style="text-align: right;">Preset value A: 9.5 ± 2mm (inch) 13.0 ± 2mm (metric)</p> <p>If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value. Changing the value by 1 changes by 1.0 mm.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> <li>5. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Setting the punch limit/punch count</b></p> <ol style="list-style-type: none"> <li>1. Select PUNCH COUNT on the screen for selecting an item.</li> <li>2. Select the paper size to be set.</li> <li>3. Change the setting using the cursor up/down keys. Press the reset key to clear the punching count.</li> </ol> <table border="1" data-bbox="331 1308 1399 1563"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>PUNCH LIMIT</td> <td>Punch limit (max. number of punches)</td> <td>0 to 999000 times</td> <td>75000</td> </tr> <tr> <td>PUNCH CNT</td> <td>Waste punch count (current number of punches made)</td> <td>0 to 999999</td> <td>-</td> </tr> </tbody> </table> <p>The punch limit can be set to any value in increments of 1000.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> <li>5. To return to the screen for selecting an item, press the stop/clear key.</li> </ol>	Display	Description	Setting range	Default setting	B5	Paper stop timing of B5 size	-15 to 15	0	A4/11 x 8.5	Paper stop timing of A4/11" x 8 1/2" size	-15 to 15	0	B5R	Paper stop timing of B5R size	-15 to 15	0	A4R/8.5 x 11	Paper stop timing of A4R/8 1/2" x 11" size	-15 to 15	0	B4/8.5 x 14	Paper stop timing of B4/8 1/2" x 14" size	-15 to 15	0	A3/11 x 17	Paper stop timing of A3/11" x 17" size	-15 to 15	0	Display	Setting	Setting range	Default setting	PUNCH LIMIT	Punch limit (max. number of punches)	0 to 999000 times	75000	PUNCH CNT	Waste punch count (current number of punches made)	0 to 999999	-
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 Lower side is longer.	 Upper side is longer.	Increase the preset value.											
<b>U250</b>	<p data-bbox="272 1003 620 1030"><b>Setting the maintenance cycle</b></p> <p data-bbox="272 1030 408 1057"><b>Description</b></p> <p data-bbox="272 1057 762 1084">Displays and changes the maintenance cycle.</p> <p data-bbox="272 1084 371 1111"><b>Purpose</b></p> <p data-bbox="272 1111 754 1137">To check and change the maintenance cycle.</p> <p data-bbox="272 1137 360 1164"><b>Method</b></p> <p data-bbox="272 1164 1010 1191">Press the start key. The currently set maintenance cycle is displayed.</p> <p data-bbox="272 1191 355 1218"><b>Setting</b></p> <ol data-bbox="293 1218 1426 1317" style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the numeric keys to change the setting value (0 to 9999999).</li> <li>3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p data-bbox="272 1317 408 1344"><b>Completion</b></p> <p data-bbox="272 1344 1442 1402">To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												
<b>U251</b>	<p data-bbox="272 1424 754 1451"><b>Checking/clearing the maintenance count</b></p> <p data-bbox="272 1451 408 1478"><b>Description</b></p> <p data-bbox="272 1478 866 1505">Displays and clears or changes the maintenance count.</p> <p data-bbox="272 1505 371 1532"><b>Purpose</b></p> <p data-bbox="272 1532 1385 1559">To check, as well as to clear or change, the maintenance count during the periodic maintenance service.</p> <p data-bbox="272 1559 360 1585"><b>Method</b></p> <p data-bbox="272 1585 959 1612">Press the start key. The current maintenance count is displayed.</p> <p data-bbox="272 1612 488 1639"><b>Clearing the count</b></p> <ol data-bbox="293 1639 1426 1765" style="list-style-type: none"> <li>1. Select the item to be cleared.</li> <li>2. Press the reset key.</li> <li>3. Press the start key. The maintenance count is cleared, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p data-bbox="272 1765 355 1792"><b>Setting</b></p> <ol data-bbox="293 1792 1426 1850" style="list-style-type: none"> <li>1. Use the numeric keys to enter the 7-digit count value.</li> <li>2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p data-bbox="272 1850 408 1877"><b>Completion</b></p> <p data-bbox="272 1877 1442 1935">To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>												

Maintenance item No.	Description																				
U252	<p><b>Setting the destination</b></p> <p><b>Description</b> Sets operation procedures and displayed screens according to the destination in which the machine is used.</p> <p><b>Purpose</b> Used to returns the destination setting to the value before replacement or initialization when the backup memory on the scanner main PWB has been replaced, or when the backup memory has been initialize by running maintenance item U020.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the destination. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 593 1396 784"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>JAPAN METRIC</td> <td>Metric specifications (Japan)</td> </tr> <tr> <td>INCH</td> <td>Inch specifications (North America)</td> </tr> <tr> <td>EUROPE METRIC</td> <td>Metric specifications (Europe)</td> </tr> <tr> <td>ASIA PACIFIC</td> <td>Metric specifications (Asia/Oceania)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the machine automatically returns to the same status as when the power switch is turned on.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p> <p><b>Supplement</b> The specified default settings are provided according to the destinations in the maintenance items below. To change the default settings in those items, be sure to run maintenance item U021 after changing the region of use.</p> <p>Default setting according to the destinations</p> <table border="1" data-bbox="331 1086 1436 1243"> <thead> <tr> <th>Maintenance</th> <th>Title</th> <th>Japan spec.</th> <th>Inch spec.</th> <th>Europe/Asia Pacific spec.</th> </tr> </thead> <tbody> <tr> <td>208</td> <td>Setting paper feeder paper size</td> <td>A4</td> <td>11" x 8.5"</td> <td>A4</td> </tr> </tbody> </table>	Display	Setting	JAPAN METRIC	Metric specifications (Japan)	INCH	Inch specifications (North America)	EUROPE METRIC	Metric specifications (Europe)	ASIA PACIFIC	Metric specifications (Asia/Oceania)	Maintenance	Title	Japan spec.	Inch spec.	Europe/Asia Pacific spec.	208	Setting paper feeder paper size	A4	11" x 8.5"	A4
Display	Setting																				
JAPAN METRIC	Metric specifications (Japan)																				
INCH	Inch specifications (North America)																				
EUROPE METRIC	Metric specifications (Europe)																				
ASIA PACIFIC	Metric specifications (Asia/Oceania)																				
Maintenance	Title	Japan spec.	Inch spec.	Europe/Asia Pacific spec.																	
208	Setting paper feeder paper size	A4	11" x 8.5"	A4																	

Maintenance item No.	Description																						
<p><b>U253</b></p>	<p><b>Switching between double and single counts</b></p> <p><b>Description</b> Switches the count system for the total counter and other counters for every color mode.</p> <p><b>Purpose</b> Used to select, according to the preference of the user (copy service provider), if A3/11" x 17" paper is to be counted as one sheet (single count) or two sheets (double count).</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed. Indication differs depending upon the setting of U276 (Setting the copy count mode). MODE0</li> </ol> <table border="1" data-bbox="331 562 1398 678"> <thead> <tr> <th>Display</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>FULL-COLOR</td> <td>Count system of full color mode</td> </tr> <tr> <td>B/W</td> <td>Count system of monochrome mode</td> </tr> </tbody> </table> <p>MODE1</p> <table border="1" data-bbox="331 730 1398 882"> <thead> <tr> <th>Display</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>FULL-COLOR</td> <td>Count system of full color mode</td> </tr> <tr> <td>MONOCOLOR</td> <td>Count system of mono-color mode</td> </tr> <tr> <td>B/W</td> <td>Count system of monochrome mode</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. Select the mode. The setting screen for the selected item is displayed.</li> </ol> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select double or single count. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 981 1398 1133"> <thead> <tr> <th>Display</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>SINGLE COUNT</td> <td>Single count for all size paper</td> </tr> <tr> <td>DOUBLE COUNT(A3/LEDGER)</td> <td>Double count for A3/LEDGER paper only</td> </tr> <tr> <td>DOUBLE COUNT(B4)</td> <td>Double count for B4 size or larger</td> </tr> </tbody> </table> <p>Initial setting: DOUBLE COUNT(A3/LEDGER)</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Default setting	FULL-COLOR	Count system of full color mode	B/W	Count system of monochrome mode	Display	Default setting	FULL-COLOR	Count system of full color mode	MONOCOLOR	Count system of mono-color mode	B/W	Count system of monochrome mode	Display	Default setting	SINGLE COUNT	Single count for all size paper	DOUBLE COUNT(A3/LEDGER)	Double count for A3/LEDGER paper only	DOUBLE COUNT(B4)	Double count for B4 size or larger
Display	Default setting																						
FULL-COLOR	Count system of full color mode																						
B/W	Count system of monochrome mode																						
Display	Default setting																						
FULL-COLOR	Count system of full color mode																						
MONOCOLOR	Count system of mono-color mode																						
B/W	Count system of monochrome mode																						
Display	Default setting																						
SINGLE COUNT	Single count for all size paper																						
DOUBLE COUNT(A3/LEDGER)	Double count for A3/LEDGER paper only																						
DOUBLE COUNT(B4)	Double count for B4 size or larger																						
<p><b>U254</b></p>	<p><b>Turning the auto start function ON/OFF</b></p> <p><b>Description</b> Selects if the auto start function is turned ON.</p> <p><b>Purpose</b> Normally, you do not need to change the setting. If an incorrect operation occurs, turn the function OFF so that the problem can be avoided.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1597 1398 1713"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Auto start function is turned ON</td> </tr> <tr> <td>OFF</td> <td>Auto start function is turned OFF</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	ON	Auto start function is turned ON	OFF	Auto start function is turned OFF																
Display	Setting																						
ON	Auto start function is turned ON																						
OFF	Auto start function is turned OFF																						



Maintenance item No.	Description						
U255	<p><b>Setting auto clear time</b></p> <p><b>Description</b> Sets the time to return to default settings after copying is complete.</p> <p><b>Purpose</b> To be set according to the frequency of use. Set to a comparatively long time for continuous copying at the same settings, and comparatively short time for frequent copying at various settings.</p> <p><b>Method</b> Press the start key. The current setting is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 562 1398 638"> <thead> <tr> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Auto clear time</td> <td>0 to 270 (seconds)</td> <td>90</td> </tr> </tbody> </table> <p>The setting can be changed by 10 s per step. When set to 0, the auto clear function is cancelled.</p> <ol style="list-style-type: none"> <li>Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting	Setting range	Default setting	Auto clear time	0 to 270 (seconds)	90
Setting	Setting range	Default setting					
Auto clear time	0 to 270 (seconds)	90					
U260	<p><b>Selecting the timing for copy counting</b></p> <p><b>Description</b> Changes the copy count timing for the total counter and other counters.</p> <p><b>Purpose</b> Set according to user preference (copy service provider). If a paper jam occurs frequently in the finisher when the copy count timing is set at the time of paper ejection, copies are provided without copy counts (and related cost). To prevent this, it is possible to advance the count timing. If a paper jam occurs frequently in the paper conveying or fixing sections when the count timing is set to a point prior to that, the copy count (and related cost) may go up without the corresponding copy being made. In cases such as this, it is possible to delay the count timing.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select timing for counting. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1261 1398 1375"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>FEED</td> <td>When the secondary paper feed starts.</td> </tr> <tr> <td>EJECT</td> <td>When the paper is ejected.</td> </tr> </tbody> </table> <p>Initial setting: EJECT</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	FEED	When the secondary paper feed starts.	EJECT	When the paper is ejected.
Display	Setting						
FEED	When the secondary paper feed starts.						
EJECT	When the paper is ejected.						

Maintenance item No.	Description								
<p><b>U263</b></p>	<p><b>Setting the paper ejection when copying from the DP</b></p> <p><b>Description</b> Sets the way of paper ejection when copying from the optional DP.</p> <p><b>Purpose</b> Set according to the preference of the user.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the ejection order. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 533 1398 647"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>NORMAL</td> <td>Ejects with reading.</td> </tr> <tr> <td>ALL MEMORY</td> <td>Ejects after all the original reading.</td> </tr> </tbody> </table> <p>Initial setting: NORMAL</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	NORMAL	Ejects with reading.	ALL MEMORY	Ejects after all the original reading.		
Display	Setting								
NORMAL	Ejects with reading.								
ALL MEMORY	Ejects after all the original reading.								
<p><b>U264</b></p>	<p><b>Setting the display order of the date</b></p> <p><b>Description</b> Selects year, month and day as the order of that appears on lists, etc.</p> <p><b>Purpose</b> Set according to the user preference.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the desired order. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1093 1398 1245"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>YEAR-MONTH-DATE</td> <td>Year/Month/Day</td> </tr> <tr> <td>MONTH-DATE-YEAR</td> <td>Month/Day/Year</td> </tr> <tr> <td>DATE-MONTH-YEAR</td> <td>Day/Month/Year</td> </tr> </tbody> </table> <p>Initial setting: Month/Day/Year (for the inch specifications) Day/Month/Year (for the metric specifications)</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	YEAR-MONTH-DATE	Year/Month/Day	MONTH-DATE-YEAR	Month/Day/Year	DATE-MONTH-YEAR	Day/Month/Year
Display	Setting								
YEAR-MONTH-DATE	Year/Month/Day								
MONTH-DATE-YEAR	Month/Day/Year								
DATE-MONTH-YEAR	Day/Month/Year								
<p><b>U265</b></p>	<p><b>Selecting destination mode</b></p> <p><b>Description</b> Sets the OEM purchaser code.</p> <p><b>Purpose</b> Sets the code when replacing the scanner main PWB and the like.</p> <p><b>Method</b> Press the start key.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to change the setting value.</li> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								



Maintenance item No.	Description						
U276	<p><b>Setting the copy count mode</b></p> <p><b>Description</b> Changes the unit of counting according to the mode of paper ejection.</p> <p><b>Purpose</b> To set the unit of counting depending upon the number of colors used, such as full-color or black.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the mode. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 533 1398 685"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>MODE 0</td> <td>2 count rate (color copies: 2 counts, monochrome copies: 1 count)</td> </tr> <tr> <td>MODE 1</td> <td>3 count rate (full-color copies: 3 counts, single-color copies: 2 counts, monochrome copies: 1 count)</td> </tr> </tbody> </table> <p>See Table 1-4-1 about the relation of counter, color mode and count mode. Initial setting: 2 count rate</p> <ol style="list-style-type: none"> <li>Press the enter key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	MODE 0	2 count rate (color copies: 2 counts, monochrome copies: 1 count)	MODE 1	3 count rate (full-color copies: 3 counts, single-color copies: 2 counts, monochrome copies: 1 count)
Display	Setting						
MODE 0	2 count rate (color copies: 2 counts, monochrome copies: 1 count)						
MODE 1	3 count rate (full-color copies: 3 counts, single-color copies: 2 counts, monochrome copies: 1 count)						

Maintenance item No.	Description			
<b>U276</b>				
	Counter mode	Color mode	Counter mode	
			0	1
	Full color copy counter	Full color copy	1	1
		Color printer	0	0
		RGB mono-color copy	1	0
		CMY mono-color copy	1	0
		Black & white copy	0	0
		Black & white printer	0	0
		Black & white fax	0	0
	Mono-color copy counter	Full color copy	0	0
		Color printer	0	0
		RGB mono-color copy	0	1
		CMY mono-color copy	0	1
		Black & white copy	0	0
		Black & white printer	0	0
		Black & white fax	0	0
	Color printer counter	Full color copy	0	0
		Color printer	1	1
		RGB mono-color copy	0	0
		CMY mono-color copy	0	0
		Black & white copy	0	0
		Black & white printer	0	0
		Black & white fax	0	0
	Black & white copy counter	Full color copy	0	0
		Color printer	0	0
		RGB mono-color copy	0	0
		CMY mono-color copy	0	0
		Black & white copy	1	1
		Black & white printer	0	0
		Black & white fax	0	0
	Black & white printer counter	Full color copy	0	0
		Color printer	0	0
		RGB mono-color copy	0	0
		CMY mono-color copy	0	0
		Black & white copy	0	0
		Black & white printer	1	1
		Black & white fax	0	0
	Black & white fax counter	Full color copy	0	0
		Color printer	0	0
		RGB mono-color copy	0	0
		CMY mono-color copy	0	0
		Black & white copy	0	0
		Black & white printer	0	0
		Black & white fax	1	1
	Total counter	Full color copy	4	4
		Color printer	4	4
		RGB mono-color copy	2	2
		CMY mono-color copy	1	1
		Black & white copy	1	1
		Black & white printer	1	1
		Black & white fax	1	1

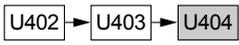
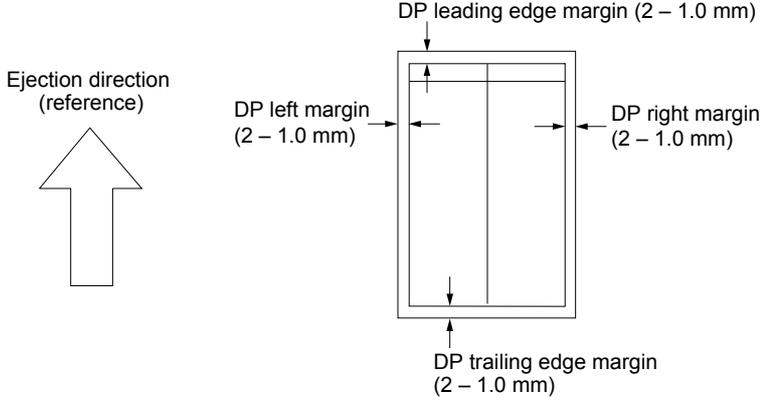
**Table 1-4-1**



Maintenance item No.	Description						
U277	<p><b>Setting auto application change time</b></p> <p><b>Description</b> Sets the time that passes until the machine starts automatically printing after completing copying or operation when the machine is used as a printer or FAX (only if the printer board or fax is installed).</p> <p><b>Purpose</b> According to user request, changes the setting.</p> <p><b>Method</b> Press the start key. The current setting is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Change the setting using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 562 1398 640"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Switching time</td> <td>30 to 270 (s)</td> <td>30</td> </tr> </tbody> </table> <p>The setting can be changed by 30 s per step.</p> <ol style="list-style-type: none"> <li>Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Switching time	30 to 270 (s)	30
Description	Setting range	Initial setting					
Switching time	30 to 270 (s)	30					
U326	<p><b>Setting the black line cleaning indication</b></p> <p><b>Description</b> Sets whether to display the cleaning guidance when detecting the black line.</p> <p><b>Purpose</b> Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the contact glass when scanning from the optional DP.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1106 1398 1220"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Displays the cleaning guidance</td> </tr> <tr> <td>OFF</td> <td>Not to display the cleaning guidance</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Displays the cleaning guidance	OFF	Not to display the cleaning guidance
Display	Description						
ON	Displays the cleaning guidance						
OFF	Not to display the cleaning guidance						
U330	<p><b>Setting the number of copies to be handled by the stacking mode during sorting</b></p> <p><b>Description</b> Sets the number of copies at which copy ejection is switched from the optional document finisher's sub tray to its main tray when sorting is turned ON in the setting for the output mode under user simulation. (Only applicable when the document finisher is attached to the copier.)</p> <p><b>Purpose</b> Performed as necessary depending upon the number of copy sets being made by the user.</p> <p><b>Method</b> Press the start key. The current setting value is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to set the desired number of sheets of paper (1 to 100).</li> <li>Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						

Maintenance item No.	Description													
<b>U332</b>	<p><b>Setting the size coefficient</b></p> <p><b>Description</b> Sets the size coefficient based on A4 (11" x 8 1/2") paper sizes. The coefficient settings made here is used for A4 conversion of the black ratio and is displayed under user simulation.</p> <p><b>Purpose</b> Enables the setting of the coefficient in order to have A4 (11" x 8 1/2") conversion performed for the black ratio of custom paper size.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item (COPY, PRT and FAX) to be set.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 593 1396 705"> <thead> <tr> <th rowspan="2">Setting</th> <th rowspan="2">Setting range</th> <th colspan="3">Default setting</th> </tr> <tr> <th>COPY</th> <th>PRT</th> <th>FAX</th> </tr> </thead> <tbody> <tr> <td>Coefficient setting for custom size paper</td> <td>0.1 to 3.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Setting	Setting range	Default setting			COPY	PRT	FAX	Coefficient setting for custom size paper	0.1 to 3.0	1.0	1.0	1.0
Setting	Setting range			Default setting										
		COPY	PRT	FAX										
Coefficient setting for custom size paper	0.1 to 3.0	1.0	1.0	1.0										
<b>U341</b>	<p><b>Specific paper feed location setting for printing function</b></p> <p><b>Description</b> Sets a paper feed location specified for printer output (only if a printer board installed).</p> <p><b>Purpose</b> To use a paper feed location only for printer output.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the paper feed location for the printer. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1108 1396 1299"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DRAWER 1</td> <td>Cassette 1</td> </tr> <tr> <td>DRAWER 2</td> <td>Cassette 2*</td> </tr> <tr> <td>DRAWER 3</td> <td>Cassette 3*</td> </tr> <tr> <td>DRAWER 4</td> <td>Cassette 4*</td> </tr> </tbody> </table> <p>*Optional.</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>	Display	Description	DRAWER 1	Cassette 1	DRAWER 2	Cassette 2*	DRAWER 3	Cassette 3*	DRAWER 4	Cassette 4*			
Display	Description													
DRAWER 1	Cassette 1													
DRAWER 2	Cassette 2*													
DRAWER 3	Cassette 3*													
DRAWER 4	Cassette 4*													
<b>U343</b>	<p><b>Switching between duplex/simplex copy mode</b></p> <p><b>Description</b> Switches the default setting between duplex and simplex copy.</p> <p><b>Purpose</b> To be set, according to the frequency of use, to the more frequently used mode.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1691 1396 1814"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Duplex copy</td> </tr> <tr> <td>OFF</td> <td>Simplex copy</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	ON	Duplex copy	OFF	Simplex copy							
Display	Setting													
ON	Duplex copy													
OFF	Simplex copy													

Maintenance item No.	Description
U345	<b>Setting the value for maintenance due indication</b> <b>Description</b> 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. This maintenance mode is effective for only Japanese specification.
U402	<b>Adjusting the margins for the image printing</b> <b>Adjustment</b> See page 1-6-14.
U403	<b>Adjusting the margins for scanning an original on the contact glass</b> <b>Adjustment</b> See page 1-6-36.

Maintenance item No.	Description																									
<p><b>U404</b></p>	<p><b>Adjusting the margins for scanning an original from the DP</b></p> <p><b>Description</b> Adjusts the margins for scanning an original from the DP.</p> <p><b>Purpose</b> Used if correct margins are not obtained when the optional DP is used.</p> <p><b>Caution</b> Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p style="text-align: center;">  </p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 728 1396 1041"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> <th>Change in value per step</th> </tr> </thead> <tbody> <tr> <td>LEFT/mm</td> <td>Left margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.5 mm</td> </tr> <tr> <td>RIGHT/mm</td> <td>Right margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.5 mm</td> </tr> <tr> <td>TOP/mm</td> <td>Leading edge margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.5 mm</td> </tr> <tr> <td>BOTTOM/mm</td> <td>Trailing edge margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.5 mm</td> </tr> </tbody> </table> <p style="text-align: center;">Increasing the value makes the margin wider, and decreasing it makes the margin narrower.</p> <div style="text-align: center;">  </div> <p style="text-align: center;"><b>Figure 1-4-1 Correct margin amount</b></p> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Interrupt copy mode</b> While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	Change in value per step	LEFT/mm	Left margin	0 to 10.0	2.0	0.5 mm	RIGHT/mm	Right margin	0 to 10.0	2.0	0.5 mm	TOP/mm	Leading edge margin	0 to 10.0	2.0	0.5 mm	BOTTOM/mm	Trailing edge margin	0 to 10.0	2.0	0.5 mm
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<p><b>U407</b></p>	<p><b>Adjusting the leading edge registration for memory image printing</b></p> <p><b>Adjustment</b> See page 1-6-16.</p>																									



Maintenance item No.	Description												
U410	<p><b>Adjusting the halftone automatically</b></p> <p><b>Description</b> Carries out processing for the data acquisition that is required in order to perform either automatic adjustment of the halftone or the ID correction operation.</p> <p><b>Purpose</b> Performed when the quality of reproduced halftones has dropped.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be adjusted. The screen for executing the selected maintenance item is displayed.</li> </ol> <table border="1" data-bbox="331 533 1398 721"> <thead> <tr> <th>Display</th> <th>Engine adjust</th> </tr> </thead> <tbody> <tr> <td>ENGINE ADJUSTMENT</td> <td>Performs the appropriate data acquisition process for automatic correction.</td> </tr> <tr> <td>CONTINUATION ADJUSTMENT</td> <td>Performs continuing the automatic operation adjustment every of mode</td> </tr> </tbody> </table> <p><b>Method: Engine adjust</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be adjusted.</li> </ol> <table border="1" data-bbox="331 792 1398 945"> <thead> <tr> <th>Display</th> <th>Density adjust</th> </tr> </thead> <tbody> <tr> <td>DENSITY ADJUSTMENT</td> <td>Performs automatic correction.</td> </tr> <tr> <td>COLOR REGIST ADJUSTMENT</td> <td>Performs color registration correction.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. Press the start key. The selected item is adjusted</li> </ol> <p><b>Method: Color shear adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select ENGINE ADJUSTMENT on the screen for selecting an item.</li> <li>2. Select COLOR SHEAR ADJUSTMENT.</li> <li>3. Select the paper feed location to be adjusted and press the start key. Two sheets of test pattern are output to A3/11" x 17" paper.</li> <li>4. Check the scale images at three locations on the first and second sheets of the output test pattern respectively. Input the read values with the least deviation for all items from 1-a to 2-c and press the start key. The paper feed motor (full speed) speed setting values are displayed.</li> </ol> <p><b>Method: Continuation adjust</b></p> <ol style="list-style-type: none"> <li>1. Select Continuation adjust at the screen for selecting an item. A test pattern on A4/11" x 8 1/2" paper is outputted.</li> <li>2. Place the output test pattern as the original and press the start key. Adjustment is made (first time).</li> <li>3. Select RETRY to output a test pattern. Place the output test pattern as the original and press the start key. Adjustment is made (second time).</li> <li>4. Select RETRY to output a test pattern. Place the output test pattern as the original and press the start key. Adjustment is made (third time).</li> <li>5. Select END to set the data.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Engine adjust	ENGINE ADJUSTMENT	Performs the appropriate data acquisition process for automatic correction.	CONTINUATION ADJUSTMENT	Performs continuing the automatic operation adjustment every of mode	Display	Density adjust	DENSITY ADJUSTMENT	Performs automatic correction.	COLOR REGIST ADJUSTMENT	Performs color registration correction.
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DENSITY ADJUSTMENT	Performs automatic correction.												
COLOR REGIST ADJUSTMENT	Performs color registration correction.												

Maintenance item No.	Description																							
<b>U411</b>	<p><b>Adjusting the scanner automatically</b></p> <p><b>Description</b> Carries out the automatic adjustment of scanner-related settings (gain adjustment, automatic adjustment of the input start position, shading offset adjustment, <math>\gamma</math> adjustment, matrix adjustment) as well as the adjustment of the color differential and MTF.</p> <p><b>Purpose</b> To perform automatic adjustment on the scanner after replacing the scanner main PWB.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Set the original to be used for adjustment (P/N: 2A668010) on the platen.</li> <li>2. Press the start key. The item is adjusted. Do not turn the power switch off or open/close the cover (turning the safety switch ON/OFF) before automatic adjustment is complete.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																							
<b>U416</b>	<p><b>Changing the base curve for scanner output</b></p> <p><b>Description</b> Sets the gradient for the density that was adjusted under "U410 Adjusting the halftone automatically".</p> <p><b>Purpose</b> To change the setting according to the user preference.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <table border="1" data-bbox="331 898 1398 1111"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>AUTO ADJUSTMENT 1</td> <td>Color adjustment in the text and photo mode</td> </tr> <tr> <td>AUTO ADJUSTMENT 2</td> <td>Color adjustment in the printed photo mode and in the photographic paper mode</td> </tr> <tr> <td>AUTO ADJUSTMENT 3</td> <td>Color adjustment in the text mode and in the map mode</td> </tr> </tbody> </table> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Select AUTO ADJUSTMENT 1 on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1245 1398 1435"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Base curve for cyan</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for magenta</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for yellow</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for black</td> <td>-3 to 3</td> <td>0</td> </tr> </tbody> </table> <p>Increasing the value makes the image darker, and decreasing it makes the image lighter.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol>	Display	Setting	AUTO ADJUSTMENT 1	Color adjustment in the text and photo mode	AUTO ADJUSTMENT 2	Color adjustment in the printed photo mode and in the photographic paper mode	AUTO ADJUSTMENT 3	Color adjustment in the text mode and in the map mode	Setting item	Setting range	Default setting	Base curve for cyan	-3 to 3	0	Base curve for magenta	-3 to 3	0	Base curve for yellow	-3 to 3	0	Base curve for black	-3 to 3	0
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Base curve for yellow	-3 to 3	0																						
Base curve for black	-3 to 3	0																						

Maintenance item No.	Description																														
U416	<p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Select AUTO ADJUSTMENT 2 on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the setting value</li> </ol> <table border="1" data-bbox="331 387 1398 577"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Base curve for cyan</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for magenta</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for yellow</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for black</td> <td>-3 to 3</td> <td>0</td> </tr> </tbody> </table> <p>Increasing the value makes the image darker, and decreasing it makes the image lighter.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Select AUTO ADJUSTMENT 3 on the screen for selecting an item.</li> <li>2. Select the item to be set. The selected item is displayed in reverse.</li> <li>3. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 779 1398 969"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Base curve for cyan</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for magenta</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for yellow</td> <td>-3 to 3</td> <td>0</td> </tr> <tr> <td>Base curve for black</td> <td>-3 to 3</td> <td>0</td> </tr> </tbody> </table> <p>Increasing the value makes the image darker, and decreasing it makes the image lighter.</p> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b></p> <p>Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Base curve for cyan	-3 to 3	0	Base curve for magenta	-3 to 3	0	Base curve for yellow	-3 to 3	0	Base curve for black	-3 to 3	0	Setting item	Setting range	Default setting	Base curve for cyan	-3 to 3	0	Base curve for magenta	-3 to 3	0	Base curve for yellow	-3 to 3	0	Base curve for black	-3 to 3	0
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Maintenance item No.	Description																																													
<b>U425</b>	<p><b>Setting the target</b></p> <p><b>Description</b> Sets the target value for fine-adjustment of the results when performing adjustment of the shading offset, <math>\gamma</math>, and matrix under "U411 Adjusting the scanner automatically". The value that is indicated on the back of the chart (P/N: 2A668010) to be used for adjustment should be entered.</p> <p><b>Purpose</b> Performs data input in order to correct for differences in originals during automatic adjustment.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 568 1398 792"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>B/W adjust</td> <td>Target value for shading offset adjustment</td> </tr> <tr> <td>Gamma adjust</td> <td>Target value for <math>\gamma</math> adjustment</td> </tr> <tr> <td>Matrix adj. C</td> <td>Target value for cyan matrix adjustment</td> </tr> <tr> <td>Matrix adj. M</td> <td>Target value for magenta matrix adjustment</td> </tr> <tr> <td>Matrix adj. Y</td> <td>Target value for yellow matrix adjustment</td> </tr> </tbody> </table> <p><b>Setting: Monochrome adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set.</li> <li>2. Use the cursor up/down keys to change the setting value. Input the value that is indicated on the back of the chart to be used for adjustment.</li> </ol> <table border="1" data-bbox="331 925 1398 1189"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> </tr> </thead> <tbody> <tr> <td>White G</td> <td>Offset adjustment: white, Target: GREEN</td> <td>170 to 255</td> </tr> <tr> <td>White B</td> <td>Offset adjustment: white, Target: BLUE</td> <td>170 to 255</td> </tr> <tr> <td>White R</td> <td>Offset adjustment: white, Target: RED</td> <td>170 to 255</td> </tr> <tr> <td>Black G</td> <td>Offset adjustment: black, Target: GREEN</td> <td>0 to 30</td> </tr> <tr> <td>Black B</td> <td>Offset adjustment: black, Target: BLUE</td> <td>0 to 30</td> </tr> <tr> <td>Black R</td> <td>Offset adjustment: black, Target: RED</td> <td>0 to 30</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Setting: Gamma adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select REGULAR.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value. Input the value that is indicated on the back of the chart to be used for adjustment.</li> </ol> <table border="1" data-bbox="331 1395 1398 1547"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>GREEN target</td> <td>105 to 155</td> </tr> <tr> <td>B</td> <td>BLUE target</td> <td>105 to 155</td> </tr> <tr> <td>R</td> <td>RED target</td> <td>105 to 155</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol>	Display	Setting	B/W adjust	Target value for shading offset adjustment	Gamma adjust	Target value for $\gamma$ adjustment	Matrix adj. C	Target value for cyan matrix adjustment	Matrix adj. M	Target value for magenta matrix adjustment	Matrix adj. Y	Target value for yellow matrix adjustment	Display	Setting	Setting range	White G	Offset adjustment: white, Target: GREEN	170 to 255	White B	Offset adjustment: white, Target: BLUE	170 to 255	White R	Offset adjustment: white, Target: RED	170 to 255	Black G	Offset adjustment: black, Target: GREEN	0 to 30	Black B	Offset adjustment: black, Target: BLUE	0 to 30	Black R	Offset adjustment: black, Target: RED	0 to 30	Display	Setting	Setting range	G	GREEN target	105 to 155	B	BLUE target	105 to 155	R	RED target	105 to 155
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U425	<p><b>Setting: Cyan matrix adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select REGULAR.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value. Input the value that is indicated on the back of the chart to be used for adjustment.</li> </ol> <table border="1" data-bbox="331 416 1398 719"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> </tr> </thead> <tbody> <tr><td>C-B</td><td>C-B matrix target</td><td>0 to 255</td></tr> <tr><td>C-G</td><td>C-G matrix target</td><td>0 to 255</td></tr> <tr><td>C-R</td><td>C-R matrix target</td><td>0 to 255</td></tr> <tr><td>C-Y</td><td>C-Y matrix target</td><td>0 to 255</td></tr> <tr><td>C-M</td><td>C-M matrix target</td><td>0 to 255</td></tr> <tr><td>C-C</td><td>C-C matrix target</td><td>0 to 255</td></tr> <tr><td>C-K</td><td>C-K matrix target</td><td>0 to 255</td></tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting: Magenta matrix adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select REGULAR.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value. Input the value that is indicated on the back of the chart to be used for adjustment.</li> </ol> <table border="1" data-bbox="331 904 1398 1207"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> </tr> </thead> <tbody> <tr><td>M-B</td><td>M-B matrix target</td><td>0 to 255</td></tr> <tr><td>M-G</td><td>M-G matrix target</td><td>0 to 255</td></tr> <tr><td>M-R</td><td>M-R matrix target</td><td>0 to 255</td></tr> <tr><td>M-Y</td><td>M-Y matrix target</td><td>0 to 255</td></tr> <tr><td>M-M</td><td>M-M matrix target</td><td>0 to 255</td></tr> <tr><td>M-C</td><td>M-C matrix target</td><td>0 to 255</td></tr> <tr><td>M-K</td><td>M-K matrix target</td><td>0 to 255</td></tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Setting: Yellow matrix adjustment</b></p> <ol style="list-style-type: none"> <li>1. Select REGULAR.</li> <li>2. Select the item to be set.</li> <li>3. Use the cursor up/down keys to change the setting value. Input the value that is indicated on the back of the chart to be used for adjustment.</li> </ol> <table border="1" data-bbox="331 1397 1398 1700"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> </tr> </thead> <tbody> <tr><td>Y-B</td><td>Y-B matrix target</td><td>0 to 255</td></tr> <tr><td>Y-G</td><td>Y-G matrix target</td><td>0 to 255</td></tr> <tr><td>Y-R</td><td>Y-R matrix target</td><td>0 to 255</td></tr> <tr><td>Y-Y</td><td>Y-Y matrix target</td><td>0 to 255</td></tr> <tr><td>Y-M</td><td>Y-M matrix target</td><td>0 to 255</td></tr> <tr><td>Y-C</td><td>Y-C matrix target</td><td>0 to 255</td></tr> <tr><td>Y-K</td><td>Y-K matrix target</td><td>0 to 255</td></tr> </tbody> </table> <ol style="list-style-type: none"> <li>4. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	C-B	C-B matrix target	0 to 255	C-G	C-G matrix target	0 to 255	C-R	C-R matrix target	0 to 255	C-Y	C-Y matrix target	0 to 255	C-M	C-M matrix target	0 to 255	C-C	C-C matrix target	0 to 255	C-K	C-K matrix target	0 to 255	Display	Setting	Setting range	M-B	M-B matrix target	0 to 255	M-G	M-G matrix target	0 to 255	M-R	M-R matrix target	0 to 255	M-Y	M-Y matrix target	0 to 255	M-M	M-M matrix target	0 to 255	M-C	M-C matrix target	0 to 255	M-K	M-K matrix target	0 to 255	Display	Setting	Setting range	Y-B	Y-B matrix target	0 to 255	Y-G	Y-G matrix target	0 to 255	Y-R	Y-R matrix target	0 to 255	Y-Y	Y-Y matrix target	0 to 255	Y-M	Y-M matrix target	0 to 255	Y-C	Y-C matrix target	0 to 255	Y-K	Y-K matrix target	0 to 255
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<p><b>U429</b></p>	<p><b>Setting the offset for the color balance</b></p> <p><b>Description</b> Displays and changes the density for each color during copying in the various image quality modes.</p> <p><b>Purpose</b> To change the balance for each color.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the image quality mode. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 510 1398 734"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>TEXT+PHOTO</td> <td>Density of each color in the text &amp; photo mode.</td> </tr> <tr> <td>PHOTO</td> <td>Density of each color in the photo mode.</td> </tr> <tr> <td>PRINT</td> <td>Density of each color in the printed photo mode.</td> </tr> <tr> <td>TEXT</td> <td>Density of each color in the text mode.</td> </tr> <tr> <td>MAP</td> <td>Density of each color in the map modes.</td> </tr> </tbody> </table> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 842 1398 1030"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>CYAN</td> <td>Value of the cyan setting</td> <td>-5 to +5</td> <td>0</td> </tr> <tr> <td>MAGENTA</td> <td>Value of the magenta setting</td> <td>-5 to +5</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>Value of the yellow setting</td> <td>-5 to +5</td> <td>0</td> </tr> <tr> <td>BLACK</td> <td>Value of the black setting</td> <td>-5 to +5</td> <td>0</td> </tr> </tbody> </table> <p>Increasing the value darkens the density and decreasing it lightens the density.</p> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	TEXT+PHOTO	Density of each color in the text & photo mode.	PHOTO	Density of each color in the photo mode.	PRINT	Density of each color in the printed photo mode.	TEXT	Density of each color in the text mode.	MAP	Density of each color in the map modes.	Display	Setting	Setting range	Default setting	CYAN	Value of the cyan setting	-5 to +5	0	MAGENTA	Value of the magenta setting	-5 to +5	0	YELLOW	Value of the yellow setting	-5 to +5	0	BLACK	Value of the black setting	-5 to +5	0
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Maintenance item No.	Description																						
U432	<p><b>Setting the center offset for the exposure</b></p> <p><b>Description</b> Sets the offset value for the setting data for exposure centering adjustment under user simulation. For example, if the value for the exposure centering adjustment is set to “-1” and you change the offset value to “+2”, image processing is performed as though the exposure centering adjustment setting is “+1”.</p> <p><b>Purpose</b> Set according to the preference of the user.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 562 1398 678"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>Full color</td> <td>Exposure offset setting for the full-color mode</td> </tr> <tr> <td>Monochrome</td> <td>Exposure offset setting for the monochrome mode</td> </tr> </tbody> </table> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select image quality mode. The selected item is displayed in reverse.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 779 1398 967"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Text</td> <td>Offset value for the text mode</td> <td>-4 to +4</td> <td>0</td> </tr> <tr> <td>Text + Photo</td> <td>Offset value for the text &amp; photo mode</td> <td>-4 to +4</td> <td>0</td> </tr> <tr> <td>Other</td> <td>Offset value for other modes</td> <td>-4 to +4</td> <td>0</td> </tr> </tbody> </table> <p>If the setting value is increased to increase the exposure centering adjustment value, images is darker. If the setting value is decreased to decrease the exposure centering adjustment value, images is lighter.</p> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Full color	Exposure offset setting for the full-color mode	Monochrome	Exposure offset setting for the monochrome mode	Display	Setting	Setting range	Default setting	Text	Offset value for the text mode	-4 to +4	0	Text + Photo	Offset value for the text & photo mode	-4 to +4	0	Other	Offset value for other modes	-4 to +4	0
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<p><b>U464</b></p>	<p><b>Setting the ID correction operation</b></p> <p><b>Description</b> Turns ID correction ON/OFF. Also sets the number of copies after which ID correction is initiated.</p> <p><b>Purpose</b> To restrict ID correction when poor image quality is generated.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 506 1398 618"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>MOVE</td> <td>Setting to allow ID correction</td> </tr> <tr> <td>COUNT</td> <td>Setting the number of copies after which ID correction is initiated</td> </tr> </tbody> </table> <p><b>Setting: ID correction ON/OFF</b></p> <ol style="list-style-type: none"> <li>1. Select ON of OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 696 1398 808"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Turns ID correction ON</td> </tr> <tr> <td>OFF</td> <td>Turns ID correction OFF</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>2. Press the start key. The setting is set, and The screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Setting: Number of copies after which ID correction is initiated</b></p> <ol style="list-style-type: none"> <li>1. Select NEXT MOVE COUNT or 1ST MOVE COUNT.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 972 1398 1189"> <thead> <tr> <th>Display</th> <th>Setting item</th> <th>Setting</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>NEXT MOVE COUNT</td> <td>Number of copies after which ID correction is initiated</td> <td>0 to 500 sheets</td> <td>500</td> </tr> <tr> <td>1ST MOVE COUNT</td> <td>Number of copies after which ID correction is initiated when the power switch is turned on</td> <td>0 to 500 sheets</td> <td>0</td> </tr> </tbody> </table> <p>The setting can be change to any value in increments of 1 sheet. If you change the setting to 0, ID correction will not be initiated based on the number of copies made.</p> <ol style="list-style-type: none"> <li>3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press stop/clear key in the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	MOVE	Setting to allow ID correction	COUNT	Setting the number of copies after which ID correction is initiated	Display	Setting	ON	Turns ID correction ON	OFF	Turns ID correction OFF	Display	Setting item	Setting	Default setting	NEXT MOVE COUNT	Number of copies after which ID correction is initiated	0 to 500 sheets	500	1ST MOVE COUNT	Number of copies after which ID correction is initiated when the power switch is turned on	0 to 500 sheets	0
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<p><b>U465</b></p>	<p><b>Data reference for ID correction</b></p> <p><b>Description</b> References the data related to ID correction.</p> <p><b>Purpose</b> To check the corresponding data.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The current setting is displayed.</li> </ol> <table border="1" data-bbox="331 1597 1398 1787"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>BIAS K</td> <td>Developing bias control value after ID correction (black)</td> </tr> <tr> <td>BIAS C</td> <td>Developing bias control value after ID correction (cyan)</td> </tr> <tr> <td>BIAS M</td> <td>Developing bias control value after ID correction (magenta)</td> </tr> <tr> <td>BIAS Y</td> <td>Developing bias control value after ID correction (yellow)</td> </tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	BIAS K	Developing bias control value after ID correction (black)	BIAS C	Developing bias control value after ID correction (cyan)	BIAS M	Developing bias control value after ID correction (magenta)	BIAS Y	Developing bias control value after ID correction (yellow)														
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U467	<p><b>Setting the color registration adjustment</b></p> <p><b>Description</b> Sets the color registration adjustment.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set.</li> </ol> <table border="1" data-bbox="331 443 1398 714"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>PERFORM PERMISSION 1</td> <td>Color registration correction: Overall operation setting</td> </tr> <tr> <td>PERFORM PERMISSION 2</td> <td>Color registration correction: Operation setting after removal and insertion of transfer belt</td> </tr> <tr> <td>PERFORM PERMISSION 3</td> <td>Color registration correction: Print quantity setting at operation start</td> </tr> </tbody> </table> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 790 1398 904"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Enables the operation.</td> </tr> <tr> <td>OFF</td> <td>Disables the operation.</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>1. 2.Press the start key. The screen for selecting an item is displayed.</li> </ol> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1037 1398 1151"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Enables the operation.</td> </tr> <tr> <td>OFF</td> <td>Disables the operation.</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Change the value using the cursor up/down keys.</li> </ol> <table border="1" data-bbox="331 1249 1398 1330"> <thead> <tr> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>0 to 9999</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>2. Press the start key. the value is set. The screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	PERFORM PERMISSION 1	Color registration correction: Overall operation setting	PERFORM PERMISSION 2	Color registration correction: Operation setting after removal and insertion of transfer belt	PERFORM PERMISSION 3	Color registration correction: Print quantity setting at operation start	Display	Description	ON	Enables the operation.	OFF	Disables the operation.	Display	Description	ON	Enables the operation.	OFF	Disables the operation.	Setting range	Default setting	0 to 9999	0
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<p><b>U468</b></p>	<p><b>Checking the color registration data</b></p> <p><b>Description</b> Displays the color registration data.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the color to check.</li> </ol> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. The current setting is displayed. Press the stop/clear key to return to the screen for selecting an item.</li> </ol> <table border="1" data-bbox="331 535 1398 763"> <thead> <tr> <th data-bbox="338 544 635 573">Display</th> <th data-bbox="635 544 1391 573">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="338 573 635 607">SLDIR</td> <td data-bbox="635 573 1391 607">Gradient direction setting</td> </tr> <tr> <td data-bbox="338 607 635 640">SLDEG</td> <td data-bbox="635 607 1391 640">Gradient constant</td> </tr> <tr> <td data-bbox="338 640 635 674">LINERDST</td> <td data-bbox="635 640 1391 674">Reading start position setting for SRAM read</td> </tr> <tr> <td data-bbox="338 674 635 707">VSHIFT</td> <td data-bbox="635 674 1391 707">Sub scan deviation correction</td> </tr> <tr> <td data-bbox="338 707 635 741">RDTIM</td> <td data-bbox="635 707 1391 741">Main scan deviation correction</td> </tr> </tbody> </table> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SLDIR	Gradient direction setting	SLDEG	Gradient constant	LINERDST	Reading start position setting for SRAM read	VSHIFT	Sub scan deviation correction	RDTIM	Main scan deviation correction
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RDTIM	Main scan deviation correction												



Maintenance item No.	Description																																																
U470	<p><b>Setting the compression ratio</b></p> <p><b>Description</b> Sets the compression ratio coefficient for each compression level based on the quantum chart for JPEG brightness and color differential.</p> <p><b>Purpose</b> To change the setting in accordance with the image that the user is copying. For example, in order to soften the coarseness of the image when making copies at over 200% magnification, change the level of compression by raising the value. Lowering the value will increase the compression and thereby lower the image quality; Raising the value will increase image quality but lower the image processing speed.</p> <p><b>Implementation</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the item to be set. The setting screen for the selected item is displayed.</li> </ol> <table border="1" data-bbox="331 622 1398 734"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>Y DATA RATE</td> <td>JPEG compression ratio (brightness)</td> </tr> <tr> <td>C DATA RATE</td> <td>JPEG compression ratio (color differential)</td> </tr> </tbody> </table> <p><b>Setting: JPEG compression ratio (brightness)</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 842 1398 1106"> <thead> <tr> <th>Display</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>COPY</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NW SCAN (1)</td> <td>1 to 100</td> <td>30</td> </tr> <tr> <td>NW SCAN (2)</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NW SCAN (3)</td> <td>1 to 100</td> <td>50</td> </tr> <tr> <td>NW SCAN (4)</td> <td>1 to 100</td> <td>80</td> </tr> <tr> <td>NW SCAN (5)</td> <td>1 to 100</td> <td>95</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Setting: JPEG compression ratio (color differential)</b></p> <ol style="list-style-type: none"> <li>1. Select the item to be set.</li> <li>2. Use the cursor up/down keys to change the setting value.</li> </ol> <table border="1" data-bbox="331 1240 1398 1505"> <thead> <tr> <th>Display</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>COPY</td> <td>1 to 100</td> <td>95</td> </tr> <tr> <td>NW SCAN (1)</td> <td>1 to 100</td> <td>30</td> </tr> <tr> <td>NW SCAN (2)</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NW SCAN (3)</td> <td>1 to 100</td> <td>50</td> </tr> <tr> <td>NW SCAN (4)</td> <td>1 to 100</td> <td>80</td> </tr> <tr> <td>NW SCAN (5)</td> <td>1 to 100</td> <td>95</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Y DATA RATE	JPEG compression ratio (brightness)	C DATA RATE	JPEG compression ratio (color differential)	Display	Setting range	Default setting	COPY	1 to 100	40	NW SCAN (1)	1 to 100	30	NW SCAN (2)	1 to 100	40	NW SCAN (3)	1 to 100	50	NW SCAN (4)	1 to 100	80	NW SCAN (5)	1 to 100	95	Display	Setting range	Default setting	COPY	1 to 100	95	NW SCAN (1)	1 to 100	30	NW SCAN (2)	1 to 100	40	NW SCAN (3)	1 to 100	50	NW SCAN (4)	1 to 100	80	NW SCAN (5)	1 to 100	95
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<b>U475</b>	<p><b>Setting the smudge compensation mode</b></p> <p><b>Description</b> Adjusts exposure compensation for copying from the DP for each mode.</p> <p><b>Purpose</b> To increase the setting value for the relevant mode if relatively light density streaks occur on the copy image obtained in copying from the DP.</p> <p><b>Method</b> Press the start key. The setting screen is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select the item to be set. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 564 1398 833"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>DP Mono</td> <td>Monochrome in copying, monochrome two-level gradation in NWS</td> <td>0 to 3</td> <td>0</td> </tr> <tr> <td>DP Color</td> <td>Color in copying</td> <td>0 to 3</td> <td>0</td> </tr> <tr> <td>DP NWS</td> <td>Color in NWS, monochrome multi-level gradation in NWS</td> <td>0 to 3</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>Use the cursor up/down keys to change the setting value.</li> <li>Press the start key. The value is set.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	DP Mono	Monochrome in copying, monochrome two-level gradation in NWS	0 to 3	0	DP Color	Color in copying	0 to 3	0	DP NWS	Color in NWS, monochrome multi-level gradation in NWS	0 to 3	0
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DP Mono	Monochrome in copying, monochrome two-level gradation in NWS	0 to 3	0														
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DP NWS	Color in NWS, monochrome multi-level gradation in NWS	0 to 3	0														
<b>U485</b>	<p><b>Setting the image processing mode</b></p> <p><b>Description</b> Sets image processing type switching based on the plan for each destination.</p> <p><b>Purpose</b> Set according to the preference of the user.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for selecting an item is displayed.</li> <li>Select MODE0 or MODE1. The factory default setting: inch "MODE0"/ metric "MODE1" If the setting is changed to MODE1: Sharpness in the photo mode is softened and therefore moire on copies in the photo mode is reduced.</li> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																
<b>U504</b>	<p><b>Initializing the scanner NIC</b></p> <p><b>Description</b> Initializing the scanner NIC to its factory default.</p> <p><b>Purpose</b> Used when a scanner NIC malfunction (ex. transmission error) occurs.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>Press the start key. The screen for executing the maintenance item is displayed.</li> <li>Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>Press the start key. All data in the scanner NIC is initialized.</li> </ol> <p><b>Completion</b> To exit this maintenance item without initializing, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																

Maintenance item No.	Description						
<b>U505</b>	<p><b>Setting Data Base Assistant</b></p> <p><b>Description</b> Sets whether or not the database linkage setting is enabled if an optional network scanner is installed.</p> <p><b>Purpose</b> According to user request, changes the setting.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 533 1398 647"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Database linkage setting is enabled.</td> </tr> <tr> <td>OFF</td> <td>Database linkage setting is disabled.</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Database linkage setting is enabled.	OFF	Database linkage setting is disabled.
Display	Description						
ON	Database linkage setting is enabled.						
OFF	Database linkage setting is disabled.						
<b>U506</b>	<p><b>Setting the time out</b></p> <p><b>Description</b> Sets the communication time-out time for connection to a computer.</p> <p><b>Purpose</b> To change the preset value if a communication error occurs after connection to a computer continues for a long time. By delaying the error detection timing, the error may be cleared. If the error is not cleared after the preset value is changed, however, return the preset value to the initial value.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1144 1398 1218"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Time-out time</td> <td>10 to 120 (s)</td> <td>10</td> </tr> </tbody> </table> <p>The setting can be changed by 10 s per step.</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Description	Setting range	Initial setting	Time-out time	10 to 120 (s)	10
Description	Setting range	Initial setting					
Time-out time	10 to 120 (s)	10					
<b>U508</b>	<p><b>Setting the LDAP</b></p> <p><b>Description</b> Enables or disables an LDAP server.</p> <p><b>Purpose</b> To change the setting to ON when use of an LDAP server is requested.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1671 1398 1785"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>LDAP server is enabled.</td> </tr> <tr> <td>OFF</td> <td>LDAP server is disabled.</td> </tr> </tbody> </table> <p>Initial setting: OFF</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	LDAP server is enabled.	OFF	LDAP server is disabled.
Display	Description						
ON	LDAP server is enabled.						
OFF	LDAP server is disabled.						

Maintenance item No.	Description																								
<p><b>U901</b></p>	<p><b>Checking/clearing total copy counts by paper feed location</b></p> <p><b>Description</b> Checks the copy count of each paper feed location or resets the count back to zero.</p> <p><b>Purpose</b> To check the timing of the standard replacement of maintenance parts, or to clear all copy counts after replacement of those parts.</p> <p><b>Method</b> Press the start key. The counts by paper feed locations are displayed. Simplex copier</p> <table border="1" data-bbox="331 535 1398 763"> <thead> <tr> <th>Display</th> <th>Paper source</th> </tr> </thead> <tbody> <tr> <td>BYPASS</td> <td>Bypass tray</td> </tr> <tr> <td>DRAWER 1</td> <td>Cassette 1</td> </tr> <tr> <td>DRAWER 2</td> <td>Cassette 2*</td> </tr> <tr> <td>DRAWER 3</td> <td>Cassette 3*/Right deck*</td> </tr> <tr> <td>DRAWER 4</td> <td>Cassette 4*/Left deck*</td> </tr> </tbody> </table> <p>*Optional.</p> <p>Duplex copier</p> <table border="1" data-bbox="331 831 1398 1059"> <thead> <tr> <th>Display</th> <th>Paper source</th> </tr> </thead> <tbody> <tr> <td>BYPASS</td> <td>Bypass tray</td> </tr> <tr> <td>DUPLEX</td> <td>Duplex unit</td> </tr> <tr> <td>DRAWER 2</td> <td>Cassette 2*</td> </tr> <tr> <td>DRAWER 3</td> <td>Cassette 3*/Right deck*</td> </tr> <tr> <td>DRAWER 4</td> <td>Cassette 4*/Left deck*</td> </tr> </tbody> </table> <p>*Optional.</p> <p><b>Clearing the count</b></p> <ol style="list-style-type: none"> <li>1. Press the reset key.</li> <li>2. Press the start key to clear the count.</li> </ol> <p>The count values for the bypass and cassette 1 (simplex copier)/the bypass and the duplex unit (duplex copier) are cleared. The count for individual types cannot be cleared.</p> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Paper source	BYPASS	Bypass tray	DRAWER 1	Cassette 1	DRAWER 2	Cassette 2*	DRAWER 3	Cassette 3*/Right deck*	DRAWER 4	Cassette 4*/Left deck*	Display	Paper source	BYPASS	Bypass tray	DUPLEX	Duplex unit	DRAWER 2	Cassette 2*	DRAWER 3	Cassette 3*/Right deck*	DRAWER 4	Cassette 4*/Left deck*
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Maintenance item No.	Description						
U903	<p><b>Checking/clearing the paper jam counts</b></p> <p><b>Description</b> Displays or clears the jam counts by jam locations.</p> <p><b>Purpose</b> To check the paper jam status. Also to clear the jam counts after replacing consumable parts.</p> <p><b>Implementation</b> Press the start key. The screen for selecting an item is displayed.</p> <table border="1" data-bbox="331 477 1398 591"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>COUNT</td> <td>Displays/clears the jam counts</td> </tr> <tr> <td>TOTAL COUNT</td> <td>Displays the total jam counts</td> </tr> </tbody> </table> <p><b>Method: Displays/clears the jam counts</b></p> <ol style="list-style-type: none"> <li>Select COUNT in the screen for selecting an item. The count for jam detection by type is displayed.</li> <li>Change the screen using the * or # keys. Press the reset key and then press the start key. The count is cleared. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Method: Displays the total jam counts</b></p> <ol style="list-style-type: none"> <li>Select TOTAL COUNT in the screen for selecting an item. The total number of jam counts by type is displayed.</li> <li>Use the * or # keys to switch the display. The total number of jam count cannot be cleared. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	COUNT	Displays/clears the jam counts	TOTAL COUNT	Displays the total jam counts
Display	Description						
COUNT	Displays/clears the jam counts						
TOTAL COUNT	Displays the total jam counts						
U904	<p><b>Checking/clearing the call for service counts</b></p> <p><b>Description</b> Checks the total number of call for service counts that have been generated by type, or resets the count back to zero.</p> <p><b>Purpose</b> To check the occurrence of call for service counts, or to clear the count after replacement of maintenance parts.</p> <p><b>Implementation</b> Press the start key. The screen for selecting an item is displayed.</p> <table border="1" data-bbox="331 1290 1398 1404"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>COUNT</td> <td>Displays/clears the call for service counts</td> </tr> <tr> <td>TOTAL COUNT</td> <td>Displays the total call for service counts</td> </tr> </tbody> </table> <p><b>Method: Displays/clears the call for service counts</b></p> <ol style="list-style-type: none"> <li>Select COUNT in the screen for selecting an item. The count for call for service detection by type is displayed.</li> <li>Change the screen using the * or # keys. To clear the call for service counts for all types, press the start key after pressing the reset key. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Method: Displays the total call for service counts</b></p> <ol style="list-style-type: none"> <li>Select TOTAL COUNT in the screen for selecting an item. The total number of call for service counts by type is displayed.</li> <li>Change the screen using the * or # keys. The total number of call for service count cannot be cleared. To return to the screen for selecting an item, press the stop/clear key.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	COUNT	Displays/clears the call for service counts	TOTAL COUNT	Displays the total call for service counts
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COUNT	Displays/clears the call for service counts						
TOTAL COUNT	Displays the total call for service counts						

Maintenance item No.	Description																		
<b>U905</b>	<p><b>Checking count by optional devices</b></p> <p><b>Description</b> Displays the counts for the DP and document finisher (both optional), and clears the counts for the DP.</p> <p><b>Purpose</b> To check the use of the DP and document finisher.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Select the device, the count of which is to be checked. The count of the selected device is displayed.</li> </ol> <table border="1" data-bbox="331 533 1398 719"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ADP</td> <td>Number of single-sided originals that has passed through the DP in ADP mode</td> </tr> <tr> <td>RADP</td> <td>Number of double-sided originals that has passed through the DP in RADP mode</td> </tr> </tbody> </table> <p>FINISHER</p> <table border="1" data-bbox="331 763 1398 987"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CP CNT</td> <td>Number of copies that has passed</td> </tr> <tr> <td>STAPLE</td> <td>Frequency the stapler has been activated</td> </tr> <tr> <td>PUNCH</td> <td>Frequency the punch has been activated</td> </tr> <tr> <td>STACK</td> <td>Frequency the stacker has been activated</td> </tr> <tr> <td>SADDLE</td> <td>Frequency the booklet has been activated</td> </tr> </tbody> </table> <p><b>Clearing the DP counts</b></p> <ol style="list-style-type: none"> <li>1. Press the reset key.</li> <li>2. Press the start key to clear the counts.</li> </ol> <p>The count for individual modes cannot be cleared. Only the count value for the DP can be cleared. The count value for the document finisher cannot be cleared.</p> <p><b>Completion</b> Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ADP	Number of single-sided originals that has passed through the DP in ADP mode	RADP	Number of double-sided originals that has passed through the DP in RADP mode	Display	Description	CP CNT	Number of copies that has passed	STAPLE	Frequency the stapler has been activated	PUNCH	Frequency the punch has been activated	STACK	Frequency the stacker has been activated	SADDLE	Frequency the booklet has been activated
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<b>U906</b>	<p><b>Resetting partial operational control</b></p> <p><b>Description</b> Resets the service call code for partial operation control.</p> <p><b>Purpose</b> Be sure to execute this maintenance item after partial operation is performed due to problems in the cassettes or other sections, and the related parts are serviced.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key to reset the partial operational control. The maintenance mode is exited, and the machine automatically returns to the same status as when the power switch is turned on.</li> </ol>																		
<b>U908</b>	<p><b>Checking the total count</b></p> <p><b>Description</b> Displays the total count value.</p> <p><b>Purpose</b> To check the total count value.</p> <p><b>Method</b> Press the start key. The current total count is displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																		

Maintenance item No.	Description
U910	<p><b>Clearing the black ratio data</b></p> <p><b>Description</b> Clears the accumulated black ratio data for each A4 size of paper.</p> <p><b>Purpose</b> Clears the data as necessary during the periodic maintenance.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key. The black ratio data is cleared, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without clearing the black ratio data, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U911	<p><b>Checking/clearing the paper feed counts by paper size</b></p> <p><b>Description</b> Checks and clears the paper feed counts by paper size.</p> <p><b>Purpose</b> To check, as well as to clear, the paper feed counts by paper size after replacement of maintenance parts.</p> <p><b>Method</b> Press the start key. The paper feed counts by paper size is displayed.</p> <p><b>Clearing the count</b></p> <ol style="list-style-type: none"> <li>1. Press the reset key.</li> <li>2. Press the start key to clear the count.</li> </ol> <p>When the count for individual is cleared, select the count to clear and press the start key.</p> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>

Maintenance item No.	Description																																				
<p><b>U917</b></p>	<p><b>Setting backup data reading/writing</b></p> <p><b>Description</b> Stores backup data from the fax control PWB (when an optional fax kit is installed) into CompactFlash or reads the data from CompactFlash.</p> <p><b>Purpose</b> To store and write data when replacing the PWB.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Turn the power switch off and disconnect the power plug.</li> <li>2. Remove the CF cover.</li> <li>3. Insert Compact Flash in a notch hole of the copier.</li> <li>4. While pressing the Copier key, turn on the power switch and connect the power plug. Press and hold on the Copier key until the message "Please wait." disappears.</li> <li>5. Enter the maintenance item.</li> <li>6. Press the start key. The screen for selecting an item is displayed.</li> <li>7. Select the item. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 712 1398 898"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SRAM→CF:FAX DATA</td> <td>Writing the backup data of fax control PWB</td> </tr> <tr> <td>CF→SRAM:FAX DATA</td> <td>Reading the backup data of fax control PWB</td> </tr> <tr> <td>SRAM→CF:FAX DIAL</td> <td>Writing the backup data of fax dial information</td> </tr> <tr> <td>CF→SRAM:FAX DIAL</td> <td>Reading the backup data of fax dial information</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>8. Press the start key. Reading or writing is executed, and the screen displays the result. If the operation was successful: EXECUTE 0100 CHECK SUM **** CODE 0000</li> <li>If the operation failed: EXECUTE 0100 CHECK SUM **** CODE XXXX Where XXX is the error code indicating the reason for the failure. See "Error Codes for Operation U917 and U926" below.</li> <li>9. Turn the power switch off and disconnect the power plug.</li> <li>10. Remove the Compact Flash from the copier.</li> </ol> <p><b>Error Codes for Operation U917 and U926</b></p> <table border="1" data-bbox="331 1413 1398 1899"> <thead> <tr> <th>Code</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0102</td> <td>Detects call for service on fax control PWB.</td> </tr> <tr> <td>0103</td> <td>Detects call for service on engine controller PWB.</td> </tr> <tr> <td>0104</td> <td>Communication error.</td> </tr> <tr> <td>0105</td> <td>Detects call for service on scanner main PWB.</td> </tr> <tr> <td>01FF</td> <td>CF error.</td> </tr> <tr> <td>0202</td> <td>No CF card.</td> </tr> <tr> <td>0203</td> <td>No data in CF card.</td> </tr> <tr> <td>0204</td> <td>CF data is incompatible.</td> </tr> <tr> <td>0205</td> <td>Bad CF data (Checksum error)</td> </tr> <tr> <td>0206</td> <td>CF read error.</td> </tr> <tr> <td>0207</td> <td>CF write error.</td> </tr> <tr> <td>0212</td> <td>Fax control PWB flash memory error.</td> </tr> </tbody> </table>	Display	Description	SRAM→CF:FAX DATA	Writing the backup data of fax control PWB	CF→SRAM:FAX DATA	Reading the backup data of fax control PWB	SRAM→CF:FAX DIAL	Writing the backup data of fax dial information	CF→SRAM:FAX DIAL	Reading the backup data of fax dial information	Code	Meaning	0102	Detects call for service on fax control PWB.	0103	Detects call for service on engine controller PWB.	0104	Communication error.	0105	Detects call for service on scanner main PWB.	01FF	CF error.	0202	No CF card.	0203	No data in CF card.	0204	CF data is incompatible.	0205	Bad CF data (Checksum error)	0206	CF read error.	0207	CF write error.	0212	Fax control PWB flash memory error.
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Maintenance item No.	Description
U920	<p><b>Checking the copy counts</b></p> <p><b>Description</b> Checks the copy counts.</p> <p><b>Purpose</b> To check the copy counts.</p> <p><b>Method</b> Press the start key. The current counts of full color copy counter, mono-color copy counter, color printer counter, black &amp; white copy counter, black &amp; white printer counter and black &amp; white fax counter are displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U925	<p><b>Checking/clearing the system error counts</b></p> <p><b>Description</b> Displays and clears the count value of system error.</p> <p><b>Purpose</b> To check the system error status by types. Also to clear the service call code counts after replacing consumable parts.</p> <p><b>Method</b> Press the start key. The count for system error detection by type is displayed.</p> <p><b>Clearing</b></p> <ol style="list-style-type: none"> <li>1. Select the counts for all system error and press the reset key.</li> <li>2. Press the start key. The count is cleared.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance No. item is displayed.</p>

Maintenance item No.	Description
<b>U926</b>	<p><b>Rewriting FAX program</b></p> <p><b>Description</b> Downloads the fax program and fax fonts when installing an optional fax kit.</p> <p><b>Purpose</b> To run when upgrading the fax program and fax fonts.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>1. Turn the power switch off and disconnect the power plug.</li> <li>2. Remove the CF cover.</li> <li>3. Insert Compact Flash in a notch hole of the copier.</li> <li>4. While pressing the Copier key, turn on the power switch and connect the power plug. Press and hold on the Copier key until the message "Please wait." disappears.</li> <li>5. Enter the maintenance item.</li> <li>6. Press the start key. The screen for selecting an item is displayed.</li> <li>7. Select FAX PROGRAM/FONT. Check that EXECUTE is displayed and then press the start key. Downloading of the fax program starts and the result shown below is displayed.</li> </ol> <p>If the operation was successful: EXECUTE 0100 CHECK SUM **** CODE 0000</p> <p>If the operation failed: EXECUTE 0100 CHECK SUM **** CODE XXXX Where XXX is the error code indicating the reason for the failure.</p> <ol style="list-style-type: none"> <li>8. Then, downloading of the fax fonts starts and the result shown below is displayed.</li> </ol> <p>If the operation was successful: EXECUTE 0100 CHECK SUM **** CODE 0000</p> <p>If the operation failed: EXECUTE 0100 CHECK SUM **** CODE XXXX Where XXX is the error code indicating the reason for the failure. See "Error Codes for Operation U917 and U926" on page 1-4-88.</p> <ol style="list-style-type: none"> <li>9. Turn the power switch off and disconnect the power plug.</li> <li>10. Remove the Compact Flash from the copier.</li> </ol>
<b>U927</b>	<p><b>Clearing the all copy counts and machine life counts</b></p> <p><b>Description</b> Resets all of the counts back to zero.</p> <p><b>Supplement</b> The total account counter and the machine life counter can be cleared only once only if all count values are 1000 or less.</p> <p><b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for executing is displayed.</li> <li>2. Press EXECUTE on the touch panel. It is displayed in reverse.</li> <li>3. Press the start key. All copy counts and machine life counts are cleared. CANNOT EXECUTE is displayed if the count cannot be cleared.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the count, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p> <p> www.tonerplus.com.ua</p>

Maintenance item No.	Description						
U928	<p><b>Checking machine life counts</b></p> <p><b>Description</b> Displays the machine life counts.</p> <p><b>Purpose</b> To check the machine life counts.</p> <p><b>Method</b> Press the start key. The current machine life counts is displayed.</p> <p><b>Completion</b> Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
U941	<p><b>Setting the default magnification ratio of the default cassette</b></p> <p><b>Description</b> Sets the default magnification ratio when paper selection of copy default setting is set to the default cassette.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select 100% or AMS. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 750 1396 862"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>100 % magnification ratio</td> </tr> <tr> <td>AMS</td> <td>Automatic magnification ratio</td> </tr> </tbody> </table> <p>Initial setting: 100 % magnification ratio</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	100%	100 % magnification ratio	AMS	Automatic magnification ratio
Display	Description						
100%	100 % magnification ratio						
AMS	Automatic magnification ratio						
U965	<p><b>Setting the cassette disconnection</b></p> <p><b>Description</b> Sets whether or not cancellation of cassette disconnection with the reset key is enabled after abnormal cassette has been detected.</p> <p><b>Purpose</b> Enables cancellation of cassette disconnection by user.</p> <p><b>Method</b> Press the start key. The screen for selecting an item is displayed.</p> <p><b>Setting</b></p> <ol style="list-style-type: none"> <li>Select ON or OFF. The selected item is displayed in reverse.</li> </ol> <table border="1" data-bbox="331 1321 1396 1433"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Enables cancellation of cassette disconnection with the reset key on.</td> </tr> <tr> <td>OFF</td> <td>Normal cancellation of disconnection</td> </tr> </tbody> </table> <p>Initial setting: OFF If the setting is turned on, when a cassette in the failure disconnection state due to abnormal cassette detection is selected, "Press Reset key only once" is displayed.</p> <ol style="list-style-type: none"> <li>Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</li> </ol> <p><b>Completion</b> To exit this maintenance item without changing the current setting, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	ON	Enables cancellation of cassette disconnection with the reset key on.	OFF	Normal cancellation of disconnection
Display	Setting						
ON	Enables cancellation of cassette disconnection with the reset key on.						
OFF	Normal cancellation of disconnection						

Maintenance item No.	Description								
<p><b>U991</b></p>	<p><b>Checking the scanner operation count</b>  <b>Description</b>                      Displays the scanner operation count.  <b>Purpose</b>                      To check the use of the scanner.  <b>Method</b>                      Press the start key. The screen for selecting an item is displayed.</p> <table border="1" data-bbox="331 474 1398 624"> <thead> <tr> <th data-bbox="338 474 635 510">Display</th> <th data-bbox="635 474 1398 510">Setting</th> </tr> </thead> <tbody> <tr> <td data-bbox="338 510 635 546">COPY SCAN COUNT</td> <td data-bbox="635 510 1398 546">Scanner operation count for copying</td> </tr> <tr> <td data-bbox="338 546 635 582">FAX SCAN COUNT</td> <td data-bbox="635 546 1398 582">Scanner operation count for fax</td> </tr> <tr> <td data-bbox="338 582 635 618">NT SCAN COUNT</td> <td data-bbox="635 582 1398 618">Scanner operation count for network scanner</td> </tr> </tbody> </table> <p><b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	COPY SCAN COUNT	Scanner operation count for copying	FAX SCAN COUNT	Scanner operation count for fax	NT SCAN COUNT	Scanner operation count for network scanner
Display	Setting								
COPY SCAN COUNT	Scanner operation count for copying								
FAX SCAN COUNT	Scanner operation count for fax								
NT SCAN COUNT	Scanner operation count for network scanner								
<p><b>U998</b></p>	<p><b>Printing from memory</b>  <b>Description</b>                      Prints the data stored in memory.  <b>Purpose</b>                      Executes as necessary.  <b>Method</b></p> <ol style="list-style-type: none"> <li>1. Press the start key. The screen for selecting an item is displayed.</li> <li>2. Enter the address (8-digit hexadecimal number) using the numeric keys and symbols A to F keys displayed on the touch panel.</li> <li>3. Press the interrupt key to output the list.</li> </ol> <p><b>Completion</b>                      Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								



## 1-5-1 Paper misfeed detection

### (1) Paper misfeed indication

When a paper misfeed occurs, the copier immediately stops copying and displays the jam location on the operation panel. Paper misfeed counts sorted by the detection condition can be checked in maintenance item U903.

To remove paper jammed in the copier, open right covers 1 and 2, paper feed unit (transfer unit), left cover, fuser unit or paper cassette.

To clear a jam in the duplex section, draw out the duplex unit.

When paper is jammed in the optional DP, open the DP original reversing cover.

Paper misfeed detection can be reset by opening and closing the respective covers to open/close switches off and on.

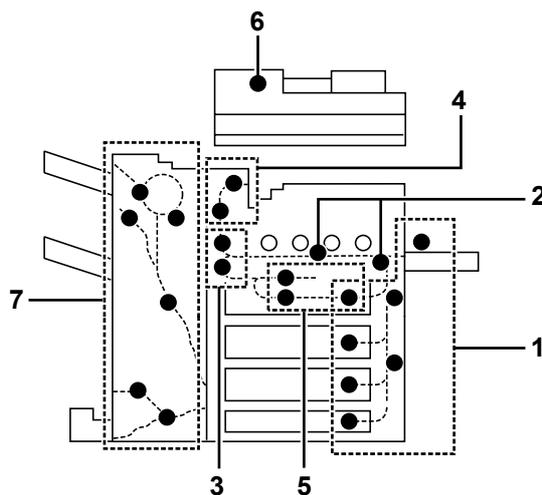


Figure 1-5-1

- (1) Misfeed in the paper feed section
- (2) Misfeed in the paper conveying section
- (3) Misfeed in the fuser section
- (4) Misfeed in the eject section
- (5) Misfeed in the duplex section\*
- (6) Misfeed in the optional DP
- (7) Misfeed in the optional document finisher

\*Duplex copier only

(2) Paper misfeed detection conditions

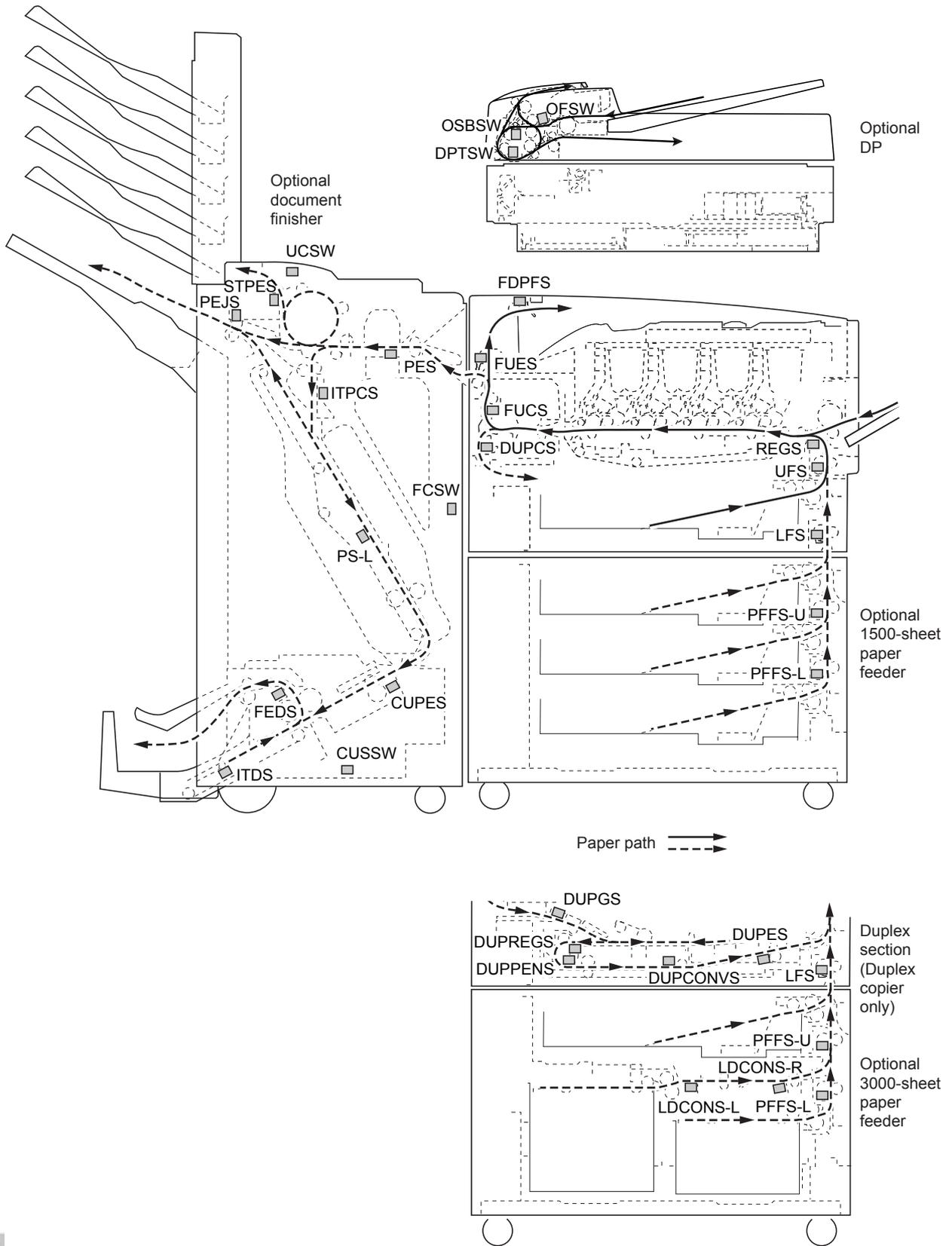


Figure 1-5-2

Section	Jam code	Description	Conditions
System	05	Memory read ready time-out	Secondary paper feed does not start even if 30 s elapse after the registration sensor (REGS) is turned on and primary paper feed is complete.
	06	Main charger error	An error signal is generated continuously more than 400 ms when the main charger is turned on during printing.
Paper feed section	10	No paper feed from copier cassette 1	Upper feed sensor (UFS) does not turn on within 3376 ms of the primary paper feed H clutch (PPFHCL) turning on.
	11	No paper feed from optional cassette 2	Lower feed sensor (LFS) does not turn on within 3358 ms of the paper feeder upper feed H clutch (PPFHCL-U) turning on (when paper is fed from optional cassette 2 of 1500-sheet paper feeder/3000-sheet paper feeder). Lower feed sensor (LFS) does not turn on within 3358 ms of the paper feeder feed H clutch (PPFHCL) turning on (when paper is fed from optional cassette 2 of 500-sheet paper feeder).
	12	No paper feed from optional cassette 3	Paper feeder upper feed sensor (PFFS-U) does not turn on within 3558 ms of the paper feeder middle feed H clutch (PPFHCL-M) turning on (when paper is fed from optional cassette 3).
	13	No paper feed from optional cassette 4	Paper feeder lower feed sensor (PFFS-L) does not turn on within 3376 ms of the paper feeder lower feed H clutch (PPFHCL-L) turning on (when paper is fed from optional cassette 4).
	15	No paper feed from optional right deck	Paper feeder lower feed sensor (PFFS-L) does not turn on within 3376 ms of the right deck feed clutch (RDFCL) turning on (when paper is fed from optional right deck).
	16	No paper feed from optional left deck	Left deck left conveying sensor (LDCONS-L) does not turn on within 3316 ms of the left deck feed clutch (LDFCL) turning on (when paper is fed from optional left deck).
	17	No paper feed from bypass tray	Registration sensor (REGS) does not turn on within 2216 ms of the bypass feed clutch (BYPFCL) turning on.
	18	Misfed in deck paper conveying section 1	Left deck right conveying sensor (LDCONS-R) does not turn off within 1134 ms of the left deck left conveying sensor (LDCONS-L) turning on. Left deck right conveying sensor (LDCONS-R) does not turn on within 1134 ms of the left deck left conveying sensor (LDCONS-L) turning on. Left deck right conveying sensor (LDCONS-R) does not turn off within 1050 ms of the left deck left conveying sensor (LDCONS-L) turning off.

Section	Jam code	Description	Conditions
Paper feed section	19	Misfeed in deck paper conveying section 2	<p>Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck right conveying sensor (LDCONS-R) turning off (when paper is fed from optional left deck).</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck right conveying sensor (LDCONS-R) turning on (when paper is fed from optional left deck).</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn on within 808 ms of the left deck conveying clutch (LDCONCL) turning off (when paper is fed from optional left deck).</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn off within 770 ms of the paper feeder lower feed sensor (PFFS-L) turning on (when paper is fed from optional right deck).</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn on within 770 ms of the paper feeder lower feed sensor (PFFS-L) turning on (when paper is fed from optional right deck).</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn off within 666 ms of the paper feeder lower feed sensor (PFFS-L) turning off (when paper is fed from optional right deck).</p>
	20	Misfeed in copier vertical paper conveying section 1	<p>Upper feed sensor (UFS) does not turn on within 770 ms of the conveying H clutch (CONHCL) turning on.</p> <p>Upper feed sensor (UFS) does not turn on within 712 ms of the registration sensor (REGS) turning on.</p> <p>Upper feed sensor (UFS) does not turn off within 579 ms of the duplex eject sensor (DUPES) turning on.</p> <p>Upper feed sensor (UFS) does not turn off within 712 ms of the conveying H clutch (CONHCL) turning on.</p> <p>Upper feed sensor (UFS) does not turn off within 750 ms of the paper feeder conveying H clutch (PFFHCL) turning off.</p> <p>Upper feed sensor (UFS) does not turn off within 1162 ms of the duplex eject sensor (DUPES) turning off.</p>
	21	Misfeed in copier vertical paper conveying section 2	<p>Upper feed sensor (UFS) does not turn on within 770 ms of the conveying H clutch (CONHCL) turning on.</p> <p>Lower feed sensor (LFS) does not turn off within 512 ms of the paper feeder conveying H clutch (PFFHCL) turning off.</p>
	22	Misfeed in copier vertical paper conveying section 3	<p>Paper feeder upper feed sensor (PFFS-U) does not turn off within 700 ms of the paper feeder lower feed sensor (PFFS-L) turning on.</p> <p>Lower feed sensor (LFS) does not turn on within 866 ms of the paper feeder upper feed sensor (PFFS-U) turning on.</p> <p>Paper feeder upper feed sensor (PFFS-U) does not turn off within 762 ms of the paper feeder conveying H clutch (PFFHCL) turning on.</p>
	23	Misfeed in copier vertical paper conveying section 4	<p>Paper feeder upper feed sensor (PFFS-U) does not turn on within 700 ms of the paper feeder lower feed sensor (PFFS-L) turning on.</p>
	25	Multiple sheets in copier cassette paper feed section	<p>Upper feed sensor (UFS) does not turn off within 770 ms of the primary paper feed H clutch (PPFHCL) turning on.</p> <p>Upper feed sensor (UFS) does not turn off within a specified time of the primary paper feed H clutch (PPFHCL) and primary paper feed L clutch (PPFLCL) turning on.</p>



Section	Jam code	Description	Conditions
Paper feed section	26	Multiple sheets in optional cassette 2 paper feed section	Lower feed sensor (LFS) does not turn off within 862 ms of the paper feeder upper feed H clutch (PFFHCL-U) turning on. Lower feed sensor (LFS) does not turn off within 1033 ms of the paper feeder upper feed sensor (PFFS-U) turning on. Lower feed sensor (LFS) does not turn off within a specified time of the paper feeder upper feed H clutch (PFFHCL-U) and paper feeder upper feed L clutch (PFFLCL-U) turning off.
	27	Multiple sheets in optional cassette 3 paper feed section	Paper feeder upper feed sensor (PFFS-U) does not turn off within 1487 ms of the paper feeder middle feed H clutch (PFFHCL-M) turning on. Paper feeder upper feed sensor (PFFS-U) does not turn off within a specified time of the paper feeder middle feed H clutch (PFFHCL-M) turning off.
	28	Multiple sheets in optional cassette 4 paper feed section	Paper feeder lower feed sensor (PFFS-L) does not turn off within 770 ms of the paper feeder lower feed H clutch (PFFHCL-L) turning on. Paper feeder lower feed sensor (PFFS-L) does not turn off within a specified time of the paper feeder lower feed H clutch (PFFHCL-L) turning off.
	30	Multiple sheets in optional right deck paper feed section	Paper feeder lower feed sensor (PFFS-L) does not turn off within 770 ms of the right deck feed clutch (RDFCL) turning on. Paper feeder lower feed sensor (PFFS-L) does not turn off within a specified time of the right deck feed clutch (RDFCL) turning off.
	31	Multiple sheets in optional left deck paper feed section	Left deck left conveying sensor (LDCONS-L) does not turn off within 741 ms of the left deck feed clutch (LDFCL) turning on. Left deck left conveying sensor (LDCONS-L) does not turn off within a specified time of the left deck feed clutch (LDFCL) turning off.
	32	Multiple sheets in bypass tray paper feed section	Registration sensor (REGS) does not turn off within 608 ms of the bypass feed clutch (BYPFCL) turning on. Registration sensor (REGS) does not turn off within 5051 ms of the paper feed starting from the bypass tray.
Paper conveying section	35	Misfeed in registration/transfer section	Registration sensor (REGS) does not turn off within 712 ms of the upper feed sensor (UFS) turning on. Registration sensor (REGS) does not turn off within 712 ms of the conveying H clutch (CONHCL) turning on. Registration sensor (REGS) does not turn off within 1129 ms of the conveying L clutch (CONLCL) turning off.
Fuser section	40	Misfeed in fuser section	Fuser conveying sensor (FUCS) does not turn on within 5965 ms of the registration clutch (REGCL) turning on. Duplex conveying sensor (DUPCS) does not turn on within 5974 ms of the registration clutch (REGCL) turning on.
	41	Misfeed in fuser/eject section	Fuser conveying sensor (FUCS) does not turn off within 5965 ms of the registration clutch (REGCL) turning on. Face-down exit sensor (FDES) does not turn off within 2560 ms of the fuser conveying sensor (FUCS) turning on.
Eject sensor	50	Misfeed in eject section	Face-down exit sensor (FDES) does not turn off within 2560 ms of the fuser conveying sensor (FUCS) turning on. Face-down exit sensor (FDES) does not turn off within 2560 ms of the fuser conveying sensor (FUCS) turning off.
	60	Misfeed in eject/duplex section	Duplex conveying sensor (DUPCS) does not turn off within 5974 ms of the registration clutch (REGCL) turning on.

Section	Jam code	Description	Conditions
Duplex section (duplex copier only)	61	Misfeed in duplex guide	Duplex guide sensor (DUPGS) does not turn on within 2620 ms of the duplex conveying sensor (DUPCS) turning on. Duplex guide sensor (DUPGS) does not turn off within 2620 ms of the duplex conveying sensor (DUPCS) turning off.
	62	Misfeed in duplex internal tray	Duplex registration sensor (DUPREGS) does not turn on within 1689 ms of the duplex paper entrance sensor (DUPPENS) turning on.
	63	Misfeed in duplex registration section	Duplex registration sensor (DUPREGS) does not turn off within 1689 ms of the duplex paper entrance sensor (DUPPENS) turning on. Duplex paper conveying sensor (DUPCONVS) does not turn on within 2327 ms of the duplex registration sensor (DUPREGS) turning on.
	64	Misfeed in duplex conveying section	Duplex paper conveying sensor (DUPCONVS) does not turn off within 2327 ms of the duplex registration sensor (DUPREGS) turning on. Duplex eject sensor (DUPES) does not turn on within 2353 ms of the Duplex paper conveying sensor (DUPCONVS) turning on. Duplex paper conveying sensor (DUPCONVS) does not turn off within 2327 ms of the duplex registration sensor (DUPREGS) turning off.
	65	Misfeed in duplex eject section	Duplex eject sensor (DUPES) does not turn off within 2353 ms of the duplex paper conveying sensor (DUPCONVS) turning on. Upper feed sensor (UFS) does not turn on within 1198 ms of the duplex eject sensor (DUPES) turning on. Duplex eject sensor (DUPES) does not turn off within 2353 ms of the duplex paper conveying sensor (DUPCONVS) turning off.
Optional DP	70	No original feed	When the DP START signal is received, switches other than the original set switch (OSSW) and original size length switch (OSLSW) on the contact glass are on. During the primary feed of the first original in the single-sided or double-sided original mode, the original feed switch (OFSW) does not turn on within 800 ms of the original feed motor (OFM) turning on. During the primary feed of the second or later original in the single-sided or double-sided original mode, the original feed switch (OFSW) does not turn on within 800 ms of the start of forward rotation of the original feed motor (OFM).
	71	An original jam in the original feed/conveying section 1	During the secondary original feed in the single-sided original mode, the DP timing switch (DPTSW) does not turn on within 967 ms of the start of reverse rotation of the original feed motor (OFM). Alternatively, during continuous original feed in single-sided original mode, the DP timing switch (DPTSW) does not turn on for the second time under the above conditions.
	72	An original jam in the original feed/conveying section 2	During the secondary original feed in the single-sided original mode, the original feed switch (OFSW) does not turn off within 1654 ms of the DP timing switch (DPTSW) turning on. During original switchback operation in the double-sided original mode, the original feed switch (OFSW) remains on when the original switchback switch (OSBSW) turns off.



Section	Jam code	Description	Conditions
Optional DP	73	An original jam in the original conveying section	During the secondary original feed in the single-sided or double-sided original mode, the DP timing switch (DPTSW) does not turn off within 2399 ms of turning on. In the single-sided or double-sided original mode, the DP timing switch (DPTSW) turns off within 474 ms of turning on.
	74	An original jam remaining after retries	In the single-sided or double-sided original mode, secondary original feed does not start after 6 retries.
	75	An original jam in the switchback section 1	During the switchback operation of an original in the double-sided original mode, the original switchback switch (OSBSW) does not turn off within 7040 ms of turning on. During the secondary original feed in the double-sided original mode, the DP timing switch (DPTSW) does not turn on within 433 ms of the original conveying motor (OCM) turning on.
	76	An original jam in the switchback section 2	While scanning the first face (reverse face) of the original in the double-sided original mode, the original switchback switch (OSBSW) does not turn on within 770 ms of the DP timing switch (DPTSW) turning on. During the switchback operation of the second or later original in the double-sided original mode, the original switchback switch (OSBSW) remains off when the trailing edge of the preceding original turns the DP timing switch (DPTSW) off.
	79	System error jam	When the DP timing switch (DPTSW) is turned on in the single-sided or double-sided original mode, the distance to the scanning position is too short based on the number of pulses of the stepper.
Optional document finisher	80	Jam between the finisher and copier	Paper ejection is not output from the copier to the document finisher within 15 s of the face-up exit sensor (FUES) turning off.
	81	Paper jam during paper insertion to the finisher	<i>When the paper entry sensor (PES) does not turn on within 1950 ms of the face-up exit sensor (FUES) of the copier turning off.</i>
	82	Paper jam during paper insertion to the finisher and paper ejection to the sub tray	When the sub tray paper ejection sensor (STPES) does not turn on within 2000 ms of the paper entry sensor (PES) turning on. When the paper entry sensor (PES) does not turn off within 1500 ms of its turning on.
	83	Paper jam at the siding drum	When the sub tray paper ejection sensor (STPES) does not turn off within 1000 ms of its turning on.
	84	Paper jam during paper insertion to the intermediate tray	When the intermediate tray paper conveying sensor (ITPCS) does not turn on within 1200 ms of the paper entry sensor (PES) turning on. When the paper entry sensor (PES) does not turn off within 1500 ms of its turning on. When the intermediate tray paper conveying sensor (ITPCS) does not turn on within 2000 ms of the sub tray paper ejection sensor (STPES) turning on.
	85	Paper jam during ejection of stack of paper	When the intermediate tray paper conveying sensor (ITPCS) does not turn off within 1000 ms of its turning on.
	86	Jam in eject section of main tray	When straight ejection is performed, the paper ejection sensor (PEJS) is not turned on even if 2600 ms elapse after the paper entry sensor (PES) is turned on.
	87	Jam in eject section (middle tray) of main tray	The paper ejection sensor (PEJS) is not turned on even if 2600 ms elapse after bundled ejection from the intermediate tray starts.

Section	Jam code	Description	Conditions
Optional document finisher	88	Jam in eject section of main tray	When the paper ejection sensor (PEJS) does not turn off within 2600 ms of its turning on.
	89	Jam in cover open	During operation, any of safety switches (upper cover switch (UCSW), front cover switch (FCSW), and centerfold unit set switch (CUSSW) is turned off.
	90	Jam in stapler	The front/rear stapler home position sensor (STHPS-F/R) or front/rear clincher home position sensor (CLNHPS-F/R) cannot detect normally the home position.
	91	Jam in saddle paper entry section	The lower paper sensor (PS-L) is not turned on even if 3000 ms elapse after bundled ejection to the centerfold unit starts.
	92	Jam in saddle paper entry section	The centerfold unit paper entry sensor (CUPES) is not turned on even if 2000 ms elapse after sorter ejection notification (serial communication data from the finisher main body to the centerfold unit).
	93	Jam in saddle tray section	When the inside tray detection sensor (ITDS) does not turn on within 5000 ms of the centerfold unit paper entry sensor (CUPES) turning on.
	94	Jam in saddle eject section	The folded edge detection sensor (FEDS) is not turned on even if 5000 ms elapse after centerfold operation starts.
	95	Jam in saddle eject section	When the folded edge detection sensor (FEDS) does not turn off within 6000 ms of its turning on.

