



KM-C850

KM-C850D

SERVICE

MANUAL

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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.



Safety precautions

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

Safety warnings and precautions

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

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

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

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

Symbols

The triangle (\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 main 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
Copying system	Indirect electrostatic, intermediate transfer drum
Originals	Sheets of paper, books and 3-dimensional objects Maximum size: A3/11" × 17"
Original feed system	Fixed
Copy paper	Drawer: Plain paper (64 – 90 g/m ²) Bypass table: Plain paper (60 – 220 g/m ²) Special paper: Transparencies, tracing paper, colored paper, letterhead and envelopes (when using the printer function only) Note: Use the bypass table for special paper.
Copying sizes	Maximum: A3/11" × 17" Minimum: A6R/5 ¹ / ₂ " × 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" × 8 ¹ / ₂ " [A4] size original at 100% (1:1) magnification ratio: 8 copies/min. (full color); 31 copies/min. (monochrome) 11" × 8 ¹ / ₂ " [A4] size original during 2-sided copying: 8 copies/ min. (full color); 21 copies/ min. (monochrome) 11" × 17" [A3] size original during 2-sided copying: 4 copies/ min. (full color); 7.5 copies/ min. (monochrome)
First copy time	Approx. 24.5 s/10.8 s [Color/Monochrome]
Warm-up time	Within 180 s (room temperature 23°C/73.4°F, 60% RH)
Paper feed system	Automatic feeding from drawers (Duplex copiers: 2 drawers, Simplex copiers: 1 drawer; each with a 500 sheet capacity [75 – 90 g/m ²] or manual feed from the Bypass table (150 sheet capacity [75 – 90 g/m ²])
Paper eject system	Top tray: 500 sheets Left tray: 150 sheets
Continuous copying	1 - 999 sheets
Photoconductor	a-Si (drum diameter 80 mm)
Charging system	Single positive corona charging
Exposure light source	Semiconductor laser
Exposure scanning system	Polygon mirror
Developing system	Dry, reverse developing (magnetic brush) Developer: 2-component Toner replenishing: automatic from a toner container
Transfer system	Primary: Intermediate transfer drum (diameter 160 mm) Secondary: Transfer belt
Separation system	AC corona separation charging
Fixing system	Heat roller and press/heat roller (soft type, diameter 45 mm) Heat source: 2 halogen heaters (upper:500 W, lower:450 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 Primary (intermediate) transfer drum: Fur brush
Scanning system	Flat bed scanning by CCD image sensor
Resolution	600 × 600 dpi
Light source	Rare gas lamp
Dimensions	590 (W) × 585 (D) × 870 (H) mm 23 ¹ / ₄ " (W) × 23 ¹ / ₁₆ " (D) × 34 ⁵ / ₁₆ " (H)
Weight	Approx. 115 kg/253 lbs. (Simplex copier) Approx. 119 kg/261.8 lbs. (Duplex copier)
Floor requirements	1288 (W) × 585 (D) mm 50 ¹¹ / ₁₆ " (W) × 23 ¹ / ₁₆ " (D)

2CX

Functions	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*1, Page separation/Split copy modes, Margin mode, Centering/Image shift mode, Memo mode*2, Border erase modes, Combine/Merge Copy modes, Print page numbers mode*2, Poster mode*2, Booklet/Stitching mode*1, Book to Booklet mode*1, Sort/Finished mode*2, Auto rotation function, Cover mode*2, Transparency + backing sheet mode*2, Invert mode, Mirror image mode, Proof mode*2, Repeat copy mode*2, Batch scanning mode*2, Color/BW selection mode*2, Eco print mode, Program function, Job build mode*2, Copy management mode*2, Language selection function *1: Only available in duplex copiers *2: Requires the optional memory copy board in simplex copiers
Power source	120 V AC, 60 Hz, 12.0 A 220 – 240 V AC, 50/60 Hz, 6.0 A
Power consumption	Maximum rated power consumption 1260 W
Options	DP, Paper feeder, Document Finisher, Memory Copy Board*, Casters, Key Counter, Printer Board, Fax Kit, Network Scanner Board *: Standard equipment in duplex copiers

1-1-2 Parts names

(1) Copier

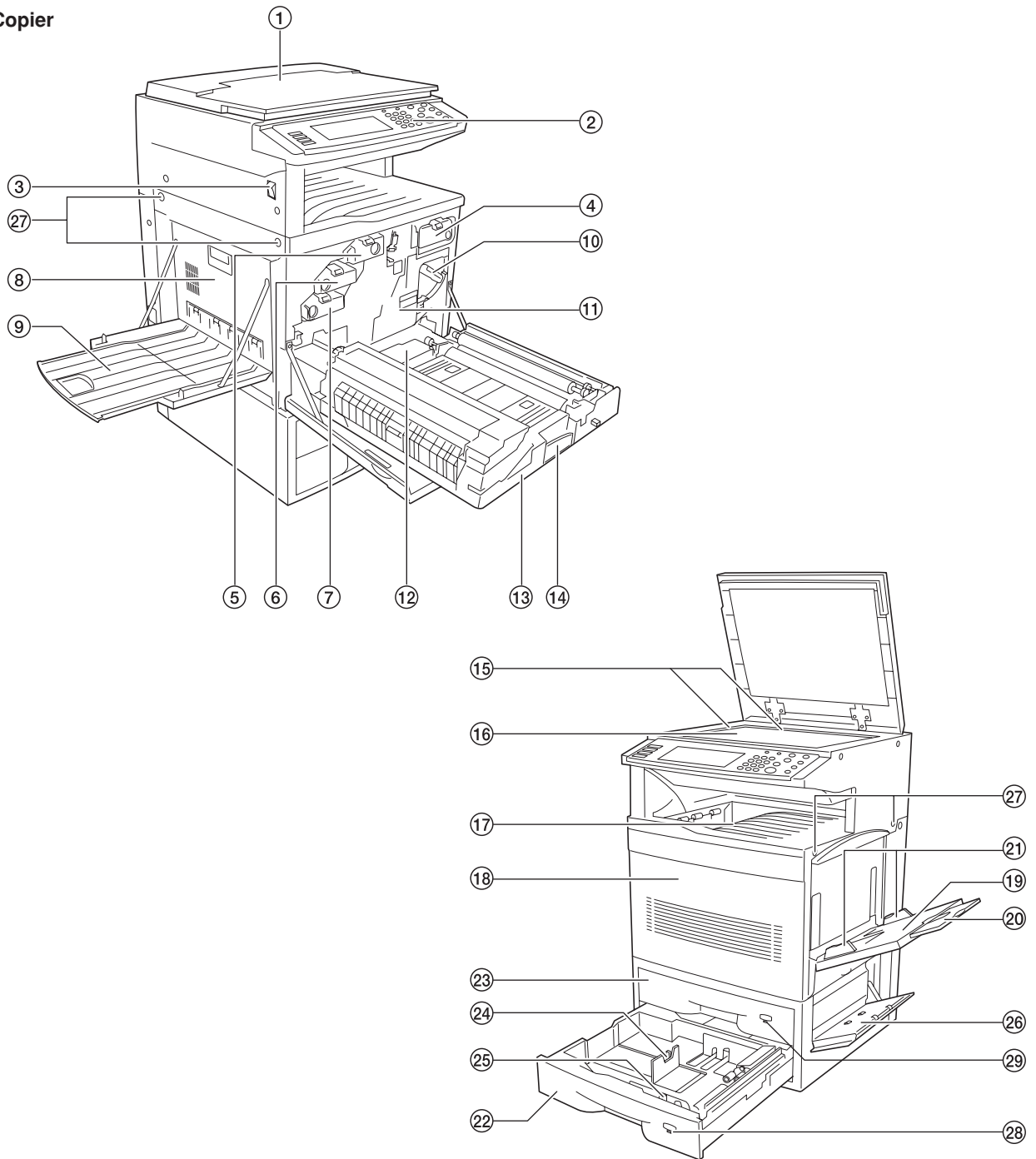


Figure 1-1-1

- | | | |
|---------------------------------------|---------------------------------|--|
| ① Original cover | ⑫ Waste toner tank | ⑳ Drawer 1 (in simplex copiers)
Duplex unit (in duplex copiers) |
| ② Operation panel | ⑬ Paper feed unit | ㉑ Paper length guide release levers |
| ③ Power switch | ⑭ Paper feed unit release lever | ㉒ Paper width guide release levers |
| ④ Toner container (black) | ⑮ Original size indicator plate | ㉓ Side cover |
| ⑤ Toner container (yellow) | ⑯ Platen | ㉔ Handles for transport |
| ⑥ Toner container (magenta) | ⑰ Top tray | ㉕ Paper size indicator |
| ⑦ Toner container (cyan) | ⑱ Front cover | ㉖ Duplex unit indicator (in duplex copiers) |
| ⑧ Left cover | ㉑ Bypass tray | |
| ⑨ Left tray | ㉒ Bypass extension | |
| ⑩ Primary transfer unit release lever | ㉓ Insert guides | |
| ⑪ Primary transfer unit | ㉔ Drawer 2 | |

(2) Operation panel

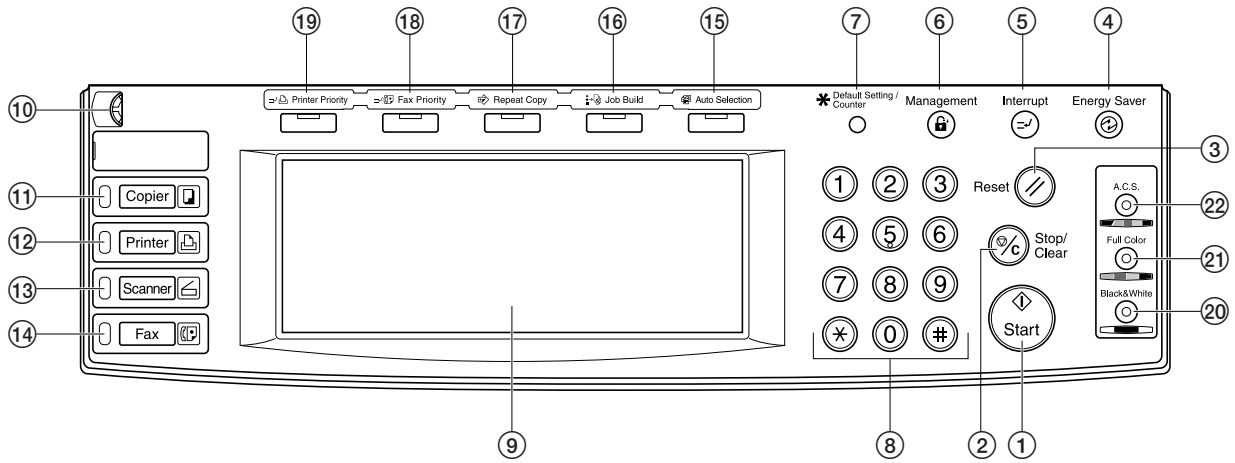


Figure 1-1-2

- | | |
|--------------------------------------|------------------------------------|
| ① Start key (Indicator) | ⑫ Printer key (Indicator) |
| ② Stop/clear key | ⑬ Scanner key (Indicator) |
| ③ Reset key | ⑭ Fax key (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 (Indicator) | ㉒ A.C.S. key (Indicator) |

1-1-3 Machine cross section

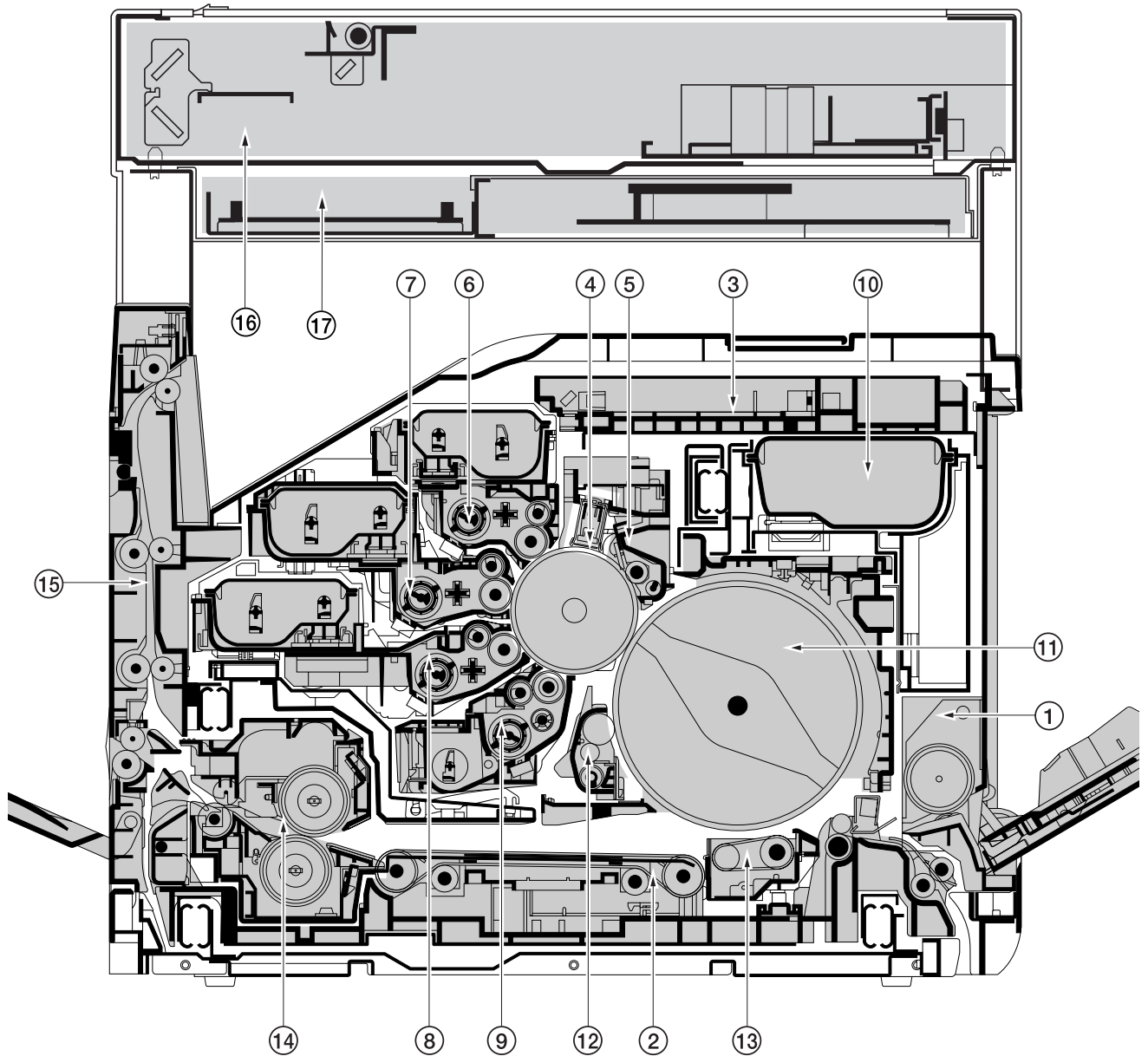


Figure 1-1-4 Machine cross section

- | | |
|---|-----------------------------|
| ① Bypass tray unit | ⑩ Black toner container |
| ② Paper feed unit | ⑪ Primary transfer unit |
| ③ Laser scanner unit | ⑫ Cleaning brush unit |
| ④ Main charger unit | ⑬ Secondary transfer unit |
| ⑤ Drum unit | ⑭ Fuser unit |
| ⑥ Yellow developer and yellow toner container | ⑮ Face-down unit |
| ⑦ Magenta developer and magenta toner container | ⑯ Scanner unit |
| ⑧ Cyan developer and cyan toner container | ⑰ Electrical component unit |
| ⑨ Black developer | |

1-2-1 Drum

Note the following when handling or storing the drum.

- When removing the drum unit, never expose the drum surface to strong direct light.
- Keep the drum at an ambient temperature between $-20^{\circ}\text{C}/-4^{\circ}\text{F}$ and $40^{\circ}\text{C}/104^{\circ}\text{F}$ and at a relative humidity not higher than 85% RH. Avoid abrupt changes in temperature and humidity.
- Avoid exposure to any substance which is harmful to or may affect the quality of the drum.
- Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

1-2-2 Developer and toner

- Store the developer and toner in a cool, dark place. Avoid direct light and high humidity.
- Do not bring any magnetic media or credit cards close to the developers or the toner containers.

1-2-3 Installation environment

1. Temperature: $10 - 32.5^{\circ}\text{C}/50 - 90.5^{\circ}\text{F}$
2. Humidity: 20 - 80%RH
3. Power supply: 120 V AC, 12.0 A
220 - 240 V AC, 6.0 A
4. Power source frequency: $50 \text{ Hz} \pm 0.3\%/60 \text{ Hz} \pm 0.3\%$
5. Installation location
 - Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
 - Avoid 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 photoconductor, such as mercury, acidic or alkaline vapors, inorganic gasses, NO_x , SO_x 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: $600 \text{ mm}/23\frac{5}{8}"$ Machine rear: $300 \text{ mm}/11\frac{13}{16}"$
Machine right: $500 \text{ mm}/19\frac{11}{16}"$ Machine left: $500 \text{ mm}/19\frac{11}{16}"$

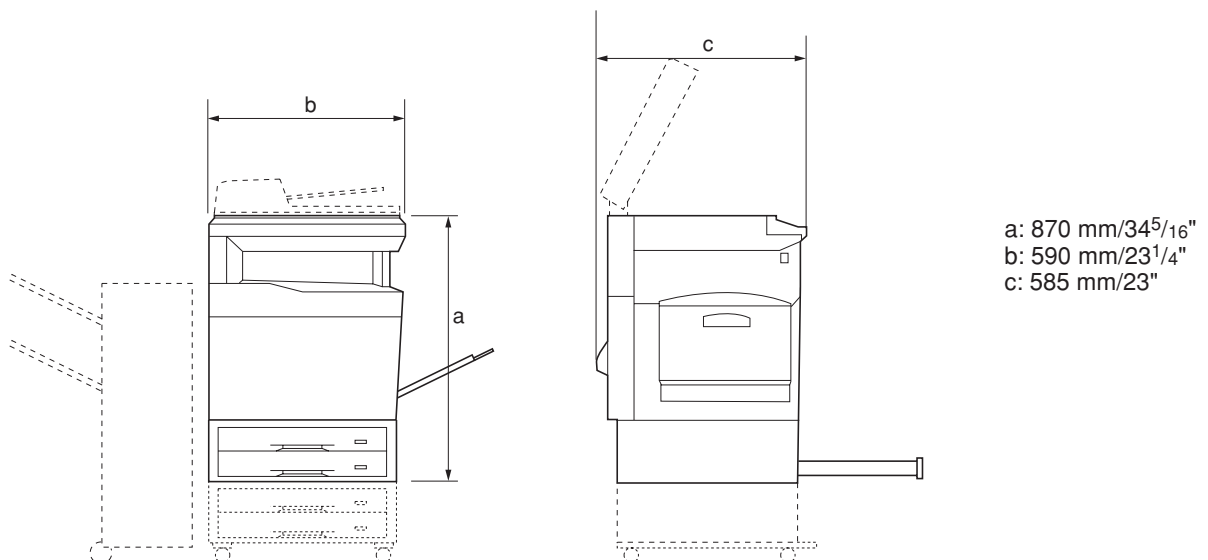
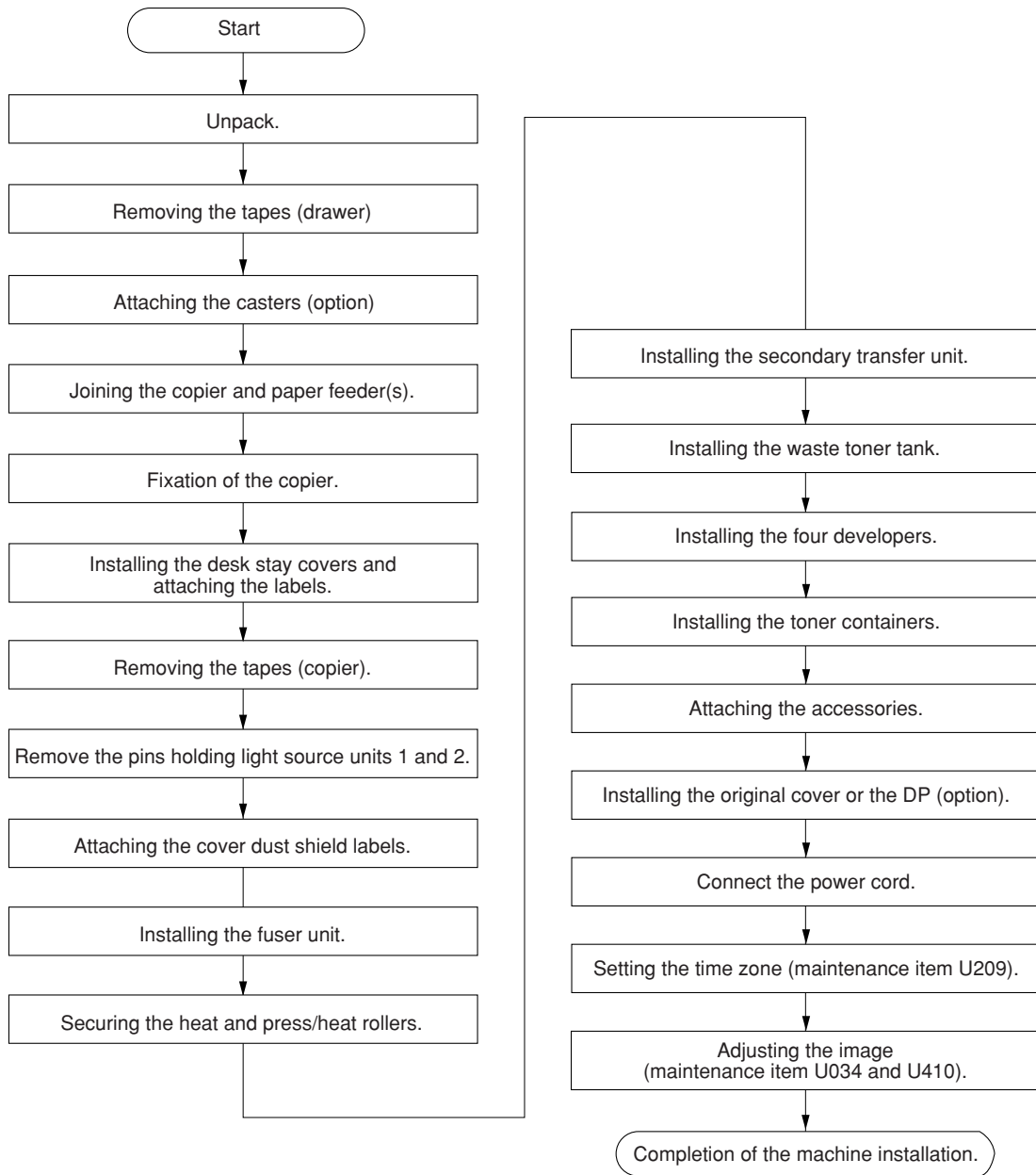


Figure 1-2-1 Installation dimensions

1-3-1 Unpacking and installation

(1) Installation procedure



2CX

Moving the machine

When moving the machine during installation, pull out the four handles for transport on the right and left sides and hold them.

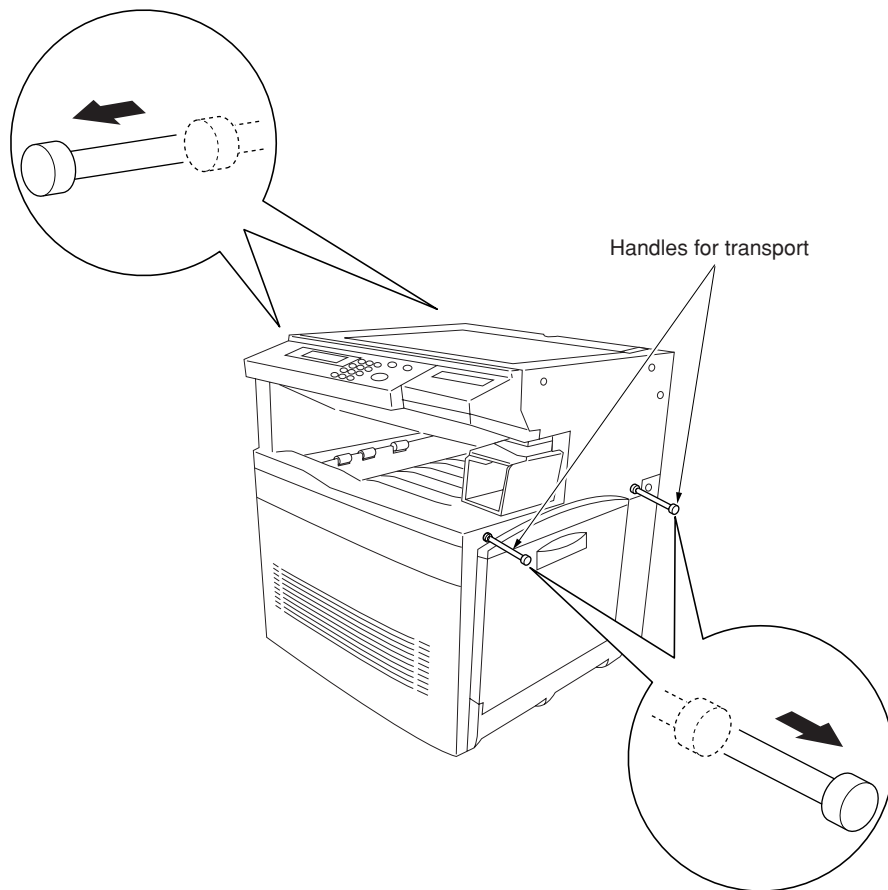


Figure 1-3-1

Unpack.