## (3) Paper misfeeds

Problem	Causes/check procedures	Corrective measures
(1) A paper jam in the paper feed, conveying or eject section is indicated as soon as the power switch is turned on.	A piece of paper torn from copy paper is caught around upper or lower feed sensors, registration sensor, face-down paper full sensor, face-up exit sensor.	Check visually and remove it, if any.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective face-down paper full sensor.	Run maintenance item U031 and turn the face-down paper full sensor on and off manually. Replace the face-down paper full sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective face-up exit sensor.	Run maintenance item U031 and turn the face-up exit sensor on and off manually. Replace the face-up exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from copier cassette 1). Jam code 10	Paper in the cassette 1 is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, forwarding roller or paper feed roller of the cassette 1 are deformed.	Check visually and replace any deformed pulleys.
	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the primary paper feed H clutch malfunctions.	Run maintenance item U032 and select the primary paper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the primary paper feed H clutch.	Check (see page 1-5-65).

Problem	Causes/check procedures	Corrective measures
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from optional cassette 2). Jam code 11	Paper in the cassette 2 is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, forwarding roller or paper feed roller of the cassette 2 are deformed.	Check visually and replace any deformed pulleys.
	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder upper feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder upper feed H clutch.	Check (see page 1-5-67).
	Check if the paper feeder feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from optional cassette 3). Jam code 12	Paper in the cassette 3 is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, forwarding roller or paper feed roller of the cassette 3 are deformed.	Check visually and replace any deformed pulleys.
	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder middle feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder middle feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the paper feeder middle feed H clutch.	Check (see page 1-5-67).	
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from optional cassette 4). Jam code 13	Paper in the cassette 4 is extremely curled.	Change the paper.
	Check if the lower paper feed pulley, forwarding roller or paper feed roller of the cassette 3 are deformed.	Check visually and replace any deformed pulleys.

Problem	Causes/check procedures	Corrective measures
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from optional cassette 4). Jam code 13	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder lower feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder lower feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder lower feed H clutch.	Check (see page 1-5-67).
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from optional right deck). Jam code 15	Paper in the right deck is extremely curled.	Change the paper.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the right deck feed clutch malfunctions.	Run maintenance item U032 and select the right deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the right deck feed clutch.	Check (see page 1-5-68).	
(7) A paper jam in the paper feed section is indicated during copying (no paper feed from optional right deck). Jam code 16	Paper in the left deck is extremely curled.	Change the paper.
	Broken left deck left feed sensor actuator.	Check visually and replace the left deck left feed sensor if its actuator is broken.
	Defective left deck left feed sensor.	Run maintenance item U031 and turn the left deck left feed sensor on and off manually. Replace the left deck left feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the left deck feed clutch malfunctions.	Run maintenance item U032 and select the left deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the left deck feed clutch.	Check (see page 1-5-68).	
(8) A paper jam in the paper feed section is indicated during copying (no paper feed from bypass tray). Jam code 17	Paper on the bypass table is extremely curled.	Change the paper.
	Check if the bypass paper feed roller or bypass retard roller of the bypass are deformed.	Check visually and replace any deformed pulleys.
	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(8) A paper jam in the paper feed section is indicated during copying (no paper feed from bypass tray). Jam code 17	Check if the bypass feed clutch malfunctions.	Run maintenance item U032 and select the bypass feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the bypass feed clutch.	Check (see page 1-5-66).
(9) A paper jam in the paper feed section is indicated during copying (iam 1 in deck paper conveying section). Jam code 18	Broken left deck left feed sensor actuator.	Check visually and replace the left deck left feed sensor if its actuator is broken.
	Defective left deck left feed sensor.	Run maintenance item U031 and turn the left deck left feed sensor on and off manually. Replace the left deck left feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken left deck right feed sensor actuator.	Check visually and replace the left deck right feed sensor if its actuator is broken.
	Defective left deck right feed sensor.	Run maintenance item U031 and turn the left deck right feed sensor on and off manually. Replace the left deck right feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(10) A paper jam in the paper feed section is indicated during copying (iam 2 in deck paper conveying section). Jam code 19	Broken left deck right feed sensor actuator.	Check visually and replace the left deck right feed sensor if its actuator is broken.
	Defective left deck right feed sensor.	Run maintenance item U031 and turn the left deck right feed sensor on and off manually. Replace the left deck right feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the left deck conveying clutch malfunctions.	Run maintenance item U032 and select the left deck conveying clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the left deck conveying clutch.	Check (see page 1-5-68).	

Problem	Causes/check procedures	Corrective measures
(11) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 1). Jam code 20	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex eject sensor actuator.	Check visually and replace the duplex eject sensor if its actuator is broken.
	Defective duplex eject sensor.	Run maintenance item U031 and turn the duplex eject sensor on and off manually. Replace the duplex eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the conveying H clutch malfunctions.	Run maintenance item U032 and select the conveying H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the conveying H clutch.	Check (see page 1-5-65).
	Check if the paper feeder feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the paper feeder feed H clutch.	Check (see page 1-5-66).	
(12) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 2). Jam code 21	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the conveying H clutch malfunctions.	Run maintenance item U032 and select the conveying H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the conveying H clutch.	Check (see page 1-5-65).
	Check if the paper feeder conveying H clutch malfunctions.	Run maintenance item U032 and select the paper feeder conveying H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
Electrical problem with the paper feeder conveying H clutch.	Check (see page 1-5-67).	

Problem	Causes/check procedures	Corrective measures
(13) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 3). Jam code 22	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder conveying H clutch malfunctions.	Run maintenance item U032 and select the paper feeder conveying H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
(14) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 4). Jam code 23	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier cassette 1 paper feed section). Jam code 25	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the primary paper feed H clutch malfunctions.	Run maintenance item U032 and select the primary paper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the primary paper feed H clutch.	Check (see page 1-5-65).
	Check if the primary paper feed L clutch malfunctions.	Run maintenance item U032 and select the primary paper feed L clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.

Problem	Causes/check procedures	Corrective measures
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in copier cassette 1 paper feed section). Jam code 25	Electrical problem with the primary paper feed L clutch.	Check (see page 1-5-65).
(16) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional cassette 2 paper feed section). Jam code 26	Broken lower feed sensor actuator.	Check visually and replace the lower feed sensor if its actuator is broken.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder upper feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder upper feed H clutch.	Check (see page 1-5-67).
	Check if the paper feeder upper feed L clutch malfunctions.	Run maintenance item U032 and select the paper feeder upper feed L clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
(17) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional cassette 3 paper feed section). Jam code 27	Broken paper feeder upper feed sensor actuator.	Check visually and replace the paper feeder upper feed sensor if its actuator is broken.
	Defective paper feeder upper feed sensor.	Run maintenance item U031 and turn the paper feeder upper feed sensor on and off manually. Replace the paper feeder upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder middle feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder middle feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder middle feed H clutch.	Check (see page 1-5-67).
(18) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional cassette 4 paper feed section). Jam code 28	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.

Problem	Causes/check procedures	Corrective measures
(18) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional cassette 4 paper feed section). Jam code 28	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the paper feeder lower feed H clutch malfunctions.	Run maintenance item U032 and select the paper feeder lower feed H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feeder lower feed H clutch.	Check (see page 1-5-67).
(19) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional right deck paper feed section). Jam code 30	Broken paper feeder lower feed sensor actuator.	Check visually and replace the paper feeder lower feed sensor if its actuator is broken.
	Defective paper feeder lower feed sensor.	Run maintenance item U031 and turn the paper feeder lower feed sensor on and off manually. Replace the paper feeder lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the right deck feed clutch malfunctions.	Run maintenance item U032 and select the right deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the right deck feed clutch.	Check (see page 1-5-68).
(20) A paper jam in the paper feed section is indicated during copying (multiple sheets in optional left deck paper feed section). Jam code 31	Broken left deck left conveying sensor actuator.	Check visually and replace the left deck left conveying sensor if its actuator is broken.
	Defective left deck left conveying sensor.	Run maintenance item U031 and turn the left deck left conveying sensor on and off manually. Replace the left deck left conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the left deck feed clutch malfunctions.	Run maintenance item U032 and select the left deck feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the left deck feed clutch.	Check (see page 1-5-68).
(21) A paper jam in the paper feed section is indicated during copying (multiple sheets in bypass paper feed section). Jam code 32	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the bypass feed clutch malfunctions.	Run maintenance item U032 and select the bypass feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the bypass feed clutch.	Check (see page 1-5-66).
(22) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 35	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(22) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 35	Check if the conveying H clutch malfunctions.	Run maintenance item U032 and select the conveying H clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the conveying H clutch.	Check (see page 1-5-65).
	Check if the conveying L clutch malfunctions.	Run maintenance item U032 and select the conveying L clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the conveying L clutch.	Check (see page 1-5-65).
(23) A paper jam in the fuser section is indicated during copying (jam in fuser section). Jam code 40	Defective fuser conveying sensor.	Run maintenance item U031 and turn the fuser conveying sensor on and off manually. Replace the fuser conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective duplex conveying sensor.	Run maintenance item U031 and turn the duplex conveying sensor on and off manually. Replace the duplex conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-66).
(24) A paper jam in the fuser section is indicated during copying (jam in fuser/eject section). Jam code 41	Defective fuser conveying sensor.	Run maintenance item U031 and turn the fuser conveying sensor on and off manually. Replace the fuser conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken face-down exit sensor actuator.	Check visually and replace the face-down exit sensor if its actuator is broken.
	Defective face-down exit sensor.	Run maintenance item U031 and turn the face-down exit sensor on and off manually. Replace the face-down exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-66).
(25) A paper jam in the eject section is indicated during copying (jam in eject section). Jam code 50	Defective fuser conveying sensor.	Run maintenance item U031 and turn the fuser conveying sensor on and off manually. Replace the fuser conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken face-down exit sensor actuator.	Check visually and replace the face-down exit sensor if its actuator is broken.
	Defective face-down exit sensor.	Run maintenance item U031 and turn the face-down exit sensor on and off manually. Replace the face-down exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(26) A paper jam in the eject section is indicated during copying (jam in fuser/duplex section). Jam code 60	Defective duplex conveying sensor.	Run maintenance item U031 and turn the duplex conveying sensor on and off manually. Replace the duplex conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Check if the registration clutch malfunctions.	Run maintenance item U032 and select the registration clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the registration clutch.	Check (see page 1-5-66).
(27) A paper jam in the duplex section is indicated during copying (jam in duplex guide section). Jam code 61	Defective duplex conveying sensor.	Run maintenance item U031 and turn the duplex conveying sensor on and off manually. Replace the duplex conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex guide sensor actuator.	Check visually and replace the duplex guide sensor if its actuator is broken.
	Defective duplex guide sensor.	Run maintenance item U031 and turn the duplex guide sensor on and off manually. Replace the duplex guide sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(28) A paper jam in the duplex section is indicated during copying (jam in duplex internal tray). Jam code 62	Broken duplex paper entrance sensor actuator.	Check visually and replace the duplex paper entrance sensor if its actuator is broken.
	Defective duplex paper entrance sensor.	Run maintenance item U031 and turn the duplex paper entrance sensor on and off manually. Replace the duplex paper entrance sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex registration sensor actuator.	Check visually and replace the duplex registration sensor if its actuator is broken.
	Defective duplex registration sensor.	Run maintenance item U031 and turn the duplex registration sensor on and off manually. Replace the duplex registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(29) A paper jam in the duplex section is indicated during copying (jam in duplex registration section). Jam code 63	Broken duplex paper entrance sensor actuator.	Check visually and replace the duplex paper entrance sensor if its actuator is broken.
	Defective duplex paper entrance sensor.	Run maintenance item U031 and turn the duplex paper entrance sensor on and off manually. Replace the duplex paper entrance sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex registration sensor actuator.	Check visually and replace the duplex registration sensor if its actuator is broken.
	Defective duplex registration sensor.	Run maintenance item U031 and turn the duplex registration sensor on and off manually. Replace the duplex registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex paper conveying sensor actuator.	Check visually and replace the duplex paper conveying sensor if its actuator is broken.
	Defective duplex paper conveying sensor.	Run maintenance item U031 and turn the duplex conveying sensor on and off manually. Replace the duplex paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(30) A paper jam in the duplex section is indicated during copying (jam in duplex conveying section). Jam code 63	Broken duplex registration sensor actuator.	Check visually and replace the duplex registration sensor if its actuator is broken.
	Defective duplex registration sensor.	Run maintenance item U031 and turn the duplex registration sensor on and off manually. Replace the duplex registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex paper conveying sensor actuator.	Check visually and replace the duplex paper conveying sensor if its actuator is broken.
	Defective duplex paper conveying sensor.	Run maintenance item U031 and turn the duplex paper conveying sensor on and off manually. Replace the duplex paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex eject sensor actuator.	Check visually and replace the duplex eject sensor if its actuator is broken.
	Defective duplex eject sensor.	Run maintenance item U031 and turn the duplex eject sensor on and off manually. Replace the duplex eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(31) A paper jam in the duplex section is indicated during copying (jam in duplex eject section). Jam code 65	Broken duplex paper conveying sensor actuator.	Check visually and replace the duplex paper conveying sensor if its actuator is broken.
	Defective duplex paper conveying sensor.	Run maintenance item U031 and turn the duplex paper conveying sensor on and off manually. Replace the duplex paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken duplex eject sensor actuator.	Check visually and replace the duplex eject sensor if its actuator is broken.
	Defective duplex eject sensor.	Run maintenance item U031 and turn the duplex eject sensor on and off manually. Replace the duplex eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Broken upper feed sensor actuator.	Check visually and replace the upper feed sensor if its actuator is broken.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(32) An original jams in the optional DP is indicated during copying (no original feed). Jam code 70	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(33) An original jams in the optional DP is indicated during copying (jam in the original feed/conveying section 1). Jam code 71	Defective DP timing switch.	Run maintenance item U244 and turn the DP timing switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original feed motor malfunctions.	Run maintenance item U243 and select the original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.

Problem	Causes/check procedures	Corrective measures
(34) An original jams in the optional DP is indicated during copying (jam in the original feed/conveying section 2). Jam code 72	Defective DP timing switch.	Run maintenance item U244 and turn the DP timing switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective original feed switch.	Run maintenance item U244 and turn the original feed switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(35) An original jams in the optional DP is indicated during copying (jam in the original conveying section). Jam code 73	Defective DP timing switch.	Run maintenance item U244 and turn the DP timing switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(36) An original jams in the optional DP is indicated during copying (jam in the original switchback section 1). Jam code 75	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective DP timing switch.	Run maintenance item U244 and turn the DP timing switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the original conveying motor malfunctions.	Run maintenance item U243 and select the original conveying motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(37) An original jams in the optional DP is indicated during copying (jam in the original switchback section 2). Jam code 76	Defective original switchback switch.	Run maintenance item U244 and turn the original switchback switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(38) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the finisher). Jam code 81	The paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper entry sensor.	Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(39) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the finisher and paper ejection to the sub tray). Jam code 82	The sub feed roller is dirty with paper powder.	Check and, if it is dirty, clean it.

Problem	Causes/check procedures	Corrective measures
(39) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the finisher and paper ejection to the sub tray). Jam code 82	The sub feed roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper entry sensor.	Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective sub tray paper ejection sensor.	Run maintenance item U241 and turn the sub tray paper ejection sensor on and off manually. Replace the sub tray paper ejection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(40) A paper jam in the optional document finisher is indicated during copying (paper jam at the siding drum). Jam code 83	The siding drum is dirty with paper powder.	Check and, if it is dirty, clean it.
	The siding drum is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective intermediate tray paper conveying sensor.	Run maintenance item U241 and turn the intermediate tray paper conveying sensor on and off manually. Replace the intermediate tray paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(41) A paper jam in the optional document finisher is indicated during copying (paper jam during paper insertion to the intermediate tray). Jam code 84	The intermediate tray paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The intermediate tray paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective intermediate tray paper conveying sensor.	Run maintenance item U241 and turn the intermediate tray paper conveying sensor on and off manually. Replace the intermediate tray paper conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(42) A paper jam in the optional document finisher is indicated during copying (paper jam during ejection of stack of paper). Jam code 85	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(43) A paper jam in the optional document finisher is indicated during copying (jam in eject section of main tray). Jam code 86	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(44) A paper jam in the optional document finisher is indicated during copying (jam in eject section (middle tray) of main tray). Jam code 87	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(45) A paper jam in the optional document finisher is indicated during copying (jam in eject section of main tray). Jam code 88	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective paper eject sensor.	Run maintenance item U241 and turn the paper eject sensor on and off manually. Replace the paper eject sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(46) A paper jam in the optional document finisher is indicated during copying (jam in cover open). Jam code 89	Defective upper cover switch.	If the voltage at CN3-3 on the finisher main PWB remains the same when the upper cover switch is turned on and off, replace the switch.
	Defective front cover switch.	If the voltage at CN3-4 on the finisher main PWB remains the same when the front cover switch is turned on and off, replace the switch.
	Defective centerfold unit set switch.	If the voltage at CN14-2 on the finisher main PWB remains the same when the centerfold unit set switch is turned on and off, replace the switch.
(47) A paper jam in the optional document finisher is indicated during copying (jam in stapler). Jam code 90	Defective front/rear stapler home position sensor.	If the voltage at CN6-14B and CN6-10B on the finisher main PWB remain the same when the front/rear stapler home position sensor is turned on and off, replace the front/rear stapler driver.
	Defective front/rear clincher home position sensor.	If the voltage at CN6-22A and CN6-23A on the finisher main PWB remain the same when the front/rear clincher home position sensor is turned on and off, replace the front/rear stapler clincher.
(48) A paper jam in the optional document finisher is indicated during copying (jam in saddle paper entry section). Jam code 91	The intermediate tray upper or lower sliding plate is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective lower paper sensor.	Run maintenance item U241 and turn the lower paper sensor on and off manually. Replace the lower paper sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(49) A paper jam in the optional document finisher is indicated during copying (jam in saddle paper entry section). Jam code 92	The paper forwarding pulley, upper or lower forwarding roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper forwarding pulley, upper or lower forwarding roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective centerfold unit paper entry sensor.	Run maintenance item U241 and turn the centerfold unit paper entry sensor on and off manually. Replace the centerfold unit paper entry sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(50) A paper jam in the optional document finisher is indicated during copying (jam in saddle tray section). Jam code 93	The paper entry roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The paper entry roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective inside tray detection sensor.	Run maintenance item U241 and turn the inside tray detection sensor on and off manually. Replace the inside tray detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(51) A paper jam in the optional document finisher is indicated during copying (jam in saddle eject section). Jam code 94	The right or left centerfold roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The right or left centerfold roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective folded edge detection sensor.	Run maintenance item U241 and turn the folded edge detection sensor on and off manually. Replace the folded edge detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(52) A paper jam in the optional document finisher is indicated during copying (jam in saddle eject section). Jam code 95	The eject roller is dirty with paper powder.	Check and, if it is dirty, clean it.
	The eject roller is deformed or worn.	Check and, if it is deformed or worn, fix or replace it.
	Defective folded edge detection sensor.	Run maintenance item U241 and turn the folded edge detection sensor on and off manually. Replace the folded edge detection sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

## 1-5-2 Self-diagnosis

### (1) Self-diagnostic function

This unit is equipped with a self-diagnostic function. When a problem is detected, copying is disabled and the problem displayed as a code consisting of "C" followed by a number between 0030 and 9550, indicating the nature of the problem. A message is also displayed requesting the user to call for service.

After removing the problem, the self-diagnostic function can be reset by turning open/close switch off and back on.



Figure 1-5-3

### List of system errors

When an unexpected error is detected for some reason, a system error will be indicated. (When 0800 error is detected, JAM05 is indicated.) After a system error is indicated, the error can be cleared by turning the power switch off and then on. If the error is detected continuously, however, perform the operation shown in Table 1-5-1. If a system error occurs frequently, a fault may have occurred. Check the details of the C call to take proper measures.

System error	Contents	Operation
0210	CPU communication problem	Repetition of system error → C call → system error
0310	LPH drive PWB communication error	Repetition of system error → C call → system error
0420	Paper feeder communication error 1	Repetition of system error → C call → system error
0440	Finisher communication problem	Repetition of system error → C call → system error
0500	Paper feeder communication error 2	Repetition of system error → C call → system error
0600	DIMM problem	Repetition of system error → C call → system error
0630	DMA problem	Repetition of system error → C call → system error
0640	Hard disk drive problem	Repetition of system error → C call → system error
0800	Secondary feed time-out	Repetition of JAM05 → system error → JAM05
3100	Scanner carriage problem	Repetition of system error → C call → system error
5100	Main high-voltage error	Repetition of system error → C call → system error

Table1-5-1

**Partial operation control**

If any of the following calls for service is detected, partial operation control will be activated. After taking measures against the cause of trouble, run maintenance item U906 to reset partial operation control.

Code	Contents
C0840	RTC problem
C1010	Cassette lift motor error
C1100	Paper feeder upper lift motor error (upper cassette of 1500-sheet paper feeder*)
C1110	Paper feeder middle lift motor error (middle cassette of 1500-sheet paper feeder*)
C1120	Paper feeder lower lift motor error (lower cassette of 1500-sheet paper feeder*)
C1130	Paper feeder lift motor error (cassette of 3000-sheet paper feeder*)
C1140	Right deck lift motor error (right deck of 3000-sheet paper feeder*)
C1150	Left deck lift motor error (left deck of 3000-sheet paper feeder*)
C1160	Paper feeder lift motor error (upper 500-sheet paper feeder*)
C1170	Paper feeder lift motor error (lower 500-sheet paper feeder*)
C1200	Duplex side registration motor error
C8010	Document finisher* paper conveying motor problem
C8020	Document finisher* punch motor problem
C8030	Document finisher* upper paper conveying belt problem
C8040	Document finisher* lower paper conveying belt problem
C8140	Document finisher* main tray problem
C8150	Document finisher* multi job tray problem
C8170	Document finisher* front upper side-registration guide problem
C8180	Document finisher* rear upper side-registration guide problem
C8190	Document finisher* lower side-registration guide problem
C8210	Document finisher* front stapler problem
C8220	Document finisher* front clincher problem
C8230	Document finisher* rear stapler problem
C8240	Document finisher* rear clincher problem
C8300	Document finisher* centerfold unit communication problem
C8310	Document finisher* centerfold unit side-registration guide problem
C8320	Document finisher* centerfold unit centering plate problem
C8330	Document finisher* centerfold blade problem

\*Optional.

## (2) Self diagnostic codes

\*The option equipment.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0030	<b>Fax control PWB* problem</b> <ul style="list-style-type: none"> <li>Processing with the fax software was disable due to a hardware or software problem.</li> </ul>	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0070	<b>Abnormal detection of fax control PWB incompatibility</b> <ul style="list-style-type: none"> <li>In the initial communication with the fax control PWB, any normal communication command is not transmitted.</li> </ul>	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0100	<b>Scanner main PWB backup memory device problem</b> <ul style="list-style-type: none"> <li>Writing or erasing has not completed even after a certain time.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0110	<b>Backup memory data problem A</b> <ul style="list-style-type: none"> <li>Data in the specified area of the backup memory does not match the specified values.</li> </ul>	Problem with the backup memory data.	Turn safety switch 1 off and back on and run maintenance item U020 to set the contents of the backup memory data again.
C0121	<b>EEPROM read error (drum PWB K)</b> <ul style="list-style-type: none"> <li>When data is transmitted to the EEPROM on drum PWB K, the ACK signal is not returned within 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC9 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drum PWB K.	Replace the black process unit (see page 1-6-38).
C0122	<b>EEPROM read error (drum PWB C)</b> <ul style="list-style-type: none"> <li>When data is transmitted to the EEPROM on drum PWB C, the ACK signal is not returned within 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC10 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drum PWB C.	Replace the cyan process unit (see page 1-6-38).
C0123	<b>EEPROM read error (drum PWB M)</b> <ul style="list-style-type: none"> <li>When data is transmitted to the EEPROM on drum PWB M, the ACK signal is not returned within 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC11 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drum PWB M.	Replace the magenta process unit (see page 1-6-38).
C0124	<b>EEPROM read error (drum PWB Y)</b> <ul style="list-style-type: none"> <li>When data is transmitted to the EEPROM on drum PWB Y, the ACK signal is not returned within 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC12 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drum PWB Y.	Replace the yellow process unit (see page 1-6-38).
C0130	<b>Backup memory (EEPROM) device problem</b>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
		Device damage of EEPROM.	Contact the Service Administrative Division.
C0140	<b>Backup memory (EEPROM) data problem</b>	Data damage of EEPROM.	Contact the Service Administrative Division.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0150	<b>Backup memory device problem (Engine controller PWB)</b> <ul style="list-style-type: none"> <li>An error occurs in backup data read or write for the engine controller PWB.</li> <li>An error occurs in control area deletion.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Data damage of EEPROM.	Contact the Service Administrative Division.
C0160	<b>Backup memory data problem (Engine controller PWB)</b> <ul style="list-style-type: none"> <li>Data for backup data check is changed at the check after startup.</li> </ul>	Problem with the backup memory data.	Run maintenance item U020 to initialize the backup memory data (see page 1-4-17).
C0170	<b>Copy counts problem</b> <ul style="list-style-type: none"> <li>A checksum error is detected in the main and sub backup memories for the copy counters.</li> </ul>	Data damage of EEPROM.	Contact the Service Administrative Division.
		Data damage of EEPROM.	Contact the Service Administrative Division.
C0180	<b>Backup memory data problem B</b> <ul style="list-style-type: none"> <li>Backup data on the engine controller PWB has broken.</li> </ul>	Data damage of EEPROM.	Contact the Service Administrative Division if the problem occurs frequently.
C0210	<b>CPU communication problem</b> <ul style="list-style-type: none"> <li>There is no reply after 20 retries at communication.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
		Poor contact in the connector terminals.	Check the connection of the engine controller PWB and scanner main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
C0240	<b>Printer board* communication problem</b> <ul style="list-style-type: none"> <li>The printer board does not respond 120 seconds after the power is turned on.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC6 on the engine controller-printer board relay PWB and the connector on the printer board. Repair or replace if necessary.
		DIMM installed incorrectly.	Check the connection. Repair or replace if necessary.
		Defective engine controller-printer board relay PWB or printer board.	Replace the printer board and check for correct operation. Contact the Service Administrative Division if the problem is not solved.
C0250	<b>Network scanner board* communication problem</b> <ul style="list-style-type: none"> <li>There is no reply after 20 retries at communication.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC14 on the scanner main PWB and the connector on the network scanner board. Repair or replace if necessary.
		Defective scanner main PWB or network scanner board.	Replace the scanner main PWB or network scanner board and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0280	<b>Abnormal communication between scanner MIP PWB and fax control PWB</b> <ul style="list-style-type: none"> <li>After scanner MIP PWB status change signal turns on 1 minute, when it does not receive key required command from the fax control PWB, one time it resets the FAX. After that, while scanner MIP PWB status change signal turns on furthermore 1 minute, when it does not receive key required command from the fax control PWB.</li> <li>When FAX_READY signal continues "fake" for 6 s, one time it resets the FAX. After that, when FAX_READY "fake" continues "fake" for 6 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC3 on the scanner MIP PWB and the connector CN1 on the fax control PWB. Repair or replace if necessary.
		Defective scanner MIP PWB or fax control PWB.	Replace the scanner MIP PWB or fax control PWB and check for correct operation.
C0310	<b>LPH drive PWB communication error</b> <ul style="list-style-type: none"> <li>When an error in communication with the CPU for LPH control on the LPH drive PWB is detected, transmission/reception is not normally completed even after 10 times of retry.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC31 on the engine controller PWB and the connector YC2 on the LPH drive PWB. Repair or replace if necessary.
		Defective LPH drive PWB.	Replace the LPH drive PWB.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C0420	<b>Paper feeder communication error 1 (upper of optional 500-sheet paper feeder)</b> <ul style="list-style-type: none"> <li>Reception is not normally completed even after 40 times of retry at startup or 5 times of retry in normal operation.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB and the connector YC2 on the paper feeder main PWB. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional upper paper feeder.	Replace the paper feeder with another unit and check the operation. If the operation is normal, replace or repair the upper of the optional paper feeder (see the service manual for the paper feeder).
C0440	<b>Document finisher communication problem (optional document finisher)</b> <ul style="list-style-type: none"> <li>Reception is not normally completed even after 40 times of retry at startup or 5 times of retry in normal operation.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC26 on the engine controller PWB and the connector on the finisher main PWB. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional document finisher.	Replace the document finisher with another unit and check the operation. If the operation is normal, replace or repair the optional document finisher (see the service manual for the document finisher).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0500	<b>Paper feeder communication error 1 (lower of optional 500 sheets paper feeder)</b> <ul style="list-style-type: none"> <li>Reception is not normally completed even after 40 times of retry at startup or 5 times of retry in normal operation.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB and the connector YC9 on the paper feeder main PWB of upper paper feeder. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional lower paper feeder.	Replace the paper feeder with another unit and check the operation. If the operation is normal, replace or repair the lower of the optional paper feeder (see the service manual for the paper feeder).
C0600	<b>DIMM problem</b> <ul style="list-style-type: none"> <li>The DIMM mounted on the scanner main PWB does not operate correctly.</li> </ul>	DIMM installed incorrectly.	Check if the DIMM is inserted into the socket on the scanner main PWB correctly.
		Defective DIMM.	Replace DIMM and check for correct operation.
		Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0610	<b>Bitmap problem</b> <ul style="list-style-type: none"> <li>The DIMM on the scanner main PWB does not operate correctly.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0630	<b>DMA problem</b> <ul style="list-style-type: none"> <li>DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0640	<b>Hard disk problem</b> <ul style="list-style-type: none"> <li>The hard disk cannot be accessed.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
		Defective memory copy board.	Replace the memory copy board and check for correct operation.
		Defective hard disk.	Replace the hard disk device and check for correct operation.
C0700	<b>Paper feeder EEPROM error 1 (upper of optional 500-sheet paper feeder)</b> <ul style="list-style-type: none"> <li>When power is turned on, an error is detected in memory check for the upper of the optional 500-sheet paper feeder and a backup memory error is received in serial communication data.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB and the connector YC2 on the paper feeder main PWB. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional upper paper feeder.	Replace the paper feeder with another unit and check the operation. If the operation is normal, replace or repair the upper of the optional paper feeder (see the service manual for the paper feeder).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0710	<b>Paper feeder EEPROM error 2 (lower of optional 500-sheet paper feeder)</b> <ul style="list-style-type: none"> <li>When power is turned on, an error is detected in memory check for the lower of the optional 500-sheet paper feeder and a backup memory error is received in serial communication data.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB and the connector YC9 on the paper feeder main PWB of upper paper feeder. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional lower paper feeder.	Replace the paper feeder with another unit and check the operation. If the operation is normal, replace or repair the lower of the optional paper feeder (see the service manual for the paper feeder).
C0750	<b>Document finisher* EEPROM error</b> <ul style="list-style-type: none"> <li>A backup memory error is received in serial communication data from the finisher.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC26 on the engine controller PWB and the connector on the finisher main PWB. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective optional document finisher.	Replace the document finisher with another unit and check the operation. If the operation is normal, replace or repair the document finisher (see the service manual for the document finisher).
C0810	<b>SCC microcomputer status problem</b> <ul style="list-style-type: none"> <li>Abnormal SCC microcomputer status has been detected.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0820	<b>Fax control PWB* CG ROM checksum error</b> <ul style="list-style-type: none"> <li>A checksum error occurred with the CG ROM data of the fax control PWB.</li> </ul>	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0830	<b>Fax control PWB* flash program area checksum error</b> <ul style="list-style-type: none"> <li>A checksum error occurred with the program of the fax control PWB.</li> </ul>	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0840	<b>RTC problem</b> <ul style="list-style-type: none"> <li>The time is judged to go back based on the comparison of the RTC time and the current time or five years or more have passed.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
C0860	<b>Fax control PWB* software switch checksum error</b> <ul style="list-style-type: none"> <li>A checksum error occurred with the software switch value of the fax control PWB.</li> </ul>	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
C0870	<b>Graphics data transfer problem</b> <ul style="list-style-type: none"> <li>High-capacity data transfer between the fax control PWB and the scanner MIP PWB was not normally performed even if the data transfer was retried the specified times.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC3 on the scanner MIP PWB and CN1 on the fax control PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner MIP PWB or fax control PWB.	Replace the scanner MIP PWB or fax control PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
<b>C0880</b>	<b>Program archive problem</b> • When power is turned on, the compressed program in the Flash ROM on the fax control PWB was not successfully decompressed.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
<b>C0890</b>	<b>Fax control PWB* CG FONT archive problem</b> • When power is turned on, the compressed CG font in the Flash ROM on the fax control PWB was not successfully decompressed.	Defective fax control PWB.	Replace the fax control PWB and check for correct operation.
<b>C0951</b>	<b>LPH current correction EEPROM error</b> • A correction data error for the fourth color (black) is detected.	Defective EEPROM of LPH drive PWB.	Rewrite the correction data (see page 1-6-67).
<b>C0952</b>	<b>LPH current correction EEPROM error</b> • A correction data error for the second color (cyan) is detected.	Defective EEPROM of LPH drive PWB.	Rewrite the correction data (see page 1-6-67).
<b>C0953</b>	<b>LPH current correction EEPROM error</b> • A correction data error for the first color (magenta) is detected.	Defective EEPROM of LPH drive PWB.	Rewrite the correction data (see page 1-6-67).
<b>C0954</b>	<b>LPH current correction EEPROM error</b> • A correction data error for the third color (yellow) is detected.	Defective EEPROM of LPH drive PWB.	Rewrite the correction data (see page 1-6-67).
<b>C1010</b>	<b>Cassette lift motor error</b> • The bottom plate limit detection sensor is not turned on within 9,000 ms after the cassette is inserted and the sensor is not turned on within 200 ms at the second time and after.	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective cassette lift motor.	Replace the cassette lift motor (see page 1-6-62).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
<b>C1100</b>	<b>Paper feeder upper lift motor error (upper cassette of 1500-sheet paper feeder*)</b> • The paper feeder upper limit detection sensor is not turned on within 10,000 ms after the upper cassette is inserted and the sensor is not turned on within 200 ms at the second time and after.	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder upper lift motor.	Replace the paper feeder upper lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
<b>C1110</b>	<b>Paper feeder middle lift motor error (middle cassette of 1500-sheet paper feeder*)</b> • The paper feeder middle limit detection sensor is not turned on within 10,000 ms after the middle cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder middle lift motor.	Replace the paper feeder middle lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1120	<b>Paper feeder lower lift motor error (lower cassette of 1500-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The paper feeder lower limit detection sensor is not turned on within 10,000 ms after the lower cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder lower lift motor.	Replace the paper feeder lower lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C1130	<b>Paper feeder lift motor error (cassette of 3000-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The paper feeder limit detection sensor is not turned on within 10,000 ms after the cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder lift motor.	Replace the paper feeder lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C1140	<b>Right deck lift motor error (right deck of 3000-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The right deck limit detection sensor is not turned on within 60,000 ms after the right deck is inserted and the sensor is not turned on within 1,000 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective right deck lift motor.	Replace the right deck lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C1150	<b>Left deck lift motor error (left deck of 3000-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The left deck limit detection sensor is not turned on within 60,000 ms after the left deck is inserted and the sensor is not turned on within 1,000 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found.
		Defective left deck lift motor.	Replace the left deck lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C1160	<b>Paper feeder lift motor error (upper 500-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The paper feeder limit detection sensor is not turned on within 10,000 ms after the cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder lift motor.	Replace the paper feeder lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1170	<b>Paper feeder lift motor error (lower 500-sheet paper feeder*)</b> <ul style="list-style-type: none"> <li>The paper feeder limit detection sensor is not turned on within 10,000 ms after the cassette is inserted and the sensor is not turned on within 500 ms at the second time and after.</li> </ul>	Defective bottom plate elevation mechanism.	Check to see if the bottom plate can move smoothly and repair it if any problem is found. (See the service manual for the paper feeder.)
		Defective paper feeder lift motor.	Replace the paper feeder lift motor.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C1200	<b>Duplex side registration motor error</b> <ul style="list-style-type: none"> <li>The duplex side registration home position sensor does not detect the home position of the side registration guide.</li> </ul>	Defective duplex side registration home position sensor.	Check the connection of connector YC29 on the engine controller PWB and the connector YC1 on the duplex PWB. Repair or replace if necessary.
		Defective duplex side registration motor.	Replace the duplex side registration motor. (See the service manual for the duplexer.)
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2101	<b>Developing K/fuser motor error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 1 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB and the connector of the developing K/fuser motor. Repair or replace if necessary.
		Defective developing K/fuser motor.	Replace the developing K/fuser motor (see page 1-6-65).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2102	<b>Developing MCY motor error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 1 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC6 on the engine controller PWB and the connector of the developing MCY motor. Repair or replace if necessary.
		Defective developing MCY motor.	Replace the developing MCY motor (see page 1-6-59).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2201	<b>Drum motor K error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 3 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine controller PWB and the connector of the drum motor K. Repair or replace if necessary.
		Defective drum motor K.	Replace the drum motor K (see page 1-6-60).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2202	<b>Drum motor C error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 3 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine controller PWB and the connector of the drum motor C. Repair or replace if necessary.
		Defective drum motor C.	Replace the drum motor C (see page 1-6-60).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2203	<b>Drum motor M error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 3 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine controller PWB and the connector of the drum motor M. Repair or replace if necessary.
		Defective drum motor M.	Replace the drum motor M (see page 1-6-60).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2204	<b>Drum motor Y error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 3 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine controller PWB and the connector of the drum motor Y. Repair or replace if necessary.
		Defective drum motor Y.	Replace the drum motor Y (see page 1-6-60).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2500	<b>Paper feed motor error</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 1 s elapses, the rated speed reach signal is not input continuously for 2 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC23 on the engine controller PWB and YC1 on the clutch PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective paper feed motor.	Replace the paper feed motor (see page 1-6-63).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2600	<b>Paper feeder main motor error (optional 1500-sheet paper feeder/ 3000-sheet paper feeder)</b> <ul style="list-style-type: none"> <li>After the motor drive ON signal is output and 2 s elapse, paper feed motor error communication data is transmitted continuously for 1 s.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC27 on the engine controller PWB. Repair or replace if necessary.
		Defective paper feeder main motor.	Replace the paper feeder main motor. (See the service manual for the paper feeder.)
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C2700	<b>Transfer roller lift motor error</b> <ul style="list-style-type: none"> <li>Even if 5,000 ms elapse after the transfer roller lift motor drive signal is turned on, the transfer lift home position sensor is not turned on.</li> <li>Even if 5,000 ms elapse after the transfer roller lift motor drive ON signal is output, the transfer lift home position sensor is not turned off.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC4 on the engine controller PWB or connectors YC1 and YC2 on the transfer relay PWB for any problem, and repair them if any problem is found.
		Defective transfer roller lift home position sensor.	Replace the transfer roller lift home position sensor.
		Defective transfer roller lift motor.	Replace the transfer roller lift motor.
		<i>Misfeed in the conveying section or fuser section.</i>	<i>Remove the jammed paper completely.</i>
C2710	<b>Waste toner box motor error</b> <ul style="list-style-type: none"> <li>After the motor drive remote signal is turned on, the overcurrent detection signal is detected continuously for more than 200 ms.</li> </ul>	Overload on the waste toner box motor.	Check to see if the waste toner in the waste toner box is solidified. If any problem is found, replace the waste toner box.
		Defective waster toner box motor.	Replace the waster toner box motor.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3100	<b>Scanner carriage problem</b> <ul style="list-style-type: none"> <li>The home position is not correct when the power is turned on or at the start of copying using the bypass table.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
		Defective scanner home position switch.	Replace the scanner home position switch.
		Defective scanner motor.	Replace the scanner motor.
		Poor contact in the connector terminals.	Check the connection of connector YC19 on the scanner main PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective mirror flame, exposure lamp or scanner wire.	Check if the mirror flames and exposure lamp are on the rail. And check the scanner wire winds correctly.
C3200	<b>Exposure lamp problem</b> <ul style="list-style-type: none"> <li>Check the CCD input value for the lighting status of the exposure lamp 500 ms after the exposure lamp is lit and the carriage is moved to the shading position. If the exposure lamp does not light, a further 100 ms later, check the CCD input. The exposure lamp does not light after 50 retries.</li> </ul>	Defective scanner main PWB.	Replace the scanner main PWB and check for correct operation (see page 1-6-50).
		Defective exposure lamp or inverter PWB.	Replace the exposure lamp or inverter PWB.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the scanner home position switch.
		Poor contact of the connector terminals.	Check the connection of connector YC19 on the scanner main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner sub PWB or CCD PWB.	<i>Replace the scanner sub PWB or CCD PWB and check for correct operation (see page 1-6-50).</i>
C5100	<b>Main high-voltage error</b> <ul style="list-style-type: none"> <li>While the main high-voltage output remote signal is on, an alarm signal is detected continuously for 400 ms.</li> </ul>	Leak of main high-voltage.	Check the main charger unit and replace if necessary.
		Poor contact in the connector terminals.	Check the connection of connector CH-1 on the main high voltage PWB, and the continuity across the connector terminals. Repair or replace if necessary.
C5301	<b>Eraser lamp K break error</b> <ul style="list-style-type: none"> <li>After the eraser lamp K ON signal is turned on, the eraser lamp K break signal is detected continuously for 200 ms.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC9 on the engine controller PWB and the connector of the eraser lamp K, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective eraser lamp K.	Replace the black process unit (see page 1-6-38).
C5302	<b>Eraser lamp C break error</b> <ul style="list-style-type: none"> <li>After the eraser lamp C ON signal is turned on, the eraser lamp C break signal is detected continuously for 200 ms.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC10 on the engine controller PWB and the connector of the eraser lamp C, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective eraser lamp C.	Replace the cyan process unit (see page 1-6-38).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5303	<b>Eraser lamp M break error</b> <ul style="list-style-type: none"> <li>After the eraser lamp M ON signal is turned on, the eraser lamp M break signal is detected continuously for 200 ms.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC11 on the engine controller PWB and the connector of the eraser lamp M, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective eraser lamp M.	Replace the magenta process unit (see page 1-6-38).
C5304	<b>Eraser lamp Y break error</b> <ul style="list-style-type: none"> <li>After the eraser lamp Y ON signal is turned on, the eraser lamp Y break signal is detected continuously for 200 ms.</li> </ul>	Poor contact in the connector terminals.	Check the connection of connector YC12 on the engine controller PWB and the connector of the eraser lamp Y, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective eraser lamp Y.	Replace the yellow process unit (see page 1-6-38).
C6000	<b>Upper fuser heater lamp break</b> <ul style="list-style-type: none"> <li>The time for increasing the temperature at the upper fuser heater lamp to 60 °C/140 °F during warm-up exceeds 100 s from the start of warm-up. Then, the time for increasing the temperature from 60 °C/140 °F to 120 °C/248 °F exceeds 100 s.</li> </ul>	Installation defectiveness on upper fuser thermistor.	Check the mounting state of the upper fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Defective upper fuser thermostat.	Replace the upper fuser thermostat (see page 1-6-43).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Defective fuser PWB.	Replace the fuser PWB.
		Connected malfunction of electric wire on upper fuser thermistor or connected malfunction of connector terminal.	Check the cable of the upper fuser thermistor and the connection of the fuser PWB for any problem. If any problem is found, repair it.
		Defective upper fuser heater lamp.	Replace the upper fuser heater lamp (see page 1-6-43).
C6020	<b>Upper fuser thermistor high-temperature detection error</b> <ul style="list-style-type: none"> <li>The temperature at the upper fuser roller 205 °C/401 °F or more is detected continuously for 5 s.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective fuser PWB.	Replace the fuser PWB.
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Installation defectiveness on upper fuser thermistor.	Check the mounting state of the upper fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Defective upper fuser thermistor.	Replace the upper fuser thermistor (see page 1-6-43).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6030	<b>Upper fuser thermistor break error</b> <ul style="list-style-type: none"> <li>After the fuser heater lamp is turned on, the temperature at the upper fuser roller lower than 40 °C/104 °F continues for 30 s.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective harness between fuser PWB and upper fuser thermistor, or poor contact of the connector terminals.	Check the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective harness between fuser PWB and fuser unit connectors.	Check the continuity of the harness and the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective harness between power supply PWB and fuser unit connectors.	Check the continuity of the harness and the connection of connector YC902 on the power supply PWB. Repair if necessary.
		Defective fuser PWB.	Replace the fuser PWB.
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Installation defectiveness on upper fuser thermistor.	Check the mounting state of the upper fuser thermistor. If any problem is found, repair it (see page 1-6-43).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
<b>C6050</b>	<b>Upper fuser thermistor abnormal temperature detection</b> <ul style="list-style-type: none"> <li>During copying, the temperature at the upper fuser roller lower than 120 °C/ 248 °F is detected continuously for 5 s.</li> </ul>	Installation defectiveness on upper fuser thermistor.	Check the mounting state of the upper fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Operation on upper fuser thermostat.	Replace the upper fuser thermostat (see page 1-6-43).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Defective fuser PWB.	Replace the fuser PWB.
		Defective harness between fuser PWB and upper fuser thermistor, or poor contact of the connector terminals.	Check the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective upper fuser heater lamp.	Replace the upper fuser heater lamp (see page 1-6-43).
		Defective harness between fuser unit connectors and upper fuser heater lamp.	Check the continuity of the harness and the insertion of connectors of the fuser PWB. Repair if necessary.
<b>C6100</b>	<b>Lower fuser heater lamp break</b> <ul style="list-style-type: none"> <li>The time for increasing the temperature at the upper fuser heater lamp to 60 °C/140 °F during warm-up exceeds 100 s from the start of warm-up. Then, the time for increasing the temperature from 60 °C/140 °F to 120 °C/218 °F exceeds 100 s.</li> </ul>	Installation defectiveness on lower fuser thermistor.	Check the mounting state of the lower fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Operation on lower fuser thermostat.	Replace the lower fuser thermostat (see page 1-6-43).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Defective fuser PWB.	Replace the fuser PWB.
		Defective harness of lower fuser thermistor, or poor contact of the connector terminals.	Check the continuity of the harness of the lower fuser thermistor and the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective lower fuser heater lamp.	Replace the lower fuser heater lamp (see page 1-6-43).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6120	<b>Lower fuser thermistor detection error</b> <ul style="list-style-type: none"> <li>The temperature at the lower fuser roller 205 °C/401 °F or more is detected continuously for 5 s.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective fuser PWB.	Replace the fuser PWB.
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Installation defectiveness on lower fuser thermistor.	Check the mounting state of the lower fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Defective lower fuser thermistor.	Replace the lower fuser thermistor (see page 1-6-43).
C6130	<b>Lower fuser thermistor break error</b> <ul style="list-style-type: none"> <li>After the fuser heater lamp is turned on, the temperature at the upper fuser roller lower than 40 °C/104 °F continues for 30 s.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective harness between fuser PWB and lower fuser thermistor, or poor contact of the connector terminals.	Check the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective harness between fuser PWB and fuser unit connectors.	Check the continuity of the harness and the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective harness between power supply PWB and fuser unit connectors.	Check the continuity of the harness and the insertion of connectors of the power supply PWB. Repair if necessary.
		Defective fuser PWB.	Replace the fuser PWB.
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Installation defectiveness on lower fuser thermistor.	Check the mounting state of the lower fuser thermistor. If any problem is found, repair it (see page 1-6-43).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6150	<b>Lower fuser thermistor abnormal temperature detection</b> <ul style="list-style-type: none"> <li>During copying, the temperature at the lower fuser roller lower than 100 °C/ 212 °F is detected continuously for 5 s.</li> </ul>	Installation defectiveness on lower fuser thermistor.	Check the mounting state of the lower fuser thermistor. If any problem is found, repair it (see page 1-6-43).
		Operation on lower fuser thermostat.	Replace the lower fuser thermostat (see page 1-6-43).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
		Defective fuser PWB.	Replace the fuser PWB.
		Defective harness between fuser PWB and upper fuser thermistor, or poor contact of the connector terminals.	Check the insertion of connectors of the fuser PWB. Repair if necessary.
		Defective lower fuser heater lamp.	Replace the lower fuser heater lamp (see page 1-6-43).
		Defective harness between fuser unit connectors and lower fuser heater lamp.	Check the continuity of the harness and the insertion of connectors of the fuser PWB. Repair if necessary.
C6400	<b>Zero-cross signal error</b> <ul style="list-style-type: none"> <li>After power is turned on, the zero-cross signal is not input within 3 s.</li> <li>While fuser heater ON/OFF control is performed, the zero-cross signal is not input within 5 s.</li> </ul>	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Defective power supply PWB.	Replace the power supply PWB (see page 1-6-53).
C6410	<b>Fuser unit insertion error</b> <ul style="list-style-type: none"> <li>Improper adaptation of the machine and the fuser unit is detected.</li> </ul>	Fuser unit connector inserted incorrectly.	Reinsert the fuser unit connector if necessary.
		Defective fuser unit connector.	Replace the fuser unit (see page 1-6-42).
C6420	<b>Fuser fuse cut error (metric specifications only)</b> <ul style="list-style-type: none"> <li>After a new fuser unit is installed and the fuse cut signal is turned on and then the fuse cut signal is turned off after 3,000 ms, the fuse cannot be cut.</li> </ul>	Fuser unit is not conformed.	Check parts number of fuser unit and install correct unit.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7001	<b>Toner motor K error</b> <ul style="list-style-type: none"> <li>After the toner motor K drive signal is turned on, the toner motor K overcurrent detection signal is detected continuously for 180 x 50 ms.</li> </ul>	Defective toner motor K.	Replace the toner motor K (see page 1-6-61).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7002	<b>Toner motor C error</b> • After the toner motor C drive signal is turned on, the toner motor C overcurrent detection signal is detected continuously for 180 x 50 ms.	Defective toner motor C.	Replace the toner motor C (see page 1-6-61).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7003	<b>Toner motor M error</b> • After the toner motor M drive signal is turned on, the toner motor M overcurrent detection signal is detected continuously for 180 x 50 ms.	Defective toner motor M.	Replace the toner motor M (see page 1-6-61).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7004	<b>Toner motor Y error</b> • After the toner motor Y drive signal is turned on, the toner motor Y overcurrent detection signal is detected continuously for 180 x 50 ms.	Defective toner motor Y.	Replace the toner motor Y (see page 1-6-61).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7101	<b>Toner sensor K error</b> • The value of input from toner sensor K is 4.5 V or more or 0.5 V or less.	Defective toner sensor K.	Replace the black process unit (see page 1-6-38).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7102	<b>Toner sensor C error</b> • The value of input from toner sensor C is 4.5 V or more or 0.5 V or less.	Defective toner sensor C.	Replace the cyan process unit (see page 1-6-38).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7103	<b>Toner sensor M error</b> • The value of input from toner sensor M is 4.5 V or more or 0.5 V or less.	Defective toner sensor M.	Replace the magenta process unit (see page 1-6-38).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7104	<b>Toner sensor Y error</b> • The value of input from toner sensor Y is 4.5 V or more or 0.5 V or less.	Defective toner sensor Y.	Replace the yellow process unit (see page 1-6-38).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7200	<b>Broken internal thermistor wire</b> • The value of input from the internal thermistor 4.5 V or more is detected.	Poor contact in the connector terminals.	Check the connection of connector YC39 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7210	<b>Short-circuited internal thermistor</b> • The value of input from the internal thermistor 0.3 V or less is detected.	Poor contact in the connector terminals.	Check the connection of connector YC39 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7301	<b>Toner hopper error (black process unit)</b> <ul style="list-style-type: none"> <li>When black toner is replenished (simple replenishment), if the replenishment release level is not reached even if black toner is replenished for 3 s (1 s) with the black toner low level not detected, the state is regarded as a black toner container non-installing error. This error occurs four times.</li> </ul>	Black toner container is not installed.	Check the state of the black toner container and install it properly.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7302	<b>Toner hopper error (cyan process unit)</b> <ul style="list-style-type: none"> <li>When cyan toner is replenished (simple replenishment), if the replenishment release level is not reached even if cyan toner is replenished for 3 s (1 s) with the black toner low level not detected, the state is regarded as a cyan toner container non-installing error. This error occurs four times.</li> </ul>	Cyan toner container is not installed.	Check the state of the cyan toner container and install it properly.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7303	<b>Toner hopper error (magenta process unit)</b> <ul style="list-style-type: none"> <li>When magenta toner is replenished (simple replenishment), if the replenishment release level is not reached even if magenta toner is replenished for 3 s (1 s) with the magenta toner low level not detected, the state is regarded as a magenta toner container non-installing error. This error occurs four times.</li> </ul>	Magenta toner container is not installed.	Check the state of the magenta toner container and install it properly.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7304	<b>Toner hopper error (yellow process unit)</b> <ul style="list-style-type: none"> <li>When yellow toner is replenished (simple replenishment), if the replenishment release level is not reached even if yellow toner is replenished for 3 s (1 s) with the yellow toner low level not detected, the state is regarded as a yellow toner container non-installing error. This error occurs four times.</li> </ul>	Yellow toner container is not installed.	Check the state of the yellow toner container and install it properly.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7420	<b>Transfer belt unit insertion error (metric specifications only)</b> <ul style="list-style-type: none"> <li>Improper adaptation of the copier and the transfer belt unit is detected.</li> </ul>	Transfer belt unit connector inserted incorrectly.	Reinsert the transfer belt unit connector if necessary.
		Defective transfer belt unit connector.	Replace the transfer belt unit.
C7600	<b>Toner ID sensor problem</b> <ul style="list-style-type: none"> <li>The sampling input of toner ID sensor 1 and toner ID sensor 2 without patch exceeds the threshold respectively.</li> </ul>	Defective toner ID sensor 1 or 2.	Replace the transfer unit (see page 1-6-37).
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7610	<b>Image density measurement timing problem</b> <ul style="list-style-type: none"> <li>The measured value of density patch is abnormal.</li> </ul>	Faulty density due to a mechanical cause.	Check the drum unit, high voltage unit, developing unit, and transfer unit. If any problem is found, replace the unit.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7620	<b>Color registration timing error</b> • The number of PG lines for registration correction 32 is not detected properly.	Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
		Faulty density due to a mechanical cause.	Check the drum unit, high voltage unit, developing unit, and transfer unit. If any problem is found, replace the unit.
C7800	<b>Broken external thermistor wire</b> • The thermistor output value is 4.5 V or more.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C7810	<b>Short-circuited external thermistor</b> • The thermistor input value is 0.5 V or less.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine controller PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
C8010	<b>Document finisher* paper conveying motor problem</b> • The LOCK signal of the paper conveying motor is detected for more than 500 ms while the paper conveying motor is operating. However, the first 1 s after the paper conveying motor is turned on is excluded from detection.	Loose connection of the paper conveying motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper conveying motor.	Replace the paper conveying motor and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8020	<b>Document finisher* punch motor problem</b> • The LOCK signal of the punch motor is detected for more than 500 ms while the punch motor is operating. However, the first 1 s after the punch motor is turned on is excluded from detection.	Loose connection of the punch motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective punch motor.	Replace the punch motor and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8030	<p><b>Document finisher* upper paper conveying belt problem</b></p> <ul style="list-style-type: none"> <li>During initialization, the intermediate tray upper sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the upper paper conveying belt.</li> <li>When the intermediate tray upper sliding plate is operated from the home position, the upper paper conveying belt home position sensor does not turn off within 1 s.</li> </ul>	Phase shift of the upper paper conveying belt.	Correct the phase of the upper paper conveying belt and check for correct operation.
		Malfunction of the upper paper conveying belt motor.	Replace the upper paper conveying belt motor and check for correct operation.
		Malfunction of the upper paper conveying belt home position sensor.	Replace the upper paper conveying belt home position sensor and check for correct operation.
		Loose connection of the upper paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8040	<p><b>Document finisher* lower paper conveying belt problem</b></p> <ul style="list-style-type: none"> <li>During initialization, the intermediate tray lower sliding plate is not detected in the home position within 3 s after the belt returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem reoccurs after initialization when the front cover is opened and closed, the problem is in the lower paper conveying belt.</li> <li>When the intermediate tray lower sliding plate is operated from the home position, the lower paper conveying belt home position sensor does not turn off within 1 s.</li> </ul>	Phase shift of the lower paper conveying belt.	Correct the phase of the lower paper conveying belt and check for correct operation.
		Malfunction of the lower paper conveying belt motor.	Replace the lower paper conveying belt motor and check for correct operation.
		Malfunction of the lower paper conveying belt home position sensor.	Replace the lower paper conveying belt home position sensor and check for correct operation.
		Loose connection of the lower paper conveying belt home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Incorrect insertion of the intermediate tray.	Check whether the intermediate tray catches are damaged.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.



Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8140	<b>Document finisher* main tray problem</b> <ul style="list-style-type: none"> <li>When the main tray is not detected by the main tray upper limit detection sensor or the main tray load detection sensor within 20 s from the moment it starts ascending.</li> <li>During main tray descent, the main tray upper limit detection sensor or the main tray load detection sensor does not turn off within 500 ms after it turns on.</li> <li>During main tray ascent, the main tray upper limit detection sensor or the main tray load detection sensor stays on for more than 2 s.</li> </ul>	Loose connection of the main tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the main tray elevation motor.	Replace the main tray elevation motor and check for correct operation.
		Malfuction of the main tray upper limit detection sensor.	Replace the main tray upper limit detection sensor and check for correct operation.
		Loose connection of the main tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the main tray load detection sensor.	Replace the main tray load detection sensor and check for correct operation.
		Loose connection of the main tray load detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8150	<b>Document finisher* multi job tray problem</b> <ul style="list-style-type: none"> <li>When the multi job tray is not detected by the multi job tray upper limit detection sensor within 15 s from the moment it starts ascending.</li> <li>During multi job tray descent, the multi job tray upper limit detection sensor does not turn off within 500 ms after it turns on.</li> </ul>	Loose connection of the multi job tray elevation motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfuction of the multi job tray elevation motor.	Replace the multi job tray elevation motor and check for correct operation.
		Malfuction of the multi job tray upper limit detection sensor.	Replace the multi job tray upper limit detection sensor and check for correct operation.
		Loose connection of the multi job tray upper limit detection sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8170	<p><b>Document finisher* front upper side-registration guide problem</b></p> <ul style="list-style-type: none"> <li>During initialization, the front upper side-registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front upper side-registration guide.</li> <li>When the front upper side-registration guide is operated from the home position, the front upper side-registration home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the front upper side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front upper side-registration guide motor.	Replace the front upper side-registration guide motor and check for correct operation.
		Malfunction of the front upper side-registration guide home position sensor.	Replace the front upper side-registration guide home position sensor and check for correct operation.
		Loose connection of the front upper side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8180	<p><b>Document finisher* rear upper side-registration guide problem</b></p> <ul style="list-style-type: none"> <li>During initialization, the rear upper side-registration guide is not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear upper side-registration guide.</li> <li>When the rear upper side-registration guide is operated from the home position, the rear upper side-registration home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the rear upper side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear upper side-registration guide motor.	Replace the rear upper side-registration guide motor and check for correct operation.
		Malfunction of the rear upper side-registration guide home position sensor.	Replace the rear upper side-registration guide home position sensor and check for correct operation.
		Loose connection of the rear upper side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8190	<b>Document finisher* lower side-registration guide problem</b> <ul style="list-style-type: none"> <li>During initialization, the front/rear lower side-registration guides are not detected in the home position within 1.5 s after the guide returns to the home position. JAM87 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the lower side-registration guide.</li> <li>When the lower side-registration guide is operated from the home position, the lower side-registration home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the lower side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the lower side-registration guide motor.	Replace the lower side-registration guide motor and check for correct operation.
		Malfunction of the lower side-registration guide home position sensor.	Replace the lower side-registration guide home position sensor and check for correct operation.
		Loose connection of the lower side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8210	<b>Document finisher* front stapler problem</b> <ul style="list-style-type: none"> <li>During initialization, the front stapler is not detected in the home position within 500 ms after the front stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front stapler.</li> <li>When the front stapler is operated from the home position, the front stapler home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the front stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front stapler motor.	Replace the front stapler motor and check for correct operation.
		Malfunction of the front stapler home position sensor.	Replace the front stapler home position sensor and check for correct operation.
		Loose connection of the front stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8220	<b>Document finisher* front clincher problem</b> <ul style="list-style-type: none"> <li>During initialization, the front clincher is not detected in the home position within 500 ms after the front clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the front clincher.</li> <li>When the front clincher is operated from the home position, the front clincher home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the front clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the front clincher motor.	Replace the front clincher motor and check for correct operation.
		Malfunction of the front clincher home position sensor.	Replace the front clincher home position sensor and check for correct operation.
		Loose connection of the front clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

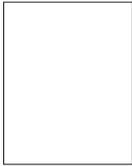
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8230	<b>Document finisher* rear stapler problem</b> <ul style="list-style-type: none"> <li>During initialization, the rear stapler is not detected in the home position within 500 ms after the rear stapler returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear stapler.</li> <li>When the rear stapler is operated from the home position, the rear stapler home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the rear stapler motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear stapler motor.	Replace the rear stapler motor and check for correct operation.
		Malfunction of the rear stapler home position sensor.	Replace the rear stapler home position sensor and check for correct operation.
		Loose connection of the rear stapler home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8240	<b>Document finisher* rear clincher problem</b> <ul style="list-style-type: none"> <li>During initialization, the rear clincher is not detected in the home position within 500 ms after the rear clincher returns to the home position. JAM90 is indicated the first time this problem occurs. If the problem occurs after initialization when the front cover is opened and closed, the problem is in the rear clincher.</li> <li>When the rear clincher is operated from the home position, the rear clincher home position sensor does not turn off within 500 ms.</li> </ul>	Loose connection of the rear clincher motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the rear clincher motor.	Replace the rear clincher motor and check for correct operation.
		Malfunction of the rear clincher home position sensor.	Replace the rear clincher home position sensor and check for correct operation.
		Loose connection of the rear clincher home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8300	<b>Document finisher* centerfold unit communication problem</b> <ul style="list-style-type: none"> <li>Communication with the centerfold unit is not possible although the connection is detected.</li> </ul>	Loose connection of the centerfold unit set switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit set switch.	Replace the centerfold unit set switch and check for correct operation.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8310	<b>Document finisher* centerfold unit side-registration guide problem</b> <ul style="list-style-type: none"> <li>• During initialization, the front/rear side-registration guides are not detected in the home position within 600 ms after the guide returns to the home position.</li> <li>• When the side-registration guide is operated from the home position, the side-registration guide home position sensor does not turn off within 100 ms.</li> </ul>	Loose connection of the side-registration guide motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the side-registration guide motor.	Replace the side-registration guide motor and check for correct operation.
		Malfunction of the side-registration guide home position sensor.	Replace the side-registration guide home position sensor and check for correct operation.
		Loose connection of the side-registration guide home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
C8320	<b>Document finisher* centerfold unit centering plate problem</b> <ul style="list-style-type: none"> <li>• During initialization, the centering plate is not detected in the home position when the centering plate returns to the home position.</li> </ul>	Loose connection of the centering plate motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the centering plate motor.	Replace the centering plate motor and check for correct operation.
		Malfunction of the centering plate home position sensor.	Replace the centering plate home position sensor and check for correct operation.
		Loose connection of the centering plate home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8330	<b>Document finisher* centerfold blade problem</b> <ul style="list-style-type: none"> <li>During initialization, the centerfold blade is not detected in the home position within a specified period of time.</li> </ul>	Loose connection of the centerfold blade motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the centerfold blade motor.	Replace the centerfold blade motor and check for correct operation.
		Malfunction of the centerfold blade home position sensor.	Replace the centerfold blade home position sensor and check for correct operation.
		Loose connection of the centerfold blade home position sensor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective centerfold unit main PWB.	Replace the centerfold unit main PWB and check for correct operation.
C9500	Scanner sub PWB problem		Check the connection of the connector of the scanner sub PWB.
			Replace the scanner sub PWB or the scanner main PWB one by one.
C9510	Scanner sub PWB problem		Check the connection of the connector of the scanner sub PWB.
			Replace the scanner sub PWB or the scanner main PWB one by one.
C9520	Scanner sub PWB problem		Check the connection of the connector of the scanner sub PWB.
			Replace the scanner sub PWB or the scanner main PWB one by one.
C9530			Contact the Service Administrative Division.
C9540			Contact the Service Administrative Division.
C9550			Contact the Service Administrative Division.

**1-5-3 Image formation problems**

(1) No image appears (entirely white).



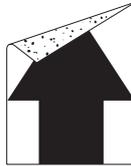
See page 1-5-52

(2) No image appears (entirely black).



See page 1-5-53

(3) Dirty on the back side.



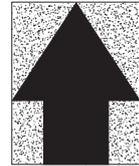
See page 1-5-53

(4) Image is too light.



See page 1-5-54

(5) The background is colored.



See page 1-5-55

(6) A white line appears longitudinally.



See page 1-5-56

(7) A black line appears longitudinally.



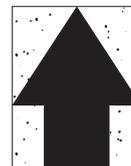
See page 1-5-57

(8) A black line appears laterally.



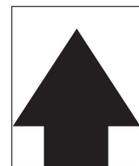
See page 1-5-57

(9) Black dots appear on the image.



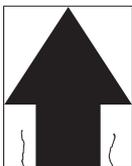
See page 1-5-58

(10) The leading edge of the image is consistently misaligned with the original.



See page 1-5-58

(11) Paper creases.



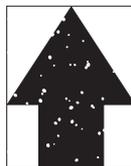
See page 1-5-59

(12) Offset occurs.



See page 1-5-59

(13) Image is partly missing.



See page 1-5-59

(14) Fixing is poor.



See page 1-5-60

(15) Colors are printed offset to each other.



See page 1-5-60

(1) No image appears (entirely white).



**Causes**

1. The LED print head has not done functioning.
2. Defective developing bias output.
3. Defective transfer bias output.
4. Defective driving system of the developer unit of the process unit.

Causes	Check procedures/corrective measures
1. The LED print head has not done functioning.	
A. Faulty connection of connectors between the scanner MIP PWB and the LPH drive PWB.	Check the connection between the connector YC4 of the scanner MIP PWB and the connector YC5 of the LPH drive PWB, and repair them if any problem is found.
B. Faulty connection of connector of engine interface PWB.	Check the connection status of connectors YC2 and YC3 of the engine interface PWB. Adjust them if any problem is found.
C. Faulty connection of connector of LPH drive PWB.	Check the connection status of connectors YC5, YC6, YC7, YC8, YC9, YC10, YC11 and YC12 of the LPH drive PWB. Adjust them if any problem is found.
D. Defective LPH drive PWB.	Replace the LPH drive PWB (see page 1-6-57).
2. Defective developing bias output.	
A. Faulty connection of connector of engine controller PWB.	Check the connection status of connector YC21 of the engine controller PWB. Adjust them if any problem is found.
B. Faulty connection of connector of bias high voltage PWB and high voltage output terminal (tab).	Check the connection status of connector YC1 of the bias high voltage PWB and each high voltage output terminal (tab). Adjust them if any problem is found.
C. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
D. Defective bias high voltage PWB.	Replace the bias high voltage PWB (see page 1-6-56).
3. Defective transfer bias output.	
A. Faulty connection of connector of engine controller PWB.	Check the connection status of connector YC22 of the engine controller PWB. Adjust them if any problem is found.
B. Faulty connection of connector of transfer relay PWB.	Check the connection status of connectors YC1 and YC3 of the transfer relay PWB. Adjust them if any problem is found.
C. Faulty connection of connector of transfer high voltage PWB and high voltage output terminal (tab).	Check the connection status of connector YC1 of the transfer high voltage PWB and each high voltage output terminal (tab). Adjust them if any problem is found.
D. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
E. Defective transfer high voltage PWB.	Replace the transfer unit (see page 1-6-37).
4. Defective driving system of the developer unit of the process unit.	Replace the developer unit of the process unit (see page 1-6-38).

- (2) No image appears  
(entirely black).

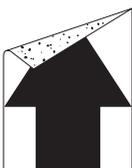


#### Causes

1. No main charging.
2. Defective LPH drive PWB.
3. Exposure lamp fails to light.

Causes	Check procedures/corrective measures
1. No main charging.	
A. Poor insertion main charger unit.	Reinstall the main charger unit.
B. Broken main charger wire.	Replace the main charger unit.
C. Faulty connection of connector of engine controller PWB.	Check the connection status of connector YC20 of the engine controller PWB. Adjust them if any problem is found.
D. Faulty connection of connector of main high voltage PWB and high voltage output terminal (tab).	Check the connection status of connector YC1 of the main high voltage PWB and each high voltage output terminal (tab). Adjust them if any problem is found.
E. Defective main high voltage PWB.	Replace the main high voltage PWB (see page 1-6-55).
F. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
2. Defective LPH drive PWB.	Replace the LPH drive PWB (see page 1-6-57).
3. Exposure lamp fails to light.	
A. Defective exposure lamp.	Replace the exposure lamp (see page 1-6-18).
B. Defective inverter PWB.	Replace the inverter PWB.
C. Defective scanner relay PWB.	Replace the scanner relay PWB.
D. Defective scanner main PWB.	Replace the scanner main PWB (see page 1-6-50).

- (3) Dirty on the top edge.



#### Causes

1. Faulty transfer belt cleaning (adsorption roller high voltage output).
2. Dirty paper conveying path of the paper feed unit.
3. Dirty upper and lower fuser rollers.

Causes	Check procedures/corrective measures
1. Faulty transfer belt cleaning (adsorption roller high voltage output).	Replace the transfer unit (see page 1-6-37).
2. Dirty paper conveying path of the paper feed unit.	Clean the paper conveying path of the paper feed unit.
3. Dirty upper and lower fuser rollers.	Clean the upper and lower fuser rollers.

(4) Image is too light.



**Causes**

1. Defective developing bias output.
2. Dirty drum.
3. Defective color calibration.
4. Dirty SELFOC lens of LED print head.
5. Defective transfer bias output.
6. Insufficient toner.
7. Defective scanner main PWB.
8. *Software version of the engine controller PWB is old.*

Causes	Check procedures/corrective measures
1. Defective developing bias output.	
A. Faulty developer unit of the process unit.	Run maintenance mode U089 to output four-color bar PG, check the output status of the four colors, and replace the developer unit of the process unit for any faulty color (see pages 1-4-31 and 1-6-38).
B. Defective bias high voltage PWB.	Replace the bias high voltage PWB (see page 1-6-56).
C. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
2. Dirty drum.	Perform the drum refresh operation (see page 1-4-7).
3. Defective color calibration.	
A. Dirty sensing surface of the toner ID sensor 1 and 2.	Clean the sensing surface of the toner ID sensor 1 and 2.
B. The copier environment considerably changed since an automatic calibration was made.	Perform the auto color adjustment (see page 1-4-7).
4. Dirty SELFOC lens of LED print head.	Clean the SELFOC lens of LED print head by using LED cleaner.
5. Defective transfer bias output.	
A. Defective transfer high voltage PWB.	Replace the transfer unit (see page 1-6-37).
6. Insufficient toner.	If the display shows the message requesting toner replenishment, replace the container.
7. Defective scanner main PWB.	Replace the scanner main PWB (see page 1-6-50).
8. <i>Software version of the engine controller PWB is old.</i>	<i>Check the version of the engine software and upgrade the software to the latest version if the version is older than 2BG29329K.</i>



(5) The background is colored.



#### Causes

1. Defective developing bias output.
2. Defective color calibration.
3. Defective transfer adsorption roller bias output.
4. Poor insertion main charger unit.

Causes	Check procedures/corrective measures
1. Defective developing bias output.	
A. Defective process unit.	Run maintenance mode U089 to output four-color bar PG, check the output status of the four colors, and replace the process unit for any faulty color (see pages 1-4-28 and 1-6-38).
B. Defective bias high voltage PWB.	Replace the bias high voltage PWB (see page 1-6-56).
C. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
2. Defective color calibration.	
A. Dirty sensing surface of the toner ID sensor 1 and 2.	Clean the sensing surface of the toner ID sensor 1 and 2.
B. The copier environment considerably changed since an automatic calibration was made.	Perform the auto color adjustment (see page 1-4-7).
3. Defective transfer adsorption roller bias output.	Replace the transfer unit (see page 1-6-37).
4. Poor insertion main charger unit.	Reinstall the main charger unit.

(6) A white line appears longitudinally.



**Causes**

1. Defective LED print head output.
2. Defective main charging output.
3. Foreign object in the developer unit of a process unit.
4. Adhesion of soiling to transfer roller.
5. Adhesion to lower part of the process unit.
6. Dirty shading plate.
7. Dirty CCD sensor cover glass.
8. Dirty scanner mirror.

Causes	Check procedures/corrective measures
1. Defective LED print head output.	
A. Dirty SELFOC lens of LED print head.	Clean the SELFOC lens of LED print head by using LED cleaner.
B. Focus is lost with the LED print head.	Run maintenance mode U089 to output four-color bar PG, check the output status of the four colors, and adjust the focus of the LED print head for any faulty color (see pages 1-4-31 and 1-6-70).
C. Defective LED print head.	Run maintenance mode U089 to output four-color bar PG, check the output status of the four colors, and replace the LED print head for any faulty color (see pages 1-4-31 and 1-6-67).
2. Defective main charging output.	
A. Adhesion of oxide to main charger wire.	Clean the main charger wire by using main charger wire cleaner.
B. Dirty main charger grid.	Clean the main charger wire by using main charger grid cleaner.
C. Dirty main charger shield.	Replace the main charger unit.
3. Foreign object in the developer unit of a process unit.	Run maintenance mode U089 to output four-color bar PG, check the output status of the four colors, and replace the developer unit of the process unit for any faulty color (see pages 1-4-31 and 1-6-38).
4. Adhesion of soiling to transfer roller.	Replace the transfer unit (see page 1-6-37).
5. Adhesion to lower part of the process unit.	Check the image. If the white line appears on a particular color, check and clean the process unit for that color.
6. Dirty shading plate.	Clean the shading plate.
7. Dirty CCD sensor cover glass.	Clean the CCD sensor cover glass.
8. Dirty scanner mirror.	Clean the scanner mirror.

- (7) A black line appears longitudinally.

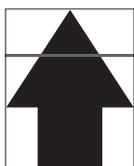


#### Causes

1. Dirty main charger wire.
2. Dirty or flawed drum.
3. Deformed or worn cleaning blade in the drum unit of a process unit.
4. Defective adsorption roller.
5. Worn transfer belt.
6. Dirty scanner mirror.
7. Dirty CCD sensor cover glass.

Causes	Check procedures/corrective measures
1. Dirty main charger wire.	Clean the main charger wire by using main charger wire cleaner.
2. Dirty or flawed drum.	
A. Dirty drum.	Perform the drum refresh operation (see page 1-4-7).
B. Flawed drum.	Replace the process unit (see page 1-6-38).
3. Deformed or worn cleaning blade in the drum unit of a process unit.	Replace the process unit (see page 1-6-38).
4. Defective adsorption roller.	Replace the transfer unit (see page 1-6-37).
5. Worn transfer belt.	Replace the transfer unit (see page 1-6-37).
6. Dirty scanner mirror.	Clean the scanner mirror.
7. Dirty Cocksureness cover glass.	Clean the CCD sensor cover glass.

- (8) A black line appears laterally.

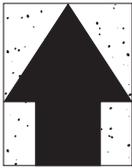


#### Causes

1. Poor contact of output terminal of main charger unit.
2. Poor contact of grounding terminal of process unit.
3. Poor contact of developing bias terminal of process unit.

Causes	Check procedures/corrective measures
1. Poor contact of output terminal of main charger unit.	Replace the main charger unit (see page 1-6-38).
2. Poor contact of grounding terminal of process unit.	Replace the process unit (see page 1-6-38).
3. Poor contact of developing bias terminal of process unit.	Replace the process unit (see page 1-6-38).

(9) Black dots appear on the image. **Causes**



1. Dirty or flawed drum.
2. Deformed or worn cleaning blade in the drum unit of a process unit.
3. Defective adsorption roller of the transfer unit.
4. Flawed developing roller in the developer unit of a process unit.
5. Dirty upper and fuser rollers.
6. Dirty contact glass.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Perform the drum refresh operation (see page 1-4-7).
2. Deformed or worn cleaning blade in the drum unit a process unit.	Replace the process unit (see page 1-6-38).
3. Defective adsorption roller of the transfer unit.	Replace the transfer unit (see page 1-6-37).
4. Flawed developing roller in the developer unit of a process unit.	Replace the developer unit of a process unit (see page 1-6-38).
5. Dirty upper and lower fuser rollers.	Clean the upper and lower fuser rollers.
6. Dirty contact glass.	Clean the contact glass.

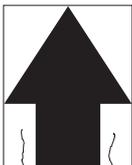
(10)The leading edge of the image is consistently misaligned with the original. **Causes**



1. Registration clutch operating incorrectly.
2. Misadjusted the amount of slack in the paper.
3. Defective engine controller PWB.
4. Misadjusted leading edge registration.
5. Misadjusted scanner leading edge registration.
6. Poor insertion paper feed unit.

Causes	Check procedures/corrective measures
1. Registration clutch operating incorrectly.	Check the installation of the registration clutch. If it operates incorrectly, replace it.
2. Misadjusted the amount of slack in the paper.	Run maintenance mode U051 to readjust the amount of slack in the paper.
3. Defective engine controller PWB.	Replace the engine controller PWB (see page 1-6-52).
4. Misadjusted leading edge registration.	Readjust the leading edge registration (see page 1-6-12).
5. Misadjusted scanner leading edge registration.	Readjust the scanner leading edge registration (see page 1-6-34).
6. Poor insertion paper feed unit.	Reinstall the paper feed unit.

(11) Paper creases.

**Causes**

1. Paper curled.
2. Paper damp.

Causes	Check procedures/corrective measures
1. Paper curled.	Check the paper storage conditions, replace the paper.
2. Paper damp.	Check the paper storage conditions, replace the paper.

(12) Offset occurs.

**Causes**

1. Deformed or worn cleaning blade in the drum unit of a process unit.
2. Wrong types of paper.

Causes	Check procedures/corrective measures
1. Deformed or worn cleaning blade in the drum unit of a process unit.	Replace the process unit (see page 1-6-38).
2. Wrong types of paper.	Check if the paper meets specifications. Replace paper.

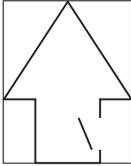
(13) Image is partly missing.

**Causes**

1. Paper damp.
2. Paper creased.
3. Drum condensation.
4. Flawed drum.
5. Flawed transfer belt.
6. Dirt on the back surface of the contact glass and on the surface of the scanner mirror.
7. *Software version of the engine controller PWB is old.*

Causes	Check procedures/corrective measures
1. Paper damp.	Check the paper storage conditions, replace the paper.
2. Paper creased.	Replace the paper.
3. Drum condensation.	Perform the drum refresh operation (see page 1-4-7).
4. Flawed drum.	Replace the process unit (see page 1-6-38).
5. Flawed transfer belt.	Replace the transfer unit (see page 1-6-37).
6. Dirt on the back surface of the contact glass and on the surface of the scanner mirror.	Clean the contact glass and scanner mirror.
7. <i>Software version of the engine controller PWB is old.</i>	<i>Check the version of the engine software and upgrade the software to the latest version if the version is older than 2BG29329K.</i>

(14) Fixing is poor.



**Causes**

1. Wrong types of paper.
2. Defective pressure for the lower fuser roller.
3. Flawed upper or lower fuser roller.

Causes	Check procedures/corrective measures
1. Wrong types of paper.	Check if the paper meets specifications, replace paper.
2. Defective pressure for the lower fuser roller.	Check the fuser pressure springs.
3. Flawed upper or lower fuser roller.	Replace the upper fuser roller or lower fuser roller (see page 1-6-43).

(15) Colors are printed offset to each other.



**Causes**

1. The LED print head is not properly seated in its position.

Causes	Check procedures/corrective measures
1. The LED print head is not properly seated in its position.	Run maintenance mode U410 to operate the color shear adjustment (see page 1-4-71).

### 1-5-4 Electric problems

\*: The option equipment.

Problem	Causes	Check procedures/corrective measures
(1) The machine does not operate when the power switch is turned on.	No electricity at the power outlet.	Measure the input voltage.
	The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	The front cover is not closed completely.	Check the front cover.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective power switch.	Check for continuity across the contacts. If none, replace the power switch.
	Blown fuse in the power supply PWB.	Check for continuity. If none, remove the cause of blowing and replace the fuse.
	Defective front cover open/close switch.	Check for continuity across the contacts of each switch. If none, replace the switch.
(2) The developing K/fuser motor does not operate (C2101).	Defective power supply PWB.	With AC present, check for 3.3 V DC at YC5-6, 5-7, 5-8, 5-9 and 5 V DC at YC5-10, 5-11 and 24 V DC at YC5-14 on the power supply PWB. If none, replace the power supply PWB.
	Poor contact in the developing K/fuser motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken developing K/fuser motor gear.	Check visually and replace the developing K/fuser motor if necessary.
	Defective developing K/fuser motor.	Run maintenance item U030 and check if the developing K/fuser motor operates when YC7-5 on the engine controller PWB goes low. If not, replace the developing K/fuser motor.
(3) The developing MCY motor does not operate (C2102).	Defective engine controller PWB.	Run maintenance item U030 and check if YC7-5 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Poor contact in the developing MCY motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken developing MCY motor gear.	Check visually and replace the developing MCY motor if necessary.
	Defective developing MCY motor.	Run maintenance item U030 and check if the developing MCY motor operates when YC6-7 on the engine controller PWB goes low. If not, replace the developing MCY motor.
Defective engine controller PWB.	Run maintenance item U030 and check if YC6-7 on the engine controller PWB goes low. If not, replace the engine controller PWB.	

Problem	Causes	Check procedures/corrective measures
(4) The drum motor K does not operate (C2201).	Poor contact in the drum motor K connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drum motor K gear.	Check visually and replace the drum motor K if necessary.
	Defective drum motor K.	Run maintenance item U030 and check if the drum motor K operates when YC5-29 on the engine controller PWB goes low. If not, replace the drum motor K.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC5-29 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(5) The drum motor C does not operate (C2202).	Poor contact in the drum motor C connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drum motor C gear.	Check visually and replace the drum motor C if necessary.
	Defective drum motor C.	Run maintenance item U030 and check if the drum motor C operates when YC5-5 on the engine controller PWB goes low. If not, replace the drum motor C.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC5-5 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(6) The drum motor M does not operate (C2203).	Poor contact in the drum motor M connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drum motor M gear.	Check visually and replace the drum motor M if necessary.
	Defective drum motor M.	Run maintenance item U030 and check if the drum motor M operates when YC5-13 on the engine controller PWB goes low. If not, replace the drum motor M.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC5-13 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(7) The drum motor Y does not operate (C2204).	Poor contact in the drum motor Y connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken drum motor Y gear.	Check visually and replace the drum motor Y if necessary.
	Defective drum motor Y.	Run maintenance item U030 and check if the drum motor Y operates when YC5-21 on the engine controller PWB goes low. If not, replace the drum motor Y.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC5-21 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(8) The paper feed motor does not operate (C2500).	Poor contact in the paper feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken paper feed motor gear.	Check visually and replace the paper feed motor if necessary.
	Defective paper feed motor.	Run maintenance item U030 and check if the paper feed motor operates when YC2-3 on the clutch PWB goes low. If not, replace the paper feed motor.
	Defective clutch PWB.	Run maintenance item U030 and check if YC2-3 on the clutch PWB goes low. If not, replace the clutch PWB.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(9) The toner motor K does not operate.	Poor contact in the toner motor K connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken toner motor K gear.	Check visually and replace the toner motor K if necessary.
	Defective toner motor K.	Run maintenance item U135 and check if the toner motor K operates when YC9-11 and YC9-12 on the engine controller PWB go low. If not, replace the toner motor K.
	Defective engine controller PWB.	Run maintenance item U135 and check if YC9-11 and YC9-12 on the engine controller PWB go low. If not, replace the engine controller PWB.
(10) The toner motor C does not operate.	Poor contact in the toner motor C connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken toner motor C gear.	Check visually and replace the toner motor C if necessary.
	Defective toner motor C.	Run maintenance item U135 and check if the toner motor C operates when YC10-11 and YC10-12 on the engine controller PWB go low. If not, replace the toner motor C.
	Defective engine controller PWB.	Run maintenance item U135 and check if YC10-11 and YC10-12 on the engine controller PWB go low. If not, replace the engine controller PWB.
(11) The toner motor M does not operate.	Poor contact in the toner motor M connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken toner motor M gear.	Check visually and replace the toner motor M if necessary.
	Defective toner motor M.	Run maintenance item U135 and check if the toner motor M operates when YC11-11 and YC11-12 on the engine controller PWB go low. If not, replace the toner motor M.
	Defective engine controller PWB.	Run maintenance item U135 and check if YC11-11 and YC11-12 on the engine controller PWB go low. If not, replace the engine controller PWB.
(12) The toner motor Y does not operate.	Poor contact in the toner motor Y connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken toner motor Y gear.	Check visually and replace the toner motor Y if necessary.
	Defective toner motor Y.	Run maintenance item U135 and check if the toner motor Y operates when YC12-11 and YC12-12 on the engine controller PWB go low. If not, replace the toner motor Y.
	Defective engine controller PWB.	Run maintenance item U135 and check if YC12-11 and YC12-12 on the engine controller PWB go low. If not, replace the engine controller PWB.
(13) The transfer motor does not operate.	Poor contact in the transfer motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken transfer motor gear.	Check visually and replace the transfer motor if necessary.
	Defective transfer motor.	Run maintenance item U030 and check if the transfer motor operates when YC4-2 on the engine controller PWB goes low. If not, replace the transfer motor.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC4-2 on the engine controller PWB goes low. If not, replace the engine controller PWB.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(14) The transfer roller lift motor does not operate.	Poor contact in the transfer roller lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken transfer roller lift motor gear.	Check visually and replace the transfer roller lift motor if necessary.
	Defective transfer roller lift motor.	Run maintenance item U030 and check if the transfer roller lift motor operates when YC4-5 on the engine controller PWB goes low. If not, replace the transfer roller lift motor.
	Defective engine controller PWB.	Run maintenance item U030 and check if YC4-5 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(15) The cassette lift motor does not operate.	Poor contact in the cassette lift motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken cassette lift motor gear.	Check visually and replace the cassette lift motor if necessary.
(16) The duplex side registration motor does not operate.	Poor contact in the duplex side registration motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken duplex side registration motor gear.	Check visually and replace the duplex side registration motor if necessary.
	Defective duplex side registration motor.	Run maintenance item U052 and check if the duplex side registration motor operates when YC6-5, YC6-6, YC6-7 and YC6-8 on the duplex PWB go low. If not, replace the duplex side registration motor.
	Defective duplex PWB.	Run maintenance item U030 and check if YC6-5, YC6-6, YC6-7 and YC6-8 on the duplex PWB go low. If not, replace the engine controller PWB.
(17) The main charger fan motor does not operate.	Broken main charger fan motor coil.	Check for continuity across the coil. If none, replace the main charger fan motor.
	Poor contact in main charger fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(18) The main cooling fan motor does not operate.	Broken main cooling fan motor coil.	Check for continuity across the coil. If none, replace the main cooling fan motor.
	Poor contact in main cooling fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(19) The power supply PWB cooling fan motor does not operate.	Broken power supply PWB cooling fan motor coil.	Check for continuity across the coil. If none, replace the power supply PWB cooling fan motor.
	Poor contact in power supply PWB cooling fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(20) The scanner motor does not operate.	Broken scanner motor coil.	Check for continuity across the coil. If none, replace the scanner motor.
	Poor contact in scanner motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(21) The electric component unit fan motor does not operate.	Broken electric component unit fan motor coil.	Check for continuity across the coil. If none, replace the electric component unit fan motor.
	Poor contact in electric component unit fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(22) The conveying H clutch does not operate.	Broken conveying H clutch coil.	Check for continuity across the coil. If none, replace the conveying H clutch.
	Poor contact in the conveying H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-13 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC6-2 on the clutch PWB goes low. If not, replace the clutch PWB.
(23) The conveying L clutch does not operate.	Broken conveying L clutch coil.	Check for continuity across the coil. If none, replace the conveying L clutch.
	Poor contact in the conveying L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-14 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC7-2 on the clutch PWB goes low. If not, replace the clutch PWB.
(24) The primary paper feed H clutch does not operate.	Broken primary paper feed H clutch coil.	Check for continuity across the coil. If none, replace the primary paper feed H clutch.
	Poor contact in the primary paper feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-11 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC4-2 on the clutch PWB goes low. If not, replace the clutch PWB.
(25) The primary paper feed L clutch does not operate.	Broken primary paper feed L clutch coil.	Check for continuity across the coil. If none, replace the primary paper feed L clutch.
	Poor contact in the primary paper feed L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-12 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC5-2 on the clutch PWB goes low. If not, replace the clutch PWB.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(26) The paper feeder feed H clutch does not operate.	Broken paper feeder feed H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder feed H clutch.
	Poor contact in the paper feeder feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC30-1 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(27) The paper feeder feed L clutch does not operate.	Broken paper feeder feed L clutch coil.	Check for continuity across the coil. If none, replace the paper feeder feed L clutch.
	Poor contact in the paper feeder feed L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-10 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC3-2 on the clutch PWB goes low. If not, replace the clutch PWB.
(28) The bypass feed clutch does not operate.	Broken bypass feed clutch coil.	Check for continuity across the coil. If none, replace the bypass feed clutch.
	Poor contact in the bypass feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC13-1 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective bypass PWB.	Run maintenance item U032 and check if YC2-2 on the bypass PWB goes low. If not, replace the bypass PWB.
(29) The registration clutch does not operate.	Broken registration clutch coil.	Check for continuity across the coil. If none, replace the registration clutch.
	Poor contact in the registration clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC23-15 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective clutch PWB.	Run maintenance item U032 and check if YC8-2 on the clutch PWB goes low. If not, replace the clutch PWB.
(30) The duplex feed clutch does not operate.	Broken duplex feed clutch coil.	Check for continuity across the coil. If none, replace the duplex feed clutch.
	Poor contact in the duplex feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U032 and check if YC29-13 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(31) The fuser clutch does not operate.	Broken fuser clutch coil.	Check for continuity across the coil. If none, replace the fuser clutch.
	Poor contact in the fuser clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.

Problem	Causes	Check procedures/corrective measures
(32) The paper feeder upper feed H clutch* does not operate.	Broken paper feeder upper feed H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder upper feed H clutch.
	Poor contact in the paper feeder upper feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-2 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(33) The paper feeder middle feed H clutch* does not operate.	Broken paper feeder middle feed H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder middle feed H clutch.
	Poor contact in the paper feeder middle feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-6 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(34) The paper feeder lower feed H clutch* does not operate.	Broken paper feeder lower feed H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder lower feed H clutch.
	Poor contact in the paper feeder lower feed H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-12 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(35) The paper feeder upper feed L clutch* does not operate.	Broken paper feeder upper feed L clutch coil.	Check for continuity across the coil. If none, replace the paper feeder upper feed L clutch.
	Poor contact in the paper feeder upper feed L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-4 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(36) The paper feeder conveying H clutch* does not operate.	Broken paper feeder conveying H clutch coil.	Check for continuity across the coil. If none, replace the paper feeder conveying H clutch.
	Poor contact in the paper feeder conveying H clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-8 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(37) The paper feeder conveying L clutch* does not operate.	Broken paper feeder conveying L clutch coil.	Check for continuity across the coil. If none, replace the paper feeder conveying L clutch.
	Poor contact in the paper feeder conveying L clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-10 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.

<b>Problem</b>	<b>Causes</b>	<b>Check procedures/corrective measures</b>
(38) The right deck feed clutch* does not operate.	Broken right deck feed clutch coil.	Check for continuity across the coil. If none, replace the right deck feed clutch.
	Poor contact in the right deck feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC12-14 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(39) The left deck feed clutch* does not operate.	Broken left deck feed clutch coil.	Check for continuity across the coil. If none, replace the left deck feed clutch.
	Poor contact in the left deck feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC11-8 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(40) The left deck conveying clutch* does not operate.	Broken left deck conveying clutch coil.	Check for continuity across the coil. If none, replace the left deck conveying clutch.
	Poor contact in the left deck conveying clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder main PWB.	Run maintenance item U032 and check if YC11-6 on the paper feeder main PWB goes low. If not, replace the paper feeder main PWB.
(41) The lift plate up/down solenoid does not operate.	Broken lift plate up/down solenoid coil.	Check for continuity across the coil. If none, replace the lift plate up/down solenoid.
	Poor contact in the lift plate up/down solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U033 and check if YC13-2 on the engine controller PWB goes low. If not, replace the engine controller PWB.
	Defective bypass PWB.	Run maintenance item U033 and check if YC3-2 on the bypass PWB goes low. If not, replace the bypass PWB.
(42) The face-up exit solenoid does not operate.	Broken face-up exit solenoid coil.	Check for continuity across the coil. If none, replace the face-up exit solenoid.
	Poor contact in the face-up exit solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U033 and check if YC21-16 and YC21-17 on the engine controller PWB go low. If not, replace the engine controller PWB.
	Defective bias high voltage PWB.	Run maintenance item U033 and check if YC2-7 and YC2-9 on the bias high voltage PWB go low. If not, replace the bias high voltage PWB.

Problem	Causes	Check procedures/corrective measures
(43) The duplex exit solenoid does not operate.	Broken duplex exit solenoid coil.	Check for continuity across the coil. If none, replace the duplex exit solenoid.
	Poor contact in the duplex exit solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U033 and check if YC21-14 and YC21-15 on the engine controller PWB go low. If not, replace the engine controller PWB.
	Defective bias high voltage PWB.	Run maintenance item U033 and check if YC2-4 and YC2-6 on the bias high voltage PWB goes low. If not, replace the bias high voltage PWB.
(44) The duplex tapping solenoid does not operate.	Broken duplex tapping solenoid coil.	Check for continuity across the coil. If none, replace the duplex tapping solenoid.
	Poor contact in the duplex tapping solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U033 and check if YC29-6 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(45) The duplex forwarding solenoid does not operate.	Broken duplex forwarding solenoid coil.	Check for continuity across the coil. If none, replace the duplex forwarding solenoid.
	Poor contact in the duplex forwarding solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PWB.	Run maintenance item U033 and check if YC29-7 on the engine controller PWB goes low. If not, replace the engine controller PWB.
(46) The eraser lamp K does not turn on.	Poor contact in the eraser lamp K connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective eraser lamp K.	Check for continuity. If none, replace the eraser lamp K.
	Defective engine controller PWB.	If the eraser lamp K turns on when YC9-5 on the engine controller PWB is held low, replace the engine controller PWB.
(47) The eraser lamp C does not turn on.	Poor contact in the eraser lamp C connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective eraser lamp C.	Check for continuity. If none, replace the eraser lamp C.
	Defective engine controller PWB.	If the eraser lamp C turns on when YC10-5 on the engine controller PWB is held low, replace the engine controller PWB.
(48) The eraser lamp M does not turn on.	Poor contact in the eraser lamp M connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective eraser lamp M.	Check for continuity. If none, replace the eraser lamp M.
	Defective engine controller PWB.	If the eraser lamp M turns on when YC11-5 on the engine controller PWB is held low, replace the engine controller PWB.

Problem	Causes	Check procedures/corrective measures
(49) The eraser lamp Y does not turn on.	Poor contact in the eraser lamp Y connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective eraser lamp Y.	Check for continuity. If none, replace the eraser lamp Y.
	Defective engine controller PWB.	If the eraser lamp Y turns on when YC12-5 on the engine controller PWB is held low, replace the engine controller PWB.
(50) The exposure lamp does not turn on.	Poor contact in the exposure lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective inverter PWB.	Run maintenance item U061 and check if the exposure lamp turns on with CN1-5 and CN1-6 on the inverter PWB go low. If not, replace the inverter PWB.
	Defective scanner relay PWB.	Run maintenance item U061 and check if the exposure lamp turns on with YC44-1 and YC44-2 on the scanner relay PWB go low. If not, replace the scanner relay PWB.
	Defective scanner main PWB.	Run maintenance item U061 and check if YC19-B5 on the scanner main PWB goes low. If not, replace the scanner main PWB.
(51) The exposure lamp does not turn off.	Defective inverter PWB.	If the exposure lamp does not turn off with CN1-5 and CN1-6 on the inverter PWB high, replace the inverter PWB.
	Defective scanner relay PWB.	If the exposure lamp does not turn off with YC44-1 and YC44-2 on the scanner relay PWB high, replace the scanner relay PWB.
	Defective scanner main PWB.	If YC19-B5 on the scanner main PWB is always low, replace the scanner main PWB.
(52) The fuser heater lamp does not turn on.	Broken wire in upper or lower fuser heater lamp.	Check for continuity across each heater lamp. If none, replace the upper or lower fuser heater lamp.
	Upper or lower fuser thermostat triggered.	Check for continuity across thermostat. If none, remove the cause and replace the upper or lower fuser thermostat.
(53) The fuser heater lamp does not turn off.	Broken upper or lower fuser thermistor wire.	Measure the resistance. If it is $\infty\Omega$ , replace the upper or lower fuser thermistor.
	Dirty sensor part of the upper or lower fuser thermistor.	Check visually and clean the upper or lower fuser thermistor sensor parts.
(54) No main charging.	Poor insertion main charger unit.	See page 1-5-53.
	Broken main charger wire.	
	Faulty connection of connector of engine controller PWB.	
	Faulty connection of connector of main high voltage PWB and high voltage output terminal (tab).	
	Defective main high voltage PWB.	
	Defective engine controller PWB.	

Problem	Causes	Check procedures/corrective measures
(55) No developing bias is output.	Faulty connection of connector of engine controller PWB.	See page 1-5-52.
	Faulty connection of connector of bias high voltage PWB and high voltage output terminal (tab).	
	Defective engine controller PWB.	
	Defective bias high voltage PWB.	
(56) No transfer bias is output.	Faulty connection of connector of engine controller PWB.	See page 1-5-52.
	Faulty connection of connector of transfer relay PWB.	
	Faulty connection of connector of transfer high voltage PWB and high voltage output terminal (tab).	
	Defective engine controller PWB.	
	Defective transfer high voltage PWB.	
(57) The original size is not detected.	Defective original detection switch.	If the level of YC45-A7 on the scanner main PWB does not go low when the original detection switch is turned on and off, replace the original detection switch.
(58) The original size is not detected correctly.	Original is not placed correctly.	Check the original and correct if necessary.
	Poor contact in the original size detection sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective original size detection sensor.	Check if sensor operates correctly. If not, replace it.
(59) The touch panel keys do not work.	Poor contact in the touch panel connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective touch panel or operation unit PWB.	If any keys do not work after the touch panel has been initialized, replace the touch panel or operation unit PWB.
(60) The message requesting paper to be loaded is shown when paper is present in the copier cassette.	Poor contact in the cassette paper sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cassette paper sensor.	Check if YC15-5 on the engine controller PWB goes low when the cassette paper sensor is turned on with 5 V DC present at YC15-6 on the engine controller PWB. If not, replace the cassette paper sensor.

Problem	Causes	Check procedures/corrective measures
(61) The message requesting paper to be loaded is shown when paper is present on the bypass tray.	Poor contact in the bypass PWB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass PWB.	If the level of YC1-7 on the bypass PWB always goes high, replace the bypass PWB.
(62) The size of paper in the copier cassette is not displayed correctly.	Poor contact in the cassette length size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cassette length size switch.	Check if YC17-1 on the engine controller PWB goes low when the cassette length size switch is turned on. If not, replace the cassette length size switch.
	Poor contact in the cassette width size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cassette width size switch.	Check if the levels of YC16-1, YC16-2 and YC16-3 on the engine controller PWB change alternately when the width guide in the cassette is moved. If not, replace the cassette width size switch.
(63) The size of paper on the bypass tray is not displayed correctly.	Poor contact in the bypass length size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass length size switch.	Check if YC13-14 on the engine controller PWB goes low when the bypass length size switch is turned on. If not, replace the bypass length size switch.
	Poor contact in the bypass width size switch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass width size switch.	Check if the levels of YC13-11, YC13-12 and YC13-13 on the engine controller PWB change alternately when the insert guide on the bypass table is moved. If not, replace the bypass width size switch.
(64) A paper jam in the paper feed, paper conveying or fuser section is indicated when the power switch is turned on.	A piece of paper torn from copy paper is caught around upper/lower feed sensor, registration sensor, fuser conveying sensor, duplex conveying sensor, face-down exit sensor or face-up exit sensor.	Check and remove if any.
	Defective upper feed sensor.	Run maintenance item U031 and turn the upper feed sensor on and off manually. Replace the upper feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective lower feed sensor.	Run maintenance item U031 and turn the lower feed sensor on and off manually. Replace the lower feed sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective registration sensor.	Run maintenance item U031 and turn the registration sensor on and off manually. Replace the registration sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.

Problem	Causes	Check procedures/corrective measures
(64) A paper jam in the paper feed, paper conveying or fuser section is indicated when the power switch is turned on.	Defective fuser conveying sensor.	Run maintenance item U031 and turn the fuser conveying sensor on and off manually. Replace the fuser conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective duplex conveying sensor.	Run maintenance item U031 and turn the duplex conveying sensor on and off manually. Replace the duplex conveying sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective face-down exit sensor.	Run maintenance item U031 and turn the face-down exit sensor on and off manually. Replace the face-down exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective face-up exit sensor.	Run maintenance item U031 and turn the face-up exit sensor on and off manually. Replace the face-up exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(65) The message requesting cover to be closed is displayed when the front cover is closed.	Poor contact in the connector terminals of front cover open/close switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective front cover open/close switch.	Check for continuity across each switch. If there is no continuity when the front cover open/close switch is on, replace it.
(66) Others.	Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.
	Noise.	Locate the source of noise and remove.

## 1-5-5 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the following rollers or pulleys are dirty with paper powder: lower feed pulley, feed B pulley, forwarding roller, paper feed roller, feed B roller, bypass paper feed roller and bypass retard roller.	Clean with isopropyl alcohol.
	Check if the lower feed pulley or feed B pulley is deformed.	Check visually and replace any deformed pulleys.
	Electrical problem with the following electromagnetic clutches: primary paper feed H clutch, primary paper feed L clutch, bypass feed clutch, paper feeder feed H clutch and paper feeder feed L clutch.	See pages 1-5-65 and 1-5-66.
(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.
	Electrical problem with the following electromagnetic clutches: conveying H clutch, conveying L clutch and registration clutch.	See pages 1-5-65 and 1-5-66.
(3) Skewed paper feed.	Width guide in a cassette installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a cassette.	Repair or replace if necessary.
	Check if a pressure spring along the paper conveying path is deformed or out of place.	Repair or replace.
(4) The scanner does not travel.	Check if the scanner wire is loose.	Reinstall the scanner wire (see page 1-6-20).
	The scanner motor malfunctions.	See page 1-5-64.
	Check if the drive belt is loose.	Reinstall the drive belt.
(5) Multiple sheets of paper are fed at one time.	Check if the lower feed pulley is worn.	Replace the lower feed pulley if it is worn.
	Check if the paper is curled.	Change the paper.
(6) Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Deformed guides along the paper conveying path.	Repair or replace if necessary.
	Check if the contact between the upper and lower registration rollers is correct.	Check visually and remedy if necessary.
	Check if the upper and lower fuser roller is extremely dirty or deformed.	Clean or replace the upper and lower fuser roller.
	Check if the contact between the exit roller A and face-down exit pulley is correct.	Check visually and remedy if necessary.
(7) Toner drops on the paper conveying path.	Check if the process unit is extremely dirty.	Clean the process unit.

Problem	Causes/check procedures	Corrective measures
(8) 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: primary paper feed H clutch, primary paper feed L clutch, registration clutch, bypass feed clutch, paper feeder feed H clutch, paper feeder feed L clutch, conveying H clutch and conveying L clutch.	Check visually and remedy if necessary. See pages 1-5-65 and 1-5-66.

## 1-6-1 Precautions for assembly and disassembly

### (1) Precautions

Be sure to turn the power switch off and disconnect the power plug 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.

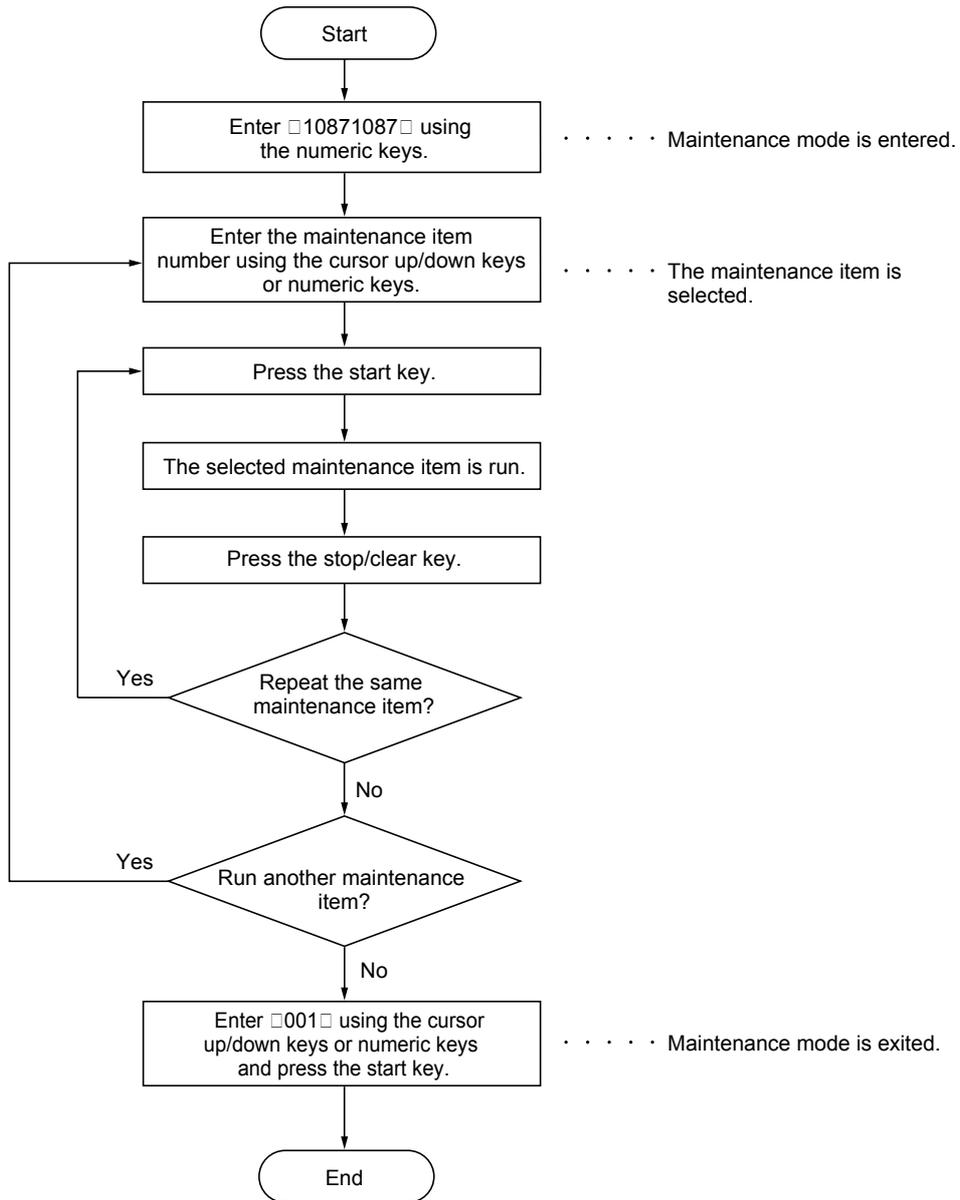
Use only the specified parts to replace the fuser thermostat. Never substitute electric wires, as the copier may be seriously damaged.

Use the following circuit testers when measuring voltages:

- Hioki 3200
- Sanwa MD-180C
- Sanwa YX-360TR
- Beckman TECH300
- Beckman DM45
- Beckman 330 (Capable of measuring RMS values.)
- Beckman 3030 (Capable of measuring RMS values.)
- Beckman DM850 (Capable of measuring RMS values.)
- Fluke 8060A (Capable of measuring RMS values.)
- Arlec DMM1050
- Arlec YF1030C

When replacing battery on a PWB, dispose properly according to laws and regulations.

**(2) Running a maintenance item**



## 1-6-2 Outer covers

### (1) Detaching and refitting the top cover

#### <Procedure>

1. Open the front cover.
2. Remove the hook and then remove the left front top cover.

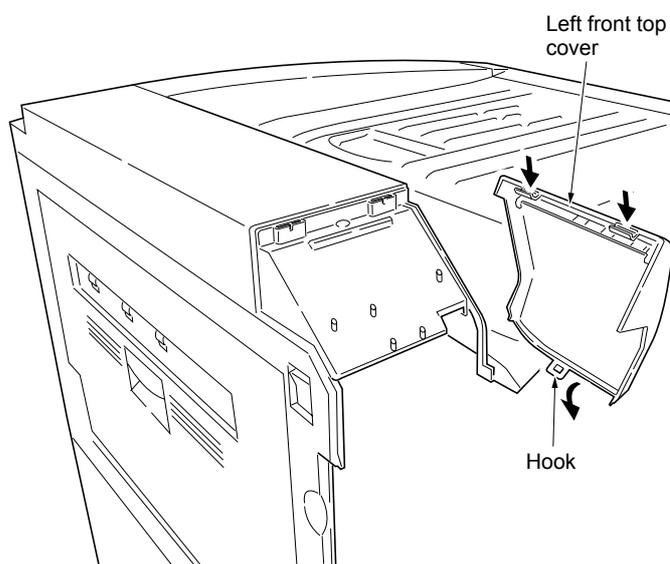


Figure 1-6-1

3. Remove one screw and then remove the left top cover.

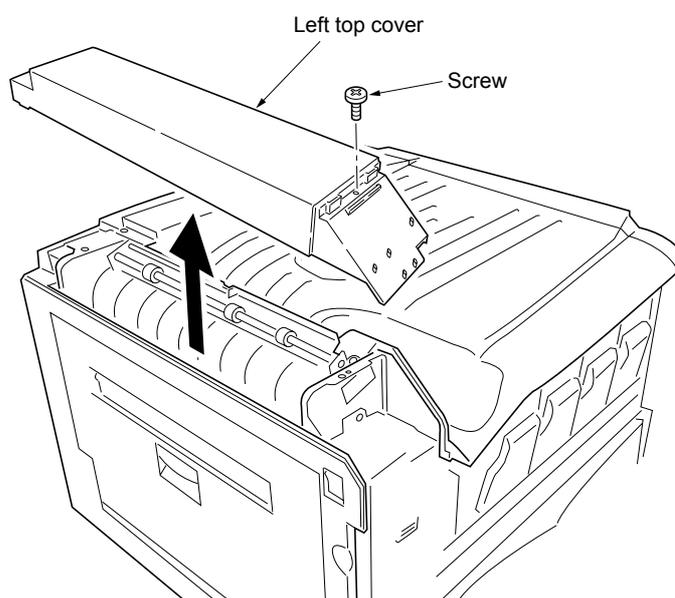


Figure 1-6-2

4. Push the lever and remove the ozone filter cover.

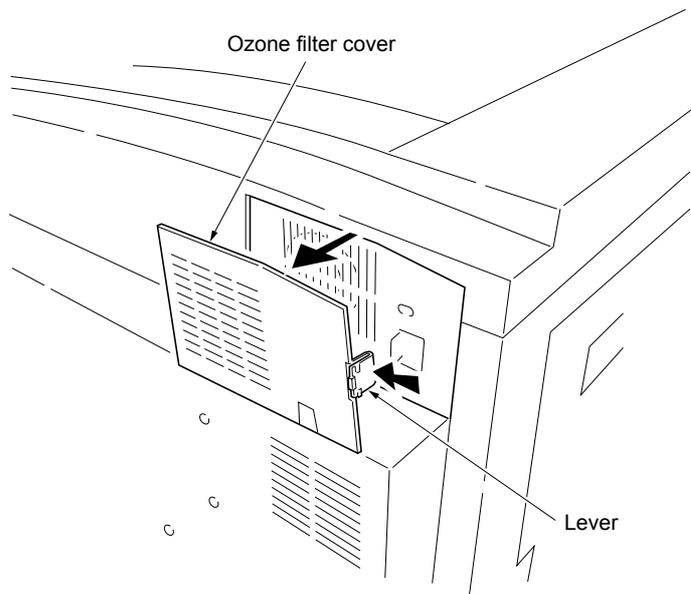


Figure 1-6-3

5. Push the lever and remove the filter.

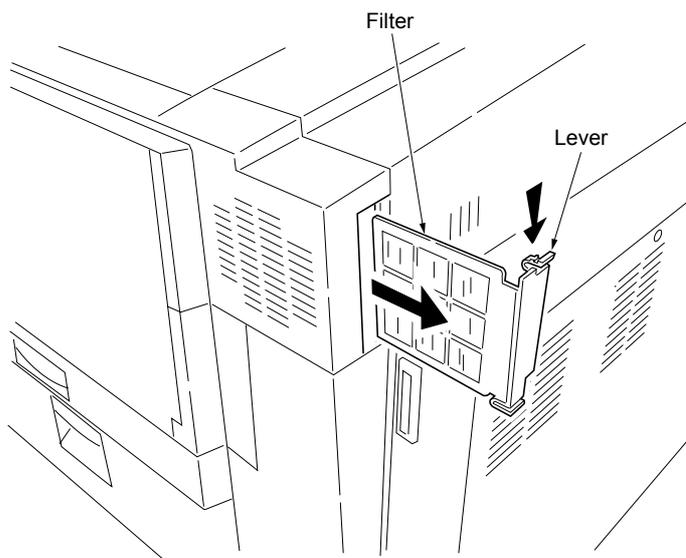


Figure 1-6-4

6. Open bypass tray.
7. Remove four screws and then remove the top cover.

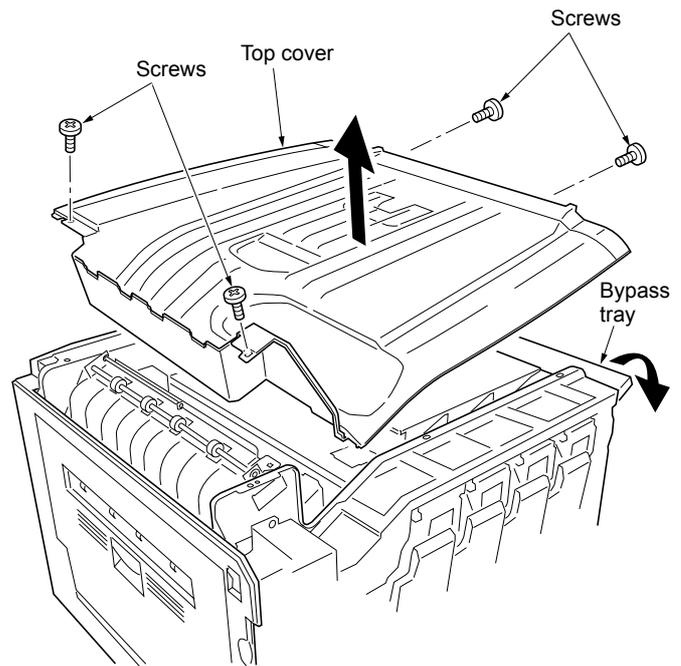
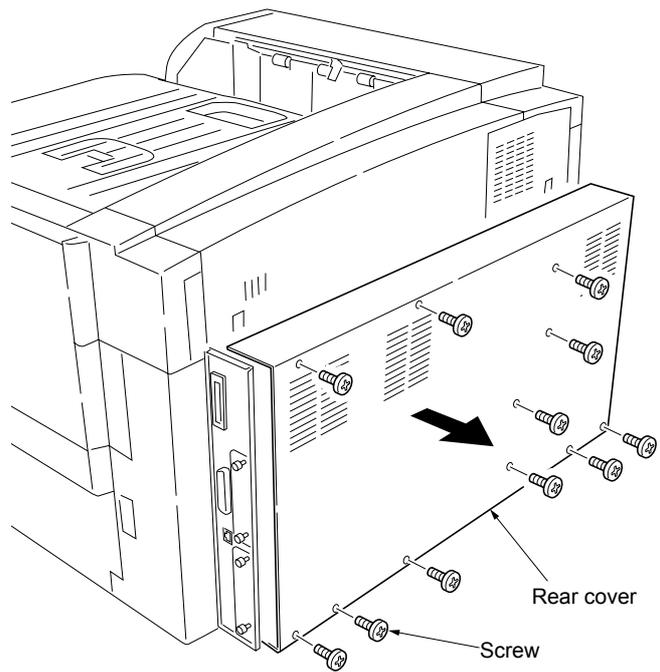


Figure 1-6-5

**(2) Detaching and refitting the rear cover**

**<Procedure>**

1. Remove eleven screws and then remove the rear cover.



**Figure 1-6-6**

### (3) Detaching and refitting the eject unit

#### <Procedure>

1. Release two hooks from the hook holes and remove the left cover (left cover assembly).

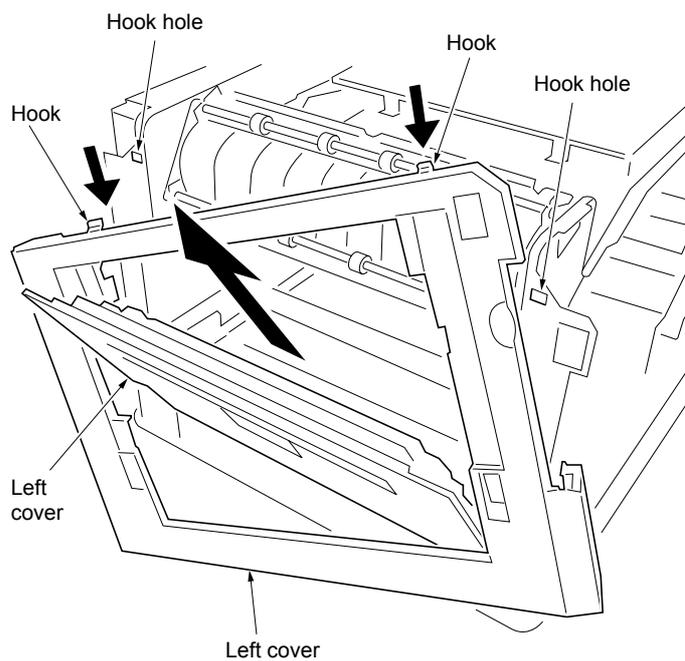


Figure 1-6-7

2. Remove one screw and then remove one pin.
3. Remove one connector.
4. Remove the eject unit.

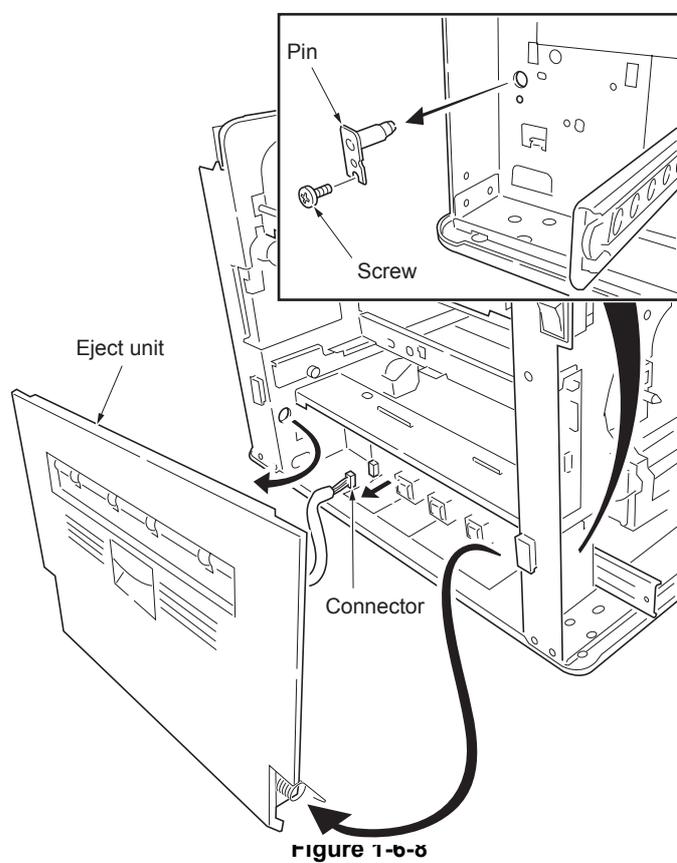


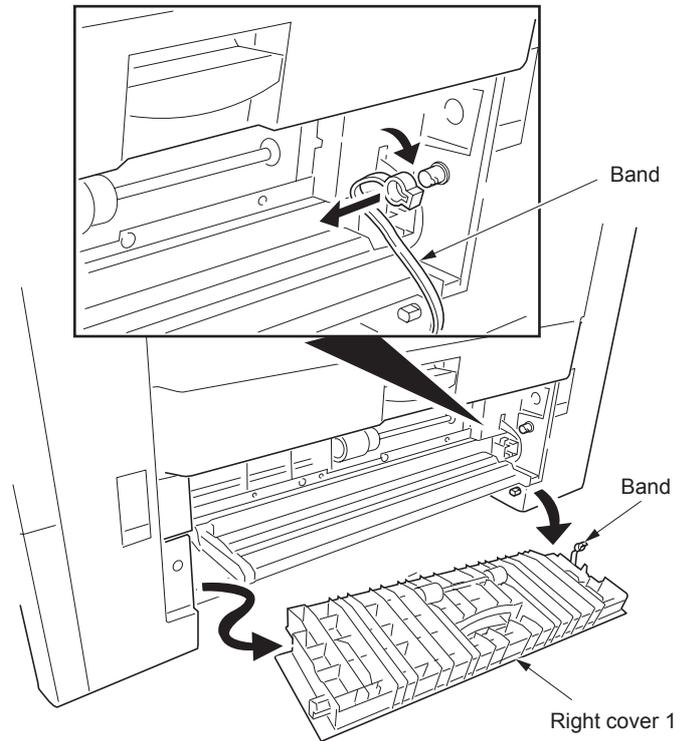
Figure 1-6-8

### 1-6-3 Primary paper feed unit

#### (1) Detaching and refitting the primary paper feed unit

**<Procedure>**

1. Open right cover 1.
2. Remove one band.
3. Remove right cover 1.



**Figure 1-6-9**

4. Pull out the paper feed unit (transfer unit).
5. Remove one connector.
6. Push the claw and remove the primary paper feed unit.

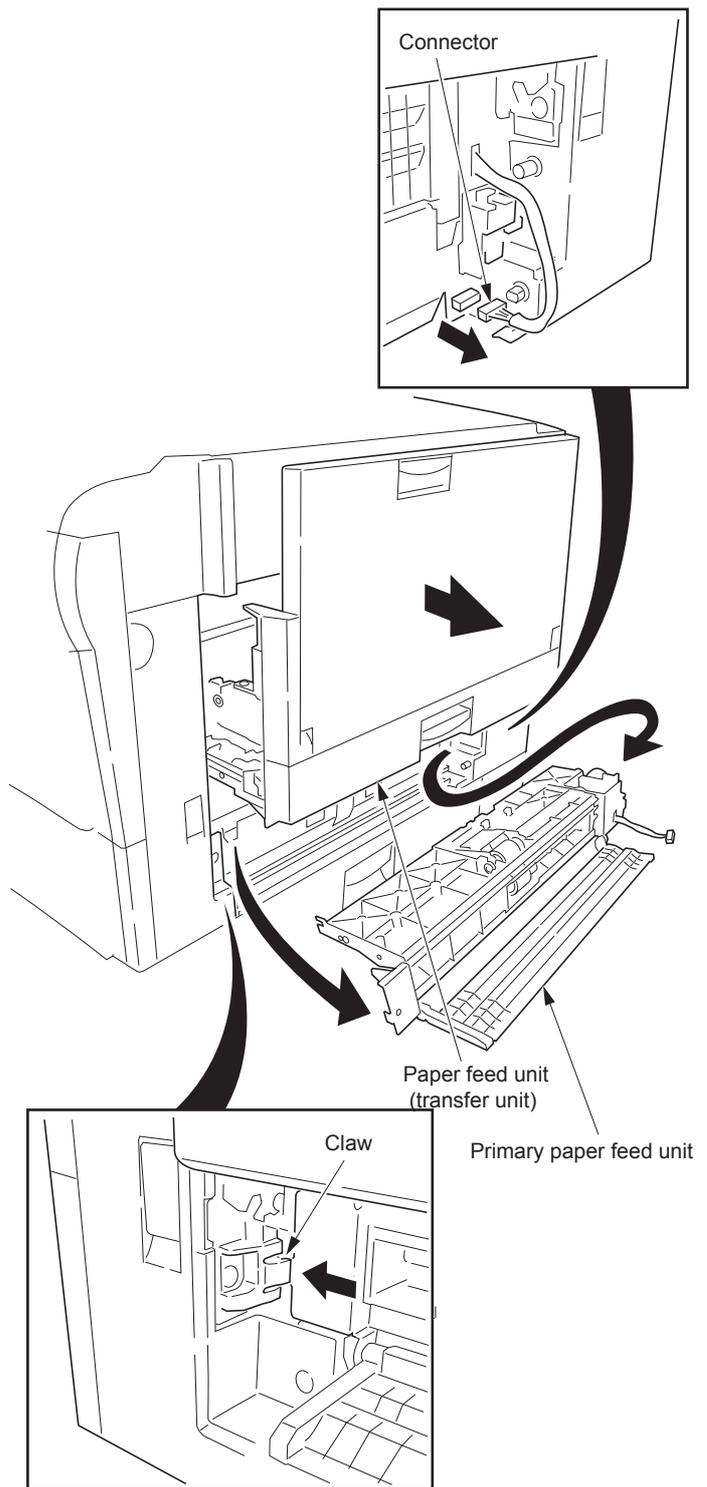
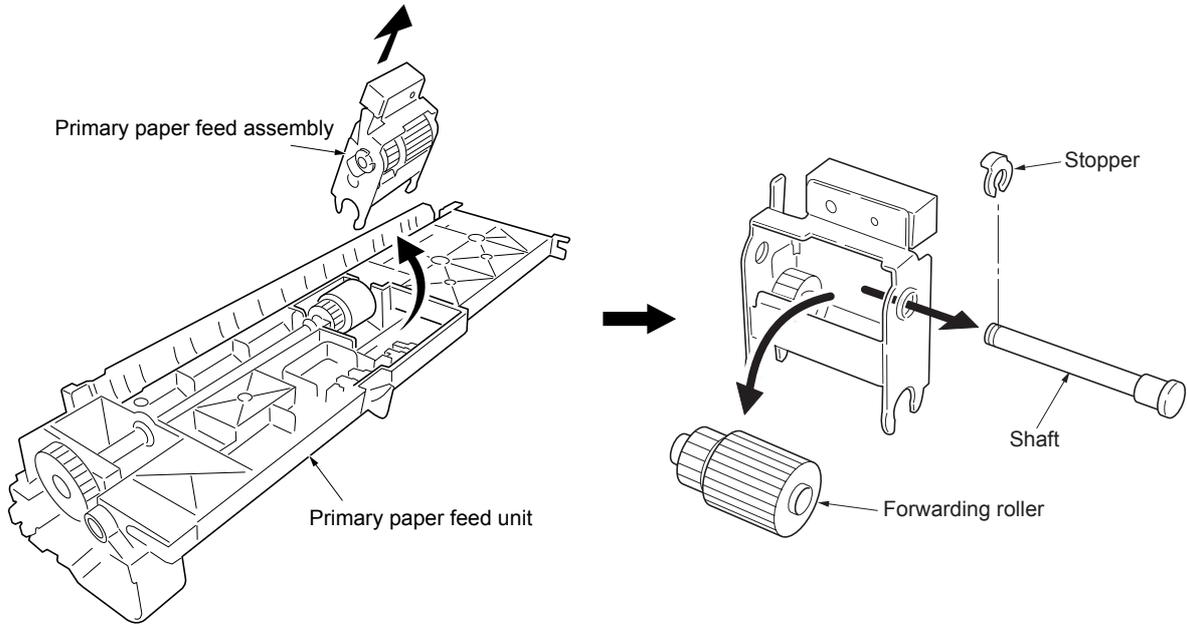


Figure 1-6-10

**(2) Detaching and refitting the forwarding roller and paper feed roller**

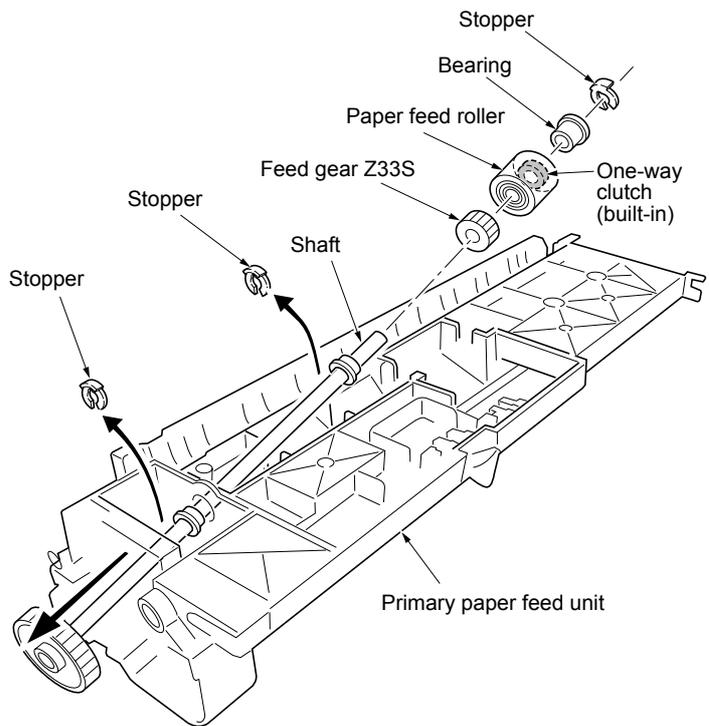
**<Procedure>**

1. Remove the primary paper feed unit (See previous page).
2. Pull up the primary paper feed assembly and then remove the assembly from the bearing.
3. Remove one stopper and pull out the shaft, and then remove the forwarding roller.



**Figure 1-6-11**

4. Remove three stoppers and slide the shaft to remove the bearing and paper feed roller.
5. Check or replace the paper feed roller and then refit all the removed parts.



**Figure 1-6-12**

### (3) Detaching and refitting the lower paper feed pulley

#### <Procedure>

1. Remove the paper feed roller (See previous page).
2. Remove two stoppers and slide the shaft to remove the bearing, insulator, lower paper feed pulley release lever, spring, lower paper feed pulley, pin and torque limiter 360.
3. Check or replace the lower paper feed pulley and then refit all the removed parts.

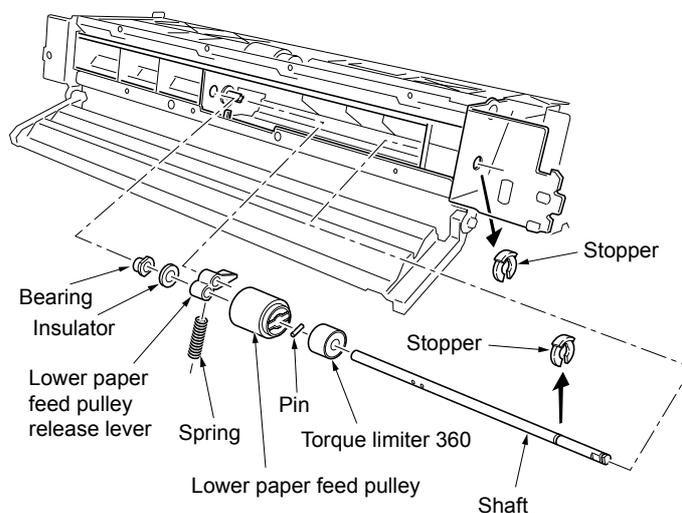


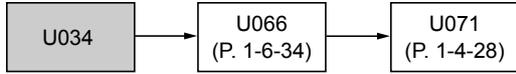
Figure 1-6-13

**(4) Adjustment after roller and clutch replacement**

Perform the following adjustment after refitting rollers and clutches.

**(4-1) Adjusting the leading edge registration of image printing**

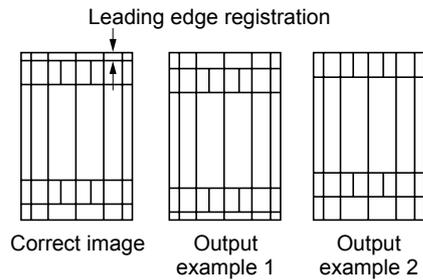
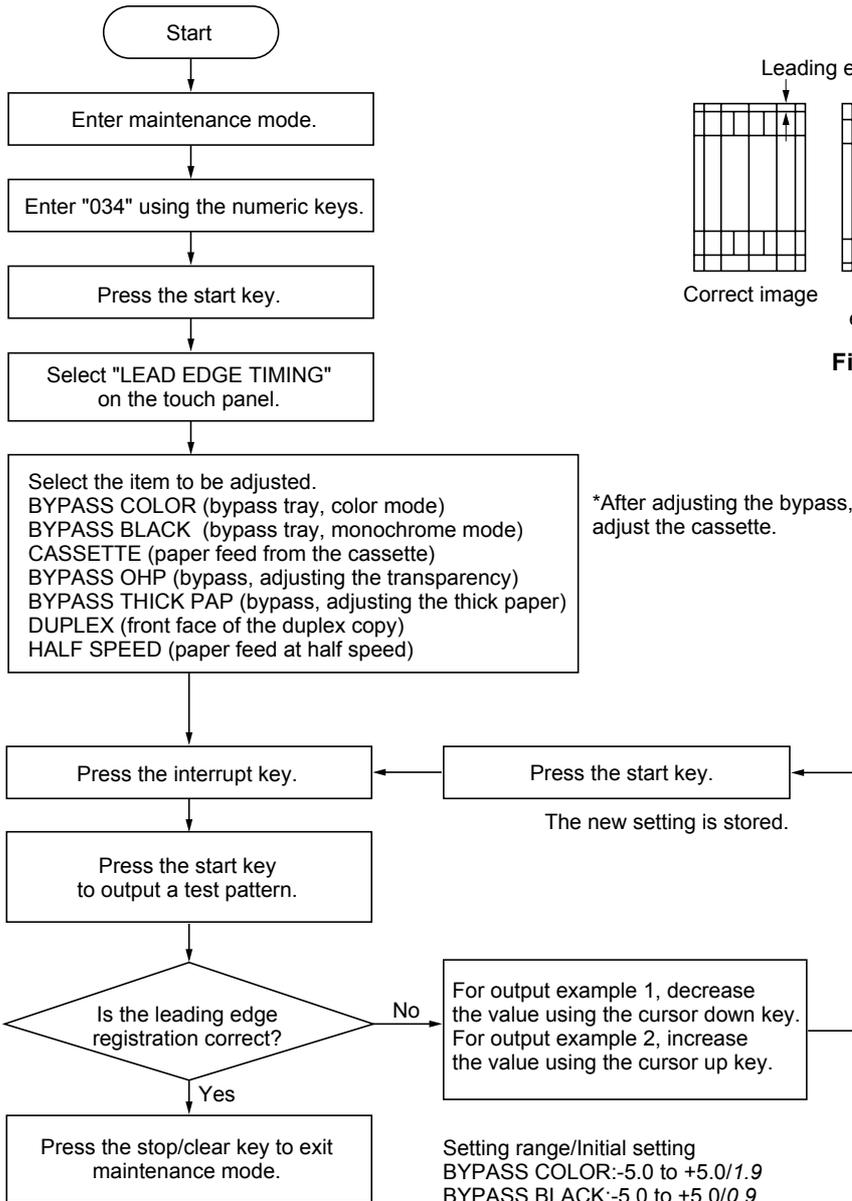
Make the following adjustment if there is a regular error between the leading edges of the copy image and original.



**<Caution>**

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

**<Procedure>**

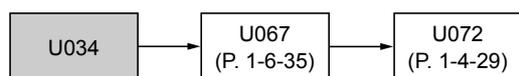


**Figure 1-6-14**

Setting range/Initial setting  
 BYPASS COLOR:-5.0 to +5.0/1.9  
 BYPASS BLACK:-5.0 to +5.0/0.9  
 CASSETTE:-5.0 to +5.0/0  
 BYPASS OHP:-5.0 to +5.0/-0.1  
 BYPASS THICK PAP:-5.0 to +5.0/-0.4  
 DUPLEX:-5.0 to +5.0/0.3  
 HALF SPEED:-5.0 to +5.0/-5  
 Changing the value by 1 moves the leading edge by 0.1 mm.

#### (4-2) Adjusting the center line of image printing

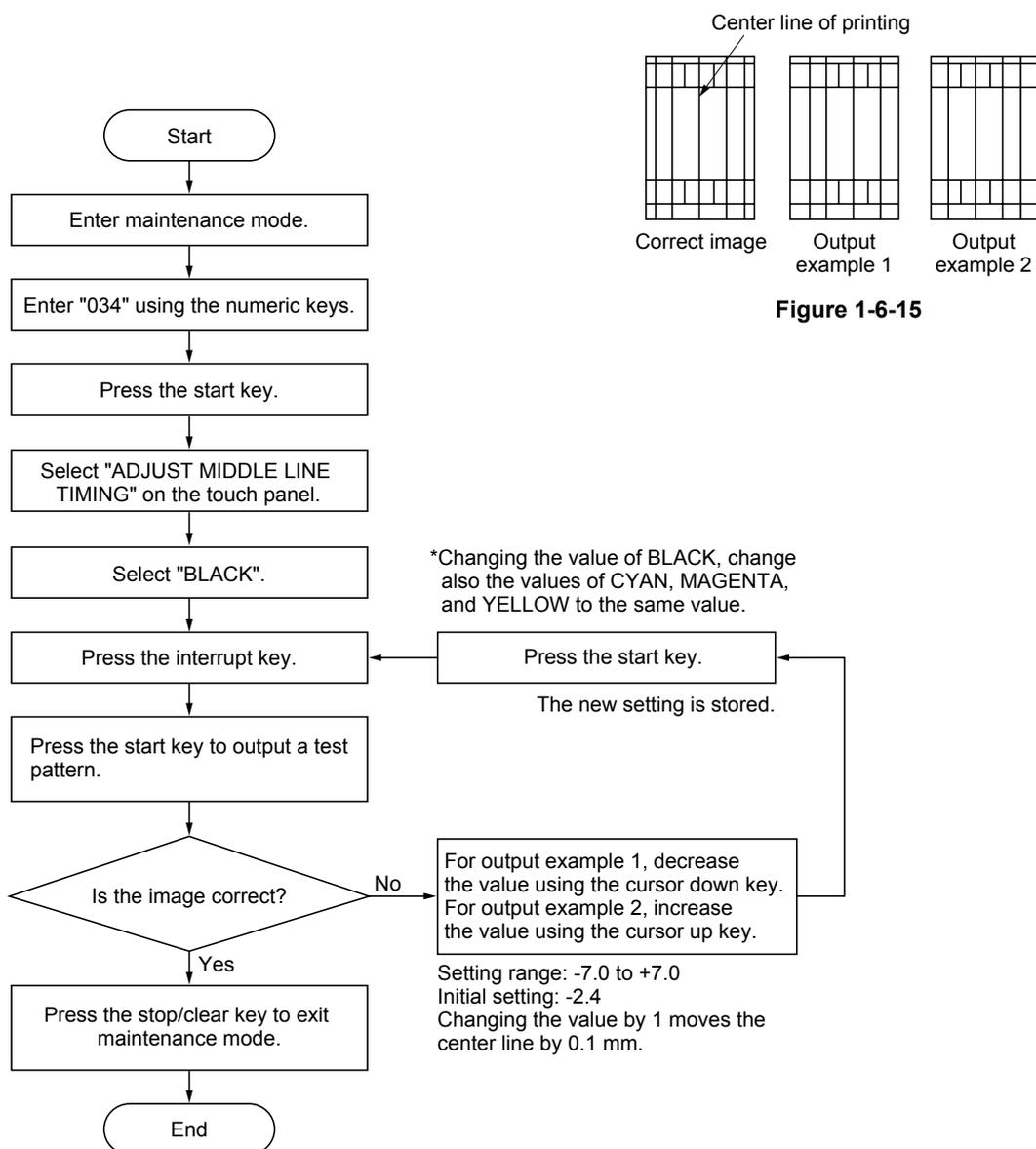
Make the following adjustment if there is a regular error between the center lines of the copy image and original.



#### <Caution>

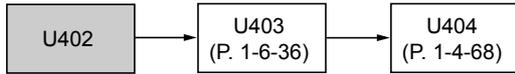
Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

#### <Procedure>



**(4-3) Adjusting the margins for printing**

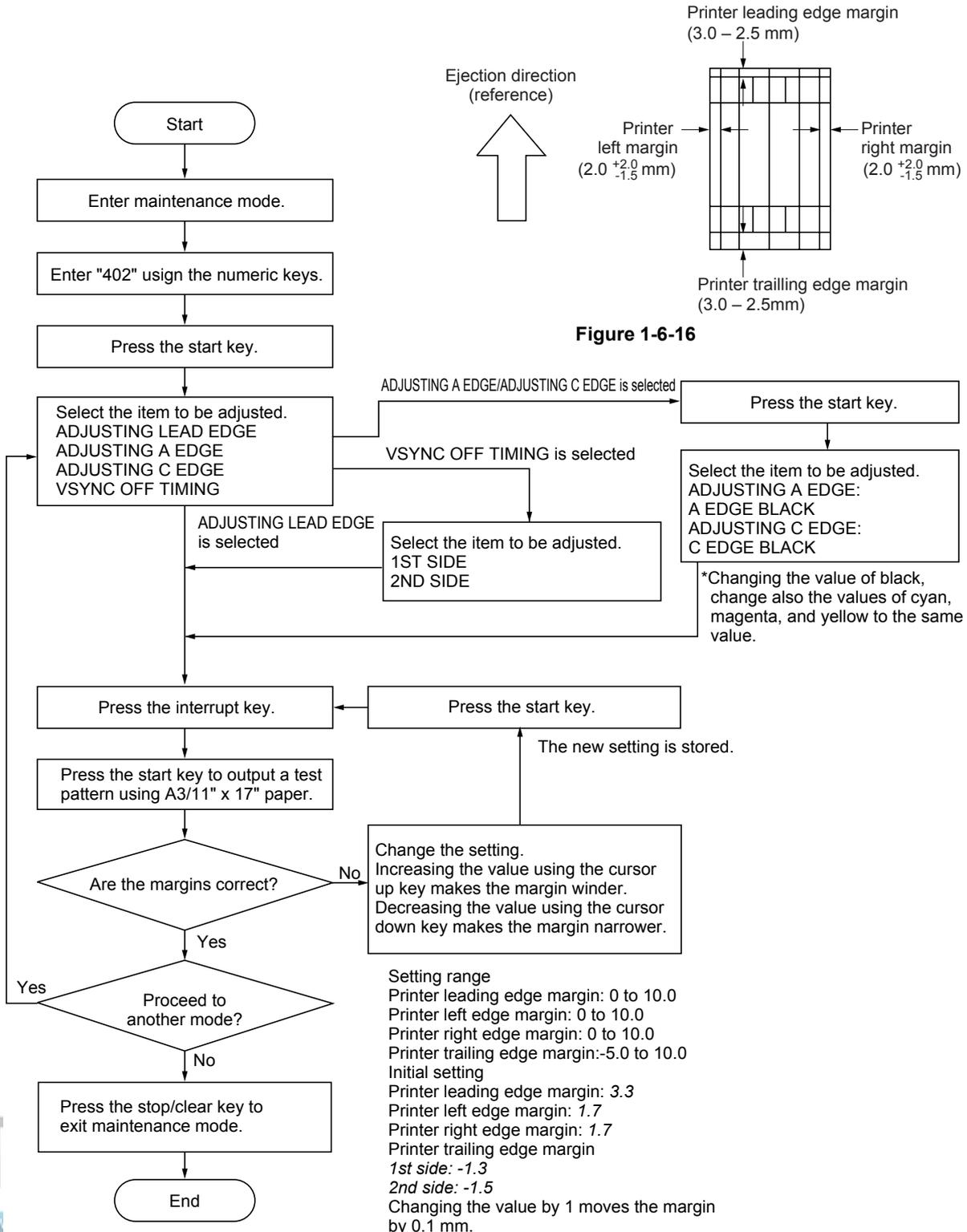
Make the following adjustment if the margins are not correct.



**<Caution>**

Check the copy image after the adjustment. If the margins are still incorrect, perform the above adjustments in maintenance mode.

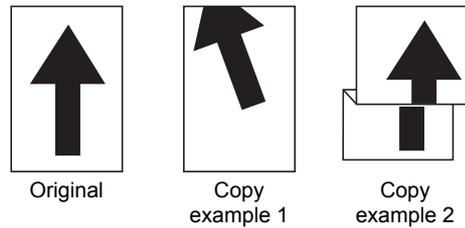
**<Procedure>**



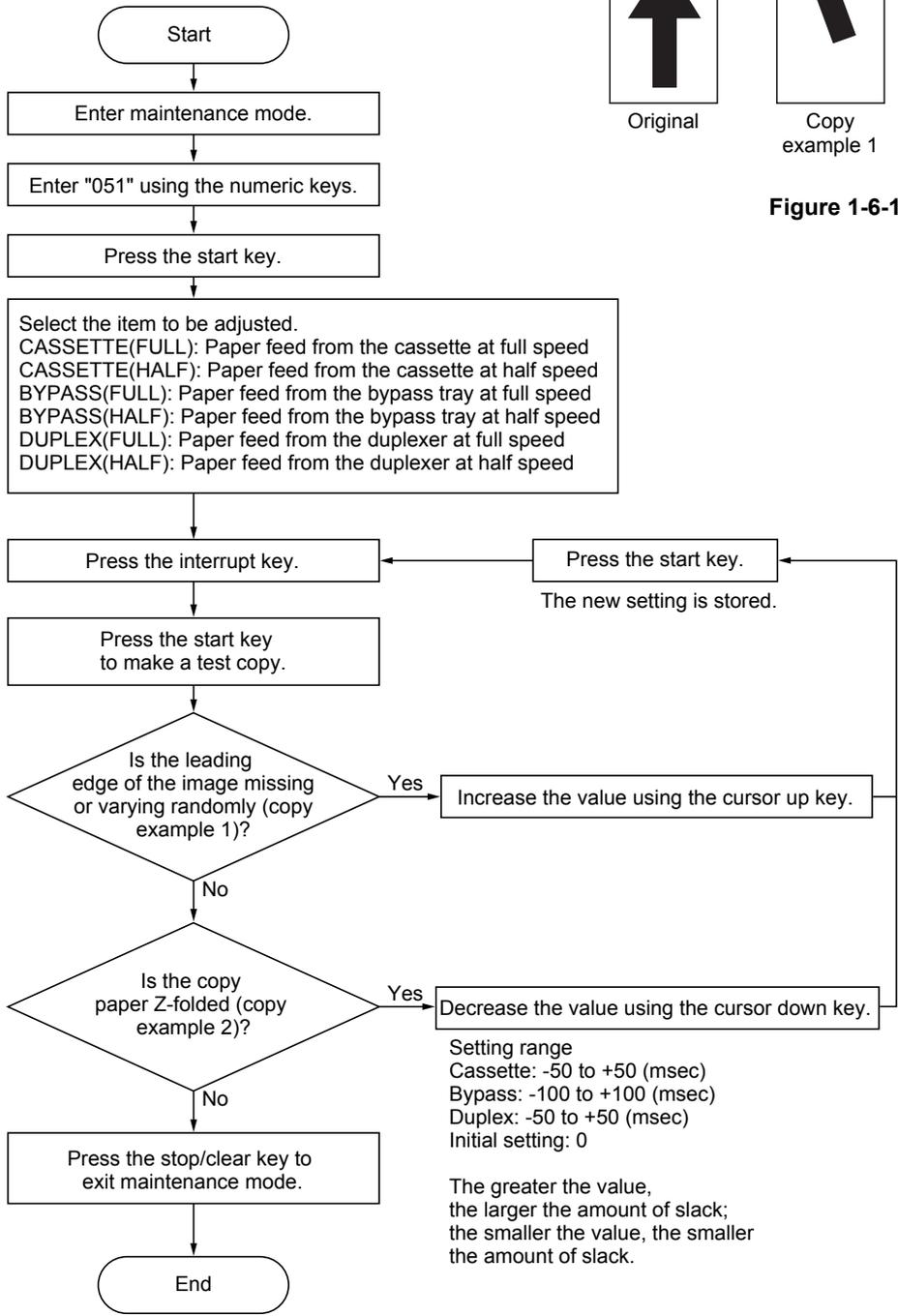
**(4-4) Adjusting the amount of slack in the paper**

Make the following adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

**<Procedure>**

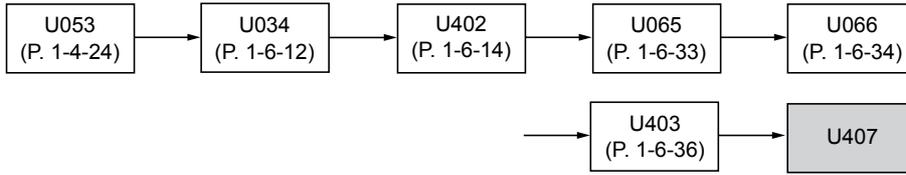


**Figure 1-6-17**



**(4-5) Adjusting the leading edge registration for duplex switchback copying**

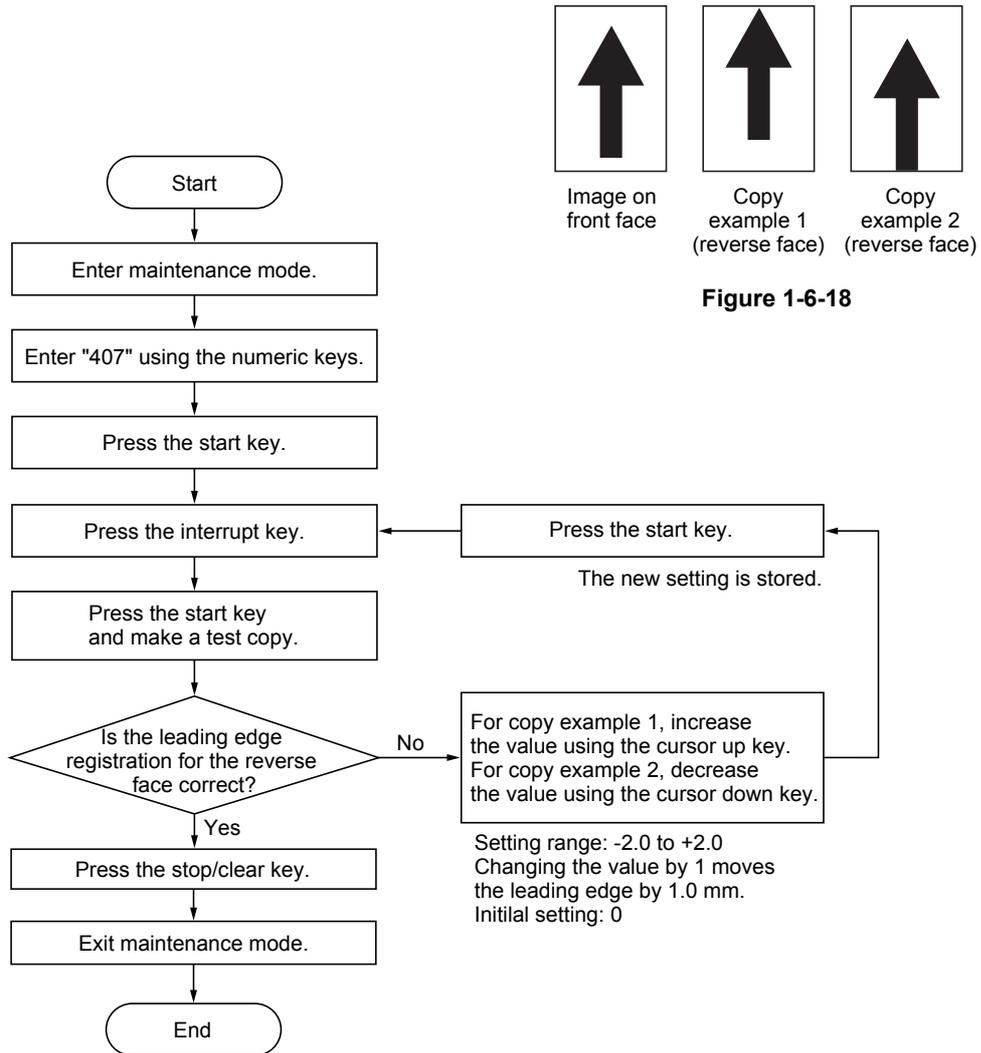
Make the following adjustment if there is a regular error between the leading edge of the copy image on the front face and that on the reverse face during duplex switchback copying.



**<Caution>**

Before making the following adjustment, ensure the above adjustments have been made in maintenance mode.

**<Procedure>**



## 1-6-4 Bypass feed unit

### (1) Detaching and refitting the bypass feed roller and bypass retard roller

#### <Procedure>

1. Pull out the paper feed unit (transfer unit).
2. Open the bypass tray.
3. Release one claw and remove the bypass feed roller.
4. Remove the bypass retard roller holder.
5. Remove the bypass retard roller.
6. Check or replace the bypass feed roller and bypass retard roller, and then refit all the removed parts.

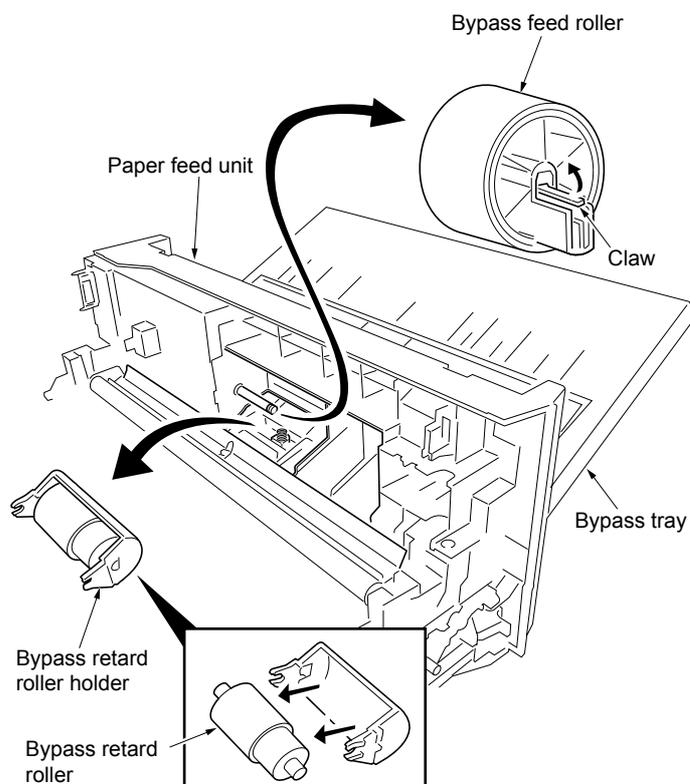


Figure 1-6-19

### 1-6-5 Optical section

#### (1) Detaching and refitting the exposure lamp

Follow the procedure below to replace the exposure lamp.

##### <Procedure>

1. Remove four screws and then remove the scanner unit from the scanner rack.
2. Remove the original cover or the DP.
3. Remove the operation unit lower cover.  
Remove the three connectors.  
Remove the two screws (see page 1-6-20).

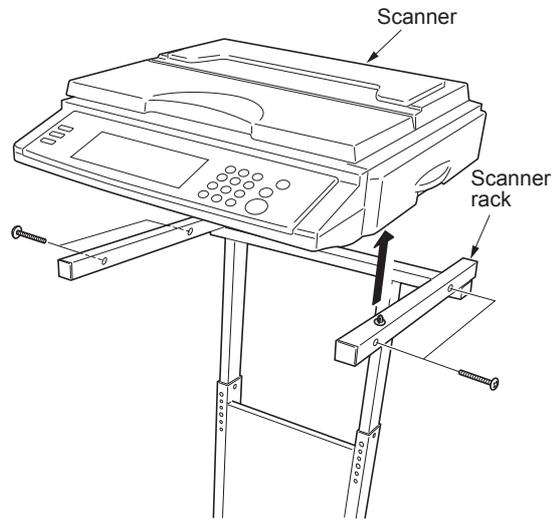


Figure 1-6-20

4. Remove the screw and remove the right upper cover. And then remove the contact glass.

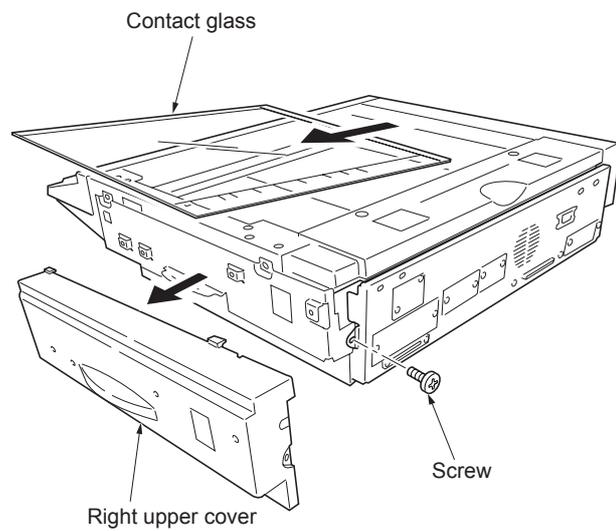
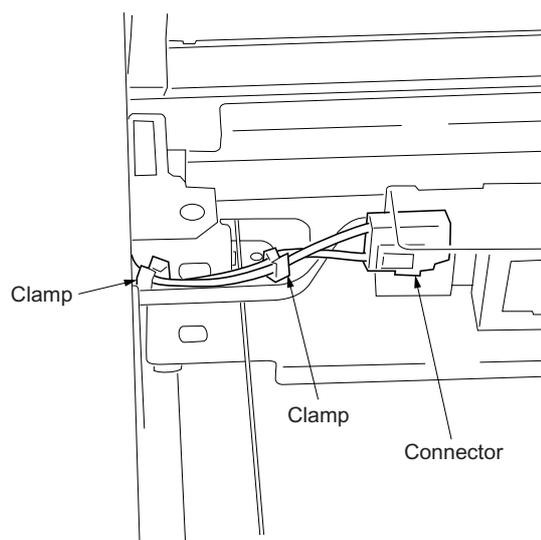
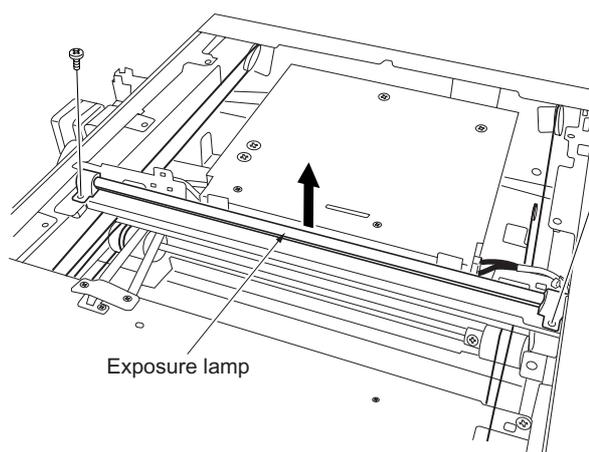


Figure 1-6-21

5. Turn the scanner wire drum to move the mirror 1 frame to the center of the machine.
6. Remove the connector of the exposure lamp from the inverter PWB and remove the wire from the two clamps.

**Figure 1-6-22**

7. Remove the two screws holding the exposure lamp and then remove the lamp.
8. Replace the exposure lamp and refit all the removed parts.

**Figure 1-6-23**

**(2) Detaching and refitting the scanner wires**

Take the following procedure when the scanner wires are broken or to be replaced.

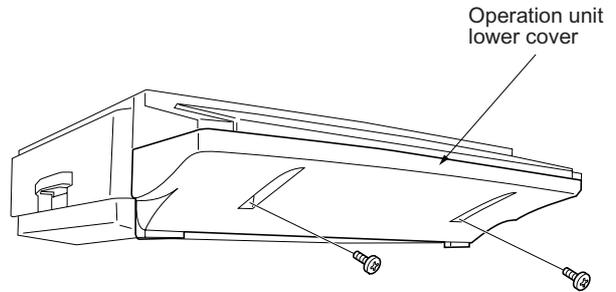
**Caution:**

After replacing the scanner wire, make a test copy and check the copy image. If the image is incorrect, perform the adjustments (see pages 1-6-32 to 36).

**(2-1) Detaching the scanner wires**

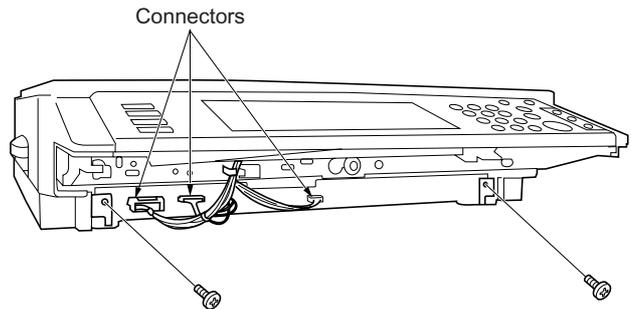
**<Procedure>**

1. Remove the scanner unit from the scanner rack (see page 1-6-18).
2. Remove the original cover or the DP.
3. Remove the two screws and then remove the operation unit lower cover.



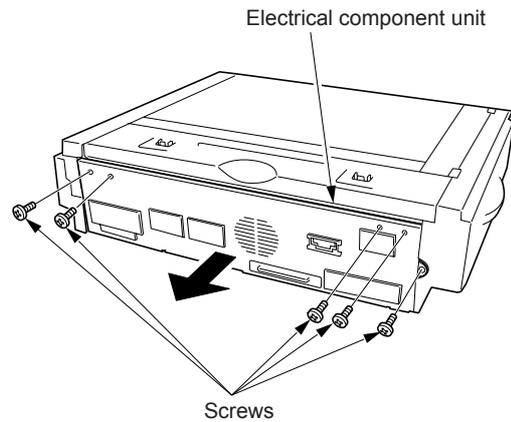
**Figure 1-6-24**

4. Remove the three connectors.
5. Remove the two screws.



**Figure 1-6-25**

6. Remove the right upper cover and contact glass (see page 1-6-18).  
Remove the five screws and then pull out the electrical component mounting plate a little.



**Figure 1-6-26**

7. Remove the left upper cover.
8. Remove the two screws and then rear upper cover.

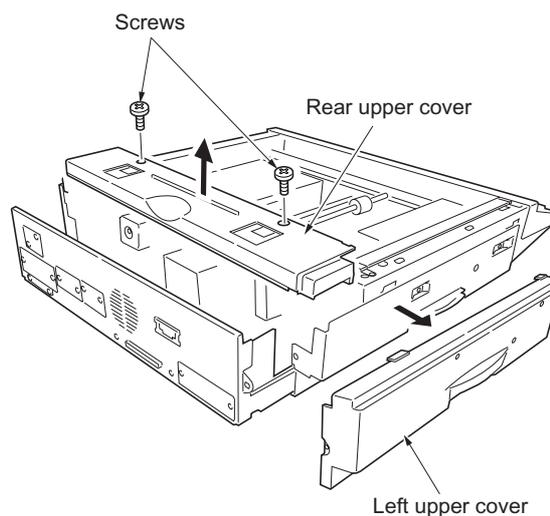


Figure 1-6-27

9. Remove the connector from the scanner motor.  
Remove the two connectors from the scanner sub PWB.  
Remove the two connectors from the scanner main PWB.
10. Pull the electrical component unit out from the machine.  
\* Refit the electrical component unit so that the cable of the scanner motor is positioned on the left of the duct.

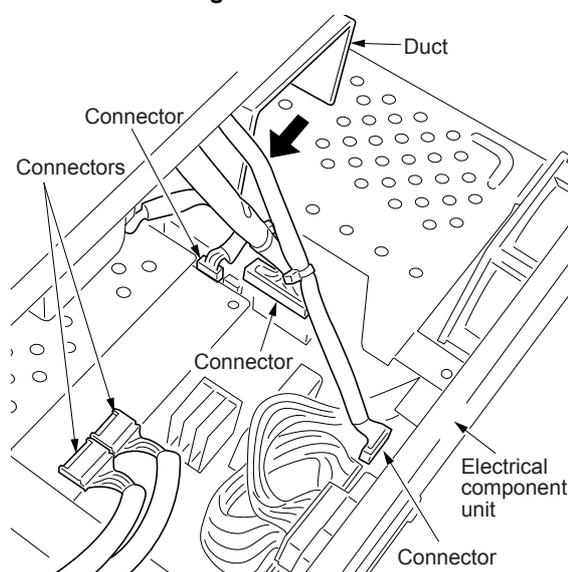


Figure 1-6-28

11. Hold the four claws of the scanner drive cover and then remove the cover.

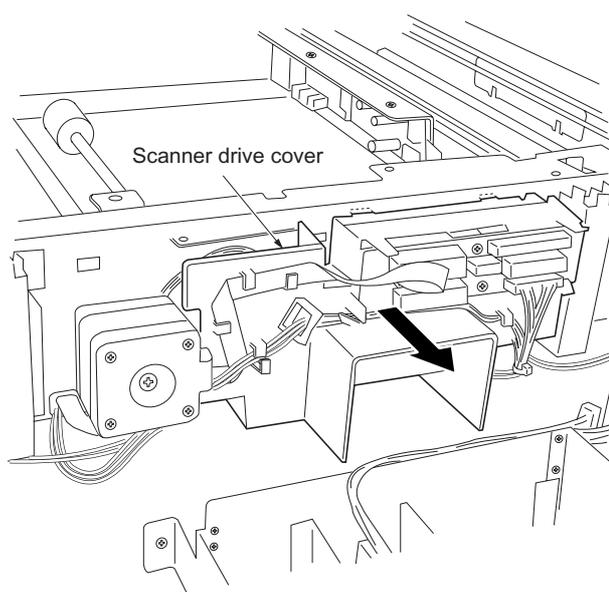
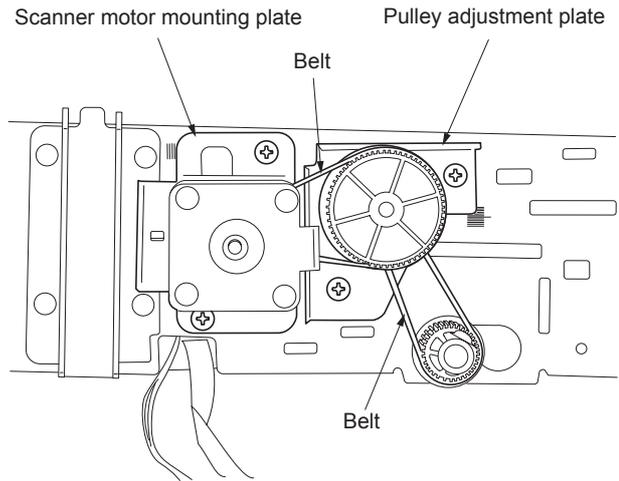


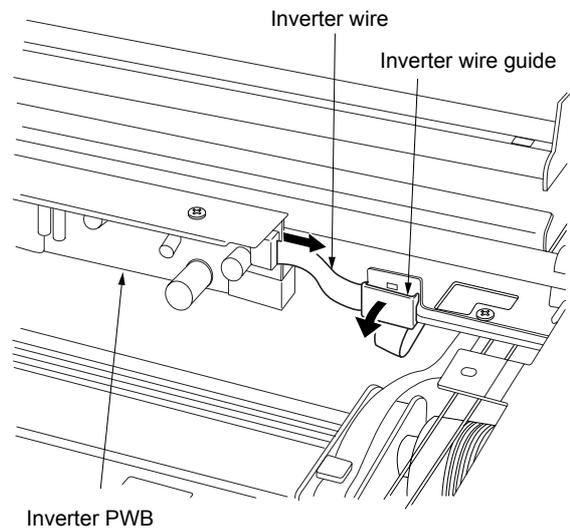
Figure 1-6-29

12. Loosen two screws of the scanner motor mounting plate, and detach the belt.
  - \* Mark a fixed position before loosening the screw of the scanner motor mounting plate.
13. Loosen two screws of the pulley adjustment plate, and detach the belt.
  - \* Mark a fixed position before loosening the screw of the pulley adjustment plate.



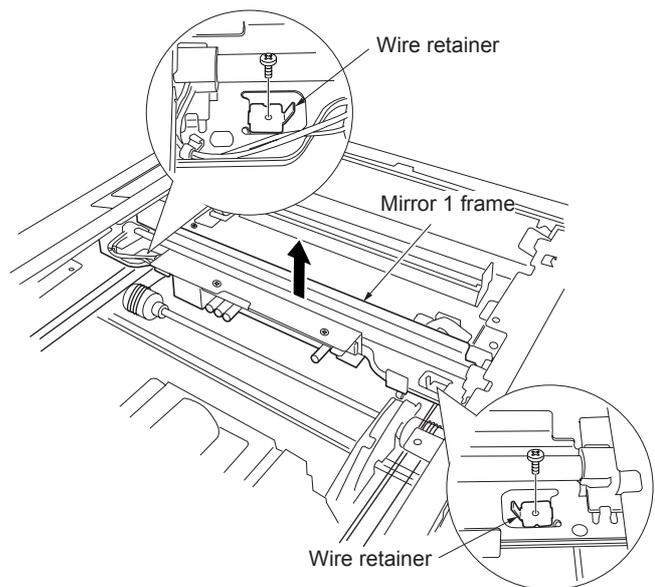
**Figure 1-6-30**

14. Move the mirror 1 frame to the machine center.
15. Detach the inverter wire guide and remove the inverter wire from the inverter PWB.



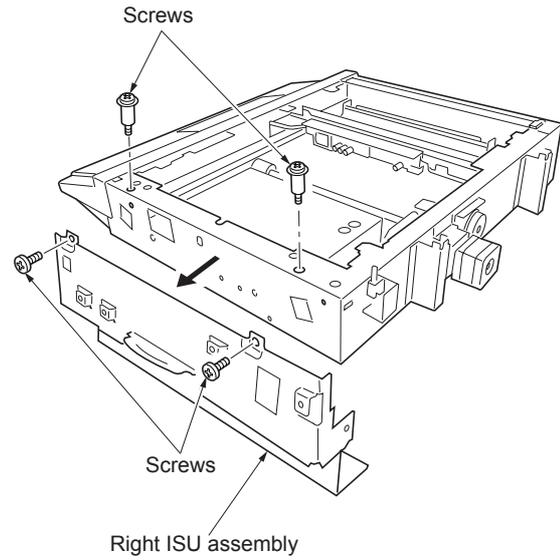
**Figure 1-6-31**

16. Remove the screw holding each of the front and rear wire retainers and then remove the retainers.
17. Remove the mirror 1 frame.



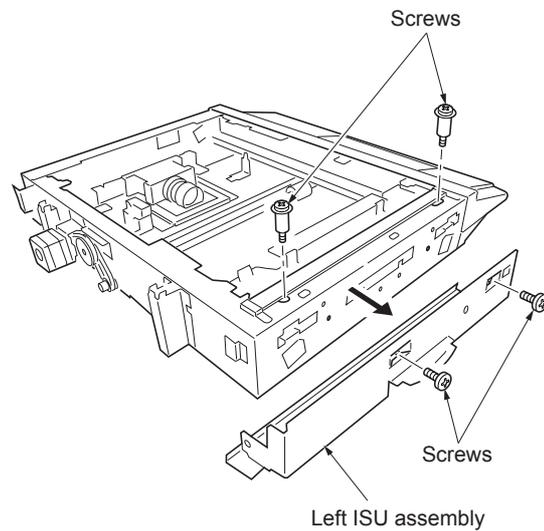
**Figure 1-6-32**

18. Remove the four screws and then right ISU assembly.



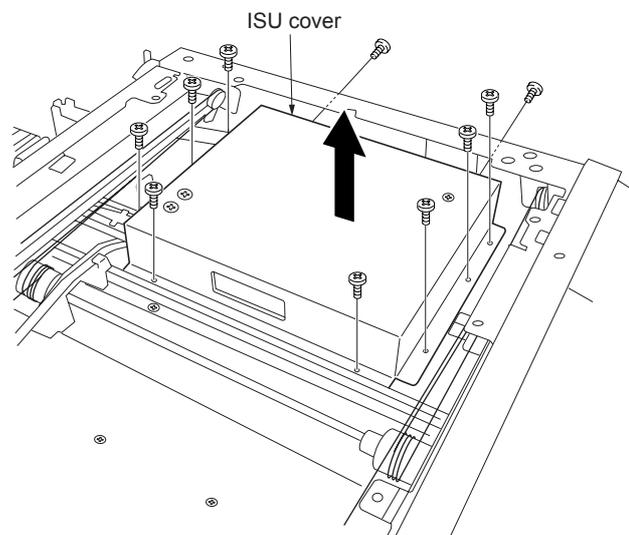
**Figure 1-6-33**

19. Remove the four screws and then left ISU assembly.



**Figure 1-6-34**

20. Remove the ten screws (machine inside: 8, right side: 2), and then remove the ISU cover.



**Figure 1-6-35**

- 21. Pull out the inverter wire from the mirror 2 frame.
- 22. Hold the six claws of the scanner wire guide and then remove the guide.

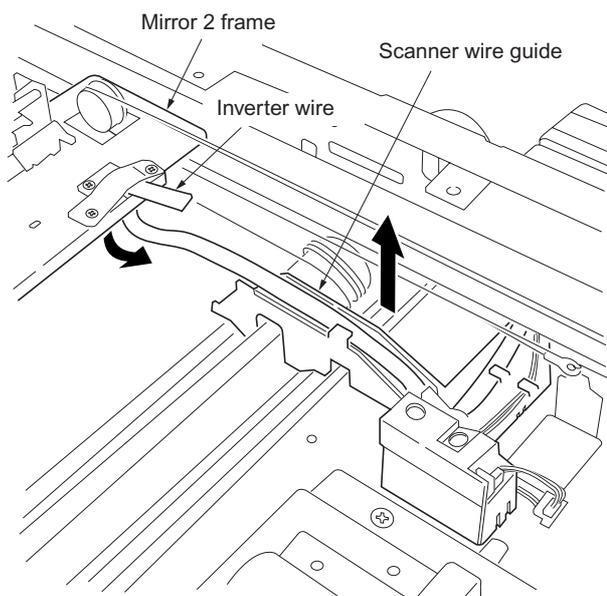


Figure 1-6-36

- 23. Unhook the round terminal of the scanner wire from the scanner tension spring on the left side of the scanner unit.
- 24. Remove the scanner wire.

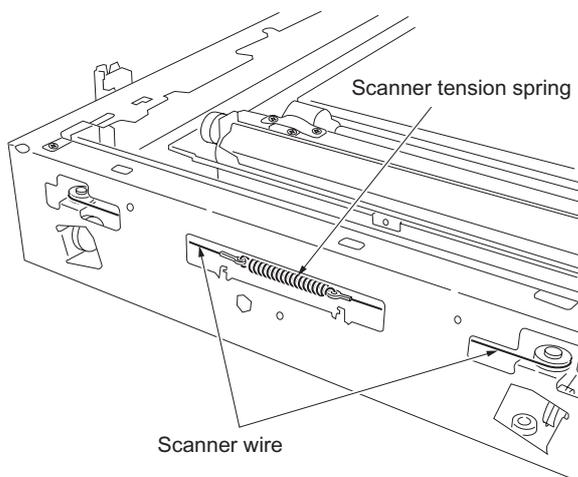


Figure 1-6-37

**(2-2) Fitting the scanner wires****<Caution>**

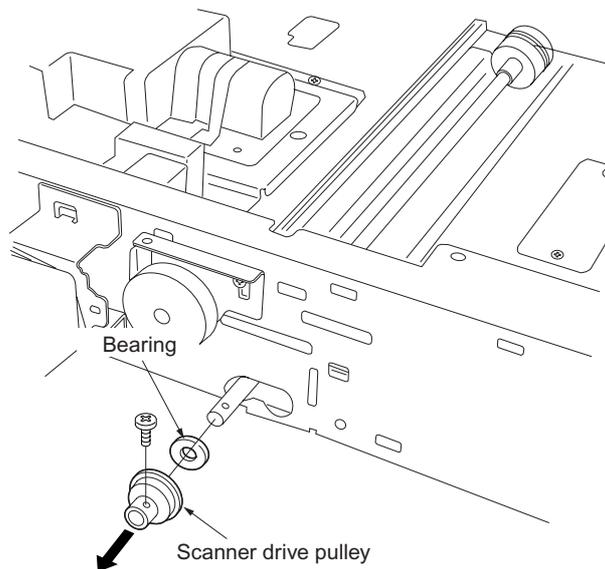
When fitting the wires, be sure to use those specified below.  
P/N 2A6693070

**<Fitting requires the following tools>**

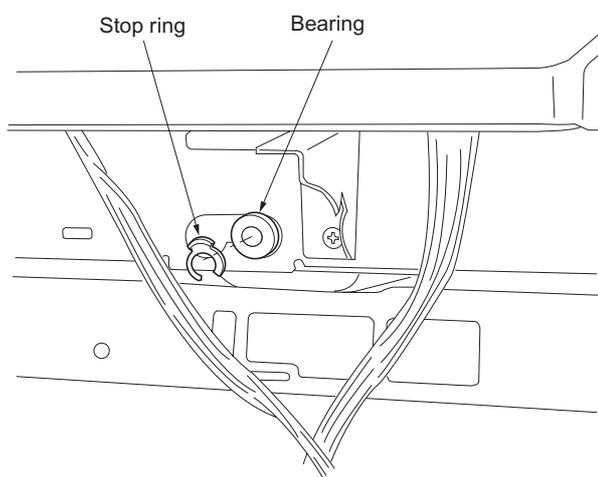
Two frame securing tools (P/N 2A668030)  
Two scanner wire stoppers (P/N 35968110)

**<Procedure>**

1. Remove the screw and then remove the scanner drive pulley.
2. Remove the bearing from the scanner wire drum shaft.

**Figure 1-6-38**

3. Remove the bearing and the stop ring of the scanner wire drum shaft from the machine front.
4. Remove the scanner wire drum shaft.

**Figure 1-6-39**

5. Insert the locating ball on each of the wires into the hole in the respective scanner wire drum and wind the scanner wire four turns inward and six turns outward.
- \* With the locating ball as the reference point, wind the shorter end of each wires inward.
6. Secure the scanner wires using the scanner wire stoppers.

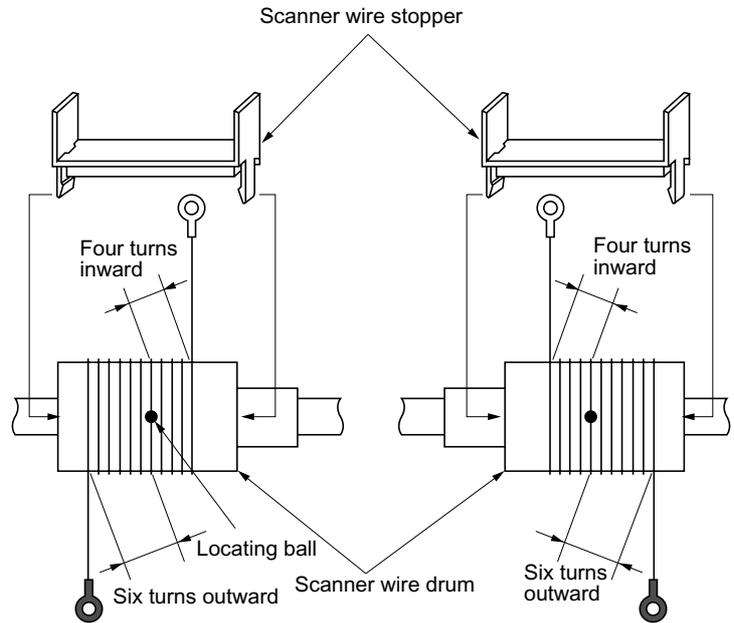


Figure 1-6-40

7. Put back the scanner wire drum shaft and refit the two bearings, the stop ring and the scanner drive pulley.
8. Insert the two frame securing tools into the positioning holes at the front and rear of the machine center to pin the mirror 2 frame in position.

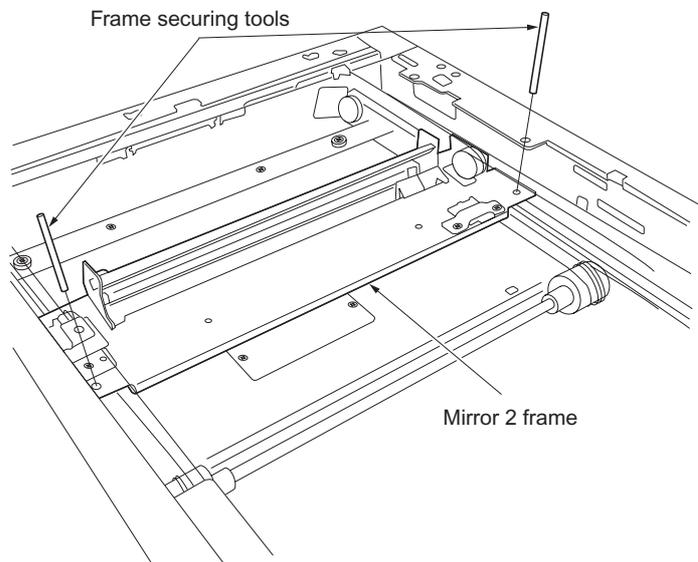


Figure 1-6-41

9. Loop the inner ends of the scanner wires around the grooves in the pulleys at the left of the machine, winding from below to above. ①
10. Loop the scanner wires around the outer grooves in the pulleys on the mirror 2 frame, winding from below to above. ②
11. Wind the scanner wires around the grooves in the pulleys at the left of the machine. ③
12. Hook the round terminals onto the catches at the left of the machine. ④
13. Loop the outer ends of the scanner wires around the grooves in the pulleys at the right of the machine, winding from below to above. ⑤
14. Loop the scanner wires around the grooves in the pulleys on the mirror 2 frame, winding from above to below. ⑥
15. Hook the round terminals onto the catches inside of the machine. ⑦

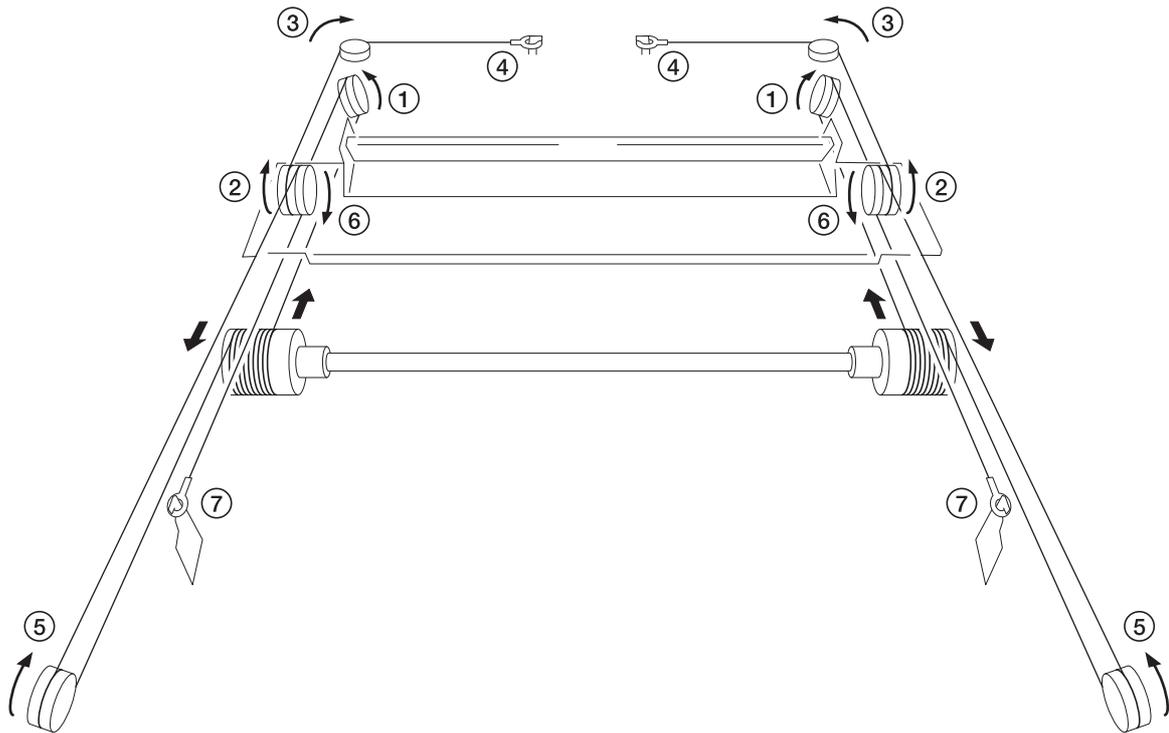


Figure 1-6-42

16. Remove the round terminals of scanner wire at the left and hook the terminals to the scanner tension spring.
17. Remove the scanner wire stoppers from the scanner wire drum.