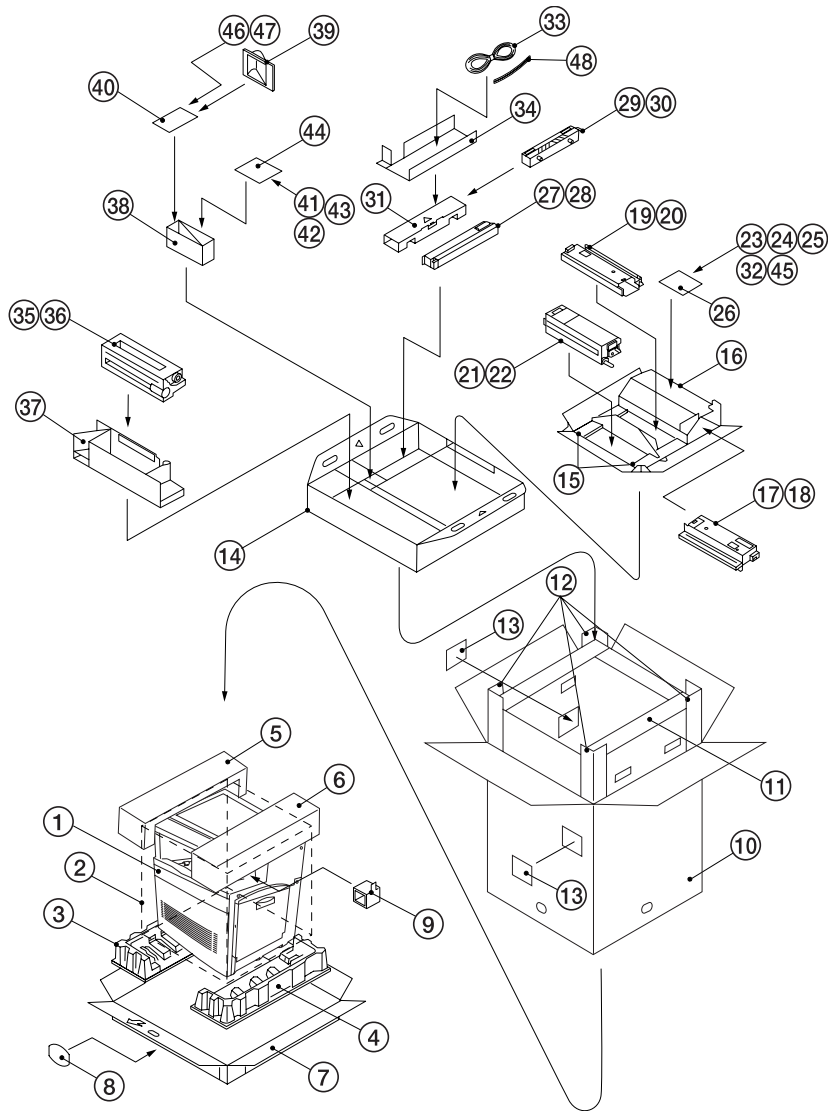


Figure 1-3-2 Unpacking

- | | | |
|---------------------------|---------------------------|----------------------------------|
| ① Copier | ⑱ Plastic bag | ⑳ Fuser unit |
| ② Machine cover | ⑲ Magenta developer | ㉑ Plastic bag |
| ③ Bottom left pad | ⑳ Plastic bag | ㉒ Fuser unit spacer |
| ④ Bottom right pad | ㉑ Yellow developer | ㉓ Duct cover spacer |
| ⑤ Upper left pad | ㉒ Plastic bag | ㉔ Filter duct |
| ⑥ Upper right pad | ㉓ Operation guide | ㉕ Plastic bag |
| ⑦ Skid | ㉔ Caution label | ㉖ Paper size indication plates |
| ⑧ Hinge joints | ㉕ Plastic bag | ㉗ Plastic bag |
| ⑨ Lower scanner spacer | ㉖ Black developer | ㉘ Secondary transfer unit |
| ⑩ Outer case | ㉗ Plastic bag | ㉙ Plastic bag |
| ⑪ Inner frame (inside) | ㉘ T/C pad | ㉚ Junction plate |
| ⑫ Supports | ㉙ Cover dust shield label | ㉛ M3 × 8 binding tap tight screw |
| ⑬ Bar code labels | ㉚ Power cord | ㉜ M3 × 4 binding tap tight screw |
| ⑭ Accessory case | ㉛ Power cord spacer | ㉝ Plastic bag |
| ⑮ developer lower spacers | | ㉞ Case manual ass'y |
| ⑯ developer spacer | | ㉟ Shield gaskets* |
| ⑰ Cyan developer | | ㊱ EMT-6N clamp* |

*120 V specifications only.

Caution: Place the machine on a level surface.

Removing the tapes (drawer).

1. Pull upper and lower drawers out and remove the tape holding each of the drawer lift.
Remove the paper size indication plate.

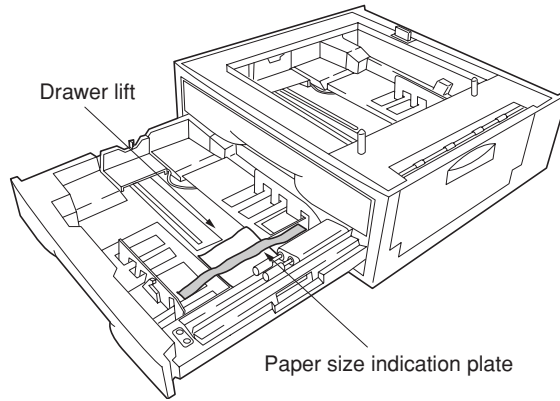


Figure 1-3-3

Attaching the casters (option).

Caution: To prevent the copier from tipping over, the optional caster kit must be installed when the copier is installed with an optional paper feeder.

1. Stand the 500 × 2 paper feeder /duplex paper feeder/optional paper feeder upright on its left side.
2. Remove each one screw to remove four rubber pads.
3. Install two optional caster bases onto the bottom of the paper feeder by using four screws for each. Be sure to face the longer end towards the front of the paper feeder.

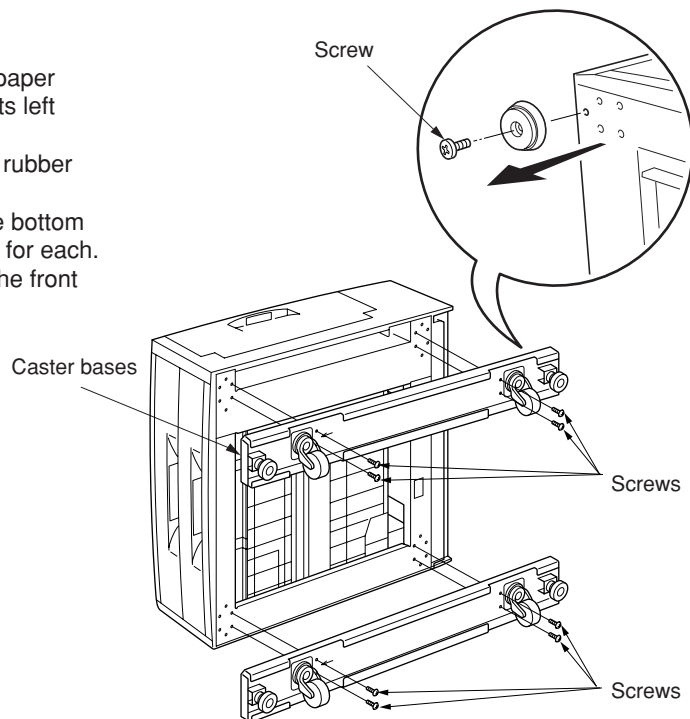


Figure 1-3-4

Fitting the shield gaskets
(220-240 V specifications only)

1. Remove the release coated paper of the double-faced tape located on the rear face of the shield gaskets.
 2. Stick two shield gaskets to the top surface of the paper feeder as shown in the diagram.
- * When installing an optional paper feeder, be sure to fit also two shield gaskets to the optional paper feeder.

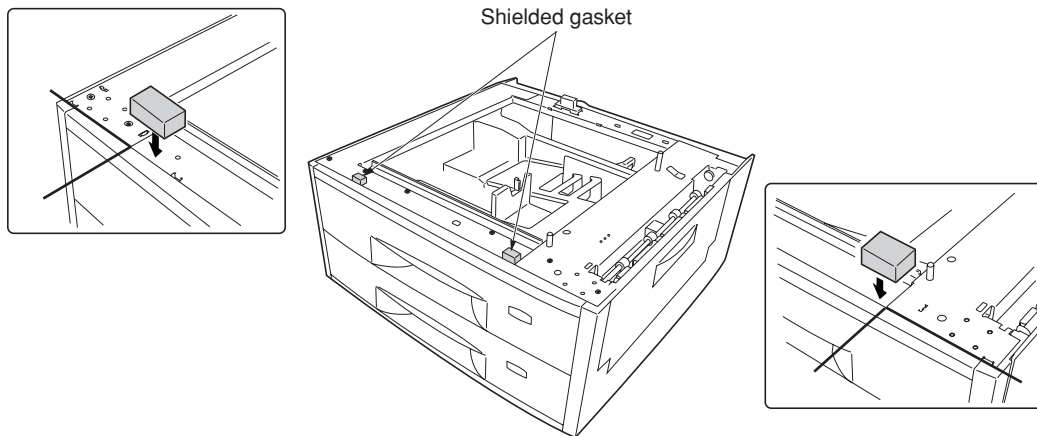


Figure 1-3-5

Joining the copier and paper feeder(s).

1. When installing the optional paper feeder, stack and join 500 × 2 or duplex paper feeder and optional paper feeder using the clamp.

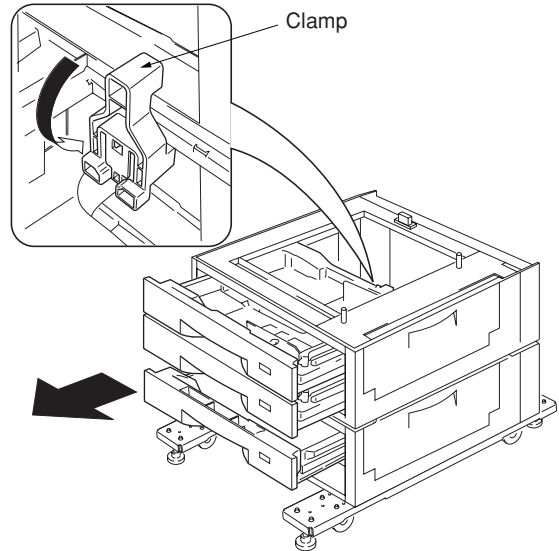


Figure 1-3-6

2. Place the copier on top of the 500 × 2 or duplex paper feeder.
3. Join the copier and 500 × 2 or duplex paper feeder with the junction plate using the binding tap tight screw M4 × 8.

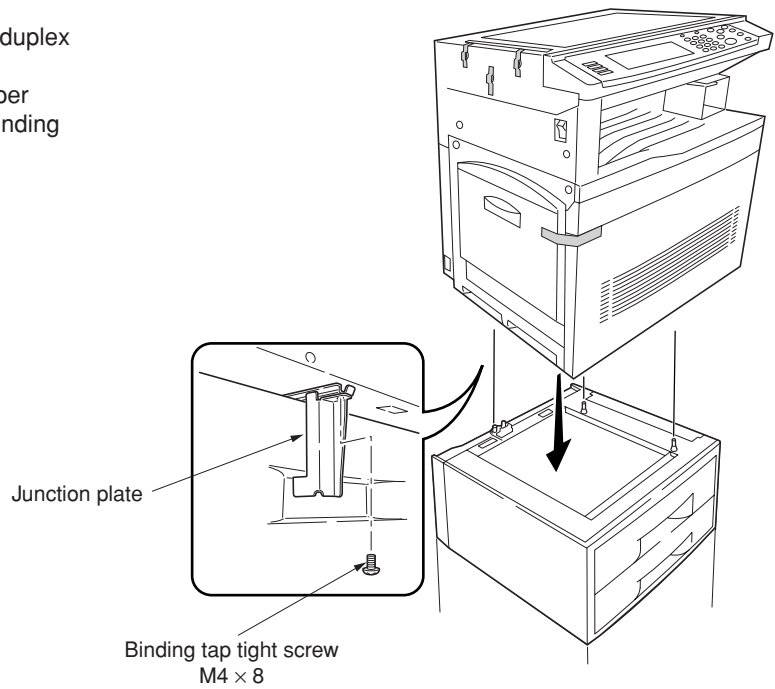


Figure 1-3-7

Fixation of the copier.

1. Turn the adjusters to adjust the level of the overall machine.

Caution: To prevent the possibility of accidents due to tilting the copier body, turn the adjusters until they make firm contact with the floor.

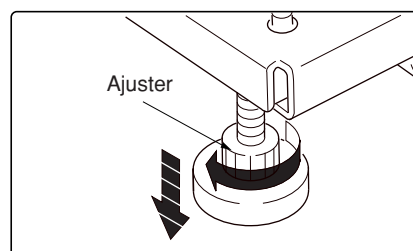
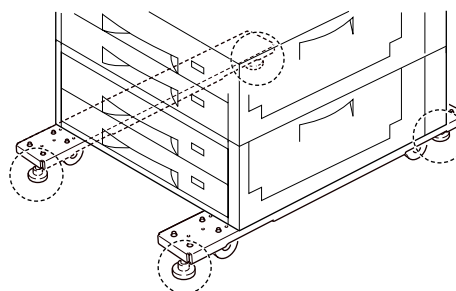


Figure 1-3-8

Installing the desk stay covers and attaching the labels.

1. Attach the two desk stay covers to the front part of the two caster stays using the two M4 × 8 chrome screws (1 screw for each cover).

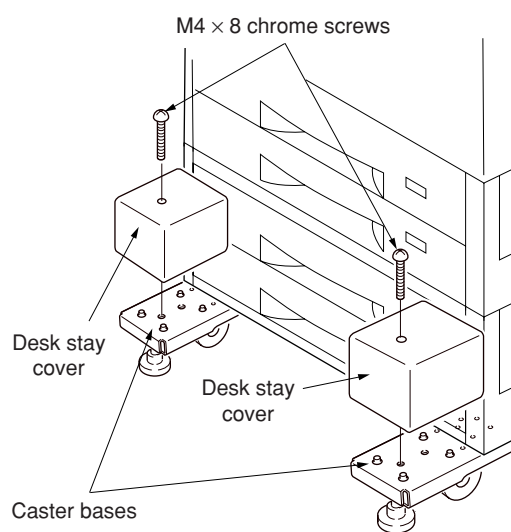


Figure 1-3-9

2. Attach the four labels at the locations shown in the diagram.

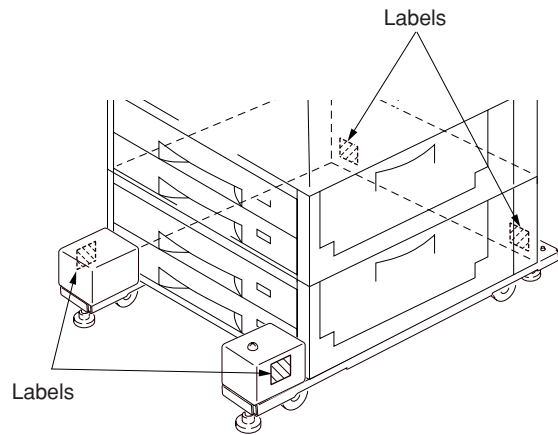


Figure 1-3-10

3. Attach the caution label at the shown in the diagram.

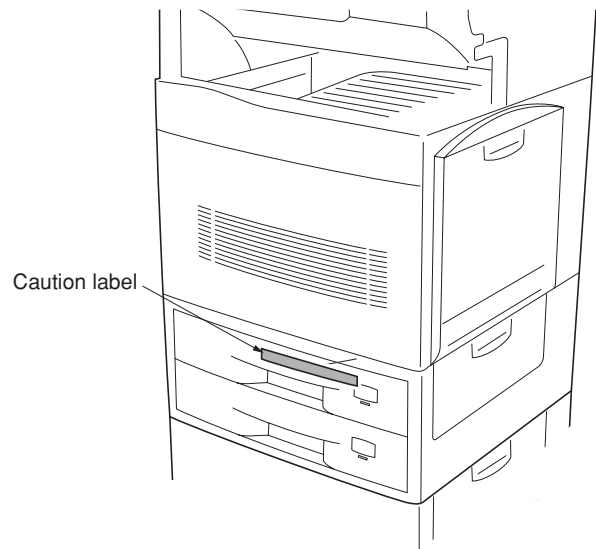


Figure 1-3-11

Removing the tape (copier).

1. Remove the tape holding the front cover and left tray.
2. Remove the tape holding the bottom of the left tray.
3. Remove the three tapes holding the pins for light source units 1 and 2.

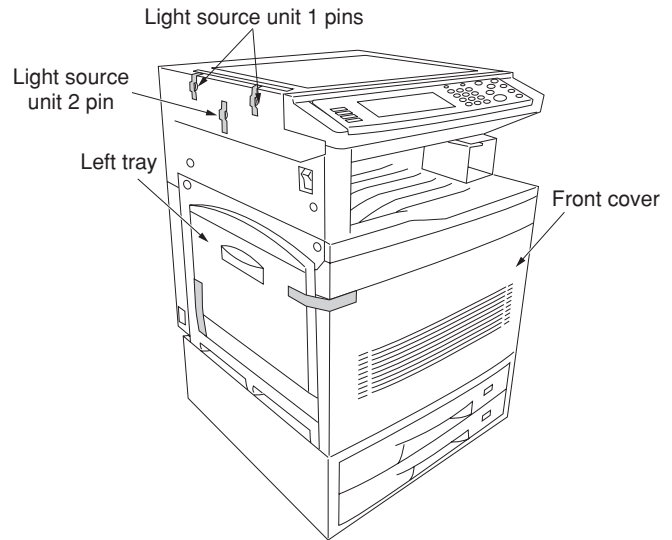


Figure 1-3-12

4. Remove the tape holding the original detection switch.
5. Remove the tape holding the lower scanner spacer and then remove the spacer.
6. Open the bypass tray and remove the paper.

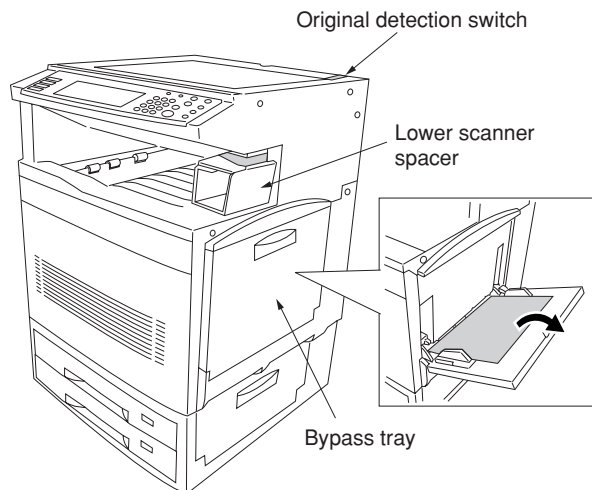


Figure 1-3-13

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.

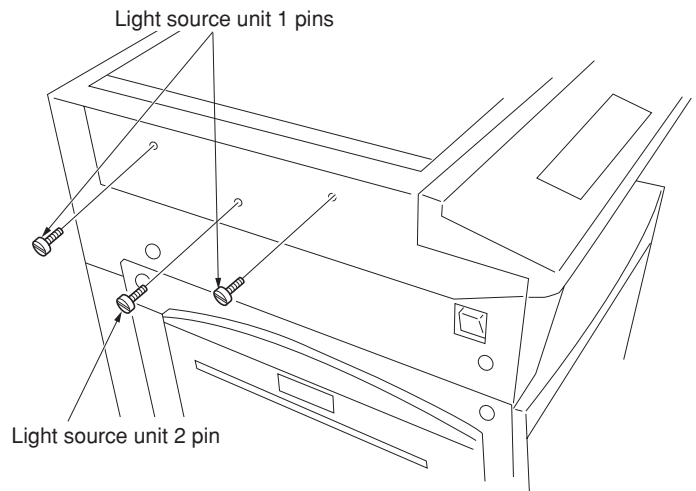


Figure 1-3-14

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.

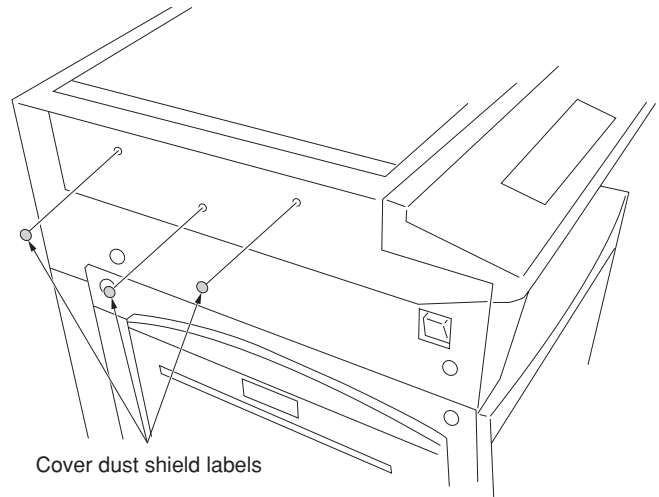


Figure 1-3-15

Installing the fuser unit.

1. Open the front cover.
2. Pull out thoroughly the paper feed unit.

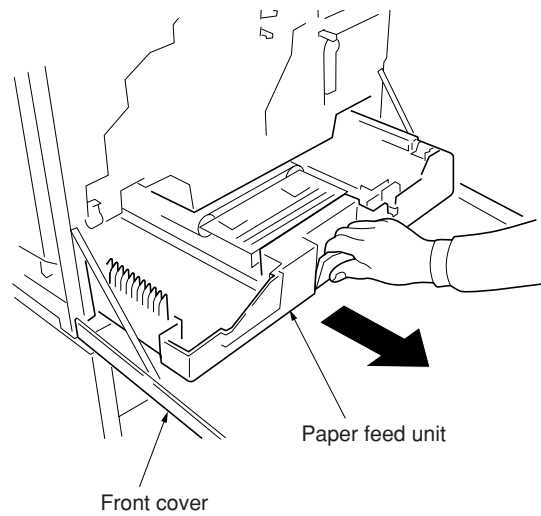


Figure 1-3-16

3. Remove one screw from the stopper lever (gray-colored).
4. Remove the lock pin from the primary transfer unit.
Caution: Be sure to keep the lock pin in order to become necessary for the transportation.
5. Turn the green-colored primary transfer unit release lever to the direction of the arrow.
6. Draw the primary transfer until it stops.
7. While pushing the stopper lever (gray-colored), pull out the primary transfer unit.
8. Pull out the primary transfer unit from the printer.
Make sure not to scratch the round surface,

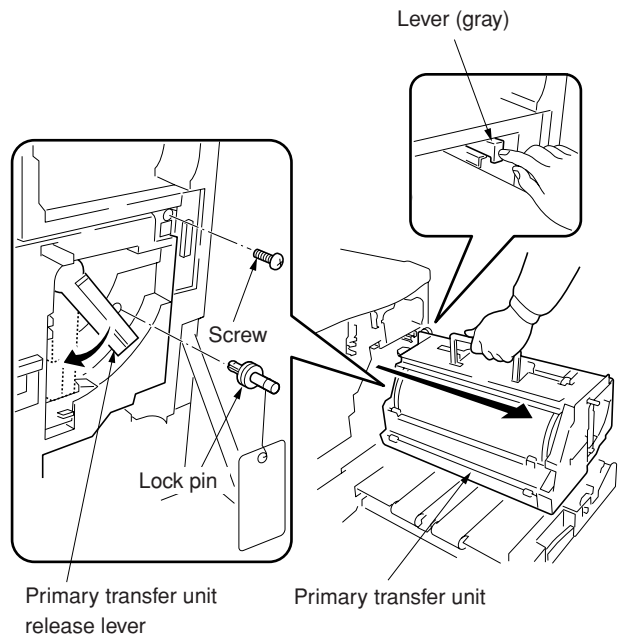


Figure 1-3-17

- especially at its bottom.
9. Open the left paper guide.
 10. Insert the fuser unit onto the paper feed unit.