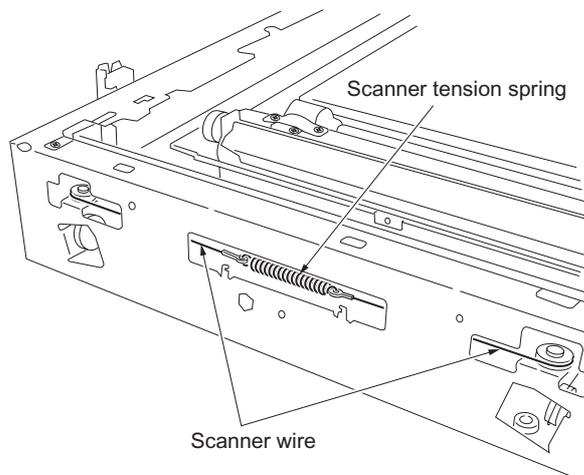
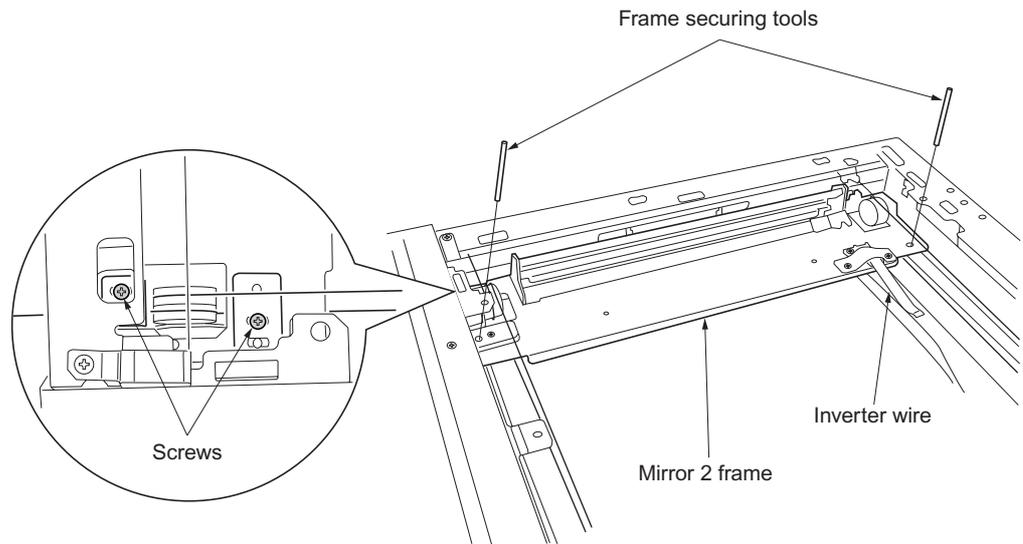


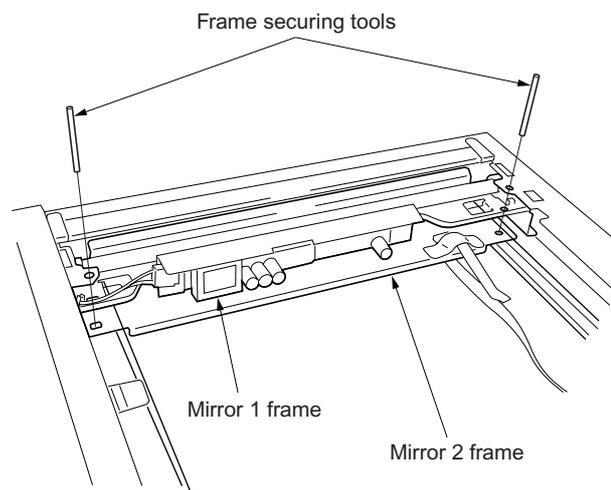
Figure 1-6-43

18. Pass the inverter wire in the mirror 2 frame as it was.
19. Insert the two frame securing tools into the positioning holes at the front and rear of the machine left to pin the mirror 2 frame in position.
20. Loosen the two screws at the front of the mirror 2 frame temporarily and then retighten them while checking that the frame securing tools move smoothly in the vertical direction.



**Figure 1-6-44**

21. After removing the frame securing tools, return the mirror 1 frame to the main body of the machine and slide it to position to the positioning holes at the front and the rear on the left side of the machine.
22. Insert the frame securing tools into the positioning holes to secure both the mirror 1 frame and the mirror 2 frame.



**Figure 1-6-45**

23. Put the front and rear scanner wires between the wire retainers and fix them with a screw each.
- \* Fix them while checking that the frame securing tools move smoothly in the vertical direction.
24. Remove the two frame securing tools.

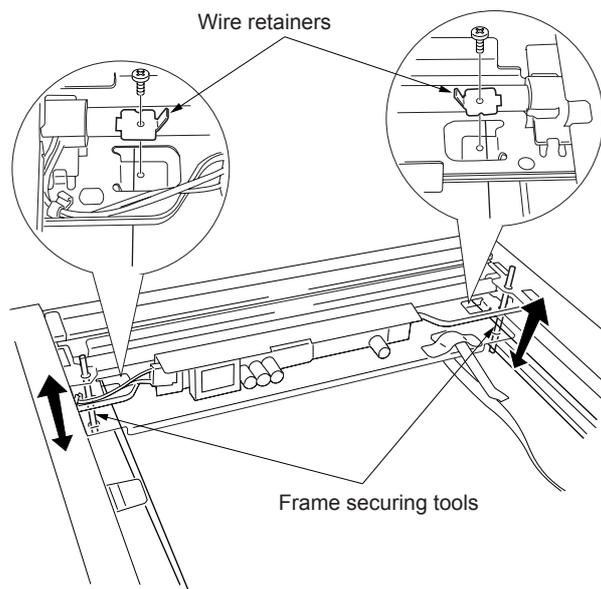


Figure 1-6-46

25. Connect the inverter wire to the inverter PWB and refit the inverter wire guide.
26. Move the mirror frames from side to side to correctly locate the wires in position.
27. Refit all the removed parts.

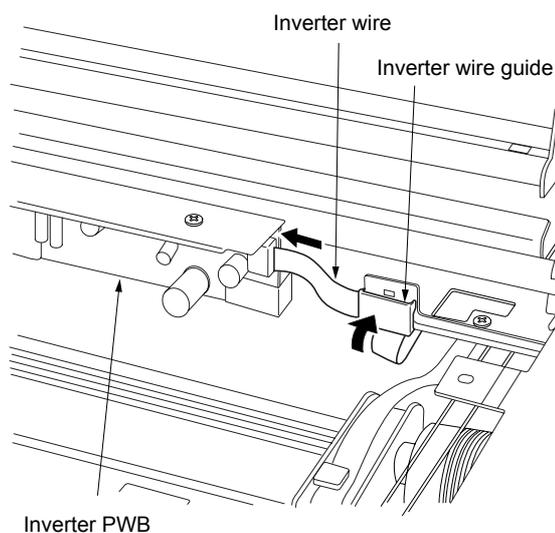


Figure 1-6-47

**(3) Detaching and refitting the ISU (reference)**

Follow the procedure below to replace the ISU.

**<Caution>**

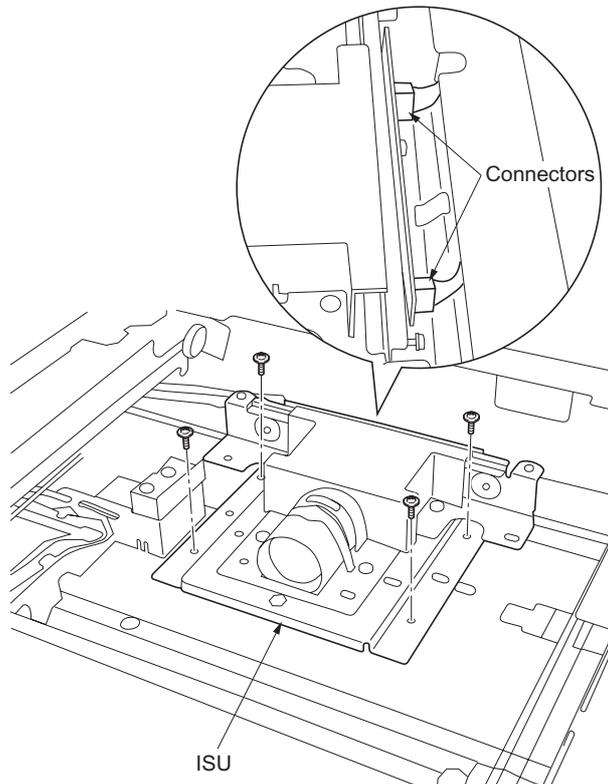
After replacing the ISU, make a test copy and check the copy image. If the image is incorrect, perform the adjustments (see pages 1-6-32 to 36).

**<ISU installation requires the following tools>**

Two positions pins (P/N 18568120)

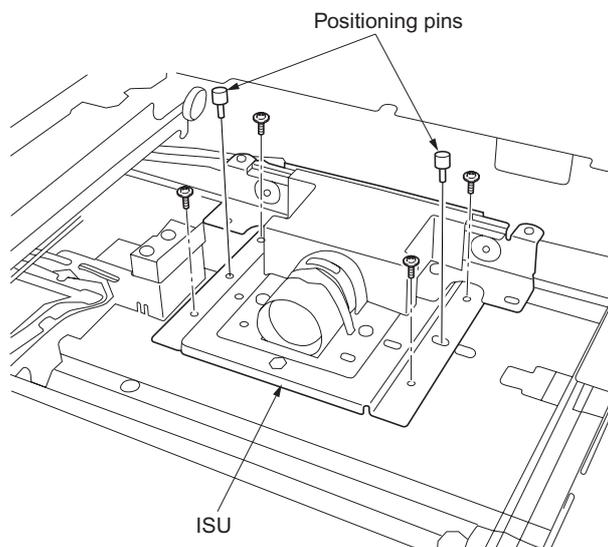
**<Procedure>**

- Detaching the ISU
  1. Remove the scanner unit from the scanner rack (see page 1-6-18).
  2. Remove the original cover or the DP.
  3. Remove the operation unit lower cover. Remove the three connectors. Remove the two screws (see page 1-6-20).
  4. Remove the right upper cover and contact glass (see page 1-6-18). Pull out the electrical component mounting plate a little (see page 1-6-18).
  5. Remove the left upper cover (see page 1-6-21).
  6. Remove the right and left ISU assembly (see page 1-6-23).
  7. Remove the ISU cover (see page 1-6-23).
  8. Remove the four screws and two connectors and then remove the ISU.
  9. Replace the ISU.



**Figure 1-6-48**

- Refitting the ISU
  10. Fit the ISU using the two positioning pins.
  11. Refit the ISU using the four screws.
  12. Remove the two positioning pins and connect the two connectors.
  13. Refit all the removed parts.



**Figure 1-6-49**

#### (4) Detaching and refitting the original size detection switch

Follow the procedure below to replace the original size detection switch.

##### <Procedure>

1. Remove the scanner unit from the scanner rack (see page 1-6-18).
2. Remove the original cover or the DP.
3. Remove the operation unit lower cover.  
Remove the three connectors.
4. Remove the right upper cover and contact glass (see page 1-6-18).  
Pull out the electrical component mounting plate a little (see page 1-6-18).
5. Remove the left upper cover (see page 1-6-21).
6. Remove the right and left ISU assembly (see page 1-6-23).
7. Remove the ISU cover (see page 1-6-23).
8. Remove the screw and connector and then the original size detection switch.
9. Replace the original size detection switch and refit all the removed parts.

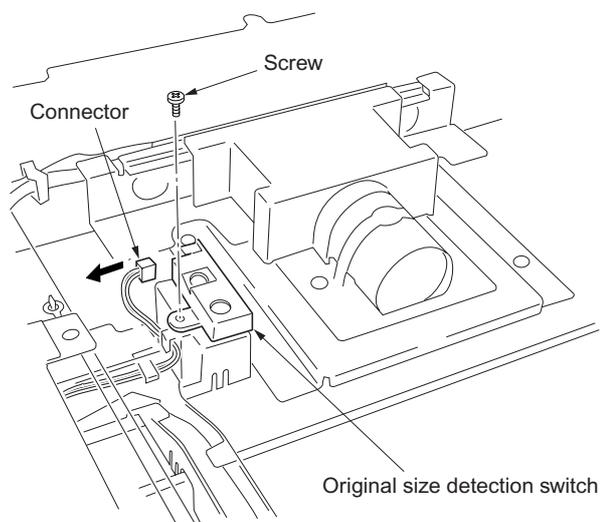
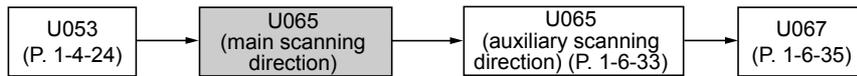


Figure 1-6-50

**(5) Adjusting magnification of the scanner in the main scanning direction**

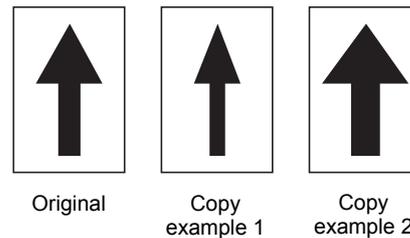
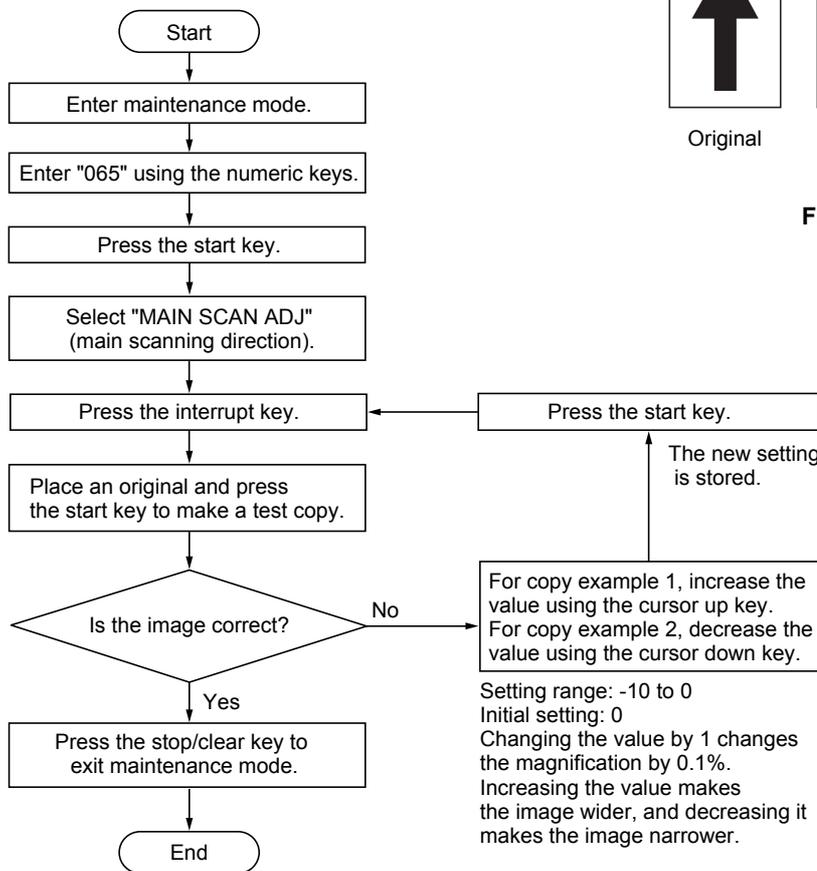
Perform the following adjustment if the magnification in the main scanning direction is not correct.



**<Caution>**

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode. Also, perform “(6) Adjusting magnification of the scanner in the auxiliary scanning direction” (page 1-6-33) and “(8) Adjusting the scanner center line” (page 1-6-35) after this adjustment.

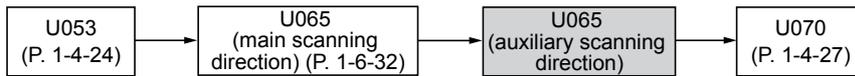
**<Procedure>**



**Figure 1-6-51**

**(6) Adjusting magnification of the scanner in the auxiliary scanning direction**

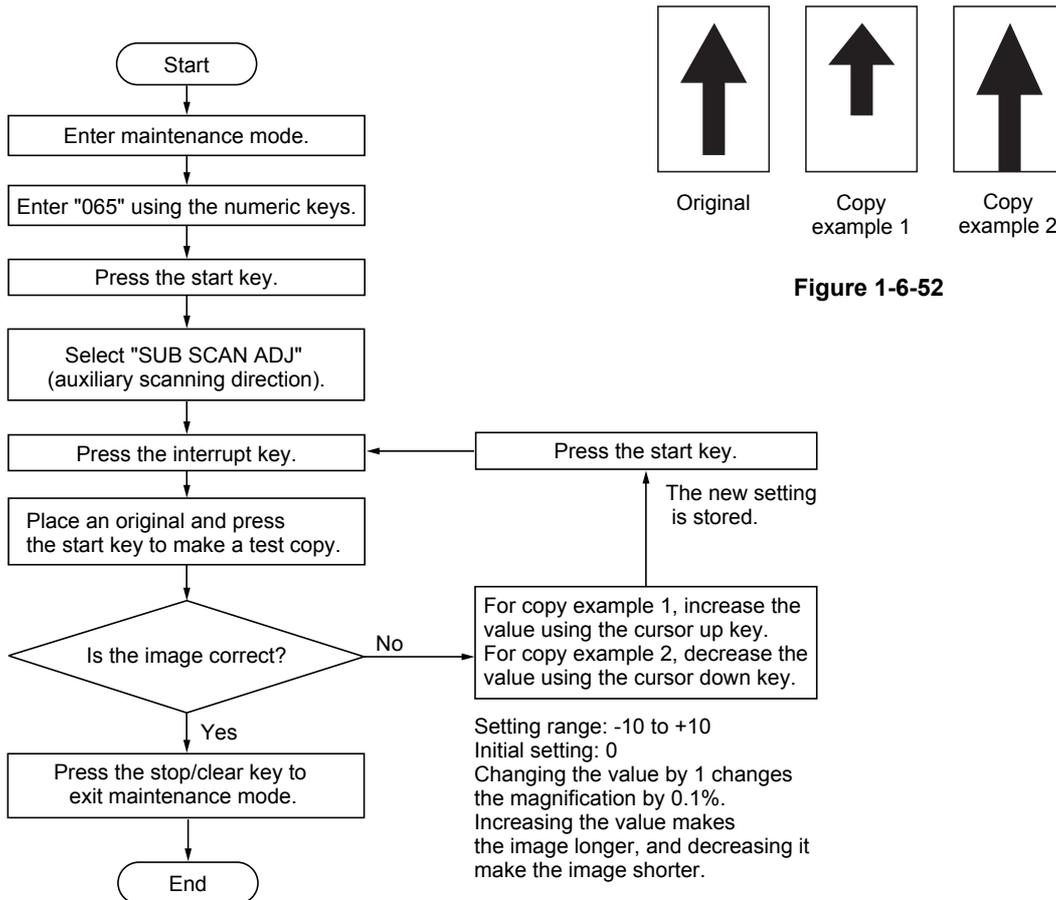
Perform the following adjustment if the magnification in the auxiliary scanning direction is not correct.



**<Caution>**

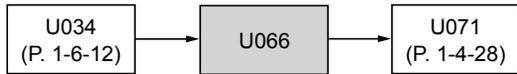
Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

**<Procedure>**



**(7) Adjusting the scanner leading edge registration**

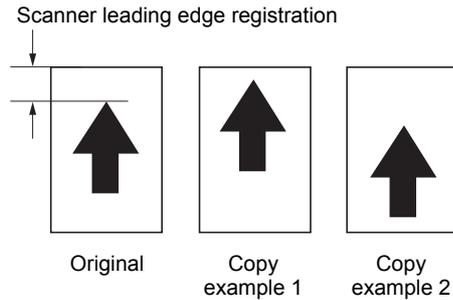
Perform the following adjustment if there is regular error between the leading edges of the copy image and original.



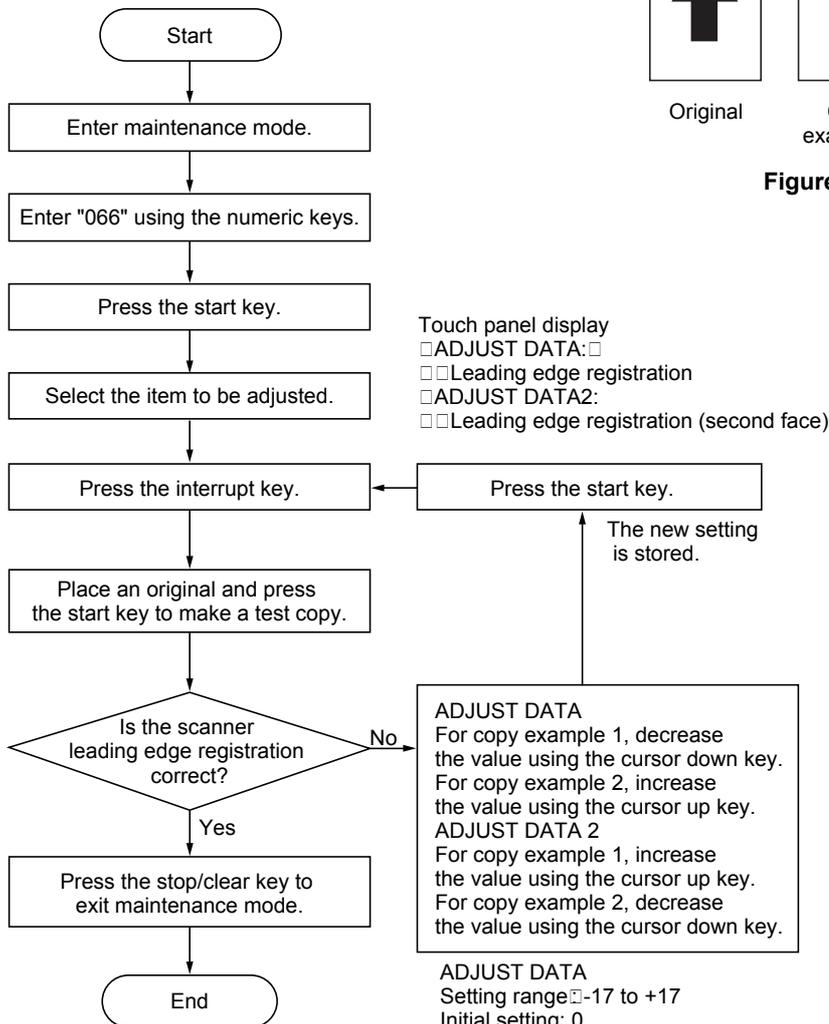
**<Caution>**

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

**<Procedure>**



**Figure 1-6-53**



Touch panel display  
 ADJUST DATA:  
 Leading edge registration  
 ADJUST DATA2:  
 Leading edge registration (second face)

ADJUST DATA  
 Setting range: -17 to +17  
 Initial setting: 0  
 Changing the value by 1 moves the leading edge by 0.23288 mm.

ADJUST DATA2  
 Setting range: -20 to +20  
 Initial setting: 0  
 Changing the value by 1 moves the leading edge by 0.3387 mm.

**(8) Adjusting the scanner center line**

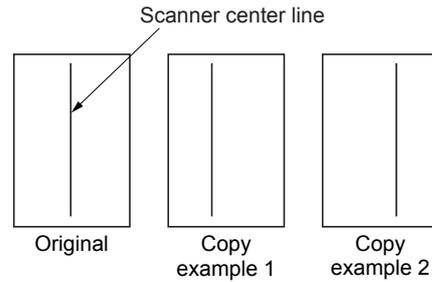
Perform the following adjustment if there is a regular error between the center lines of the copy image and original.



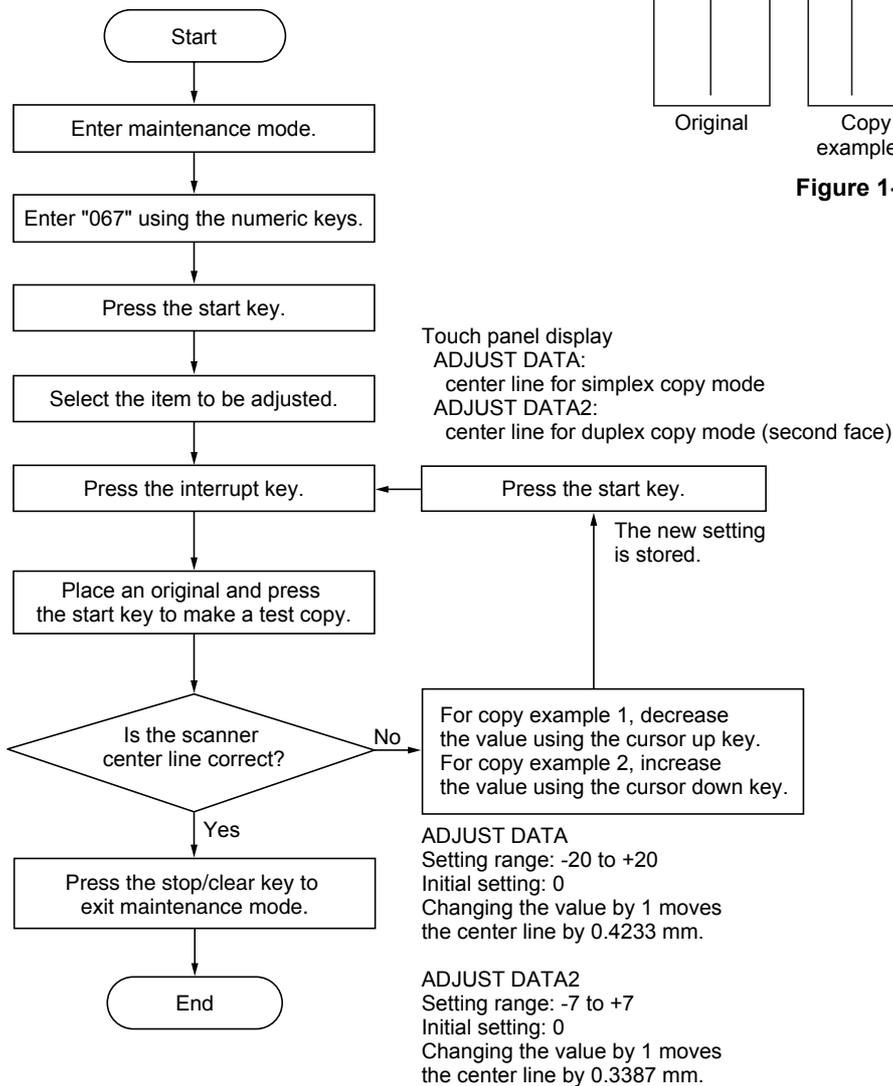
**<Caution>**

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

**<Procedure>**



**Figure 1-6-54**



**(9) Adjusting the margins for scanning an original on the contact glass**

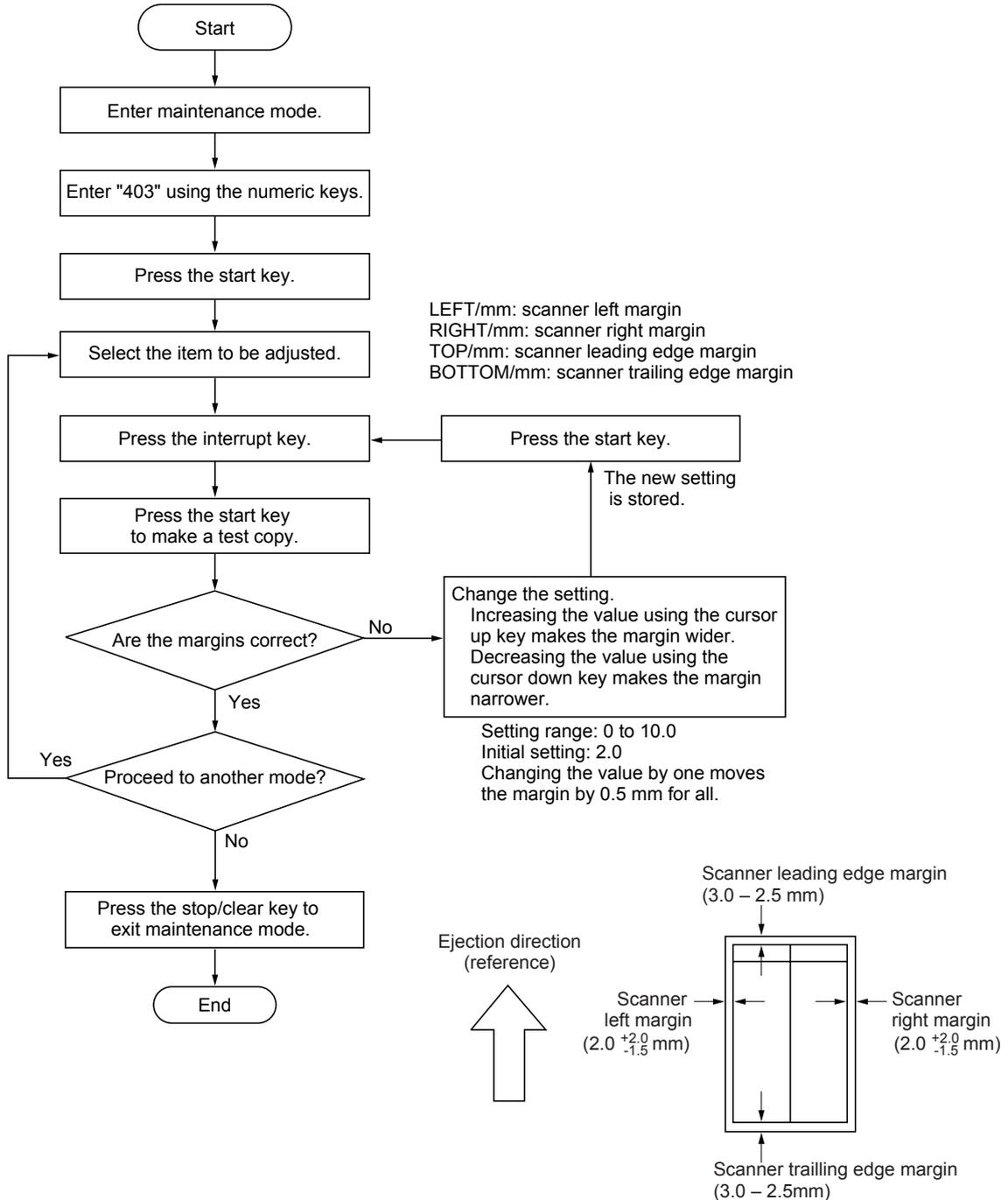
Perform the following adjustment if the margins are not correct.



**<Caution>**

Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

**<Procedure>**



**Figure 1-6-55**



## 1-6-6 Transfer unit

### (1) Detaching and refitting the transfer unit

#### <Procedure>

1. Open front cover and then remove the waste toner box.
2. Remove the one screw and then remove stopper plate.
3. Pull out the paper feed unit (transfer unit) until stops.
4. Press the release lever to unlock the paper feed unit and remove it.

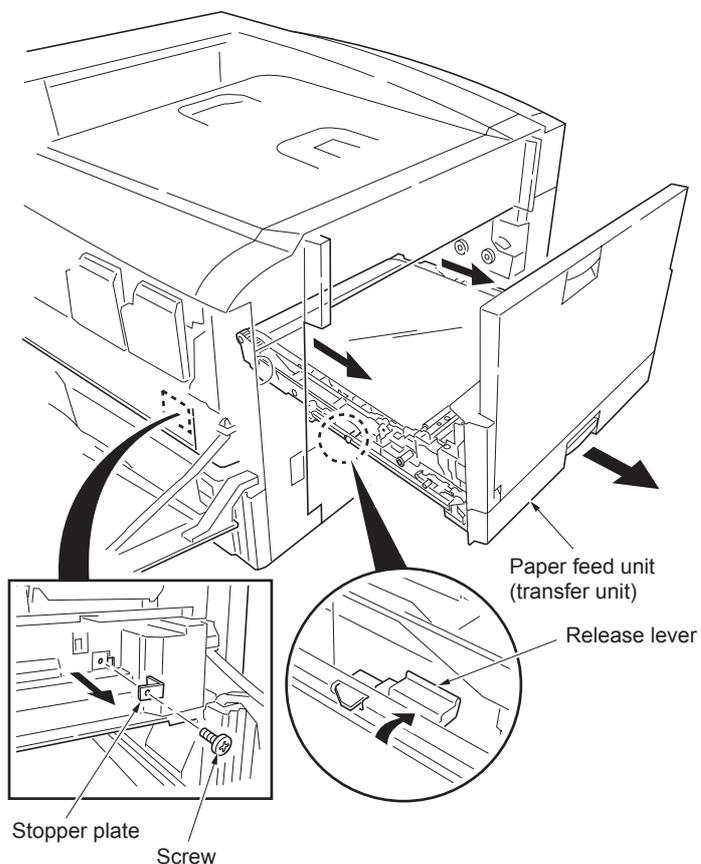


Figure 1-6-56

5. Separate the paper feed unit and transfer unit.

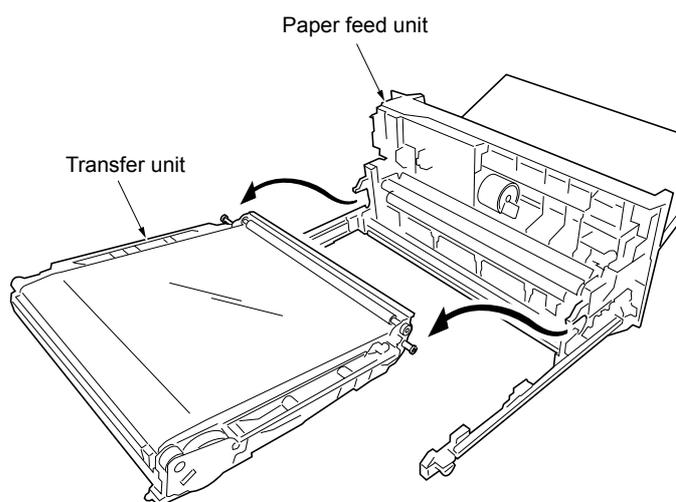


Figure 1-6-57

### 1-6-7 Process section

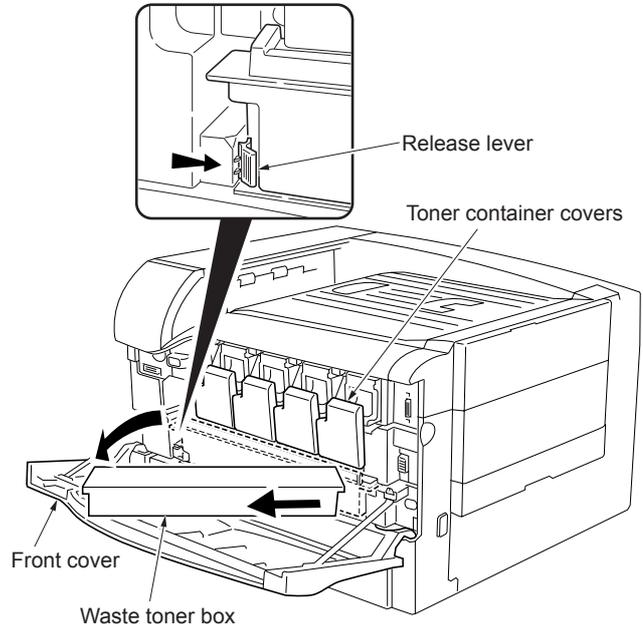
#### (1) Detaching and refitting the process unit

**<Note>**

When moving the machine, remove all toner containers and process units.

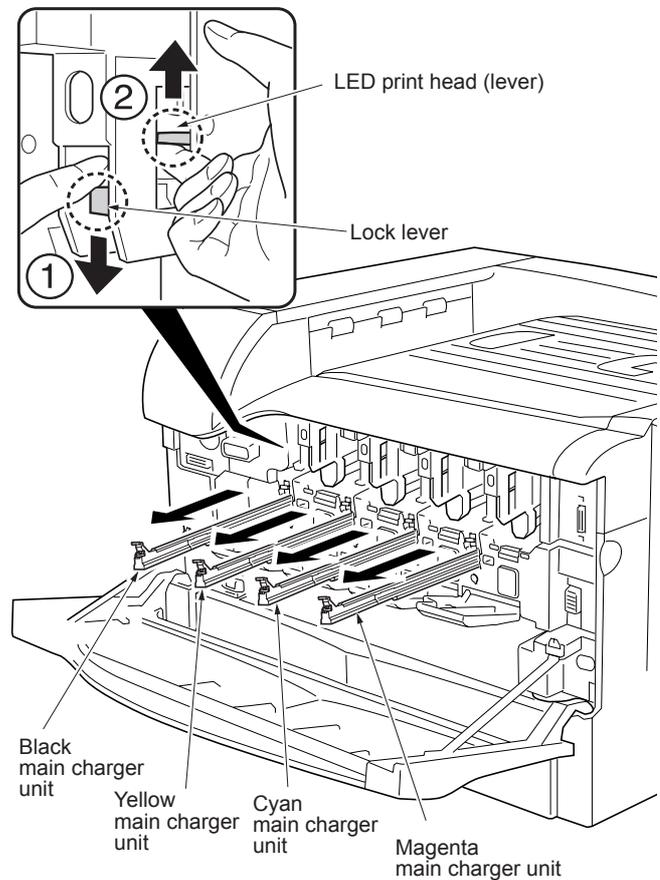
**<Procedure>**

1. Open the front cover.
2. Push the release lever and remove the waste toner box.
3. Open four toner container covers and remove four toner containers.



**Figure 1-6-58**

4. Pull out the paper feed unit (transfer unit).
5. Push up the four LED print heads (levers) while pushing down each lock levers.
6. Remove four main charger units.



**Figure 1-6-59**

7. Remove two screws, and pull two release levers and remove the drum holder.

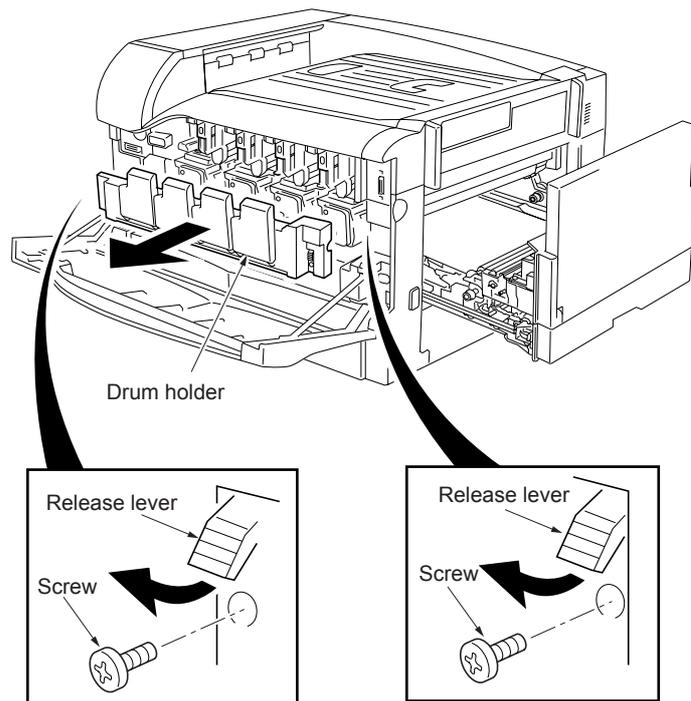


Figure 1-6-60

8. Turn the lock lever to the left (to release).
9. Remove four process units in order of black, yellow, cyan and magenta.

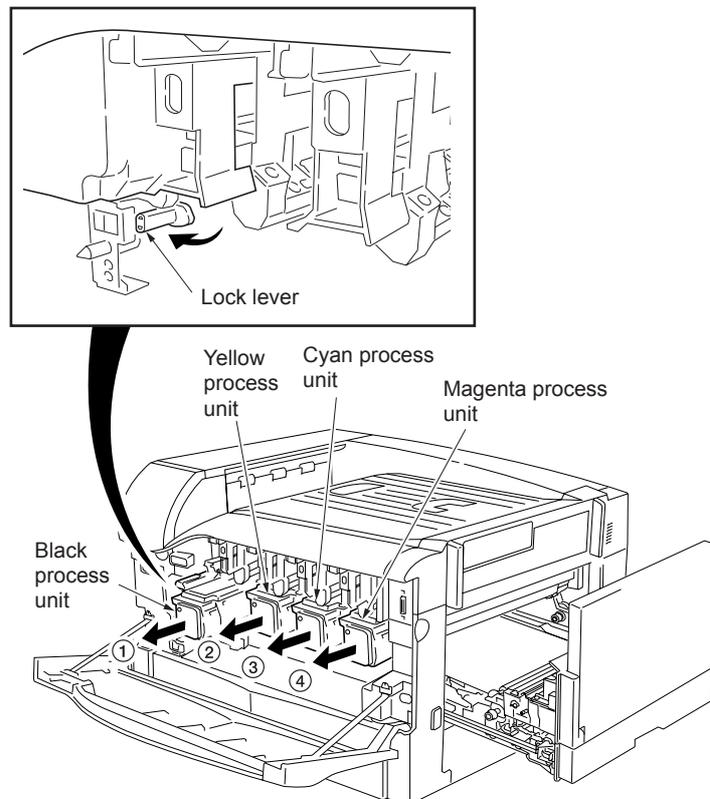


Figure 1-6-61

### Procedure for replacing main charger unit

Before replacing a main charger unit, replace the roller at the rear side of the main charger unit with the roller of the same color as the roller that has been attached before replacement.

Then attach the color label of the same color as the label that has been attached to the main charger before replacement. If the roller is white, replacement of the roller is not required. Only attach the color label.

#### <Procedure>

- Put a small flat-blade screwdriver into the long hole of the grid and pull it in the direction indicated by the arrow to remove the grid.
  - Take care not to deform the long hole with the flat-blade screwdriver.

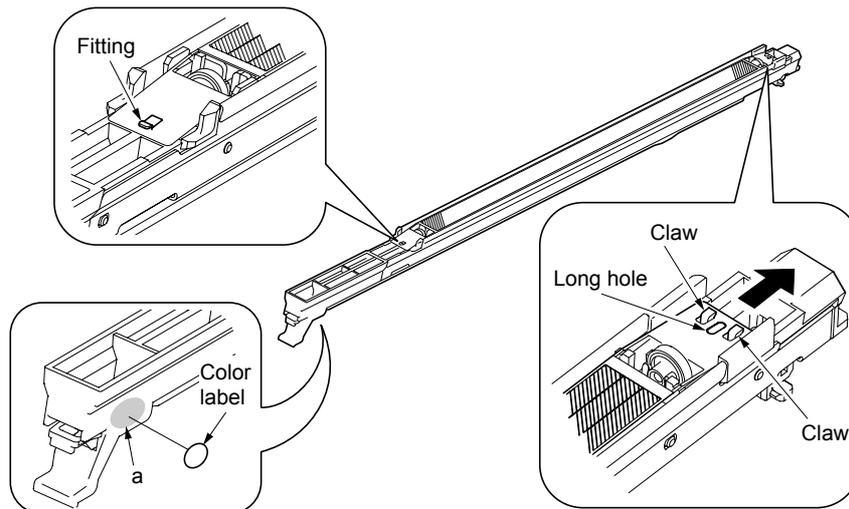


Figure 1-6-61-1

- When removing the roller from the main charger, hold only the roller to pull it out using tweezers, long-nose pliers or the like. The roller can be attached in any direction. Take care, however, not to damage the surface of the roller when attaching it. The color and the shape of the roller are shown below.
  - White: Outside diameter 8.0 mm
  - Black: Outside diameter 8.2 mm
  - Gray: Outside diameter 8.4 mm
  - Purple: Outside diameter 8.6 mm

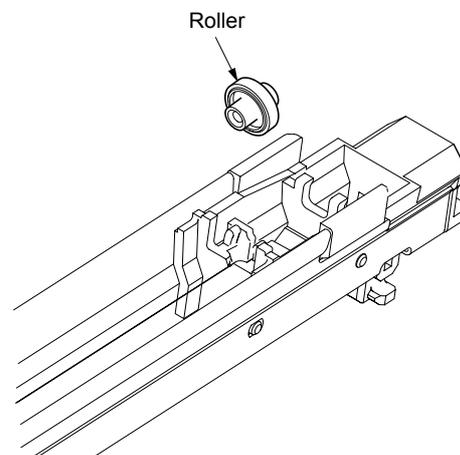


Figure 1-6-61-2

- Using the reverse procedure of step 1, fit the hole of the grid to the claws and reattach the grid to its original position. At this time, press the fitting not to loosen.
- After cleaning the portion (a) of the main charger with alcohol, attach the label of the same color as the original label.

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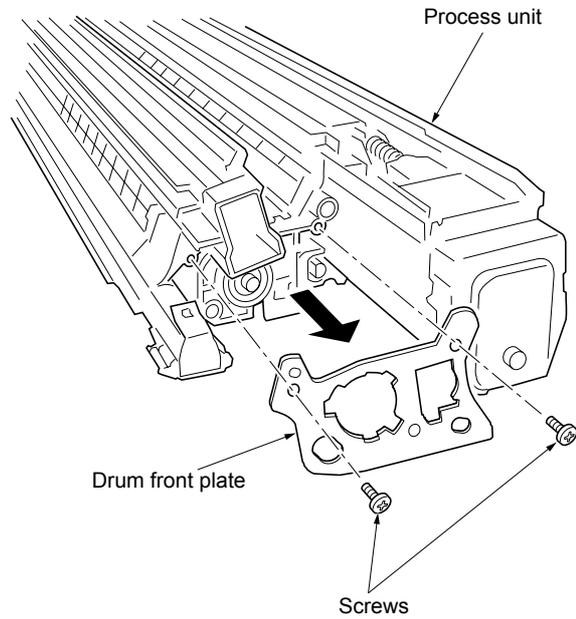
**(2) Detaching and refitting the drum unit and developer**

After the detaching and refitting the drum unit and developer, clean the SELFOC lens of the LED print heads (LPHs) with the following cleaning cloth before refitting process units to the machine. (LPH cleaning cloth is supplied with the drum unit of the maintenance kit.)

LPH cleaning cloth (P/N A6044010)

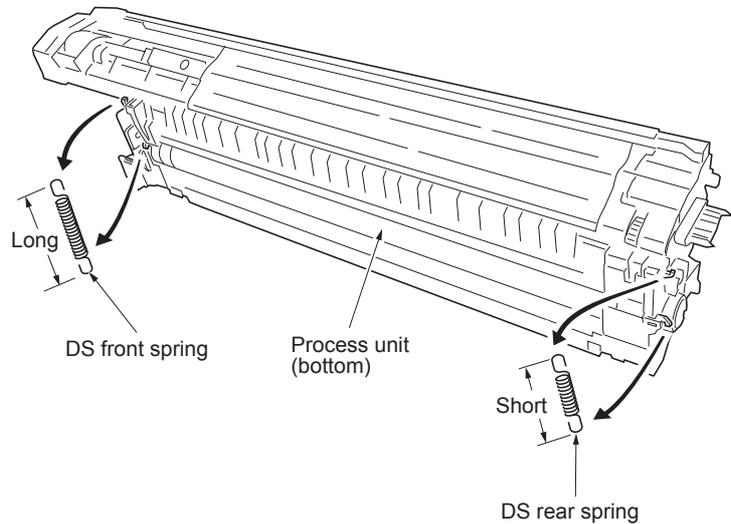
**<Procedure>**

1. Remove the process unit (See page 1-6-38).
2. Remove two screws and then remove the drum front plate.



**Figure 1-6-62**

3. Remove the front DS spring (Long) and the rear DS spring (Short) from the front side and the rear side of the process unit (bottom side).



**Figure 1-6-63**

4. Open the claw and remove the drive joint.
5. Pull out the front boss of the developer from the boss receptacle of the drum unit and then pull out the rear boss from the boss receptacle.
6. Remove one connector and separate the developer and drum unit.

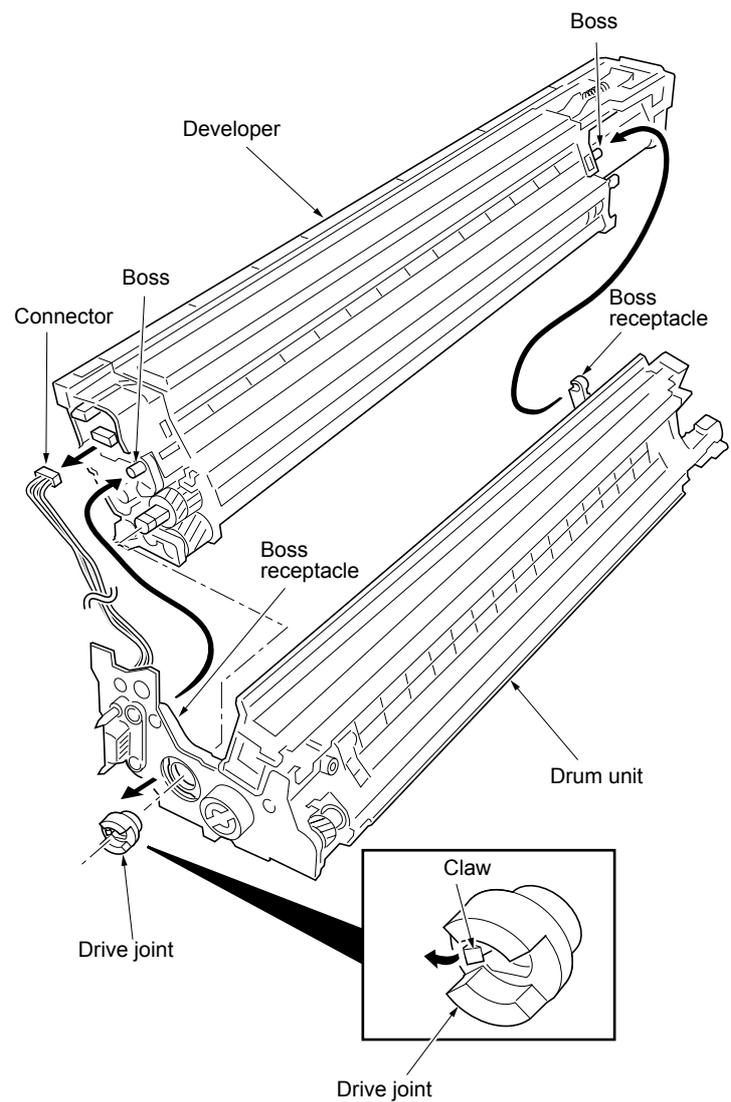


Figure 1-6-64

### 1-6-8 Fuser unit

#### (1) Detaching and refitting the fuser unit

**<Procedure>**

1. Open the left cover.
2. Pull out the fuser unit until stops.
3. While lifting the fuser unit a little, remove it together with the rail.
  - \* To remove only the fuser unit, remove the two pins.
4. Check or replace the fuser unit, and then refit all the removed parts.

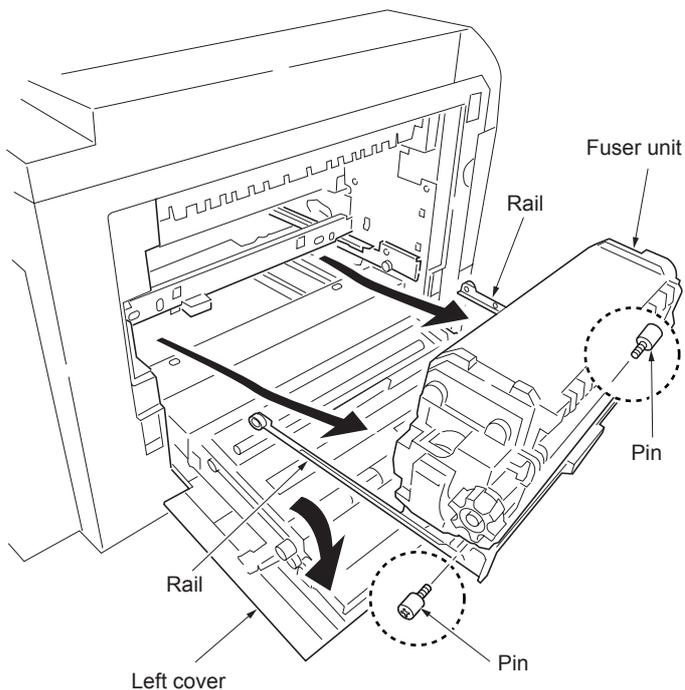
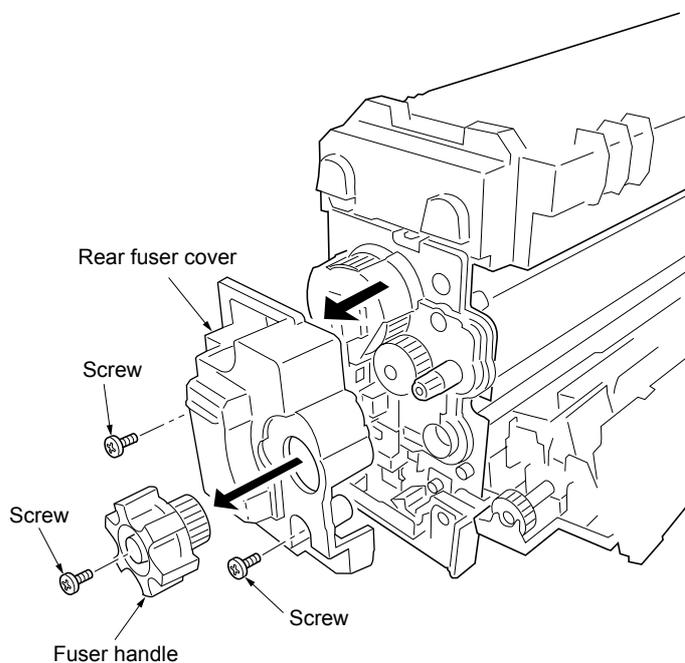


Figure 1-6-65

**(2) Detaching and refitting the upper and lower fuser thermistors, upper and lower fuser thermostats, upper and lower fuser heater lamps and upper and lower fuser rollers**

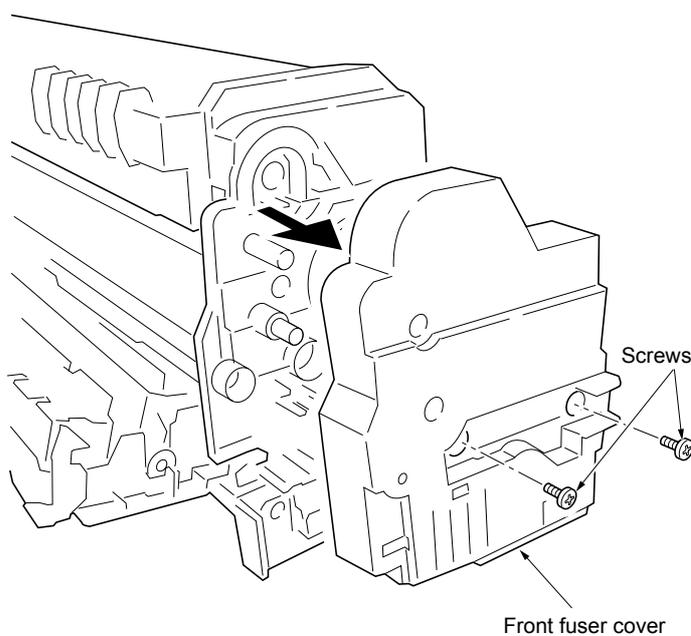
**<Procedure>**

1. Remove the fuser unit (See page previous page).
2. Remove one screw and then remove the fuser handle.
3. Remove two screws and then remove the rear fuser cover.



**Figure 1-6-66**

4. Remove two screws and then remove the front fuser cover.



**Figure 1-6-67**

5. Remove the upper fuser cover.

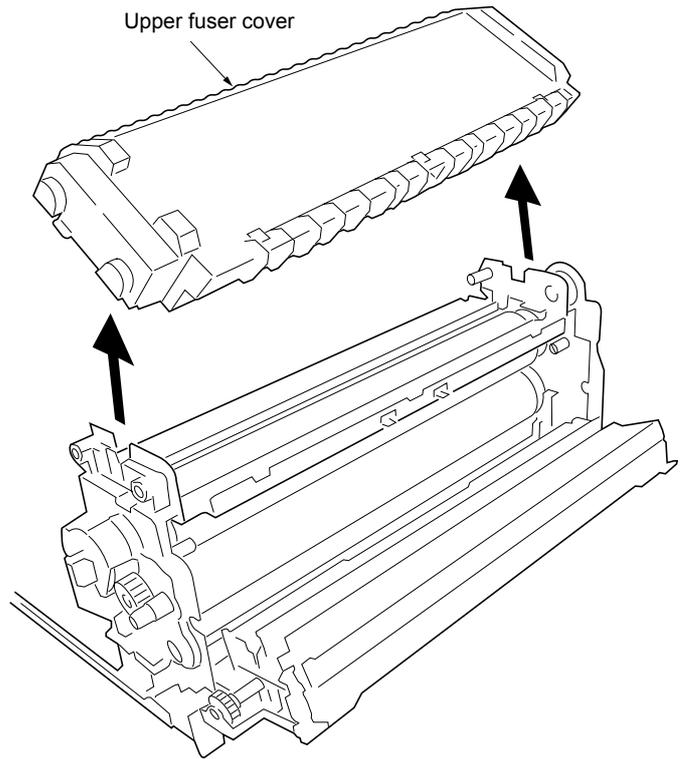


Figure 1-6-68

6. Remove the harness sheet.
7. Remove one tub from the terminal of upper fuser thermistor.
8. Remove one tub from the terminal of lower fuser thermistor.

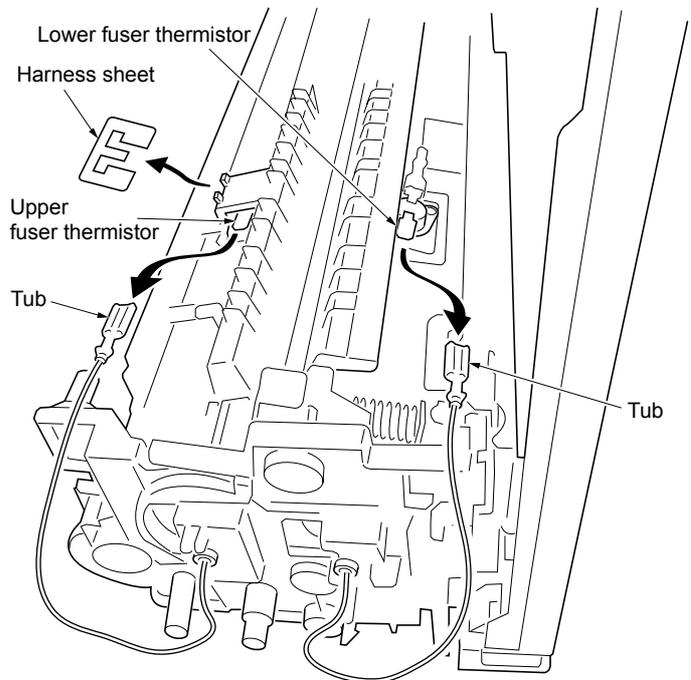


Figure 1-6-69

9. Remove one screw and round terminal from the terminal of upper fuser heater lamp.
10. Remove one screw from the terminal of lower fuser heater lamp.

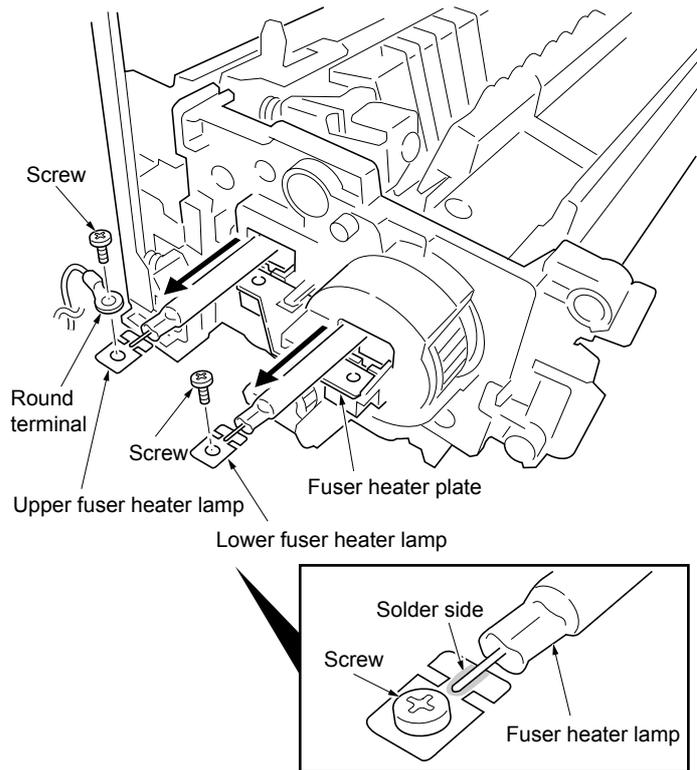


Figure 1-6-70

11. Remove one tub from the terminal of upper fuser thermistor.
12. Remove one connector.

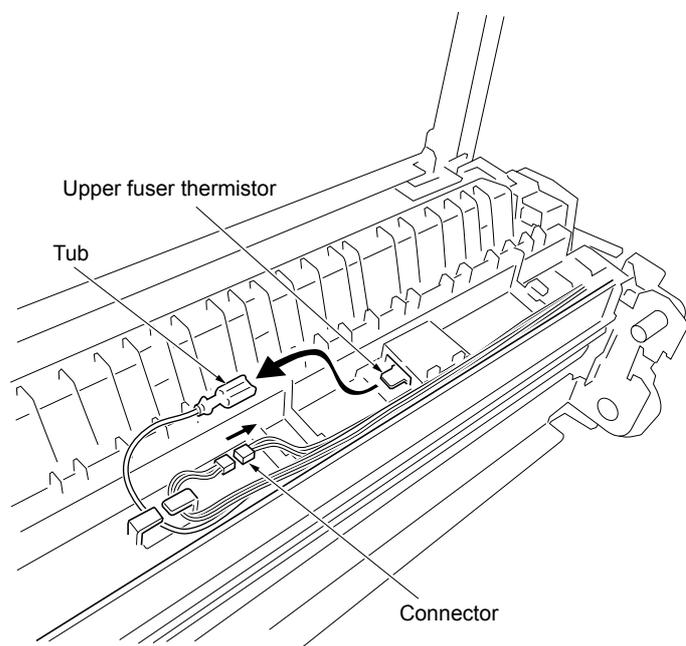


Figure 1-6-71

- 13. Remove one screw and then remove upper fuser thermistor.
- 14. Remove two screws and then remove the upper fuser thermostat.
- 15. Remove one hook and then remove the upper fuser entrance guide.

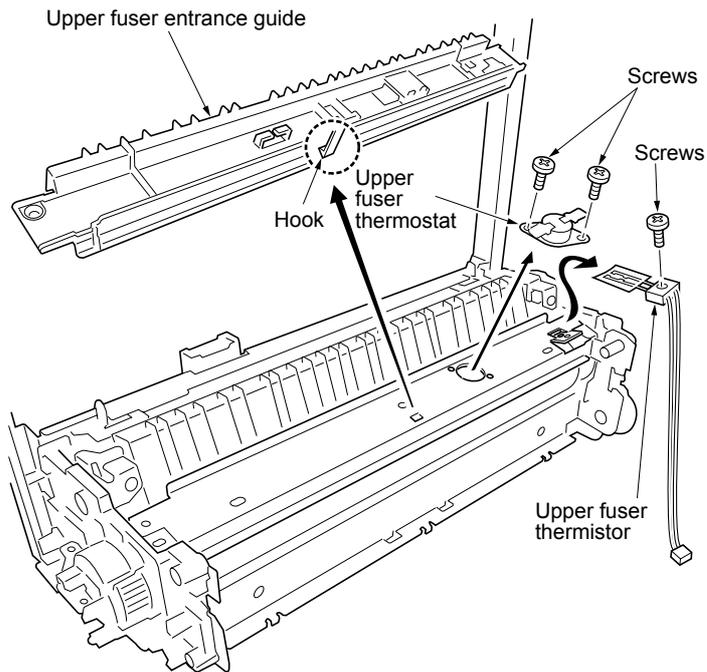


Figure 1-6-72

- 16. Remove three hooks and then remove the lower fuser entrance guide.

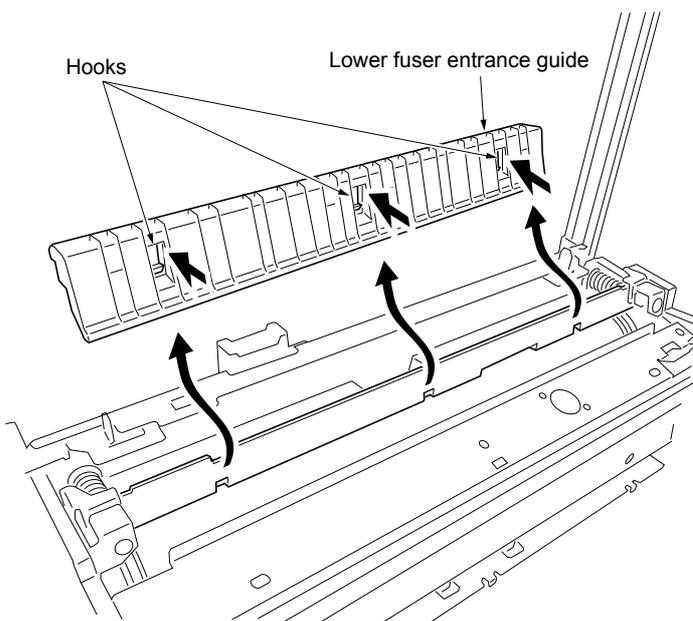


Figure 1-6-73

17. Remove one hook and then remove the rear fuser heater holder.

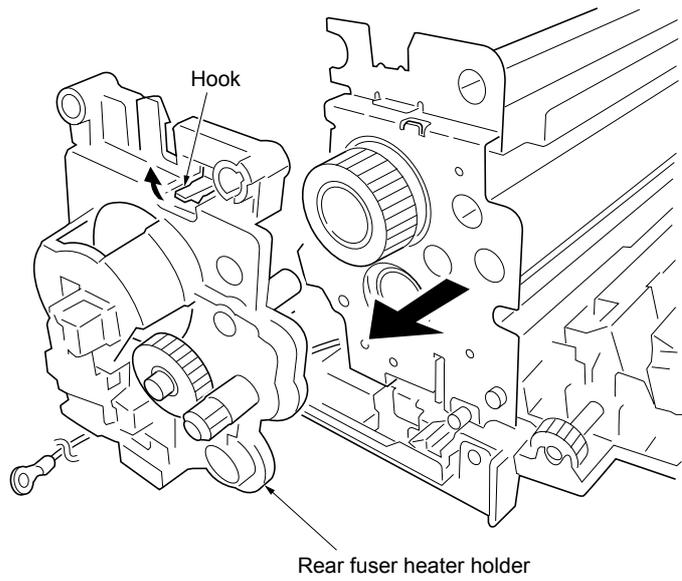


Figure 1-6-74

18. Remove two hooks and then remove the front fuser heater holder.

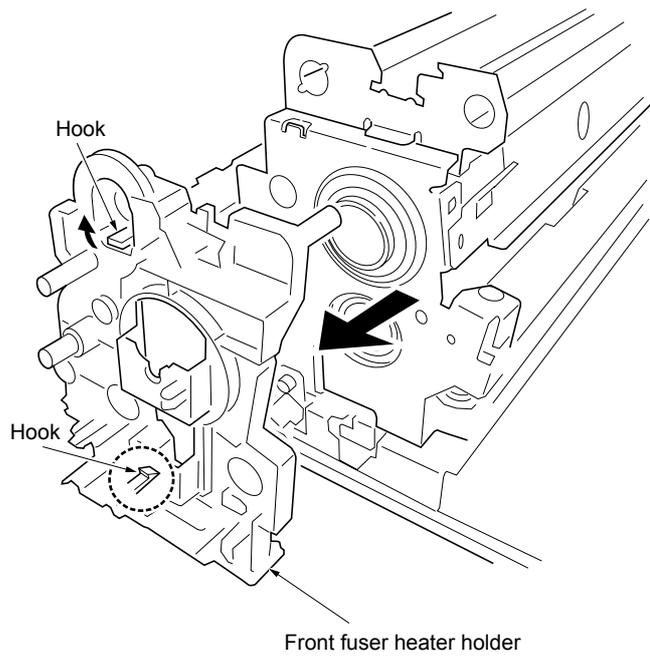


Figure 1-6-75

19. Remove the upper fuser frame.

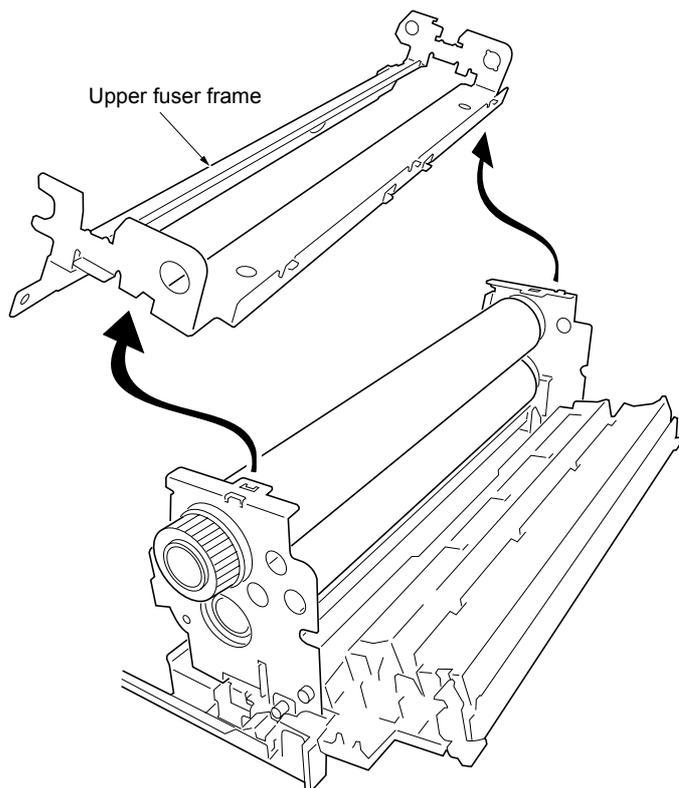


Figure 1-6-76

- 20. Loosen two fuser press screws.
- 21. Remove two C-rings.
- 22. Remove one fuser gear Z38S.
- 23. Remove two fuser bearings.
- 24. Remove two fuser bushes.
- 25. Remove the upper fuser roller.

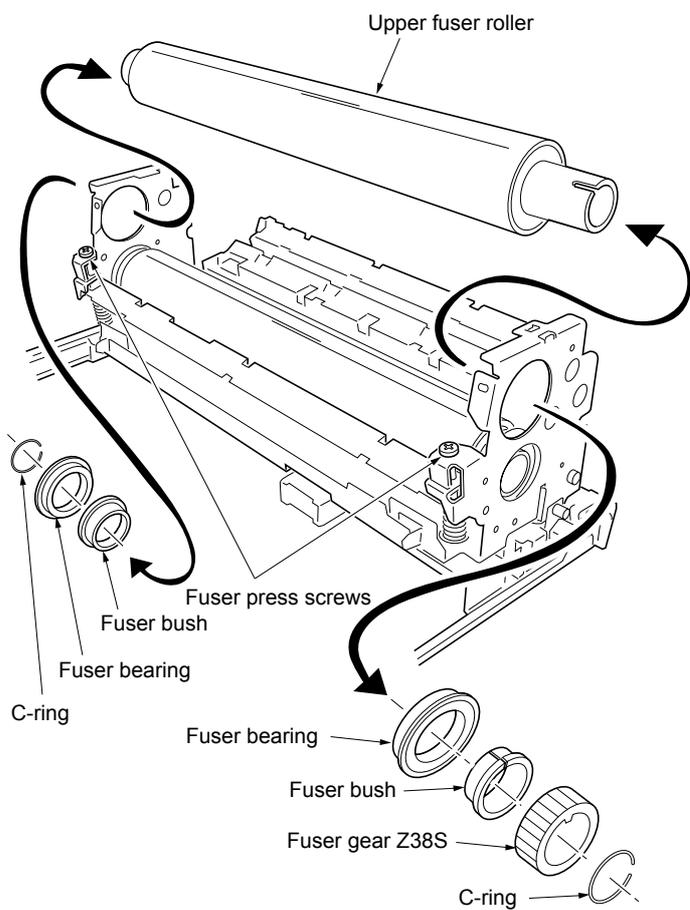


Figure 1-6-77

26. Pull up the lower fuser roller.
27. Remove two fuser bearings, fuser bushes and one C-ring.

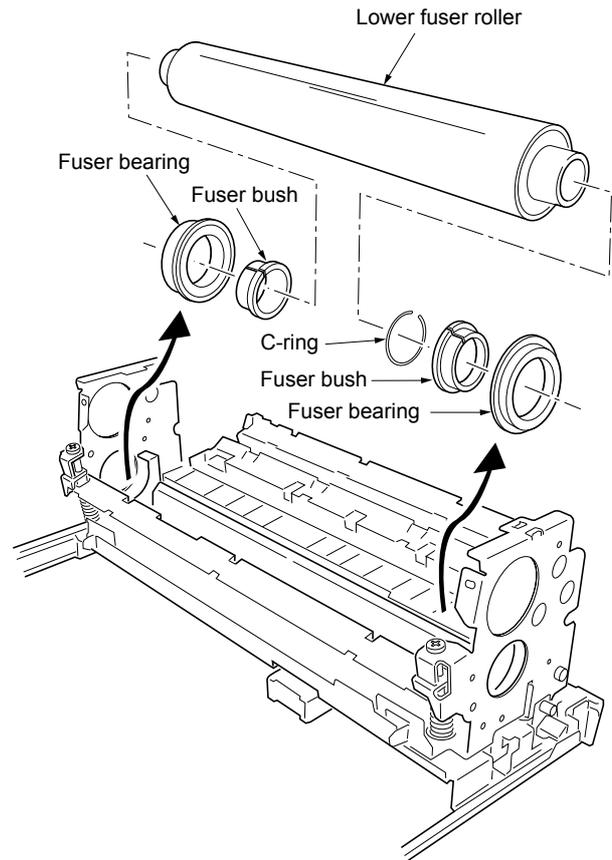


Figure 1-6-78

28. Remove one connector.
29. Remove one screw and then remove the lower fuser thermistor mounting plate.
30. Remove one screw and then remove the lower fuser thermistor.
31. Check or replace the upper and lower fuser thermistors, upper and lower fuser thermostats, upper and lower fuser heater lamps and upper and lower fuser rollers and refit all the removed parts.

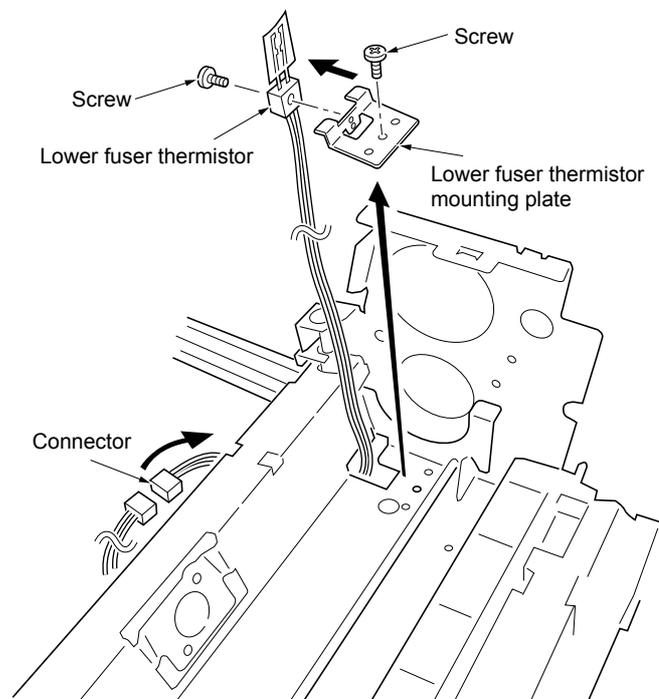


Figure 1-6-79

## 1-6-9 PWBs

### (1) Detaching and refitting the scanner main PWB and scanner sub PWB

Follow the procedure below to replace the scanner main PWB and scanner sub PWB.

#### <Caution>

- When replacing the scanner main PWB, run maintenance items U026 and U027. If replacing the PWB without running these items, faulty images may occur.
- Execute step 4 to 6 when replacing the scanner sub PWB.

#### <Procedure>

32. Run maintenance item U000 to output a status report.
33. Run maintenance item U026 (Evacuation of the backup data), and record the displayed checksum (see page 1-4-18).
34. Turn the power switch off without exiting the maintenance mode, and disconnect the power plug.
35. Remove the electrical component unit (see page 1-6-20).
36. Remove the twelve screws and then the electrical component cover.

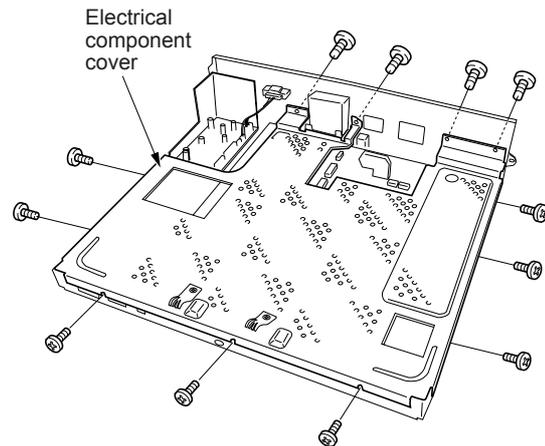


Figure 1-6-80

37. Remove the three board supports and then remove the scanner sub PWB.
38. Remove all the connectors of the scanner main PWB.
39. Remove the two screws from the scanner MIP assembly.
40. Remove the three screws and connector, and then remove the scanner MIP PWB.
41. Remove the two screws from the CF slot.
42. Remove the five screws and then the scanner main PWB.

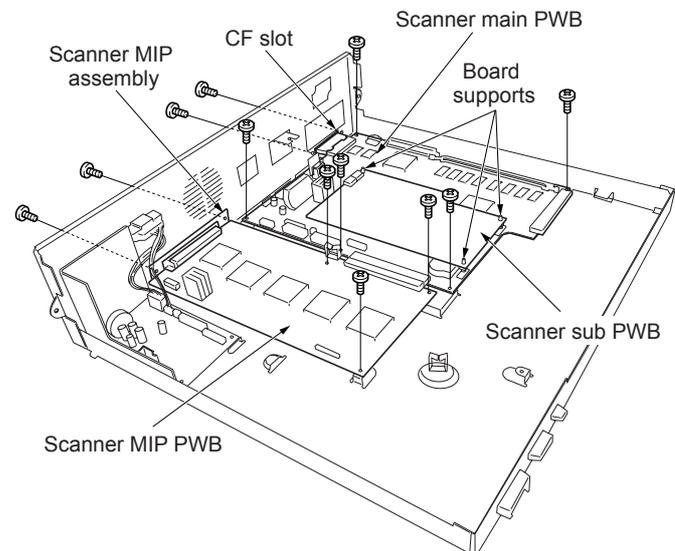
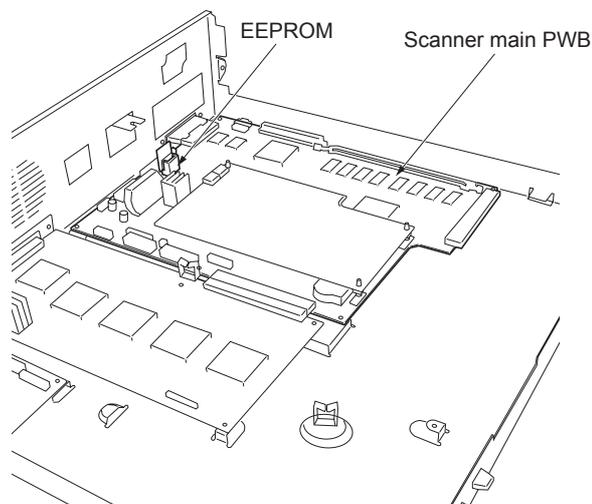


Figure 1-6-81

43. Replace the scanner main PWB or scanner sub PWB and refit all the removed parts.
- \* When refitting the scanner main PWB, remove the EEPROM from the scanner main PWB that has been removed and then reattach it to the new scanner main PWB.



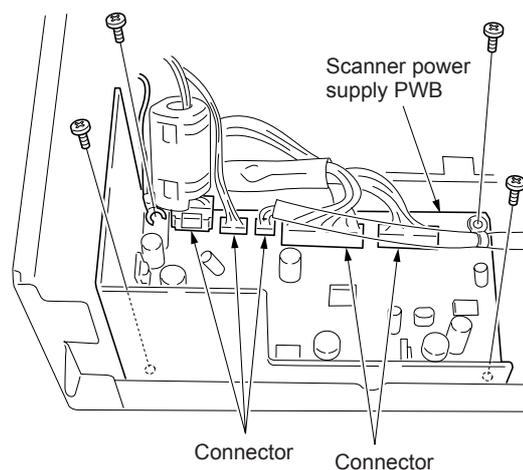
**Figure 1-6-82**

44. Connect the power plug, and turn the power switch on.
45. Run maintenance item U027 (Return of the backup data) (see page 1-4-19). Check that the displayed checksum is the same as the result of U026 that has been run in step 2.
46. Run maintenance item U000 to output the status report and check that the current setting is the same as the setting before replacement of the scanner main PWB.

## (2) Detaching and refitting the scanner power supply PWB

### <Procedure>

1. Remove the four screws and five connectors and then scanner power supply PWB.

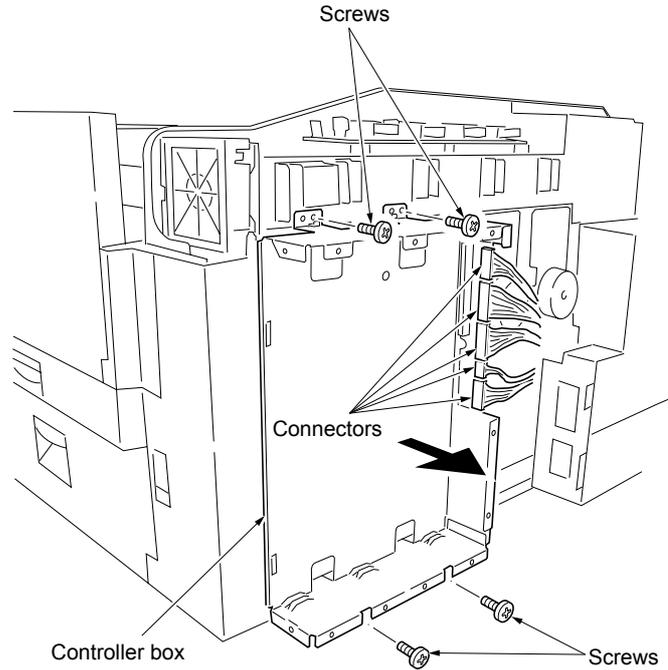


**Figure 1-6-83**

**(3) Detaching and refitting the engine controller PWB**

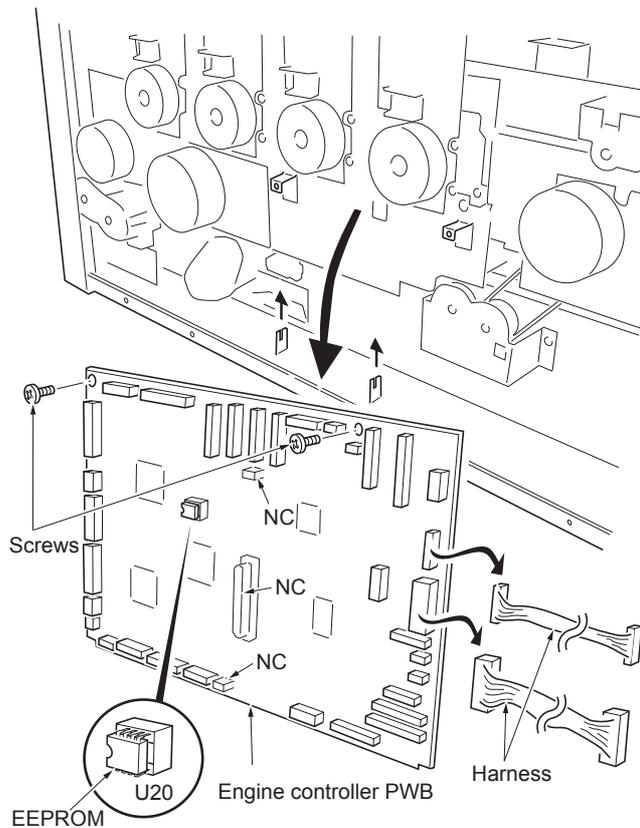
**<Procedure>**

1. Remove five connectors.
2. Remove four screws and then remove the controller box.



**Figure 1-6-84**

3. Remove the power supply unit (See page 1-6-53).
  4. Remove the all (thirty two) connectors.
  5. Remove two screws and then remove the engine controller PWB.
  6. Check or replace the engine controller PWB and then refit all the removed parts.
- \* To replace the engine controller PWB, remove the EEPROM (U20) from the old engine controller PWB and mount it to the new engine controller PWB.



**Figure 1-6-85**

#### (4) Detaching and refitting the power supply PWB

##### <Procedure>

1. Remove the rear cover (See page 1-6-6).
2. Remove seven connectors and two tubs.

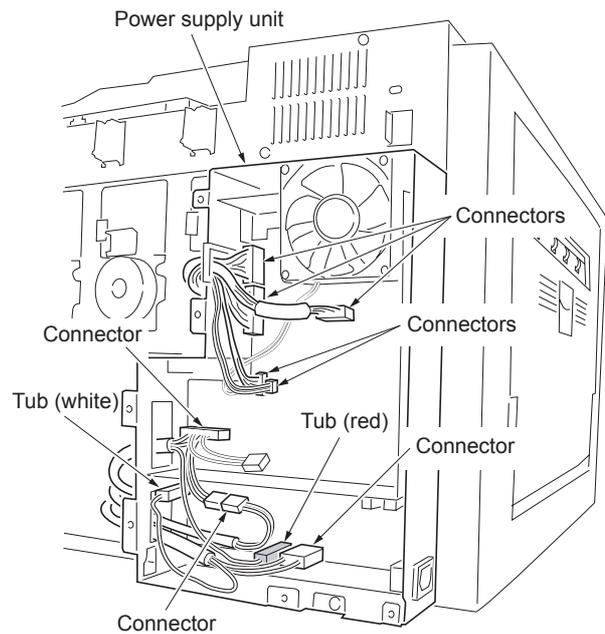


Figure 1-6-86

3. Remove the four screws and then remove the power supply unit.

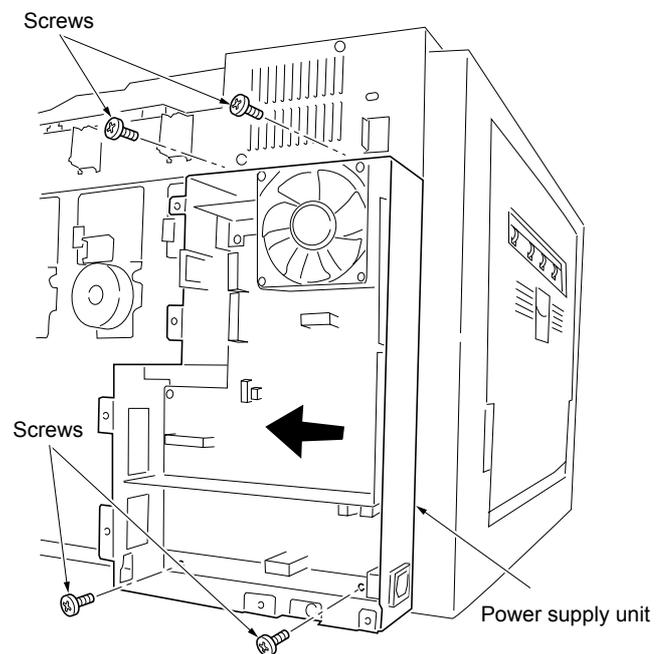


Figure 1-6-87

4. Remove one connector and two screws, and then remove the power supply PWB cooling fan motor.
5. Remove two tubs and seven screws, and then remove the power supply PWB.

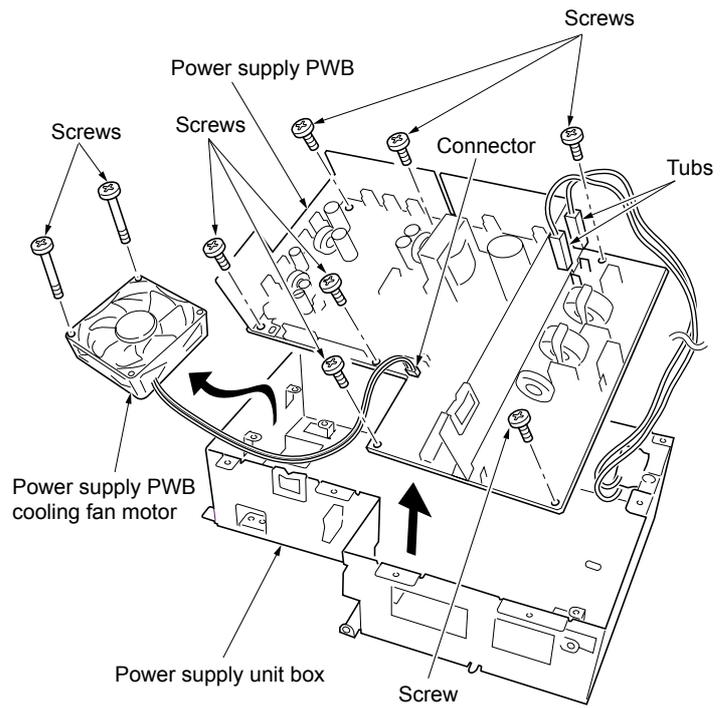
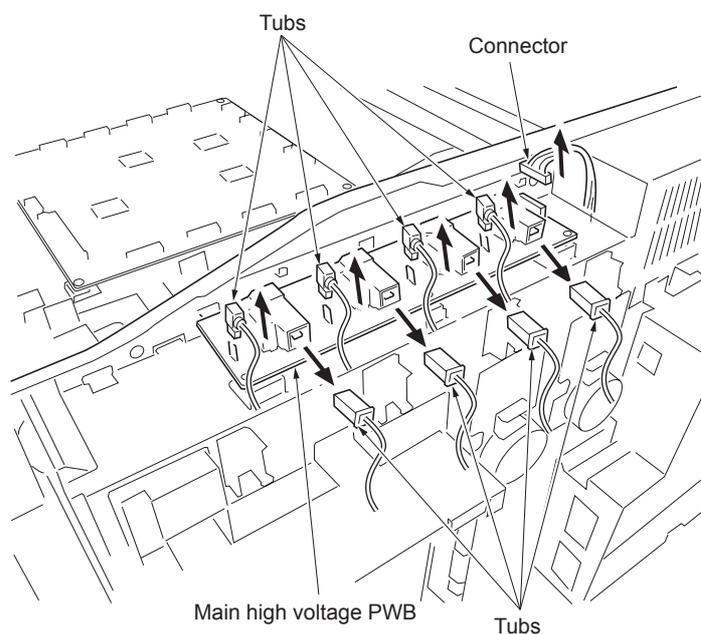


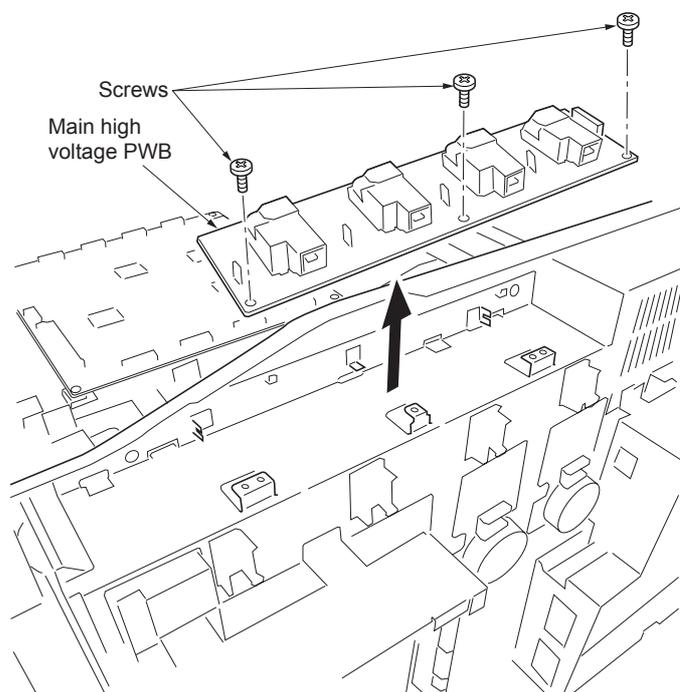
Figure 1-6-88

**(5) Detaching and refitting the main high voltage PWB****<Procedure>**

1. Remove the top cover (See page 1-6-3).
2. Remove the rear cover (See page 1-6-6).
3. Remove eight tubs and one connector.

**Figure 1-6-89**

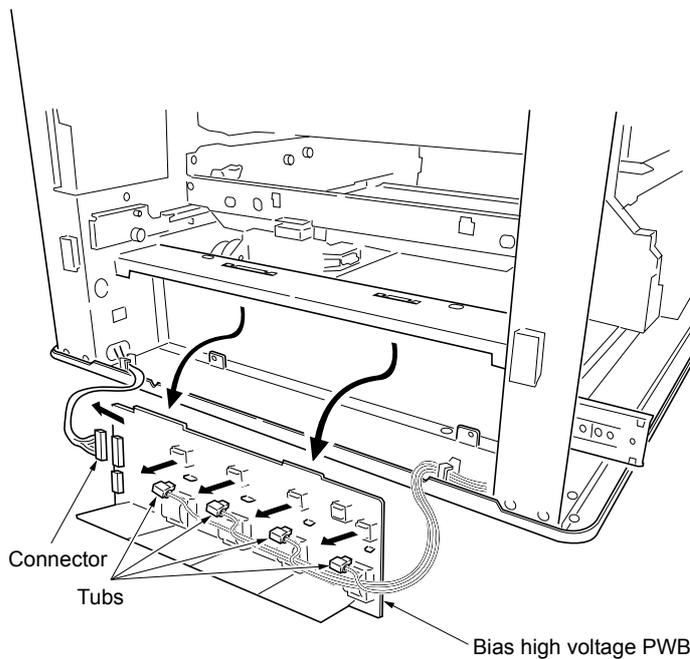
4. Remove three screws and then remove the main high voltage PWB.
5. Check or replace the main high voltage PWB and then refit all the removed parts.