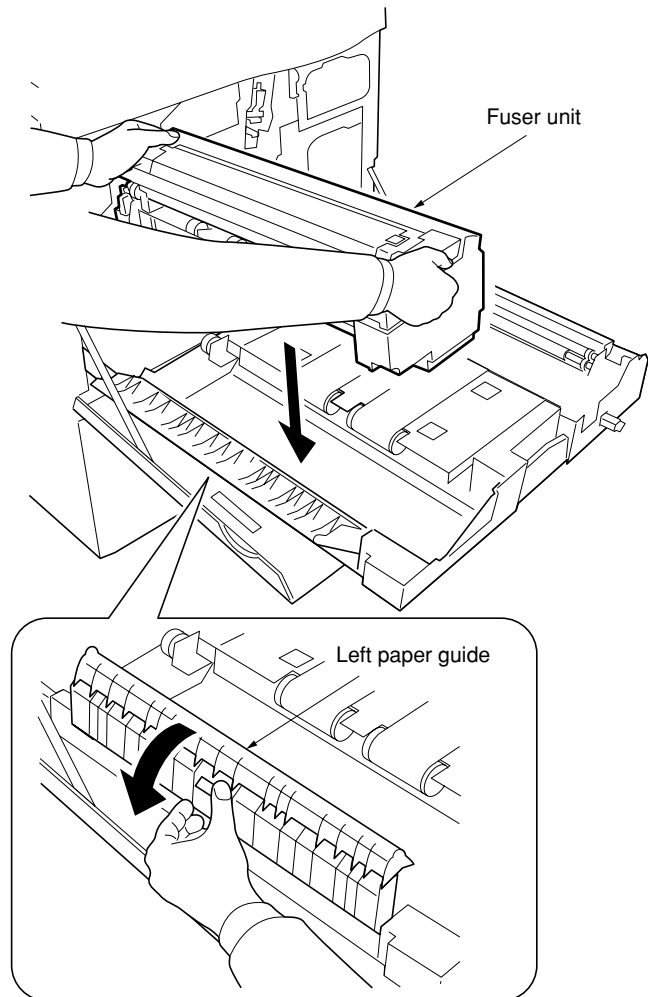


Figure 1-3-18

11. Secure the fuser unit with the screw.

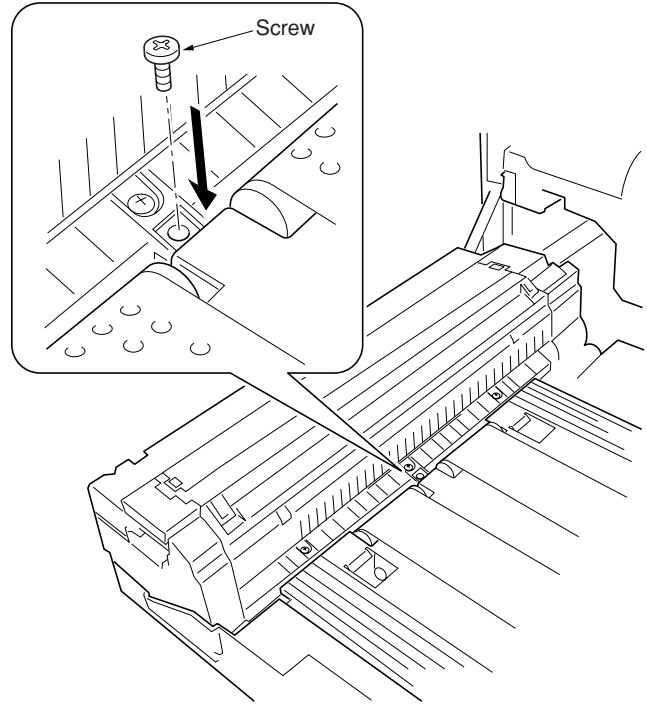


Figure 1-3-19

Securing the heat and press/heat rollers.

1. Open the left paper guide and the fuser top cover.
2. Firmly tighten two screws until they stop.
3. Close the fuser top cover and the left paper guide.

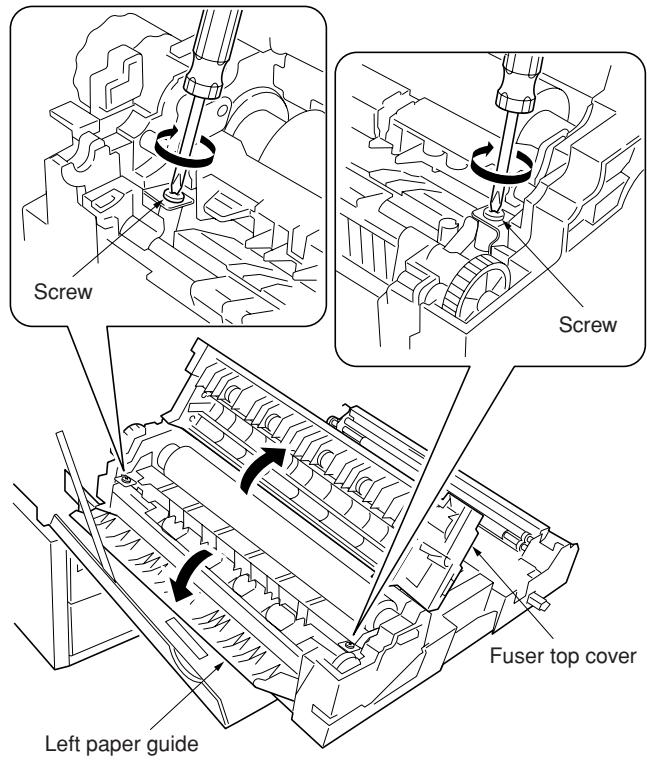
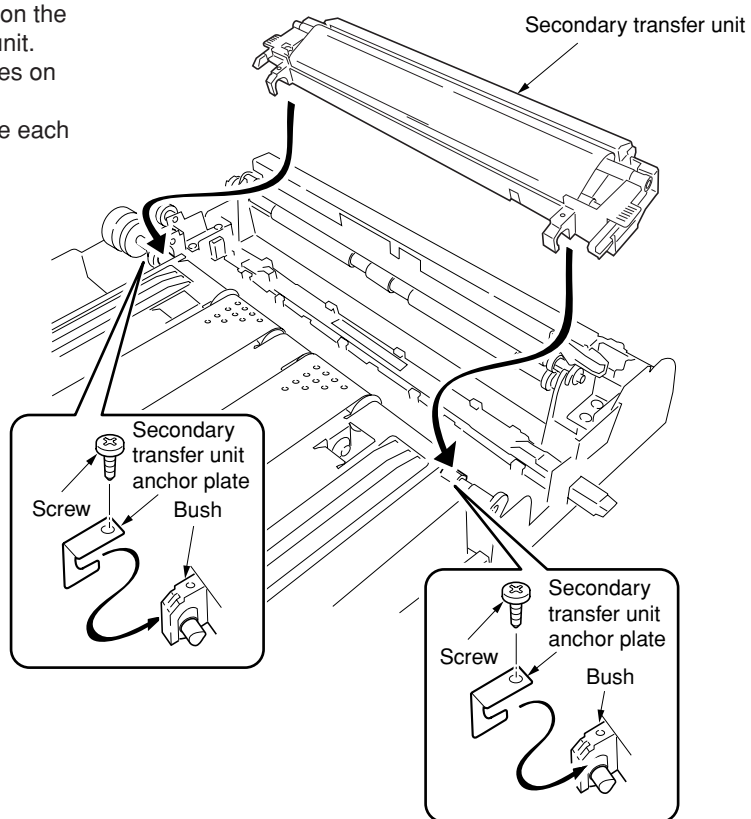


Figure 1-3-20

Installing the secondary transfer unit.

1. Fit the fulcrums of secondary transfer unit on the bushes and then put it on the paper feed unit.
2. Fit the secondary transfer unit anchor plates on the bushes.
3. Secure the secondary transfer unit with the each one screw.

**Figure 1-3-21**

Installing the waste toner tank.

1. Install the waste toner tank.

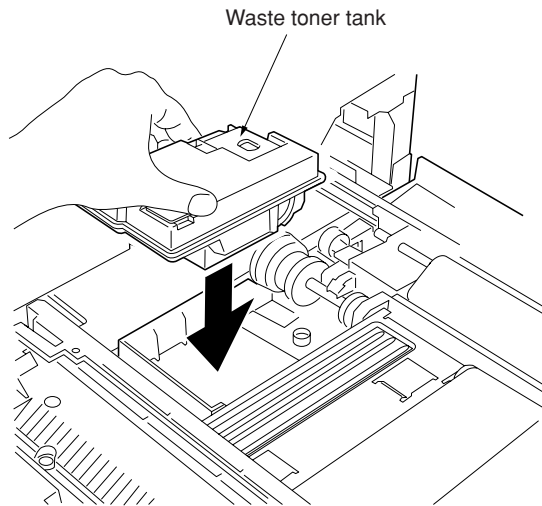


Figure 1-3-22

Installing the four developers.

1. Close the paper feed unit.
2. Unscrew the two screws and then release the two stoppers. Remove the two screws of the process frame.
3. Pull out the process frame.

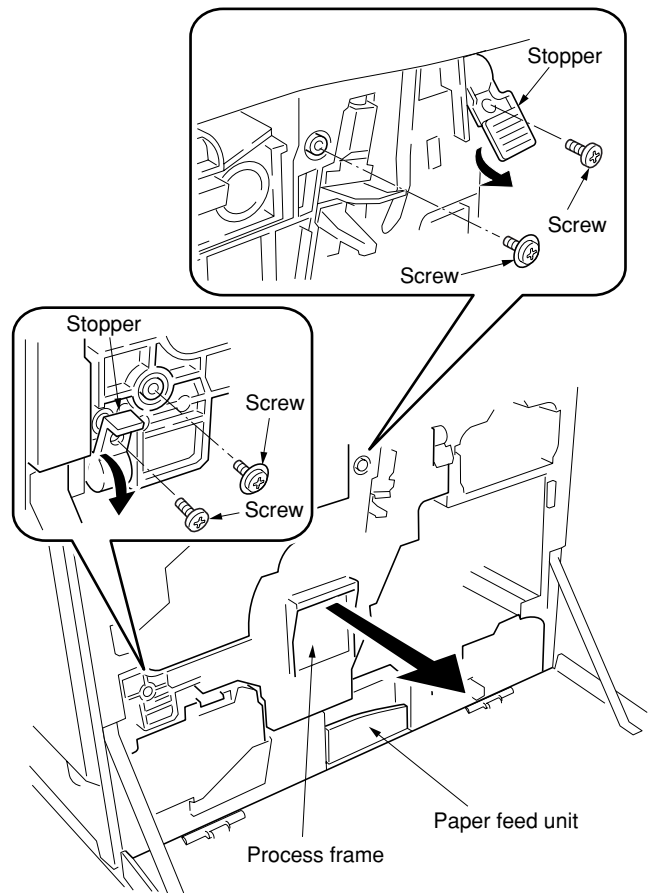


Figure 1-3-23

- 4. Detach the two tags.
- 5. Remove the front and rear stoppers.

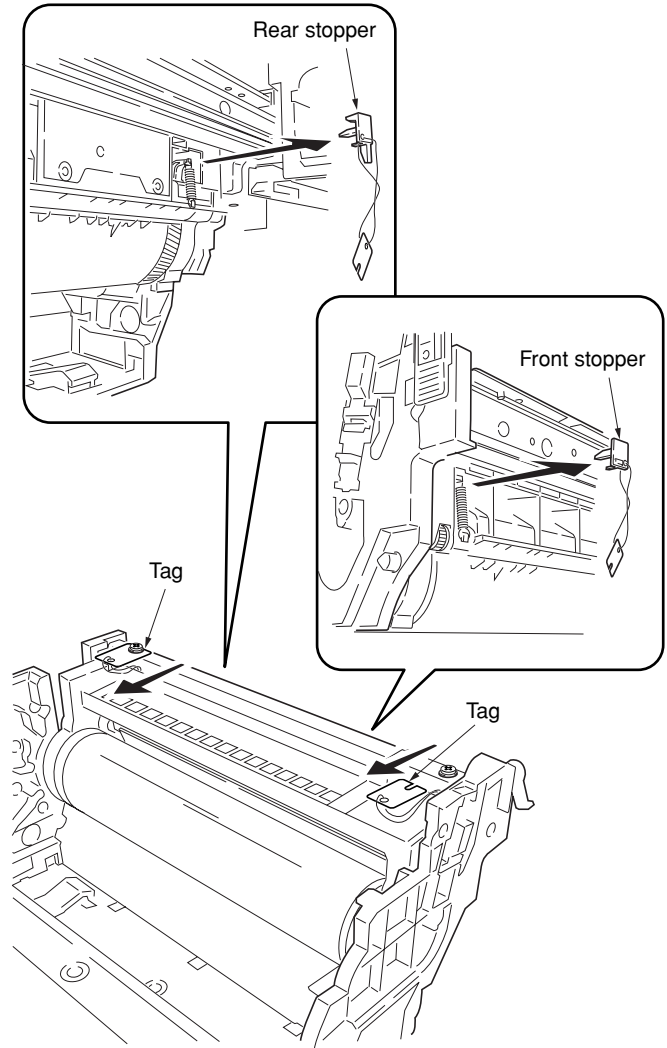


Figure 1-3-24

- 6. Peel off the tapes and then remove the protective pad from each developer unit.

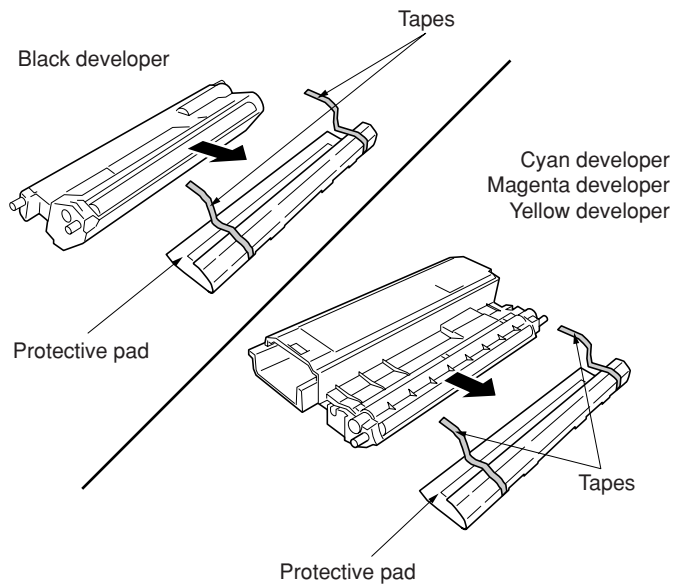


Figure 1-3-25

7. Set each developer in its corresponding position in the process frame.

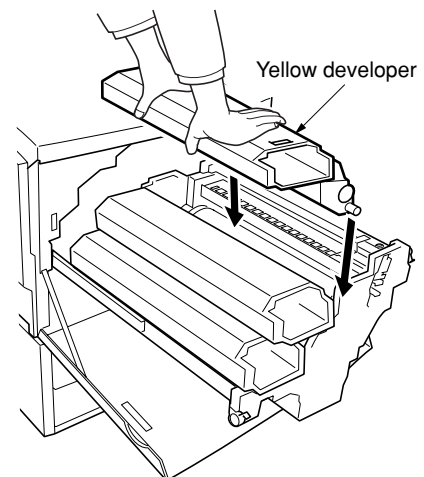
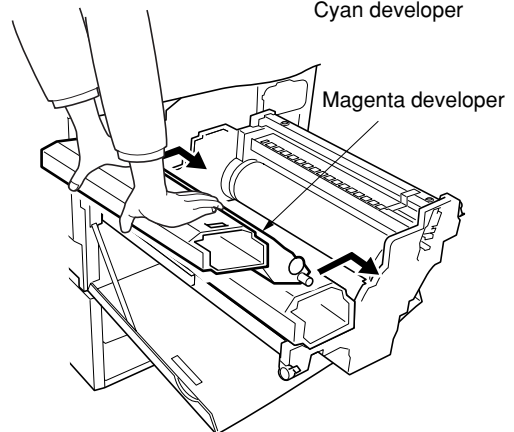
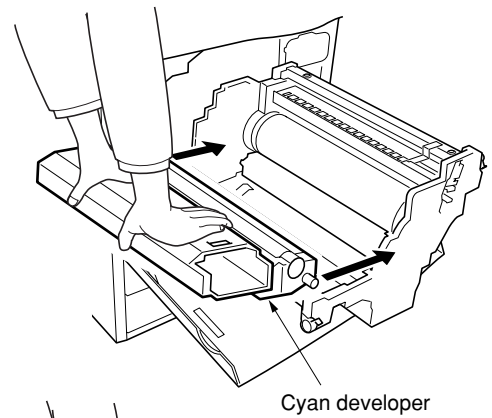
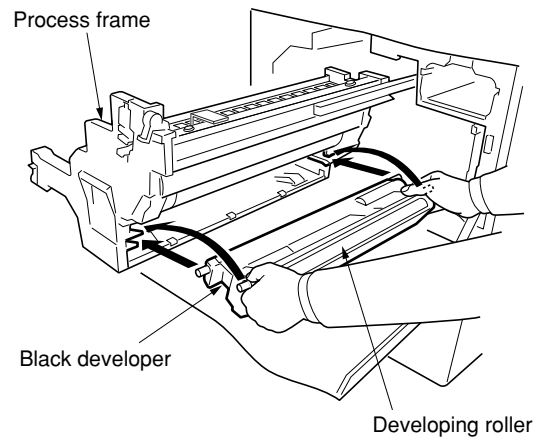


Figure 1-3-26

8. Close the process frame and then lock the two stoppers.
9. Secure the process frame with the two screws. Lock the two stoppers and secure each stopper with a screw.

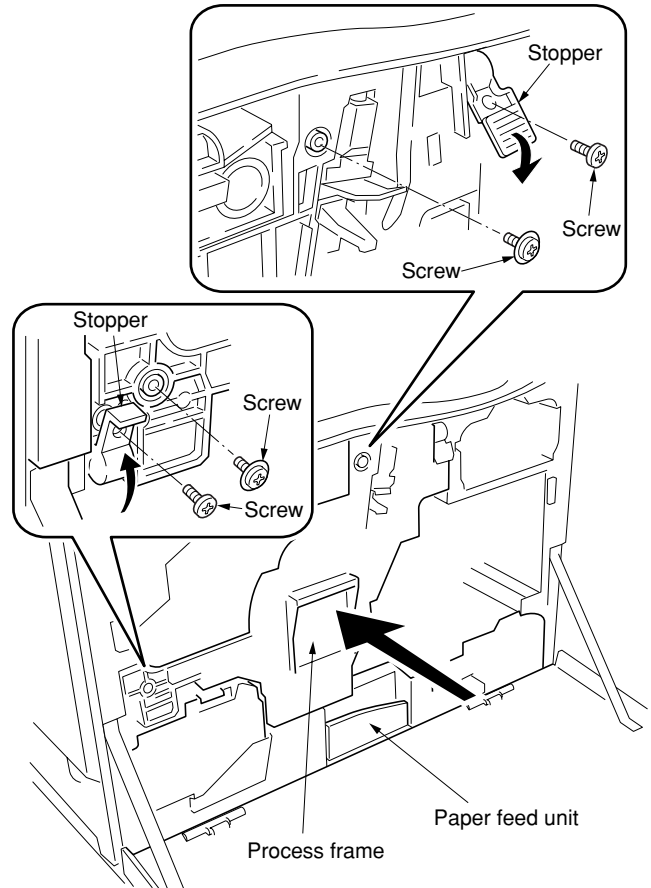


Figure 1-3-27

10. Pull out the paper feed unit.
11. Align the guide roller at the upper part of the primary transfer unit with the rail on the printer and mount the primary transfer unit to its original position.

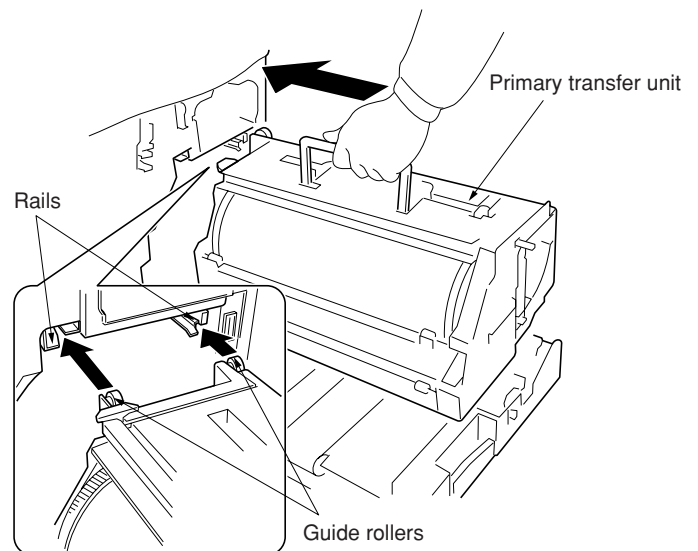


Figure 1-3-28

12. Push the lock lever down and turn the primary transfer unit release lever to the direction of the arrow.
13. Close the paper feed unit.
14. Secure the stopper lever (gray-colored) with the screw.

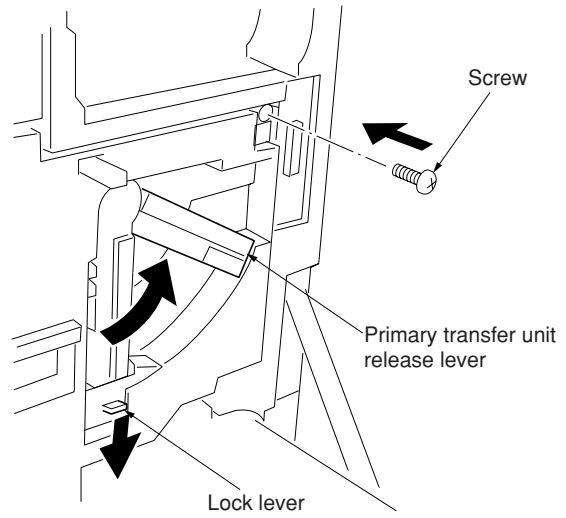


Figure 1-3-29

Installing the toner containers.

1. Shake each toner container five times or more from side to side.
If you install the toner container without shaking it sufficiently, toner may not be replenished sufficiently.
2. Install the four toner containers into their corresponding developers shown in the diagram.
3. Close the front cover.

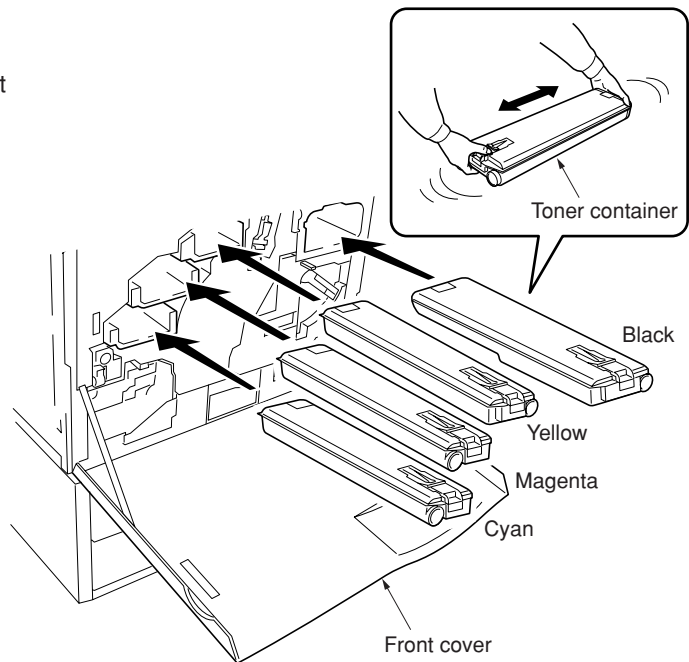


Figure 1-3-30

Attaching the accessories.

1. Install the filter duct to the rear of the copier.

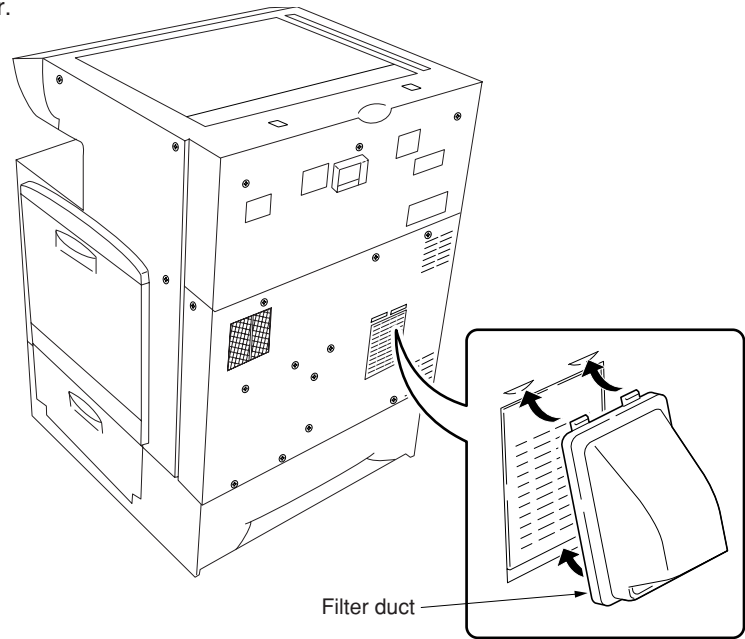


Figure 1-3-31

Installing the original cover or the DP (option).

1. Install the original cover or the DP.

Connect the power cord.

1. Connect the power cord to the connector on the copier and insert the power plug into the wall outlet.
2. Turn the power switch on.

Setting the time zone (maintenance item U209).

1. Enter the maintenance mode by entering "10871087" using the numeric keys.
2. Enter "209" using the numeric keys and press the start key.
Setting the current time zone, date, and time (see page 1-4-46).

Adjusting the image (maintenance item U034 and U410).

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" × 17" paper on the drawer 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 location of drawer and press the interrupt key. Press the start key to output a test pattern. Check the center line is correct and if it is, perform the same adjustment in case of paper is fed from the bypass tray.
3. Enter "410" using the numeric keys and press the start key to perform the adjusting the halftone automatically. Set A4/11" × 8¹/₂" paper on the drawer. Select "Continuation adjust" to output a test pattern. Place the output test pattern as the original and press the start key (first time).
4. Select "RETRY" to output a test pattern. Place the output test pattern as the original and press the start key (second time).
5. Select "RETRY" to output a test pattern. Place the output test pattern as the original and press the start key (third time). Select "END" to set the data.
6. Select "Engine adjust". Press "Acquire a proper data" on the touch panel.
7. Enter "001" using the numeric keys to exit the maintenance mode.
* If "blurred image" (see page 1-5-53) 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" × 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	90 s
U330	Setting the number of copies to be handled by the stacking mode during sorting	100
U339	Setting the thermal heater	ON
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 set (P/N 2A369704)

Contents of the set:

- Key counter cover (P/N 2A360010)
- Key counter retainer (P/N 66060030)
- Key counter cover retainer (P/N 66060022)
- Key counter mount (P/N 66060040)
- Key counter assembly (P/N 41529210)
- Four (4) M4 × 6 bronze TP-A screws (P/N B4304060)
- Two (2) M4 × 10 bronze TP-A screws (P/N B4304100)
- One (1) M4 × 20 bronze TP-A screw (P/N B4304200)
- One (1) M4 × 6 chrome TP-A screw (P/N B4104060)
- One (1) M3 × 8 bronze binding screw (P/N B1303080)
- One (1) M4 × 30 bronze binding screw (P/N B1304300)
- Two (2) M3 × 6 bronze flat-head screws (P/N B2303060)
- Two (2) M4 × 10 tap-tight S binding screws (P/N B3024100)
- Two (2) M4 × 10 tap-tight P chrome binding screws (P/N B8014100)
- One (1) M3 bronze nut (P/N C2303000)

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.

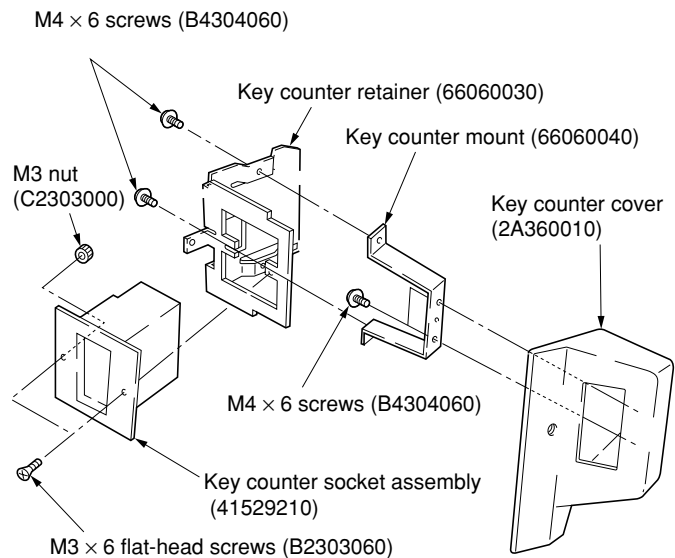


Figure 1-3-32

3. Remove the two screws holding the upper right cover and then the cover.
4. Cut out the aperture plate on the upper right cover using nippers. Also remove the two blanking seals.
5. Refit the upper right cover.

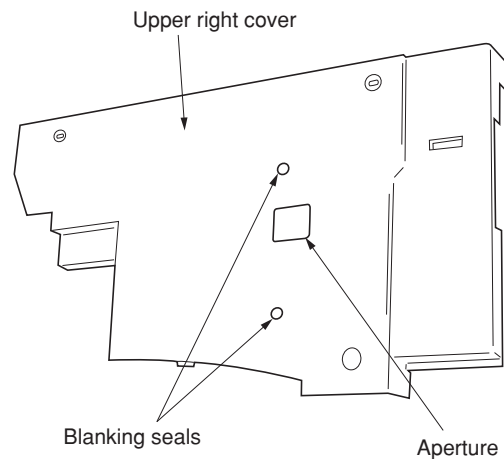


Figure 1-3-33

6. Seat the projection of the key counter cover retainer in the aperture in the upper right cover, and fasten it to the copier using two screws.

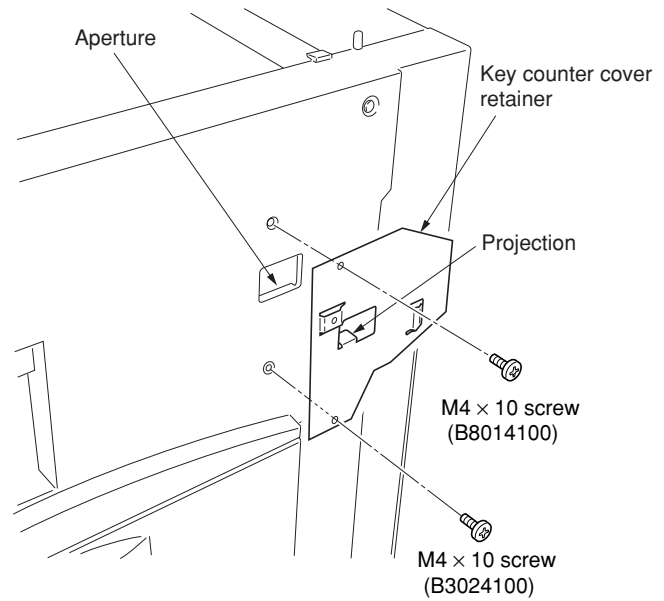


Figure 1-3-34

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

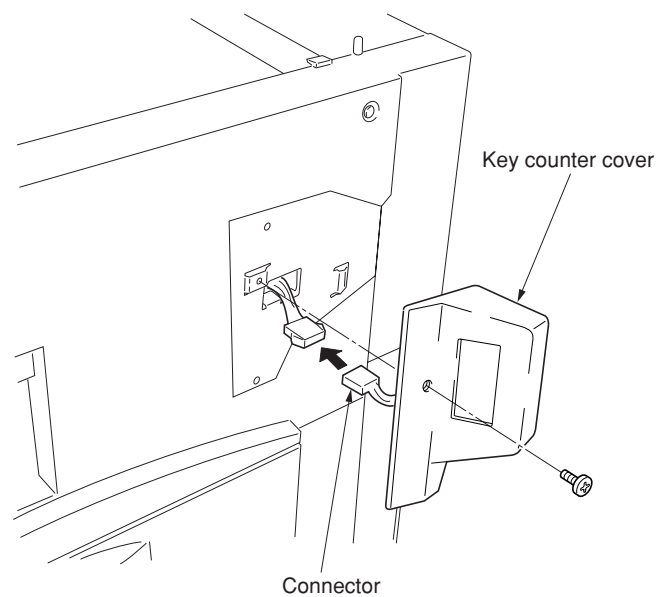


Figure 1-3-35

9. Insert the key counter into the key counter socket assembly.
10. Turn the power switch on and enter the maintenance mode.
11. Run maintenance item U204 and select "KEY-COUNTER."
12. Exit the maintenance mode.
13. Check that the message requesting the key counter to be inserted is displayed on the message display when the key counter is pulled out.
14. Check that the counter counts up as copies are made.

1-3-4 Installing the document finisher (option)

Preparation

[Attaching the mount assembly to the copier]

1. Open the copier's left tray and left cover.
2. Lift the conveying cover, and turn the two strap mounts toward the inside of the copier to detach them.

Note: To detach, turn each strap mount so that it aligns with the catch on the copier.

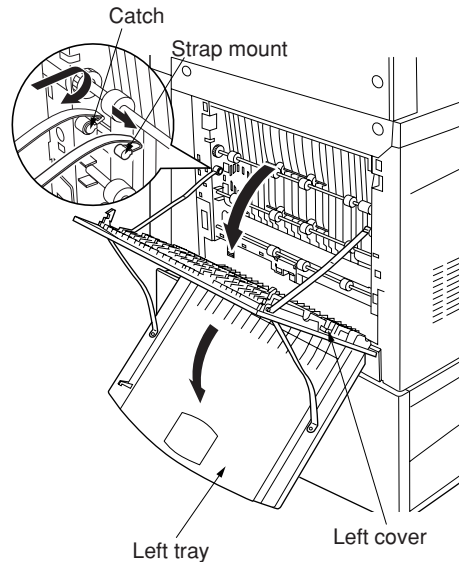


Figure 1-3-25

3. Hold the left tray and left cover so that they are horizontal, and remove them from the copier.

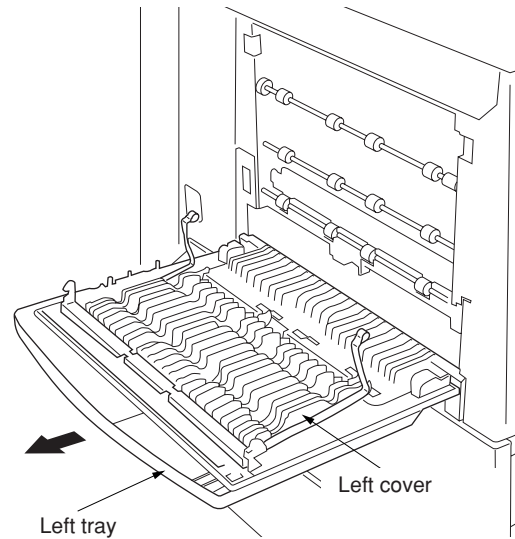


Figure 1-3-26

4. Hold the exit cover assembly so that it is horizontal, and attach it to the copier.

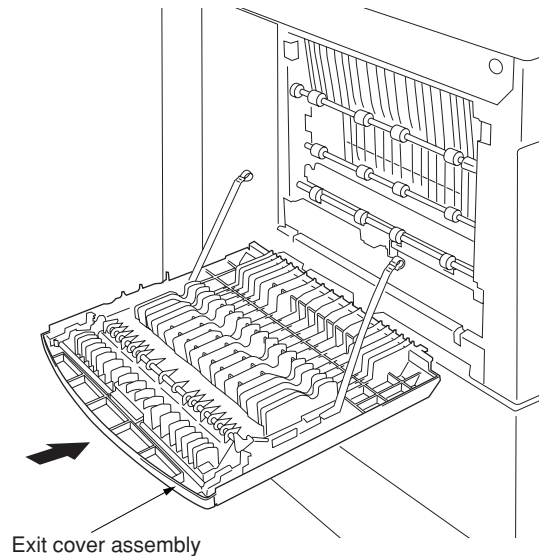


Figure 1-3-27

5. Lift the exit cover assembly, turn the assembly's two mount pieces toward the inside of the copier and attach them to the copier.

Note: To attach, turn each mount piece so that it aligns with the catch on the copier.

6. Close the exit cover assembly.

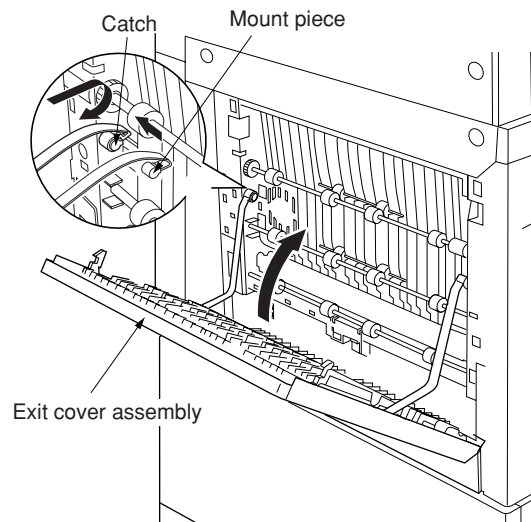


Figure 1-3-28

7. Fasten the retainer to the copier's exit cover using the 4 M4 × 8 TP-A chrome screws.

Note: Fasten at the center of the oblong holes.

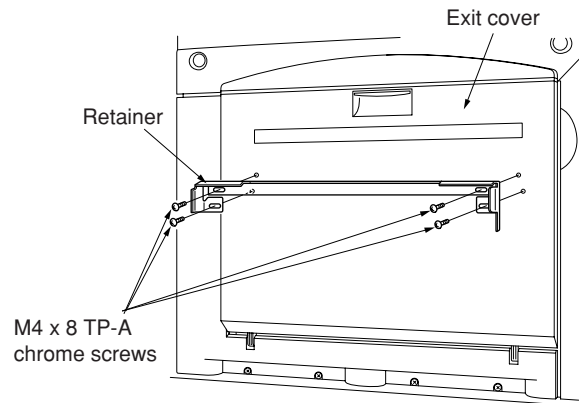


Figure 1-3-29

[Mounting the finisher]

1. Unscrew 2 blue screws and remove the 2 metal fittings holding the rail unit to the finisher.

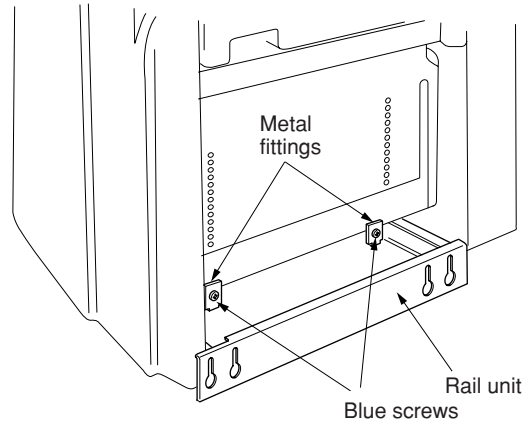


Figure 1-3-30

2. Unscrew the transport fastening screw from the rail unit, move it into the front screw hole, and screw it in.

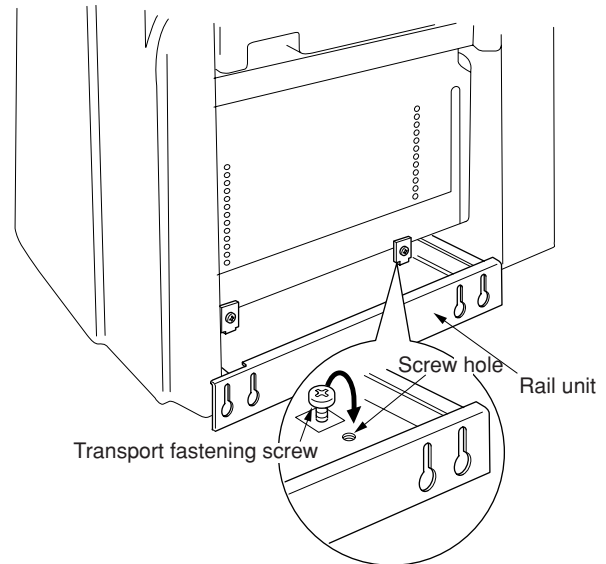


Figure 1-3-31

3. Pull out the 2 fastening pins holding the collection tank in place, and take the collection tank out of the finisher.

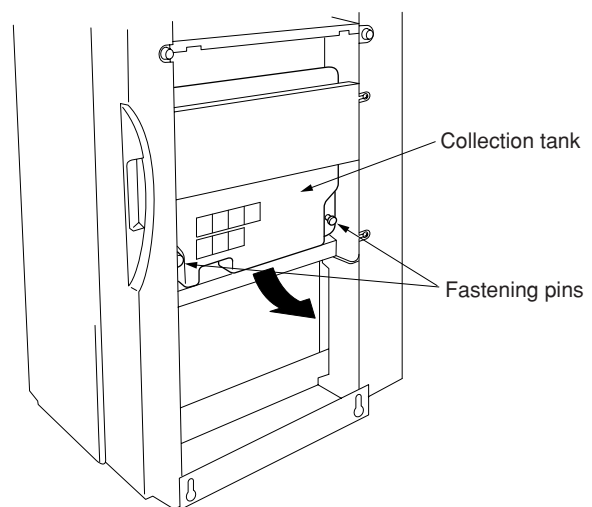


Figure 1-3-32

4. Remove the tape securing the solenoid, and the tape securing the shifting guide.
5. Set the collection tank back into the finisher, and fasten it into place with the 2 fastening pins.

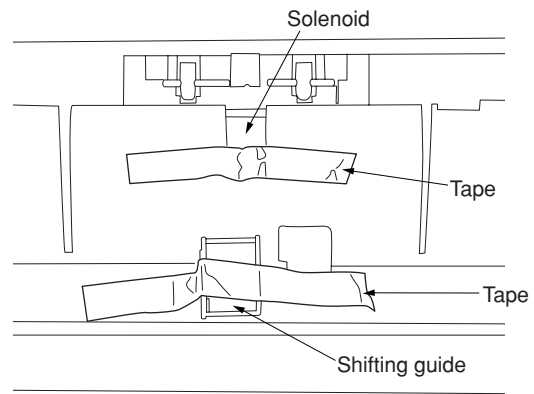


Figure 1-3-33

6. Pull the rail unit out of the finisher.
7. Loosely fasten the rail unit to the copier's finisher-attachment area with the 2 M4 x 10 TP-A bronze screws.

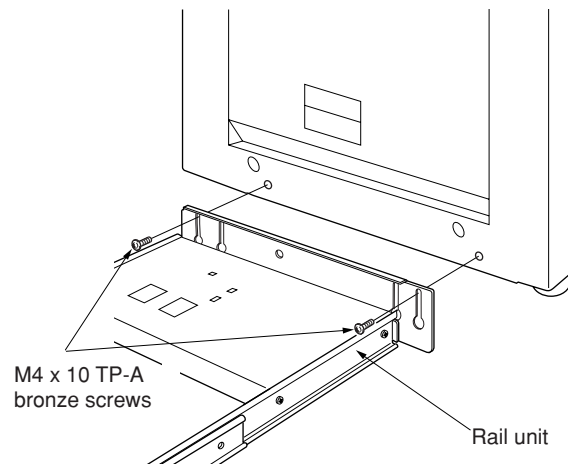


Figure 1-3-34

8. Move the finisher next to the copier, and open the finisher's front cover. Adjust the height-adjustment screw in the rail unit until the guideline marked on the retainer is aligned with the center of the height-adjustment plate.

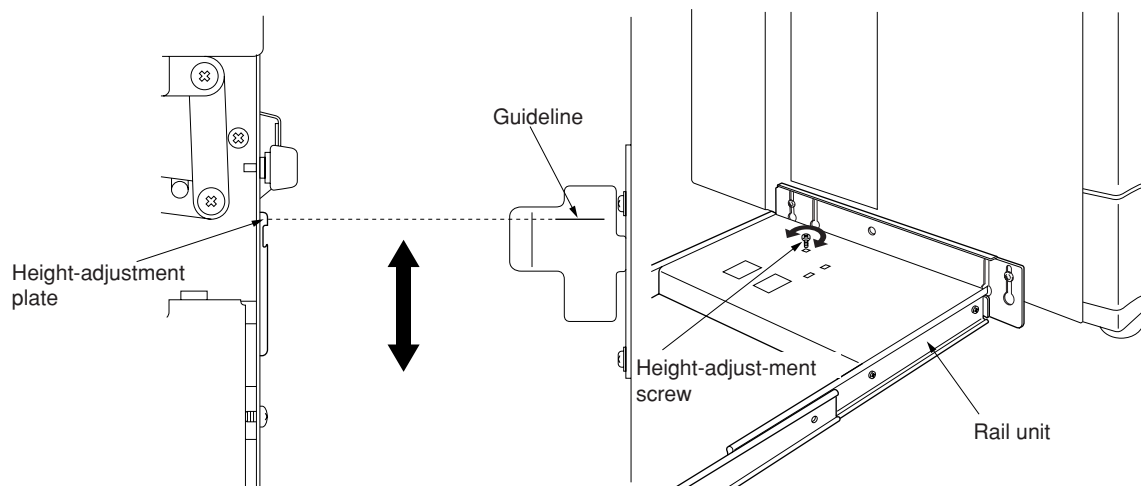


Figure 1-3-35

2CX

9. Pull the finisher away, and tighten up the 2 screws to securely fasten the rail unit to the copier's finisher-attachment area.
10. Set the finisher against the copier.

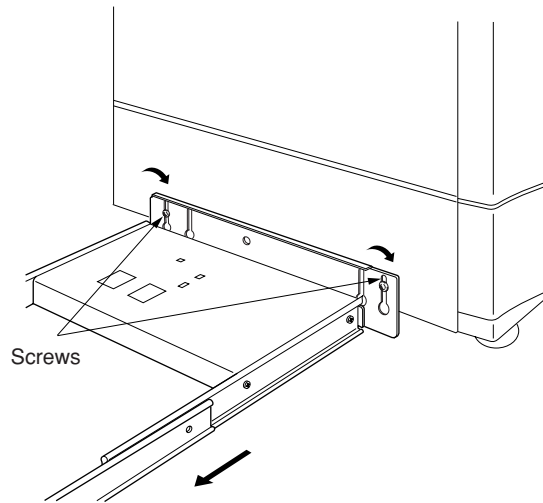


Figure 1-3-36

11. Open the finisher's front cover.
12. Remove the tape securing the internal tray unit.
13. Remove the fastening pin holding the internal tray unit in place, and pull out the middle tray unit.

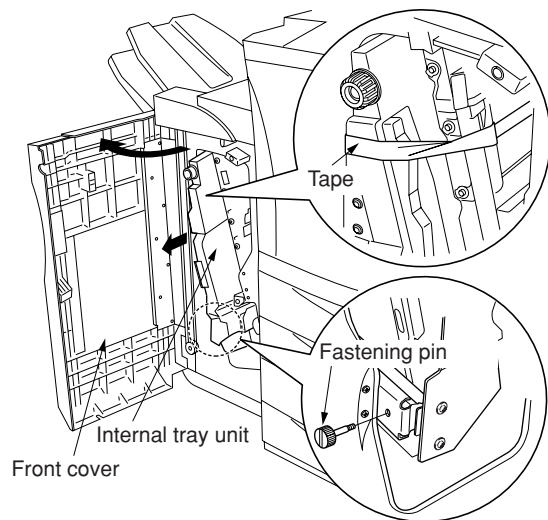


Figure 1-3-37

14. Remove the tape securing the cushioning material for the stapler unit, and remove the cushioning material.

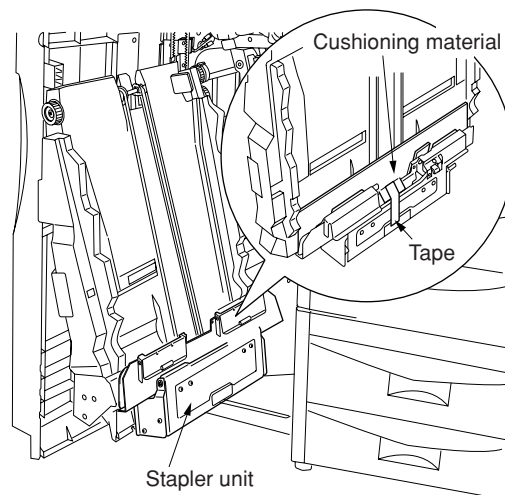


Figure 1-3-38

15. Remove the 2 fastening pins securing the stapler unit at the bottom of the intermediate tray unit.
16. Raise the stapler unit in the indicated direction, and load the 2 stapler cartridges into it.

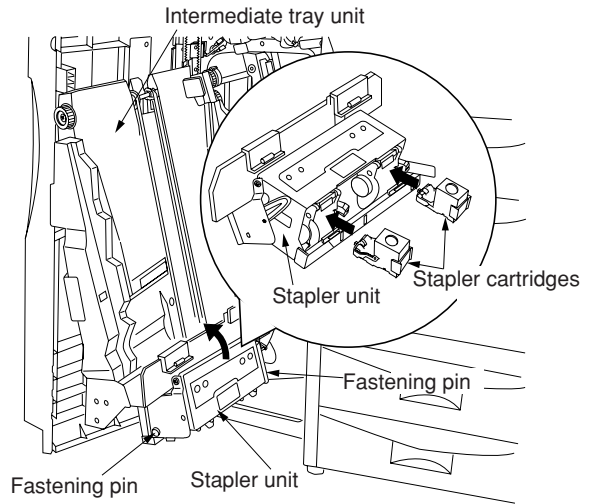


Figure 1-3-39

17. Lift the stapler unit further up, and then lower it.
18. Set the intermediate tray unit back into the finisher, and close the front cover.