**Figure 1-6-90**

**(6) Detaching and refitting the bias high voltage PWB**

**<Procedure>**

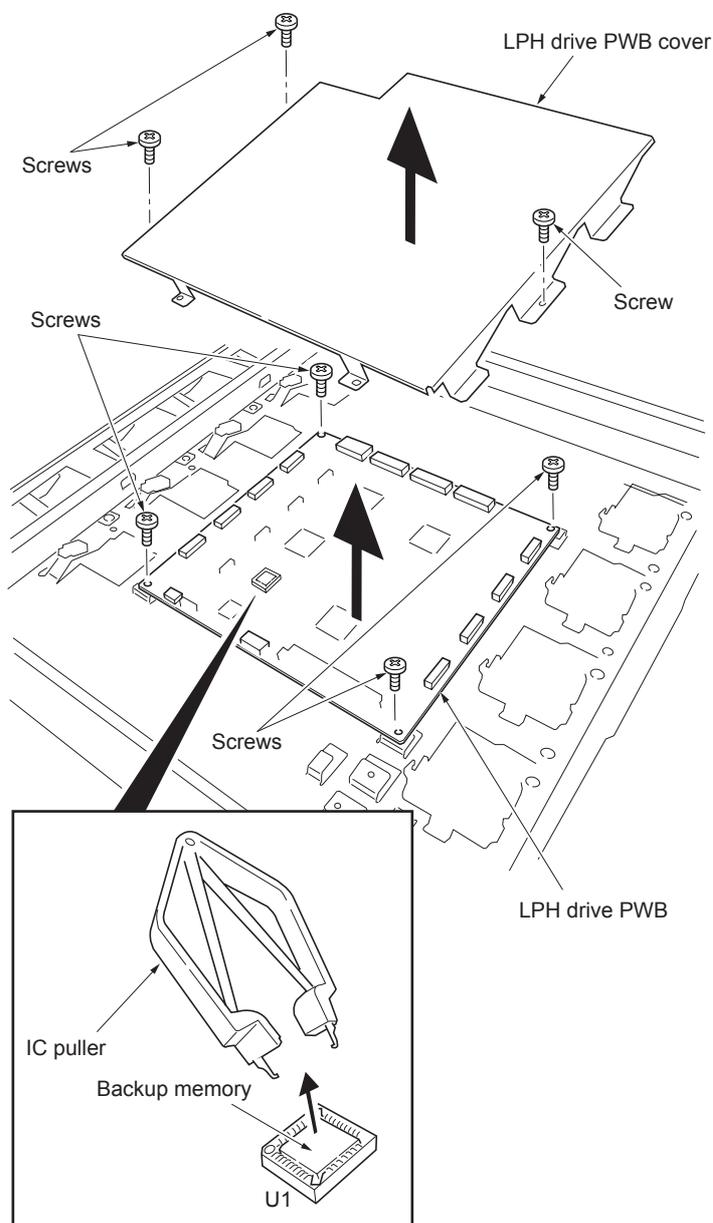
1. Remove the eject unit (See page 1-6-7).
2. Remove four tubs and one connector.
3. Remove two screws and then remove the bias high voltage PWB.
4. Check or replace the bias high voltage PWB and then refit all the removed parts.



**Figure 1-6-91**

**(7) Detaching and refitting the LPH drive PWB****<Procedure>**

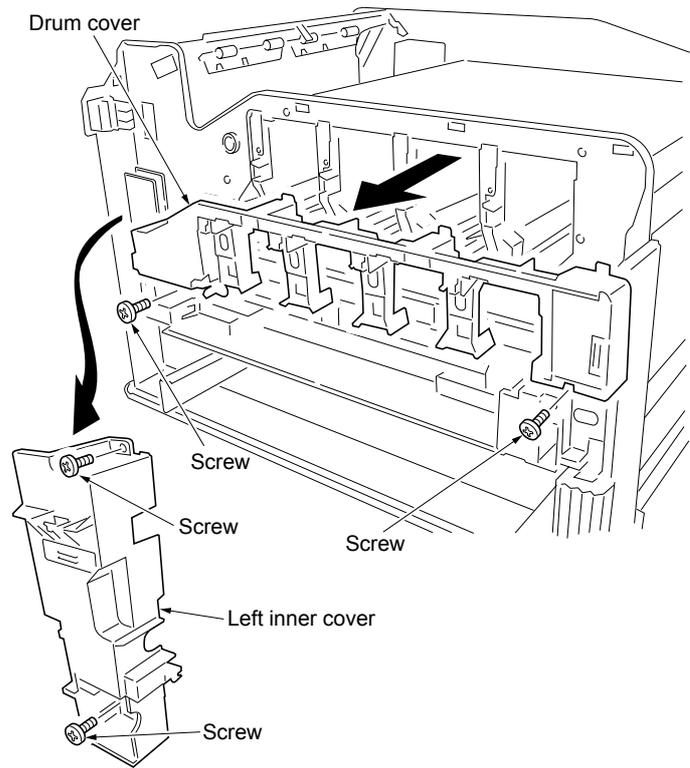
1. Remove the top cover (See page 1-6-3).
  2. Remove three screws and then remove the LPH drive PWB cover.
  3. Remove the all (fourteen) connectors from the LPH drive PWB.
  4. Remove four screws and then remove the LPH drive PWB.
  5. Check or replace the LPH drive PWB and then refit all the removed parts.
- \* When replacing the LPH drive PWB, use a general-purpose IC puller (Sunhayato GX-8) to remove the backup memory (U1) from the old LPH drive PWB and mount it to the new LPH drive PWB.

**Figure 1-6-92**

**(8) Detaching and refitting the front relay PWB**

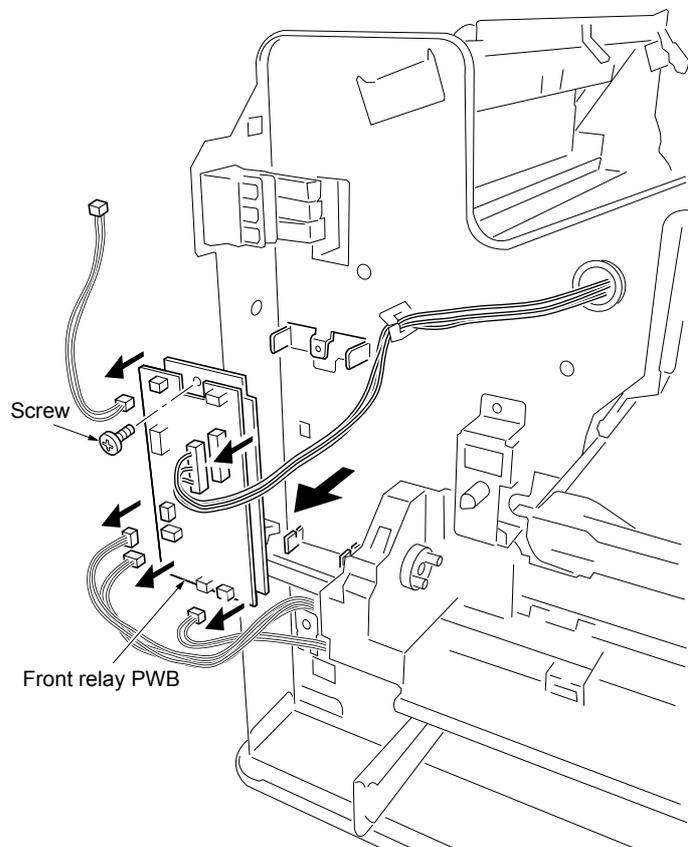
**<Procedure>**

1. Remove two screws and then remove the left inner cover.
2. Remove two screws and then remove the drum cover.



**Figure 1-6-93**

3. Remove the all (five) connectors from the front relay PWB.
4. Remove one screw and then remove the front relay PWB.
5. Check or replace the front relay PWB and then refit all the removed parts.



**Figure 1-6-94**

## 1-6-10 Others

### (1) Detaching and refitting the developing MCY motor

#### <Procedure>

1. Remove the controller box (See page 1-6-52).
2. Remove one connector.
3. Remove two screws and then remove the developing MCY motor.
4. Check or replace the developing MCY motor and then refit all the removed parts.

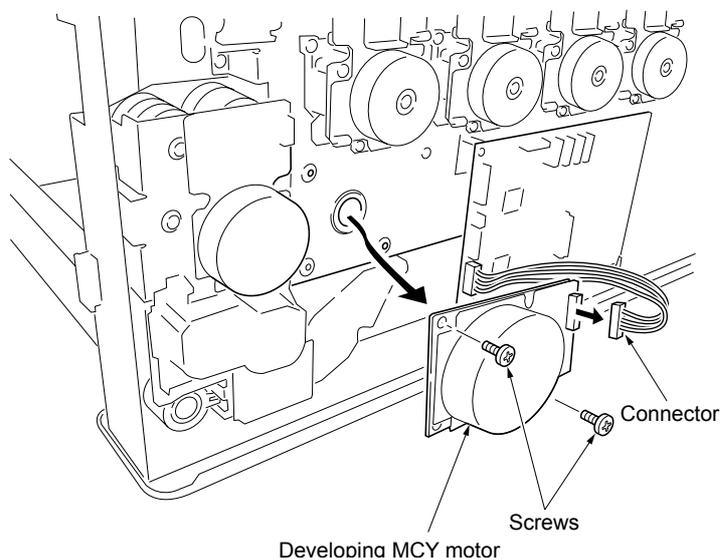
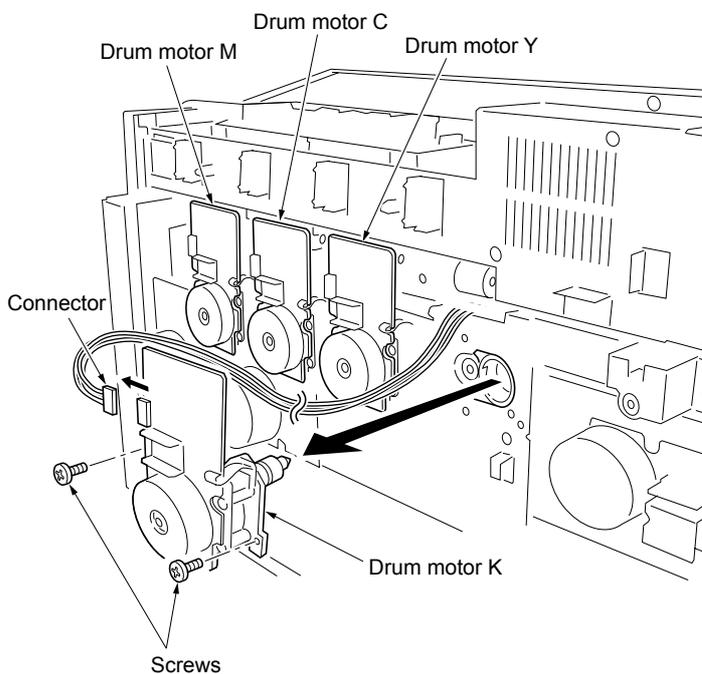


Figure 1-6-95

**(2) Detaching and refitting the drum motors K, M, C and Y**

**<Procedure>**

1. Remove the controller box (See page 1-6-52).
  2. Remove one connector.
  3. Remove two screws and then remove the drum motor K.
  4. Check or replace the drum motor K and then refit all the removed parts.
- \* Detach and refit the drum motors M, C, and Y in the similar way to drum motor K.



**Figure 1-6-96**

### (3) Detaching and refitting the toner motors K, M, C and Y

#### <Procedure>

1. Remove the drum motors K, M, C and Y (See previous page).
  2. Remove one connector.
  3. Remove one screw and then remove the toner motor M.
  4. Check or replace the toner motor M and then refit all the removed parts.
- \* Detach and refit the toner motors M, C, and Y in the similar way to toner motor K.

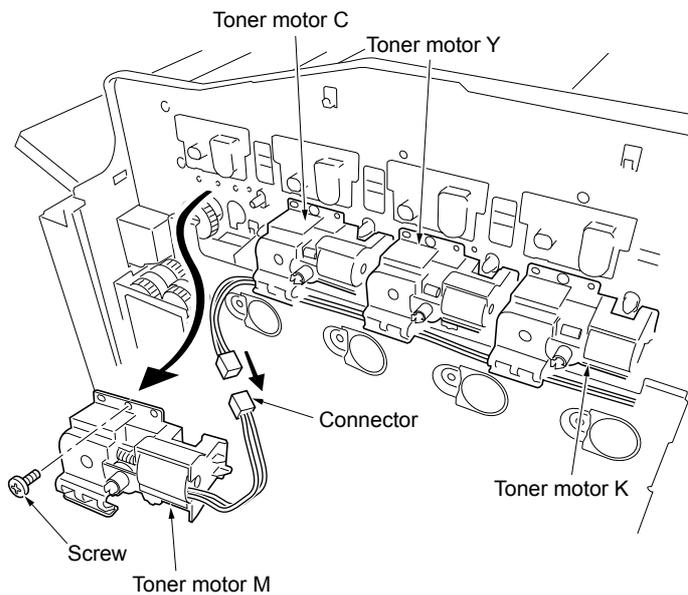
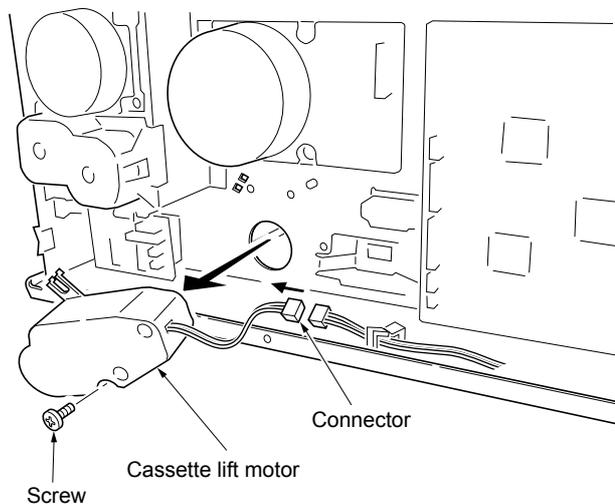


Figure 1-6-97

**(4) Detaching and refitting the cassette lift motor**

**<Procedure>**

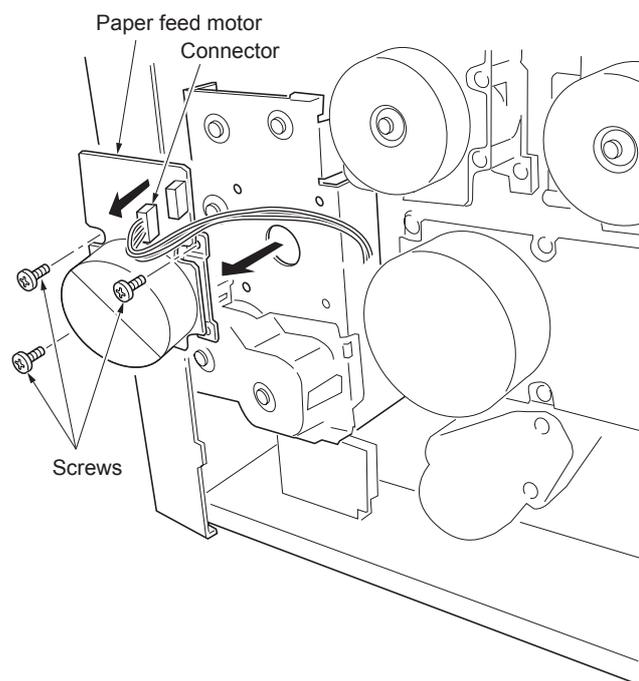
1. Remove the rear cover (See page 1-6-6).
2. Remove one connector.
3. Remove one screw and then remove the cassette lift motor.
4. Check or replace the cassette lift motor and then refit all the removed parts.



**Figure 1-6-98**

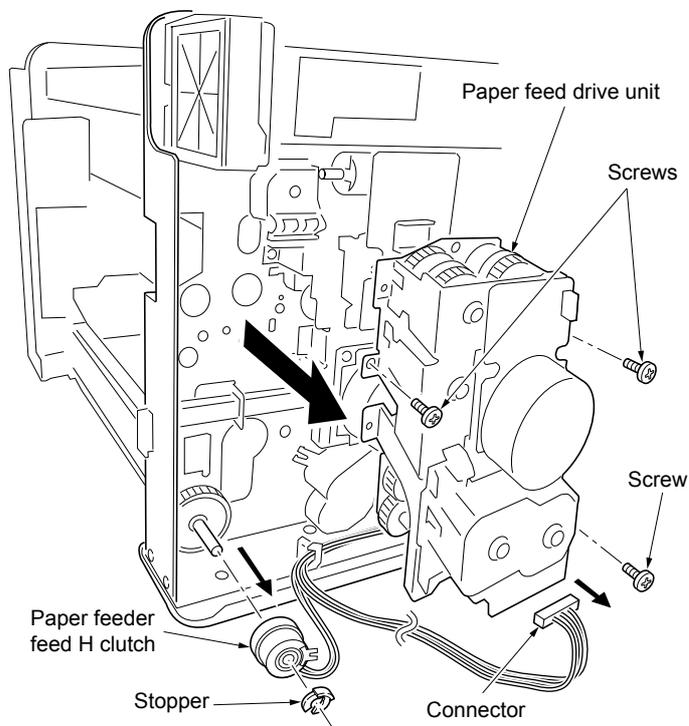
**(5) Detaching and refitting the paper feed motor****<Procedure>**

1. Remove the rear cover (See page 1-6-6).
2. Remove one connector.
3. Remove three screws and then remove the paper feed motor.
4. Check or replace the paper feed motor and then refit all the removed parts.

**Figure 1-6-99**

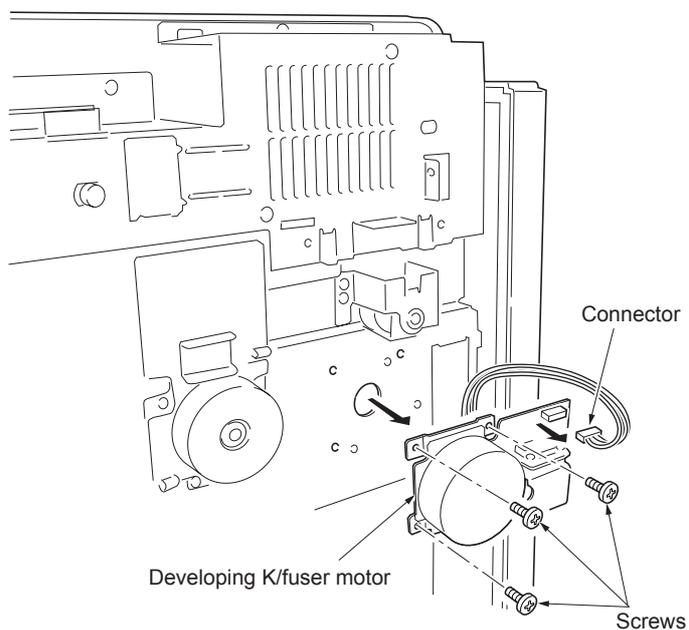
**(6) Detaching and refitting the paper feed drive unit****<Procedure>**

1. Remove the controller box (See page 1-6-52).
2. Remove the right rear cover.
3. Remove one connector.
4. Remove one stopper and then remove the paper feeder feed H clutch.
5. Remove three screws and then remove the paper feed drive unit.
6. Check or replace the paper feed drive unit and then refit all the removed parts.

**Figure 1-6-100**

**(7) Detaching and refitting the developing K/fuser motor****<Procedure>**

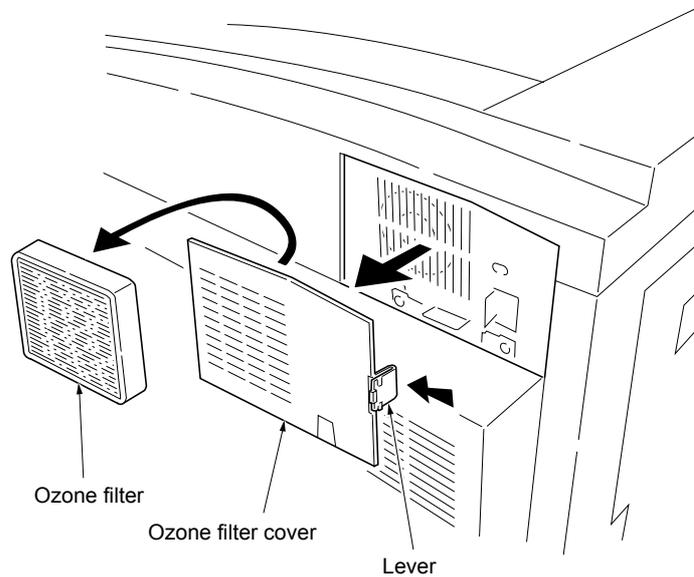
1. Remove the power supply unit (See page 1-6-53).
2. Remove one connector.
3. Remove three screws and then remove the developing K/fuser motor.
4. Check or replace the developing K/fuser motor and then refit all the removed parts.

**Figure 1-6-101**

**(8) Detaching and refitting the ozone filter**

**<Procedure>**

1. Push the lever and remove the ozone filter cover.
2. Remove the ozone filter from the ozone filter cover.
3. Check or replace the ozone filter and then refit all the removed parts.



**Figure 1-6-102**

### (9) Detaching and refitting the LED print head

#### <Procedure>

The procedure for removing the LED print head for yellow is described below as an example. Use the same procedure for LPH for the other colors.

1. Remove the top cover (see page 1-6-3).
2. Remove the paper feed unit (transfer unit) (see page 1-6-37).
3. Remove the four process units (see page 1-6-38).
4. Remove the two screws from the drum cover.
5. Remove the connector and then remove the drum cover.

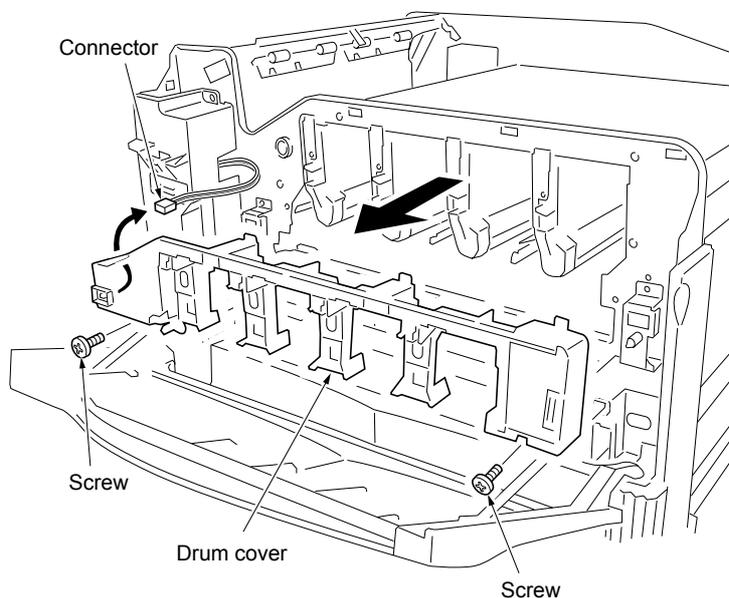


Figure 1-6-103

6. Remove the connector Y from the LPH drive PWB.
7. Remove the connector for the toner empty detection sensor (not provided for LPH assembly K).
8. Remove the screw from the cable clamp.
9. Remove the screw from the LPH stay.

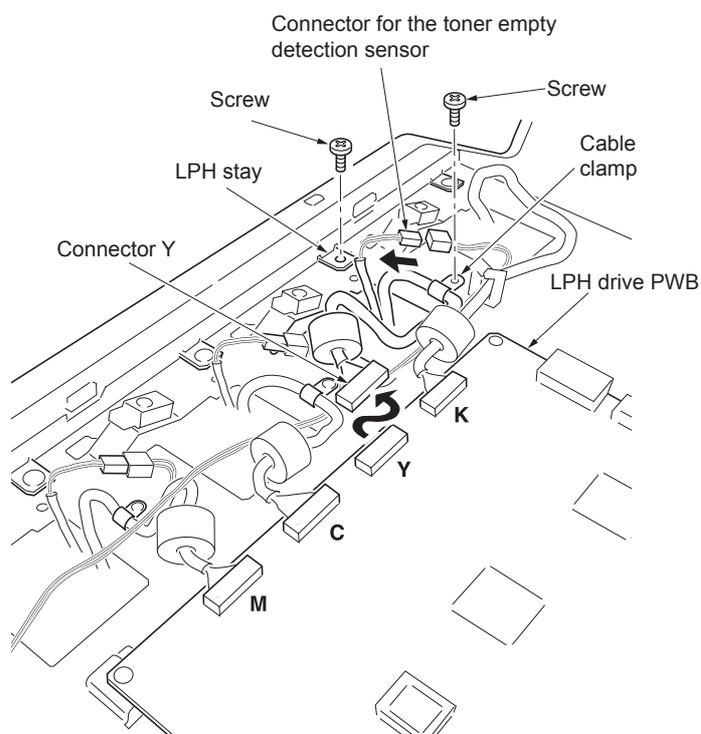


Figure 1-6-104

10. Remove the connector Y from the LPH drive PWB.
11. Remove the screw from the cable clamp.
12. Remove the screw from the rear LPH holder.
13. Remove the screw from the LPH stay.

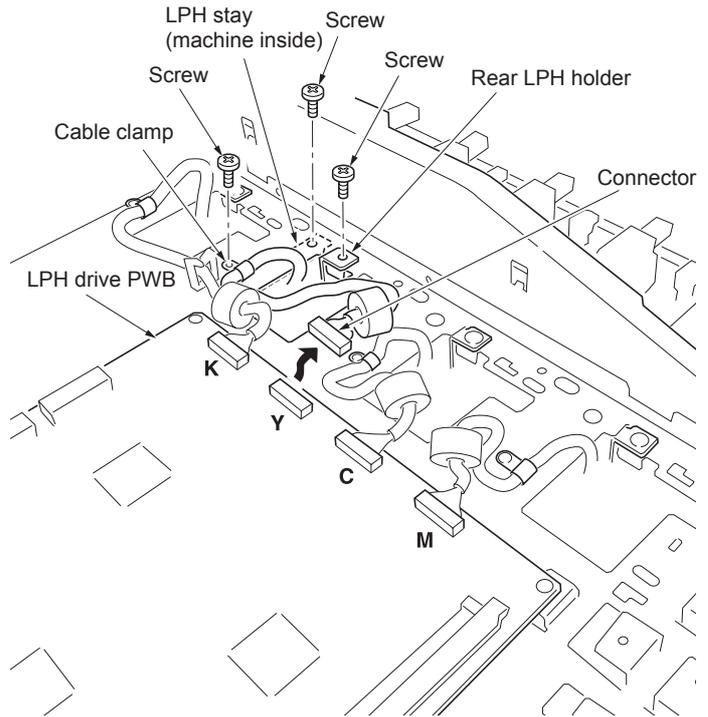
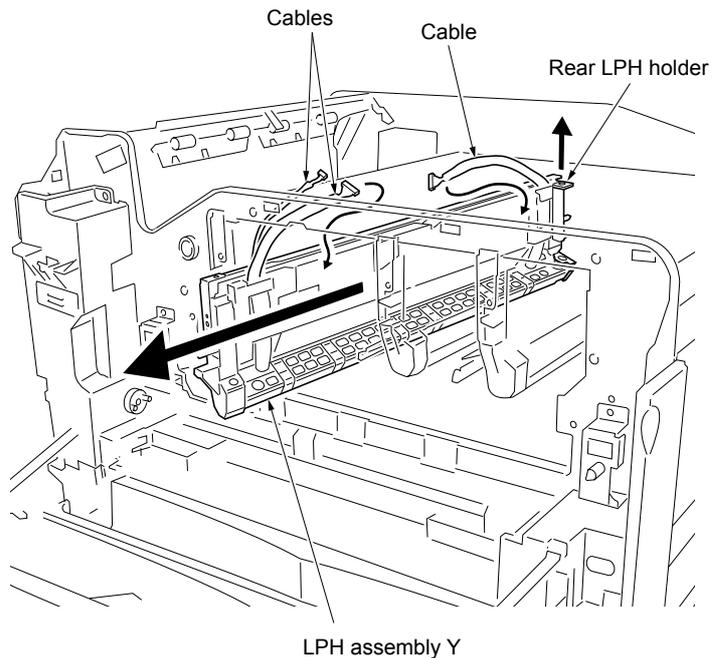


Figure 1-6-105

14. Put the cable of LPH assembly Y into the machine.
15. Lift the rear LPH holder a little and pull out LPH assembly Y until it stops.
16. Slide LPH assembly Y toward the left side of the machine a little to release contact and remove it.



LPH assembly Y

Figure 1-6-106

17. Remove the two spring and LPH from the front and rear LPH holders.
18. Check the LPH and then refit all the removed parts.
19. Adjust the focus of the LED print head (see page 1-6-70).  
If the LPH is replaced with a new one, reattach the parts that have been removed in the procedure to step 6, in the reverse procedure. Then, adjust the focus of the LPH after performing the following procedure.

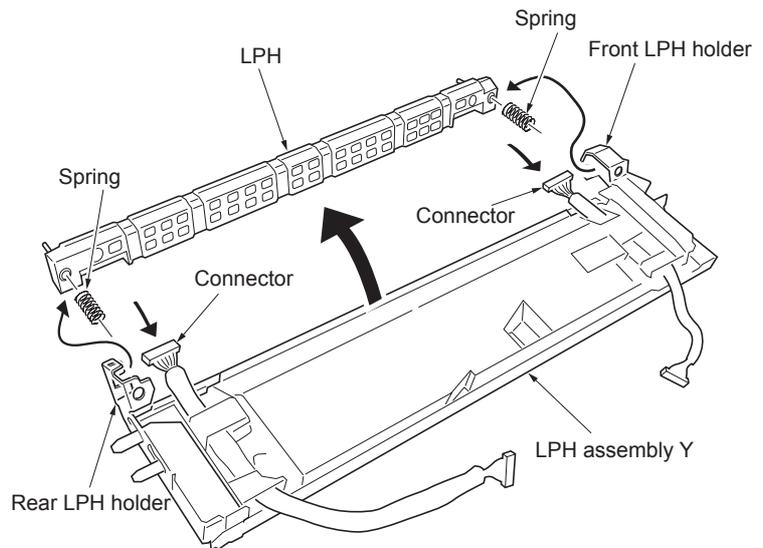


Figure 1-6-107

20. Connect the LPH light quantity correction data ROM PWB supplied with the new LPH to the ROM connector Y of the LPH drive PWB.
21. Connect the power plug and turn the power switch on.
22. Check that LED1 on the LPH drive PWB blinks and then lights up steadily, turn off the power switch, and remove the power plug from the outlet.
23. Remove the LPH light quantity correction data ROM PWB.
24. Reattach the parts that have been removed in steps 5 to 1, in the reverse procedure.
25. Adjust the focus of the LED print head (see page 1-6-70).

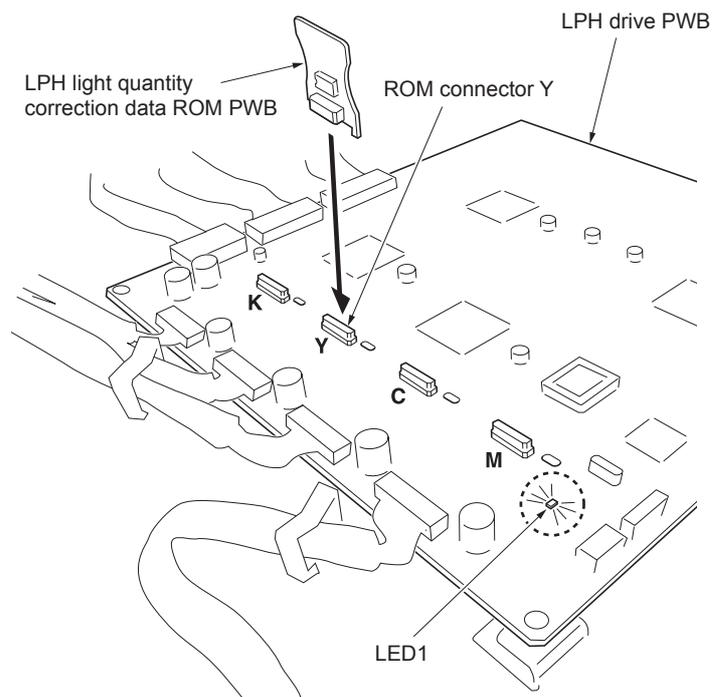
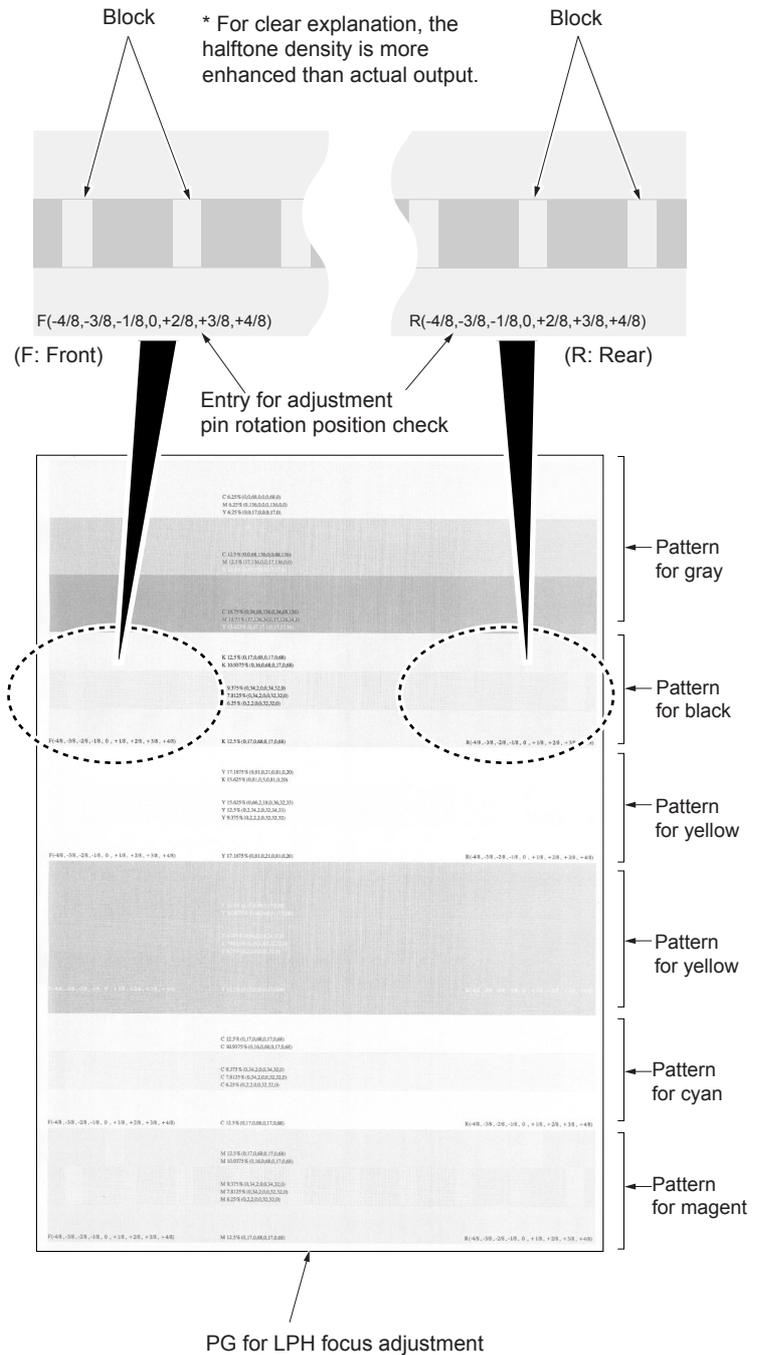


Figure 1-6-108

**(10) Adjusting the focus of the LED print head**

**<Procedure>**

1. Set A3/11" x 17" paper on the cassette.
2. Run maintenance item to output the PG for LPH focus adjustment.
3. Check the focus state using the PG for LPH focus adjustment. (If the focus is proper, the blocks on the front side and the rear side of the PG for LPH focus adjustment can be checked and the density is the same.)
4. If the focus is improper, perform the following procedure.



**Figure 1-6-109**

- Remove the front and rear top covers.

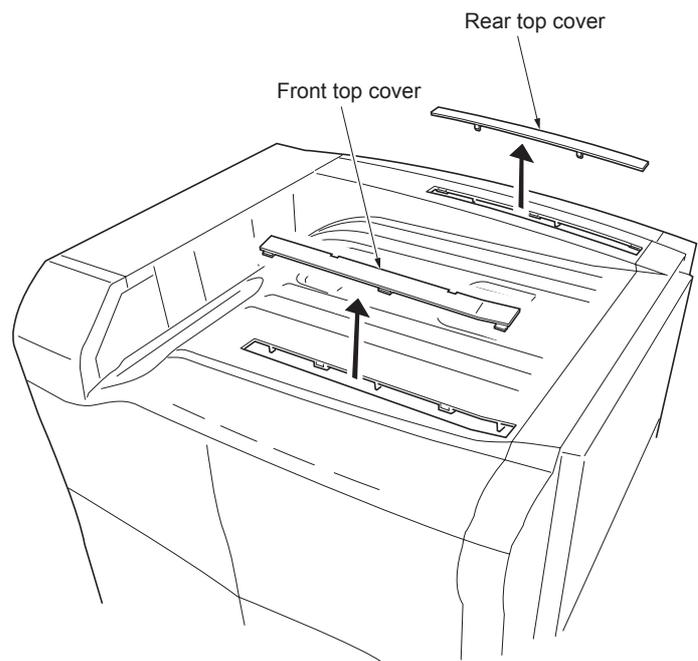


Figure 1-6-110

- Open the front cover.
- Open the toner container cover with the same color as the LPH to be adjusted, and remove the toner container.

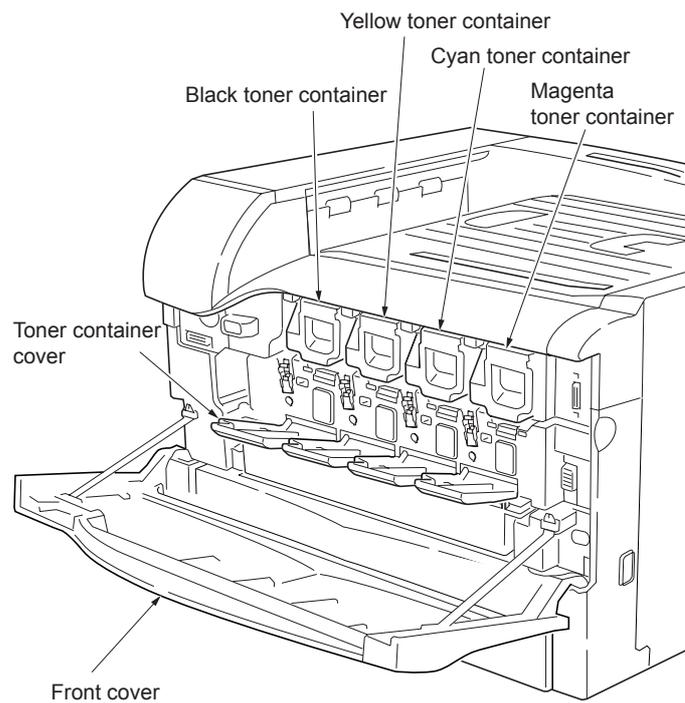


Figure 1-6-111

8. Insert a long screwdriver through the opening on the side to be adjusted into the machine and position the tip of the screwdriver to the pin head of the pin for LPH adjustment.
9. At the first adjustment, turn the screwdriver in either direction by 1/8 turn (45°) to see whether or not the LPH is closer to the drum or to find the direction of deviation of focus. After this, turn the screwdriver by 1/8 turn (45°) and do not turn more than ± 1/2 turn (180°) from the initial position.
10. Pull out the screwdriver, attach the toner container, and close the toner container cover and the front cover.
11. Output the PG pattern for focus adjustment and check the state of focus (see page 1-6-70).  
 If the deviation of focus becomes larger, the turning direction of the screwdriver in step 9 was not proper. Turn the screwdriver in the reverse direction in step 9 next time. If the deviation of focus is improved, the turning direction of the screwdriver was proper. Turn the screwdriver in the same direction in step 9 next time.
12. Repeat steps 6 to 11 until the focus becomes proper.

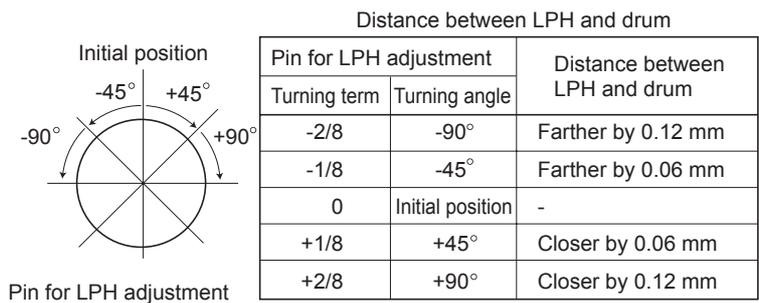
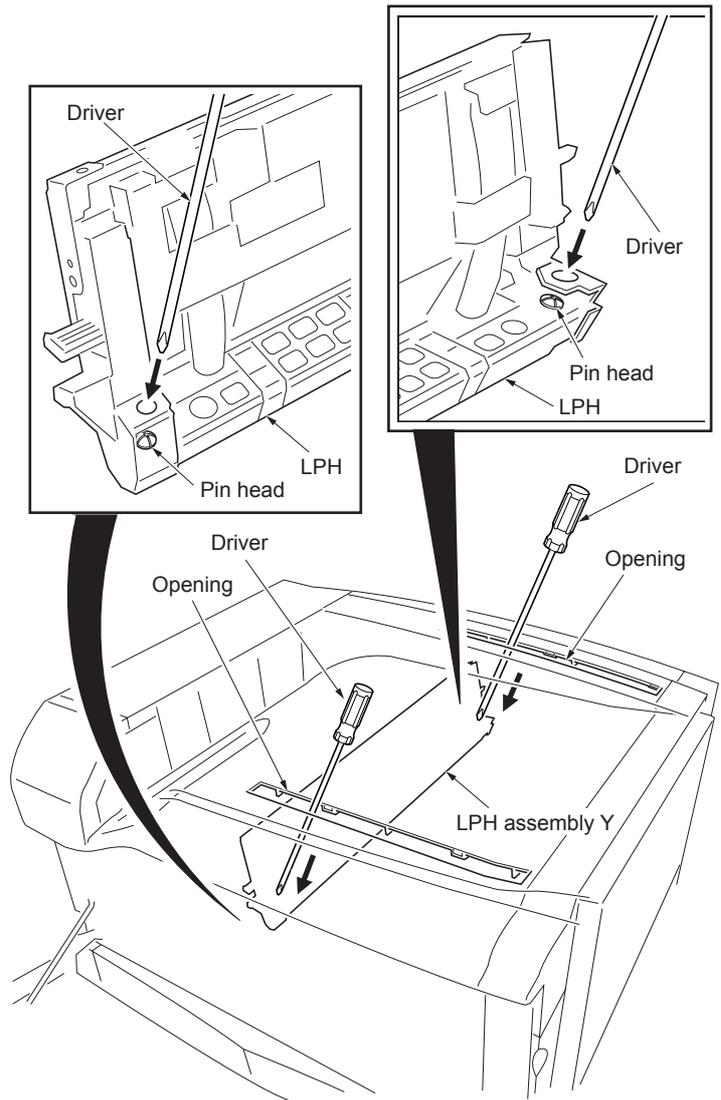


Figure 1-6-112

### 1-7-1 Upgrading the firmware

Follow the procedure below to upgrade the firmware on the scanner main PWB and engine controller PWB.

Firmware upgrading requires the following tools:

Compact Flash (Products manufactured by SANDISK are recommended.)

#### NOTE

When writing data to a new Compact Flash from a computer, be sure to format it in advance.

#### Procedure

1. Turn the power switch off and disconnect the power plug.
  - \* If the machine is equipped with an optional printer board, remove it.
2. Remove the CF cover.
3. Insert Compact Flash in a notch hole of the copier (insert the surface of the Compact Flash toward the top).
4. Insert the power plug and turn the power switch on. Upgrading firmware starts for 4 minutes.

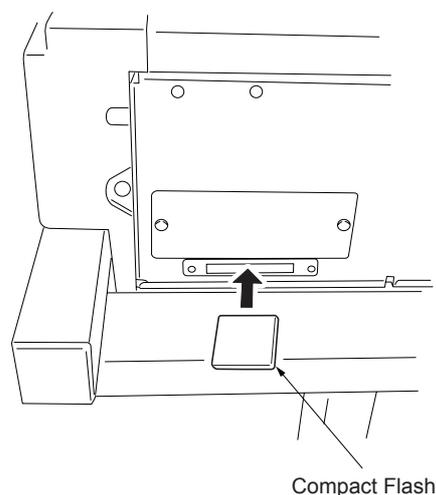


Figure 1-7-1

#### Caution:

- Never turn the power switch off during upgrading.
5. "Completed" is displayed on the message display when upgrading is complete.
  6. Turn the power switch off and disconnect the power plug.
  7. Remove Compact Flash from the copier and refit the CF cover.  
Refit the printer board when removed it in step 1.
  8. Insert the power plug and turn the power switch on.

### 1-7-2 Adjustment-free variable resistors (VR)

The variable resistors listed below are set at the factory prior to shipping and cannot be adjusted in the field.

- Inverter PWB: VR1

### 1-7-3 Remarks on engine controller PWB replacement

When replacing the engine controller PWB, remove the EEPROM from the engine controller PWB that has been removed and then reattach it to the new engine controller PWB.

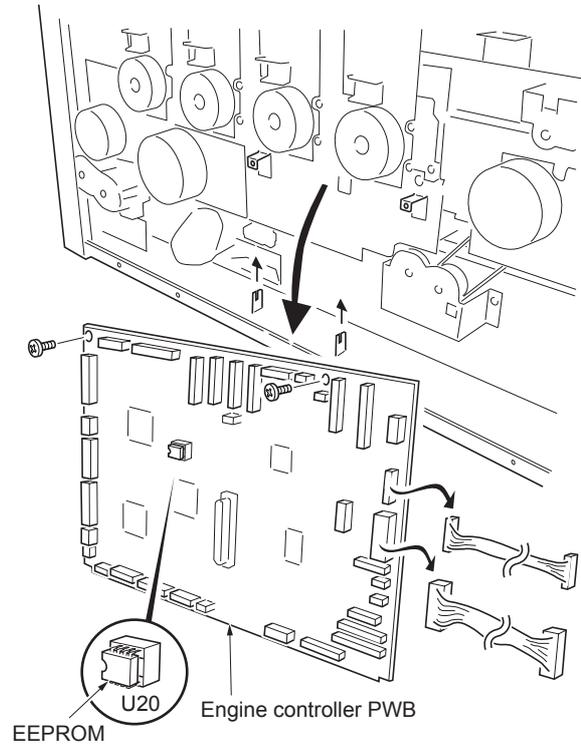


Figure 1-7-2

### 1-7-4 Remarks on scanner main PWB replacement

When replacing the scanner main PWB, remove the EEPROM from the scanner main PWB that has been removed and then reattach it to the new scanner main PWB.

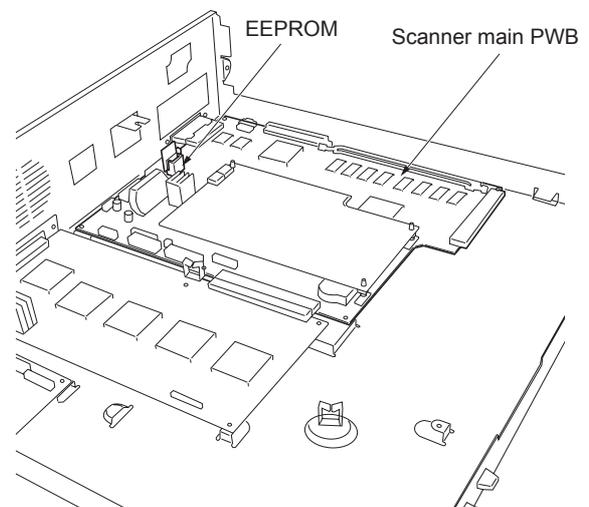


Figure 1-7-3

### 1-7-5 Upgrading the printer board firmware

Follow the procedure below to upgrade the firmware on the optional printer board.

Firmware upgrading requires the following tools:

Compact Flash (Products manufactured by SANDISK are recommended.)

#### NOTE

When writing data to a new Compact Flash from a computer, be sure to format it in advance.

#### Procedure

1. Turn the power switch off and disconnect the power plug.
2. Insert Compact Flash which has firmware into the printer board.
3. Insert the power plug and turn the power switch on. Upgrading firmware starts.
4. When upgrading the firmware is completed correctly, the display in Figure 1-7-4 will be shown on the operation panel screen.
5. Turn the power switch off at the operation panel screen which shown on Figure 1-7-4 and disconnect the power plug.
6. Remove Compact Flash from the printer board.



Figure 1-7-4

#### Caution:

If pressing the “Reset” button shown on Figure 1-7-4, upgrading the firmware will start again and if turn the power switch off before the download is finished, writing for the program will not finish till the end and [Checksum error F010] will occur.

## 2-1-1 Paper feed section

As the paper feed methods, this machine provides paper feed from the paper cassette which can hold 500 sheets of paper, paper feed from the bypass tray which can hold 150 sheets of paper (75g/m<sup>2</sup>), and, in addition, paper feed from the optional paper feeder.

The Paper feed section is composed of paper cassette, primary paper feed unit, bypass tray, bypass unit and paper feed unit.

### (1) Paper cassette, primary paper feed unit and paper feeder feed section

The paper cassette is fit underneath the primary paper feed unit. The paper stored in the paper cassette is lifted up so that it is contacted against the forwarding roller as the bottom plate in the paper cassette is raised by the lifter mechanism. The sheet at top is rewound to the forwarding roller and sent to the paper feed roller which forward the paper in the machine. In order to prevent paper misfeed during feeding, the lower paper feed pulley which is positioned face-to-face with the paper feed roller acts to prevent feeding more than one sheet at a turn of the forwarding roller.

The paper feeder feed section feeds paper from the optional paper feeder installed at the lower part of the machine to the paper feed unit through the feed B roller and the feed B pulley.

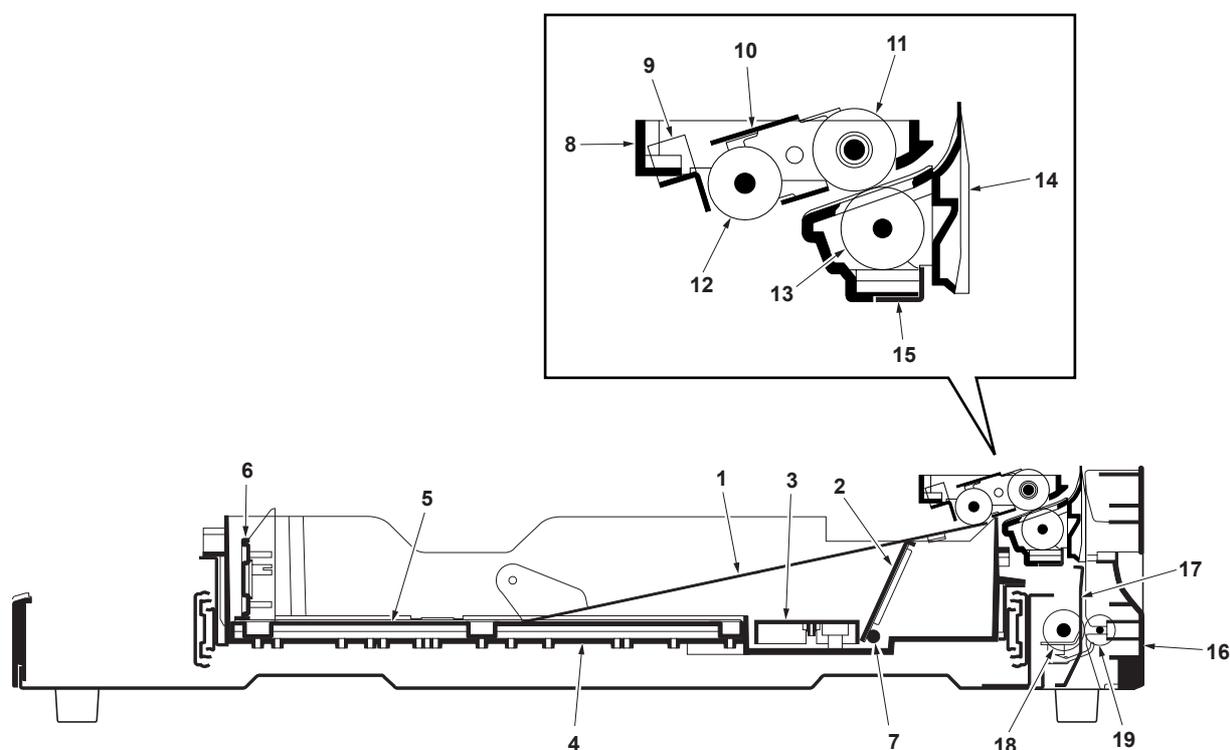


Figure 2-1-1 Paper cassette, primary paper feed unit and paper feeder feed section

- |   |                                |
|---|--------------------------------|
| (1) Bottom plate                          | (11) Paper feed roller         |
| (2) Lift plate                            | (12) Forwarding roller         |
| (3) Cursor rail A                         | (13) Lower paper feed pulley   |
| (4) Paper cassette                        | (14) Junction guide            |
| (5) Cursor rail C                         | (15) Housing reinforcing plate |
| (6) Cassette cursor C                     | (16) Right cover 1             |
| (7) Cassette lift shaft                   | (17) Lower feed plate          |
| (8) Upper primary paper feed unit housing | (18) Feed B roller             |
| (9) Forwarding pulley collar              | (19) Feed B pulley             |
| (10) Forwarding pulley support plate      |                                |

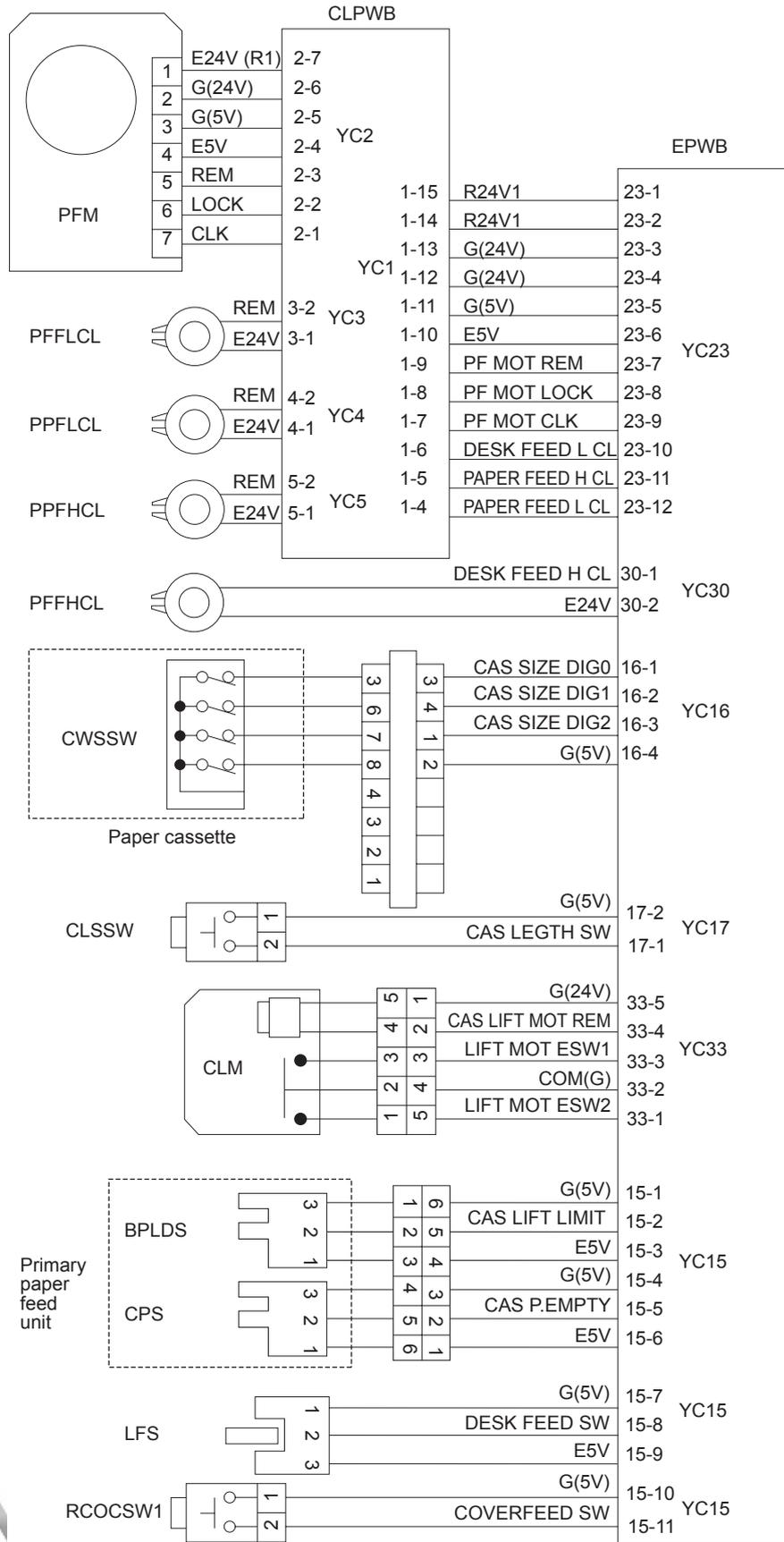


Figure 2-1-2 Paper cassette, primary paper feed unit and paper feeder feed section block diagram

## (2) Bypass unit and paper feed unit

The bypass unit and the paper feed unit are fitted on the rail as a unit and can be detached from and refitted to the machine.

The bypass unit moves paper loaded in the bypass tray with the paper lift mechanism constructed of the lift plate up/down solenoid and the bypass lift plate so that the paper comes in contact with the bypass feed roller. The paper is pulled out with rotation of the bypass feed roller and is fed to the upper registration roller and the lower registration roller of the paper feed unit. In order to prevent paper misfeed during feeding, the bypass retard roller which is positioned face-to-face with the bypass feed roller acts to prevent feeding more than one sheet at a turn of the bypass feed roller.

The paper feed unit detects paper fed from the bypass tray, paper cassette or optional paper feeder at the registration sensor and feeds the paper to the transfer belt of the transfer unit through the upper registration roller and the lower registration roller according to the processing timing of the process section.

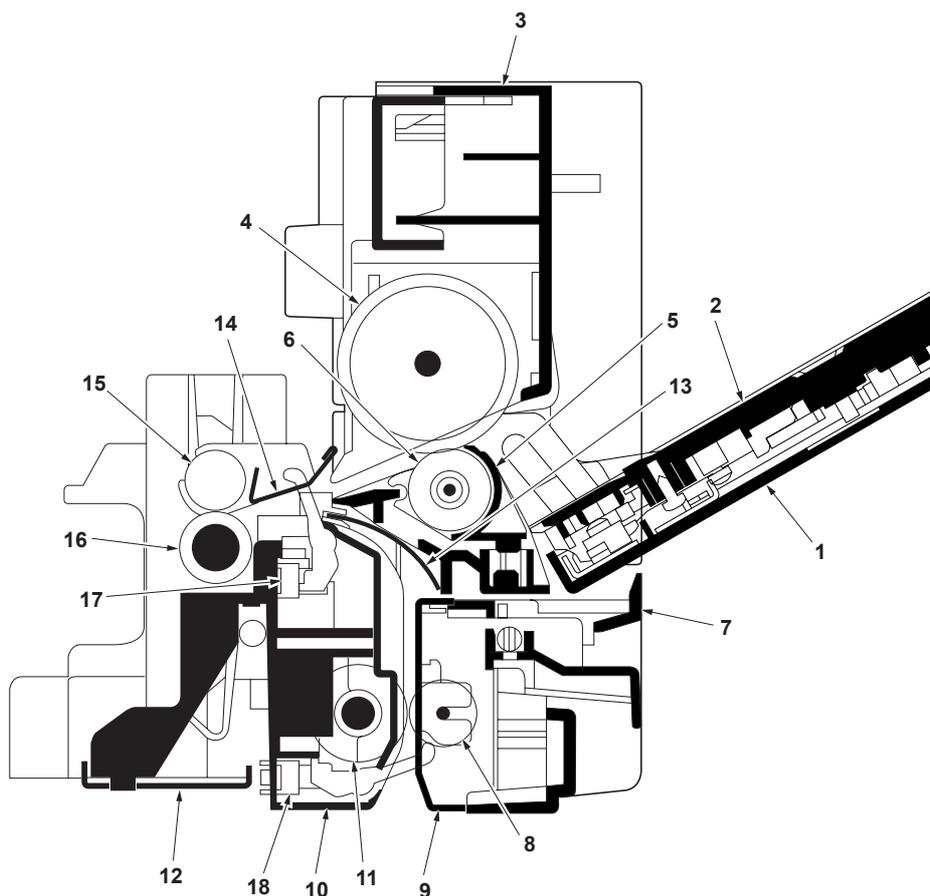


Figure 2-1-3 Bypass unit and paper feed unit

- |                                 |                                |
|---------------------------------|--------------------------------|
| (1) Bypass tray                 | (10) Paper feed frame          |
| (2) Bypass lift plate           | (11) Feed roller               |
| (3) Bypass feed frame           | (12) Lower paper feed plate    |
| (4) Bypass feed roller          | (13) Lower registration guide  |
| (5) Bypass retard roller holder | (14) Upper registration guide  |
| (6) Bypass retard roller        | (15) Upper registration roller |
| (7) Right cover 2               | (16) Lower registration roller |
| (8) Paper feed pulley           | (17) Registration sensor       |
| (9) Lower paper feed guide      | (18) Upper feed sensor (UFS)   |

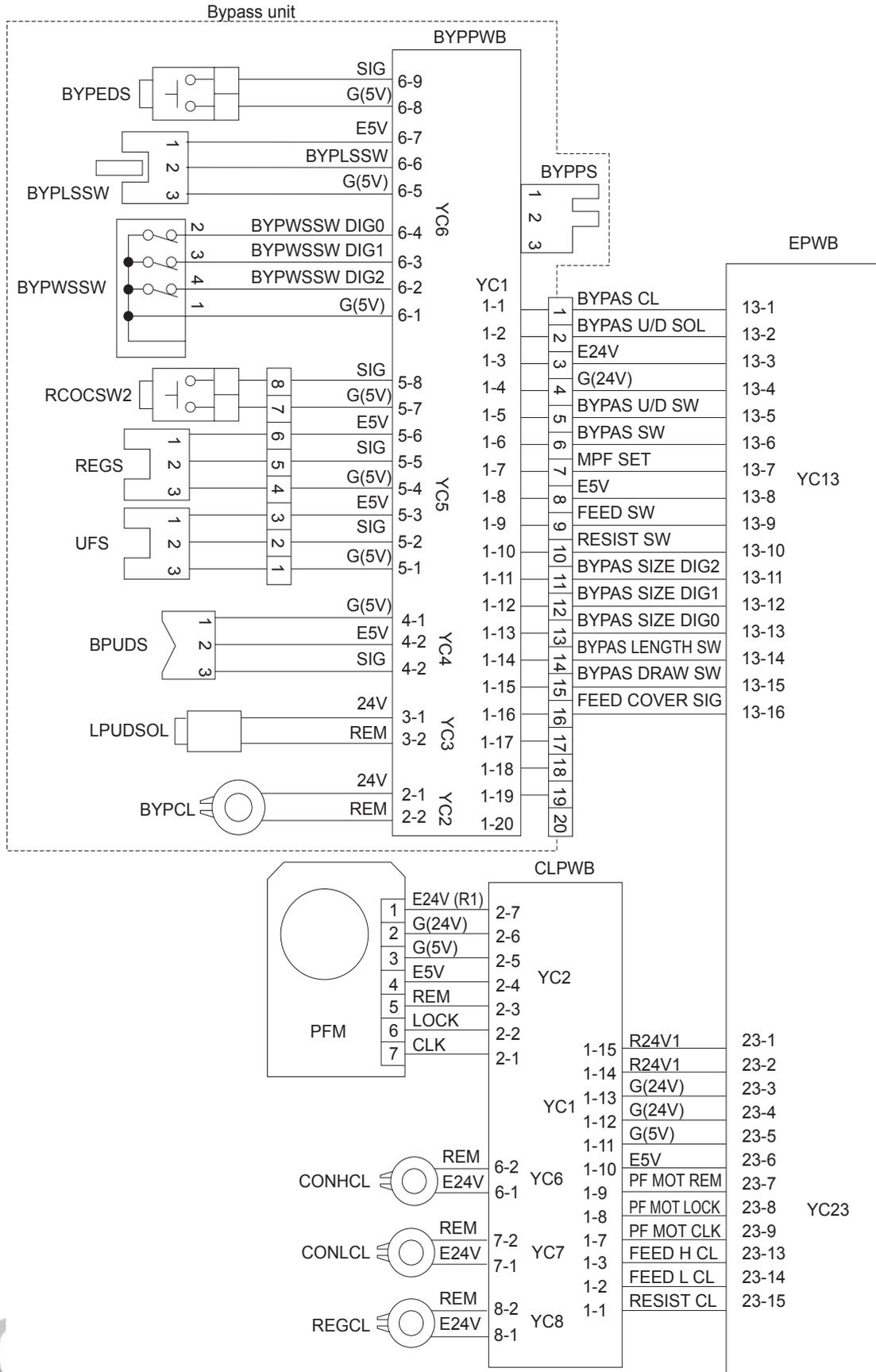


Figure 2-1-4 Bypass unit and paper feed unit block diagram

## 2-1-2 Process section

The process section consists of the developing section, the process units that integrate the drum and cleaning sections, the main charger unit on each process unit that can be detached and refitted, and the LED print head mounted to the machine frame.

### (1) Developers and drum unit

The process units have the same shape for four colors: magenta, cyan, yellow, and black. In the process unit, the drum surface is charged with discharge of the main charger wire in the main charger unit and an electrostatic latent image is formed on the drum surface by irradiating LED light (dots) from the LED print head. The electrostatic latent image is processed into a toner image through toner transfer from the developing magnet A roller and then the toner image is transferred to the transfer belt of the transfer unit. For a color image, four color toner images are superposed and transferred. After transfer is complete, toner remaining on the drum surface is chipped off with the drum cleaning blade of the cleaning section and is ejected out of the process unit with the cleaning screw. Also electric charge remaining on the drum surface is eliminated by irradiating the eraser lamp for preparing for next discharge of the main charger wire.

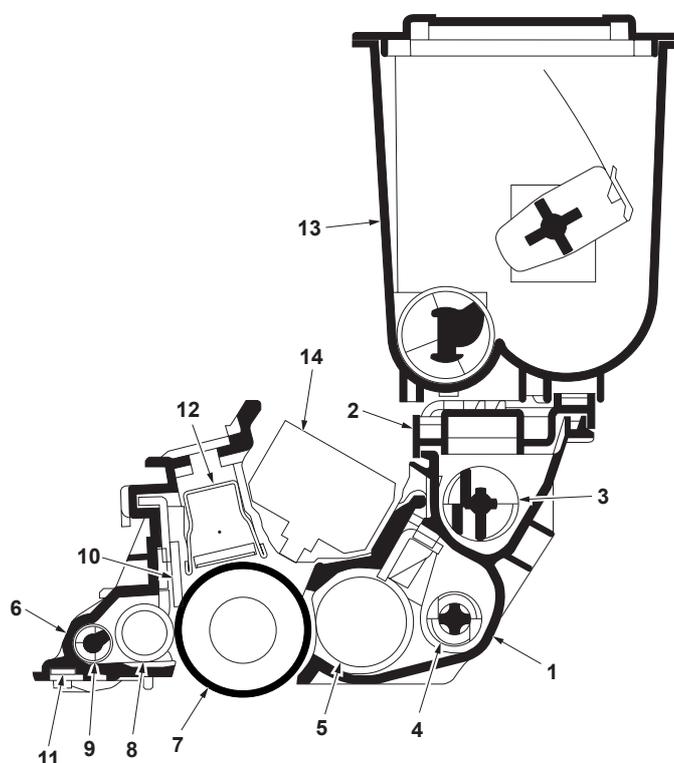


Figure 2-1-5 Process unit and toner container

- |                             |                          |
|-----------------------------|--------------------------|
| (1) Developing case         | (8) Cleaning roller      |
| (2) Developing spacer cover | (9) Cleaning screw       |
| (3) Upper developing screw  | (10) Drum cleaning blade |
| (4) Lower developing screw  | (11) Eraser lamp (ERL)   |
| (5) Magnet A roller         | (12) Main charger unit   |
| (6) Drum frame              | (13) Toner container     |
| (7) Drum                    | (14) LED print head      |

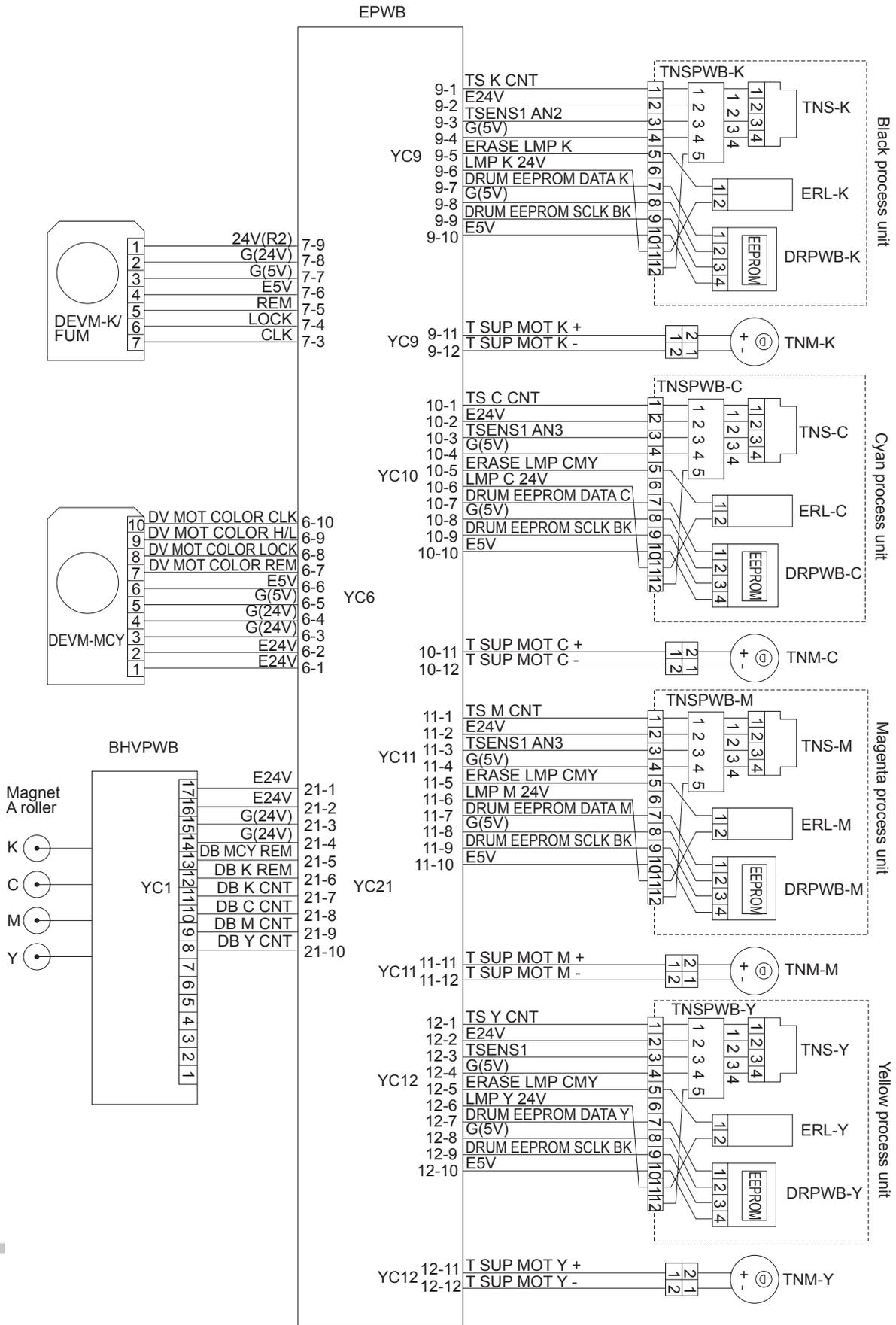
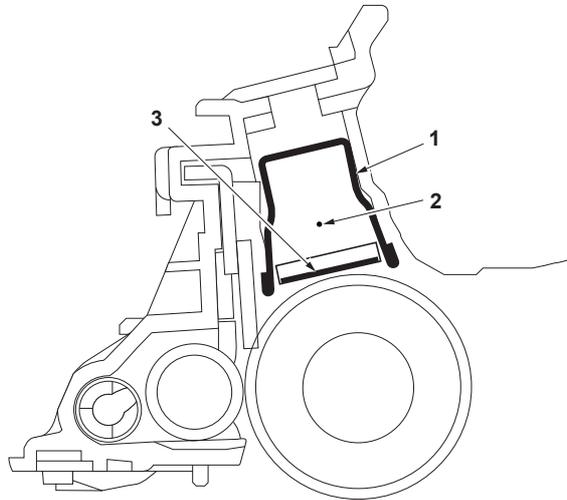


Figure 2-1-6 Process section block diagram

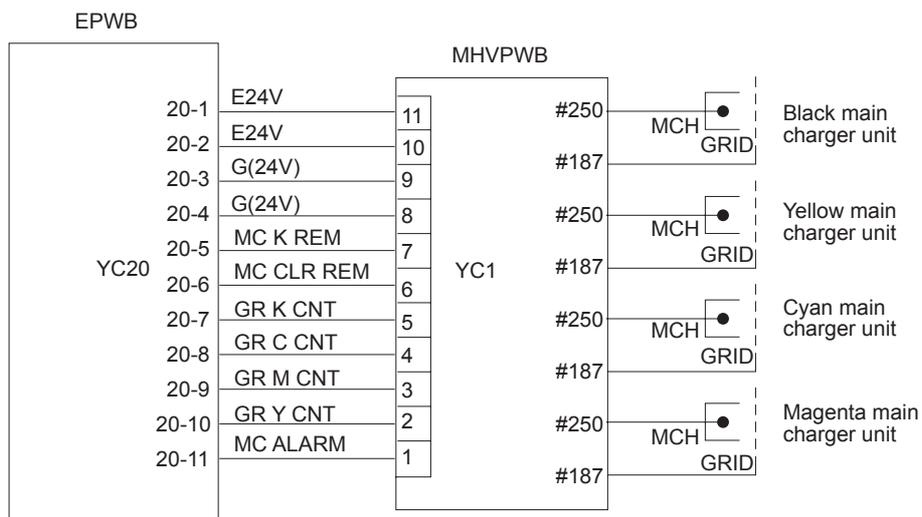
**(2) Main charger unit**

The main charger units have the same shape for four colors: magenta, cyan, yellow, and black. Main charger unit is comprised of the main charger wire, main charger grid, main charger shield, and the main charger cleaner which are modularized and fitted to the process unit.



**Figure 2-1-7 Main charger unit**

- (1) Main charger shield
- (2) Main charger wire
- (3) Main charger grid



**Figure 2-1-8 Main charger output block diagram**

### (3) LED print head

The LED print head, which has effective printing width of 303.126 mm, consists of 56 LED chips to which 7,168 illuminant (LED) devices in total are mounted, two lines of SELFOC lens arrays, etc. The image data processed on the scanner main PWB and scanner MIP PWB is transferred to the LPH drive PWB through the engine interface PWB, and each illuminant (LED) device on/off drive is controlled on the LPH drive PWB based on the image data to output LED light dots onto the drum surface.

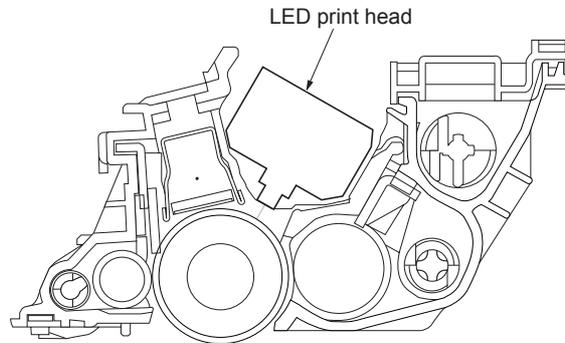


Figure 2-1-9 LED print head

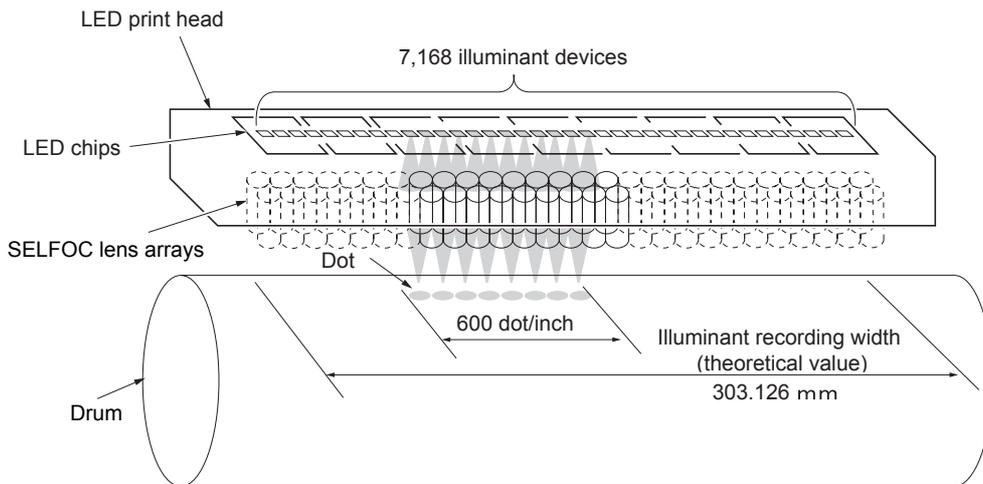
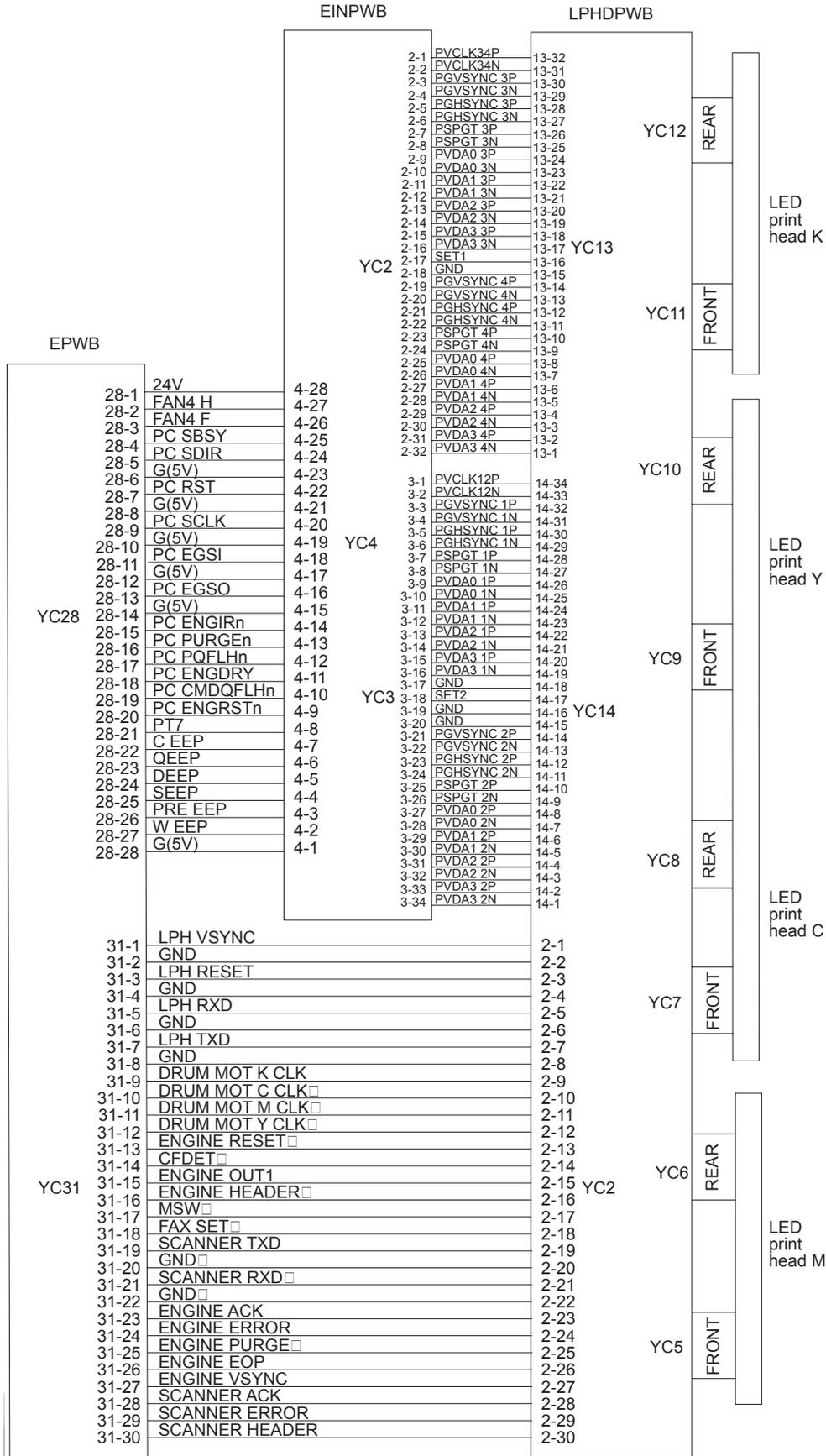


Figure 2-1-10 LED print head



### 2-1-3 Transfer section

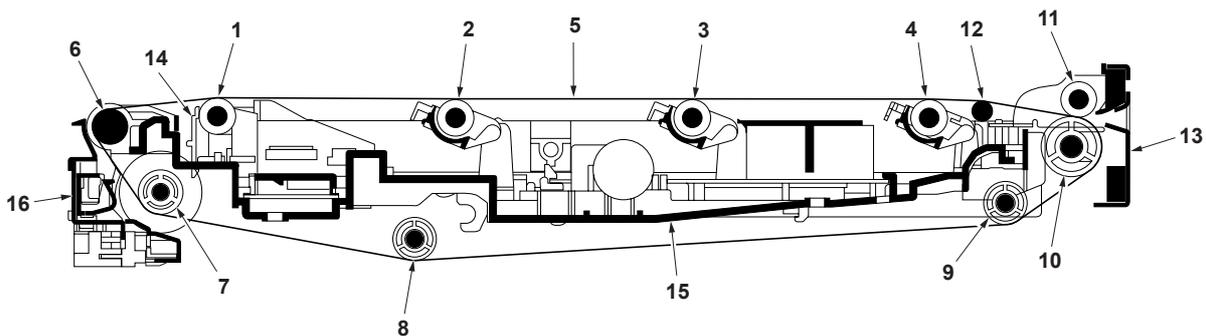
The transfer section includes the transfer belt, four transfer rollers opposed to the color drums of the process units, transfer high voltage PWB, etc. and is configured as a transfer unit. The transfer unit is connected to the paper feed section mounted to the rail and can be pulled out from the machine.

#### (1) Transfer unit

Paper fed from the paper feed unit is conveyed by adsorbing to the transfer belt with the adsorption roller to which bias is applied. The bias voltage applied to the adsorption roller is controlled depending on the paper type and the paper interval. For the transfer belt, an ionic conductor belt made of PCDF (fluorochemical resin) is used. Inside the transfer belt, four transfer rollers opposed to the four color drums are incorporated, and toner is transferred from the drum to the paper with the action of the applied transfer bias.

For color printing, each color toner image formed on each color drum is superposed sequentially and transferred to form a full color toner image on paper. For monochrome printing, transfer rollers Y, C, and M and the transfer lift roller are moved away from the transfer belt with the transfer roller lift mechanism, and only transfer roller K that is fixed to a position is used for transfer. The transfer roller lift mechanism slides the transfer lever by rotating the transfer cam with the transfer roller lift motor and moves transfer rollers Y, C, and M away or lifts them by enabling each transfer bearing of transfer rollers Y, C, and M linked to the transfer lever. For separation of paper from the drum or the transfer belt after toner transfer, the self stripping method is used.

At the lower part of the transfer unit, two toner ID sensors are provided for measuring the density of toner transferred directly onto the transfer belt at the time of calibration for correcting print density. The transferred toner is collected by controlling the transfer belt and the yellow drum to half speed and applying reverse bias to the yellow and magenta transfer rollers to draw toner on the transfer belt to the drum for collection.



- |                            |                              |
|----------------------------|------------------------------|
| (1) Transfer roller K      | (9) Tension roller           |
| (2) Transfer roller Y      | (10) Idle roller             |
| (3) Transfer roller C      | (11) Adsorption roller       |
| (4) Transfer roller M      | (12) Transfer lift roller    |
| (5) Transfer belt          | (13) Adsorption roller plate |
| (6) Drive roller           | (14) Eraser bracket          |
| (7) Toner ID sensor roller | (15) Transfer frame          |
| (8) Transfer idle roller   | (16) Sensor plate            |

Figure 2-1-12 Transfer unit

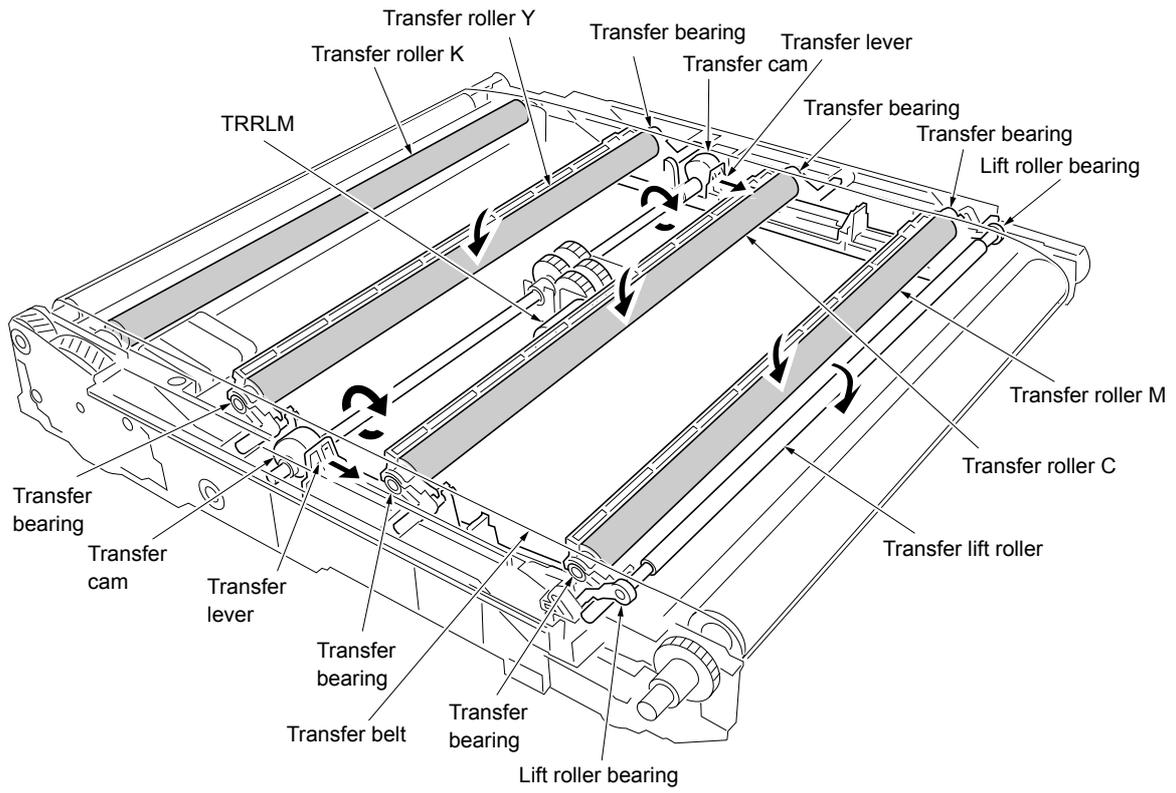


Figure 2-1-13 Transfer rollers Y, C, M lifter mechanism

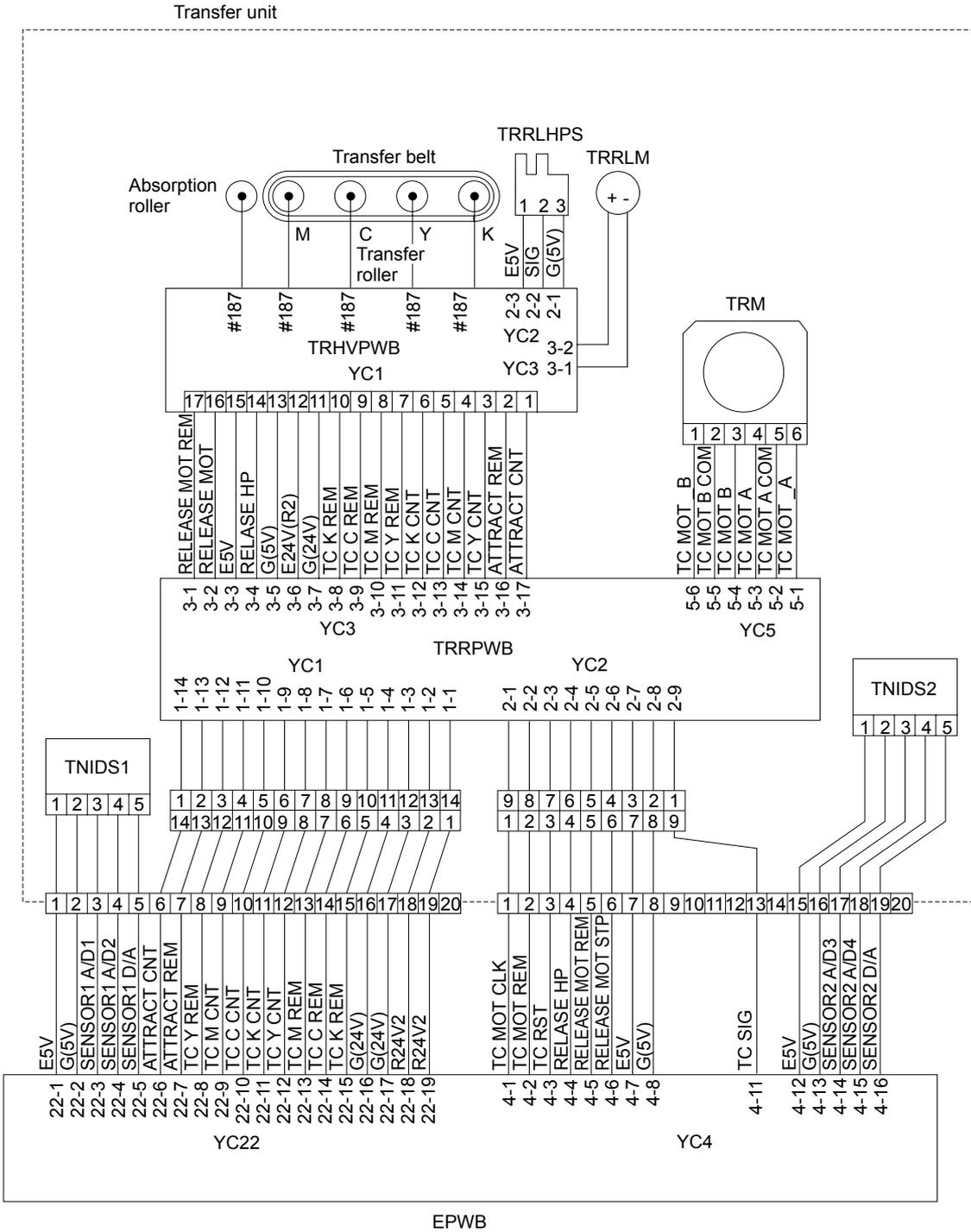


Figure 2-1-14 Transfer section block diagram

A full color image is developed by recoating four colors on the paper which adsorbs into the transfer belt. If the density of each color is not kept constant, the resultant color image will be deteriorated. The two toner ID sensors mounted on the transfer belt maintain the constant color fidelity.

The toner ID sensor includes a LED, deflection beam splitters of BS1 and BS2, photo diode PD2 and PD3 that scale toner density, and associated components.

The deflection beam splitter 1 (BS1) splits the light from the LED to S wave and P wave. S wave oscillates vertically in reference to the entrance plane; whereas, P wave oscillates horizontally in reference to the entrance plane. S wave reaches the photo diode (PD1) and acts to stabilize the luminosity of the LED by means of the feed back circuit. P wave is irradiated to toner, then it produces scattered light wave S and reflection wave P which bounced on the primary transfer belt. They reach the deflection beam splitter 2 (BS2) where they are distinguished as P wave and S wave, respectively, then detected by photo diode 2 (PD2) and photo diode 3 (PD3).

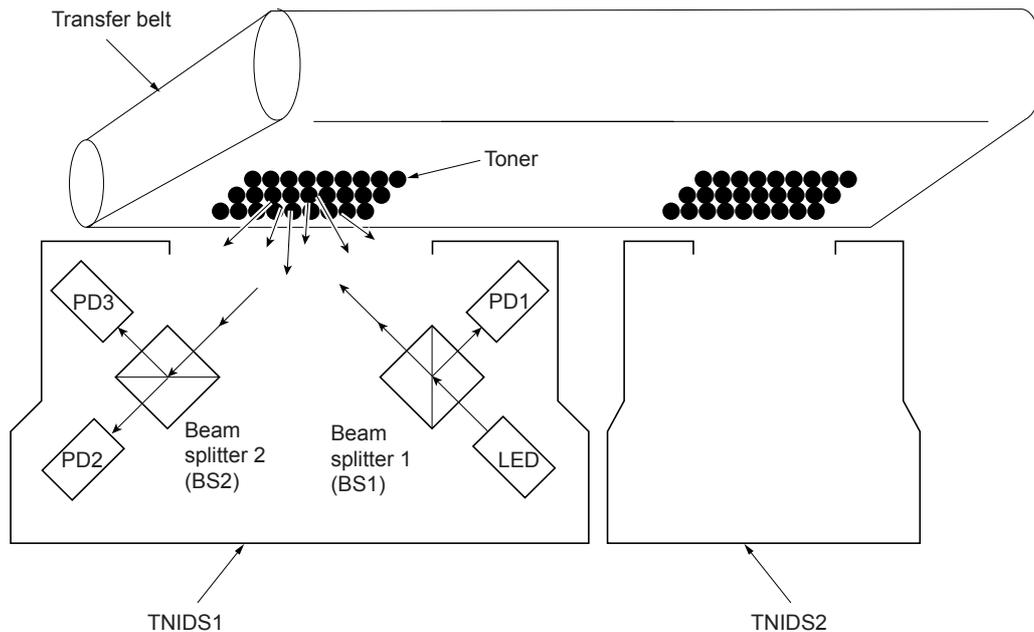


Figure 2-1-15 Toner ID sensor

## 2-1-4 Fuser section

### (1) Fuser unit

The fuser section includes two units of fuser rollers, fuser heater lamps, fuser thermistors, and fuser thermostats respectively and is configured as a fuser unit. Both the upper and lower fuser rollers are of a  $\phi 45$  soft type. The upper fuser roller includes a 600 W fuser heater lamp, and the lower fuser roller includes a 400 W fuser heater lamp.

The fuser unit fixes toner to paper by catching paper fed from the transfer unit on which toner is transferred with the upper and lower fuser rollers and applying heat and pressure to the toner. Then the unit feeds the paper to the eject unit with rotation of the upper exit roller and the lower exit pulley.

On the fuser PWB in the fuser unit, a fuse for discriminating between new and old fuser units is mounted to use fuse cut operation for discriminating between the new and old types of fuse (new and old types of fuser unit).

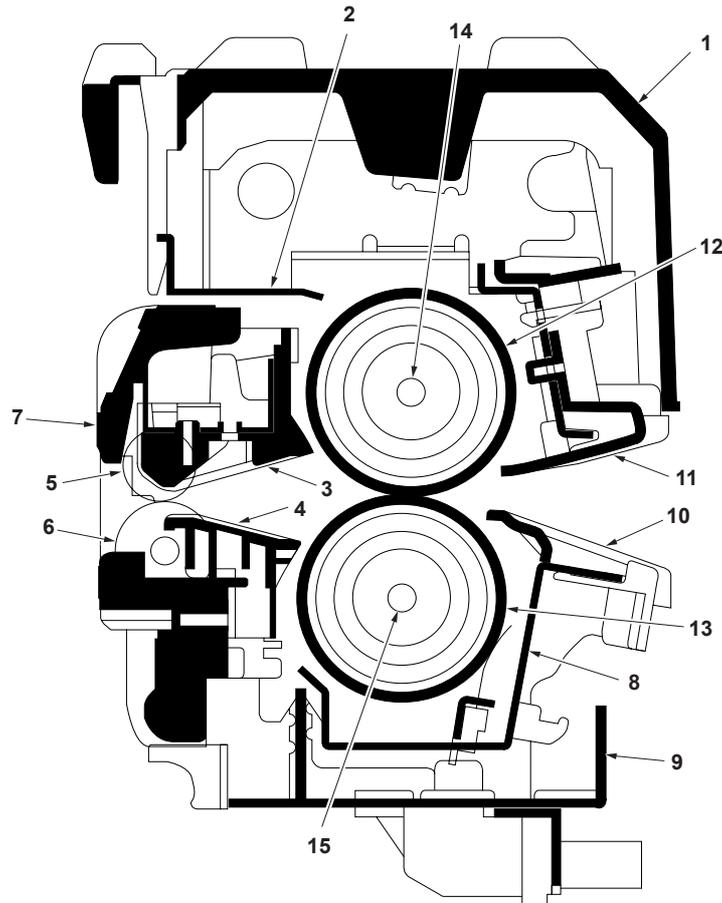


Figure 2-1-16 Fuser unit

- |                              |                                     |
|------------------------------|-------------------------------------|
| (1) Upper fuser cover        | (9) Fuser frame                     |
| (2) Upper fuser frame        | (10) Lower entrance guide           |
| (3) Upper exit guide         | (11) Upper entrance guide           |
| (4) Lower exit guide         | (12) Upper fuser roller             |
| (5) Upper exit roller        | (13) Lower fuser roller             |
| (6) Lower exit roller        | (14) Upper fuser heater lamp (FH-U) |
| (7) Exit roller              | (15) Lower fuser heater lamp (FH-L) |
| (8) Lower fuser roller frame |                                     |

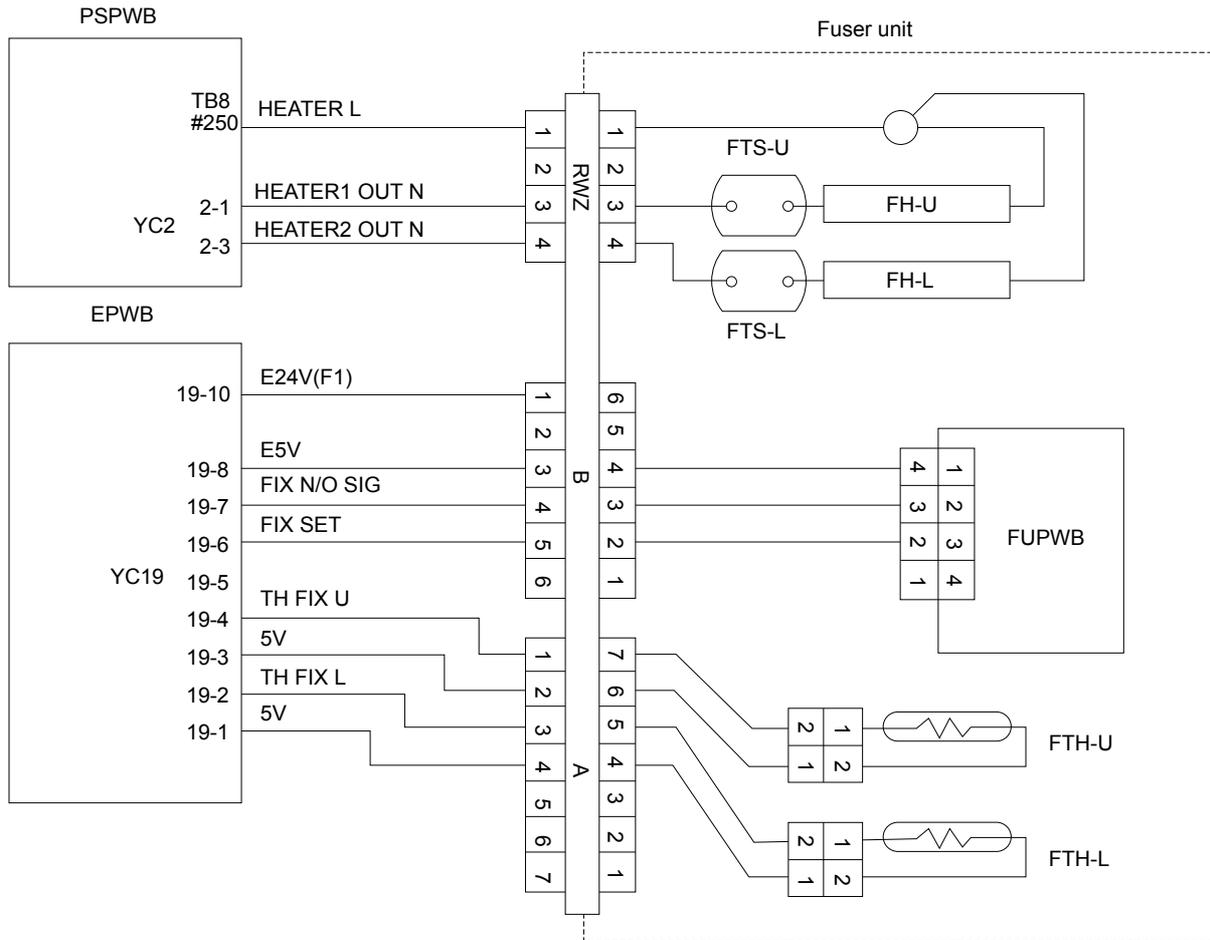
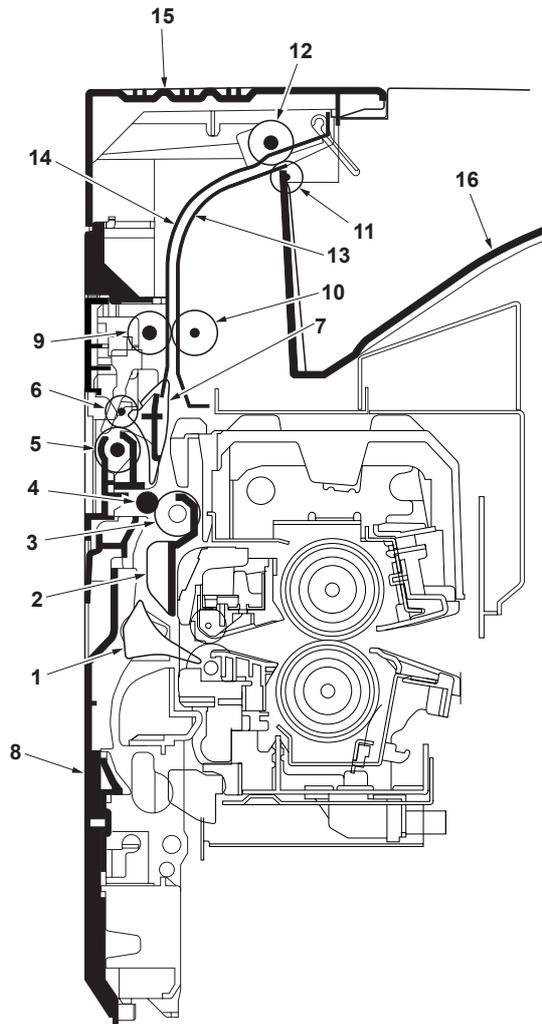


Figure 2-1-17 Fuser section block diagram

**2-1-5 Exit section**

**(1) Eject unit and face-down exit section**

The eject unit switches ejection destination for paper that is output from the fuser unit. If the ejection destination is the duplex unit, the duplex change guide is activated. Normally, the duplex change guide does not operate, and paper is fed along the guide upper surface in the vertical direction. In duplex printing, the duplex change guide stands up with activation of the duplex exit solenoid and paper is fed downward (to the duplex unit) along the guide lower surface. If the ejection destination is a face-up ejection section (optional left tray or finisher), the face-up change guide is activated. Normally, the face-up change guide does not operate, and paper is fed upward (to the face-down ejection section) in the vertical direction along the guide upper surface. For face-up ejection, the face-up change guide stands up and paper is fed into the top tray, since the duplex change guide or the face-up change guide is not activated, paper that is output from the fuser unit is fed upward in the vertical direction with the exit sponge roller, exit roller C, exit roller B, and exit pulley and then ejected to the top tray with exit roller A and the face-down exit pulley.



**Figure 2-1-18 Eject unit and face-down exit section**

- |                          |                            |
|--------------------------|----------------------------|
| (1) Duplex change guide  | (9) Exit roller B          |
| (2) Exit guide           | (10) Exit pulley           |
| (3) Exit sponge roller   | (11) Face-down exit pulley |
| (4) Exit roller E        | (12) Exit roller A         |
| (5) Exit roller C        | (13) Exit plate A          |
| (6) Face-up exit pulley  | (14) Exit plate B          |
| (7) Face-up change guide | (15) Left top cover        |
| (8) Exit cover           | (16) Top tray              |



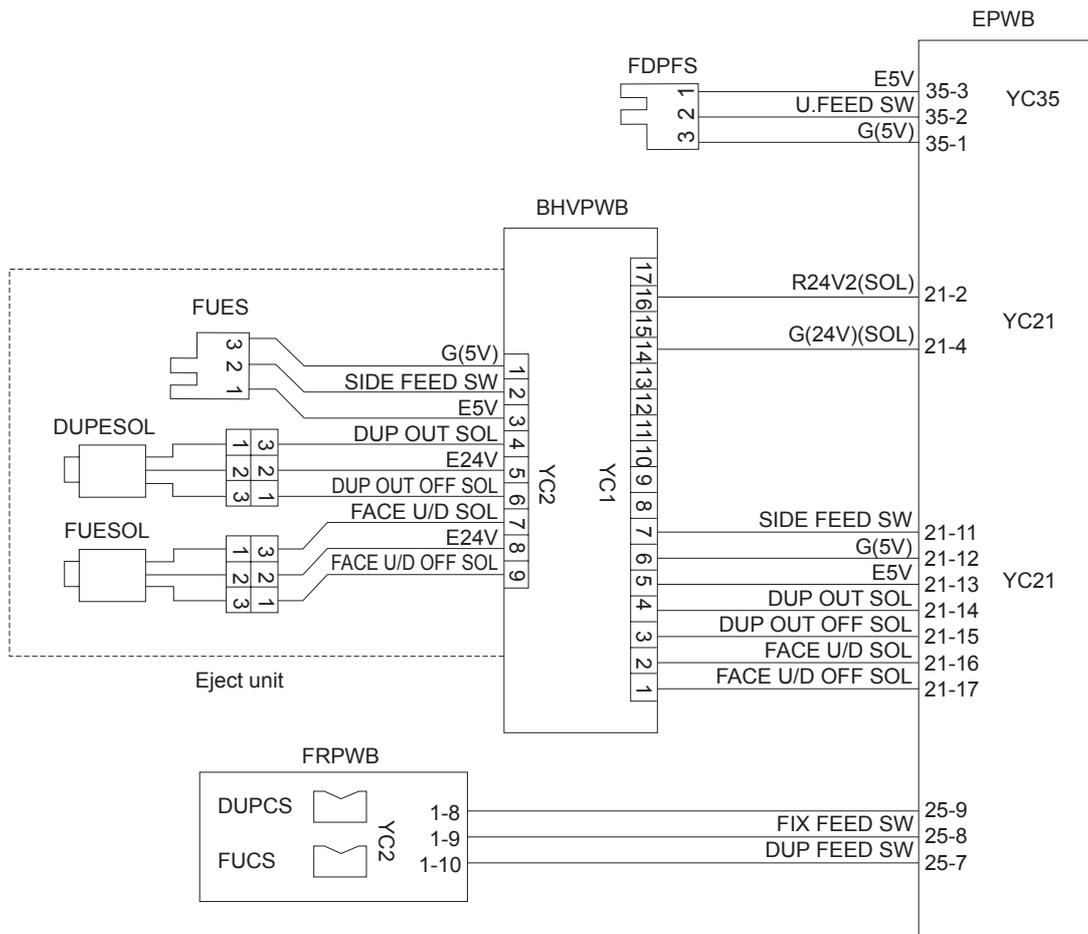
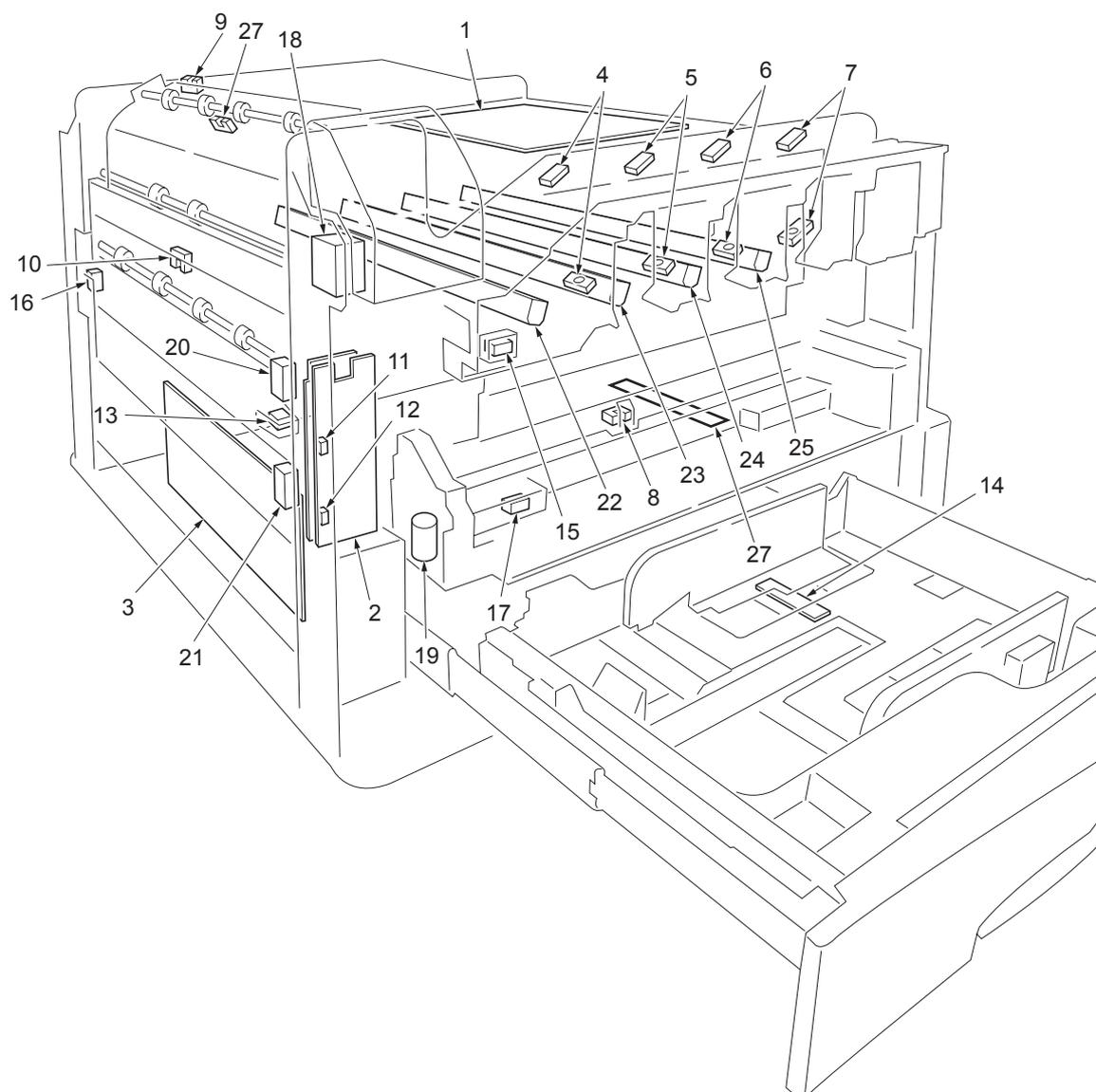


Figure 2-1-19 Eject unit and face-down exit section block diagram

## 2-2-1 Electrical parts layout

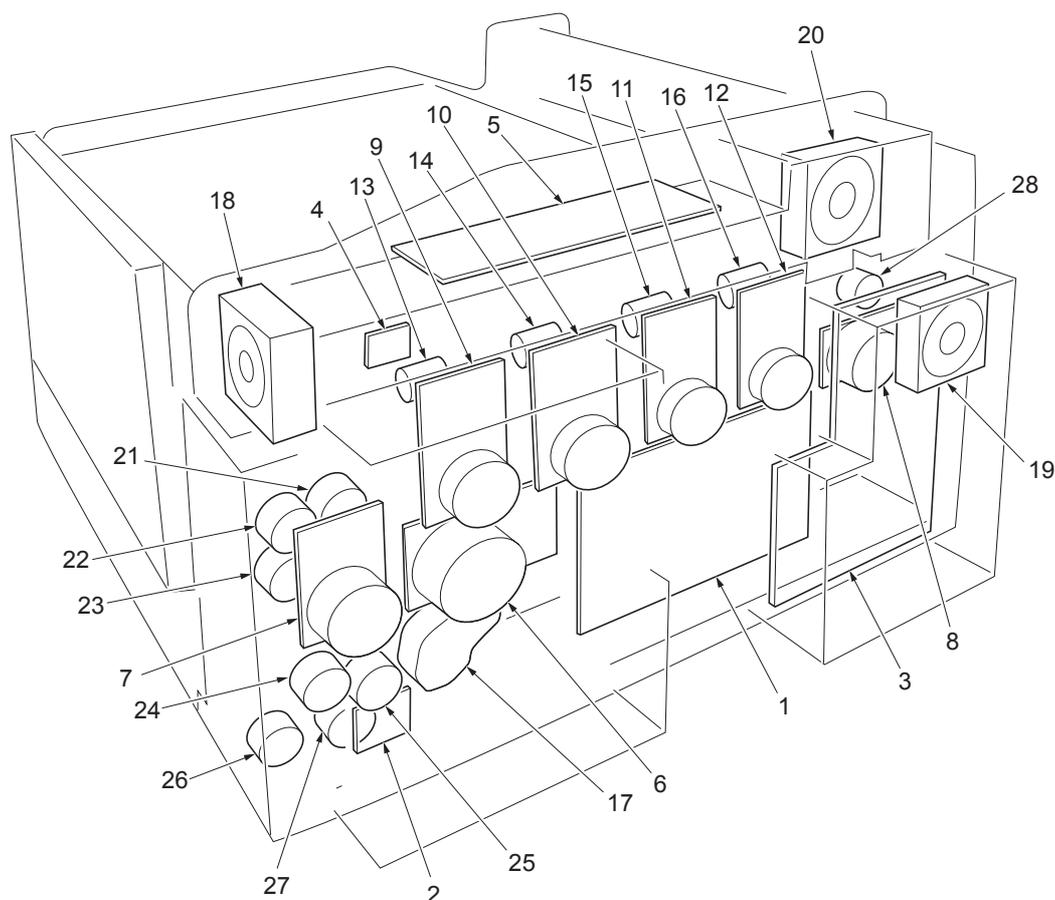
### (1) Main front, upper, left, inner and paper cassette



**Figure 2-2-1 Main front, upper, left, inner and paper cassette**

1. LPH drive PWB (LPHDPWB)..... Consists the LED print head control circuit and wiring relay circuit between engine controller PWB and drum units.
2. Front relay PWB (FRPWB) ..... Consists the fuser feed sensor, duplex feed sensor and wiring relay circuit.
3. Bias high voltage PWB (BHVPWB) ..... Generates the developing bias.
4. Toner empty detection sensor K (TNEDS-K)..... Measures toner in the black toner container.
5. Toner empty detection sensor Y (TNEDS-Y)..... Measures toner in the yellow toner container.
6. Toner empty detection sensor C (TNEDS-C)..... Measures toner in the cyan toner container.
7. Toner empty detection sensor M (TNEDS-M)..... Measures toner in the magenta toner container.
8. Waste toner full sensor (WTFS)..... Detects the waste toner box being full.

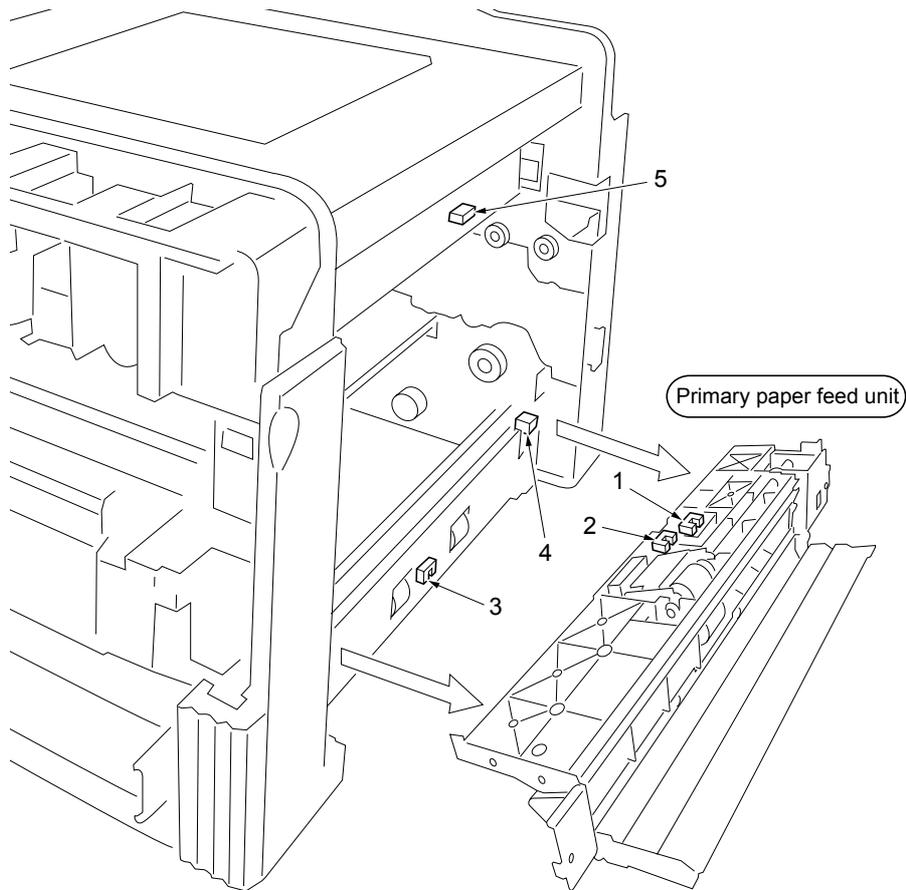
9. Face-down paper full sensor (FDPFS)..... Detects whether the top tray is full.
  10. Face-up exit sensor (FUES) ..... Detects paper jam at the face-up exit section.
  11. Fuser conveying sensor (FUCS)..... Detects paper jam at the fuser unit.
  12. Duplex conveying sensor (DUPCS)..... Detects paper jam at the outlet for the duplexer.
  13. Cassette length size switch (CLSSW) ..... Detects paper length in the paper cassette.
  14. Cassette width size switch (CWSSW) ..... Detects paper width in the paper cassette.
  15. Front cover open/close switch (FCOCSW)..... Detects the front cover is open.
  16. Left cover safety switch (LCSSW) ..... Monitors whether the left cover is open and cuts off the 24 V DC power source.
  17. Waste toner box detection switch (WTBDSW) ..... Detects the waste toner box is installed.
  18. Power switch (POWSW) ..... Turns ON/OFF the AC power source.
  19. Waste toner box motor (WTBM) ..... Equalizes the accumulation of the waste toner inside the waste toner box.
  20. Face-up exit solenoid (FUESOL) ..... Switches the face-up change guide for face-up ejection path.
  21. Duplex exit solenoid (DUPESOL) ..... Switches the duplex change guide for duplexer conveying path.
  22. LED print head K (LPH-K)..... Outputs the black image data to the black drum due to LED dot light.
  23. LED print head Y (LPH-Y)..... Outputs the yellow image data to the yellow drum due to LED dot light.
  24. LED print head C (LPH-C) ..... Outputs the cyan image data to the cyan drum due to LED dot light.
  25. LED print head M (LPH-M) ..... Outputs the magenta image data to the magenta drum due to LED dot light.
  26. Dehumidifier heater (DH)\* ..... Dehumidification of the paper in a cassette.
  27. Face-down exit sensor (FDES)..... Detects paper jam at the top tray exit section.
- \*Optional.

**(2) Main rear****Figure 2-2-2 Main rear**

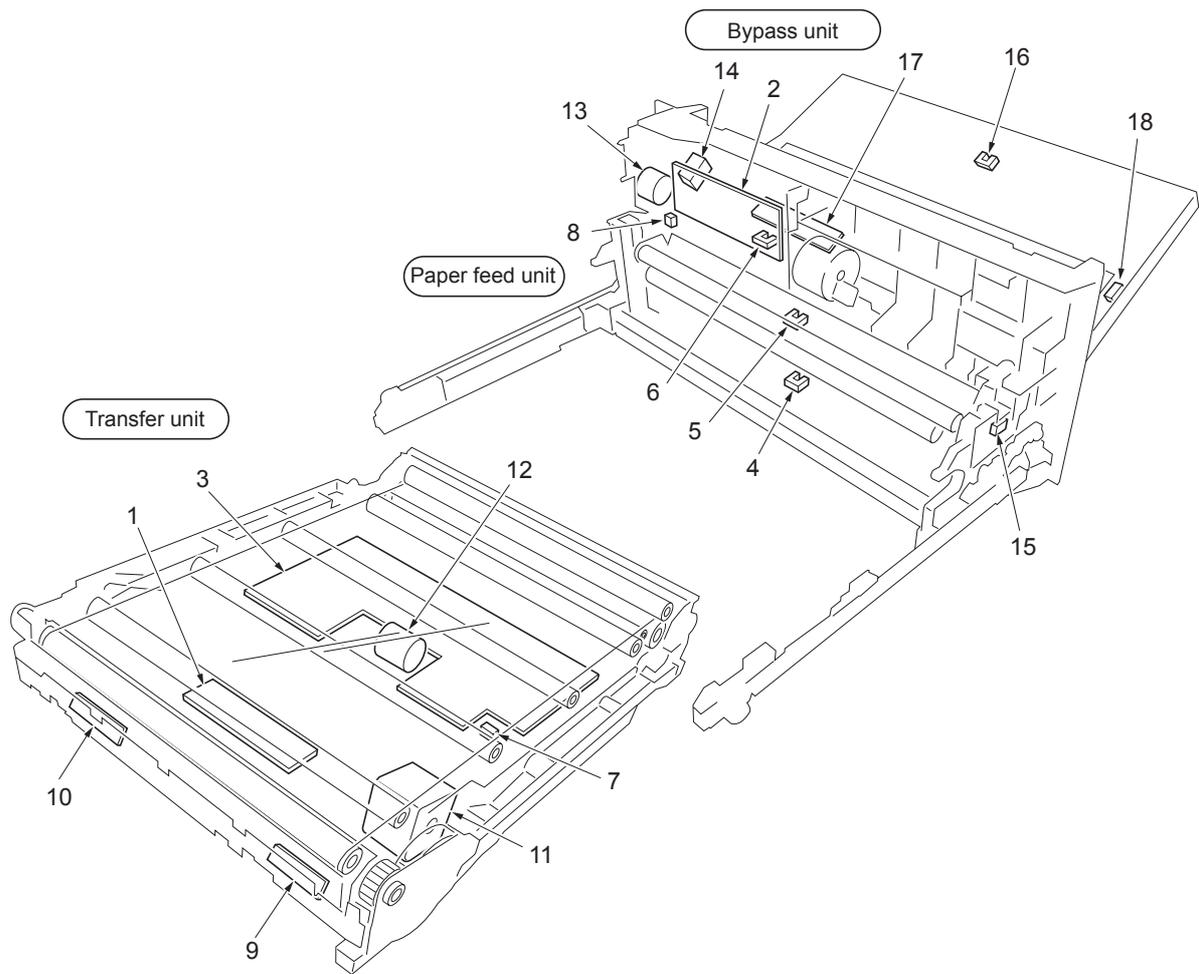
- |   |  |
|---|--|
| 1. Engine controller PWB (EPWB)               | Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc.                          |
| 2. Clutch PWB (CLPWB)                         | Drives the registration clutch, conveying H clutch, conveying L clutch, primary paper feed H clutch, primary paper feed L clutch and paper feeder feed clutch L. |
| 3. Power supply PWB (PSPWB)                   | After full-wave rectification of AC power supply input, switching for converting to 24 V DC, 5 V DC, and 3.3 V DC for output.                                    |
| 4. Temperature /humidity sensor PWB (THSPWB)  | Detects the ambient temperature and humidity.  |
| 5. Main high voltage PWB (MHVPWB)             | Generates the main charger high voltage.   |
| 6. Developing MCY motor (DEVM-MCY)            | Drives the developer units of magenta/cyan/yellow process units.   |
| 7. Paper feed motor (PFM)                     | Drives the paper feed section.   |
| 8. Developing K/fuser motor (DEVM-K/FUM)      | Drives the developer unit of black process unit, fuser unit, paper exit section and paper conveying section.   |
| 9. Drum motor M (DRM-M)                       | Drives the magenta drum unit of the magenta process unit.  |
| 10. Drum motor C (DRM-C)                      | Drives the cyan drum unit of the cyan process unit.  |
| 11. Drum motor Y (DRM-Y)                      | Drives the yellow drum unit of the yellow process unit.  |
| 12. Drum motor K (DRM-K)                      | Drives the black drum unit of the black process unit.  |
| 13. Toner motor M (TNM-M)                     | Drives the toner feed section of the magenta toner container.  |
| 14. Toner motor C (TNM-C)                     | Drives the toner feed section of the cyan toner container.   |
| 15. Toner motor Y (TNM-Y)                     | Drives the toner feed section of the yellow toner container.   |
| 16. Toner motor K (TNM-K)                     | Drives the toner feed section of the black toner container.  |
| 17. Cassette lift motor (CLM)                 | Operates the cassette operation plate inside the paper cassette.   |
| 18. Main charger fan motor (MCFM)             | Sweeps out ozone generated in the main charger unit.   |
| 19. Power supply PWB cooling fan motor (PSFM) | Dissipates heat from the power supply PWB.   |

- 20. Main cooling fan motor (MFM) ..... Dissipates air for cooling the inside of the machine and ozone generated in the main charger unit.
- 21. Registration clutch (REGCL)..... Controls the primary paper feed.
- 22. Conveying H clutch (CONHCL) ..... Controls the drive of paper feed unit.
- 23. Conveying L clutch (CONLCL)..... Controls the drive of paper feed unit.
- 24. Primary paper feed L clutch (PPFLCL) ..... Controls the drive of primary paper feed unit.
- 25. Primary paper feed H clutch (PPFHCL)..... Controls the drive of primary paper feed unit.
- 26. Paper feeder feed H clutch (PFFHCL)..... Controls the drive of paper feed from the paper feeder.
- 27. Paper feeder feed L clutch (PFFLCL) ..... Controls the drive of paper feed from the paper feeder.
- 28. Fuser clutch (FUCL)..... Controls the drive of fuser unit and exit unit.

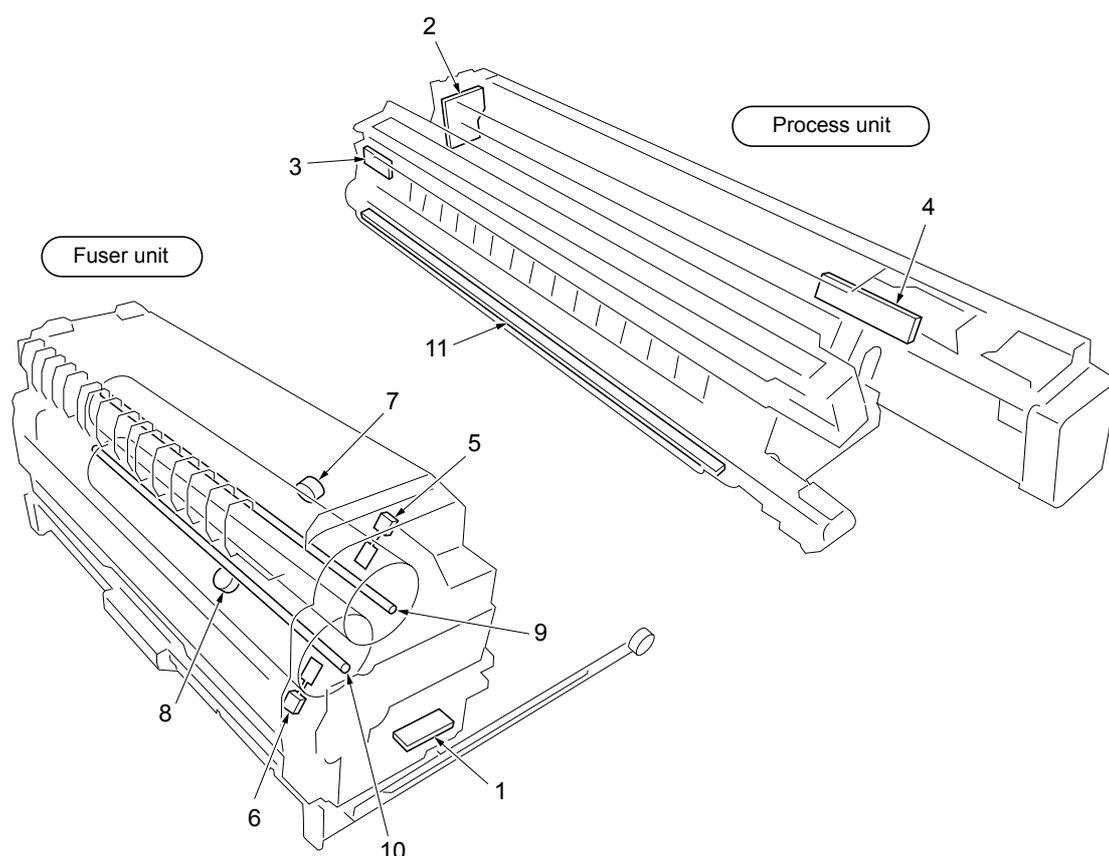


**(3) Main right and primary paper feed unit****Figure 2-2-3 Main right and primary paper feed unit**

1. Cassette paper sensor (CPS) ..... Detects paper in the paper cassette.
2. Bottom plate limit detection sensor (BPLDS)..... Detects activation of upper limit of the bottom plate in the paper cassette.
3. Lower feed sensor (LFS) ..... Detects paper jam feeding from optional paper feeder.
4. Right cover open/close switch 1 (RCOCSW1) ..... Detects right cover 1 is open.
5. Paper feed unit detection switch (PFUDSW)..... Detects the paper feed unit (transfer unit) is installed.

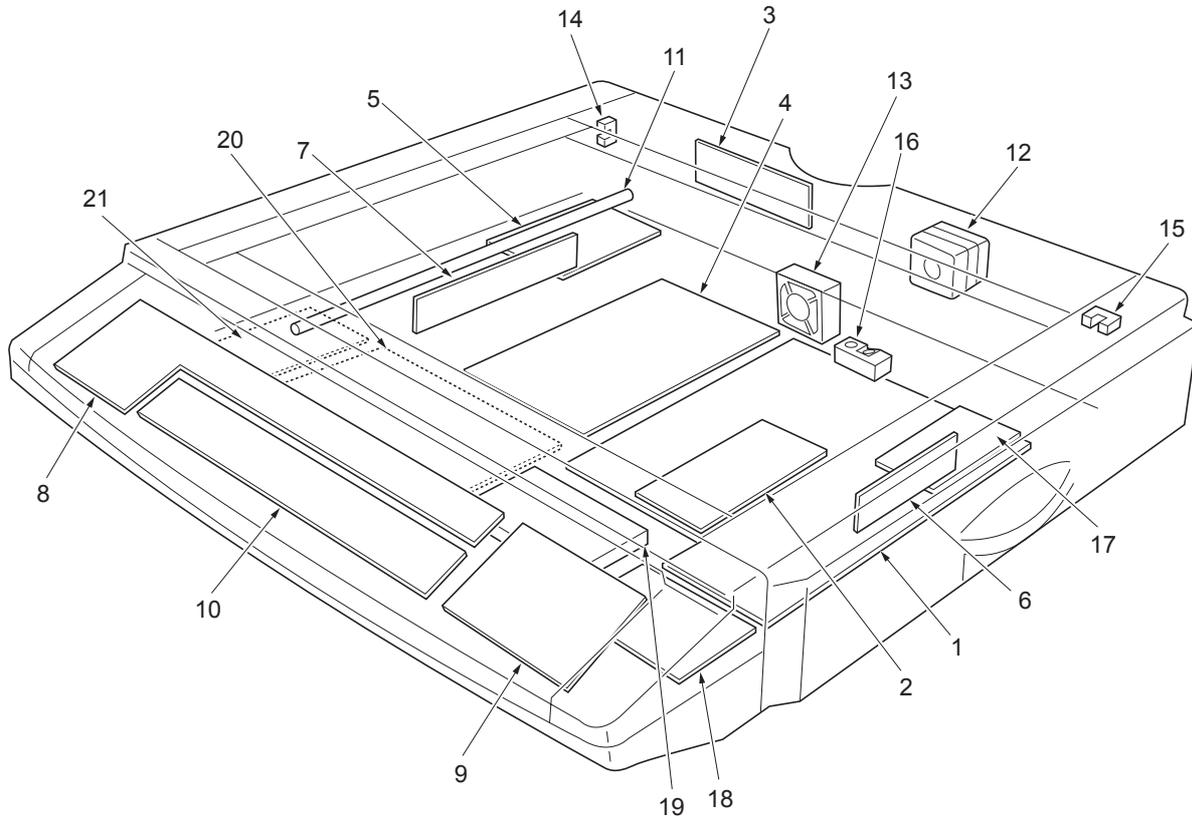
**(4) Paper feed unit, bypass unit and transfer unit****Figure 2-2-4 Paper feed unit, bypass unit and transfer unit**

1. Transfer relay PWB (TRRPWB)..... Consists the wiring relay circuit of the engine controller PWB.
2. Bypass PWB (BYPPWB) ..... Consists the bypass paper sensor and the wiring relay circuit.
3. Transfer high voltage PWB (TRHVPWB)..... Generates the transfer bias.
4. Upper feed sensor (UFS)..... Detects paper jam in the paper feed unit.
5. Registration sensor (REGS) ..... Detects the timing of primary feeding and paper jam.
6. Bypass paper sensor (BYPPS)..... Detects paper on the bypass tray.
7. Transfer roller lift home position sensor (TRRLHPS)..... Detects of home position for lift/moving away operation of transfer rollers M, C, and Y.
8. Bottom plate up/down sensor (BPUDS)..... Detects the operation position of the bypass bottom plate on the bypass tray.
9. Toner ID sensor 1 (TNIDS1) ..... Measures image density for color calibration.
10. Toner ID sensor 2 (TNIDS2) ..... Measures image density for color calibration.
11. Transfer motor (TRM) ..... Drives the transfer belt.
12. Transfer roller lift motor (TRRLM) ..... Drives for lift/moving away operation of transfer rollers M, C, and Y.
13. Bypass feed clutch (BYPCL)..... Controls paper feed from the bypass tray.
14. Lift plate up/down solenoid (LPUDSOL) ..... Controls drive of bypass lift plate up/down.
15. Right cover open/close switch 2 (RCOCSW2) ..... Detects right cover 2 is open.
16. Bypass length size switch (BYPLSSW) ..... Detects paper length on the bypass tray.
17. Bypass width size switch (BYPWSSW) ..... Detects paper width on the bypass tray.
18. Bypass extension detection sensor (BYPEDS)..... Detects the bypass extension is pulled out.

**(5) Process unit and fuser unit****Figure 2-2-5 Process unit and fuser unit**

1. Fuser PWB (FUPWB) ..... Consists fuse for discriminating between new and old fuser units.
2. Toner sensor VR PWB K, C, M, Y (TNSPWB-K,C,M,Y)..... Consists VR for adjusting toner sensor in each color process unit.
3. Drum PWB K, C, M, Y (DRPWB-K,C,M,Y) .. Consists EEPROM for storage of individual drum information on each color drum.
4. Toner sensor K, C, M, Y (TNS-K,C,M,Y)..... Measures toner in the each process unit.
5. Upper fuser thermistor (FTH-U) ..... Measures the upper heat roller temperature.
6. Lower fuser thermistor (FTH-L)..... Measures the lower heat roller temperature.
7. Upper fuser thermostat (FTS-U) ..... Disable power for the upper heater lamp in emergency.
8. Lower fuser thermostat (FTS-L)..... Disable power for the lower heater lamp in emergency.
9. Upper fuser heater lamp (FH-U) ..... Energize the upper heat roller.
10. Lower fuser heater lamp (FH-L)..... Energize the lower heat roller.
11. Eraser lamp K, C, M, Y (ERL-K,C,M,Y) ..... Eliminates the residual electrostatic charge on the each drum.

**(6) Scanner unit, electrical component unit and operation unit**



**Figure 2-2-6 Scanner unit, electrical component unit and operation unit**

- 1. Scanner main PWB (SMPWB)..... Consists the scanning PWBs and electrical parts.
- 2. Scanner sub PWB (SSPWB) ..... Assists the scanner main PWB.
- 3. Scanner relay PWB (SRPWB)..... Inter connects scanner electrical parts and the scanner main PWB.
- 4. Scanner MIP PWB (SMIPPWB)..... Performs image processing and adjusts the image timing for the tandem engine. And provides a communication interface with the engine controller PWB and the scanner main PWB.
- 5. Scanner power supply PWB (SPSPWB) ..... Inputs 24 V DC and outputs 3.3 V and 5 V DC.
- 6. CCD PWB (CCDPWB)..... Read the image of original.
- 7. Inverter PWB (INPWB) ..... Controls the exposure lamp.
- 8. *Operation unit PWB A (OPPWB-A) ..... Display LEDs.*
- 9. *Operation unit PWB B (OPPWB-B) ..... Controls the operation keys and the operation panel.*
- 10. LCD PWB (LCDPWB)..... Controls LCD indication.
- 11. Exposure lamp (EL) ..... Exposes originals.
- 12. Scanner motor (SM)..... Drives the optical system.
- 13. Electric component unit fan motor (ECUFM)..... Dissipates the heated air in the electric component unit.
- 14. Scanner home position switch (SHPSW)..... Detects the optical system in the home position.
- 15. Original detection switch (ODSW) ..... Operates the original size detection sensor.
- 16. Original size detection sensor (OSDS) ..... Detects the size of the original.
- 17. Network scanner board PWB (NSPWB)\*<sup>1</sup> ... Controls the network connection.
- 18. Memory copy board PWB (MCPWB)\*<sup>2</sup> ..... Stores the image data.
- 19. Hard disk unit (HDD)\*<sup>2</sup> ..... Holds print jobs.
- 20. Fax control PWB (FCPWB)\*<sup>1</sup> ..... Processes the image data and controls overall fax functions.
- 21. NCU PWB (NCUPWB)\*<sup>1</sup> ..... Controls connection to the telephone line.

\*1: Optional.

\*2: Optional for simplex copiers.

## 2-3-1 Power supply PWB

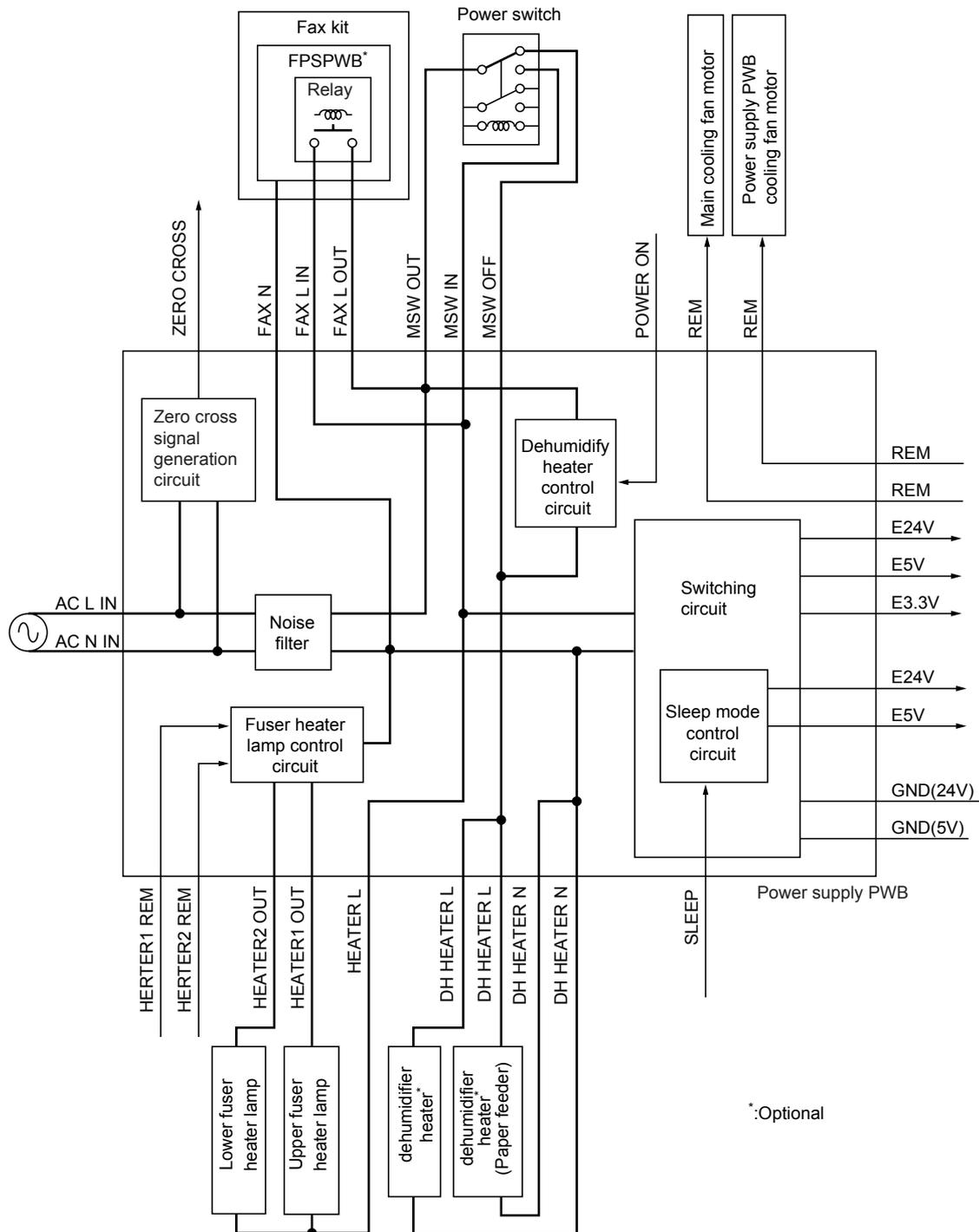


Figure 2-3-1 Power supply PWB block diagram

The power supply PWB is a switching regulator that turns on the AC power and converts the output to 3.3 V DC, 5 V DC or 24 V DC through a switching circuit. It is composed of a fuser heater lamp control circuit, dehumidifier heater control circuit, zero cross signal generation circuit, and sleep mode control circuit, among other parts, and is constructed as a peripheral circuit. The fuser heater lamp control circuit and the dehumidifier heater control circuit turn on and off the parts of the AC electrical system such as the fuser heater lamp and the dehumidifier heater, etc., based on the control signals (HEATER1 REM, HEATER2 REM, POWER ON) that are output from the engine controller PWB. The zero cross signal generation circuit generates the zero cross signal (ZERO CROSS) which is the basis for the On/Off control timing of the fuser heater lamp, and outputs this to the engine controller PWB. The sleep mode control circuit halts the 5 V DC and 24 V DC output, and energy savings is achieved based on the control signal (SLEEP) which is output by the engine controller PWB during the sleep mode.

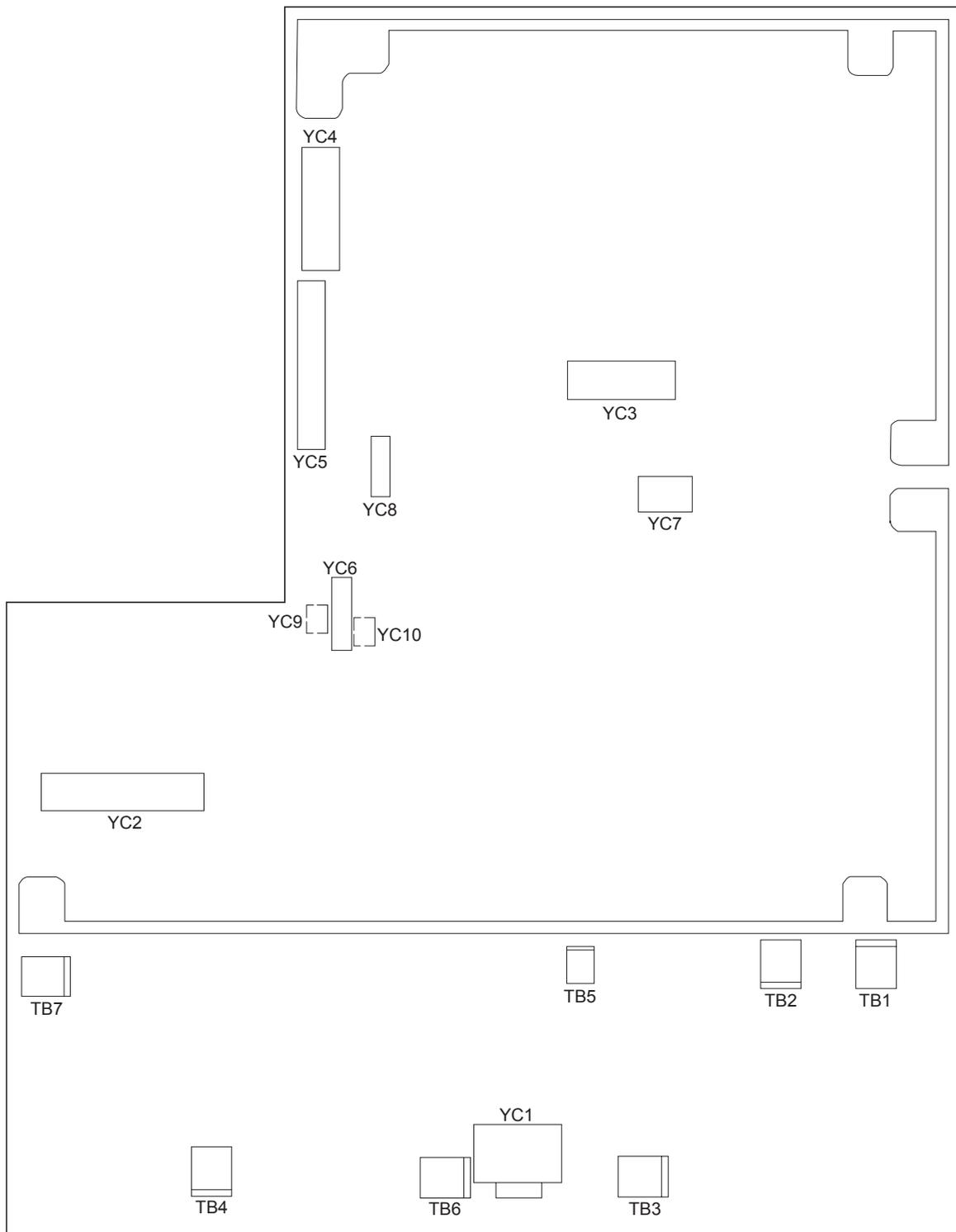


Figure 2-3-2 Power supply PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
TB Connected to the AC inlet, fuser upper heater lamp, lower fuser heater lamp, and dehumidifier heater	1	AC L IN	I	120 V AC 220-240 V AC	AC power input
	2	AC N IN	I	120 V AC 220-240 V AC	AC power input
	3	FAX L OUT	O	120 V AC 220-240 V AC	AC power output for FAX power supply PWB
	4	FAX L IN	I	120 V AC 220-240 V AC	AC power input for FAX power supply PWB (via relay)
	5	FAX N	O	120 V AC 220-240 V AC	AC power output for FAX power supply PWB, common
	6	HEATER L	O	120 V AC 220-240 V AC	Power supply for upper and lower fuser heater lamp
	7	MSW OFF	O	120 V AC 220-240 V AC	Power supply for dehumidifier heater [power switch OFF] Power supply for dehumidifier heater (optional paper feeder), [power switch OFF]
YC1	1	MSW OUT	O	120 V AC 220-240 V AC	AC power output
Connected to the power switch	2	MSW IN	I	120 V AC 220-240 V AC	AC power input (via power switch)
	YC2	1	HEATER1 OUT N	O	120 V AC 220-240 V AC
Connected to the upper fuser heater lamp, lower fuser heater lamp, upper fuser thermostat, lower fuser thermostat, and dehumidify heater	2	NC	-	-	Not used
	3	HEATER2 OUT N	O	120 V AC 220-240 V AC	Power supply for lower fuser heater lamp (On/Off)
	4	NC	-	-	Not used
	5	DH HEATER L	O	120 V AC 220-240 V AC	Power supply for dehumidifier heater (optional paper feeder, [On/Off])
	6	DH HEATER L	O	120 V AC 220-240 V AC	Power supply for dehumidifier heater, (On/Off)
	7	NC	-	-	Not used
	8	DH HEATER N	O	120 V AC 220-240 V AC	Power supply for dehumidifier heater (optional paper feeder), common
	9	DH HEATER N	O	120 V AC 220-240 V AC	Power supply for dehumidifier heater, common
	YC3	1	E24V	O	24 V DC
Connected to the engine controller PWB	2	E24V	O	24 V DC	24 V DC power output
	3	G(24V)	-	-	Ground (power)
	3	G(24V)	-	-	Ground (power)
	5	G(5V)	-	-	Ground (signal)
	6	E5V	O	5 V DC	5 V DC power output
YC4	1	E5V	O	5 V DC	5 V DC power output
Connected to the LPH drive PWB	2	E5V	O	5 V DC	5 V DC power output
	3	G(5V)	-	-	Ground (signal)
	4	G(5V)	-	-	Ground (signal)
	5	G(5V)	-	-	Ground (signal)
	6	G(5V)	-	-	Ground (signal)
	7	3.3V	O	3.3 V DC	3.3 V DC power output
YC5	1	G(5V)	-	-	Ground (signal)
Connected to the engine controller PWB and engine interface PWB	2	G(5V)	-	-	Ground (signal)
	3	G(5V)	-	-	Ground (signal)
	4	G(5V)	-	-	Ground (signal)
	5	G(5V)	-	-	Ground (signal)
	6	3.3V	O	3.3 V DC	3.3 V DC power output
	7	3.3V	O	3.3 V DC	3.3 V DC power output
	8	3.3V	O	3.3 V DC	3.3 V DC power output
	9	3.3V	O	3.3 V DC	3.3 V DC power output
	9	3.3V	O	3.3 V DC	3.3 V DC power output
	10	5V	O	5 V DC	5 V DC power output

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5 Connected to the engine controller PWB and engine interface PWB	11	5V	O	5 V DC	5 V DC power output
	12	G(5V)	-	-	Ground (signal)
	13	G(24V)	-	-	Ground (signal)
	14	24V	O	24 V DC	24 V DC power output
YC6 Connected to the engine controller PWB	1	POWER ON	I	0/5 V DC	Dehumidifier heater On/Off Dehumidifier heater (optional paper feeder): On/Off
	2	PH LED	I	5/0 V DC	<i>Energy saver key LED indicator (operation unit PWB B): Off/On</i>
	3	PH KEY	O	0/5 V DC	<i>Energy saver key (operation unit PWB B): On/Off</i>
	4	SLEEP	I	0/5 V DC	Sleep mode: On/Off
	5	POWER	I	0/5 V DC	Power supply PWB cooling fan motor: On/Off
	6	MAIN FAN	I	0/24 V DC	Main cooling fan motor: On/Off
	7	ZERO CROSS	O	0/5 V DC (pulse)	Zero cross signal
	8	HEATER2 REM	I	0/5 V DC	Lower fuser heater lamp: On/Off
	9	HEATER1 REM	I	0/5 V DC	Upper fuser heater lamp: On/Off
YC7 Connected to the scanner power supply PWB	1	E24V	O	24 V DC	24 V DC power output
	2	-	-	-	Not used
	3	G(24V)	-	-	Ground (power)
YC8 Connected to the scanner power supply PWB	1	24V	O	24 V DC	24 V DC power output
	2	G(24V)	-	-	Ground (power)
	3	G(24V)	-	-	Ground (power)
	4	G(24V)	-	-	Ground (power)
	5	G(5V)	-	-	Ground (signal)
	6	PH LED	O	5/0 V DC	<i>Energy saver key LED indicator (operation unit PWB B): On/Off</i>
	7	PH KEY	I	0/5 V DC	<i>Energy saver key (operation unit PWB B): On/Off</i>
YC9 Connected to the power supply PWB cooling fan	1	G(24V)	-	-	Ground (power)
	2	REM	O	0/24 V DC	Power supply PWB cooling fan motor: On/Off
YC10 Connected to the main cooling fan motor	1	G(24V)	-	-	Ground (power)
	2	REM	O	0/24 V DC	Main cooling fan motor: On/Off

2-3-2 Scanner power supply PWB

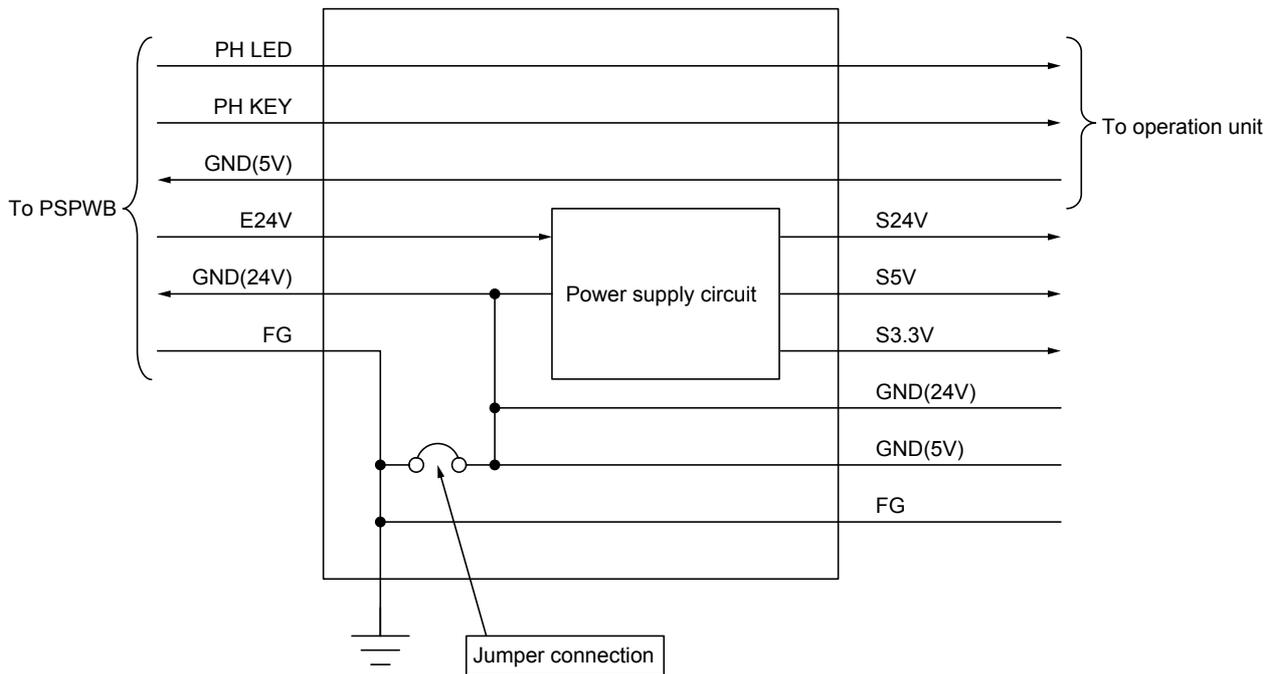


Figure 2-3-3 Scanner power supply PWB

The scanner power supply PWB (SPSPWB) inputs 24 V DC from the power supply PWB (PSPWB) and outputs 3.3 V DC and 5 V DC.

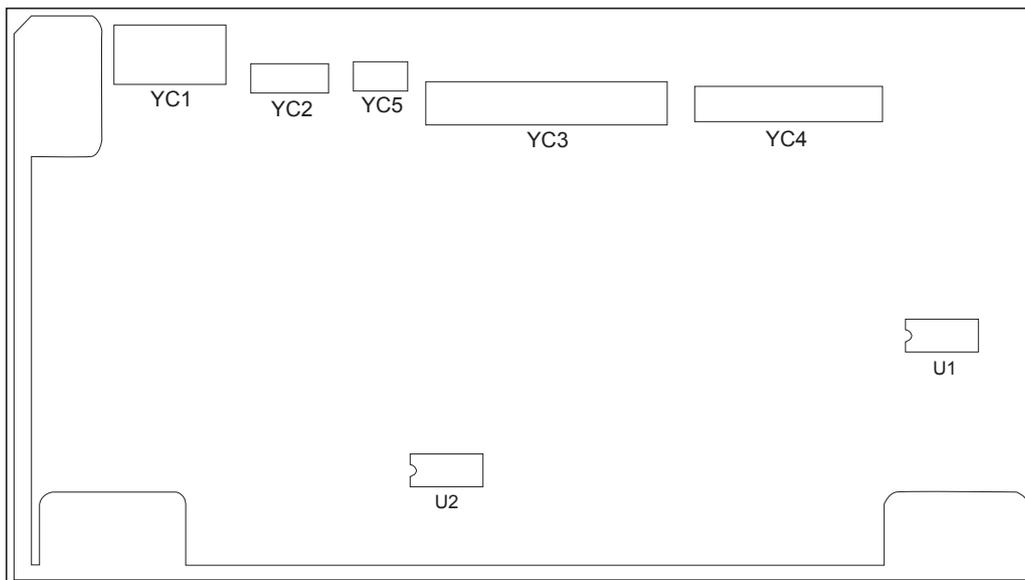
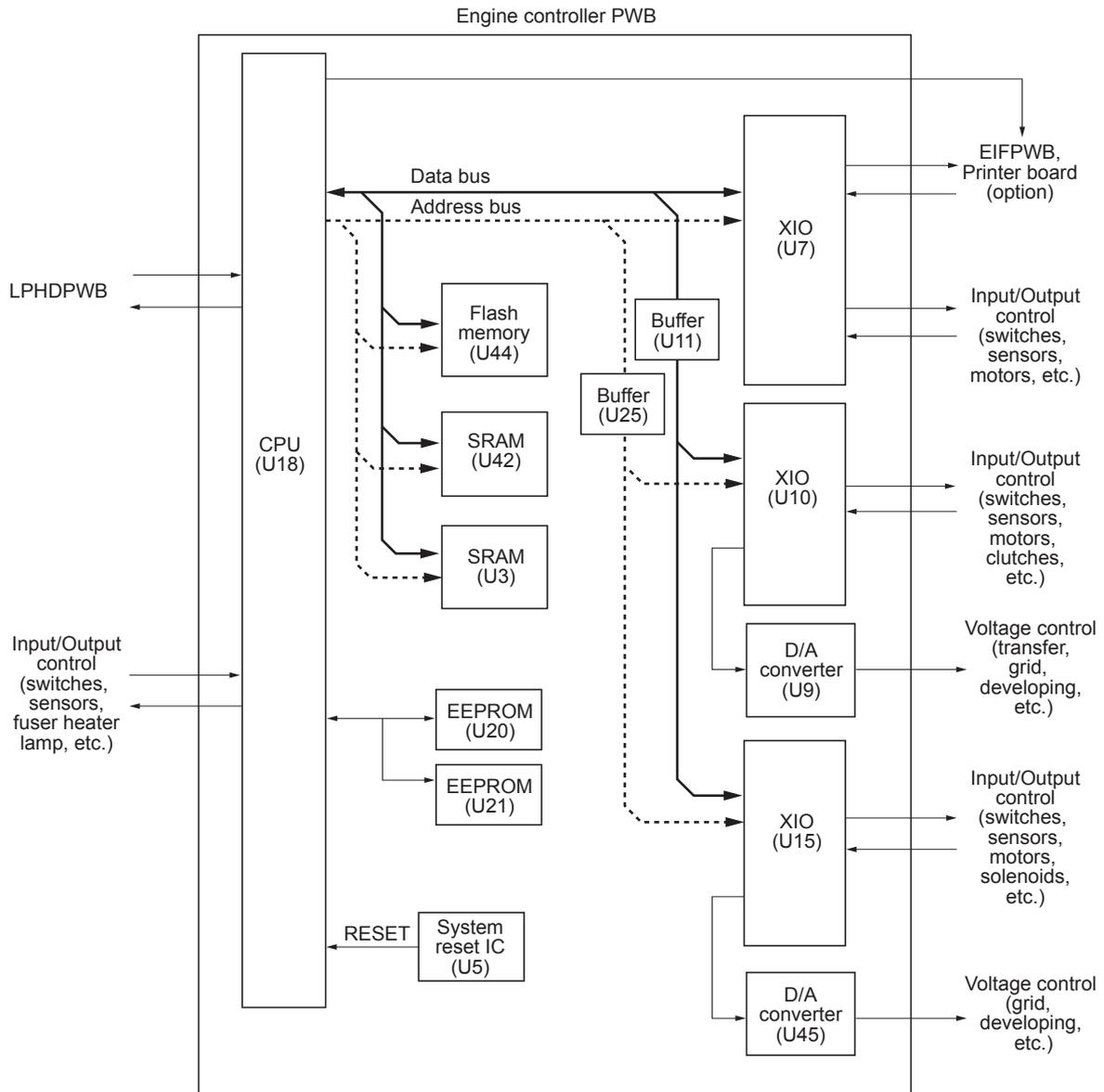


Figure 2-3-4 Scanner power supply PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the power supply PWB	1	E24V	I	24 V DC	24 V DC power input
	2	E24V	I	24 V DC	24 V DC power input
	3	GND	-	-	Ground
	4	FG	-	-	
YC2 Connected to the power supply PWB	1	PH LED	I	0/5 V DC	<i>Energy saver key (operation unit PWB B): On/Off</i>
	2	PH KEY	O	0/5 V DC	<i>Energy saver key LED indicator (operation unit PWB B): Off/On</i>
	3	GND	-	-	Ground (signal)
	4	GND	-	-	Ground (power)
	5	GND	-	-	Ground (power)
YC3 Connected to the scan- ner main PWB and scanner MIP PWB	1	S24V	O	24 V DC	24 V DC power input
	2	GND	-	-	Ground (power)
	3	S5V	O	5 V DC	5 V DC power output
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	S3.3V	O	3.3 V DC	3.3 V DC power output
	7	S3.3V	O	3.3 V DC	3.3 V DC power output
	8	S3.3V	O	3.3 V DC	3.3 V DC power output
	9	GND	-	-	Ground
	10	GND	-	-	Ground
	11	GND	-	-	Ground
	12	S5V	O	5 V DC	5 V DC power output
YC4 Connected to the optional DP	1	FG	-	-	
	2	FG	-	-	
	3	N.C.	-	-	Not used
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	S5V	O	5 V DC	5 V DC power output
	7	S5V	O	5 V DC	5 V DC power output
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	S24V	O	24 V DC	24 V DC power output
	11	S24V	O	24 V DC	24 V DC power output
YC5 Connected to the opera- tion unit PWB B	1	GND	-	-	Ground
	2	PH LED	O	-	<i>Energy saver key (operation unit PWB B): On/Off</i>
	3	PH KEY	I	-	<i>Energy saver key LED indicator (operation unit PWB B): Off/On</i>

### 2-3-3 Engine controller PWB



**Figure 2-3-5 Engine controller PWB block diagram**

The engine controller PWB is centered on the CPU (U18) and is composed of flash memory (U44), SRAM (U3, U42), XIO (U7, U10, U15), EEPROM (U20, U21), D/A converters (U9, U45), and a system reset IC (U5), among other parts, and it handles control of such functions as the paper feeding mechanism and the developing process, but especially the control of the machine's overall hardware. The CPU (U18) complies with the program that is stored in the flash memory (U44), refers to the various settings that are stored in the EEPROM (U20, U21), and controls the I/O of electrical parts via the I/O port of the CPU (U18) itself, the XIO (U7, U10, U15) expanded I/O ports, and the D/A converter (U9, U45), etc. The system reset IC (U5) monitors the power voltage, as well as the operation of the CPU (U18), and, if an abnormality occurs, it sends a reset signal (RESET) to the CPU (U18) and the system is reset.

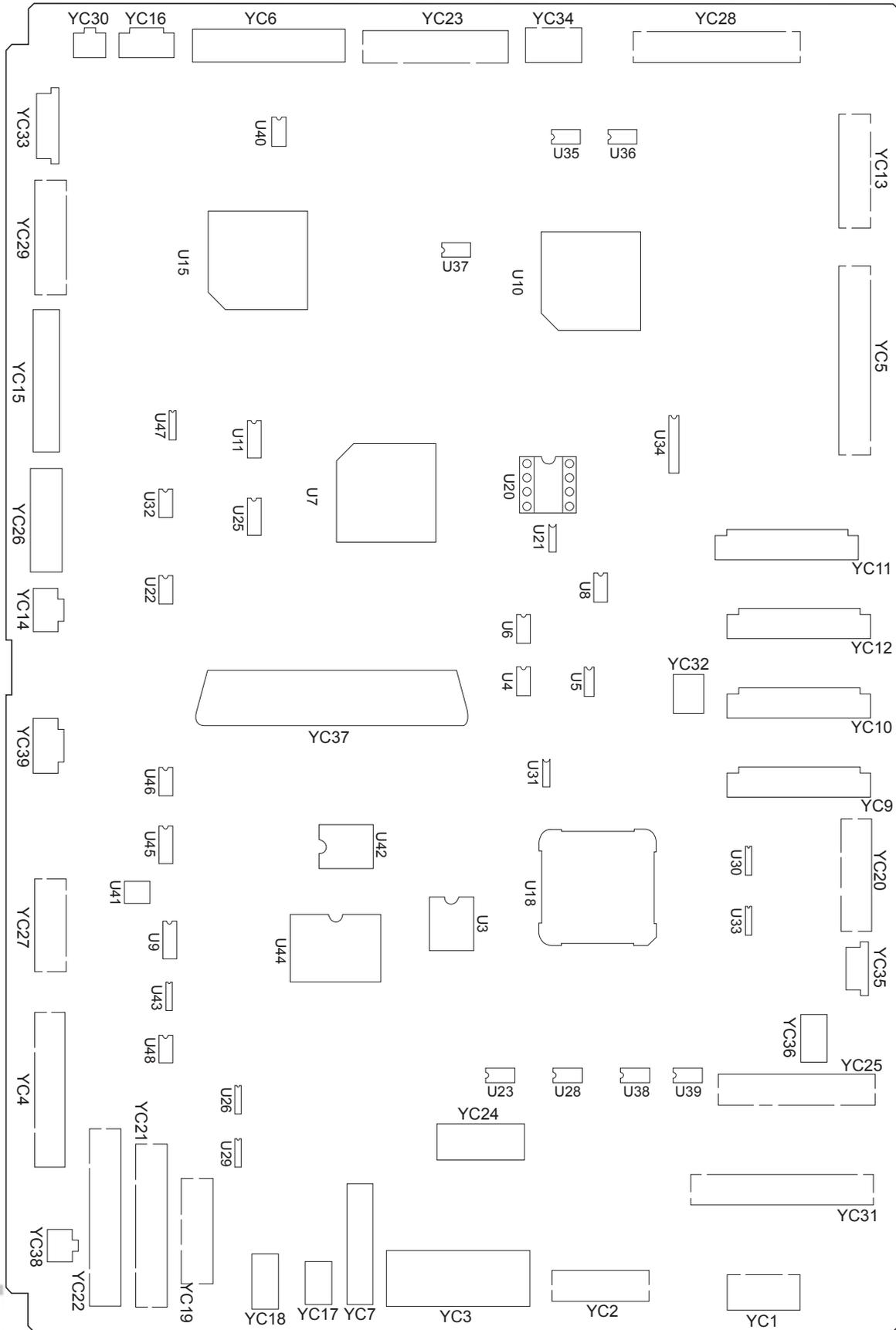


Figure 2-3-6 Engine controller PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the power supply PWB	1	5V	I	5 V DC	5 V DC power input
	2	G(5V)	-	-	Ground (signal)
	3	G(24V)	-	-	Ground (power)
	4	24V	I	24 V DC	24 V DC power input
YC2 Connected to the power supply PWB	9	HEATER1 REM	O	0/5 V DC	Upper fuser heater lamp: On/Off
	8	HEATER2 REM	O	0/5 V DC	Lower fuser heater lamp: On/Off
	7	ZERO CROSS	I	0/5 V DC (pulse)	Zero cross signal
	6	MAIN FAN	O	0/24 V DC	Main cooling fan motor: On/Off
	5	POWER FAN	O	0/5 V DC	Power supply PWB cooling fan motor: On/Off
	4	SLEEP	O	0/5 V DC	Sleep mode: On/Off
	3	PH KEY	I	0/5 V DC	<i>Energy saver key (operation unit PWB B): On/Off</i>
	2	PH LED	O	5/0 V DC	<i>Energy saver key LED indicator (operation unit PWB B): Off/On</i>
	1	POWER ON	O	0/5 V DC	Dehumidifier heater: On/Off Dehumidifier heater (optional paper feeder): On/Off
YC3 Connected to the power supply PWB	1	E24V	I	24 V DC	24 V DC power input
	2	E24V	I	24 V DC	24 V DC power input
	3	G(24V)	-	-	Ground (power)
	3	G(24V)	-	-	Ground (power)
	5	G(5V)	-	-	Ground (signal)
	6	E5V	I	5 V DC	5 V DC power input
YC4 Connected to the trans- fer relay PWB (trans- fer unit) and toner ID sensor 2	1	TC MOT CLK	O	0/5 V DC (pulse)	Transfer motor drive clock signal
	2	TC MOT REM	O	0/5 V DC	Transfer motor: On/Off
	3	TC RST	O	0/5 V DC	Transfer motor drive reset signal
	3	RELEASE HP	I	0/5 V DC	Transfer roller lift home position sensor: On/Off
	5	RELEASE MOT REM	O	0/5 V DC	Transfer roller lift motor: On/Off
	6	RELEASE MOT STP	O	0/5 V DC	Transfer roller lift motor stop signal
	7	E5V	O	5 V DC	5 V DC power output
	8	G(5V)	-	-	Ground (signal)
	11	TC SIG	I	0/5 V DC	Not used
	12	E5V	O	5 V DC	5 V DC power output
	13	G(5V)	-	-	Ground (signal)
	14	SENSOR2 A/D3	I	Analog	Toner ID sensor 2 detection input
	15	SENSOR2 A/D4	I	Analog	Toner ID sensor 2 detection input
	16	SENSOR2 A/D	O	Analog	Toner ID sensor 2 control voltage

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	1	E24V	O	24 V DC	24 V DC power output
Connected to the drum motor C, drum motor M, drum motor Y and drum motor K	2	G(24V)	-	-	Ground (power)
	3	E5V	O	5 V DC	5 V DC power output
	4	G(5V)	-	-	Ground (signal)
	5	DRUM MOT C REM	O	0/5 V DC	Drum motor C: On/Off
	6	DRUM MOT C CLK	O	0/5 V DC (pulse)	Drum motor C drive clock signal
	7	DRUM MOT C LOCK	I	0/5 V DC	Drum motor C lock detection signal
	8	DRUM MOT C H/L	O	0/5 V DC	Drum motor C speed change signal
	9	E24V	O	24 V DC	24 V DC power output
	10	G(24V)	-	-	Ground (power)
	11	E5V	O	5 V DC	5 V DC power output
	12	G(5V)	-	-	Ground (signal)
	13	DRUM MOT M REM	O	0/5 V DC	Drum motor M: On/Off
	14	DRUM MOT M CLK	O	0/5 V DC (pulse)	Drum motor M drive clock signal
	15	DRUM MOT M LOCK	I	0/5 V DC	Drum motor M lock detection signal
	16	DRUM MOT M H/L	O	0/5 V DC	Drum motor M speed change signal
	17	E24V	O	24 V DC	24 V DC power output
	18	G(24V)	-	-	Ground (power)
	19	E5V	O	5 V DC	5 V DC power output
	20	G(5V)	-	-	Ground (signal)
	21	DRUM MOT Y REM	O	0/5 V DC	Drum motor Y: On/Off
	22	DRUM MOT Y CLK	O	0/5 V DC (pulse)	Drum motor Y drive clock signal
	23	DRUM MOT Y LOCK	I	0/5 V DC	Drum motor Y lock detection signal
	24	DRUM MOT Y H/L	O	0/5 V DC	Drum motor Y speed change signal
	25	E24V	O	24 V DC	24 V DC power output
	26	G(24V)	-	-	Ground (power)
	27	E5V	O	5 V DC	5 V DC power output
	28	G(5V)	-	-	Ground (signal)
	29	DRUM MOT K REM	O	0/5 V DC	Drum motor K: On/Off
	30	DRUM MOT K CLK	O	0/5 V DC (pulse)	Drum motor K drive clock signal
	31	DRUM MOT K LOCK	I	0/5 V DC	Drum motor K lock detection signal
	32	DRUM MOT K H/L	O	0/5 V DC	Drum motor K speed change signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6 Connected to the developing MCY motor	1	E24V	O	24 V DC	24 V DC power output
	2	E24V	O	24 V DC	24 V DC power output
	3	G(24V)	-	-	Ground (power)
	4	G(24V)	-	-	Ground (power)
	5	G(5V)	-	-	Ground (signal)
	6	E5V	O	5 V DC	5 V DC power output
	7	DV MOT COLOR REM	O	0/5 V DC	Developing MCY motor: On/Off
	8	DV MOT COLOR LOCK	I	0/5 V DC	Developing MCY motor lock detection signal
	9	DV MOT COLOR H/L	O	0/5 V DC	Developing MCY motor speed change signal
	10	DV MOT COLOR CLK	O	0/5 V DC (pulse)	Developing MCY motor drive clock signal
YC7 Connected to the developing K/fuser motor and fuser clutch	1	FIX CL	O	0/24 V DC	Fuser clutch: On/Off
	2	E24V	O	24 V DC	24 V DC power output
	3	CLK	O	0/5 V DC (pulse)	Developing K/fuser motor drive clock signal
	4	LOCK	I	0/5 V DC	Drum motor K lock detection signal
	5	REM	O	0/5 V DC	Developing K/fuser motor: On/Off
	6	E5V	O	5 V DC	5 V DC power output
	7	G(5V)	-	-	Ground (signal)
	8	G(24V)	-	-	Ground (power)
	9	24V(R2)	O	24 V DC	24 V DC power output
YC9 Connected to the toner sensor K, eraser lamp K, drum PWB K and toner motor K	1	CNT K	O	Analog	Toner sensor K control voltage
	2	E24V	O	24 V DC	24 V DC power output
	3	TSENS K	I	Analog	Toner sensor K detection input
	4	G(5V)	-	-	Ground (signal)
	5	ERASE LAMP K	O	0/24 V DC	Eraser lamp K: On/Off
	6	LAMP K 24V	O	24 V DC	24 V DC power output
	7	EEDATA	I/O	0/5 V DC (pulse)	EEPROM data signal (drum PWB K)
	8	G(5V)	-	-	Ground (signal)
	9	EESCLK	O	0/5 V DC (pulse)	EEPROM clock signal (drum PWB K)
	10	E5V	O	5 V DC	5 V DC power output
	11	TSUPMOT K +	O	0/24 V DC	Toner motor K: On/Off
	12	TSUPMOT K -	I	Analog	Toner motor K over current detection input
YC10 Connected to the toner sensor C, eraser lamp C, drum PWB C and toner motor C	1	CNT C	O	Analog	Toner sensor C control voltage
	2	E24V	O	24 V DC	24 V DC power output
	3	TSENS C	I	Analog	Toner sensor C detection input
	4	G(5V)	-	-	Ground (signal)
	5	ERASE LAMP C	O	0/24 V DC	Eraser lamp C: On/Off
	6	LAMP C 24V	O	24 V DC	24 V DC power output
	7	EEDATA	I/O	0/5 V DC (pulse)	EEPROM data signal (drum PWB C)
	8	G(5V)	-	-	Ground (signal)
	9	EESCLK	O	0/5 V DC (pulse)	EEPROM clock signal (drum PWB C)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10 Connected to the toner sensor C, eraser lamp C, drum PWB C and toner motor C	10	E5V	O	5 V DC	5 V DC power output
	11	TSUPMOT C +	O	0/24 V DC	Toner motor C: On/Off
	12	TSUPMOT C -	I	Analog	Toner motor C over current detection input
YC11 Connected to the toner sensor M, eraser lamp M, drum PWB M and toner motor M	1	CNT M	O	Analog	Toner sensor M control voltage
	2	E24V	O	24 V DC	24 V DC power output
	3	TSENS M	I	Analog	Toner sensor M detection input
	4	G(5V)	-	-	Ground (signal)
	5	ERASE LAMP M	O	0/24 V DC	Eraser lamp M: On/Off
	6	LAMP M 24V	O	24 V DC	24 V DC power output
	7	EEDATA	I/O	0/5 V DC (pulse)	EEPROM data signal (drum PWB M)
	8	G(5V)	-	-	Ground (signal)
	9	EESCLK	O	0/5 V DC (pulse)	EEPROM clock signal (drum PWB M)
	10	E5V	O	5 V DC	5 V DC power output
	11	TSUPMOT M +	O	0/24 V DC	Toner motor M: On/Off
	12	TSUPMOT M -	I	Analog	Toner motor M over current detection input
YC12 Connected to the toner sensor Y, eraser lamp Y, drum PWB Y and toner motor Y	1	CNT Y	O	Analog	Toner sensor Y control voltage
	2	E24V	O	24 V DC	24 V DC power output
	3	TSENS Y	I	Analog	Toner sensor Y detection input
	4	G(5V)	-	-	Ground (signal)
	5	ERASE LAMP Y	O	0/24 V DC	Eraser lamp Y: On/Off
	6	LAMP Y 24V	O	24 V DC	24 V DC power output
	7	EEDATA	I/O	0/5 V DC (pulse)	EEPROM data signal (drum PWB Y)
	8	G(5V)	-	-	Ground (signal)
	9	EESCLK	O	0/5 V DC (pulse)	EEPROM clock signal (drum PWB Y)
	10	E5V	O	5 V DC	5 V DC power output
	11	TSUPMOT Y +	O	0/24 V DC	Toner motor Y: On/Off
	12	TSUPMOT Y -	I	Analog	Toner motor Y over current detection input

Connector	Pin No.	Signal	I/O	Voltage	Description
YC13	1	BYPASS CL	O	0/24 V DC	Bypass feed clutch: On/Off
Connected to the bypass PWB and main charger fan motor	2	BYPASS SOL	O	0/24 V DC	Lift plate up/down solenoid: On/Off
	3	E24V	O	24 V DC	24 V DC power output
	4	G(24V)	-	-	Ground (power)
	5	BYPASS U/D SW	I	0/5 V DC	Bottom plate up/down sensor: On/Off
	6	BYPASS SW	I	0/5 V DC	Bypass paper sensor: On/Off
	7	MPFSET		0/5 V DC	Paper feed unit installation signal: Installed/Not installed
	8	E5V	O	5 V DC	5 V DC power output
	9	FEED SW	I	0/5 V DC	Upper feed sensor: On/Off
	10	RESIST SW	I	0/5 V DC	Registration sensor: On/Off
	11	BYPASS SIZE DIG2	I	0/5 V DC	Bypass paper width switch (DIG2): On/Off
	12	BYPASS SIZE DIG1	I	0/5 V DC	Bypass paper width switch (DIG1): On/Off
	13	BYPASS SIZE DIG0	I	0/5 V DC	Bypass paper width switch (DIG0): On/Off
	14	BYPASS LENGTH SW	I	0/5 V DC	Bypass paper length sensor: On/Off
	15	BYPASS DRAW SW	I	0/5 V DC	Bypass extension detection switch: On/Off
	16	FEED COVER SIG	I	0/5 V DC	Right cover open/close switch 2: Close/Open
	17	REM	O	0/24 V DC	Main charger fan motor: On/Off
	18	G(24V)	-	-	Ground (power)
YC14	1	FAX RELAY	I	0/5 V DC	Relay (FAX power supply PWB) control signal: On/Off
Connected to the optional fax power supply PWB	2	NC	-	-	-
	3	NC	-	-	-
YC15	1	G(5V)	-	-	Ground (signal)
Connected to the bottom plate limit detection sensor, cassette paper sensor, lower feed sensor and right cover open/close switch 1	2	LIFT SW	I	0/5 V DC	Bottom plate limit detection sensor: On/Off
	3	E5V	O	5 V DC	5 V DC power output
	4	G(5V)	-	-	Ground (signal)
	5	PESW	I	0/5 V DC	Cassette paper sensor: On/Off
	6	E5V	O	5 V DC	5 V DC power output
	7	G(5V)	-	-	Ground (signal)
	8	DESKFEED SW	I	0/5 V DC	Lower feed sensor: On/Off
	9	E5V	O	5 V DC	5 V DC power output
	10	G(5V)	-	-	Ground (signal)
	11	COVER-FEED SW	I	0/5 V DC	Right cover open/close switch 1: On/Off
YC16	1	CAS SIZE DIG0	I	0/5 V DC	Cassette width size switch (DIG0): On/Off
Connected to the cassette width size switch	2	CAS SIZE DIG1	I	0/5 V DC	Cassette width size switch (DIG0): On/Off
	3	CAS SIZE DIG2	I	0/5 V DC	Cassette width size switch (DIG0): On/Off
	4	G(5V)	-	-	Ground (signal)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC17 Connected to the cassette length size switch	1	SIG	I	0/5 V DC	Cassette length size sensor: On/Off
	2	G(5V)	-	-	Ground (signal)
YC18 Connected to the duplex guide sensor (optional for simplex copier)	1	G(5V)	-	-	Ground (signal)
	2	DUP SW1	I	0/5 V DC	Duplex guide sensor: On/Off
	3	E5V	O	5 V DC	5 V DC power output
YC19 Connected to the fuser PWB, upper fuser thermistor and lower fuser thermistor	1	5V	O	5 V DC	5 V DC power output
	2	TH FIX L	I	Analog	Lower fuser thermistor detection input
	3	5V	O	5 V DC	5 V DC power output
	4	TH FIX U	I	Analog	Upper fuser thermistor detection input
	6	FIX SET	I	0/5 V DC	Fuser unit installation signal: Installed/Not installed
	7	FIX N/O	O	0/24 V DC	Fuser unit new/old detecting fuse cut signal
	8	REM			
	8	E5V	O	5 V DC	5 V DC power output
	9	-	-	-	Not used
	10	E24V (FUSE)	O	24 V DC	24 V DC power output
YC20 Connected to the main high voltage PWB	1	E24V	O	24 V DC	24 V DC power output
	2	E24V	O	24 V DC	24 V DC power output
	3	G(24V)	-	-	Ground (power)
	4	G(24V)	-	-	Ground (power)
	5	MC K REM	O	0/24 V DC	Main charger (K) high voltage output: On/Off
	6	MC CLR	O	0/24 V DC	Main charger (C, M, Y) high voltage output: On/Off
	7	REM			
	7	GR K CNT	O	Analog	Main charger (K) grid voltage control signal
	8	GR C CNT	O	Analog	Main charger (C) grid voltage control signal
	9	GR M CNT	O	Analog	Main charger (M) grid voltage control signal
	10	GR Y CNT	O	Analog	Main charger (Y) grid voltage control signal
11	MC ALARM	I	0/5 V DC	Main charger output alarm signal	
YC21 Connected to the developing bias high voltage PWB	1	E24V	O	24 V DC	24 V DC power output
	2	E24V	O	24 V DC	24 V DC power output
	3	G(24V)	-	-	Ground (power)
	4	G(24V)	-	-	Ground (power)
	5	DB MCY	O	0/24 V DC	Developing bias (M, C, Y) high voltage output: On/Off
	6	REM			
	6	DB K REM	O	0/24 V DC	Developing bias (K) high voltage output: On/Off
	7	DB K CNT	O	Analog	Developing bias (K) output voltage control signal
	8	DB C CNT	O	Analog	Developing bias (C) output voltage control signal
	9	DB M CNT	O	Analog	Developing bias (M) output voltage control signal
	10	DB Y CNT	O	Analog	Developing bias (Y) output voltage control signal
	11	SIDE FEED SW	I	0/5 V DC	Face-up exit sensor: On/Off
	12	G(5V)	-	-	Ground (signal)
	13	E5V	O	5 V DC	5 V DC power output
	14	DUP OUT SOL	O	0/24 V DC	Duplex exit solenoid (activate): On/Off
	15	DUP OUT OFF SOL	O	0/24 V DC	Duplex exit solenoid (return): On/Off
16	FACE U/D SOL	O	0/24 V DC	Face-up exit solenoid (activate): On/Off	