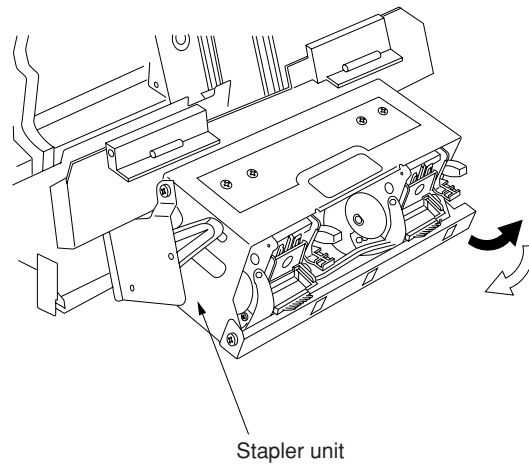


Figure 1-3-40

19. Fasten the main tray to the finisher using the 2 fixing guide pins and the 2 hexagonal cap nuts.

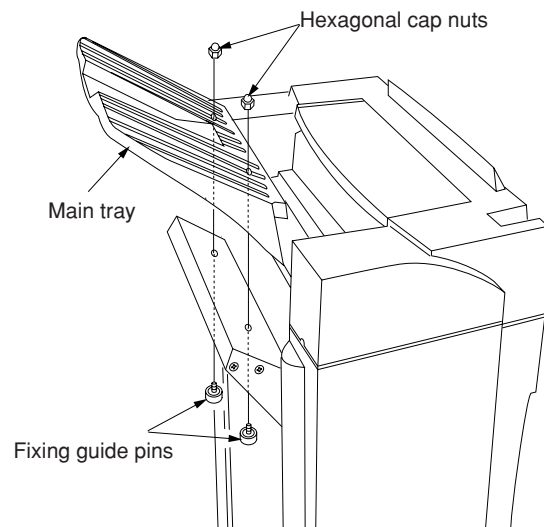


Figure 1-3-41

2CX

20. Hold the auxiliary tray vertically, attach it to the top of the finisher, and lower it toward the exit side.

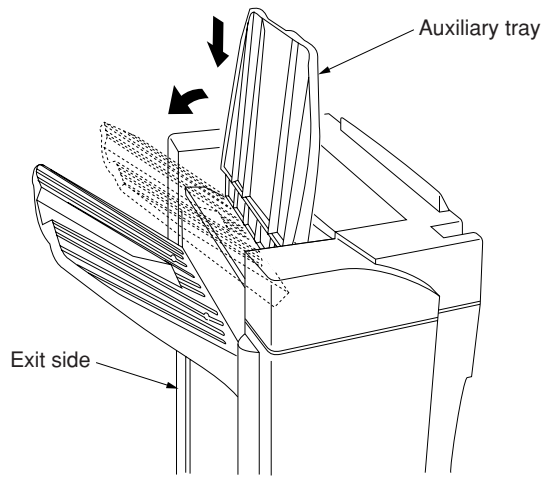


Figure 1-3-42

[Mounting the option power assembly]

1. When the optional DP is installed, release the connector stopper of the rear copier with the screwdriver and then remove the connector.

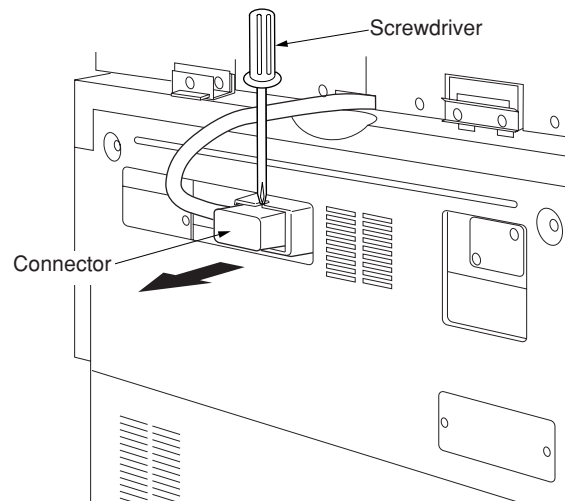


Figure 1-3-43

2. Remove 3 screws and take off the copier's middle rear cover.
3. Disconnect the 4-pin connector.

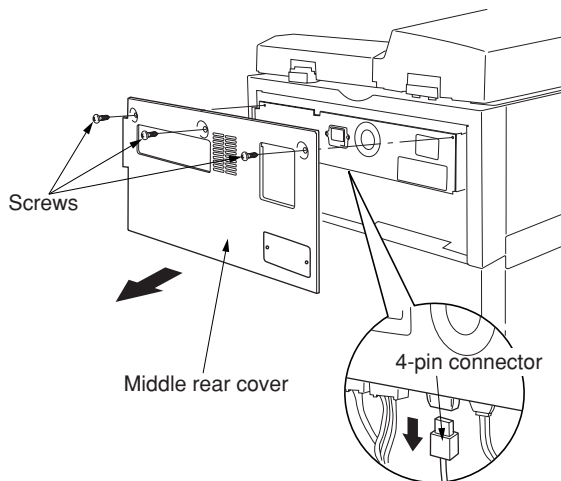


Figure 1-3-44

4. Fasten the option power assembly to the copier with the 2 M3 × 8 tap-tight binding screws.

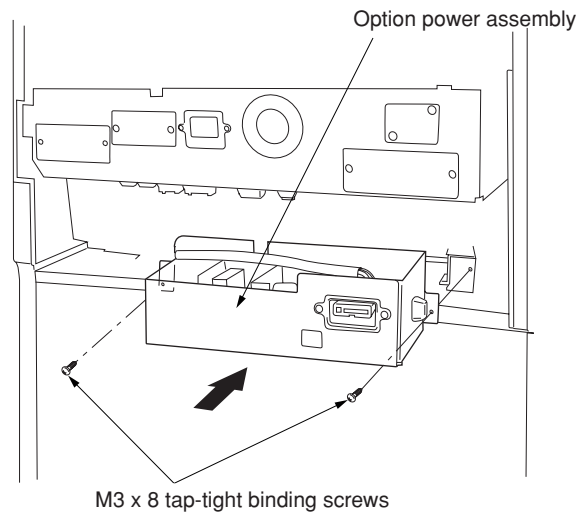


Figure 1-3-45

5. Connect the option power assembly's 2-pin and 6-pin connectors, and reconnect the 4-pin connector that you removed at Step 3 above.

Note: Pass the 4-pin connector through the option power assembly's edge saddle.

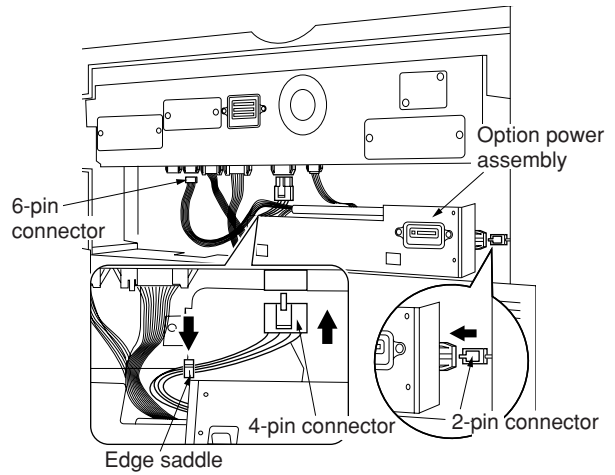


Figure 1-3-46

(120 V specifications only)

6. Attach the two shield gaskets to the option power assembly.

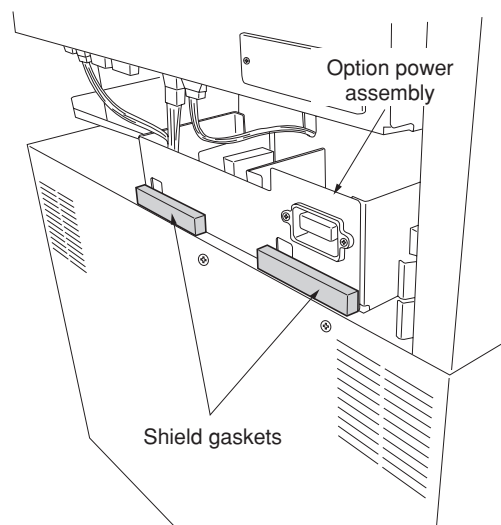


Figure 1-3-47

7. Reattach the copier's middle rear cover using the 3 screws you removed at Step 2.

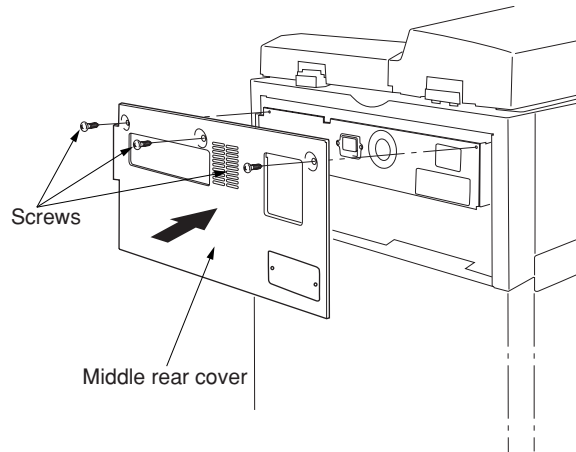


Figure 1-3-48

8. Remove 2 screws and take off the cover plate on the middle rear cover.
9. Reconnect the connector of the optional DP.

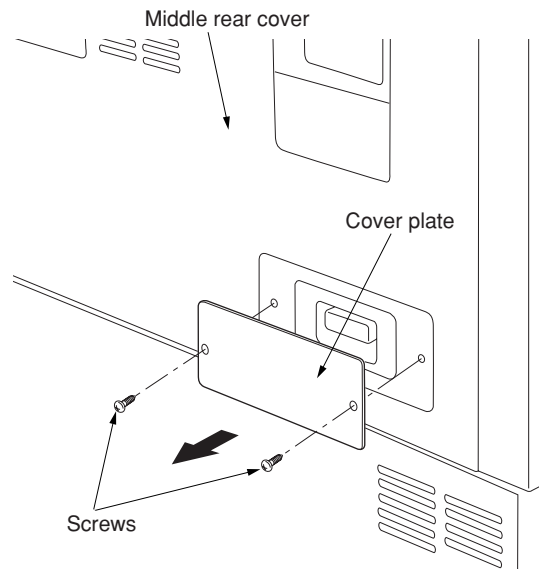


Figure 1-3-49

[Connecting the signal cable]

1. Connect the finisher's signal cable to the connector on the copier.
(120 V specifications only)
Install the clamp in the signal cable and tighten with the fixed screw of the lower rear cover the copier.
2. Plug the copier into a wall outlet, and turn the copier's power switch on.

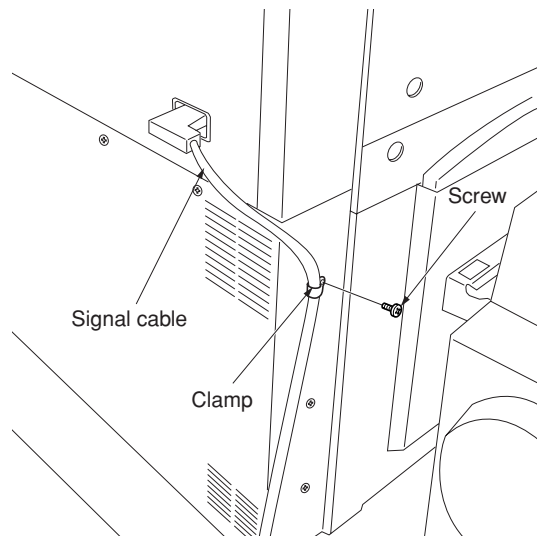


Figure 1-3-50

[Checking and adjusting]

- Adjust the punch-hole centering.
- 1. Set the machine into punch mode, and make a test copy using manual feed.
 - Note:** Perform this check after checking that the center position of each drawer in the copier is correct.
- 2. Check the centering of the punch-holes on the test copy.
- 3. Loosen the 4 screws securing the retainer, move the retainer as necessary to adjust the centering, and then retighten the screws.
- If holes are off-center toward the front of the copier (case [a] in illustration): Move the retainer toward the rear of the machine (in the direction of the ← in the illustration.)
- If holes are off-center toward the rear of the copier (case [b] in illustration): Move the retainer toward the rear of the machine (in the direction of the ⇨ in the illustration).

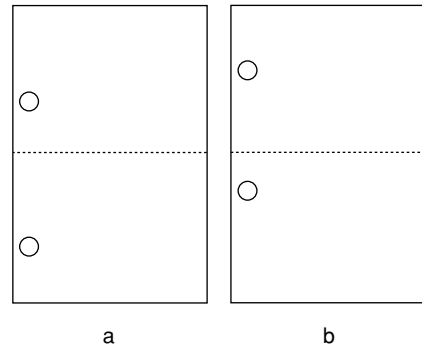


Figure 1-3-51

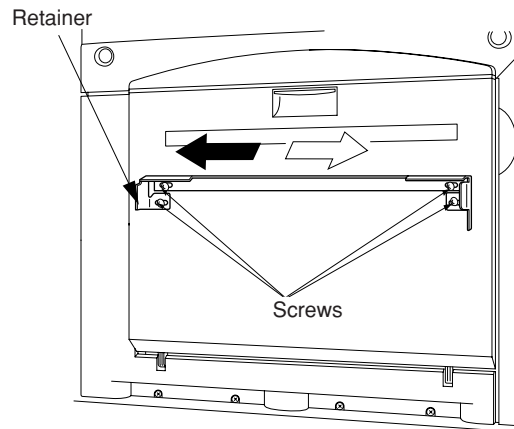


Figure 1-3-52

- Adjust the paper curl
- 1. Run paper through the machine.
- 2. Check the curl on the paper ejected onto the finisher's auxiliary tray. Clamp to the wing tray and pass the wire through both clamps.

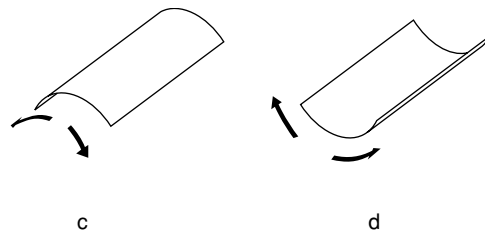


Figure 1-3-53

- If excessive downward curl (case [c] in illustration):
 - (1) Open the finisher's front cover.
 - (2) Move the lower lever one step to the left. The lever is initially set to position "1," and can be adjusted to five positions ("1" to "5").
 - (3) Run paper through the machine.
 - (4) Check the downward curl on the ejected paper.
 - (5) Repeat steps 2 to 4 until there is no curl.
 - (6) Close the finisher's front cover.

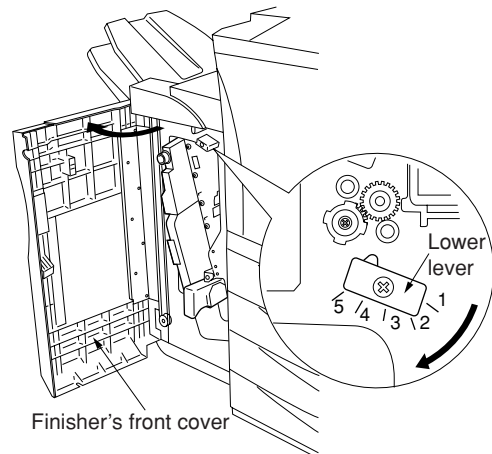


Figure 1-3-54

- If excessive upward curl (case [d] in illustration):
- (1) Loosen 4 screws and remove the finisher's upper cover.

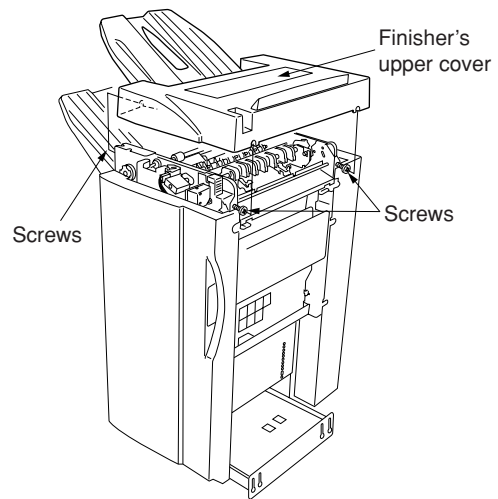


Figure 1-3-55

- (2) Move the upper lever m one step to the right. The lever is initially set to position "1," and can be adjusted to five positions ("1" to "5").
- (3) Run paper through the machine.
- (4) Check the upward curl on the ejected paper.
- (5) Repeat steps 2 to 4 until there is no curl.
- (6) Reattach the finisher's upper cover, and tighten the 4 screws.

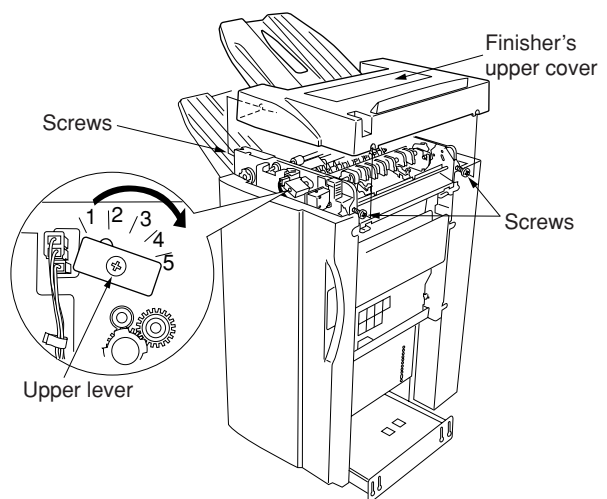


Figure 1-3-56

1-3-5 Installing the memory copy board/network scanner board (option)

Preparation

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

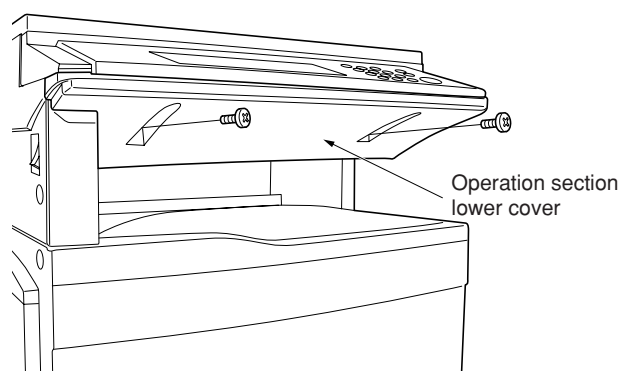


Figure 1-3-57

2. Remove the three connectors under the panel.
Remove the screw.

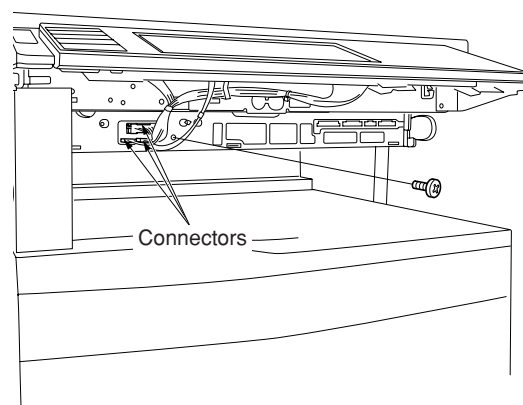


Figure 1-3-58

3. Remove the three screws and remove the middle rear cover.

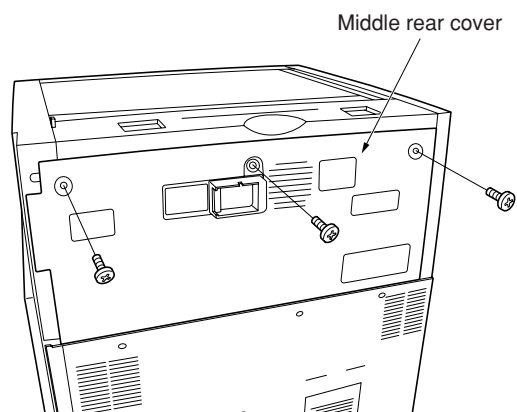


Figure 1-3-59

4. Remove the five connectors and two screws, and pull out the electrical component unit a little.
If a fax kit or a finisher has been installed, remove their respective connector.

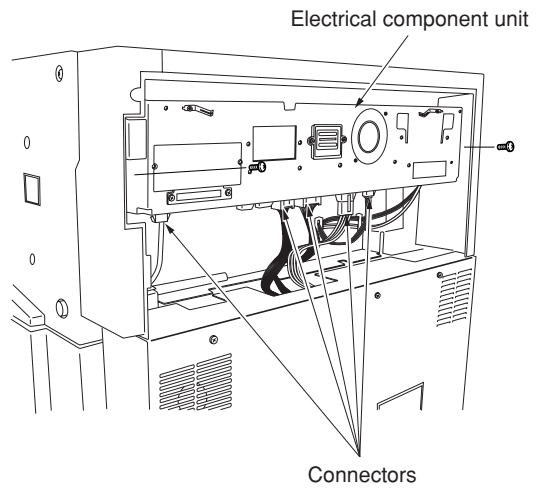


Figure 1-3-60

5. Remove the three connectors .
Remove the wire saddle to release the wires of the connector and the connector.
Remove the two connectors from the scanner main PCB.
Pull out the electrical component unit.

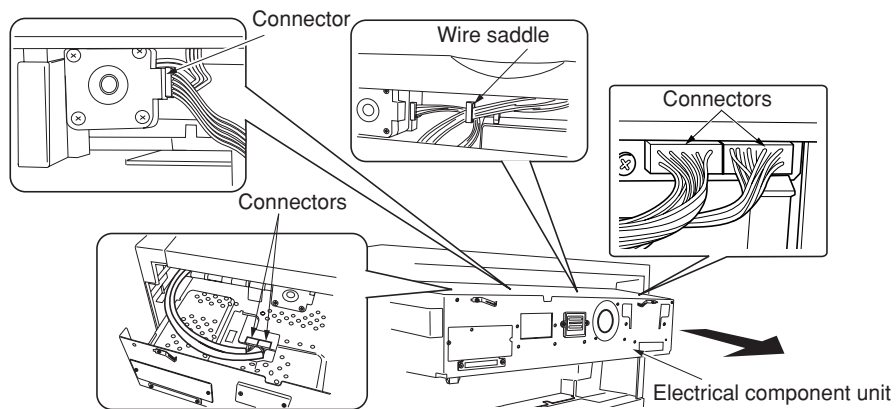


Figure 1-3-61

6. Remove the 13 screws and then remove the electrical component cover.

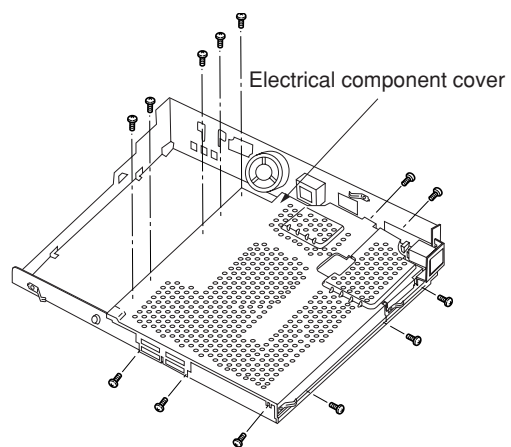


Figure 1-3-62

To install a memory copy board, proceed to step 7.
To install a network scanner board, proceed to step 9.
To install both units, follow step 7 and after sequentially.

[Installation of memory copy board]

7. Connect the memory copy board to the connector YC1116 shown in the scanner main PCB. Ensure that the connector is inserted all the way into the other connector.
Fix the memory copy board with the three pieces of binding Taptite S M3 × 06.
*Take care not to get the wire caught.
8. Execute maintenance mode U024 (HDD format). See page 1-4-17.
* Check that "0000" is displayed after completing of initialization.
If installation of a network scanner board is not needed, proceed to step 13.

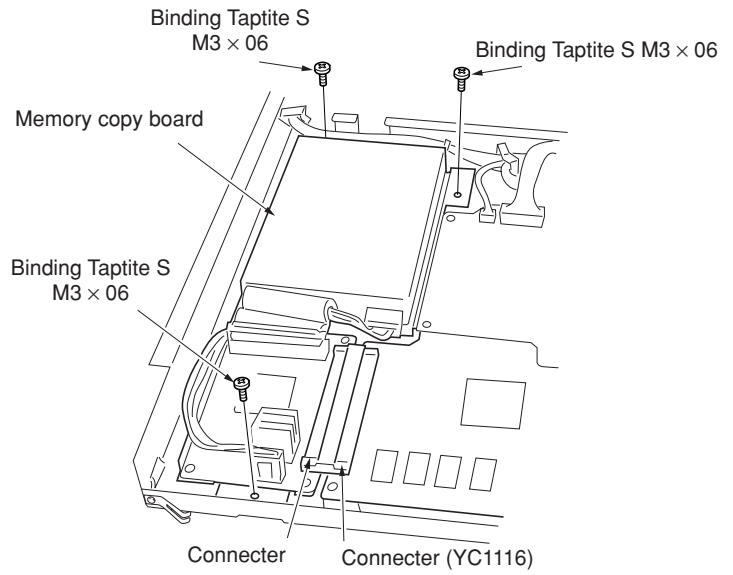


Figure 1-3-63

[Installation of network scanner board]

9. Remove the two screws from the electrical component unit and then remove the rear cover.

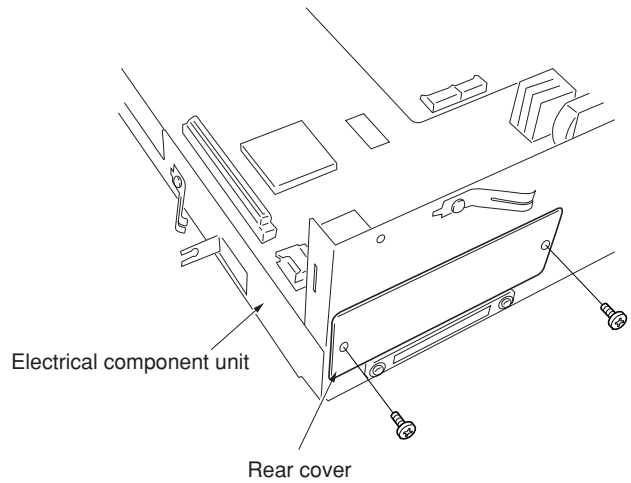


Figure 1-3-64

10. Insert the network scanner board and fix it to the connector YC1114 (as shown in the illustration).
Ensure that the connector is inserted all the way into the other connector.