Connector	Pin No.	Signal	I/O	Voltage	Description
YC21	17	FACE U/D OFF SOL	O	0/24 V DC	Face-up exit solenoid (return): On/Off
Connected to the devel- oping bias high voltage PWB					
YC22	1	E5V	O	5 V DC	5 V DC power output
Connected to the toner ID sensor 1 and transfer relay PWB	2	G(5V)	-	-	Ground (signal)
	3	SENSOR1 A/D1	I	Analog	Toner ID sensor 1 detection input
	4	SENSOR1 A/D2	I	Analog	Toner ID sensor 1 detection input
	5	SENSOR2 A/D	O	Analog	Toner ID sensor 1 control voltage
	6	ATTRACT CNT	O	Analog	Adsorption roller high voltage output control signal
	7	ATTRACT REM	O	0/24 V DC	Adsorption roller high voltage output: On/Off
	8	TC Y CNT	O	Analog	Transfer bias (Y) output voltage control signal
	9	TC M CNT	O	Analog	Transfer bias (M) output voltage control signal
	10	TC C CNT	O	Analog	Transfer bias (C) output voltage control signal
	11	TC BK CNT	O	Analog	Transfer bias (K) output voltage control signal
	12	TC-Y REM	O	0/24 V DC	Transfer bias (Y) output: On/Off
	13	TC-M REM	O	0/24 V DC	Transfer bias (M) output: On/Off
	14	TC-C REM	O	0/24 V DC	Transfer bias (C) output: On/Off
	15	TC-BK REM	O	0/24 V DC	Transfer bias (K) output: On/Off
	16	G(24V)	-	-	Ground (power)
	17	G(24V)	-	-	Ground (power)
	18	E24V(R2)	O	24 V DC	24 V DC power output
19	E24V(R2)	O	24 V DC	24 V DC power output	
YC23	1	E24V(R1)	O	24 V DC	24 V DC power output
Connected to the clutch PWB	2	E24V(R1)	O	24 V DC	24 V DC power output
	3	G(24V)	-	-	Ground (power)
	4	G(24V)	-	-	Ground (power)
	5	G(5V)	-	-	Ground (signal)
	6	E5V	O	5 V DC	5 V DC power output
	7	MOTOR REM	O	0/5 V DC	Paper feed motor: On/Off
	8	LOCK	I	0/5 V DC	Paper feed motor lock detection signal
	9	CLK	O	0/5 V DC	Paper feed motor drive clock signal
	10	DESKFEED L CL	O	0/5 V DC	Paper feeder feed L clutch: On/Off
	11	PF H CL	O	0/5 V DC	Primary paper feed H clutch: On/Off
	12	PF L CL	O	0/5 V DC	Primary feeder feed L clutch: On/Off
	13	FEED H CL	O	0/5 V DC	Conveying H clutch: On/Off
	14	FEED L CL	O	0/5 V DC	Conveying L clutch: On/Off
	15	RESIST CL	O	0/5 V DC	Registration clutch: On/Off
YC24	1	E24V	O	24 V DC	24 V DC power output
Connected to the left cover safety switch	2	E24V	O	24 V DC	24 V DC power output
	3	NC	-	-	Not used
	4	E24V(R2)	I	24 V DC	24 V DC power input (via left cover safety switch)
	5	E24V(R2)	I	24 V DC	24 V DC power input (via left cover safety switch)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC25 Connected to the front relay PWB	1	E5V	O	5 V DC	5 V DC power output
	2	G(5V)	-	-	Ground (signal)
	3	TONER FULL	I	0/5 V DC	Waste toner sensor: On/Off
	4	BOTTLE CHECK SIG	I	0/5 V DC	Waste toner box installation detection: Installed/Not installed
	5	COLLECT MOT REM	O	0/5 V DC	Waste toner box motor: On/Off
	6	COVER FRONT SW	I	0/5 V DC	Front cover open/close switch: Close/Open
	7	DUP FEED SW	I	0/5 V DC	Duplex conveying sensor: On/Off
	8	FIX FEED SW	I	0/5 V DC	Fuser conveying sensor: On/Off
	9	UP FEED SW	I	0/5 V DC	Face-down exit sensor: On/Off
	10	BOTTLE MOT LOCK	I	0/5 V DC	Waste toner box motor drive lock detection signal
	11	FTH SENS	I	0/5 V DC	Not used
	12	MSW REM	O	0/24 V DC	Power switch shutoff signal
	13	24V	O	24 V DC	24 V DC power output
	14	LED REM	O	0/5 V DC	Waste toner sensor (emitting): On/Off
	15	MSW SIG	I	0/24 V DC	Power switch ON detection signal
	16	E24V	O	24 V DC	24 V DC power output
YC26 Connected to the optional document finisher	1	POWER OFF	O	0/5 V DC	Finisher power supply unit OFF signal: Off/On
	2	E5V	O	5 V DC	5 V DC power output
	3	FINISHER RXD	I	0/5 V DC (pulse)	Finisher serial communication signal (receive)
	4	G(5V)	-	-	Ground (signal)
	5	FINISHER TXD	O	0/5 V DC (pulse)	Finisher serial communication signal (transmit)
	6	G(5V)	-	-	Ground (signal)
	7	RES FINISHER	O	0/5 V DC	Finisher reset signal
	8	SET FINISHER	I	0/5 V DC	Finisher installation detection signal: Installed/Not installed
YC27 Connected to the optional paper feeder	1	DESK/ DECK TXD	O	0/5 V DC (pulse)	Paper feeder serial communication signal (transmit)
	2	G(5V)	-	-	Ground (signal)
	3	DESK/ DECK RXD	I	0/5 V DC (pulse)	Paper feeder serial communication signal (receive)
	4	G(5V)	-	-	Ground (signal)
	5	RES DECK	O	0/5 V DC	Paper feeder reset signal
	6	E5V	O	5 V DC	5 V DC power output
	5	RES DECK	O	0/5 V DC	Paper feeder reset signal
	6	E5V	O	5 V DC	5 V DC power output
	7	G(24V)	-	-	Ground (power)
	8	E5V	O	5 V DC	5 V DC power output
	9	G(5V)	-	-	Ground (signal)
	10	DESK FEED SW	I	0/5 V DC	Paper feeder upper feed sensor: On/Off
11	CASSETTE 1	I	0/5 V DC	Paper feeder identification signal 1	
12	CASSETTE 2	I	0/5 V DC	Paper feeder identification signal 2	

Connector	Pin No.	Signal	I/O	Voltage	Description
YC27	13	DESK FEED1 CL X			Paper feeder feed H clutch: On/Off
Connected to the optional paper feeder	14	DESK FEED2 CL X			Paper feeder feed L clutch: On/Off
YC28	1	24V	O	24 V DC	24 V DC power output
Connected to the engine inter- face PWB	2	FAN H/L	O	0/5 V DC	Printer board cooling fan motor: Full speed/Half speed
	3	FAN REM	O	0/5 V DC	Printer board cooling fan motor: On/Off
	4	PC SBSY	O	0/5 V DC	Control signal (printer board)
	5	PC SDIR	O	0/5 V DC	Control signal (printer board)
	6	G(5V)	-	-	Ground (signal)
	7	PC RST	O	0/5 V DC	Control signal (printer board)
	8	G(5V)	-	-	Ground (signal)
	9	PC SCLK	I	0/5 V DC	Control signal (printer board)
	10	G(5V)	-	-	Ground (signal)
	11	PC EGSi	I	0/5 V DC	Control signal (printer board)
	12	G(5V)	-	-	Ground (signal)
	13	PC EGSO	O	0/5 V DC	Control signal (printer board)
	14	G(5V)	-	-	Ground (signal)
	15	PC ENGRn	O	0/5 V DC	Control signal (printer board)
	16	PC PURGE <sub>n</sub>	O	0/5 V DC	Control signal (printer board)
	17	PC PQFLH <sub>n</sub>	O	0/5 V DC	Control signal (printer board)
	18	PC ENGRDY	O	0/5 V DC	Control signal (printer board)
	19	PC CMDQ- FLH <sub>n</sub>	I	0/5 V DC	Control signal (printer board)
	20	PC ENGRST <sub>n</sub>	I	0/5 V DC	Control signal (printer board)
	21	PT7	I	0/5 V DC	Control signal (printer board)
	22	C EEP	I	0/5 V DC	Control signal (printer board)
	23	Q EEP	I	0/5 V DC	Control signal (printer board)
	24	D EEP	I	0/5 V DC	Control signal (printer board)
	25	S EEP	I	0/5 V DC	Control signal (printer board)
	26	PRE EEP	I	0/5 V DC	Control signal (printer board)
	27	W EEP	I	0/5 V DC	Control signal (printer board)
	28	G(5V)	-	-	Ground (signal)
YC29	1	DUP P.E SIG	I	0/5 V DC	Duplex paper entrance sensor: On/Off
Connected to the duplex PWB (optional for simplex copier)	2	DUP SIDE H.P SIG	I	0/5 V DC	Duplex side registration home position sensor: On/Off
	3	DUP EJECT SIG	I	0/5 V DC	Duplex eject sensor: On/Off
	4	DUP REG- IST SIG	I	0/5 V DC	Duplex registration sensor: On/Off
	5	DUP CON- VEY SIG	I	0/5 V DC	Duplex paper conveying sensor: On/Off
	6	DUP TAP SOL	O	0/5 V DC	Duplex tapping solenoid: On/Off
	7	DUP LEAD SOL	O	0/5 V DC	Duplex forwarding solenoid: On/Off
	8	DUP SIDE MOT B	O	0/5 V DC (pulse)	Duplex side registration motor drive pulse (B)
	9	DUP SIDE MOT _B	O	0/5 V DC (pulse)	Duplex side registration motor drive pulse (_B)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC29	10	DUP SIDE MOT A	O	0/5 V DC (pulse)	Duplex side registration motor drive pulse (A)
Connected to the duplex PWB (optional for simplex copier)	11	DUP SIDE MOT _A	O	0/5 V DC (pulse)	Duplex side registration motor drive pulse (_A)
	12	DUP SET SIG	I	0/5 V DC	Duplex unit installation signal: Installed/Not installed
	13	DUP1 CL	O	0/5 V DC	Duplex feed clutch: On/Off
	14	NC	O	0/5 V DC	Not used
	15	E24V	O	24 V DC	24 V DC power output
	16	G(24V)	-	-	Ground (power)
	17	E5V	O	5 V DC	5 V DC power output
	18	G(5V)	-	-	Ground (signal)
YC30	1	DESKFEED H CL	O	0/24 V DC	Paper feeder feed H clutch: On/Off
Connected to the paper feeder feed H clutch	2	G(5V)	-	-	Ground (signal)
YC31	1	VSYNC	I	0/5 V DC (pulse)	LPH drive PWB control horizontal synchronization signal
Connected to the LPH drive PWB	2	GND	-	-	Ground (signal)
	3	RESET	O	0/5 V DC	LPH drive PWB control reset signal
	4	GND	-	-	Ground (signal)
	5	RXD	I	0/5 V DC (pulse)	LPH drive PWB serial communication signal (receive)
	6	GND	-	-	Ground (signal)
	7	TXD	O	0/5 V DC (pulse)	LPH drive PWB serial communication signal (transmit)
	8	GND	-	-	Ground (signal)
	9	MOTCLK K	I	0/5 V DC (pulse)	Drum motor K drive clock signal
	10	MOTCLK C	I	0/5 V DC (pulse)	Drum motor C drive clock signal
	11	MOTCLK M	I	0/5 V DC (pulse)	Drum motor M drive clock signal
	12	MOTCLK Y	I	0/5 V DC (pulse)	Drum motor Y drive clock signal
	13	ENGINE RESET	O	0/5 V DC	LPH drive PWB reset signal
	14	CFDET	I	0/5 V DC	Scanner main PWB CF connecting detection signal
	15	ENGINE OUT1	-	-	Not used
	16	ENGINE HEADER	-	-	Not used
	17	MSW	-	-	Not used
	18	FAX SET	I	0/5 V DC	FAX control PWB installation detection signal
	19	SCANNER TXD	O	0/5 V DC (pulse)	Scanner main PWB serial communication signal (transmit)
	20	GND	-	-	Ground (signal)
	21	SCANNER RXD		0/5 V DC (pulse)	Scanner main PWB serial communication signal (receive)
	22	GND	-	-	Ground (signal)
	23	ENGINE ACK	-	-	Not used
	24	ENGINE ERROR	-	-	Not used
	25	ENGINE PURGE	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC31	26	ENIGIE EOP	-	-	Not used
Connected to the LPH drive PWB	27	ENGINE VSYNC	-	-	Not used
	28	SCANNER ACK	I	0/5 V DC	Scanner control signal
	29	SCANNER ERROR	I	0/5 V DC	Scanner control signal
	30	SCANNER HEADER	I	0/5 V DC	Scanner control signal
YC32	1	MSW SIG	O	0/5 V DC	Power switch ON detection signal
Connected to the optional fax control PWB	2	SIG	-	-	Ground (signal)
	YC33	1	UPLESW2	I	0/5 V DC
Connected to the cas- sette lift motor	2	COM(G)	-	-	Ground (signal)
	3	UPLESW1	I	0/5 V DC	Cassette paper gauge signal 1: On/Off
	4	REM	O	0/24 V DC	Cassette lift motor: On/Off
	5	G(24V)	-	-	Ground (power)
YC34	1	E24V	O	24 V DC	24 V DC power output
Connected to the paper feed unit detection switch	2	NC	-	-	Not used
	3	E24V(R1)	I	24 V DC	24 V DC power input (via paper feed unit detection switch)
YC35	1	SIG	-	-	Ground (signal)
Connected to the face- down paper full sensor	2	U.EJECT SW	I	0/5 V DC	Face-down paper full sensor: On/Off
	3	E5V	O	5 V DC	5 V DC power output
YC36	1	REM	O	-	-
Not used	2	G(24V)	-	-	-
YC38	1	PB REM	I	-	-
Not used	2	PB CNT	I	-	-

2-3-4 Scanner main PWB, scanner sub PWB and scanner MIP PWB

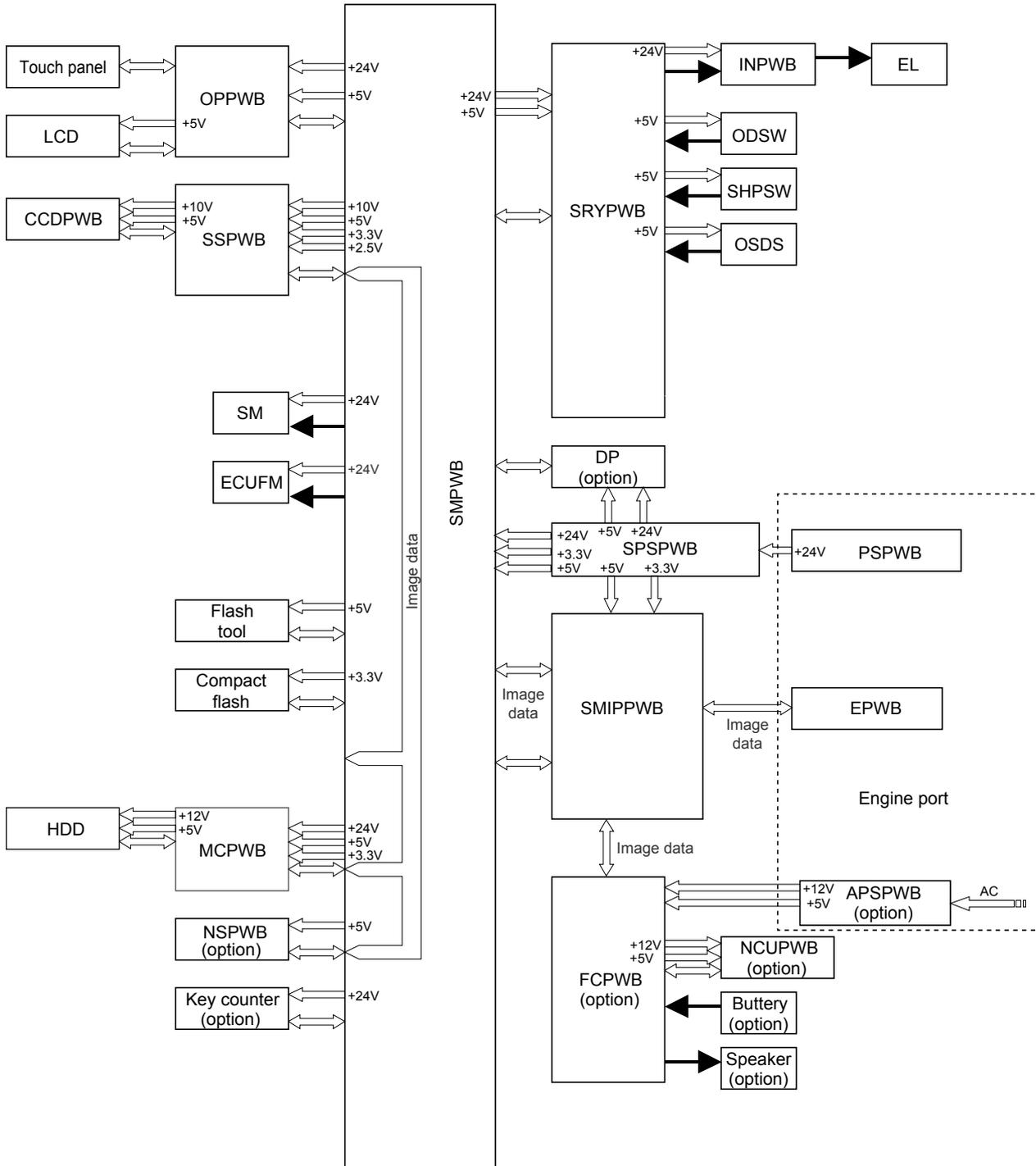


Figure 2-3-7 Scanner main PWB, scanner sub PWB and scanner MIP PWB block diagram

The scanner main PWB (SMPWB) consists of mainly the CPU U1 and performs communication with other PWBs, control of the image processing system, and driving control of the optical system.

The CPU U1 performs communication control with each optional equipment and control of the operation section and the LCD display using the internal serial communication function of X10 U16 and LCD Controller U17 in accordance with the control program. Also the CPU U1 controls driving of electric parts in the optical system based on the input signals from each switch and sensor.

The scanner sub PWB (SMPWB) converts analog image signals input from the CCD PWB (CCDPWB) to digital image signals and outputs them to the LPH drive PWB (LPHDPWB) via the scanner main PWB (SMPWB) and scanner MIP PWB (SMIPPWB).

The scanner MIP PWB (SMIPPWB) performs image processing such as color correction with MIP-M (U14), MIP-C (U12), MIP-Y (U10), and MIP-K (U8). If an optional facsimile kit is installed, this PWB provides an interface with the FAX control PWB (FCPWB). The PWB adjusts the image timing for the tandem engine with LDC (U6) and provides a communication interface with the engine controller PWB (EPWB) and the scanner main PWB (SMPWB) through the LPH drive PWB (LPHDPWB).

Each ASIC (MIP-M/C/Y/K, LDC) is controlled by the CPU (U1) on the scanner main PWB (SMPWB).



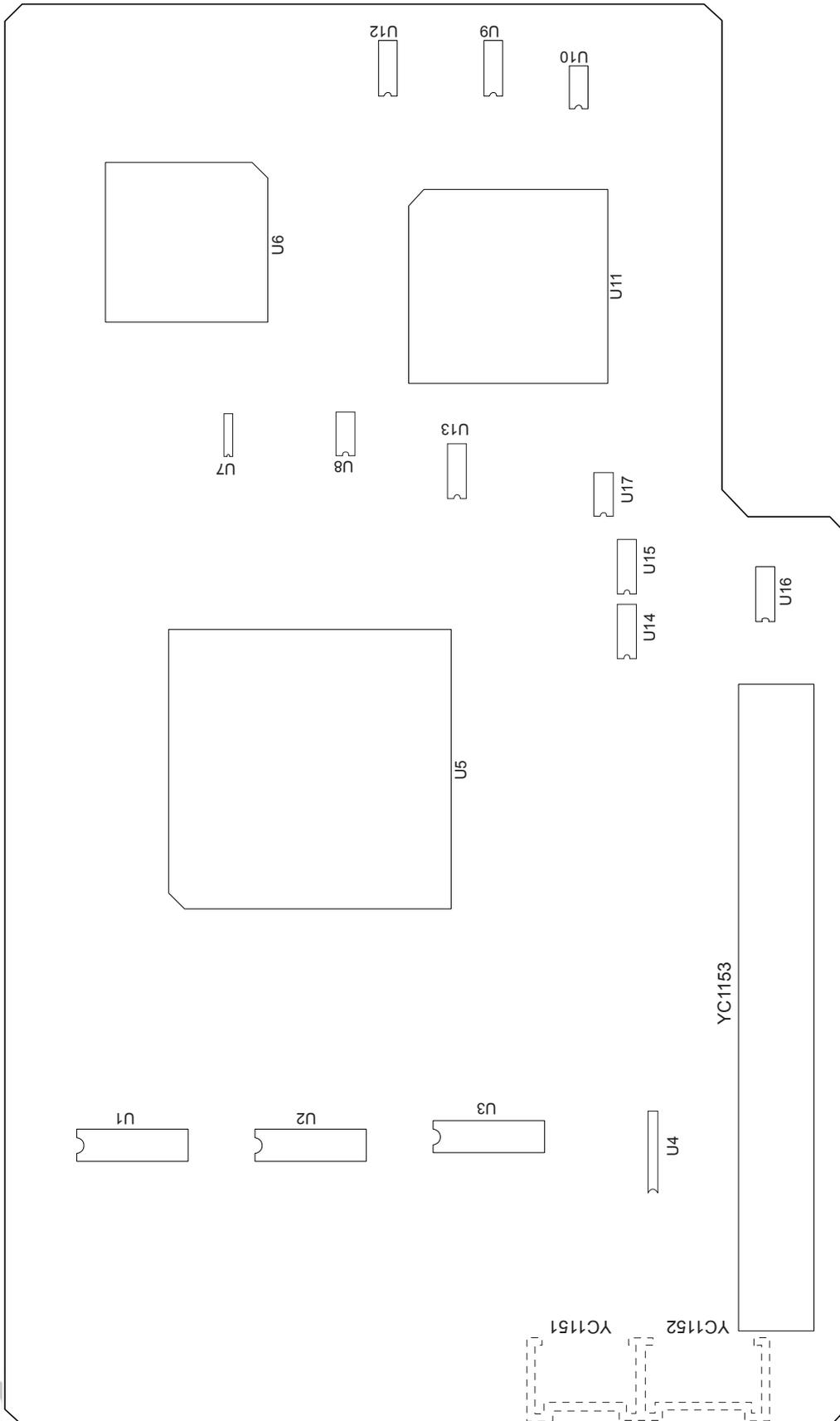


Figure 2-3-9 Scanner sub PWB silk-screen diagram

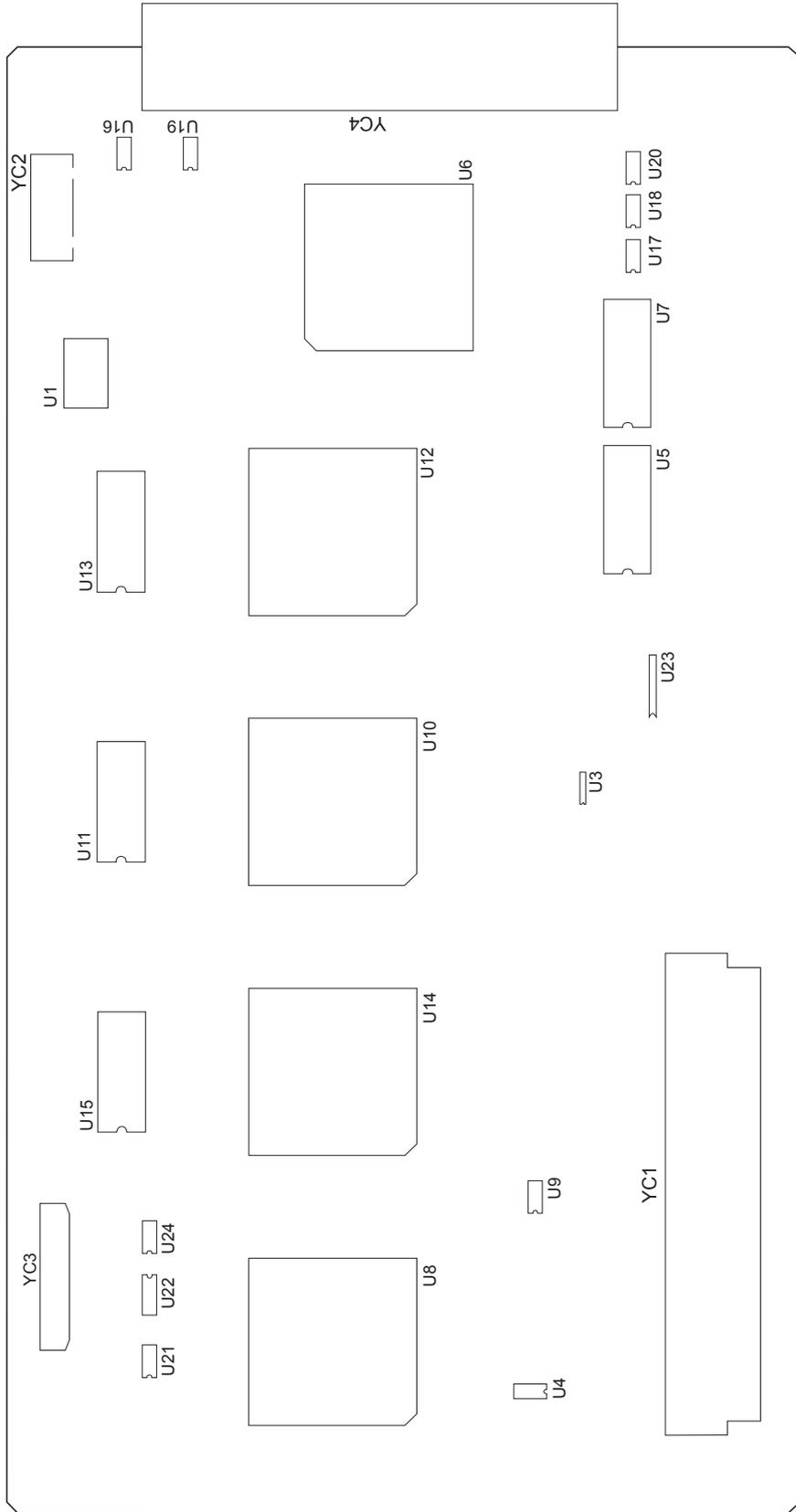


Figure 2-3-10 Scanner MIP PWB silk-screen diagram

## (1) Scanner main PWB and scanner sub PWB

Connector	Pin No.	Signal	I/O	Description
YC1 Connected to the scan- ner power supply PWB	1	3.3V	I	3.3 V DC power input
	2	GND	-	Ground (signal)
	3	GND	-	Ground (signal)
	4	5V	I	5 V DC power input
	5	PG	-	Ground (power)
	6	24V	I	24 V DC power input
YC2 Connected to the scan- ner motor	1	_B_SMOT	O	Scanner motor control
	2	24V_2	O	24 V DC for scanner motor
	3	B_MOT	O	Scanner motor control
	4	A_MOT	O	Scanner motor control
	5	24V_1	O	24 V DC for scanner motor
	6	_A_SMOT	O	Scanner motor control
YC3 Connected to optional DP	1	LED_RED	O	LED (red) on/off signal
	2	LED_GN	O	LED (green) on/off signal
	3	REV_PRS_SO L_RET	O	Switchback press solenoid drive
	4	REV_PRS_SO L_ACT	O	Switchback press solenoid drive
	5	FD_CL	O	Original feed clutch drive
	6	EJ_JCT_SOL	O	Eject feedshift solenoid drive
	7	REV_JST_SOL	O	Switchback feedshift solenoid
	8	FD_SOL_RET	O	Original feed solenoid drive
	9	FD_SOL_ACT	O	Original feed solenoid drive
	10	FMOT_ENABLE	O	Original feed motor control enable signal
	11	REV_SW	I	Original switchback switch detection, L: On
	12	FD_SW	I	Original feed switch detection, L: On
	13	SET_SW	I	Original set switch detection, L: On
	14	DF_SHORT	I	Original size width switch detection, L: On
	15	SZ_DET	I	DP installation detection, L: installed
	16	COV_SF_SW	I	DP safety switch 2 detection, L: On
	17	DF_SF_SW	I	DP safety switch 1 detection, L: On
	18	SZ_SW_A	I	Original size length switch detection, L: On
	19	TMG_SW	I	DP timing switch detection, L: On
	20	N.C.	-	Not used
	21	FMOT_RET	O	Original feed motor control return signal
	22	FMOT_CLK	O	Original feed motor control clock signal
	23	FMOT_CWB	O	Original feed motor control CWB signal
	24	CMOT_ENABLE	O	Original conveying motor control enable signal
	25	CMOT_CLK	O	Original conveying motor control clock signal
	26	CMOT_CWB	-	Not used
	27	CMOT_VREF	O	Original conveying motor current control voltage
	28	CMOT_M3	O	Original conveying motor control M3
	29	CMOT_M2	O	Original conveying motor control M2
	30	CMOT_M1	O	Original conveying motor control M1
YC6 Connected to the scan- ner MIP PWB	A1	FAX_MMI_TXD	O	Serial communication data transmission
	A2	GND1	-	Ground (signal)
	A3	FAX_MMI_RXD	I	Serial communication data reception
	A4	GND2	-	Ground (signal)
	A5	FMIPOUT	O	Fax image serial data
	A6	GND3	-	Ground (signal)
	A7	FOCLK	O	Fax data transmission reference clock
	A8	GND4	-	Ground (signal)
	A9	PFCLK	O	Reception clock for PC-FAX
	A10	GND5	-	Ground (signal)
	A11	ACPMRE	O	Image range signal

Connector	Pin No.	Signal	I/O	Description
YC6	A12	ACPC0	O	Image data signal (cyan) bit0
Connected to the scan- ner MIP PWB	A13	ACPC2	O	Image data signal (cyan) bit2
	A14	ACPC4	O	Image data signal (cyan) bit4
	A15	ACPC6	O	Image data signal (cyan) bit6
	A16	GND6	-	Ground (signal)
	A17	ACPM1	O	Image data signal (magenta) bit1
	A18	ACPM3	O	Image data signal (magenta) bit3
	A19	ACPM6	O	Image data signal (magenta) bit5
	A20	GND7	-	Ground (signal)
	A21	ACPY0	O	Image data signal (yellow) bit0
	A22	ACPY2	O	Image data signal (yellow) bit2
	A23	ACPY4	O	Image data signal (yellow) bit4
	A24	GND8	-	Ground (signal)
	A25	ACPS1	O	Image range separation signal bit1
	A26	GND9	-	Ground (signal)
	A27	WR0	O	Writing signal
	A28	GND10	-	Ground (signal)
	A29	RD0	O	Reading signal
	A30	GND11	-	Ground (signal)
	A31	MIP_CS0	I	MIP select signal
	A32	GND12	-	Ground (signal)
	A33	CPUDB8	I/O	CPU data bus bit8
	A34	GND13	-	Ground (signal)
	A35	CPUDB10	I/O	CPU data bus bit10
	A36	GND14	-	Ground (signal)
	A37	CPUDB13	I/O	CPU data bus bit13
	A38	GND15	-	Ground (signal)
	A39	CPUAB2	O	CPU address bus bit2
	A40	GND16	-	Ground (signal)
	A41	CPUAB5	O	CPU address bus bit5
	A42	GND17	-	Ground (signal)
	A43	CPUAB7	O	CPU address bus bit7
	A44	GND18	-	Ground (signal)
	A45	CPUAB10	O	CPU address bus bit10
	A46	GND19	-	Ground (signal)
	A47	CPUAB13	O	CPU address bus bit13
	A48	GND20	-	Ground (signal)
	A49	LDC_INT	I	LDC interrupt request signal
A50	GND21	-	Ground (signal)	
A51	GND22	-	Ground (signal)	
A52	GND23	-	Ground (signal)	
A53	ENGINE_REQ	I	Engine controller PWB detection signal	
A54	GND24	-	Ground (signal)	
A55	ENG_RXD	O	Serial communication data reception	
A56	GND25	-	Ground (signal)	
A57	ENG_TXD	I	Serial communication data transmission	
A58	GND26	-	Ground (signal)	
A59	GND27	-	Ground (signal)	
A60	GND28	-	Ground (signal)	
B1	FMREOUT	O	Fax main scanning direction valid section signal	
B2	FOHTHIN0	O	Fax main scanning direction reference signal	
B3	FOVSYNC	O	Fax auxiliary scanning direction section signal	
B4	GND29	-	Ground (signal)	
B5	N.C.1	-	Not used	
B6	GND30	-	Ground (signal)	
B7	RESET03	O	Fax input/output protect signal	
B8	GND31	-	Ground (signal)	

Connector	Pin No.	Signal	I/O	Description
YC6	B9	MIPID	I	Fax image data signal
Connected to the scan- ner MIP PWB	B10	MIPVSC	I	Auxiliary scanning direction valid section signal
	B11	MIPMRE	I	Main scanning direction valid section signal
	B12	ACPC1	O	Image data signal (cyan) bit1
	B13	ACPC3	O	Image data signal (cyan) bit3
	B14	ACPC5	O	Image data signal (cyan) bit5
	B15	ACPC7	O	Image data signal (cyan) bit7
	B16	ACPM0	O	Image data signal (magenta) bit0
	B17	ACPM2	O	Image data signal (magenta) bit2
	B18	ACPM4	O	Image data signal (magenta) bit4
	B19	ACPM6	O	Image data signal (magenta) bit6
	B20	ACPM7	O	Image data signal (magenta) bit7
	B21	ACPY1	O	Image data signal (yellow) bit1
	B22	ACPY3	O	Image data signal (yellow) bit3
	B23	ACPY5	O	Image data signal (yellow) bit5
	B24	ACPY6	O	Image data signal (yellow) bit6
	B25	ACPY7	O	Image data signal (yellow) bit7
	B26	ACPS0	O	Image range separation signal bit0
	B27	PHSYNC	I	Main scanning synchronization signal
	B28	PVSYNC	I	Auxiliary scanning synchronization signal
	B29	CS_LCD0	O	LDC select signal
	B30	GND32	-	Ground (signal)
	B31	ABB20	O	CPU address bus bit20
	B32	ABB19	O	CPU address bus bit19
	B33	GND33	-	Ground (signal)
	B34	CPUDB9	I/O	CPU data bus bit9
	B35	CPUDB11	I/O	CPU data bus bit11
	B36	CPUDB12	I/O	CPU data bus bit12
	B37	CPUDB14	I/O	CPU data bus bit14
	B38	CPUDB15	I/O	CPU data bus bit15
	B39	CPUAB3	O	CPU address bus bit3
	B40	CPUAB4	O	CPU address bus bit4
	B41	CPUAB6	O	CPU address bus bit6
	B42	GND34	-	Ground (signal)
	B43	CPUAB8	O	CPU address bus bit8
	B44	CPUAB9	O	CPU address bus bit9
	B45	CPUAB11	O	CPU address bus bit11
B46	CPUAB12	O	CPU address bus bit12	
B47	CPUAB14	O	CPU address bus bit14	
B48	GND35	-	Ground (signal)	
B49	MIP_CK	O	Image reference clock signal for MIP	
B50	GND36	-	Ground (signal)	
B51	MIP_CPUCLK	O	CPU access clock signal	
B52	GND37	-	Ground (signal)	
B53	_RESET52	O	System reset signal	
B54	GND38	-	Ground (signal)	
B55	_ENG_RESET	I	Engine controller PWB reset signal	
B56	GND39	-	Ground (signal)	
B57	CF_DET	O	CF detection signal	
B58	GND40	-	Ground (signal)	
B59	N.C.2	-	Not used	
B60	GND41	-	Ground (signal)	
YC9	A1	GND1	-	Ground (signal)
Connected to the scan- ner sub PWB	A2	SHDMRE	I	Image range signal
	A3	ID_C0	I	Image data signal (cyan)
	A4	ID_C2	I	Image data signal (cyan)
	A5	ID_C4	I	Image data signal (cyan)

Connector	Pin No.	Signal	I/O	Description
YC9	A6	ID_C6	I	Image data signal (cyan)
Connected to the scanner sub PWB	A7	GND2	-	Ground (signal)
	A8	OCLK	I	Image data clock
	A9	GND	-	Ground (signal)
	A10	ID_M1	I	Image data signal (magenta)
	A11	ID_M3	I	Image data signal (magenta)
	A12	ID_M5	I	Image data signal (magenta)
	A13	ID_M7	I	Image data signal (magenta)
	A14	GND3	-	Ground (signal)
	A15	ID_Y1	I	Image data signal (yellow)
	A16	ID_Y3	I	Image data signal (yellow)
	A17	ID_Y5	I	Image data signal (yellow)
	A18	ID_Y7	I	Image data signal (yellow)
	A19	GND4	-	Ground (signal)
	A20	SEL_CLK0	I	Control conversion signal
	A21	SEL_MON8	O	Mode conversion signal
	A22	/CS_BR	O	CPU access control signal
	A23	/OE	O	CPU access control signal
	A24	GND5	-	Ground (signal)
	A25	GND6	-	Ground (signal)
	A26	GND7	-	Ground (signal)
	A27	GND8	-	Ground (signal)
	A28	ABB15	O	CPU address bus bit15
	A29	CPUA13	O	CPU address bus bit13
	A30	CPUA11	O	CPU address bus bit11
	A31	CPUA9	O	CPU address bus bit9
	A32	GND9	-	Ground (signal)
	A33	CPUA7	O	CPU address bus bit7
	A34	CPUA5	O	CPU address bus bit5
	A35	CPUA3	O	CPU address bus bit3
	A36	GND10	-	Ground (signal)
	A37	CPUD15	O	CPU data bus bit15
	A38	CPUD13	O	CPU data bus bit13
	A39	CPUD11	O	CPU data bus bit11
	A40	CPUD9	O	CPU data bus bit9
	A41	PF_CLK	I	Image clock
	A42	GND11	-	Ground (signal)
	A43	SEL_OCLK	O	Mode conversion signal
	A44	GND12	-	Ground (signal)
	A45	/RES_SHD	O	Reset signal
	A46	/RES_N3R	O	Reset signal
	A47	SHDCK	O	System clock
	A48	GND13	-	Ground (signal)
	A49	2.5V_1	O	2.5 V DC power
	A50	2.5V_2	O	2.5 V DC power
	A51	2.5V_3	O	2.5 V DC power
	A52	GND14	-	Ground (signal)
	A53	3.3V_1	O	3.3 V DC power
	A54	3.3V_2	O	3.3 V DC power
	A55	3.3V_3	O	3.3 V DC power
	A56	GND15	-	Ground (signal)
	A57	GND16	-	Ground (signal)
	A58	5V_1	O	5 V DC power
	A59	GND17	-	Ground (signal)
	A60	10V_1	O	10 V DC power
	B1	GND18	-	Ground (signal)
	B2	BR_CLK	O	CPU clock

Connector	Pin No.	Signal	I/O	Description
YC9	B3	SHDVSC	I	Image range signal
Connected to the scan- ner sub PWB	B4	IC_C1	I	Image data signal (cyan)
	B5	IC_C3	I	Image data signal (cyan)
	B6	IC_C5	I	Image data signal (cyan)
	B7	IC_C7	I	Image data signal (cyan)
	B8	GND19	-	Ground (signal)
	B9	ID_M0	I	Image data signal (magenta)
	B10	ID_M2	I	Image data signal (magenta)
	B11	ID_M4	I	Image data signal (magenta)
	B12	ID_M6	I	Image data signal (magenta)
	B13	GND20	-	Ground (signal)
	B14	ID_Y0	I	Image data signal (yellow)
	B15	ID_Y2	I	Image data signal (yellow)
	B16	ID_Y4	I	Image data signal (yellow)
	B17	ID_Y6	I	Image data signal (yellow)
	B18	GND21	-	Ground (signal)
	B19	SEL_COL	O	Mode conversion signal
	B20	SEL_MON1	-	Not used
	B21	/CS_SHD	O	CPU access control signal
	B22	/CS_MIP2AV	O	CPU access control signal
	B23	/WE	O	CPU access control signal
	B24	GND22	-	Ground (signal)
	B25	CPUCLK	O	CPU access clock signal
	B26	GND23	-	Ground (signal)
	B27	ABB17	O	CPU address bus bit17
	B28	ABB16	O	CPU address bus bit16
	B29	CPUA14	O	CPU address bus bit14
	B30	CPUA12	O	CPU address bus bit12
	B31	CPUA10	O	CPU address bus bit10
	B32	CPUA8	O	CPU address bus bit8
	B33	GND24	-	Ground (signal)
	B34	CPUA6	O	CPU address bus bit6
	B35	CPUA4	O	CPU address bus bit4
	B36	CPUA2	O	CPU address bus bit2
	B37	CPUD14	O	CPU data bus bit14
	B38	CPUD12	O	CPU data bus bit12
B39	CPUD10	O	CPU data bus bit10	
B40	CPUD8	O	CPU data bus bit8	
B41	GND25	-	Ground (signal)	
B42	FOVSYNC	I	Fax auxiliary scanning section signal	
B43	FMREOUT	I	Fax main scanning valid section signal	
B44	FOHTHIN	I	Fax main scanning reference signal	
B45	FMIPOUT	I	Fax image serial data	
B46	GND26	-	Ground (signal)	
B47	FOCLK	I	Fax data transmission reference clock	
B48	GND27	-	Ground (signal)	
B49	2.5V_4	O	2.5 V DC power	
B50	2.5V_5	O	2.5 V DC power	
B51	GND28	-	Ground (signal)	
B52	3.3V_4	O	3.3 V DC power	
B53	3.3V_5	O	3.3 V DC power	
B54	3.3V_6	O	3.3 V DC power	
B55	3.3V_7	O	3.3 V DC power	
B56	GND29	-	Ground (signal)	
B57	5V_2	O	5 V DC power	
B58	5V_3	O	5 V DC power	
B59	10V_2	O	10 V DC power	

Connector	Pin No.	Signal	I/O	Description
YC9	B60	10V_3	O	10 V DC power
Connected to the scanner sub PWB				
YC17	1	DIGLED6	O	DIGLED6 signal
Connected to the operation unit PWB A	2	DIGLED5	O	DIGLED5 signal
	3	DIGLED4	O	DIGLED4 signal
	4	DIGLED3	O	DIGLED3 signal
	5	DIGLED2	O	DIGLED2 signal
	6	DIGLED1	O	DIGLED1 signal
	7	SCAN4	O	SCAN4 signal
	8	SCAN3	O	SCAN3 signal
	9	SCAN2	O	SCAN2 signal
	10	SCAN1	O	SCAN1 signal
	11	DIGKEY3	I	DIGKEY3 signal
	12	DIGKEY2	I	DIGKEY2 signal
	13	DIGKEY1	I	DIGKEY1 signal
	YC18	A1	BUZZER	O
Connected to the operation unit PWB A and B	A2	X1	I	Touch panel detection voltage X1
	A3	Y1	I	Touch panel detection voltage Y1
	A4	X2	O	Touch panel detection voltage X2
	A5	Y2	O	Touch panel detection voltage Y2
	A6	LCD FRAME	O	Panel start signal
	A7	LCD LOAD	O	Data sift signal
	A8	LCD CP	O	Clock pulse
	A9	LCD VSS	-	Ground (signal)
	A10	LCD VDD	O	5 V DC power
	A11	LCD VSS	-	Ground (signal)
	A12	LCD DISP OFF	O	LCD display On/Off
	A13	LCD D0	O	Data signal
	A14	LCD D1	O	Data signal
	A15	LCD D2	O	Data signal
	A16	LCD D3	O	Data signal
	A17	VEE OFF	O	LCD VEE signal
	B1	GND	-	Ground (power)
	B2	E24V	O	24 V DC power for OPPWB-B
	B3	_LAMP OFF	O	OPPWB-B LAMP OFF signal
	B4	GND	-	Ground (signal)
	B5	5V	O	5 V DC power for OPPWB-B
	B6	DIGLED8	O	DIGLED8 signal
	B7	DIGLED7	O	DIGLED7 signal
	B8	SCAN8	O	SCAN8 signal
	B9	SCAN7	O	SCAN7 signal
B10	SCAN6	O	SCAN6 signal	
B11	SCAN5	O	SCAN5 signal	
B12	DIGKEY9	I	DIGKEY9 signal	
B13	DIGKEY8	I	DIGKEY8 signal	
B14	DIGKEY7	I	DIGKEY7 signal	
B15	DIGKEY6	I	DIGKEY6 signal	
B16	DIGKEY5	I	DIGKEY5 signal	
B17	DIGKEY4	I	DIGKEY4 signal	

Connector	Pin No.	Signal	I/O	Description
YC19 Connected to the scanner relay PWB	A10	ORG SIG	I	Original size detection sensor detection, L: On
	A11	DF OC SW	I	Original detection switch, L: On
	A12	HP SW	I	Scanner home position switch, L: On
	A13	TOTAL	I	Total counter, L: On
	A14	24V_1	O	24 V DC power for exposure lamp
	A15	24V_2	O	24 V DC power for exposure lamp
	A16	24V_3	O	24 V DC power for exposure lamp
	B1	5V_1	O	5 V DC power for original detection sensor, original detection switch and scanner home position switch
	B2	5V_2	O	5 V DC power for original detection sensor, original detection switch and scanner home position switch
	B3	PGND2	-	Ground (power)
B4	PGND1	-	Ground (power)	
B5	LAMP ON REM	O	Exposure lamp on/off signal	
YC21 Connected to the electric component unit fan motor	1	N.C.	I	Electric component unit fan motor control
	2	FAN1	-	Ground (power)
	3	24V	O	24 V DC power for electric component unit fan motor
YC1151 Connected to the CCD PWB	1	VRE	I	Image data R (red) EVEN signal (analog)
	2	GND	-	Ground
	3	VRO	I	Image data R (red) ODD signal (analog)
	4	GND	-	Ground
	5	VGE	I	Image data G (green) EVEN signal (analog)
	6	GND	-	Ground
	7	VGO	I	Image data G (green) ODD signal (analog)
	8	GND	-	Ground
	9	VBE	I	Image data B (blue) EVEN signal (analog)
	10	GND	-	Ground
	11	VBO	I	Image data B (blue) ODD signal (analog)
	12	GND	-	Ground
YC1152 Connected to the CCD PWB	1	10V	O	10 V DC power
	2	GND	-	Ground
	3	5V	O	5 V DC power
	4	GND	-	Ground
	5	SHIFT	O	CCD SHIFT signal
	6	CCDSEL	O	CCD control signal
	7	CCLK1	O	Clock signal
	8	GND	-	Ground
	9	CCLK2	O	Clock signal
	10	GND	O	Ground
	11	RS	O	CCD RS signal
	12	GND	O	Ground
	13	CP	O	CCD CP signal
	14	GND	O	Ground

## (2) Scanner MIP PWB

Connector	Pin No.	Signal	I/O	Description
YC1	A1	FAX_MMI_TXD	I	Serial communication data transmission
Connected to the scanner main PWB	A2	GND1	-	Ground (signal)
	A3	FAX_MMI_RXD	O	Serial communication data reception
	A4	GND2	-	Ground (signal)
	A5	FMIPOUT	I	Fax image serial data
	A6	GND3	-	Ground (signal)
	A7	FOCLK	I	Fax data transmission reference clock
	A8	GND4	-	Ground (signal)
	A9	PFCLK	I	Reception clock for PC-FAX
	A10	GND5	-	Ground (signal)
	A11	ACPMRE	I	Image range signal
	A12	ACPC0	I	Image data signal (cyan) bit0
	A13	ACPC2	I	Image data signal (cyan) bit2
	A14	ACPC4	I	Image data signal (cyan) bit4
	A15	ACPC6	I	Image data signal (cyan) bit6
	A16	GND6	-	Ground (signal)
	A17	ACPM1	I	Image data signal (magenta) bit1
	A18	ACPM3	I	Image data signal (magenta) bit3
	A19	ACPM6	I	Image data signal (magenta) bit5
	A20	GND7	-	Ground (signal)
	A21	ACPY0	I	Image data signal (yellow) bit0
	A22	ACPY2	I	Image data signal (yellow) bit2
	A23	ACPY4	I	Image data signal (yellow) bit4
	A24	GND8	-	Ground (signal)
	A25	ACPS1	I	Image range separation signal bit1
	A26	GND9	-	Ground (signal)
	A27	WR0	I	Writing signal
	A28	GND10	-	Ground (signal)
	A29	RD0	I	Reading signal
	A30	GND11	-	Ground (signal)
	A31	MIP_CS0	O	MIP select signal
	A32	GND12	-	Ground (signal)
	A33	CPUIDB8	I/O	CPU data bus bit8
	A34	GND13	-	Ground (signal)
	A35	CPUIDB10	I/O	CPU data bus bit10
A36	GND14	-	Ground (signal)	
A37	CPUIDB13	I/O	CPU data bus bit13	
A38	GND15	-	Ground (signal)	
A39	CPUAB2	I	CPU address bus bit2	
A40	GND16	-	Ground (signal)	
A41	CPUAB5	I	CPU address bus bit5	
A42	GND17	-	Ground (signal)	
A43	CPUAB7	I	CPU address bus bit7	
A44	GND18	-	Ground (signal)	
A45	CPUAB10	I	CPU address bus bit10	
A46	GND19	-	Ground (signal)	
A47	CPUAB13	I	CPU address bus bit13	
A48	GND20	-	Ground (signal)	
A49	LDC_INT	O	LDC interrupt request signal	
A50	GND21	-	Ground (signal)	
A51	GND22	-	Ground (signal)	
A52	GND23	-	Ground (signal)	
A53	ENGINE_REQ	O	Engine controller PWB detection signal	
A54	GND24	-	Ground (signal)	
A55	ENG_RXD	I	Serial communication data reception	

Connector	Pin No.	Signal	I/O	Description
YC1	A56	GND25	-	Ground (signal)
Connected to the scanner main PWB	A57	ENG_TXD	O	Serial communication data transmission
	A58	GND26	-	Ground (signal)
	A59	GND27	-	Ground (signal)
	A60	GND28	-	Ground (signal)
	B1	FMREOUT	I	Fax main scanning valid section signal
	B2	FOHTHIN0	I	Fax main scanning reference signal
	B3	FOVSYNC	I	Fax auxiliary scanning section signal
	B4	GND29	-	Ground (signal)
	B5	N.C.1	-	Not used
	B6	GND30	-	Ground (signal)
	B7	RESET03	I	Fax input/output protect signal
	B8	GND31	-	Ground (signal)
	B9	MIPID	O	Fax image data signal
	B10	MIPVSC	O	Auxiliary scanning valid section signal
	B11	MIPMRE	O	Main scanning valid section signal
	B12	ACPC1	I	Image data signal (cyan) bit1
	B13	ACPC3	I	Image data signal (cyan) bit3
	B14	ACPC5	I	Image data signal (cyan) bit5
	B15	ACPC7	I	Image data signal (cyan) bit7
	B16	ACPM0	I	Image data signal (magenta) bit0
	B17	ACPM2	I	Image data signal (magenta) bit2
	B18	ACPM4	I	Image data signal (magenta) bit4
	B19	ACPM6	I	Image data signal (magenta) bit6
	B20	ACPM7	I	Image data signal (magenta) bit7
	B21	ACPY1	I	Image data signal (yellow) bit1
	B22	ACPY3	I	Image data signal (yellow) bit3
	B23	ACPY5	I	Image data signal (yellow) bit5
	B24	ACPY6	I	Image data signal (yellow) bit6
	B25	ACPY7	I	Image data signal (yellow) bit7
	B26	ACPS0	I	Image range separation signal bit0
	B27	PHSYNC	O	Main scanning synchronization signal
	B28	PVSYNC	O	Auxiliary scanning synchronization signal
	B29	CS_LCD0	I	LDC select signal
	B30	GND32	-	Ground (signal)
B31	ABB20	I	CPU address bus bit20	
B32	ABB19	I	CPU address bus bit19	
B33	GND33	-	Ground (signal)	
B34	CPUDB9	I/O	CPU data bus bit9	
B35	CPUDB11	I/O	CPU data bus bit11	
B36	CPUDB12	I/O	CPU data bus bit12	
B37	CPUDB14	I/O	CPU data bus bit14	
B38	CPUDB15	I/O	CPU data bus bit15	
B39	CPUAB3	I	CPU address bus bit3	
B40	CPUAB4	I	CPU address bus bit4	
B41	CPUAB6	I	CPU address bus bit6	
B42	GND34	-	Ground (signal)	
B43	CPUAB8	I	CPU address bus bit8	
B44	CPUAB9	I	CPU address bus bit9	
B45	CPUAB11	I	CPU address bus bit11	
B46	CPUAB12	I	CPU address bus bit12	
B47	CPUAB14	I	CPU address bus bit14	
B48	GND35	-	Ground (signal)	
B49	MIP_CK	I	Image reference clock signal for MIP	
B50	GND36	-	Ground (signal)	
B51	MIP_CPUCLK	I	CPU access clock signal	
B52	GND37	-	Ground (signal)	

Connector	Pin No.	Signal	I/O	Description
YC1 Connected to the scanner main PWB	B53	_RESET52	I	System reset signal
	B54	GND38	-	Ground (signal)
	B55	_ENG_RESET	O	Engine controller PWB reset signal
	B56	GND39	-	Ground (signal)
	B57	CF_DET	I	CF detection signal
	B58	GND40	-	Ground (signal)
	B59	N.C.2	-	Not used
YC2 Connected to the scanner power supply PWB	B60	GND41	-	Ground (signal)
	1	S5V	O	5 V DC power
	2	GND	-	Ground (signal)
	3	GND	-	Ground (signal)
	4	GND	-	Ground (signal)
	5	S3.3V	O	3.3 V DC power
YC3 Connected to the optional fax control PWB	6	S3.3V	O	3.3 V DC power
	1	N.C	-	Not used
	2	SG	-	Ground (signal)
	3	N.C	-	Not used
	4	SG	-	Ground (signal)
	5	_MAINSTS	O	Status signal
	6	_SET FAX	I	Fax control PWB installation detection signal
	7	_SREQ FAX	I	Scanning request signal
	8	_PREQ FAX	I	Printing request signal
	9	_FAX READY	I	Power supply ready signal
	10	_RST_FAX	O	Reset signal
	11	SG	-	Ground (signal)
	12	FAXMMIRXDFM	I	Serial communication data reception
	13	SG	-	Ground (signal)
	14	FAXMMITXDFM	O	Serial communication data transmission
	15	SG	-	Ground (signal)
	16	_MMISTS	O	Key push information signal
	17	SG	-	Ground (signal)
	18	FOCLK	O	Data transmission reference clock signal
	19	SG	-	Ground (signal)
	20	FMREOUT	O	Main scanning valid section signal
	21	SG	-	Ground (signal)
	22	FMIPOUT	O	Image serial data signal
	23	SG	-	Ground (signal)
	24	FOHSTHIN0	O	Main scanning reference signal
	25	SG	-	Ground (signal)
	26	FOVSYNC	O	Auxiliary scanning section signal
	27	N.C	-	Not used
	28	FPVSYNC0	O	Auxiliary scanning section signal of printing paper
	29	SG	-	Ground (signal)
	30	FPHSYNC0	O	Main scanning section signal of printing paper
	31	SG	-	Ground (signal)
	32	FPVD	I	Printing data signal
	33	SG	-	Ground (signal)
	34	FMRE	I	Main scanning section signal
	35	SG	-	Ground (signal)
	36	FVCLK	I	Data transmission reference clock signal
	37	SG	-	Ground (signal)
	38	FPVCLK	O	Data reception reference clock signal
	39	SG	-	Ground (signal)
40	M33V	O	3.3 V DC power	

Connector	Pin No.	Signal	I/O	Description
YC4	1	S.G	-	Ground (signal)
Connected to the LPH drive PWB via shield cable	2	_SET FAX	O	Fax control PWB installation detection signal
	3	S.G	-	Ground (signal)
	4	S.G	-	Ground (signal)
	5	LSPGT C P	O	Main scanning valid section signal for cyan (P)
	6	LSPGT C N	O	Main scanning valid section signal for cyan (N)
	7	PGLVSYNC C N	I	Main scanning section signal for cyan (N)
	8	PGLVSYNC C P	I	Main scanning section signal for cyan (P)
	9	PGLHSYNC C N	I	Auxiliary scanning section signal for cyan (N)
	10	PGLHSYNC C P	I	Auxiliary scanning section signal for cyan (P)
	11	PGLHSYNC M N	I	Main scanning section signal for magenta (N)
	12	PGLHSYNC M P	I	Main scanning section signal for magenta (P)
	13	PGLVSYNC M N	I	Auxiliary scanning section signal for magenta (N)
	14	PGLVSYNC M P	I	Auxiliary scanning section signal for magenta (P)
	15	LSPGT M P	O	Main scanning valid section signal for magenta (P)
	16	LSPGT M N	O	Main scanning valid section signal for magenta (N)
	17	LCLK MC P	O	Data transmission clock signal for magenta/cyan (P)
	18	LCLK MC N	O	Data transmission clock signal for magenta/cyan (N)
	19	LSPGT BK P	O	Main scanning valid section signal for black (P)
	20	LSPGT BK N	O	Main scanning valid section signal for black (N)
	21	PGLVSYNC BK N	I	Auxiliary scanning section signal for black (N)
	22	PGLVSYNC BK P	I	Auxiliary scanning section signal for black (P)
	23	PGLHSYNC BK N	I	Main scanning section signal for black (N)
	24	PGLHSYNC BK P	I	Main scanning section signal for black (P)
	25	PGLHSYNC Y N	I	Main scanning section signal for yellow (N)
	26	PGLHSYNC Y P	I	Main scanning section signal for yellow (P)
	27	PGLVSYNC Y N	I	Auxiliary scanning section signal for yellow (N)
	28	PGLVSYNC Y P	I	Auxiliary scanning section signal for yellow (P)
	29	LSPGT Y P	O	Main scanning valid section signal for yellow (P)
	30	LSPGT Y N	O	Main scanning valid section signal for yellow (N)
	31	LCLK YBK P	O	Data transmission clock signal for yellow/black (P)
	32	LCLK YBK N	O	Data transmission clock signal for yellow/black (N)
	33	S.G	-	Ground (signal)
	34	S.G	-	Ground (signal)
	35	ENGINE	I	Paper timing signal
	36	S.G	-	Ground (signal)
	37	ENGINE OUT1	I	Paper timing signal 2
	38	S.G	-	Ground (signal)
	39	ENGINE EOP	I	Page completion timing signal
	40	S.G	-	Ground (signal)
	41	ENGINE	I	Exit completion timing signal
	42	S.G	-	Ground (signal)
	43	ENGINE BSY	I	Engine controller PWB busy signal
	44	S.G	-	Ground (signal)
	45	ENGINE REQ	I	Engine controller PWB detection signal
	46	S.G	-	Ground (signal)
	47	ENGINE RXD	O	Serial communication data reception
	48	S.G	-	Ground (signal)
	49	ENGINE TXD	I	Serial communication data transmission
	50	S.G	-	Ground (signal)
	51	S.G	-	Ground (signal)
52	S.G	-	Ground (signal)	
53	LDA0 C P	O	Cyan image data bit0 (P)	

Connector	Pin No.	Signal	I/O	Description
YC4	54	LDA0 C N	O	Cyan image data bit0 (N)
Connected to the LPH drive PWB via shield cable	55	LDA1 C N	O	Cyan image data bit1 (N)
	56	LDA1 C P	O	Cyan image data bit1 (P)
	57	LDA2 C N	O	Cyan image data bit2 (N)
	58	LDA2 C P	O	Cyan image data bit2 (P)
	59	LDA3 C N	O	Cyan image data bit3 (N)
	60	LDA3 C P	O	Cyan image data bit3 (P)
	61	LDA3 M N	O	Magenta image data bit3 (N)
	62	LDA3 M P	O	Magenta image data bit3 (P)
	63	LDA2 M N	O	Magenta image data bit2 (N)
	64	LDA2 M P	O	Magenta image data bit2 (P)
	65	LDA1 M N	O	Magenta image data bit1 (N)
	66	LDA1 M P	O	Magenta image data bit1 (P)
	67	LDA0 M P	O	Magenta image data bit0 (P)
	68	LDA0 M N	O	Magenta image data bit0 (N)
	69	LDA0 BK P	O	Black image data bit0 (P)
	70	LDA0 BK N	O	Black image data bit0 (N)
	71	LDA1 BK P	O	Black image data bit1 (P)
	72	LDA1 BK N	O	Black image data bit1 (N)
	73	LDA2 BK P	O	Black image data bit2 (P)
	74	LDA2 BK N	O	Black image data bit2 (N)
	75	LDA3 BK P	O	Black image data bit3 (P)
	76	LDA3 BK N	O	Black image data bit3 (N)
	77	LDA3 Y P	O	Yellow image data bit3 (P)
	78	LDA3 Y N	O	Yellow image data bit3 (N)
	79	LDA2 Y P	O	Yellow image data bit2 (P)
	80	LDA2 Y N	O	Yellow image data bit2 (N)
	81	LDA1 Y P	O	Yellow image data bit1 (P)
	82	LDA1 Y N	O	Yellow image data bit1 (N)
	83	LDA0 Y P	O	Yellow image data bit0 (P)
	84	LDA0 Y N	O	Yellow image data bit0 (N)
	85	S.G	-	Ground (signal)
	86	S.G	-	Ground (signal)
	87	SCANNER REQ	O	Scanner main PWB detection signal
	88	S.G	-	Ground (signal)
	89	SCANNER BSY	O	Scanner main PWB busy signal
	90	S.G	-	Ground (signal)
91	SCAN.HEADER	O	Scanner main PWB communication header signal	
92	S.G	-	Ground (signal)	
93	ENG.HEADER	I	Scanner main PWB communication header signal	
94	S.G	-	Ground (signal)	
95	MSW	I	Power switch status signal	
96	S.G	-	Ground (signal)	
97	ENGINE RESET	I	Engine controller PWB reset signal	
98	S.G	-	Ground (signal)	
99	CF.DETECT	O	CF detection signal	
100	S.G	-	Ground (signal)	

2-3-5 LPH drive PWB

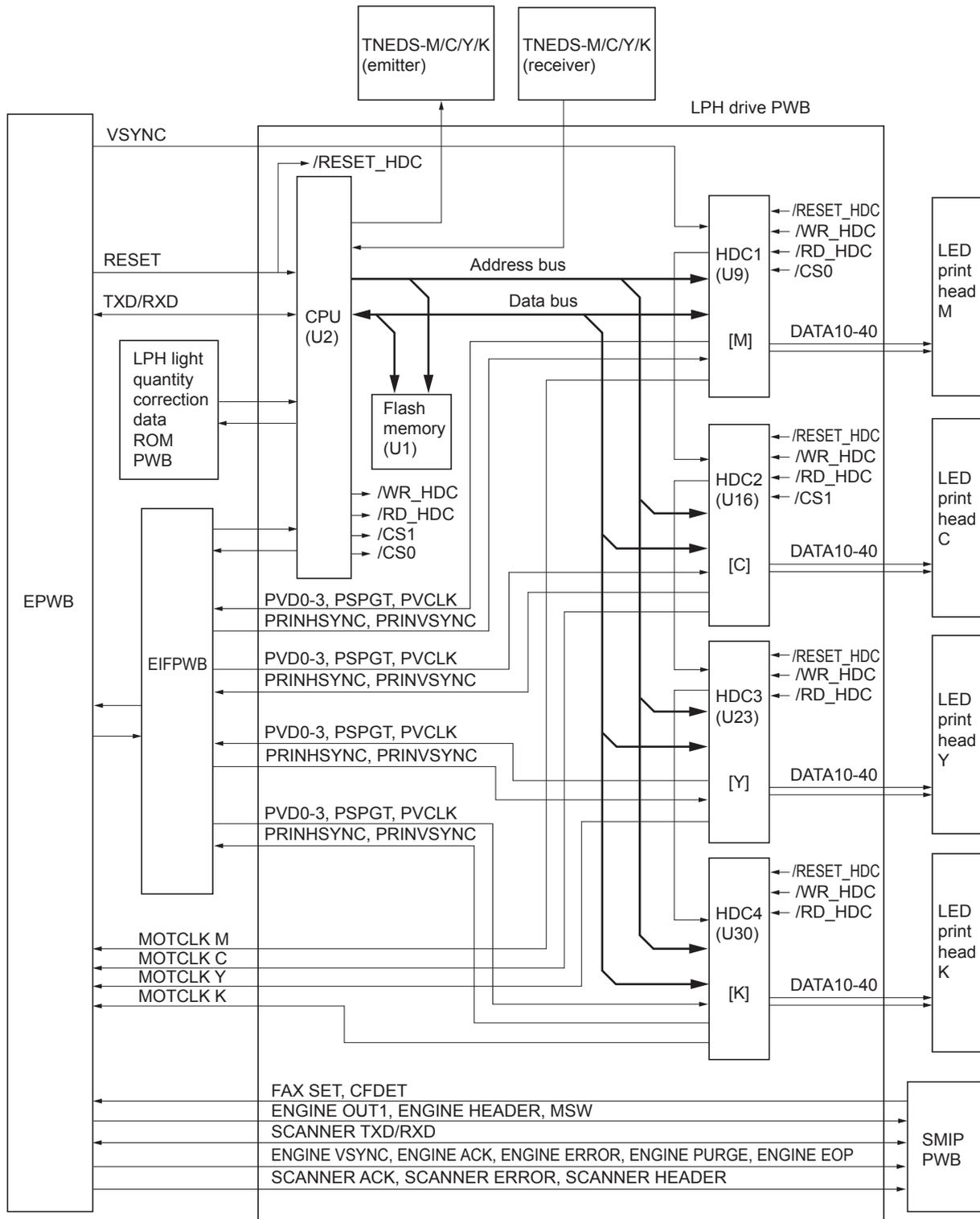


Figure 2-3-11 LPH drive PWB block diagram

The LPH drive PWB (LPHDPWB) controls the drive of the LED print head for each color with HDC1[M] (U9), HDC2[C] (U16), HDC3[Y] (U23), and HDC4[K] (U30).

This PWB outputs image data signals input from the scanner MIP PWB (SMIPPWB) to the engine controller PWB (EPWB) through the engine interface PWB (EIFPWB).



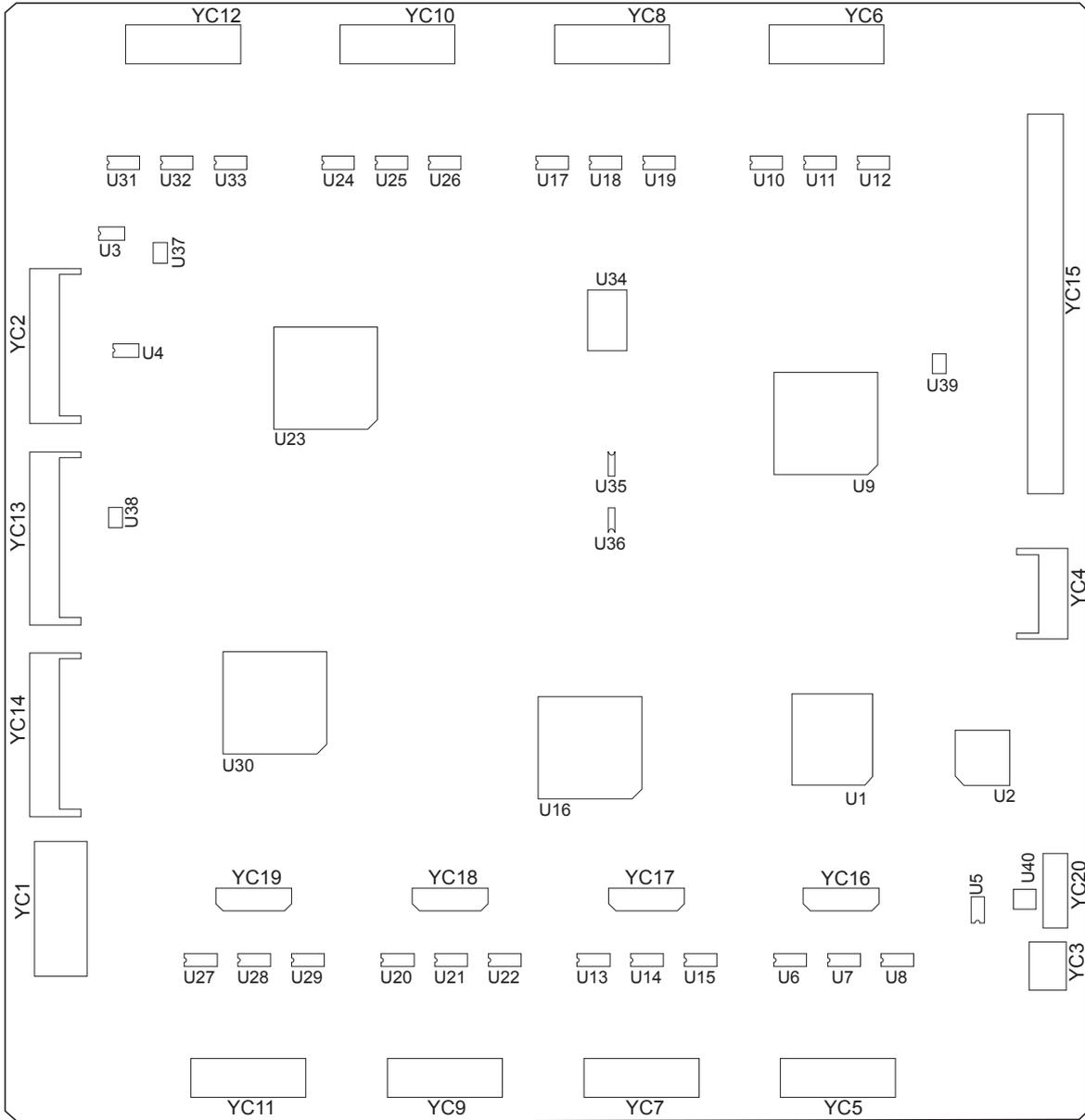


Figure 2-3-12 LPH drive PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
YC1 Connected to the power supply PWB	1	E3.3V	I	3.3 V DC power
	2	GND	-	Ground (signal)
	3	GND	-	Ground (signal)
	4	GND	-	Ground (signal)
	5	GND	-	Ground (signal)
	6	E5V	I	5 V DC power
	7	E5V	I	5 V DC power
YC2 Connected to the engine con- troller PWB	1	VSYNC	O	LPH drive PWB control horizontal synchronization signal
	2	GND	-	Ground (signal)
	3	RESET	O	LPH drive PWB control reset signal
	4	GND	-	Ground (signal)
	5	RXD	-	LPH drive PWB control serial communication reception signal
	6	GND	-	Ground (signal)
	7	TXD	-	LPH drive PWB control serial communication transmission signal
	8	GND	-	Ground (signal)
	9	MOTCLK K	O	Drum motor K drive clock signal
	10	MOTCLK C	O	Drum motor C drive clock signal
	11	MOTCLK M	O	Drum motor M drive clock signal
	12	MOTCLK Y	O	Drum motor Y drive clock signal
	13	ENGINE RESET	I	LPH drive PWB control reset signal
	14	CFDET	I	Scanner main PWB CF installation detection signal
	15	ENGINE OUT1	O	Paper timing signal
	16	ENGINE HEADER	O	Engine controller PWB communication header signal
	17	MSW	O	Power switch status signal
	18	FAX SET	O	Fax control PWB installation detection signal
	19	SCANNER TXD	I	Scanner main PWB serial transmission signal
	20	GND	-	Ground (signal)
	21	SCANNER RXD	I	Scanner main PWB serial reception signal
	22	GND	-	Ground (signal)
	23	ENGINE ACK	O	Engine controller PWB control signal
	24	ENGINE ERROR	O	Engine controller PWB control signal
	25	ENGINE PURGE	I	Exit completion timing signal
	26	ENGINE EOP	I	Page completion timing signal
	27	ENGINE VSYNC	I	Auxiliary scanning timing signal
	28	SCANNER ACK	O	Scanner control signal
	29	SCANNER ERROR	O	Scanner control signal
	30	SCANNER HEADER	O	Scanner control signal
YC3 Connected to the tem- perature/ humidity sensor PWB	1	HUM SENS1	I	Humidity detection data signal
	2	HUM SENSO	I	Humidity detection data signal
	3	GND	-	Ground (signal)
	4	HUM TH	I	Temperature detection data signal

Connector	Pin No.	Signal	I/O	Description
YC4 Connected to the toner empty detection sensors K/ C/M/Y	1	E5V	I	5 V DC power
	2	LED	O	Toner empty detection sensor K emitter [infrared LED] drive signal
	3	SIG	I	Toner empty detection sensor K receiver [photo transistor] detection signal (analog)
	4	GND	-	Ground (signal)
	5	E5V	I	5 V DC power
	6	LED	O	Toner empty detection sensor C emitter [infrared LED] drive signal
	7	SIG	I	Toner empty detection sensor C receiver [photo transistor] detection signal (analog)
	8	GND	-	Ground (signal)
	9	E5V	I	5 V DC power
	10	LED	O	Toner empty detection sensor M emitter [infrared LED] drive signal
	11	SIG	I	Toner empty detection sensor M receiver [photo transistor] detection signal (analog)
	12	GND	-	Ground (signal)
	13	E5V	I	5 V DC power
	14	LED	O	Toner empty detection sensor Y emitter [infrared LED] drive signal
	15	SIG	I	Toner empty detection sensor Y receiver [photo transistor] detection signal (analog)
	16	GND	-	Ground (signal)
YC13 Connected to the engine inter- face PWB	1	PVDA3 2N	O	Second color image data signal (N)
	2	PVDA3 2P	O	Second color image data signal (P)
	3	PVDA2 2N	O	Second color image data signal (N)
	4	PVDA2 2P	O	Second color image data signal (P)
	5	PVDA1 2N	O	Second color image data signal (N)
	6	PVDA1 2P	O	Second color image data signal (P)
	7	PVDA0 2N	O	Second color image data signal (N)
	8	PVDA0 2P	O	Second color image data signal (P)
	9	PSPGT 2N	O	Second color valid section signal (N)
	10	PSPGT 2P	O	Second color valid section signal (P)
	11	PGHSYNC 2N	I	Second color horizontal synchronization signal (N)
	12	PGHSYNC 2P	I	Second color horizontal synchronization signal (P)
	13	PGVSYNC 2N	I	Second color vertical synchronization signal (N)
	14	PGVSYNC 2P	I	Second color vertical synchronization signal (P)
	15	GND	-	Ground (signal)
	16	GND	-	Ground (signal)
	17	SET2		LPH (magenta)/LPH (cyan) installation detection signal
	18	GND	-	Ground (signal)
	19	PVDA3 1N	O	First color image data signal (N)
	20	PVDA3 1P	O	First color image data signal (P)
	21	PVDA2 1N	O	First color image data signal (N)
	22	PVDA2 1P	O	First color image data signal (P)
	23	PVDA1 1N	O	First color image data signal (N)
	24	PVDA1 1P	O	First color image data signal (P)
	25	PVDA0 1N	O	First color image data signal (N)
	26	PVDA0 1P	O	First color image data signal (P)
	27	PSPGT 1N	O	First color valid section signal (N)
	28	PSPGT 1P	O	First color valid section signal (P)
	29	PGHSYNC 1N	I	First color horizontal synchronization signal (N)
	30	PGHSYNC 1P	I	First color horizontal synchronization signal (P)
	31	PGVSYNC 1N	I	Second color vertical synchronization signal (N)
	32	PGVSYNC 1P	I	Second color vertical synchronization signal (P)
	33	PVCLK12 N	O	LPH (magenta)/LPH (cyan) drive clock signal (N)
	34	PVCLK12 P	O	LPH (magenta)/LPH (cyan) drive clock signal (P)

Connector	Pin No.	Signal	I/O	Description
YC14	1	PVDA3 4N	O	Fourth color image data signal (N)
Connected to the engine interface PWB	2	PVDA3 4P	O	Fourth color image data signal (P)
	3	PVDA2 4N	O	Fourth color image data signal (N)
	4	PVDA2 4P	O	Fourth color image data signal (P)
	5	PVDA1 4N	O	Fourth color image data signal (N)
	6	PVDA1 4P	O	Fourth color image data signal (P)
	7	PVDA0 4N	O	Fourth color image data signal (N)
	8	PVDA0 4P	O	Fourth color image data signal (P)
	9	PSPGT 4N	O	Fourth color valid section signal (N)
	10	PSPGT 4P	O	Fourth color valid section signal (P)
	11	PGHSYSN 4N	I	Fourth color horizontal synchronization signal (N)
	12	PGHSYSN 4P	I	Fourth color horizontal synchronization signal (P)
	13	PGVSYSN 4N	I	Fourth color vertical synchronization signal (N)
	14	PGVSYSN 4P	I	Fourth color vertical synchronization signal (P)
	15	GND	-	Ground (signal)
	16	SET1	O	LPH (yellow)/LPH (black) installation detection signal
	17	PVDA3 3N	O	Third color image data signal (N)
	18	PVDA3 3P	O	Third color image data signal (P)
	19	PVDA2 3N	O	Third color image data signal (N)
	20	PVDA2 3P	O	Third color image data signal (P)
	21	PVDA1 3N	O	Third color image data signal (N)
	22	PVDA1 3P	O	Third color image data signal (P)
	23	PVDA0 3N	O	Third color image data signal (N)
	24	PVDA0 3P	O	Third color image data signal (P)
	25	PSPGT 3N	O	Third color valid section signal (N)
	26	PSPGT 3P	O	Third color valid section signal (P)
	27	PGHSYNC 3N	I	Third color horizontal synchronization signal (N)
	28	PGHSYNC 3P	I	Third color horizontal synchronization signal (P)
	29	PGVSYNC 3N	I	Third color vertical synchronization signal (N)
	30	PGVSYNC 3P	I	Third color vertical synchronization signal (P)
	31	PVCLK34N	O	LPH (yellow)/LPH (black) drive clock signal (N)
	32	PVCLK34P	O	LPH (yellow)/LPH (black) drive clock signal (P)
	YC15	A1	S.G	-
Connected to the scanner MIP PWB via shield cable	A2	_SET FAX	I	Fax control PWB installation detection signal
	A3	S.G	-	Ground (signal)
	A4	S.G	-	Ground (signal)
	A5	LSPGT C P	I	Main scanning valid section signal for cyan (P)
	A6	LSPGT C N	I	Main scanning valid section signal for cyan (N)
	A7	PGLVSYNC C N	O	Main scanning section signal for cyan (N)
	A8	PGLVSYNC C P	O	Main scanning section signal for cyan (P)
	A9	PGLHSYNC C N	O	Auxiliary scanning section signal for cyan (N)
	A10	PGLHSYNC C P	O	Auxiliary scanning section signal for cyan (P)
	A11	PGLHSYNC M N	O	Main scanning valid section signal for magenta (N)
	A12	PGLHSYNC M P	O	Main scanning valid section signal for magenta (P)
	A13	S.G	-	Ground (signal)
	A14	PGLVSYNC M P	O	Auxiliary scanning section signal for magenta (P)
	A15	LSPGT M P	I	Main scanning valid section signal for magenta (P)
	A16	LSPGT M N	I	Main scanning valid section signal for magenta (N)
	A17	LCLK MC P	I	Data transmission clock signal for magenta/cyan (P)
	A18	LCLK MC N	I	Data transmission clock signal for magenta/cyan (N)
	A19	LSPGT BK P	I	Main scanning valid section signal for black (P)
	A20	LSPGT BK N	I	Main scanning valid section signal for black (N)
	A21	PGLVSYNC BK N	O	Auxiliary scanning section signal for black (N)
	A22	PGLVSYNC BK P	O	Auxiliary scanning section signal for black (P)

Connector	Pin No.	Signal	I/O	Description
YC15	A23	PGLHSYNC BK N	O	Main scanning section signal for black (N)
Connected to the scanner MIP PWB via shield cable	A24	PGLHSYNC BK P	O	Main scanning section signal for black (P)
	A25	PGLHSYNC Y N	O	Main scanning section signal for yellow (N)
	A26	PGLHSYNC Y P	O	Main scanning section signal for yellow (P)
	A27	PGLVSYNC Y N	O	Auxiliary scanning section signal for yellow (N)
	A28	PGLVSYNC Y P	O	Auxiliary scanning section signal for yellow (P)
	A29	LSPGT Y P	I	Main scanning valid section signal for yellow (P)
	A30	LSPGT Y N	I	Main scanning valid section signal for yellow (N)
	A31	LCLK YBK P	I	Data transmission clock signal for yellow/black (P)
	A32	LCLK YBK N	I	Data transmission clock signal for yellow/black (N)
	A33	S.G	-	Ground (signal)
	A34	S.G	-	Ground (signal)
	A35	ENGINE VSYNC	O	Paper timing signal
	A36	S.G	-	Ground (signal)
	A37	ENGINE OUT1	O	Paper timing signal 2
	A38	S.G	-	Ground (signal)
	A39	ENGINE EOP	O	Page completion timing signal
	A40	S.G	-	Ground (signal)
	A41	ENGINE PURGE	O	Exit completion timing signal
	A42	S.G	-	Ground (signal)
	A43	ENGINE BSY	O	Engine controller PWB busy signal
	A44	S.G	-	Ground (signal)
	A45	ENGINE REQ	O	Engine controller PWB detection signal
	A46	S.G	-	Ground (signal)
	A47	ENGINE RXD	I	Serial communication data reception
	A48	S.G	-	Ground (signal)
	A49	ENGINE TXD	O	Serial communication data transmission
A50	S.G	-	Ground (signal)	
B1	S.G	-	Ground (signal)	
B2	S.G	-	Ground (signal)	
B3	LDA0 C P	I	Cyan image data bit0 (P)	
B4	LDA0 C N	I	Cyan image data bit0 (N)	
B5	LDA1 C N	I	Cyan image data bit1 (N)	
B6	LDA1 C P	I	Cyan image data bit1 (P)	
B7	LDA2 C N	I	Cyan image data bit2 (N)	
B8	LDA2 C P	I	Cyan image data bit2 (P)	
B9	LDA3 C N	I	Cyan image data bit3 (N)	
B10	LDA3 C P	I	Cyan image data bit3 (P)	
B11	LDA3 M N	I	Magenta image data bit3 (N)	
B12	LDA3 M P	I	Magenta image data bit3 (P)	
B13	LDA2 M N	I	Magenta image data bit2 (N)	
B14	LDA2 M P	I	Magenta image data bit2 (P)	
B15	LDA1 M N	I	Magenta image data bit1 (N)	
B16	LDA1 M P	I	Magenta image data bit1 (P)	
B17	LDA0 M P	I	Magenta image data bit0 (P)	
B18	LDA0 M N	I	Magenta image data bit0 (N)	
B19	LDA0 BK P	I	Black image data bit0 (P)	
B20	LDA0 BK N	I	Black image data bit0 (N)	
B21	LDA1 BK P	I	Black image data bit1 (P)	
B22	LDA1 BK N	I	Black image data bit1 (N)	
B23	LDA2 BK P	I	Black image data bit2 (P)	
B24	LDA2 BK N	I	Black image data bit2 (N)	
B25	LDA3 BK P	I	Black image data bit3 (P)	
B26	LDA3 BK N	I	Black image data bit3 (N)	
B27	LDA3 Y P	I	Yellow image data bit3 (P)	

Connector	Pin No.	Signal	I/O	Description
YC15	B28	LDA3 Y N	I	Yellow image data bit3 (N)
Connected to the scan- ner MIP PWB via shield cable	B29	LDA2 Y P	I	Yellow image data bit2 (P)
	B30	LDA2 Y N	I	Yellow image data bit2 (N)
	B31	LDA1 Y P	I	Yellow image data bit1 (P)
	B32	LDA1 Y N	I	Yellow image data bit1 (N)
	B33	LDA0 Y P	I	Yellow image data bit0 (P)
	B34	LDA0 Y N	I	Yellow image data bit0 (N)
	B35	S.G	-	Ground (signal)
	B36	S.G	-	Ground (signal)
	B37	SCANNER REQ	I	Scanner main PWB detection signal
	B38	S.G	-	Ground (signal)
	B39	SCANNER BSY	I	Scanner main PWB busy signal
	B40	S.G	-	Ground (signal)
	B41	SCAN.HEADER	I	Scanner main PWB communication header signal
	B42	S.G	-	Ground (signal)
	B43	ENG.HEADER	O	Engine controller PWB communication header signal
	B44	S.G	-	Ground (signal)
	B45	MSW	O	Power switch status signal
	B46	S.G	-	Ground (signal)
	B47	ENGINE RESET	O	Engine controller PWB reset signal
	B48	S.G	-	Ground (signal)
	B49	CF.DETECT	I	CF detection signal
B50	S.G	-	Ground (signal)	

2-3-6 CCD PWB

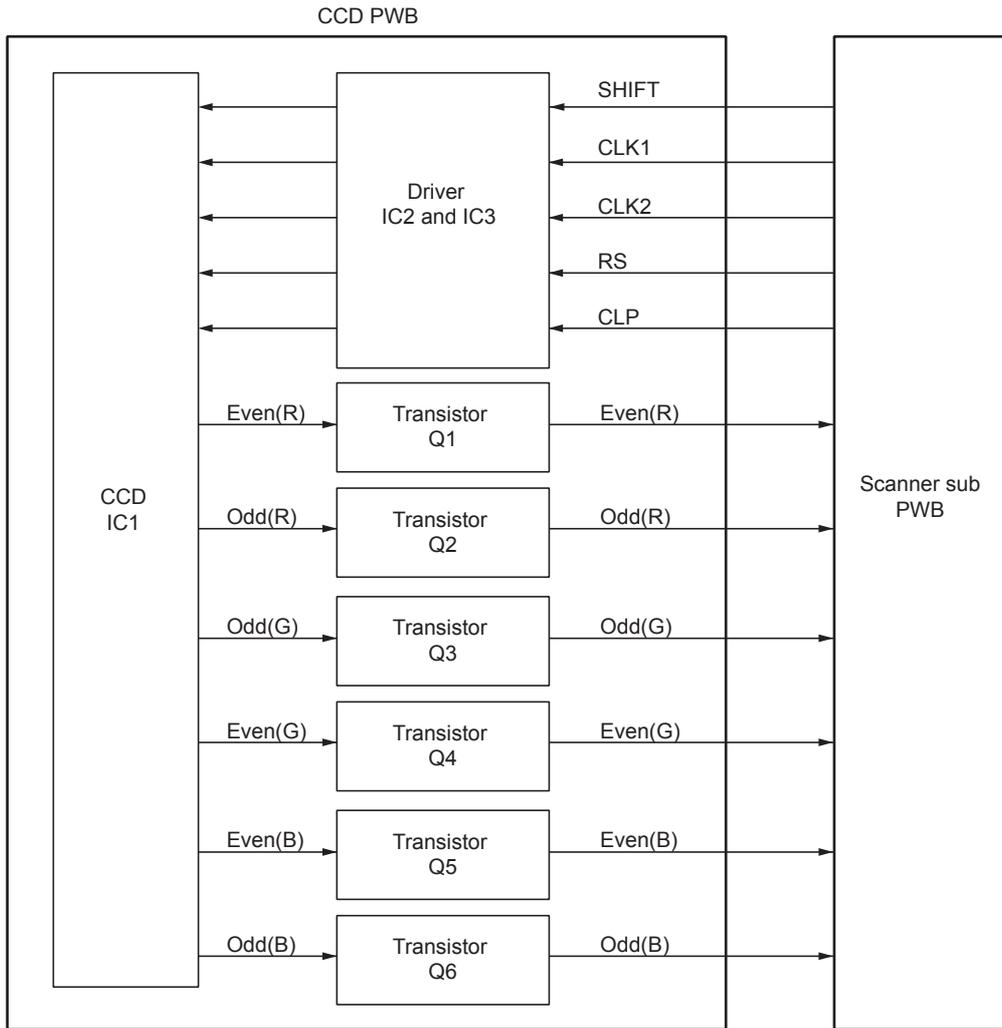


Figure 2-3-13 CCD PWB block diagram

The CCD PWB (CCDPWB) is equipped with a CCD sensor IC1 for original scanning. The clock signals (SHIFT, CLK1, CLK2, RS and CLP) for driving the CCD sensor (IC1) are sent as differential signals from the scanner sub PWB (SSPWB) and then input to the CCD sensor (IC1). Image signals are RGB (red, green, and blue) analog signals. Even- and odd-numbered pixels are output separately. These analog image signals are amplified by emitter followers in the transistors Q1 to Q6 and then transmitted to the analog signal processing circuit in the scanner sub PWB (SSPWB).

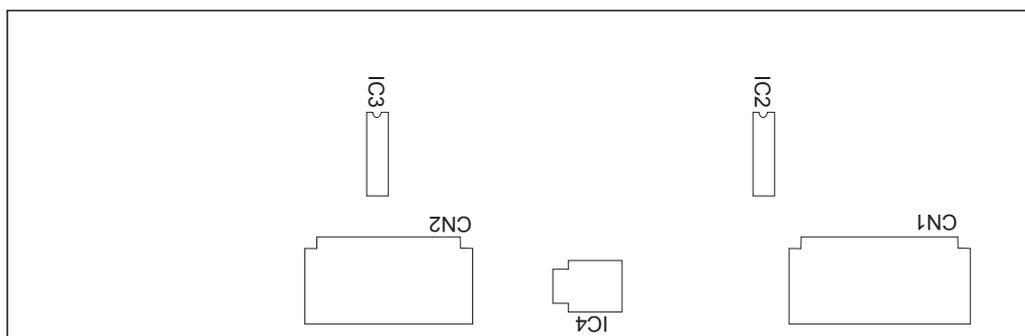


Figure 2-3-14 CCD PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
CN1 Connected to the scan- ner sub PWB	1	10V	I	10 V DC power
	2	GND	-	Ground
	3	5V	I	5 V DC power
	4	GND	-	Ground
	5	SHIFT	I	CCD SHIFT signal
	6	CCDSEL	I	CCD control signal
	7	CCLK1	I	Clock signal
	8	GND	-	Ground
	9	CCLK2	I	Clock signal
	10	GND	I	Ground
	11	RS	I	CCD RS signal
	12	GND	I	Ground
	13	CP	I	CCD CP signal
	14	GND	I	Ground
CN2 Connected to the scan- ner sub PWB	1	VRE	O	Image data R (red) EVEN signal (analog)
	2	GND	-	Ground
	3	VRO	O	Image data R (red) ODD signal (analog)
	4	GND	-	Ground
	5	VGE	O	Image data G (green) EVEN signal (analog)
	6	GND	-	Ground
	7	VGO	O	Image data G (green) ODD signal (analog)
	8	GND	-	Ground
	9	VBE	O	Image data B (blue) EVEN signal (analog)
	10	GND	-	Ground
	11	VBO	O	Image data B (blue) ODD signal (analog)
	12	GND	-	Ground

2-3-7 Operation unit PWB

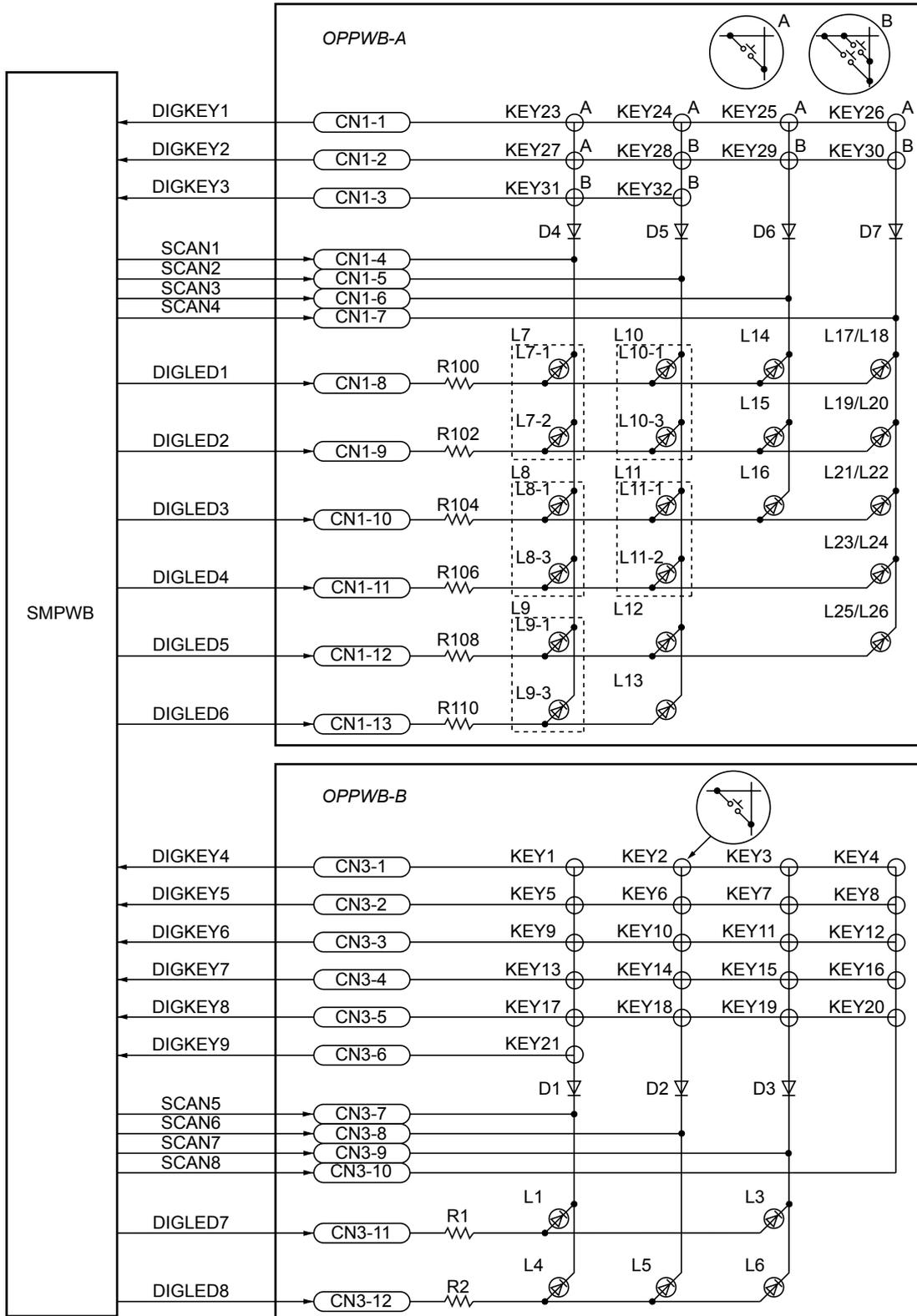


Figure 2-3-15 Operation unit PWB block diagram



*The operation unit PWB (OPPWB) consists of the operation unit PWB A (OPPWB-A) and the operation unit PWB B (OPPWB-B).*

*The operation unit PWB A (OPPWB-A) consists of key switches and LEDs. The lighting of LEDs is determined by scan signals (SCAN1 to SCAN4) and LED lighting selection signals (DIGLED1 to DIGLED6) from the scanner main PWB (SMPWB). The key switches operated are identified by the scan signals (SCAN1 to SCAN4) and the return signals (DIGKEY1 to DIGKEY3).*

*As an example, to light LED 7 (L7), the LED lighting selection signal (DIGLED1) should be driven high in synchronization with a low level on the scan signal (SCAN1). LEDs can be lit dynamically by repeating such operations.*

*As another example, if KEY 23 is pressed, the corresponding key switch is turned on feeding the low level of the scan signal (SCAN1) back to the scanner main PWB (SMPWB) via the return signal (DIGKEY1). The scanner main PWB (SMPWB) locates the position where the line outputting the scan signal and the line inputting the return signal cross, and thereby determines which key switch was operated.*

*The operation unit PWB B (OPPWB-B) consists of key switches and LEDs. The lighting of LEDs is determined by scan signals (SCAN5 to SCAN8) and LED lighting selection signals (DIGLED7 to DIGLED8) from the scanner main PWB (SMPWB). The key switches operated are identified by the scan signals (SCAN5 to SCAN8) and the return signals (DIGKEY4 to DIGKEY9).*

*As an example, to light LED 1 (L1), the LED lighting selection signal (DIGLED7) should be driven high in synchronization with a low level on the scan signal (SCAN5). LEDs can be lit dynamically by repeating such operations.*

*As another example, if KEY 1 is pressed, the corresponding key switch is turned on feeding the low level of the scan signal (SCAN5) back to the scanner main PWB (SMPWB) via the return signal (DIGKEY4). The scanner main PWB (SMPWB) locates the position where the line outputting the scan signal and the line inputting the return signal cross, and thereby determines which key switch was operated.*

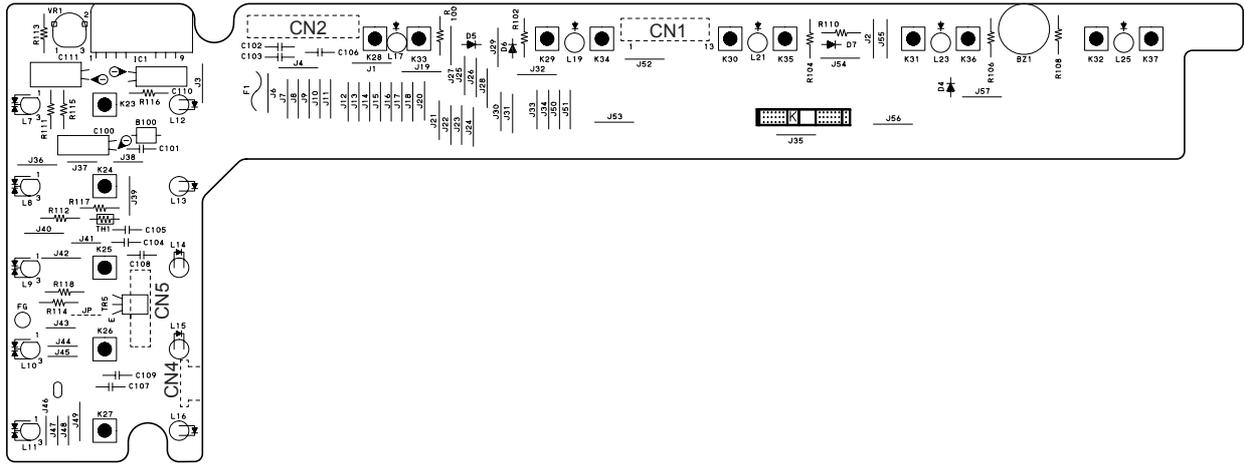


Figure 2-3-16 operation unit PWB A silk-screen diagram

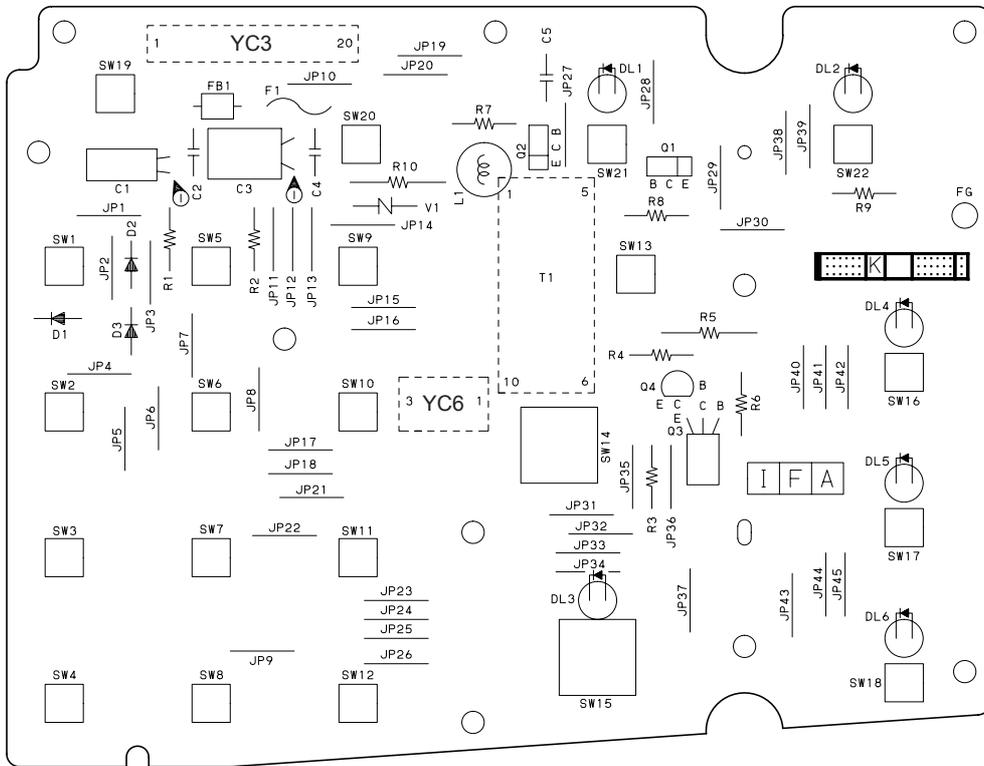
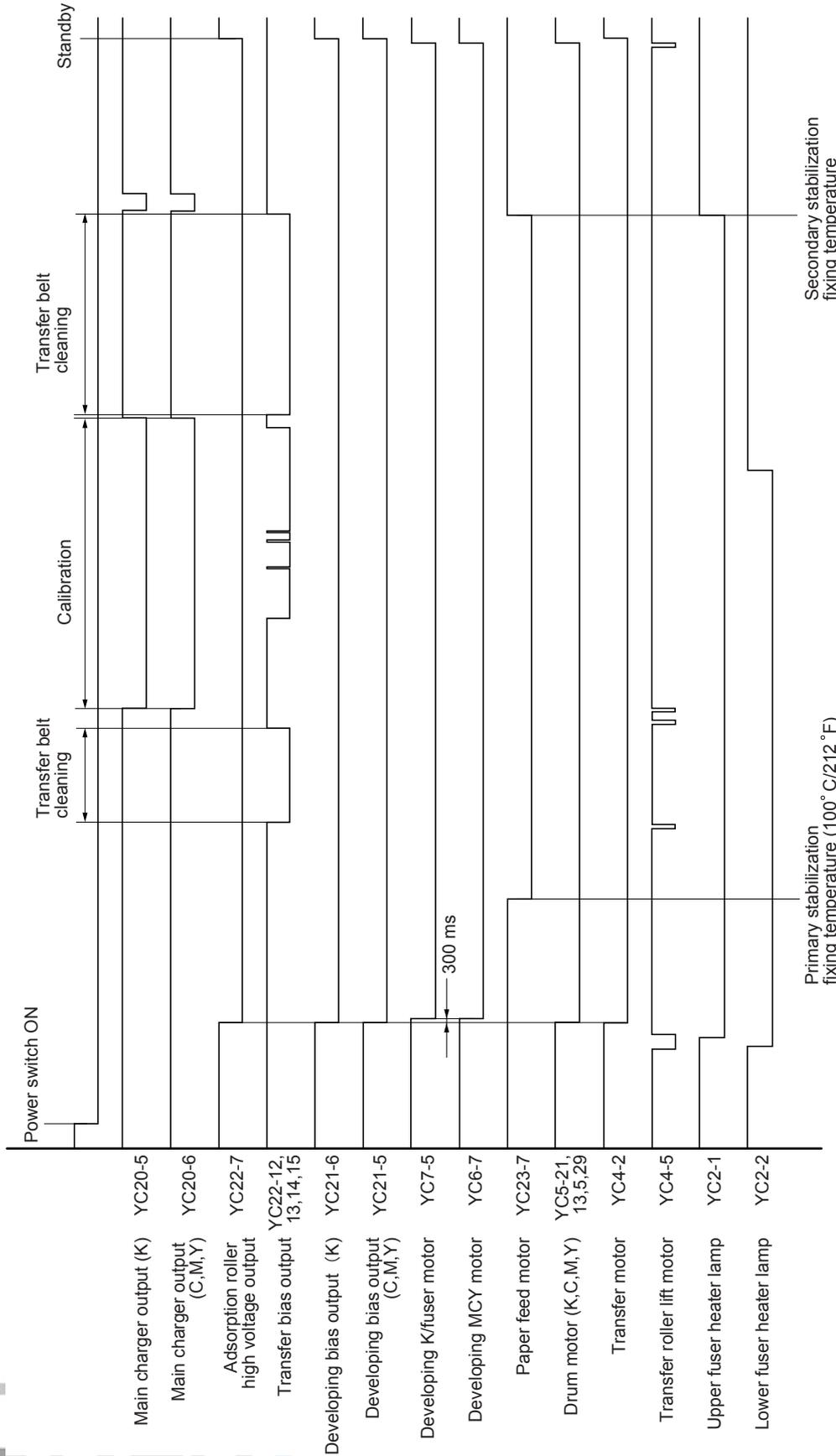


Figure 2-3-17 operation unit PWB B silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
CN1 Connected to the scanner main PWB	1	DIGKEY1	O	DIGKEY1 signal
	2	DIGKEY2	O	DIGKEY2 signal
	3	DIGKEY3	O	DIGKEY3 signal
	4	SCAN1	I	SCAN1 signal
	5	SCAN2	I	SCAN2 signal
	6	SCAN3	I	SCAN3 signal
	7	SCAN4	I	SCAN4 signal
	8	DIGLED1	I	DIGLED1 signal
	9	DIGLED2	I	DIGLED2 signal
	10	DIGLED3	I	DIGLED3 signal
	11	DIGLED4	I	DIGLED4 signal
	12	DIGLED5	I	DIGLED5 signal
	13	DIGLED6	I	DIGLED6 signal
CN2 Connected to the scanner main PWB	1	VEE OFF	I	LCD VEE signal
	2	LCD D3	I	Data signal
	3	LCD D2	I	Data signal
	4	LCD D1	I	Data signal
	5	LCD D0	I	Data signal
	6	LCD DISP OFF	I	LCD display On/Off
	7	LCD VSS	-	Ground (signal)
	8	LCD VDD	I	5 V DC power
	9	LCD VSS	-	Ground (signal)
	10	LCD CP	I	Clock pulse
	11	LCD LOAD	I	Data sift signal
	12	LCD FRAME	I	Panel start signal
	13	Y2	I	Touch panel detection voltage Y2
	14	X2	I	Touch panel detection voltage X2
	15	Y1	O	Touch panel detection voltage Y1
	16	X1	O	Touch panel detection voltage X1
	17	BUZZER	I	BUZZER signal
CN3 Connected to the scanner main PWB and scanner power supply PWB	1	DIGKEY4	O	DIGKEY4 signal
	2	DIGKEY5	O	DIGKEY5 signal
	3	DIGKEY6	O	DIGKEY6 signal
	4	DIGKEY7	O	DIGKEY7 signal
	5	DIGKEY8	O	DIGKEY8 signal
	6	DIGKEY9	O	DIGKEY9 signal
	7	SCAN5	I	SCAN5 signal
	8	SCAN6	I	SCAN6 signal
	9	SCAN7	I	SCAN7 signal
	10	SCAN8	I	SCAN8 signal
	11	DIGLED7	I	DIGLED7 signal
	12	DIGLED8	I	DIGLED8 signal
	13	5V	I	5 V DC power
	14	GND	-	Ground (signal)
	15	_LAMP OFF	I	OPPWB-B LAMP OFF signal
	16	E24V	I	24 V DC power
	17	GND	-	Ground (power)
	18	G(5V)	-	Ground
	19	PH LED	I	Engage saver key (operation unit PWB B): Off/On
	20	PH KEY	O	Engage saver key LED indicator (operation unit PWB B): Off/On
CN4 Connected to the touch panel	1	Y2	O	Touch panel detection voltage Y2
	2	X2	O	Touch panel detection voltage X2
	3	Y1	I	Touch panel detection voltage Y1
	4	X1	I	Touch panel detection voltage X1

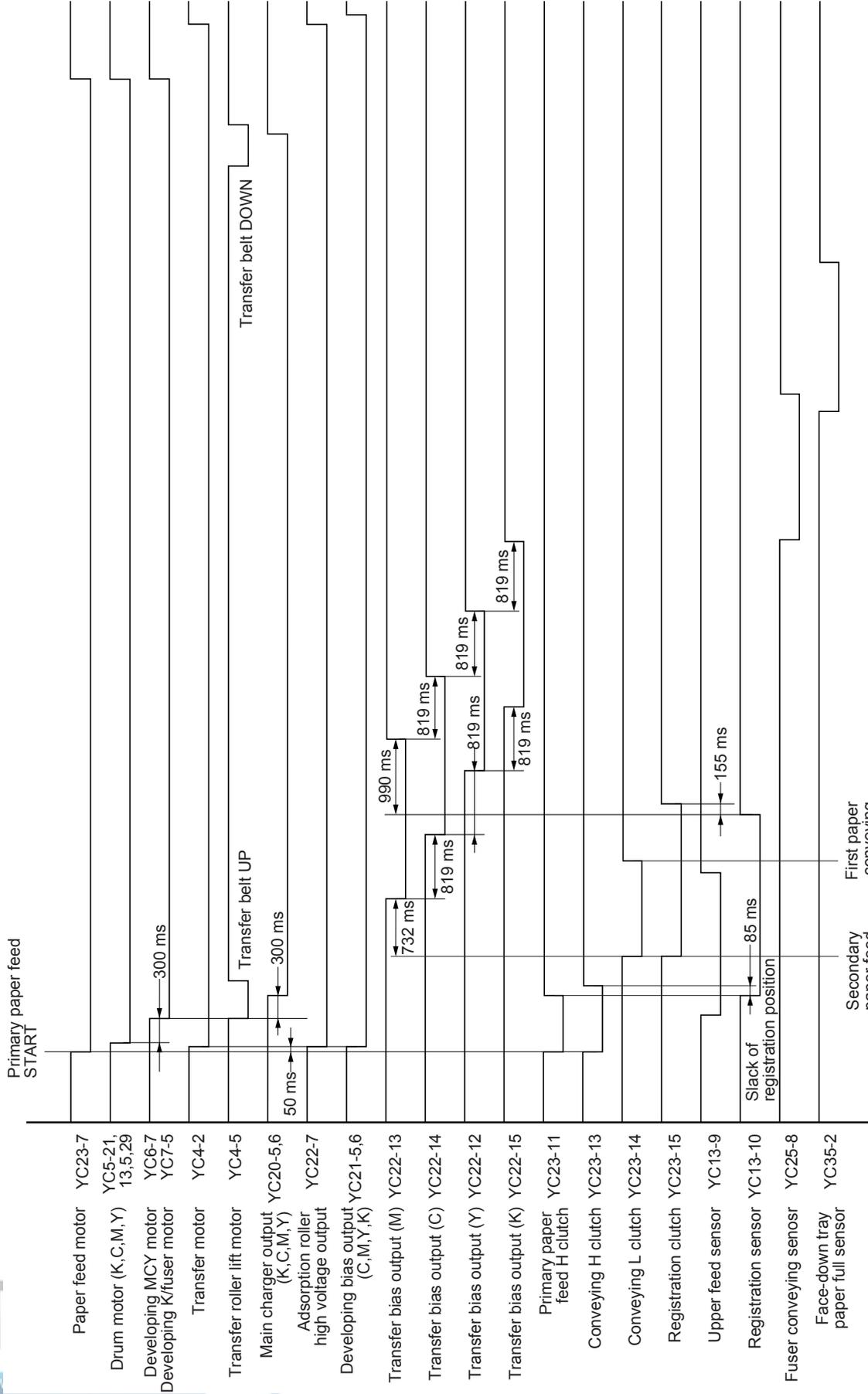
Connector	Pin No.	Signal	I/O	Description
CN5	1	FRAME	O	Panel start signal
Connected to LCD	2	LOAD	O	Data sift signal
	3	CP	O	Clock pulse
	4	VSS	-	Ground (signal)
	5	VDD	O	5 V DC power
	6	VSS	-	Ground (signal)
	7	VEE	O	LCD VEE signal
	8	DISPOFF	O	LCD display On/Off
	9	D0	O	Data signal
	10	D1	O	Data signal
	11	D2	O	Data signal
	12	D3	O	Data signal
	CN6	1	CCFT HOT	O
Connected to the back light	2	N.C	-	Not used
	3	CCFT COLD	O	Back light control signal

**Timing chart No.1 From the power switch turned on to machine stabilization**



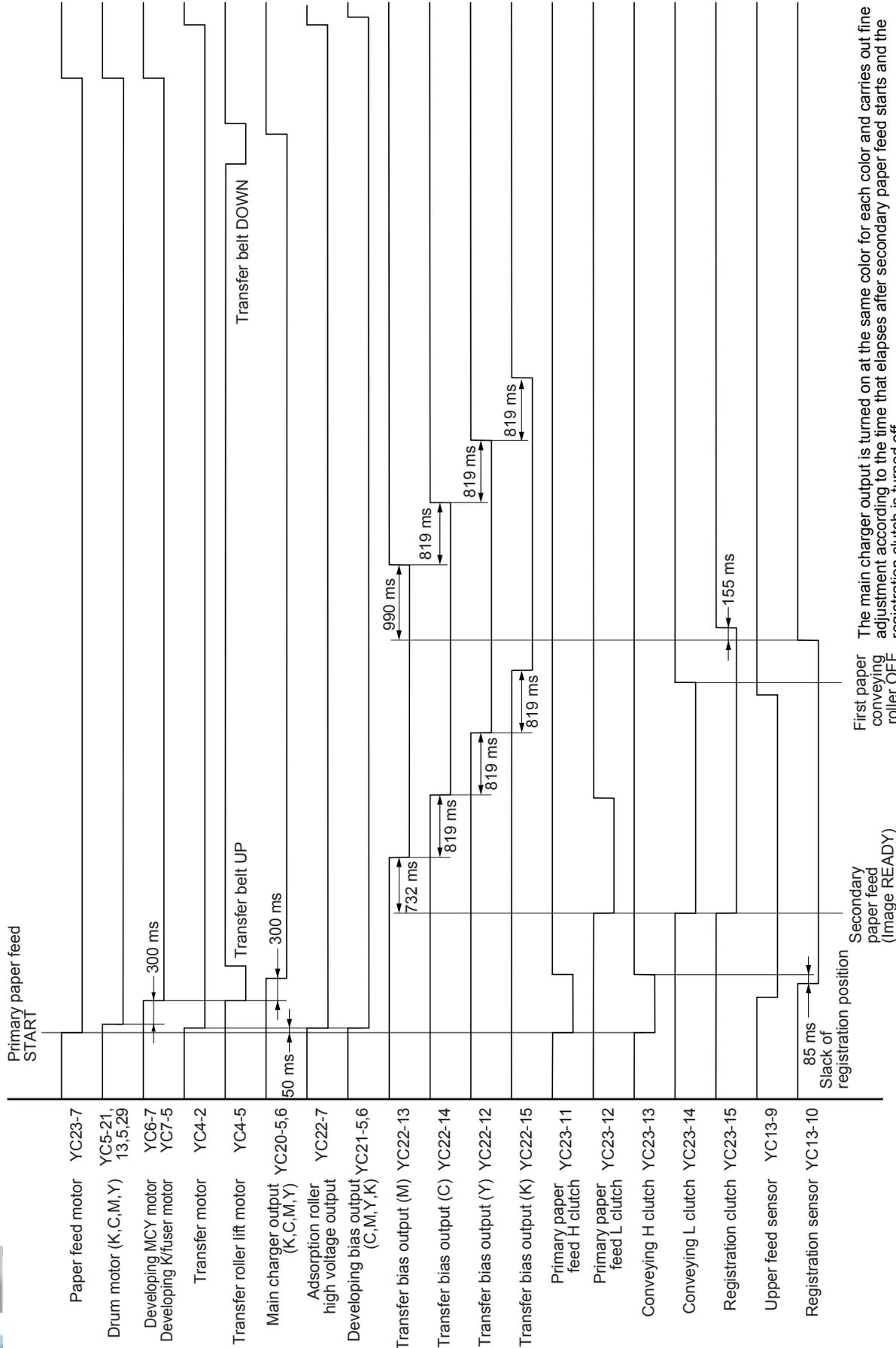
When fixing temperature at the power switch ON is 50 °C/122 °F or higher.  
(Color registration correction is not performed)

**Timing chart No.2 Cassette paper feeding, Color copying, Paper size A4/11" x 8 1/2"**



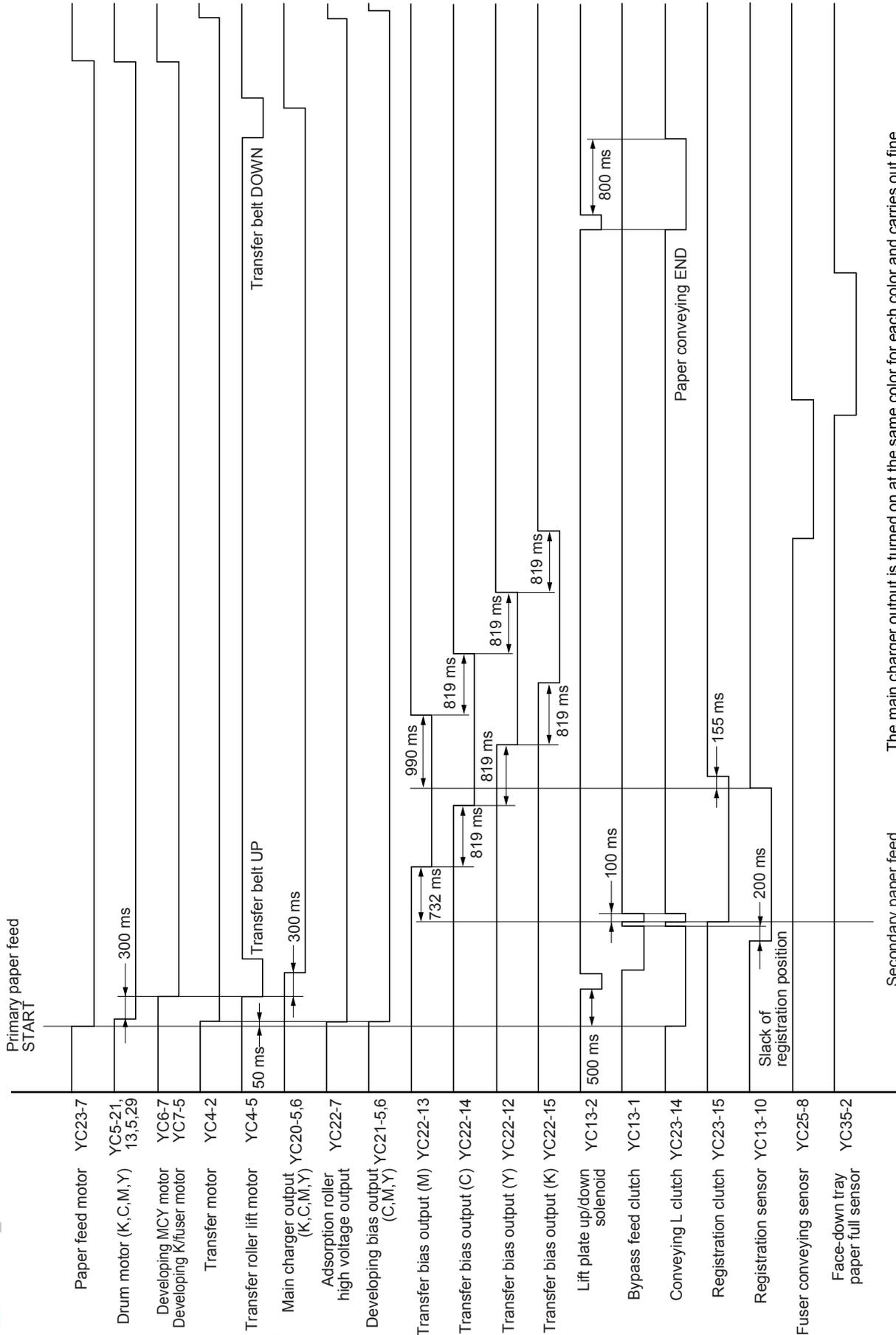
The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

Timing chart No.3 Cassette paper feeding, Color copying, Paper size A3/11" x 17"



The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

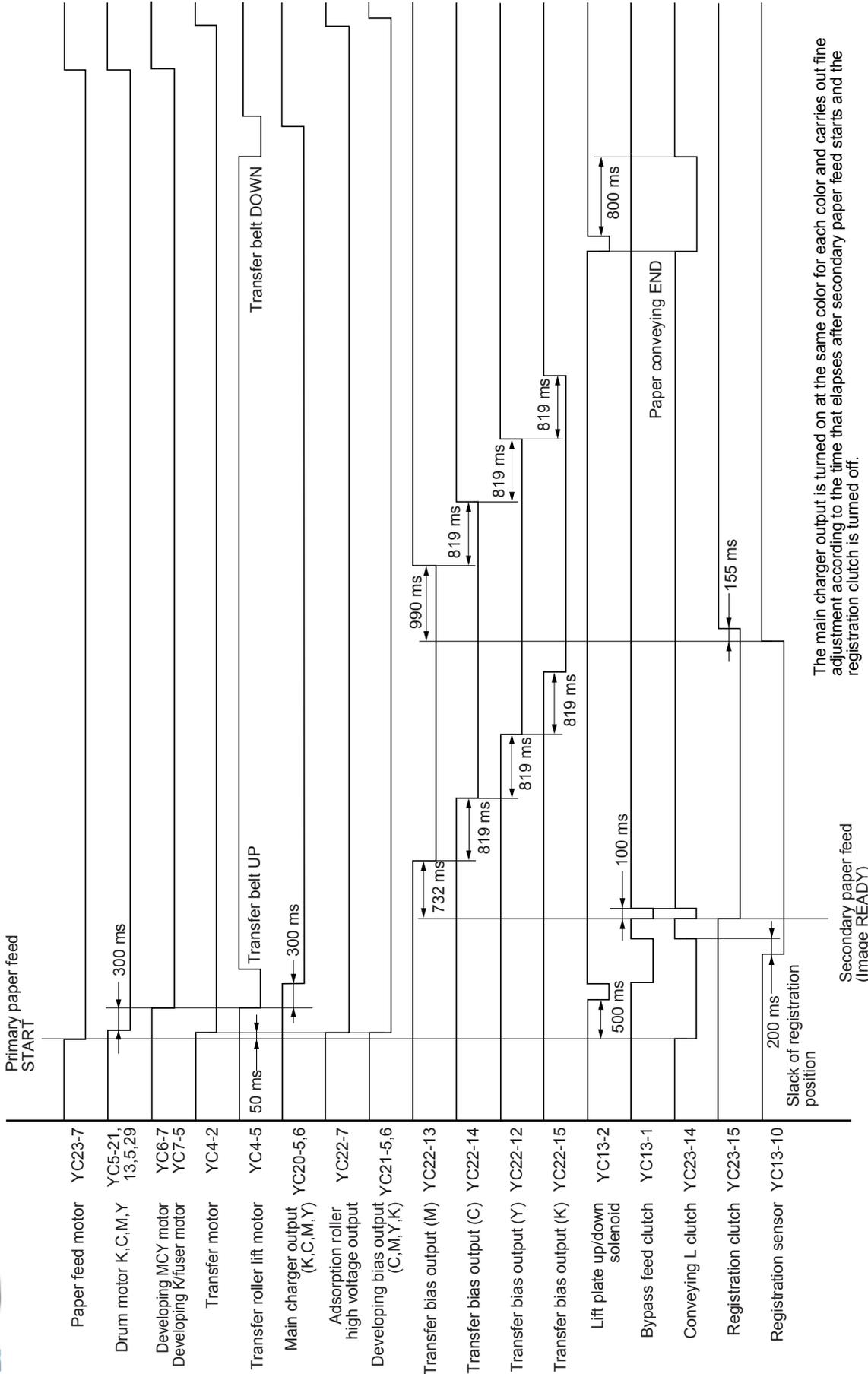
**Timing chart No.4 Bypass tray paper feeding, Color copying, Paper size A4/11" x 8 1/2"**



The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

Secondary paper feed (Image READY)

Timing chart No.5 Bypass tray paper feeding, Color copying, Paper size A3/11" x 17"

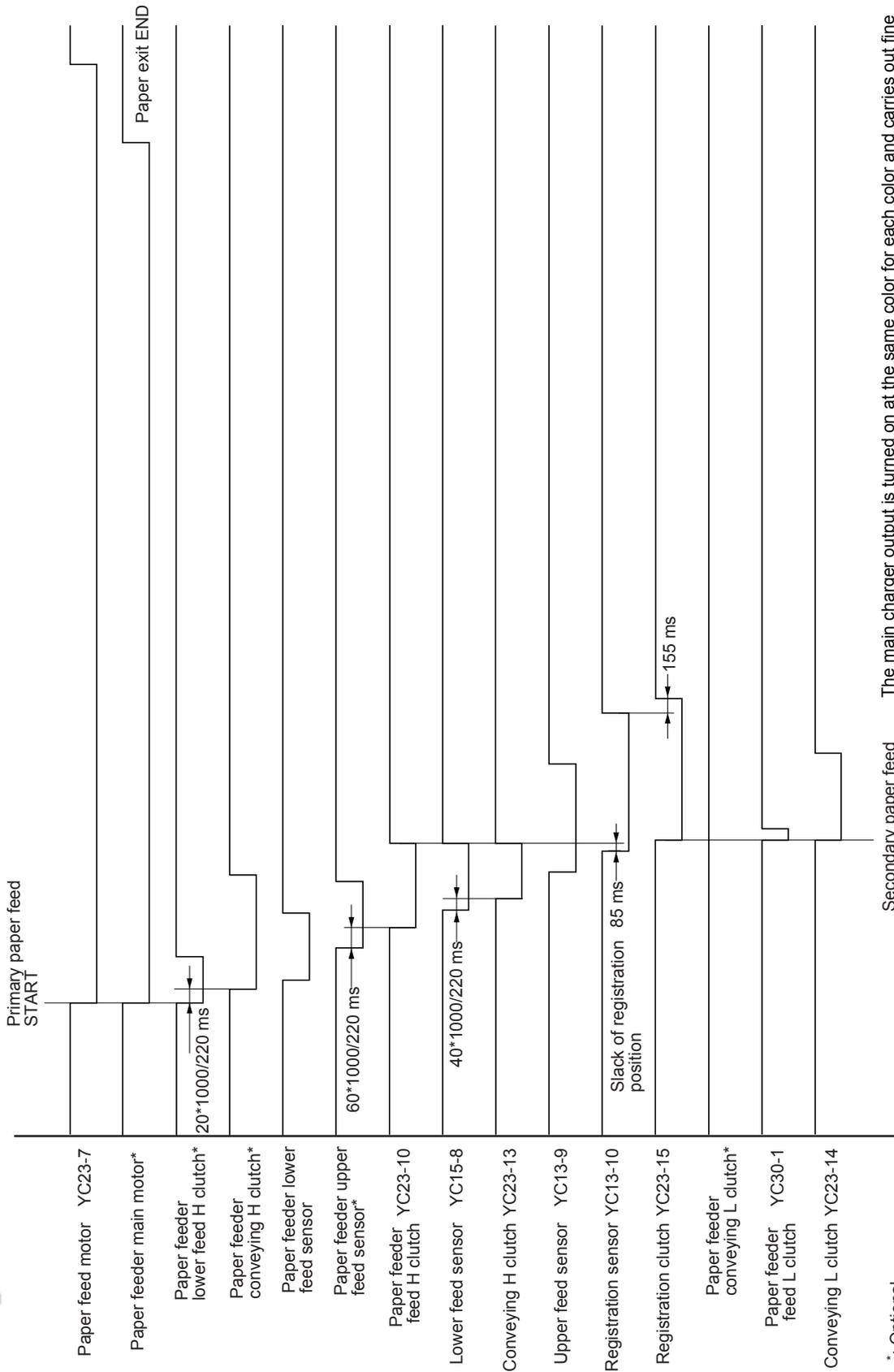


The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

Secondary paper feed (Image READY)

Slack of registration position

**Timing chart No.6 Cassette 4 (optional 1500-sheet paper feeder) paper feeding,  
Color copying, Paper size A4/11" x 8 1/2"**



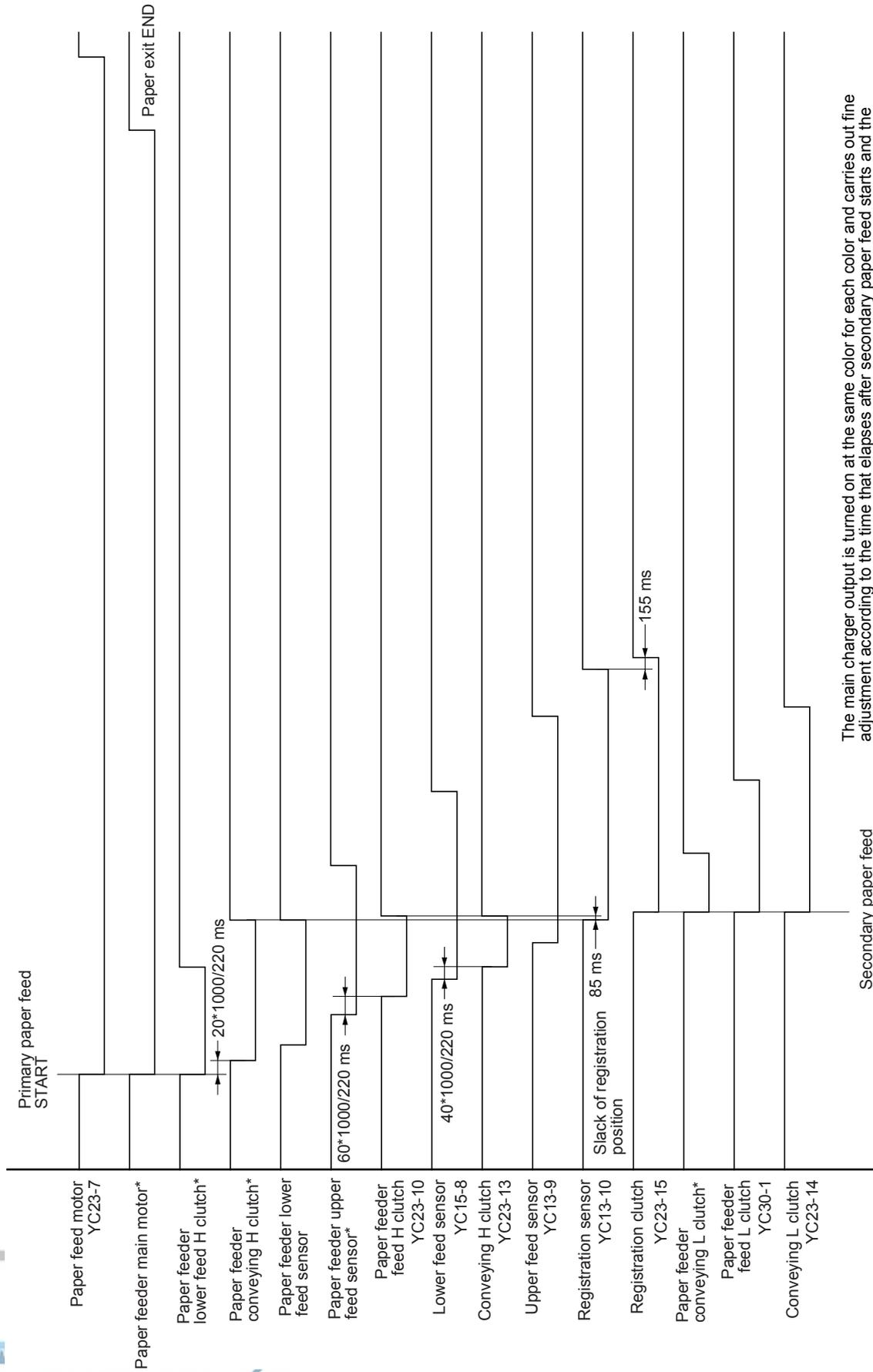
The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

Secondary paper feed (Image READY)

\*: Optional 1500-sheet paper feeder



**Timing chart No.7 Cassette 4 (optional 1500-sheet paper feeder) paper feeding,  
Color copying, Paper size A3/11" x 17"**

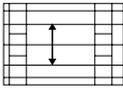
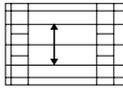
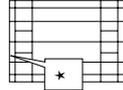
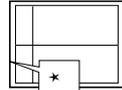
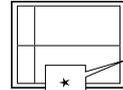
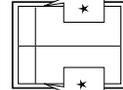
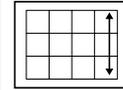
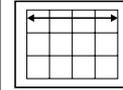


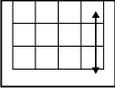
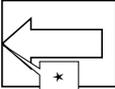
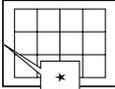
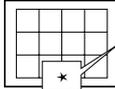
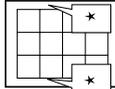
The main charger output is turned on at the same color for each color and carries out fine adjustment according to the time that elapses after secondary paper feed starts and the registration clutch is turned off.

Secondary paper feed (Image READY)

\*: Optional 1500-sheet paper feeder

### Chart of image adjustment procedures

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
①	Adjusting the center line of the bypass table (printing adjustment)		Adjusting the LPH print start timing	U034	ADJUST MIDDLE LINE TIMING	U034 test pattern	1-6-13	The center line of the bypass table is used as the reference in the adjustment of the center lines for other paper sources.
②	Adjusting the center line of the drawers (printing adjustment)		Adjusting the LPH print start timing	U034	ADJUST MIDDLE LINE TIMING	U034 test pattern	1-6-13	
③	Adjusting the leading edge registration (printing adjustment)		Registration clutch turning on timing (secondary paper feed start timing)	U034	LEAD EDGE TIMING	U034 test pattern	1-6-12	
④	Adjusting the leading edge margin (printing adjustment)		LPH illumination start timing	U402	ADJUSTING LEAD EDGE	U402 test pattern	1-6-14	
⑤	Adjusting the trailing edge margin (printing adjustment)		LPH illumination end timing	U402	VSYNC OFF TIMING	U402 test pattern	1-6-14	
⑥	Adjusting the left and right margins (printing adjustment)		LPH illumination start/end timing	U402	ADJUSTING A EDGE ADJUSTING C EDGE	U402 test pattern	1-6-14	
⑦	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	MAIN SCAN ADJ	Test chart	1-6-32	No adjustment for copying using the DP.
⑧	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment)		Original scanning speed	U065 U070	SUB SCAN ADJ CONVEY SPEED	Test chart	1-6-33 1-4-27	U065: For copying an original placed on the contact glass. U070: For copying originals from the DP.

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑨	Adjusting the center line (scanning adjustment)		Adjusting the original scan data (image adjustment)	U067 U072	ADJUST DATA 1sided	Test chart	1-6-35 1-4-29	U067: For copying an original placed on the contact glass. U072: For copying originals from the DP.
⑩	Adjusting the leading edge registration (scanning adjustment)		Original scan start timing	U066 U071	ADJUST DATA LEAD EDGE ADJ	Test chart	1-6-34 1-4-28	U066: For copying an original placed on the contact glass. U071: For copying originals from the DP.
⑪	Adjusting the leading edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	TOP/mm TOP/mm	Test chart	1-6-36 1-4-70	U403: For copying an original placed on the contact glass. U404: For copying originals from the DP.
⑫	Adjusting the trailing edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	BOTTOM/mm BOTTOM/mm	Test chart	1-6-36 1-4-70	U403: For copying an original placed on the contact glass. U404: For copying originals from the DP.
⑬	Adjusting the left and right margins (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	LEFT/mm RIGHT/mm LEFT/mm RIGHT/mm	Test chart	1-6-36 1-4-70	U403: For copying an original placed on the contact glass. U404: For copying originals from the DP.

\*When maintenance item U076 (Adjusting the DP automatically) is run using the specified original (P/N 2A068021), the following adjustments are automatically made:

- Adjusting the DP magnification (U070)
  - Adjusting the DP scanning timing (U071)
  - Adjusting the DP center line (U072)
  - Adjusting margins for DF original reading (U404)
- \*When maintenance item U0411 (Adjusting the scanner automatically) is run using the specified original (P/N 2A668010), the following adjustments are automatically made:
- Adjusting the scanner center line (U067)
  - Adjusting the scanner leading edge registration (U066)

**Image quality**

Item	Specifications
100% magnification	Copier: -0.8% Using DP: -1.5%
Enlargement/reduction	Copier: -1.0% Using DP: -1.5%
Lateral squareness (copier mode)	Copier: -1.5 mm/375 mm Using DP: -2.5 mm/375 mm
Lateral squareness (printer mode)	-1.0 mm/375 mm
Margins (copier mode)	A: 2.0+2.0 mm B: 3.0 - 2.5 mm C: 2.0+2.0 mm D: 3.0 -2.5mm
Margins (printer mode)	A: 6.0 - 2.0 mm B: 6.0 - 2.5 mm C: 6.0 -2.0 mm D: 6.0 -2.5 mm
Leading edge registration	Drawer: -2.5 mm Bypass: -2.5 mm Duplex copying: -2.5 mm
Skewed paper feed (left-right difference)	Drawer: 1.0 mm or less Bypass: 1.0 mm or less Duplex copying: 2.0 mm or less
Lateral image shifting	Drawer: -2.0 mm or less Bypass: -2.0 mm or less Duplex copying: -3.0 mm or less
Curling	Simplex copying: 10.0 mm or less Duplex copying: 10.0 mm or less

## Maintenance parts list

Maintenance part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
Upper registration roller	ROLLER REGIST UP	2BG06040	6	47
Lower registration roller	ROLLER REGIST LOW	2BG06050	6	42
Bypass feed roller	ROLL FEED MPF ASSY	2BM07270	7	40
Bypass retard roller	RETARD ROLL ASSY	2BM07340	7	12
Forwarding roller	PULLEY, LEADING FEED	2BC06810	5	35
Paper feed roller	PULLEY, PAPER FEED	2BC06900	5	4
Lower paper feed pulley	LOWER PULLEY, PAPER FEED	33906060	5	15
Slit glass	CONTACT GLASS, ADF	2CX12010	10	1
Contact glass	CONTACT GLASS	35912010	10	67
Mirror 1	MIRROR A, SCANNER	2A612120	10	26
Mirror 2	MIRROR B, SCANNER	2A612140	10	23
Exposure lamp	PARTS, LAMP SCANNER(SP)	2A693020	10	31
Original size detection sensor	SENSOR, ORIGINAL DETECTION	35927290	10	38
Filter	FILTER ASS'Y	2BG00090	1	64

## Maintenance kits

Maintenance kit part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
<For 120 V specifications>				
Maintenance kit A	SET, MK810A(U)	2BF82120	-	-
Transfer unit	PARTS, TR-810	2BF93060	8	-
Fuser unit	PARTS, FK-810(U)	2BF93020	12	8
Ozone filter	OZON FILTER	2BG23030	1	34
Maintenance kit B	SET, MK810B(U)	2BF82150	-	-
Black developer	PARTS, DV-810K(U)	2BG93180	11	8
Black drum unit	PARTS, DK-810	2BF93110	11	1
Black main charger unit	MCH ASS'Y	2BG68110	11	2
Maintenance kit C	SET, MK810C(U)	2BF82170	-	-
Yellow developer	PARTS, DV-810Y(U)	2BG93120	11	8
Magenta developer	PARTS, DV-810M(U)	2BG93140	11	8
Cyan developer	PARTS, DV-810C(U)	2BG93160	11	8
Yellow drum unit	PARTS, DK-810	2BF93110	11	1
Magenta drum unit	PARTS, DK-810	2BF93110	11	1
Cyan drum unit	PARTS, DK-810	2BF93110	11	1
Yellow main charger unit	MCH ASS'Y	2BG68110	11	2
Magenta main charger unit	MCH ASS'Y	2BG68110	11	2
Cyan main charger unit	MCH ASS'Y	2BG68110	11	2
<For 220-240 V specifications>				
Maintenance kit A	SET, MK815A(E)	2BG82120	-	-
Transfer unit	PARTS, TR-815	2BG93080	8	-
Fuser unit	PARTS, FK-815(E)	2BG93050	12	8
Ozone filter	OZON FILTER	2BG23030	1	34
Maintenance kit B	SET, MK815B(J/E)	2BG82140	-	-
Black developer	PARTS, DV-810K(J/E)	2BG93170	11	8
Black drum unit	PARTS, DK-815	2BG93190	11	1
Black main charger unit	MCH ASS'Y	2BG68110	11	2
Maintenance kit C	SET, MK815C(J/E)	2BG82160	-	-
Yellow developer	PARTS, DV-810Y(J/E)	2BG93110	11	8
Magenta developer	PARTS, DV-810M(J/E)	2BG93130	11	8
Cyan developer	PARTS, DV-810C(J/E)	2BG93150	11	8
Yellow drum unit	PARTS, DK-815	2BG93190	11	1
Magenta drum unit	PARTS, DK-815	2BG93190	11	1
Cyan drum unit	PARTS, DK-815	2BG93190	11	1
Yellow main charger unit	MCH ASS'Y	2BG68110	11	2
Magenta main charger unit	MCH ASS'Y	2BG68110	11	2
Cyan main charger unit	MCH ASS'Y	2BG68110	11	2

**Periodic maintenance procedures**

Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Test copy	Every service		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page	
Paper feed section	Upper registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	P.1-6-17	
	Lower registration roller	Clean	Every service	Clean with alcohol or a dry cloth.		
	Bypass feed roller	Clean	Every service	Clean with alcohol or a dry cloth.		
			Check and replace		Replace after feeding 350,000 sheets.	
	Bypass retard roller	Clean	Every service	Clean with alcohol or a dry cloth.	P.1-6-17	
			Check and replace		Replace after feeding 350,000 sheets.	
	Forwarding roller	Clean	Every service	Clean with alcohol or a dry cloth.	P.1-6-10	
			Check and replace		Replace after feeding 150,000 sheets.	
Paper feed roller	Clean	Every service	Clean with alcohol or a dry cloth.	P.1-6-10		
		Check and replace		Replace after feeding 150,000 sheets.		
Lower paper feed pulley	Clean	Every service	Clean with alcohol or a dry cloth.	P.1-6-11		
		Check and replace		Replace after feeding 150,000 sheets.		
Clutches		Check and replace	Every service	Check the leading edge registration and paper feed conditions in the registration section, bypass and paper feed section.		
Guides		Clean	Every service	Clean with alcohol or a dry cloth.		



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Optical section	Slit glass	Clean	Every service	Clean with a dry cloth.	
	Contact glass (face)	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Contact glass (back)	Clean	User call	Clean with alcohol and then a dry cloth only if vertical black lines or stains appear on the copy image.	
	Mirror 1	Clean	User call	Clean with a dry cloth and then blow some air only if vertical black lines appear on the copy image.	
	Mirror 2	Clean	User call	Clean with a dry cloth and then blow some air only if vertical black lines appear on the copy image.	
	Scanner lens	Clean	User call	Clean with a dry cloth and then blow some air only if vertical black lines appear on the copy image.	
	Exposure lamp	Check or replace	User call	Replace if an image problem occurs.	
	Optical rail	Grease	User call	Check noise and shifting and then apply scanner rail grease PG-671.	
	Original size detection sensor	Clean	User call	Clean the sensor emitter and sensor receiver with alcohol or a dry cloth only if there is a problem.	
	LED print heads (LPHs)	Clean	Every service	Clean with a dry LPH cleaning cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit A	Transfer unit	Replace	Every 300,000 counts		P.1-6-37
	Fuser unit	Replace	Every 300,000 counts		P.1-6-42
	Ozone filter	Replace	Every 300,000 counts		P.1-6-66



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit B	Black developer	Replace	Every 300,000 counts		P.1-6-40
	Black drum unit	Replace	Every 300,000 counts		P.1-6-40
	Black main charger unit	Replace	Every 300,000 counts		P.1-6-38



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit C	Yellow developer	Replace	Every 300,000 counts		P.1-6-40
	Magenta developer	Replace	Every 300,000 counts		P.1-6-40
	Cyan developer	Replace	Every 300,000 counts		P.1-6-40
	Yellow drum unit	Replace	Every 300,000 counts		P.1-6-40
	Magenta drum unit	Replace	Every 300,000 counts		P.1-6-40
	Cyan drum unit	Replace	Every 300,000 counts		P.1-6-40
	Yellow main charger unit	Replace	Every 300,000 counts		P.1-6-38
	Magenta main charger unit	Replace	Every 300,000 counts		P.1-6-38
	Cyan main charger unit	Replace	Every 300,000 counts		P.1-6-38



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Eject section	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Duplex section	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Covers	Covers	Clean	Every service	Clean with alcohol or a dry cloth.	

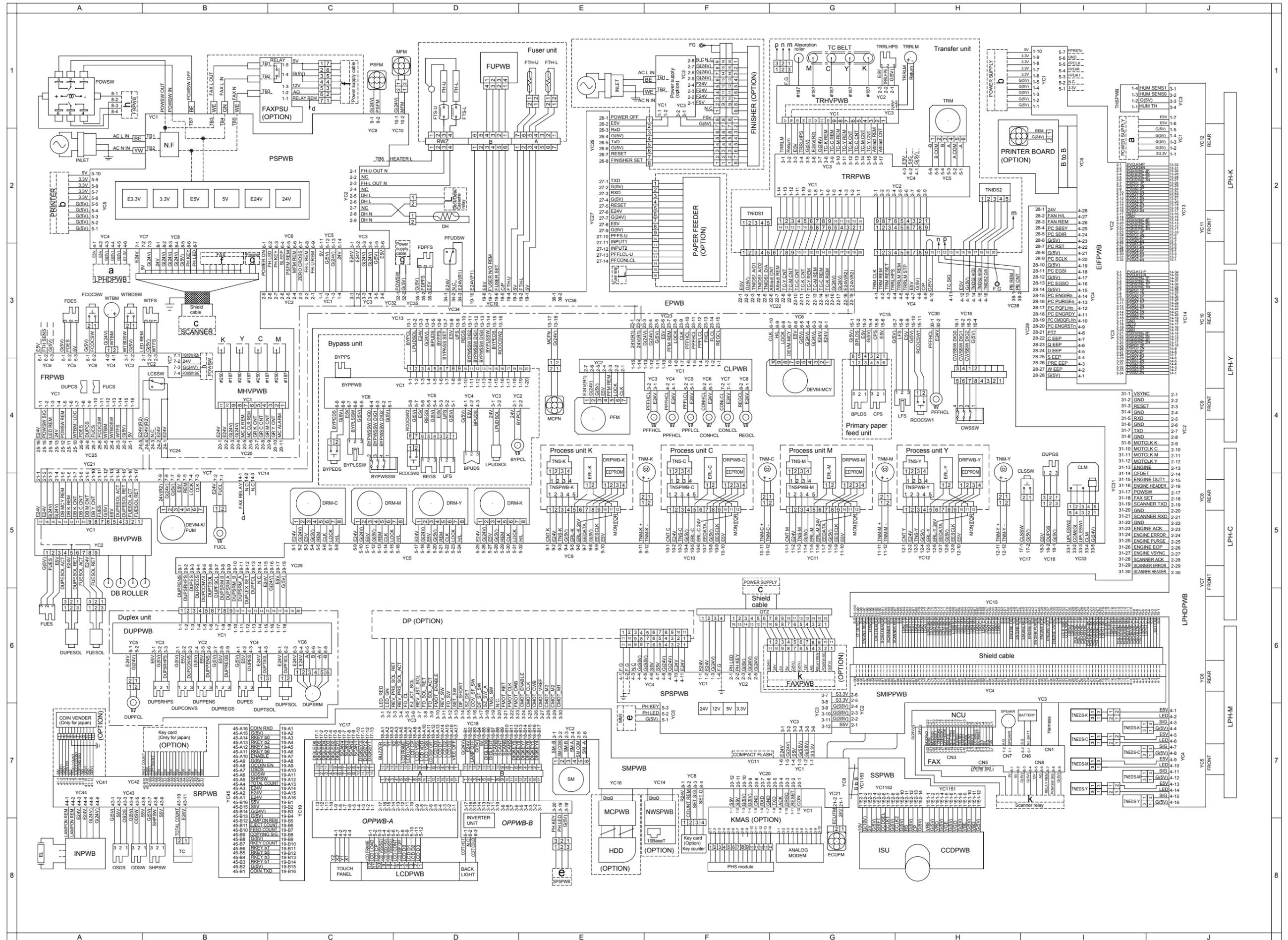


Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Other	Filter	Clean	Every service	Vacuum.	P.1-6-3
	Image quality	Check and adjust	Every service		

**Notice for replacing the maintenance kit**

Run the following maintenance items and adjustment after replacing the maintenance kit A/B/C.

- U410 Adjusting the halftone automatically (see P.1-4-71)
- Color registration (see P.1-4-8)
- U251 Clearing the maintenance count (see P.1-4-60)
- U157 Clearing the developing drive time (see P.1-4-47, maintenance kit B/C)
- U158 Clearing the developing count (see P.1-4-48, maintenance kit B/C)





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# DU-640

# SERVICE MANUAL



Published in August 2004  
Revision 1

## **CAUTION**

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## **CAUTION**

Double-pole/neutral fusing.

## Revision history

Revision	Date	Replaced pages	Remarks
1	19 August 2004	Page 1-3-3	-

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## CONTENTS

<b>1-1 Specifications</b>	1-1-1
1-1-1 Specifications .....	1-1-1
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1-2-1 Unpacking .....	1-2-1
<b>1-3 Assembly and Disassembly</b>	1-3-1
1-3-1 Duplex section .....	1-3-1
(1) Detaching and refitting the duplexer.....	1-3-1
(2) Detaching and refitting the forwarding pulley .....	1-3-1
(3) Detaching and refitting the switchback pulley and duplex registration roller .....	1-3-2
<b>2-1 Mechanical construction</b>	2-1-1
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<b>2-2 Electrical Parts Layout</b>	2-2-1
2-2-1 Electrical parts layout.....	2-2-1
(1) Duplex section.....	2-2-1

**1-1-1 Specifications**

Printing speed.....	A4: 24.5 pages/min. 11 x 8 1/2": 24.5 pages/min. B4: 13 pages/min. A3: 13 pages/min.
Acceptable paper sizes.....	Metric specifications: A3, A4, A4R, A5, A5R, B4, B5, B5R, Oficio II, Folio Inch specifications: Ledger, Legal, 11 x 8 1/2", 8 1/2 x 11", Statement
Acceptable paper weight.....	60 - 105 g/m <sup>2</sup>
Paper feed system.....	Stackless
Installation environment.....	Temperature: 10 - 32.5°C/50 - 90.5°F Humidity: 20 - 80% RH Optimal conditions: 20°C/68°F, less than 60% RH Altitude: under 2,000 m
Dimensions .....	547 mm (W) x 560 mm (D) x 122 mm (H) 21 1/2" (W) x 22" (D) x 4 13/16" (H)
Weight.....	14 kg/30.9 lbs.
Power source.....	Supplied from the copier

1-2-1 Unpacking

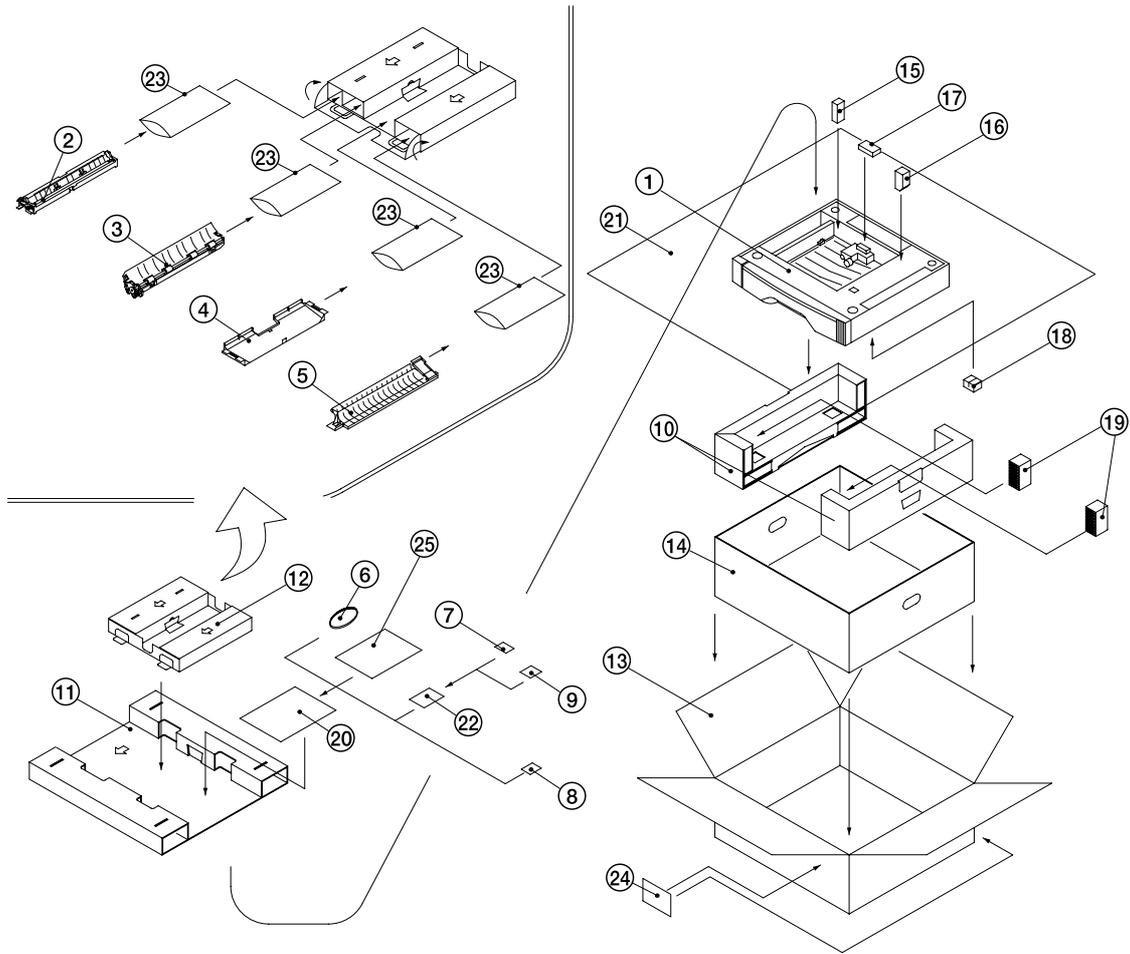


Figure 1-2-1

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. Duplex unit</li> <li>2. Ejection feedshift assembly</li> <li>3. Duplex conveying A assembly</li> <li>4. Duplex conveying B assembly</li> <li>5. Ejection guide assembly</li> <li>6. Separator belt</li> <li>7. Mini clamp</li> <li>8. Paper size plate</li> <li>9. Connector cover</li> <li>10. Bottom pads</li> <li>11. Upper pad</li> <li>12. Accessory case</li> <li>13. Outer case</li> </ul> | <ul style="list-style-type: none"> <li>14. Inner frame</li> <li>15. Spacer (70 x 60 x 25)</li> <li>16. Spacer (100 x 55 x 30)</li> <li>17. Spacer (100 x 59 x 24)</li> <li>18. Spacer (50 x 36 x 25)</li> <li>19. Front cassette spacers</li> <li>20. Plastic bag</li> <li>21. Sheet</li> <li>22. Plastic bag</li> <li>23. Plastic bags</li> <li>24. Bar code labels</li> <li>25. Installation guide</li> </ul> |
|---|---|

### 1-3-1 Duplex section

#### (1) Detaching and refitting the duplexer

##### <Procedure>

1. Push in on the stoppers on both sides of the rails in order to remove the duplexer completely.

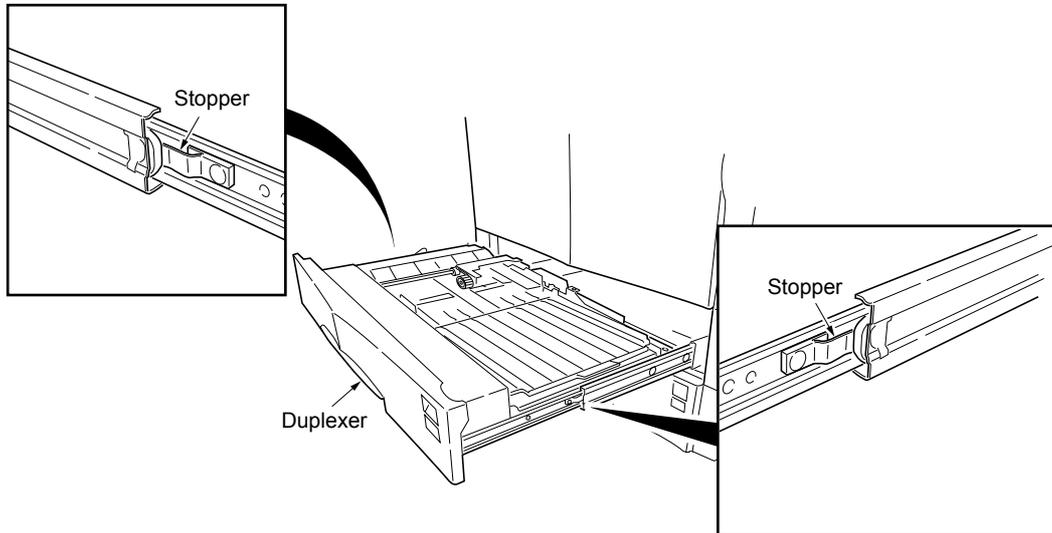


Figure 1-3-1

#### (2) Detaching and refitting the forwarding pulley

Follow the procedure below to replace the forwarding pulley.

##### <Procedure>

1. Remove the stop ring and then remove the forwarding pulley.
2. Replace the forwarding pulley and refit all the removed parts.

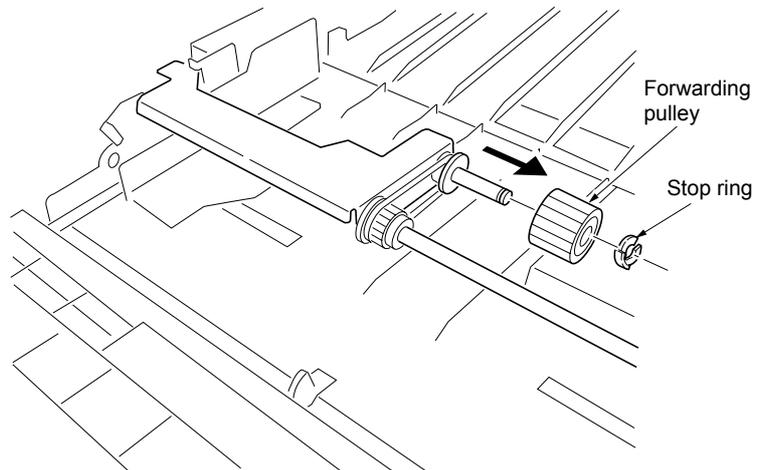


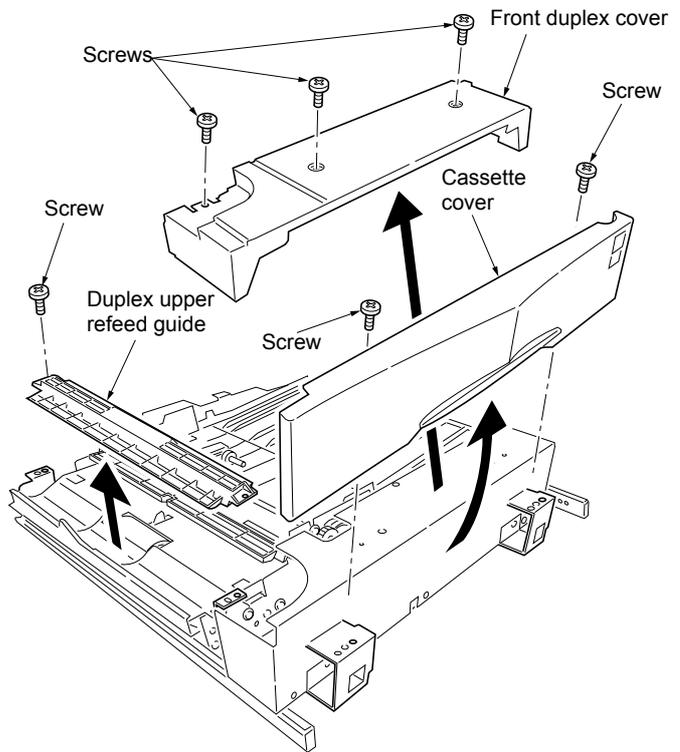
Figure 1-3-2

**(3) Detaching and refitting the switchback pulley and duplex registration roller**

Follow the procedure below to replace the switchback pulley and duplex registration roller.

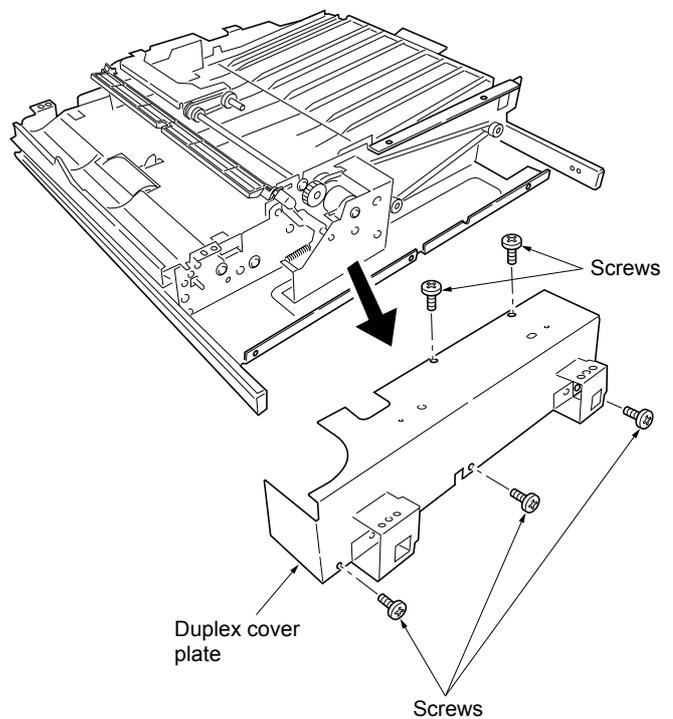
**<Procedure>**

1. Remove the forwarding pulley (see previous page).
2. Remove the three screws and then remove the Front duplex cover.
3. Remove the screw and then remove the duplex upper refeed guide.
4. Remove the two screws and then remove the cassette cover.



**Figure 1-3-3**

5. Remove the five screws and then remove the duplex cover plate.



**Figure 1-3-4**

6. Remove the washer and then remove the gear Z44S-Z53-Z36S.
7. Remove the Gear Z22S, stop ring and bush from front side. Remove the gear Z16S and bush from the rear side, and then remove the forwarding shaft assembly.
8. Remove the two screws and disconnect the YC1 connector and release the latch. Remove the duplex PWB cover.

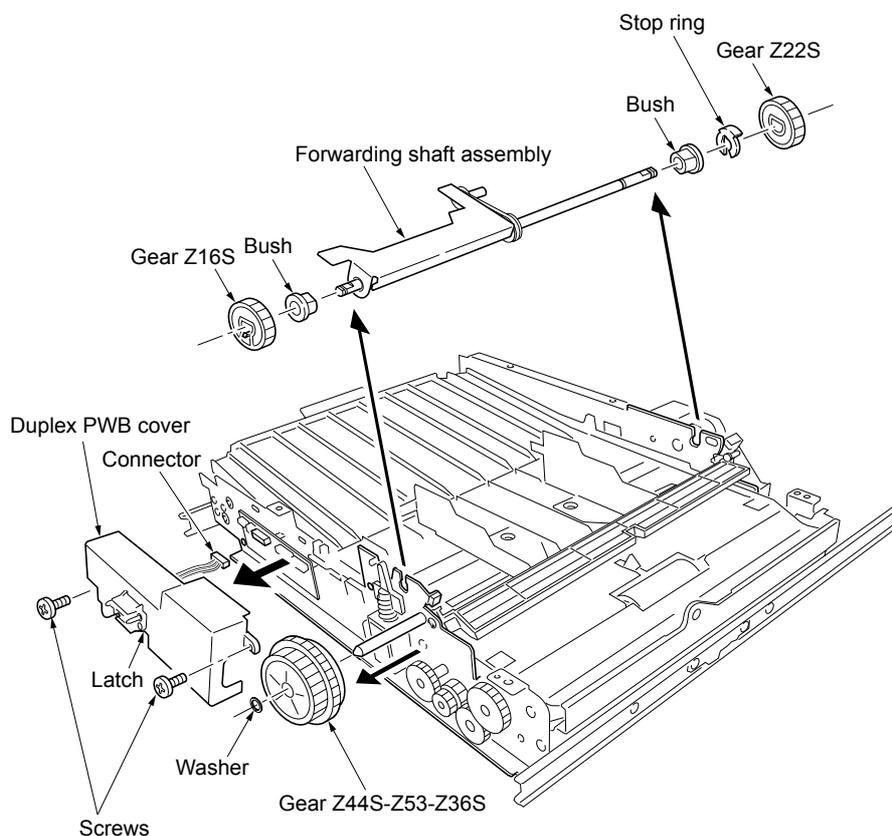


Figure 1-3-5

9. Remove the connector of the duplex side registration home position sensor and the connector of the duplex side registration motor.
10. Remove the two screws from the sensor protect plate.
11. Release the wire saddle.

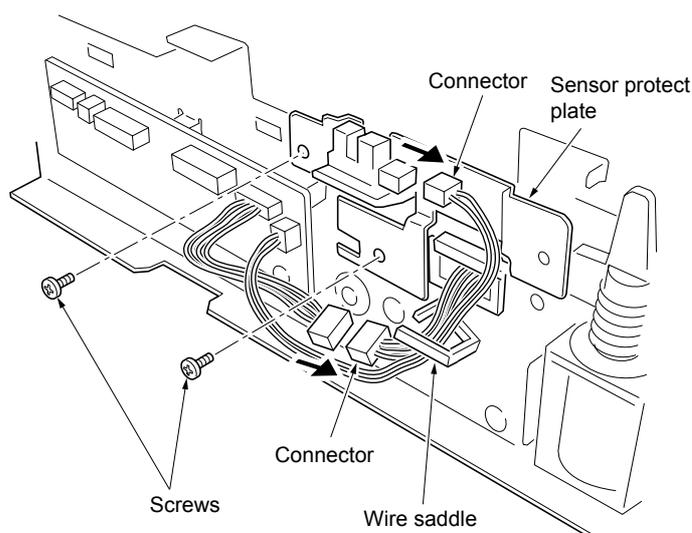


Figure 1-3-6

12. Remove the four screws and wire saddle.
13. Slide the trailing edge tapping guide front and back, and then remove the guide.
14. Remove the sensor protect plate and intermediate tray left guide assembly.

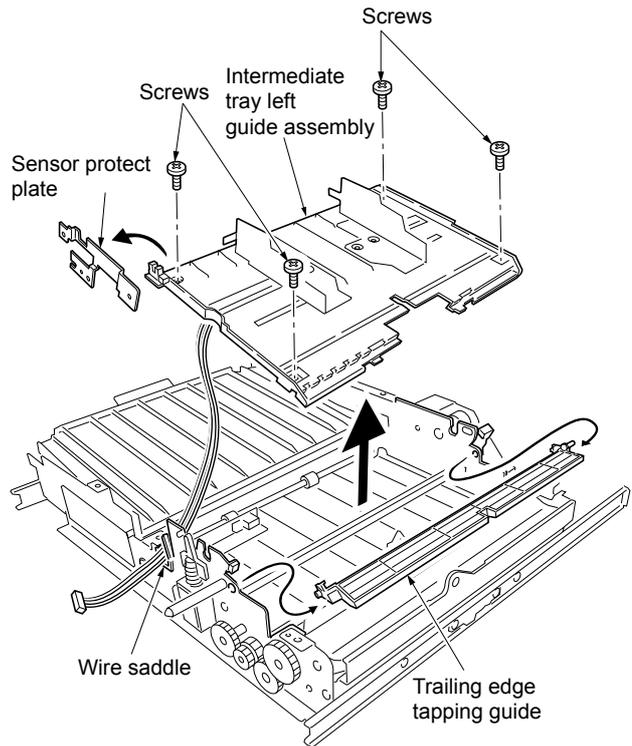


Figure 1-3-7

15. Remove the two screws and then remove the duplex sensor mounting plate.
16. remove the stop ring and then remove the joint gear 28.
17. Remove the stop ring and bush from the front side. Remove the stop ring, gear, pin and bush from the rear side. And then remove the duplex refeed shaft.
18. Remove the two stop rings from front and rear side, and then remove the switchback pulley from the duplex refeed shaft.
19. Remove the stop ring and bush from the front side. Remove the gear Z15S-Z20S, pin, stop ring and bush. And then remove the duplex registration roller.
20. Replace the switchback pulley and duplex registration roller. Refit all the removed parts.

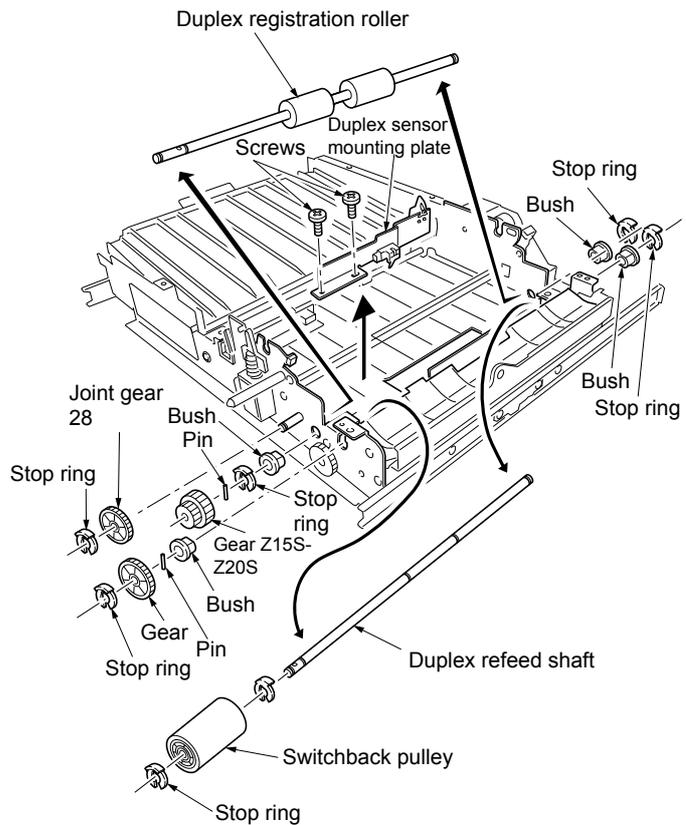


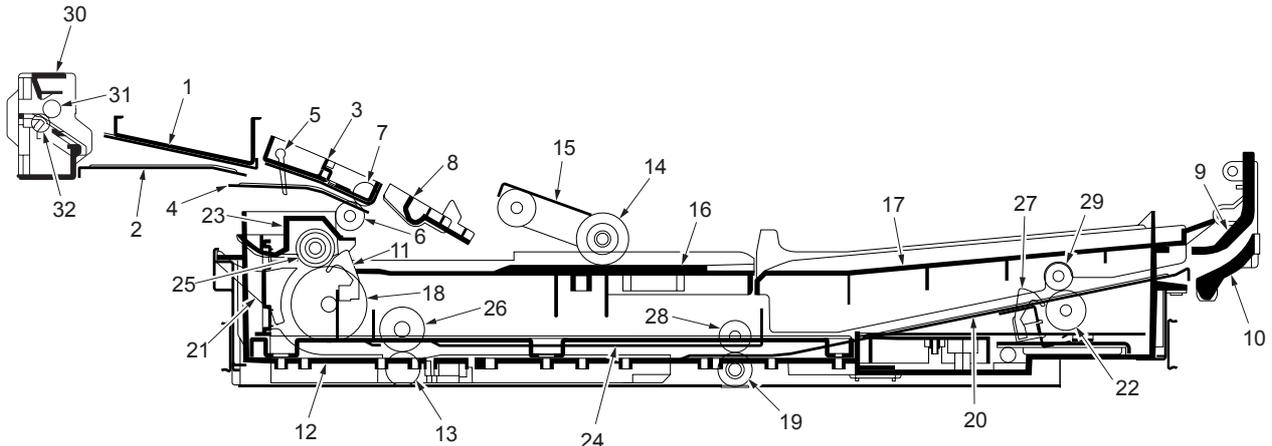
Figure 1-3-8

## 2-1-1 Duplex section

The duplex section consists of the ejection feedshift assembly installed on the ejection cover of the copier, duplex conveying A assembly installed at the lower part of the fuser unit, duplex conveying B assembly and ejection guide assembly installed on the frame of the copier, and duplexer in which the main switchback and refeed mechanism is included as a unit.

### (1) Ejection feedshift assembly, duplex conveying A assembly, duplex conveying B assembly, ejection guide assembly, duplexer

In duplex printing, paper ejected from the fuser unit for which printing onto the first side (front side) is complete is guided toward the lower part of the fuser unit along the duplex guide of which the direction has been changed, and fed to the separation B roller in the ejection feedshift assembly. The paper that reaches the separation B roller is conveyed with rotation of the separation B roller, passes between the duplex A guide and the duplex A guide plate in the duplex conveying A assembly, and then is fed toward the duplex roller in the duplex conveying B assembly. After the paper turns on the duplex guide sensor in the duplex conveying B assembly, the leading edge of the paper that reaches the duplex roller is ejected onto the left guide of the intermediate tray in the duplexer with rotation of the duplex roller, passes under the duplex forwarding pulley that has been raised, and is fed toward the right guide of the intermediate tray. After ejection progresses and specified time elapses since the trailing edge of the paper turns off the paper guide sensor, the duplex tapping solenoid is activated, the trailing edge tapping guide lowers, and the trailing edge of the paper is tapped down onto the left guide of the intermediate tray. At the next timing, the duplex side registration motor is activated to move the duplex side registration guide according to the paper size and positions the paper located on the left guide of the intermediate tray to the center of the paper path. After positioning, the duplex forwarding solenoid is activated and lowers the duplex forwarding pulley to ground the paper located on the left guide of the intermediate tray. The paper is conveyed with rotation of the duplex forwarding pulley, the trailing edge of the paper becomes the leading edge, and the paper is fed toward the switchback pulley. The paper reaches the switchback pulley after turning on the duplex conveying sensor, is conveyed with rotation of the switchback pulley, is guided toward the lower part of the duplexer along the switchback feedshift guide, turns on the duplex registration sensor, and then is fed toward the duplex registration roller. The paper that reaches the duplex registration roller is conveyed with rotation of the duplex registration roller and is fed to the lower duplex conveying roller. The paper that reaches the lower duplex conveying roller is conveyed with rotation of the lower duplex conveying roller and is fed toward the lower duplex conveying B roller. The paper that reaches the lower duplex conveying B roller is conveyed with rotation of the lower duplex conveying B roller, goes out of the duplexer, and is fed toward the ejection guide assembly. The paper is guided into the machine along the upper duplex guide and the lower duplex paper feed guide that constitute the ejection guide assembly, and the leading edge of the paper turns on the registration sensor. At this time, primary paper feed of the second side (reverse side) of paper (refeed) is complete.



**Figure 2-1-1 Ejection feedshift assembly, duplex conveying A assembly, duplex conveying B assembly, ejection guide assembly, duplexer**

- |  |   |   |
|--|---|---|
| (1) Duplex guide                                       | (12) Duplex left conveying guide        | (23) Duplex upper refeed guide              |
| (2) Duplex A guide plate                               | (13) Duplex lower registration roller   | (24) Duplex upper conveying guide plate     |
| (3) Duplex B guide                                     | (14) Duplex forwarding pulley           | (25) Refeed pulley                          |
| (4) Duplex B guide plate                               | (15) Duplex forwarding plate            | (26) Duplex registration roller             |
| (5) Duplex guide sensor (actuator) (DUPGS)             | (16) Intermediate tray left guide       | (27) Duplex eject sensor (actuator) (DUPES) |
| (6) Duplex roller                                      | (17) Intermediate tray right guide      | (28) Duplex A conveying roller              |
| (7) Pinch roller                                       | (18) Switchback pulley                  | (29) Duplex A conveying roller              |
| (8) Trailing edge tapping guide                        | (19) Duplex lower conveying roller      | (30) Decurler frame                         |
| (9) Duplex eject guide                                 | (20) Duplex right conveying guide plate | (31) Separation B roller                    |
| (10) Duplex lower paper feed guide                     | (21) Switchback feedshift guide         | (32) PA pulley                              |
| (11) Duplex paper entrance sensor (actuator) (DUPPENS) | (22) Duplex lower conveying B roller    |   |

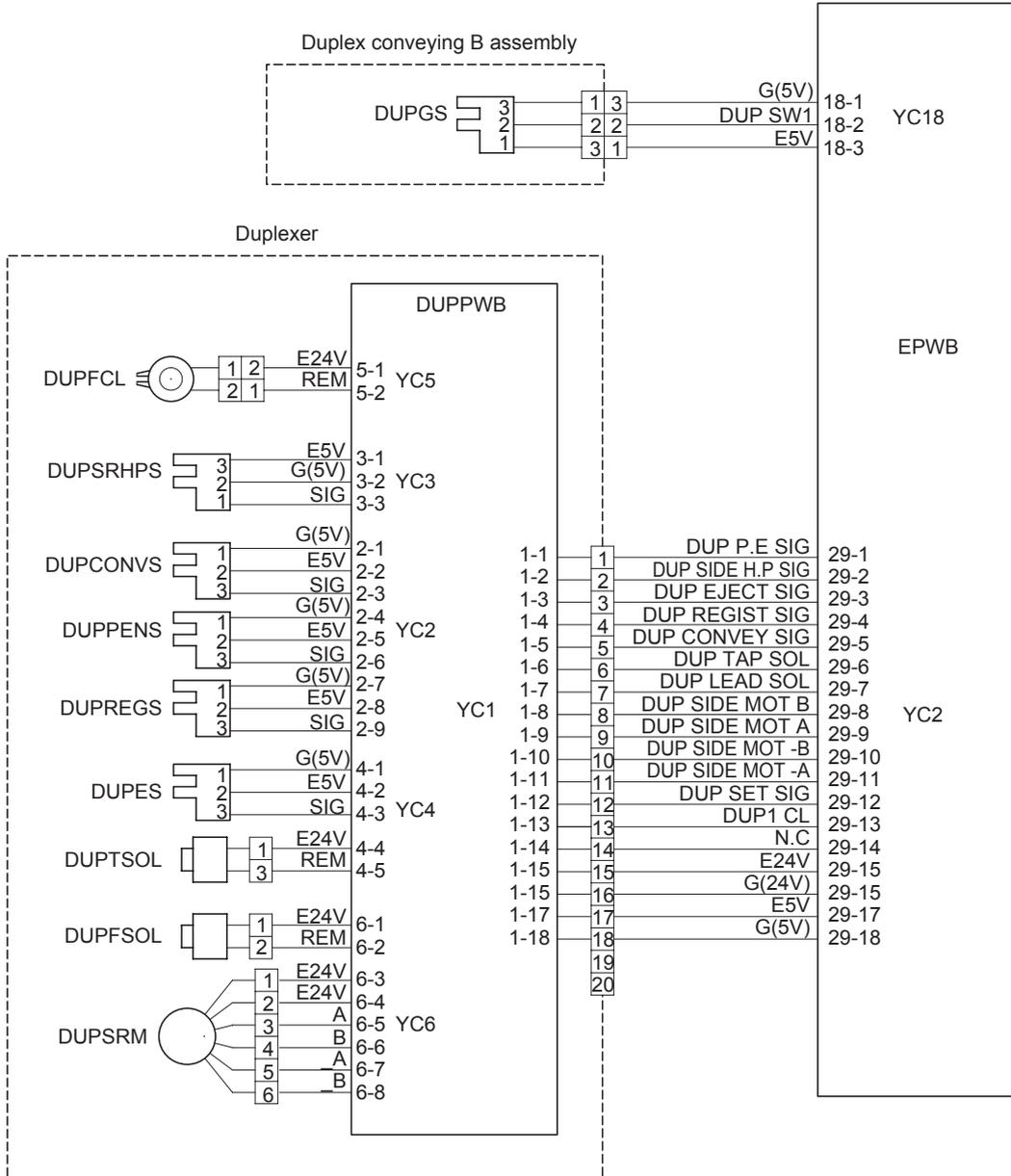


Figure 2-1-2 Duplex section block diagram

2-2-1 Electrical parts layout

(1) Duplex section

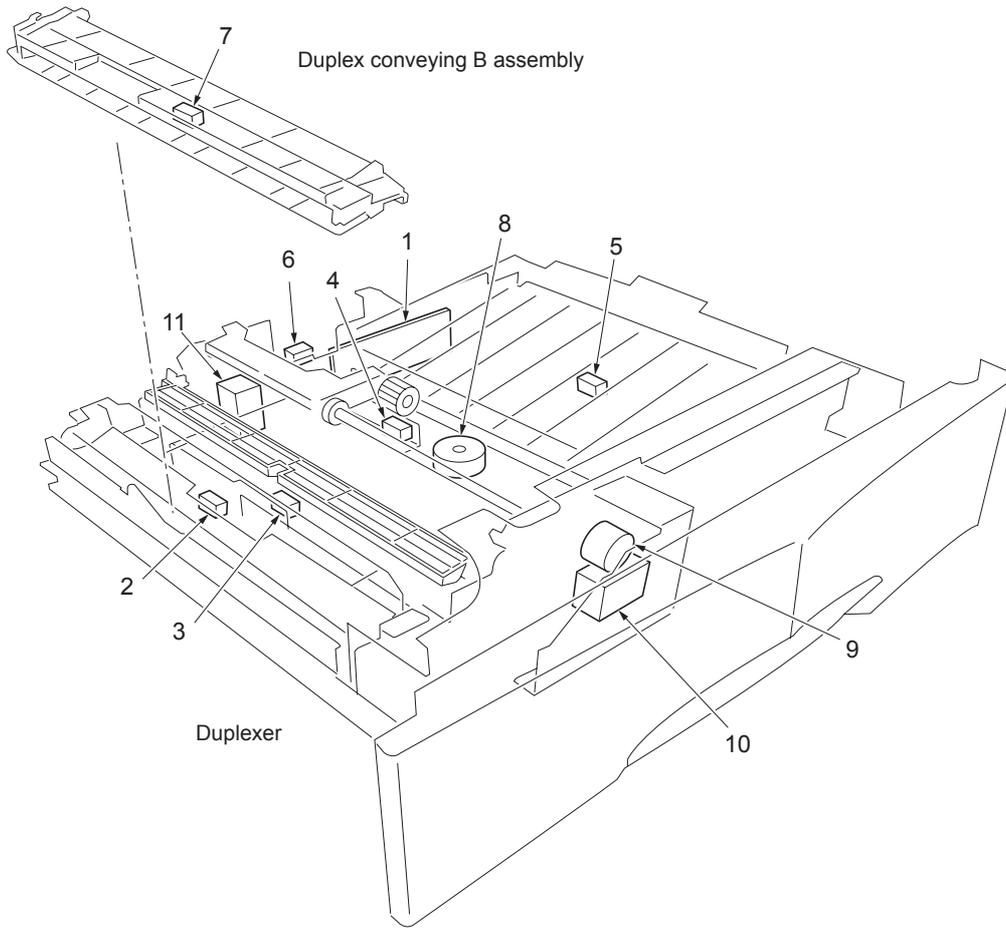


Figure 2-2-1 Duplex section

- 1. Duplex PWB (DUPPWB) ..... Consists of the input/output relay circuit and the drive circuit for the electrical parts on the engine controller PWB and in the duplexer.
- 2. Duplex registration sensor (DUPREGS) ..... Detects paper jam.
- 3. Duplex paper entrance sensor (DUPPENS) ..... Detects paper jam.
- 4. Duplex paper conveying sensor (DUPCONVS) ..... Detects paper jam.
- 5. Duplex eject sensor (DUPES)..... Detects paper jam.
- 6. Duplex side registration home position sensor (DUPSRHPS) ..... Detects home position of the duplex side registration guide.
- 7. Duplex guide sensor (DUPGS) ..... Detects the activation timing for the duplex tapping solenoid and the duplex forwarding solenoid, and detects paper jam.
- 8. Duplex side registration motor (DUPSRM) ..... Operates the duplex side registration guide.
- 9. Duplex feed clutch (DUPFCL)..... Turn duplex conveying rollers on and off.
- 10. Duplex tapping solenoid (DUPTSOL) ..... Operates up/down of the trailing edge tapping guide.
- 11. Duplex forwarding solenoid (DUPFSOL) ..... Operates up/down of the forwarding pulley.



## KYOCERA MITA EUROPE B.V.

Hoeksteen 40, 2132 MS Hoofddorp,  
The Netherlands  
Phone: +31.(0)20.654.000  
Home page: <http://www.kyoceramita-europe.com>  
Email: [info@kyoceramita-europe.com](mailto:info@kyoceramita-europe.com)

## KYOCERA MITA NEDERLAND B.V.

Hoeksteen 40 2132 MS Hoofddorp  
The Netherlands  
Phone: +31.(0)20.587.7200

## KYOCERA MITA (UK) LTD.

8 Beacontree Plaza  
Gillette Way,  
Reading Berks RG2 0BS, UK  
Phone: +44.(0)118.931.1500

## KYOCERA MITA ITALIA S.P.A.

Via Verdi 89 / 91 20063 Cernusco sul Naviglio,  
Italy  
Phone: +39.02.92179.1

## S.A. KYOCERA MITA BELGIUM N.V.

Hermesstraat 8A 1930 Zaventem Belgium  
Phone: +32.(0)2.720.9270

## KYOCERA MITA FRANCE S.A.

Parc Les Algorlthmes  
Saint Aubin  
91194 GIF-SUR-YVETTE  
France

Phone: +33.(0)1.6985.2600

## KYOCERA MITA ESPAÑA S.A.

Edificio Kyocera, Avda de Manacor N. 2,  
Urb. Parque Rozas 28290 Las Rozas,  
Madrid, Spain  
Phone: +34.(0)91.631.8392

## KYOCERA MITA FINLAND OY

Kirvesmiehenkatu 4 00810 Helsinki,  
Finland  
Phone: +358.(0)9.4780.5200

## KYOCERA MITA (SCHWEIZ) AG

Holzliwisen Industriestrasse 28  
8604 Volketswil, Switzerland  
Phone: +41.(0)1.908.4949

## KYOCERA MITA DEUTSCHLAND GMBH

Mollsfeld 12 D-40670 Meerbusch,  
Germany  
Phone: +49.(0)2159.918.0

## KYOCERA MITA GMBH AUSTRIA

Eduard-Kittenberger Gasse 95  
1230 Wien, Austria  
Phone: +43.(0)1.86338.0

## KYOCERA MITA SVENSKA AB

Box 1402 171 27 Solna, Sweden  
Phone: +46.(0)8.546.550.00

## KYOCERA MITA NORGE

Postboks 150 Oppsal, NO 0619 Oslo  
Olaf Helsettsvei 6, NO 0694 Oslo  
Phone: +47.(0)22.62.73.00

## KYOCERA MITA DANMARK A/S

Slotsmarken 11, 2  
DK-2970 Hørsholm, Denmark  
Phone: +45.7022.3880

## KYOCERA MITA PORTUGAL LDA.

Rua do Centro Cultural, no 41 1700-106  
Lisbon, Portugal  
Phone: +351.(0)21.842.9100

## KYOCERA MITA SOUTH AFRICA

(PTY) LTD.

527 Kyalami Boulevard,  
Kyalami Business Park 1685 Midrand South  
Phone: +27.(0)11.466.3290

## KYOCERA MITA AMERICA, INC.

### Headquarters:

225 Sand Road,  
Fairfield, New Jersey 07004-0008,  
U.S.A.  
Phone: (973) 808-8444

## KYOCERA MITA AUSTRALIA PTY. LTD.

Level 3, 6-10 Talavera Road, North Ryde,  
N.S.W. 2113 Australia  
Phone: (02) 9888-9999

## KYOCERA MITA NEW ZEALAND LTD.

1-3 Parkhead Place, Albany  
P.O. Box 302 125 NHPC, Auckland,  
New Zealand  
Phone: (09) 415-4517

## KYOCERA MITA (THAILAND) CORP., LTD.

9/209 Ratchada-Prachachem Road,  
Bang Sue, Bangkok 10800, Thailand  
Phone: (02) 586-0320

## KYOCERA MITA SINGAPORE PTE LTD.

121 Genting Lane, 3rd Level,  
Singapore 349572  
Phone: 67418733

## KYOCERA MITA HONG KONG LIMITED

11/F., Mita Centre,  
552-566, Castle Peak Road,  
Tsuen Wan, New Territories,  
Hong Kong  
Phone: 24297422

## KYOCERA MITA TAIWAN

Corporation.

7F-1~2, No.41, Lane 221, Gangchi Rd.  
Neihu District, Taipei, Taiwan, 114. R.O.C.  
Phone: (02) 87511560

## KYOCERA MITA

2-28, 1-chome, Tamatsukuri, Chuo-ku  
Osaka 540-8585, Japan  
Phone: (06) 6764-3555  
<http://www.kyoceramita.com>



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