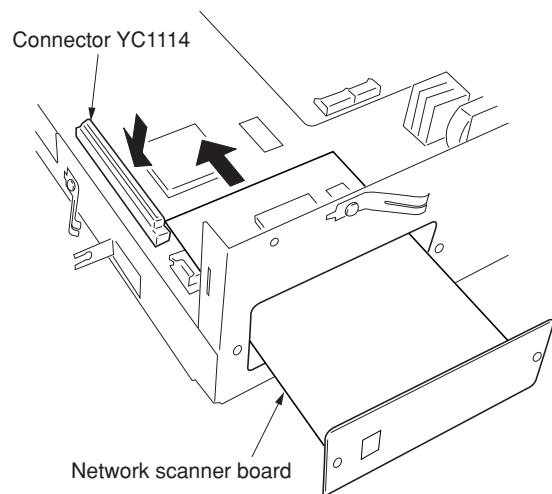


Figure 1-3-65

2CX

11. Fix the network scanner board with the two screws that have been removed in step 9.
12. Reattach the electrical component unit to its original position.
13. Reattach the connectors that have been removed in steps 2, 4, and 5.
14. Reattach the middle rear cover to its original position.
15. Reattach the operation section lower cover to its original position.

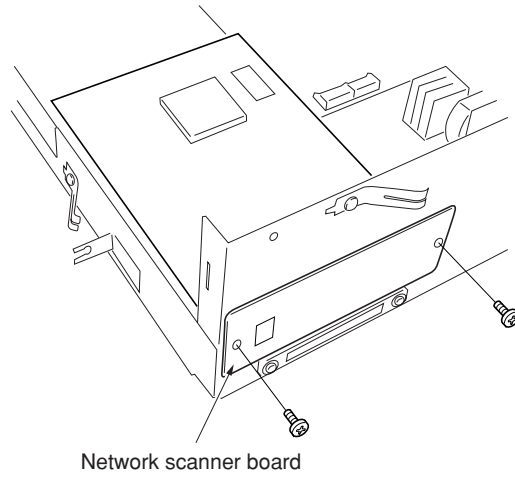


Figure 1-3-66

Figure 1-3-82

1-3-6 Installing the printer board (option)

Preparation

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

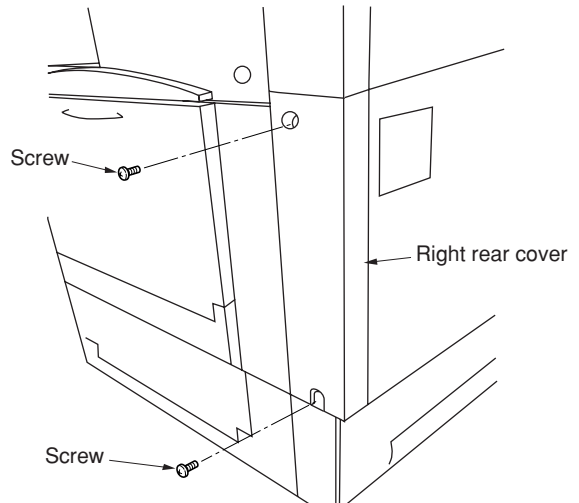


Figure 1-3-67

2. Insert the printer board all the way into the copier.

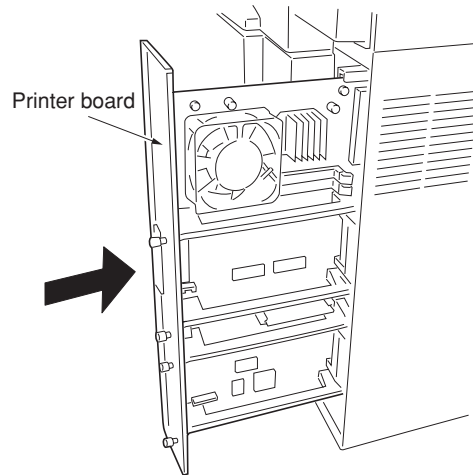


Figure 1-3-68

3. Fix the printer board with the two screws that have been removed in step 1.

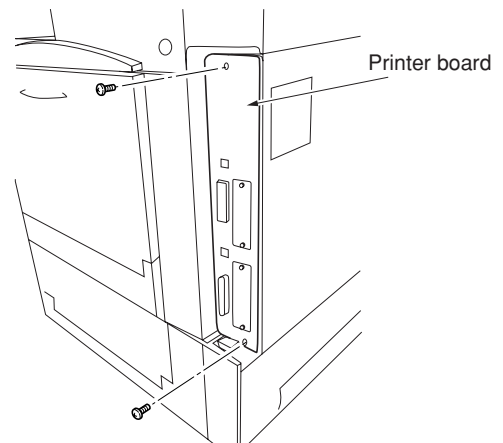


Figure 1-3-69

[Installing the optional printer network kit]

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

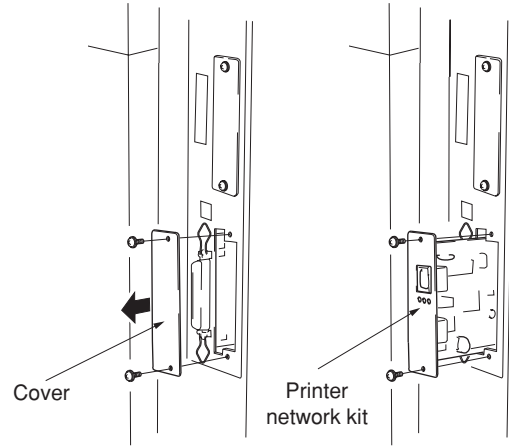


Figure 1-3-70

[Installing the optional hard disk]

6. Remove the two screws located on the slot with marking HDD and take off the cover.
 7. Push the hard disk all the way in along the rails, and fasten it to the controller box with the 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”.

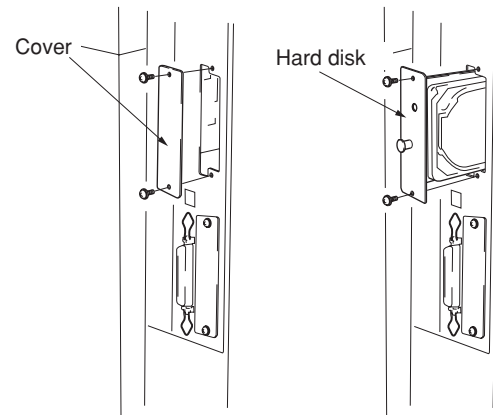


Figure 1-3-71

[Installing the optional serial interface]

8. Remove the printer board, remove the two screws located on the slot with marking OPT, and take off the cover. Pass the connector of the serial interface through the slot and insert it into connector YC7.
9. Insert the serial interface all the way along the rail and fix it to the controller box with the two screws.

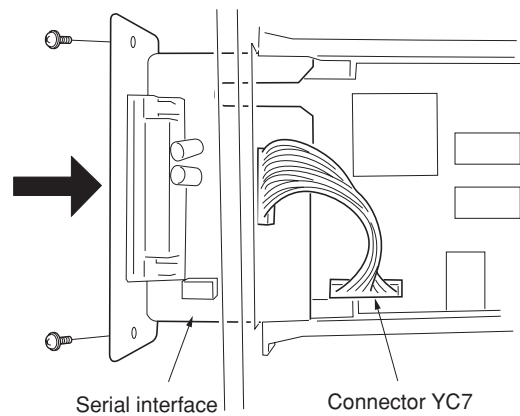
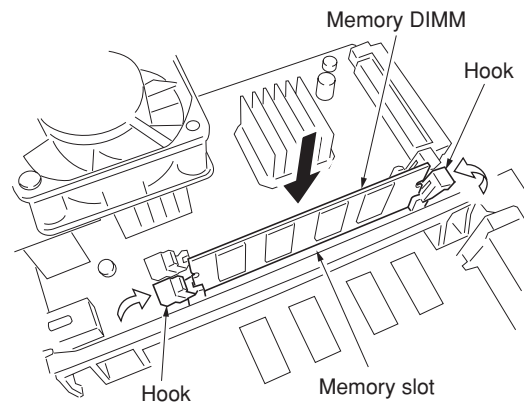


Figure 1-3-72

[Installing the optional Memory DIMM]

10. Remove the printer board, 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 can accept up to two optional DIMMs. If installing a single DIMM, you can use either slot.

**Figure 1-3-73**

1-3-7 Installing the fax kit (option)

Preparation

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

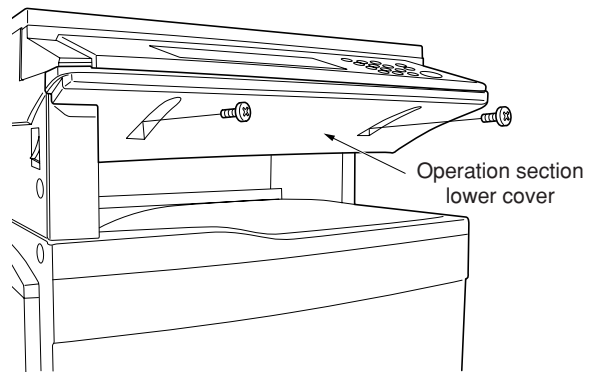


Figure 1-3-74

2. Remove the three connectors under the panel.
Remove the screw.

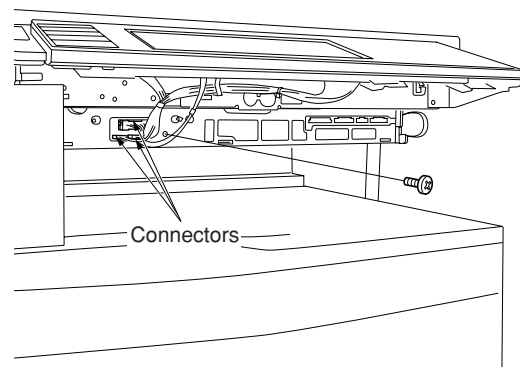


Figure 1-3-75

3. Remove the three screws and remove the middle rear cover.

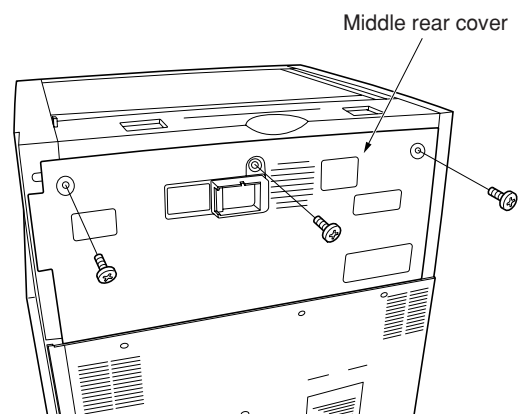


Figure 1-3-76

4. Remove the five connectors and two screws, and pull out the electrical component unit a little.
If a finisher has been installed, remove their respective connector.

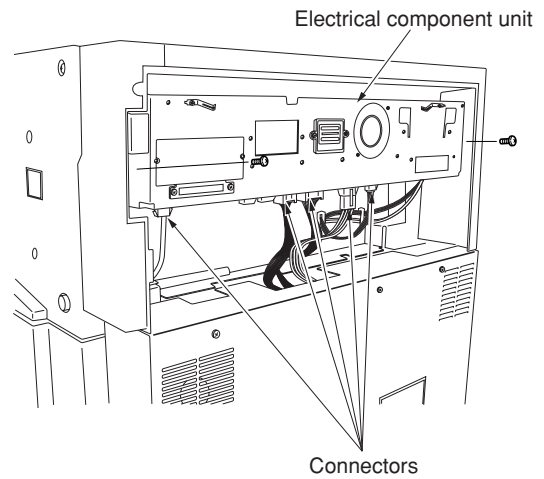


Figure 1-3-77

5. Remove the three connectors.
Remove the wire saddle to release the wires of the connector and the connector.
Remove the two connectors from the scanner main PCB.
Pull out the electrical component unit.

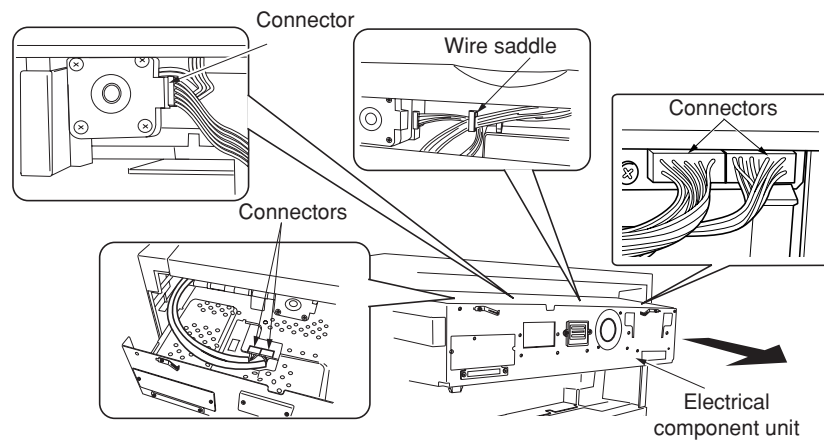


Figure 1-3-78

6. Remove the five screws from the electrical component cover.

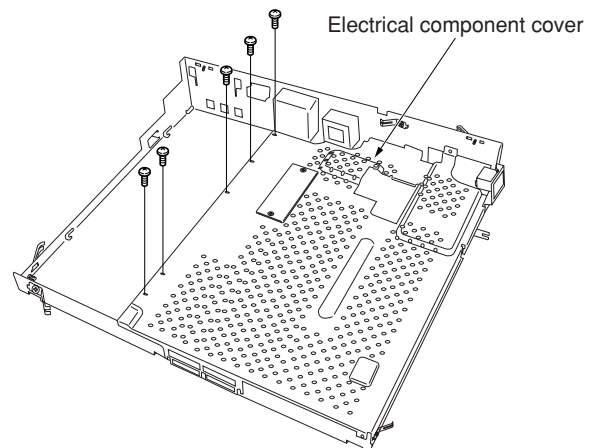


Figure 1-3-79

7. Remove the two screws and then remove the NIC cover.
Caution: Stick the FAX sheet after removing the NIC cover since the left modular is not used.

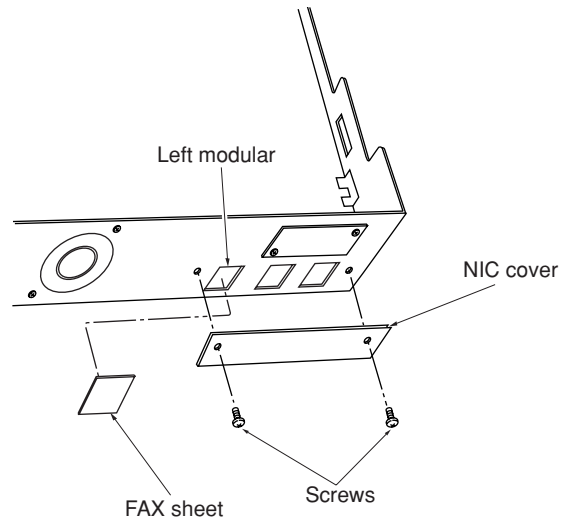


Figure 1-3-80

8. Remove the filament tape holding the FAX control assembly. Use the screw that has been removed in step 7 to fix the FAX control assembly to the electrical component unit. *Insert the FAX control assembly under the connector at an angle, then slide it horizontally (toward the modular section), and fit the three claws of the electrical component unit to the FAX control assembly.

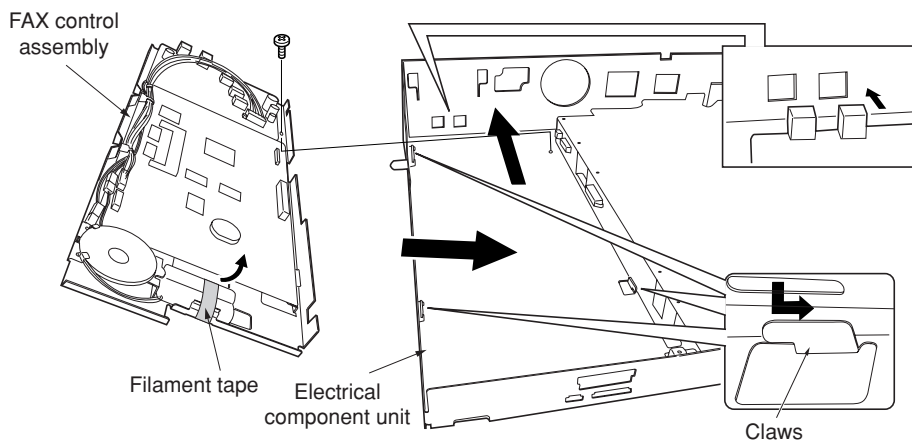


Figure 1-3-81

- Fit the FAX control assembly so that the modular section enters the hole of the electrical component unit.
9. Connect the FAX relay cable to the YC8 connector and the 9-pin connector of the FAX control assembly.

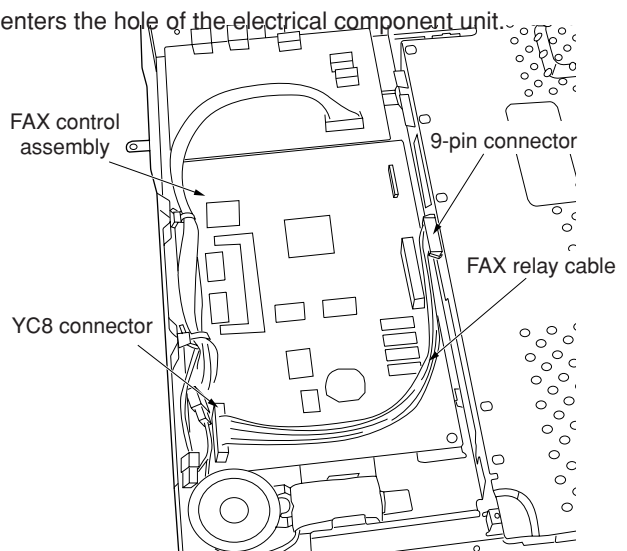


Figure 1-3-82

- Remove the two screws and then remove the cover for electrical component cover.

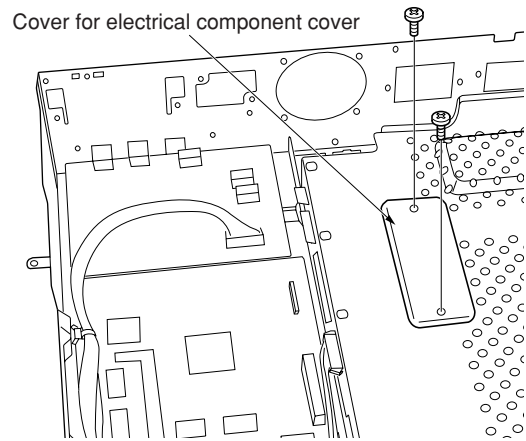


Figure 1-3-83

- Pass the FAX wire through the opening located at the upper part of the electrical component cover, raise the housing of the YC1123 connector on the scanner main PCB to insert the FAX wire, and then push the housing in to connect the wire to the YC1123 connector. Then pull the FAX wire out through the opening on the left side of the electrical component cover.

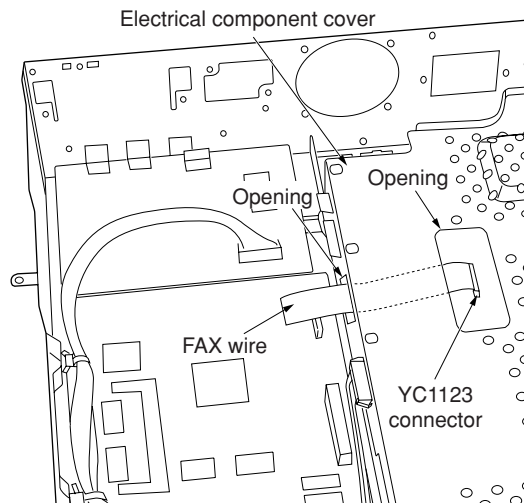


Figure 1-3-84

- Pass the core through the FAX wire and place it at the lower part of the opening on the left side of the electrical component cover.

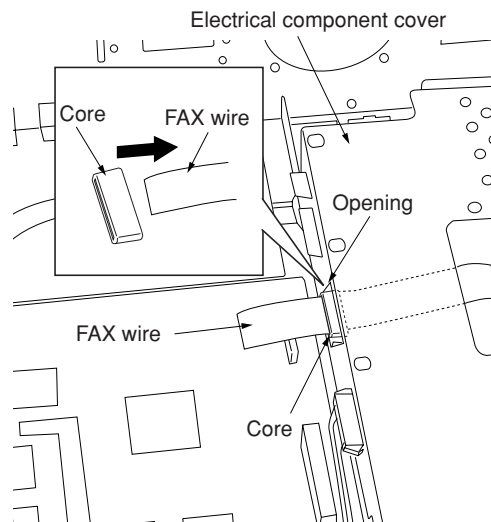


Figure 1-3-85

13. Fit the FAX wire spacer into the opening. Insert the FAX wire by raising the housing of the YC1 connector of the FAX control assembly and then push the housing in to connect the wire to the YC1 connector. Caution: Insert the FAX wire firmly all the way into the connectors. Improper connection such as oblique insertion may cause various types of trouble. The front and the back of the FAX wire are not identical. Fit it so that the side with characters is placed as the back side.

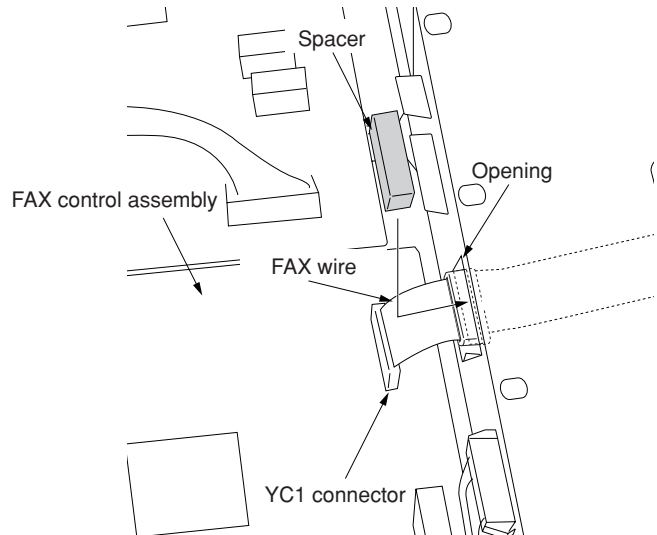


Figure 1-3-86

14. Insert the optional memory module DIMM at an angle into the connector YC4 of the FAX control assembly. Push the free end of the module down toward the board.

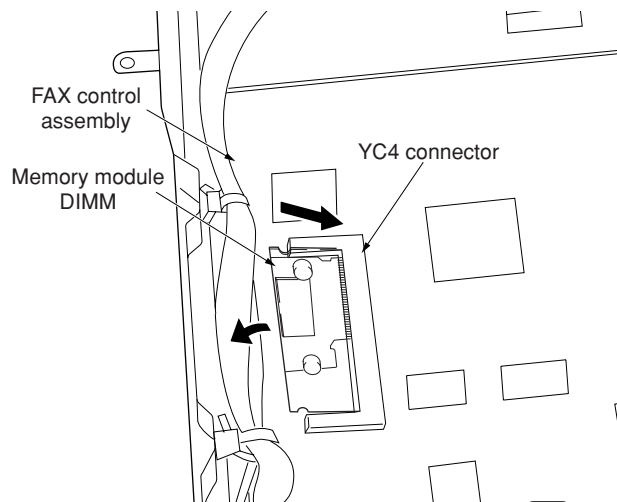


Figure 1-3-87

15. Install the FAX cover. At the upper part, use the five screws that have been removed in step 6 to tighten them together with the electrical component cover. Use three screws M3 × 6 S Tite at the left side and two screws at the front side to secure the cover.
16. Reattach the cover for electrical component cover that have been removed in step 11.
17. Reattach the electrical component unit to its original position.
18. Reattach the connectors that have been removed in steps 2, 4, and 5.
19. Use the wire saddle that has been removed in step 5 to secure the wires as they were.

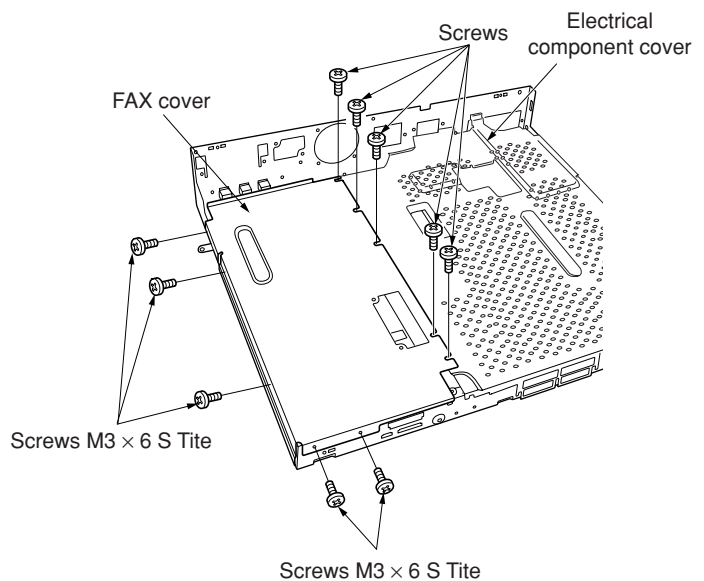


Figure 1-3-88

21. Fit the notch of the FAX power supply assembly to the corresponding portion of the copier. Fix the FAX power supply assembly with the screws that have been removed in step 7 and the supplied screw S Tite M3 × 8.
21. Connect the short wire of the FAX power supply assembly to the 5-pin connector of the electrical component unit, remove the 3-pin connector that has been fitted to the primary wire, put the long wire through two wire saddles, and then connect the long wire to the 3-pin connector of the primary wire.

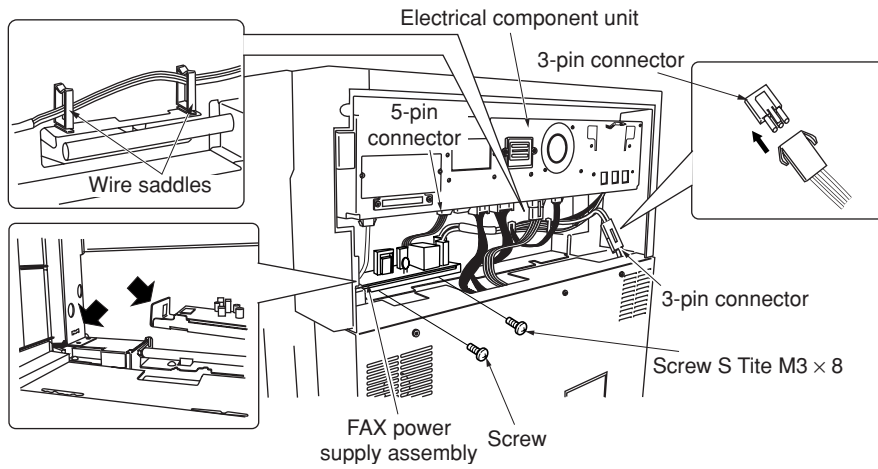


Figure 1-3-89

22. Reattach the middle rear cover to its original position.
23. 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.

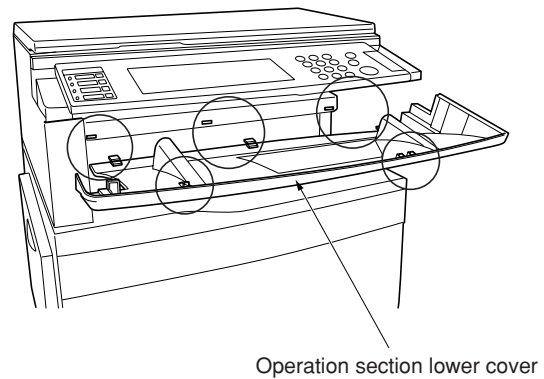


Figure 1-3-90

[120 V specifications only]

24. Attach the FCC label near the rating plate.

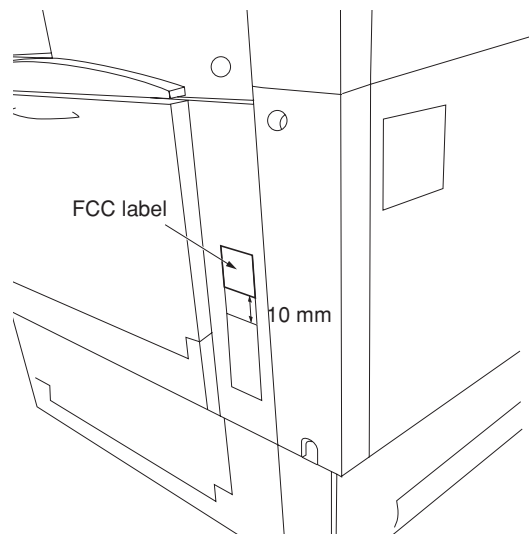


Figure 1-3-91

2CX

25. Connect the telephone circuit to the L terminal by inserting the modular connector cable into the line terminal.
Important: On 120 V specifications, use the included modular connector cable B to make the connection.
26. After completing all installation procedures, carry out a communication test to check that the facsimile function operates correctly.

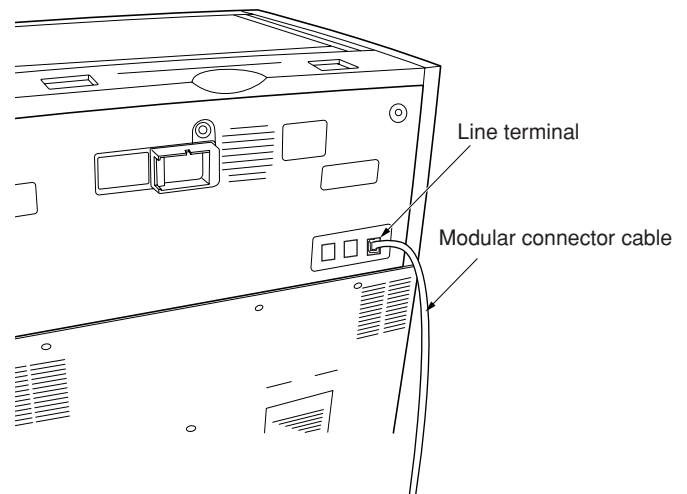


Figure 1-3-92

1-3-8 Installing the paper feeder (option)

Preparation

[Procedure if Installing one paper feeder only]

1. Set the paper feeder at the location where it is to be used following the installation.
Note: You can install any one of the following:
 500 × 2 paper feeder or duplex paper feeder.
2. Pull out the copier's four handles.

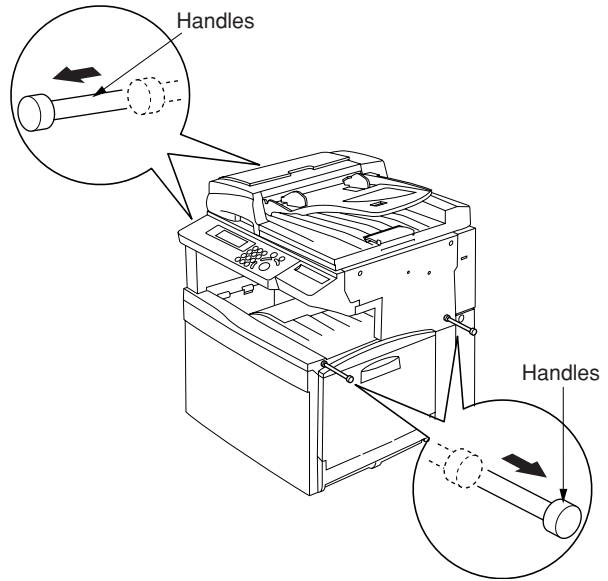


Figure 1-3-93

3. Lift the copier over the paper feeder, hold it so that the front of the copier is aligned with the front of the desk, and lower the copier onto the paper feeder so that the two pins and the connector fit into place.

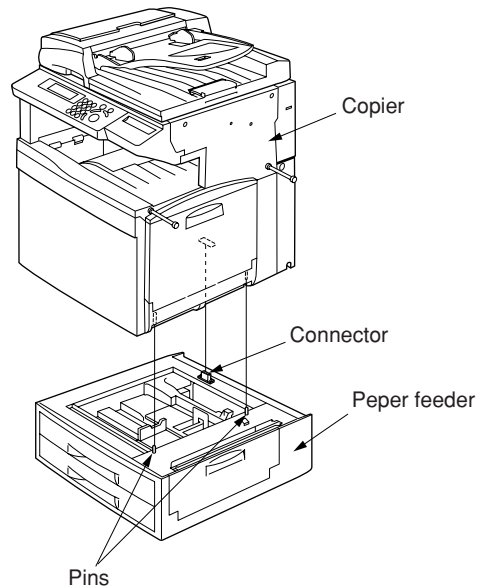


Figure 1-3-94

4. At the rear of the copier, remove the screw that you will use to secure the junction plate.

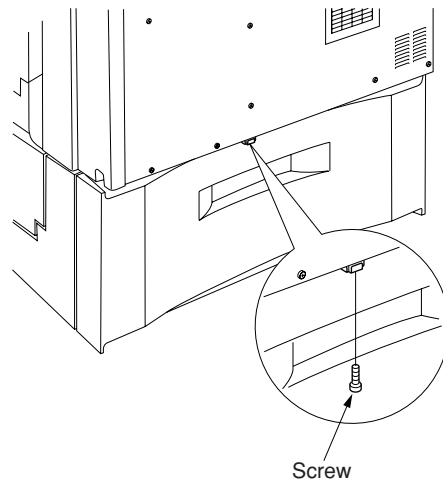


Figure 1-3-95

2CX

- Using the screw you just removed, fasten the junction plate to the rear of the copier and paper feeder.

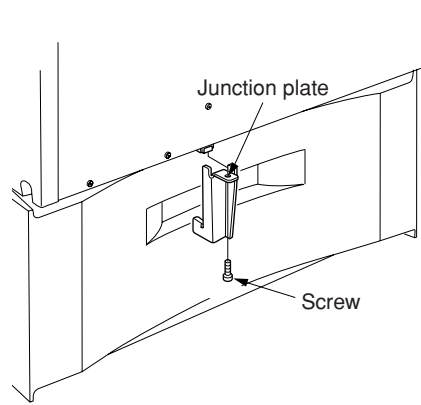


Figure 1-3-96

- Push the four handles back into the copier.
- Plug the copier's power cord back into the wall outlet, and turn on the copier's main switch.
- Make some test copies.

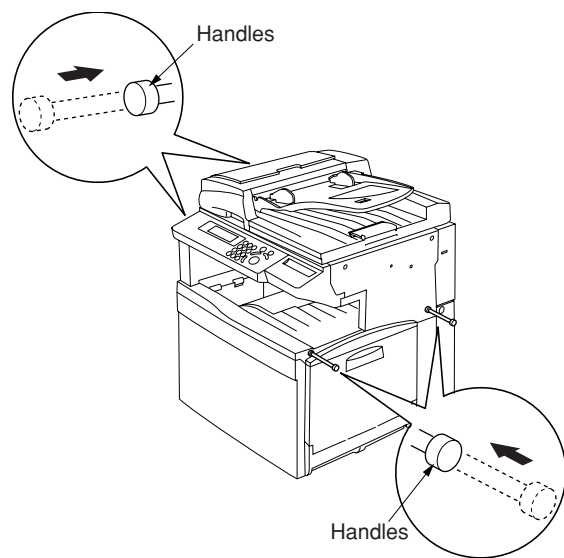


Figure 1-3-97

[Procedure if Installing two paper feeders]

Note: Casters can be installed only on the 250 × 2 paper feeder.

1. Set the (lower) paper feeder at the location where it is to be used following installation.
2. Stand the lower paper feeder upright on its left side.

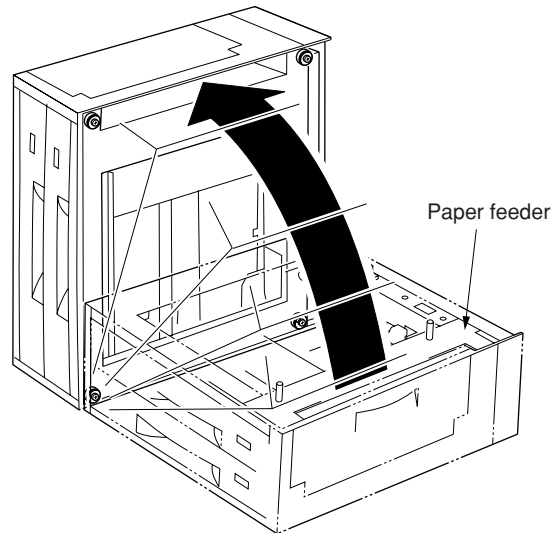


Figure 1-3-98

3. Remove the screws holding the four rubber pads (1 screw for each pad) on the bottom of the lower paper feeder, and take the pads off.

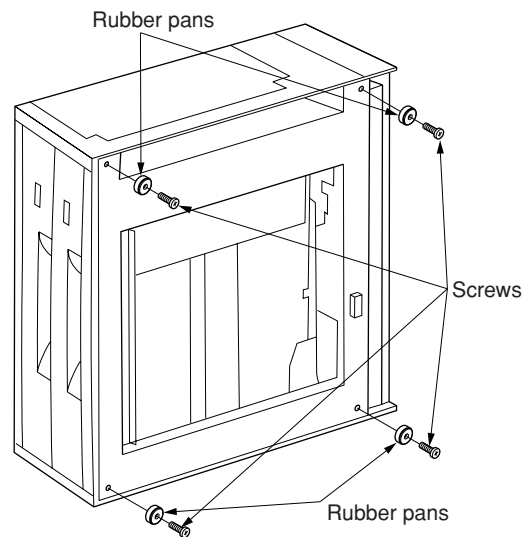


Figure 1-3-99

4. Position the two caster stays so that the arrow on the underside of the stay is pointing toward the front of the paper feeder (toward).
5. Fasten the two caster stays to the lower paper feeder using the eight M4 × 12 bronze screws (4 screws for each stay).

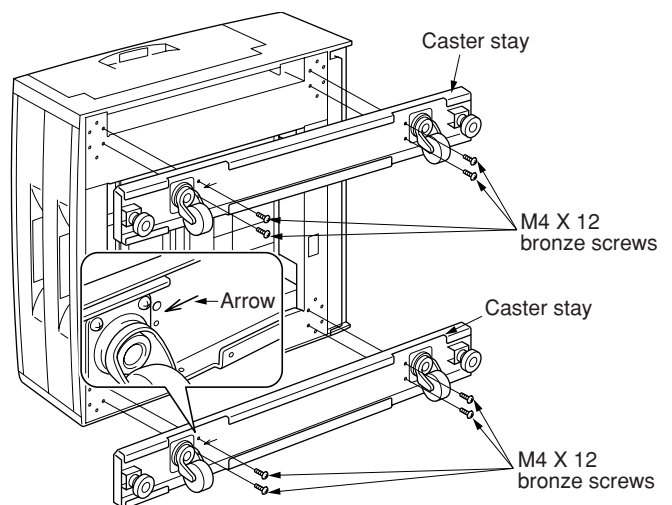


Figure 1-3-100

6. Lay the lower paper feeder back down in its original position.

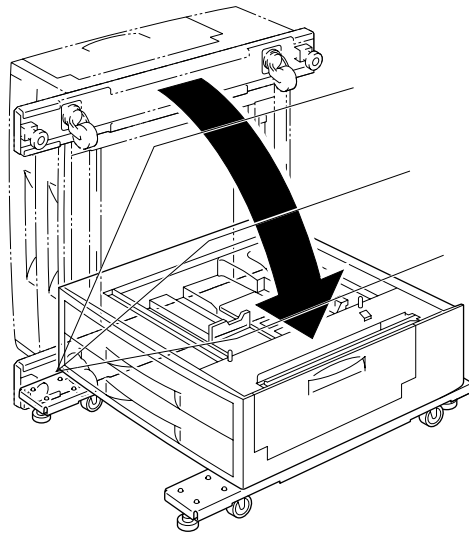


Figure 1-3-101

7. Set the upper paper feeder down onto the lower paper feeder so that the two pins and the connector fit into place.

Note: For the upper paper feeder, you can install any one of the following: 500 × 2 paper feeder or duplex paper feeder.

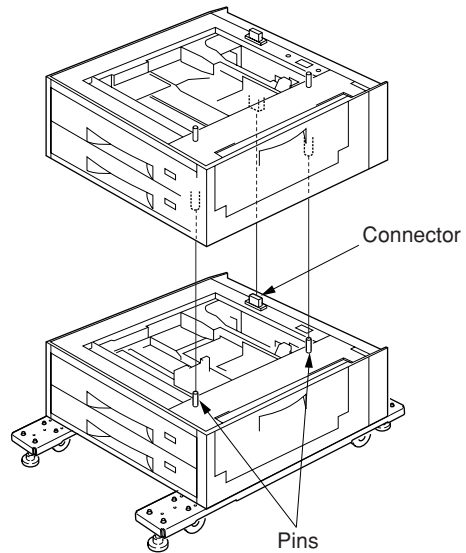


Figure 1-3-102

8. Pull out the upper three drawers, and secure the upper paper feeder to the lower paper feeder using the clamp.

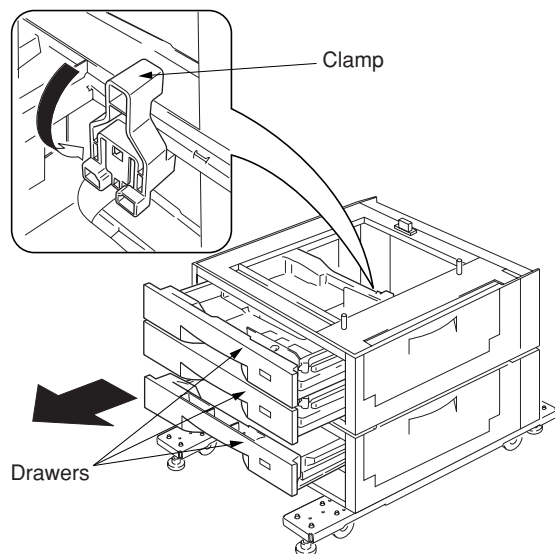


Figure 1-3-103

9. Pull out the copier's four handles.

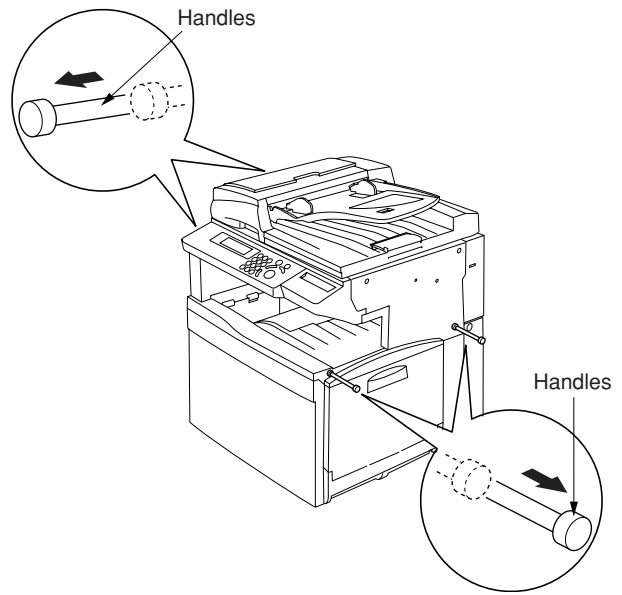


Figure 1-3-104

10. Lift the copier over the upper paper feeder, hold it so that the front of the copier is aligned with the front of the paper feeder, and lower the copier onto the paper feeder so that the two pins and the connector fit into place.

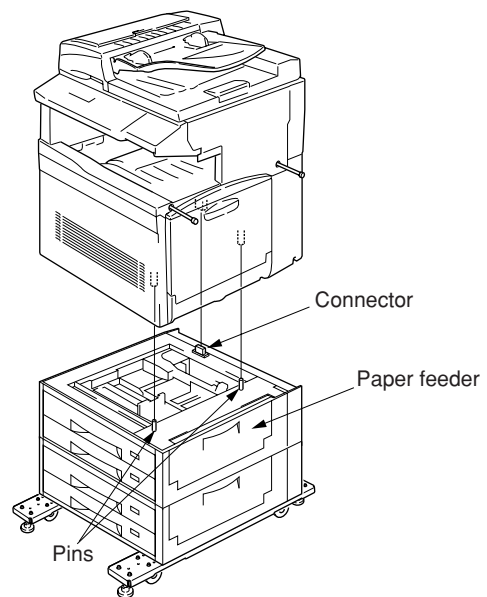


Figure 1-3-105

11. At the rear of the copier, remove the screw that you will use to secure the junction plate.

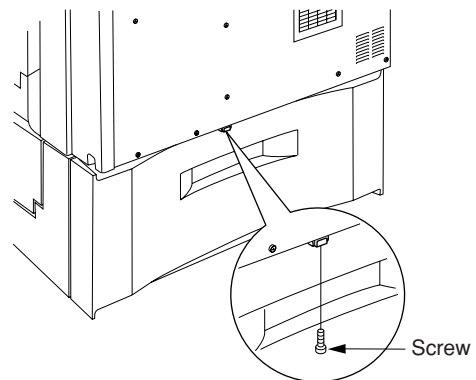


Figure 1-3-106

2CX

- Using the screw you just removed, fasten the junction plate to the rear of the copier and (upper) paper feeder.

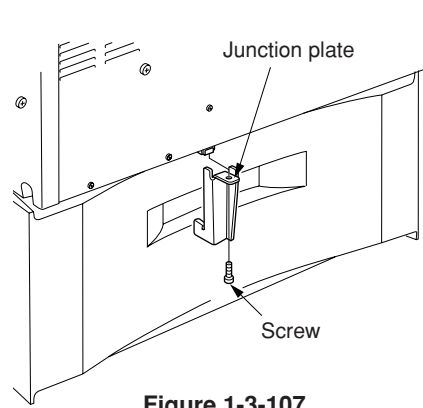


Figure 1-3-107

- Push the four handles back into the copier.
- Lower the four adjusters so they are flush with the ground.

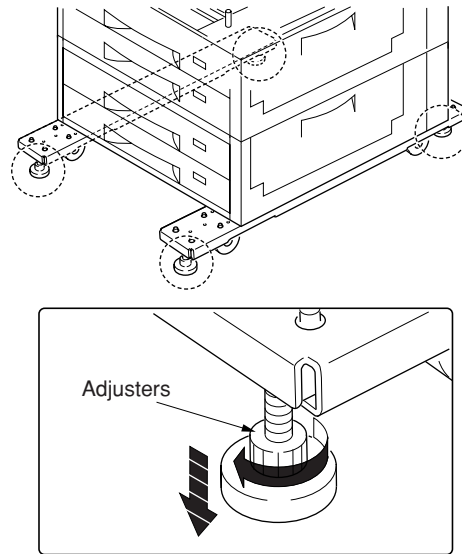


Figure 1-3-108

- Attach the two desk stay covers to the front part of the two caster stays using the two M4 x 8 chrome screws (1 screw for each cover).

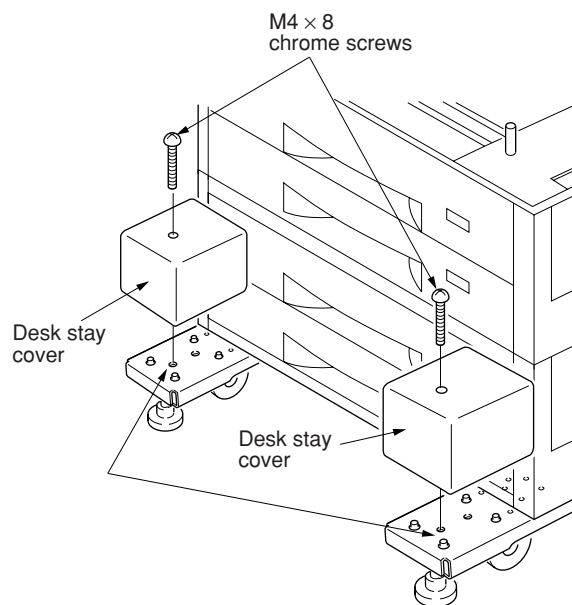


Figure 1-3-109

16. Attach the four labels at the locations shown in the illustration.

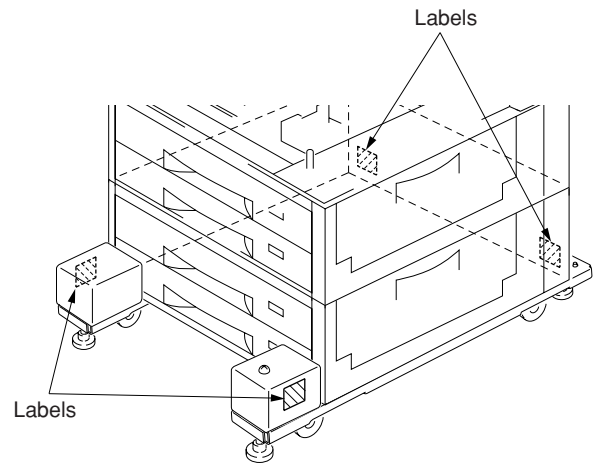


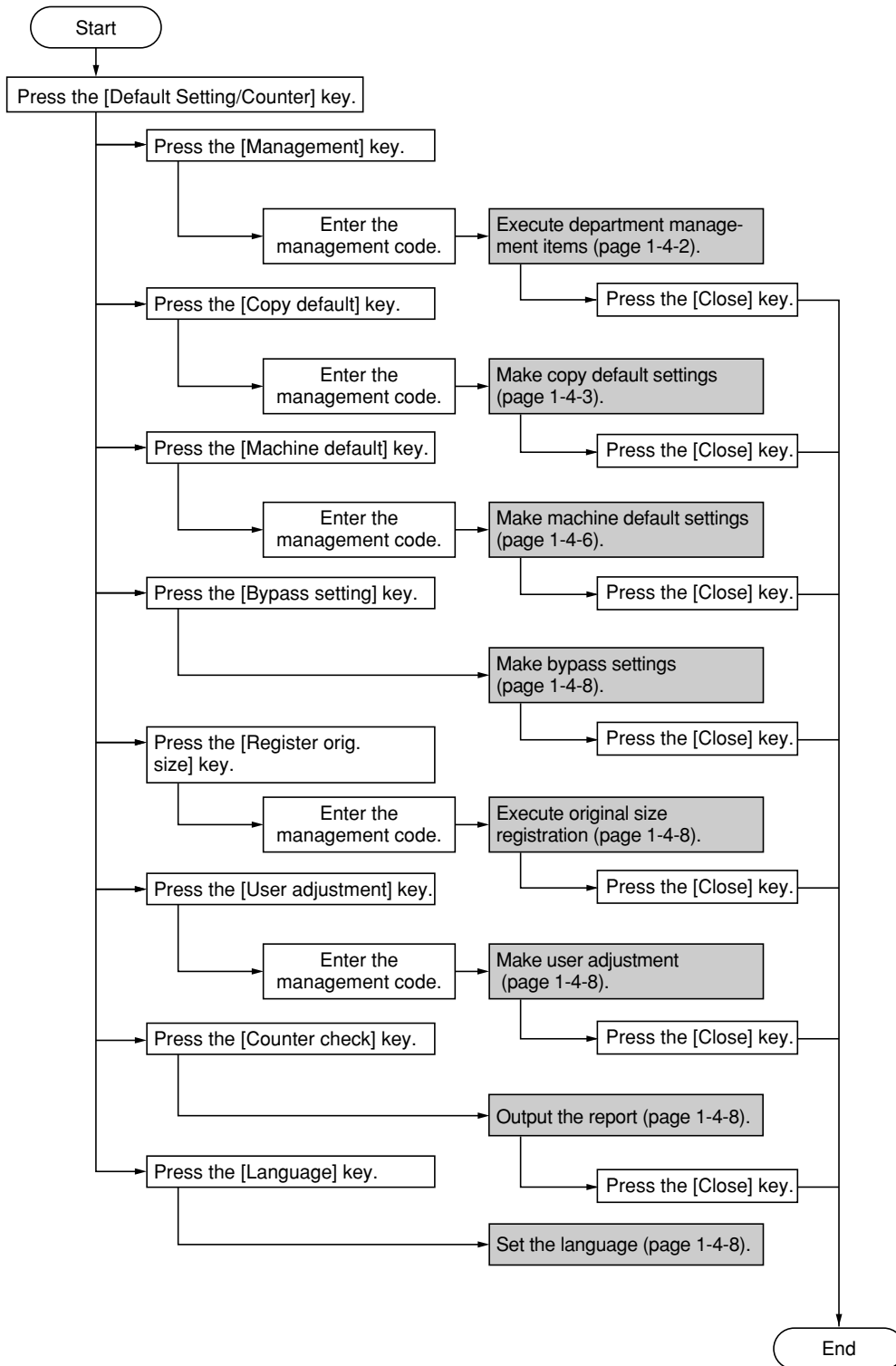
Figure 1-3-110

17. Plug the copier's power cord back into the wall outlet, and turn on the copier's main switch.
18. Make some test copies.

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 drawer 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 drawer

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

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 drawer 1 will not be available on duplex copiers.
*The setting for drawer 3 and 4 will only be available when the optional paper feeder is installed.

Cover drawer

Sets which drawer 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 drawer
Settings: 1st paper/2nd paper/3rd paper/4th paper/Bypass
*The setting for drawer 1 will not be available on duplex copiers.
*The setting for drawer 3 and 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 $\frac{3}{4}$ (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 $\frac{3}{4}$ "

Center area: 0 to $1\frac{1}{2}$ "

(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.

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 drawer switching ON/OFF

Turns automatic drawer 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 (drawer No.3 & No.4)

Sets the size of paper that is loaded in drawer No.3 and No.4.

1. Select one of the "Paper size" settings ("3rd drawer[cassette]" or "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 drawer.

Note: This setting is only available when the optional paper feeder is installed.

Paper type (drawer No.1 - No.4)

Sets the type of paper that is loaded in drawers No.1 through No.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.

Notes

- The setting for drawer No.1 will not be available on duplex copiers.
- The setting for drawer No.3 and No.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

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 / Off" key to change the setting.

Auto shut-off time

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

1. Select "Auto shut-off time" and then press the "Change #" key.
2. Press the +/- keys to change the displayed time to the desired setting.
Setting range: 15 to 240 minutes (in 15-minute increments)

Auto preheat time

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

1. Select "Auto preheat time" and then press the "Change #" key.
2. Press the +/- keys to change the displayed time to the desired setting.
Setting range: 1 to 45 minutes (in 1-minute increments), 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 "Top tray" or "Left tray".
*Select between "Top tray" and "Finisher" when the optional document finisher 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 "Top tray" or "Finisher".

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.

Silent mode ON/OFF

Sets whether or not to use the silent mode which shortens the length of time that the laser data writing motor continues to spin after each copy job is finished.

1. Select "Silent mode" 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 shut-off ON/OFF

Sets whether or not to have the auto shut-off 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 shut-off" and then press the "Change #" key.
2. Select "On" or "Off" key.

(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: Width: 3 7/8" - 11 5/8" (inch specifications)
Length: 5 7/8" - 17"
Width: 98 - 297 mm (metric specifications)
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" key.
2. Press the "On" key.
A corresponding color pattern will be printed out.
3. 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.

(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 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

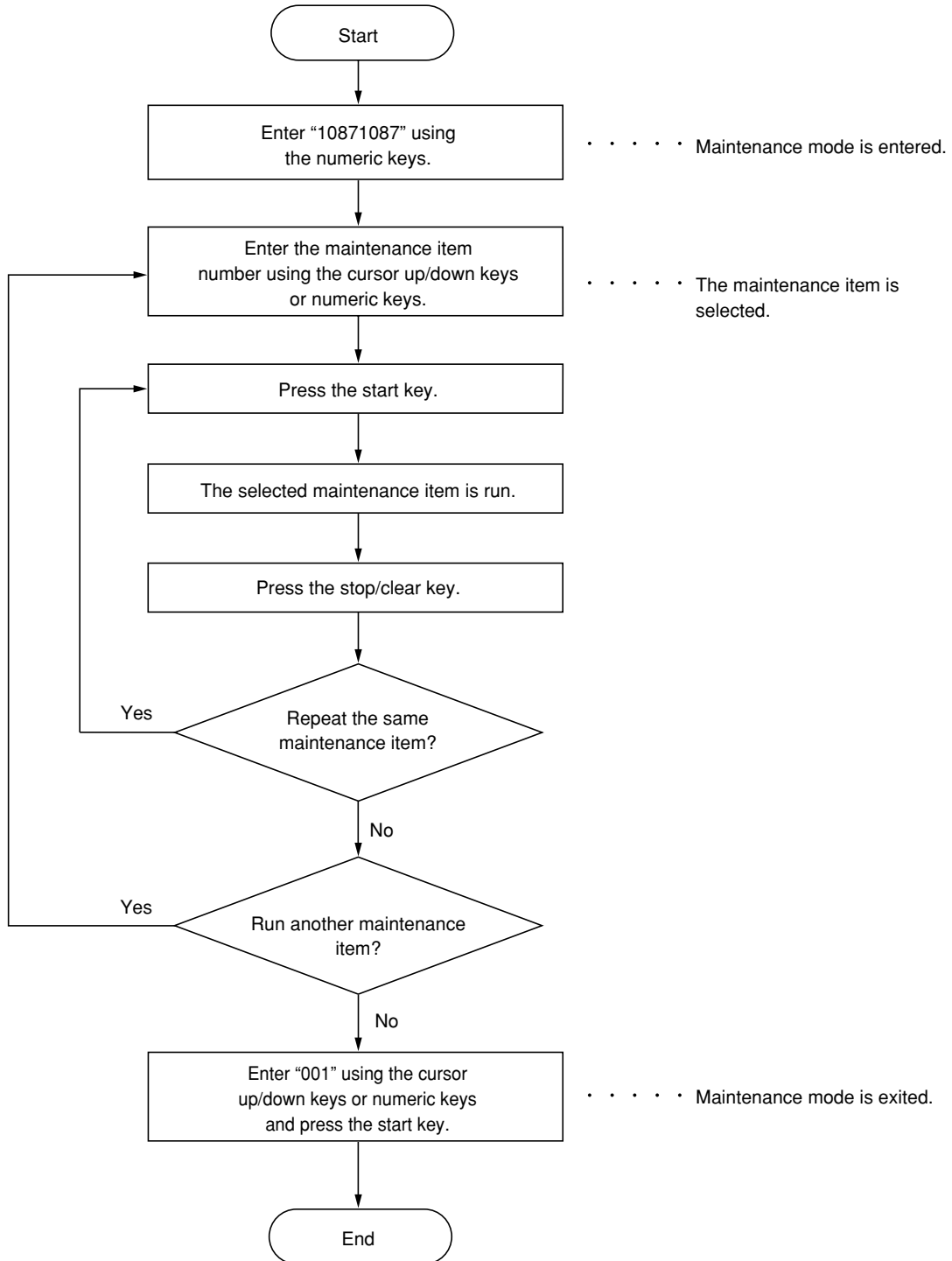
Switches the language to be displayed on the touch panel.

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 model 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 the backup data	—
	U027	Return of the 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	0 0
	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
	U053	Setting the adjustment of the motor speed	0
	U059	Setting conveying fan motor mode	MODE 0
Optical	U061	Checking the operation of the exposure lamps	—
	U063	Adjusting the shading position	10
	U065	Adjusting the scanning magnification • Main direction/auxiliary direction	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
	U071	Adjusting the DP scanning timing • DP leading edge registration • DP trailing edge registration	0 0
	U072	Adjusting the DP center line	0
	U073	Checking the scanner operation	—
	U076	Executing DP automatic adjustment	—
	U080	Setting the economy mode	0
	U087	Setting DP reading position modification operation	35
	U089	Outputting the MIP-PG pattern	—
	U093	Adjusting the exposure density gradient • Text mode • Text and photo mode • Other modes • Text in fax mode • Photo in fax mode	0 0 0 2 3

* Initial setting when executing maintenance item U020.

Section	Item No.	Maintenance item contents	Initial setting*
Optical	U099	Adjusting original size detection	—
High voltage	U100	Adjusting the surface potential	0/0/0/0
	U101	Setting the voltage for the primary transfer	—
	U106	Setting the voltage for the secondary transfer	—
	U107	Setting the middle transfer cleaning voltage	—
	U110	Checking the drum count	—
	U127	Checking/clearing the transfer count	—
Developing	U139	Displaying the temperature and humidity inside the machine	—
	U140	Setting the developing bias output	0
	U144	Setting the charged toner applying ON/OFF	ON
	U148	Setting the drum refresh mode	NORMAL
	U155	Displaying the toner sensor output	—
	U156	Setting the toner replenishment level	414
	U158	Checking/clearing the developing count	—
Fixing and cleaning	U161	Setting the fixing control temperature	—
	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	—
	U209	Setting the date and time	—
	U216	Setting the paper feeder type	500 sheets
	U219	Setting the total count indication	—
	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, clutch 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	—
	U254	Turning the auto start function ON/OFF	ON
	U255	Setting auto clear time	90 seconds
	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	Inch specifications: Month/Day/Year Metric specifications: Day/Month/Year

* Initial setting for executing maintenance item U020

Section	Item No.	Maintenance item contents	Initial setting*
Mode setting	U265	Setting OEM purchaser code	0
	U276	Setting the copy count mode	MODE 0
	U277	Setting auto application change time	90
	U330	Setting the number of copies to be handled by the stacking mode during sorting	100
	U332	Setting the size coefficient	—
	U339	Setting the internal thermal heater	ON
	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
	U425	Setting the target	—
	U427	Setting the UCR multiplication coefficient for black generation	—
	U429	Setting the offset for the color balance	0
	U432	Setting the center offset for the exposure	—
	U464	Setting the ID correction operation	—
	U465	Data reference for ID correction	—
	U470	Setting the compression ratio	—
	U475	Setting the smudge compensation mode	0/0/0
	U485	Setting the image processing mode	Inch specifications: MODE0 Metric specifications: MODE1
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 counts	—
	U904	Checking/clearing the call for service counts	—
	U905	Checking count by optional devices	—
	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	—
	U924	Resetting the toner level detection	—
	U925	Checking/clearing the system error counts	—
	U926	Rewriting FAX program	—
	U927	Clearing the all copy counts and machine life counts	—
U928	Checking the machine life counts	—	

* Initial setting when executing maintenance item U020.

Section	Item No.	Maintenance item contents	Initial setting*
Other	U991	Checking the scanner operation count	—
	U998	Printing from memory	—

(3) Contents of the maintenance mode items

Maintenance item No.	Description								
<p>U000</p>	<p>Printing out an own-status report</p> <p>Description Prints out a list of the current settings of all maintenance items, and occurrences of paper jams and service calls.</p> <p>Purpose 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>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be output. The selected item is displayed in reverse. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: center;">Display</th> <th style="text-align: center;">List to be printed out</th> </tr> </thead> <tbody> <tr> <td>MAINTENANCE</td> <td>List of the current settings of all maintenance items</td> </tr> <tr> <td>JAM</td> <td>List of paper jams</td> </tr> <tr> <td>SERVICE CALL</td> <td>List of service calls</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The interrupt copy mode is entered and a list is output. When A4/11" × 8½" 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. <p>Completion 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								
<p>U001</p>	<p>Exiting the maintenance mode</p> <p>Description Exits the maintenance mode and returns to the normal copy mode.</p> <p>Purpose To exit the maintenance mode.</p> <p>Method Press the start key. The normal copy mode is entered.</p>								
<p>U002</p>	<p>Setting the factory default data</p> <p>Description Restores the machine conditions to the factory default settings.</p> <p>Purpose To reset the values such as an electronic counter. Also to move the mirror frame of the scanner to the position for transport (position in which the frame can be fixed).</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. The following count values are cleared. Developing counts, maintenance counts, service call counts, each paper source counts, and jam counts Backup data of user simulation, etc. is reset to the default values for each destination. <p>Completion Turn the power switch off.</p>								

Maintenance item No.	Description								
U003	<p>Setting the service telephone number</p> <p>Description Sets the telephone number to be displayed when a service call code is detected.</p> <p>Purpose To set (during initial set-up of the machine) the telephone number for contacting service.</p> <p>Method Press the start key. The currently set telephone number is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Use the numeric keys to enter the telephone number (up to 16 digits). <ul style="list-style-type: none"> * 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. <table border="1"> <tbody> <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> </tbody> </table> Press the start key. The telephone number is set, and the screen for selecting a maintenance item No. is displayed again. <p>Completion 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								
U004	<p>Displaying the machine model number</p> <p>Description Displays the machine model number.</p> <p>Purpose To check the machine model number.</p> <p>Method Press the start key. The current machine model number is displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								

Maintenance item No.	Description														
<p>U018</p>	<p>Displaying the ROM checksum</p> <p>Description Displays the checksum of ROM.</p> <p>Purpose To check the checksum.</p> <p>Method Press the start key. The ROM checksum is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCANNER</td> <td>Scanner main PCB ROM checksum</td> </tr> <tr> <td>ENGINE</td> <td>Engine controller PCB ROM checksum</td> </tr> <tr> <td>LANGUAGE(Stand.)</td> <td>Standard language ROM checksum</td> </tr> <tr> <td>LANGUAGE(Option)</td> <td>Optional language ROM checksum</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SCANNER	Scanner main PCB ROM checksum	ENGINE	Engine controller PCB ROM checksum	LANGUAGE(Stand.)	Standard language ROM checksum	LANGUAGE(Option)	Optional language ROM checksum				
Display	Description														
SCANNER	Scanner main PCB ROM checksum														
ENGINE	Engine controller PCB ROM checksum														
LANGUAGE(Stand.)	Standard language ROM checksum														
LANGUAGE(Option)	Optional language ROM checksum														
<p>U019</p>	<p>Displaying the ROM version</p> <p>Description Displays the part number for the ROM fitted to each PCB.</p> <p>Purpose 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>Method Press the start key. The ROM version (the last 6 digits of the part number) is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCANNER</td> <td>Scanner main PCB ROM IC</td> </tr> <tr> <td>ENGINE</td> <td>Engine controller PCB ROM IC</td> </tr> <tr> <td>LANGUAGE(Stand.)</td> <td>Standard language ROM IC</td> </tr> <tr> <td>LANGUAGE(Option)</td> <td>Optional language ROM IC</td> </tr> <tr> <td>SCANNER BOOT</td> <td>Scanner main PCB booting</td> </tr> <tr> <td>NETWORK SCANNER</td> <td>Network scanner ROM IC</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	SCANNER	Scanner main PCB ROM IC	ENGINE	Engine controller PCB ROM IC	LANGUAGE(Stand.)	Standard language ROM IC	LANGUAGE(Option)	Optional language ROM IC	SCANNER BOOT	Scanner main PCB booting	NETWORK SCANNER	Network scanner ROM IC
Display	Description														
SCANNER	Scanner main PCB ROM IC														
ENGINE	Engine controller PCB ROM IC														
LANGUAGE(Stand.)	Standard language ROM IC														
LANGUAGE(Option)	Optional language ROM IC														
SCANNER BOOT	Scanner main PCB booting														
NETWORK SCANNER	Network scanner ROM IC														

Maintenance item No.	Description
U020	<p>Initializing all data</p> <p>Description Initializes the backup RAM on the scanner main PCB in order to return to the factory default settings. Also checks the accuracy of the real-time clock (RTC).</p> <p>Purpose Used when replacing backup RAM on the scanner main PCB.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Use the numeric keys to enter the current date, and then press the start key. <ul style="list-style-type: none"> * Be sure to enter the date. If the date is not entered and initialization is executed, RTC PCB problem is detected. * The screen for initializing is displayed. 3. Press EXECUTE on the touch panel. It is displayed in reverse. 4. Press the start key. All data in the backup RAM 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 main switch is turned on. <p>Completion To exit this maintenance item without executing initialization, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U021	<p>Memory initializing</p> <p>Description 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>Purpose To return the machine settings to their factory default.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing the maintenance item is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 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 main switch is turned on. <p>Completion 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								
U024	<p>HDD formatting</p> <p>Description Formats the HDD backup data areas for the network scanner and department administration.</p> <p>Purpose To initialize the HDD when installing or replacing the HDD after shipping.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing the maintenance item is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key to initialize the hard disk. The EXECUTE display flashes during initializing. Initialization results is displayed when initializing is completed. 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion 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>Evacuation of backup data</p> <p>Description Transfers the backup data of the scanner main PCB to the EEPROM.</p> <p>Purpose Used when replacing the scanner main PCB.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key to transfer the backup data. The screen displays the result. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Code</th> <th style="text-align: center;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0000</td> <td>Processing ends correctly.</td> </tr> <tr> <td style="text-align: center;">0101</td> <td>Verification abnormality occurs.</td> </tr> <tr> <td style="text-align: center;">0102</td> <td>Verification abnormality occurs at the time of check sum entry.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion 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.								
0101	Verification abnormality occurs.								
0102	Verification abnormality occurs at the time of check sum entry.								
U027	<p>Return of backup data</p> <p>Description Transfers the backup data of the EEPROM which was transferred with the U026 to flash memory.</p> <p>Purpose To use after the scanner main PCB replaced.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key to transfer the backup data. The screen displays the result. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Code</th> <th style="text-align: center;">Meaning</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0000</td> <td>Processing ends correctly.</td> </tr> <tr> <td style="text-align: center;">0203</td> <td>Check sum does not agree when reading out from the EEPROM.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion 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.								

Maintenance item No.	Description																										
U030	<p>Checking the operation of the motors</p> <p>Description Drives each motor.</p> <p>Description To check the operation of each motor.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the motor to be operated. The selected item is displayed in reverse and the operation starts. <table border="1"> <thead> <tr> <th>Display</th> <th>Sensor</th> </tr> </thead> <tbody> <tr> <td>MAIN</td> <td>The main drive motor (MDM) is turned ON.</td> </tr> <tr> <td>FIX</td> <td>The fuser unit drive motor (FUDM) is turned ON.</td> </tr> <tr> <td>DEV BK</td> <td>The black developer drive motor (KDLPDM) is turned ON.</td> </tr> <tr> <td>DEV CMY</td> <td>The color developers drive motor CDLPDM) is turned ON.</td> </tr> <tr> <td>FEED</td> <td>The paper feed motor (PFM) is turned ON.</td> </tr> <tr> <td>DESK1</td> <td>The upper intermediate motor (UIFM) is turned ON.</td> </tr> <tr> <td>DESK2</td> <td>The lower intermediate motor (LIFM)*¹ is turned ON.</td> </tr> <tr> <td>DUP</td> <td>The duplex drive motor (DDM)*² is turned ON.</td> </tr> </tbody> </table> <p>*1: Optional *2: For duplex copier only</p> <ol style="list-style-type: none"> 3. To stop the operation, press the stop/clear key. <p>Completion Press the stop/clear key after operation stops. The screen for selecting a maintenance item No. is displayed.</p>	Display	Sensor	MAIN	The main drive motor (MDM) is turned ON.	FIX	The fuser unit drive motor (FUDM) is turned ON.	DEV BK	The black developer drive motor (KDLPDM) is turned ON.	DEV CMY	The color developers drive motor CDLPDM) is turned ON.	FEED	The paper feed motor (PFM) is turned ON.	DESK1	The upper intermediate motor (UIFM) is turned ON.	DESK2	The lower intermediate motor (LIFM)* ¹ is turned ON.	DUP	The duplex drive motor (DDM)* ² is turned ON.								
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DESK2	The lower intermediate motor (LIFM)* ¹ is turned ON.																										
DUP	The duplex drive motor (DDM)* ² is turned ON.																										
U031	<p>Checking sensors for paper conveying</p> <p>Description Displays the ON/OFF status of each paper detection sensor on the paper conveying path.</p> <p>Purpose To check the operation of the switches for paper conveying.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. A list of sensors, the on-off status of which can be checked, are displayed. 2. Turn each sensor on and off manually to check the status. When the on-status of a sensor is detected, that sensor is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Sensor</th> </tr> </thead> <tbody> <tr> <td>F1</td> <td>Jam sensor 1 (JS1)</td> </tr> <tr> <td>F2</td> <td>Jam sensor 2 (JS2)</td> </tr> <tr> <td>F3</td> <td>Jam sensor 3 (JS3)*¹</td> </tr> <tr> <td>RES</td> <td>Registration sensor (REGS)</td> </tr> <tr> <td>EJL</td> <td>Lower paper exit sensor (LPEXS)</td> </tr> <tr> <td>EJU</td> <td>Upper paper exit sensor (UPEXS)</td> </tr> <tr> <td>EJFD</td> <td>Face-down unit paper exit sensor (FDPEXS)</td> </tr> <tr> <td>EJD</td> <td>Duplex paper exit sensor (DUPEXS)*²</td> </tr> <tr> <td>FULL</td> <td>Paper full sensor (PFS)</td> </tr> <tr> <td>DUP1</td> <td>Duplex unit entrance sensor (DES)*²</td> </tr> <tr> <td>DUP2</td> <td>Duplexer intermediate sensor (DIS)*²</td> </tr> <tr> <td>DUP3</td> <td>Duplexer paper refeed sensor (DPRFS)*²</td> </tr> </tbody> </table> <p>*1: Optional *2: For duplex copier only</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Sensor	F1	Jam sensor 1 (JS1)	F2	Jam sensor 2 (JS2)	F3	Jam sensor 3 (JS3)* ¹	RES	Registration sensor (REGS)	EJL	Lower paper exit sensor (LPEXS)	EJU	Upper paper exit sensor (UPEXS)	EJFD	Face-down unit paper exit sensor (FDPEXS)	EJD	Duplex paper exit sensor (DUPEXS)* ²	FULL	Paper full sensor (PFS)	DUP1	Duplex unit entrance sensor (DES)* ²	DUP2	Duplexer intermediate sensor (DIS)* ²	DUP3	Duplexer paper refeed sensor (DPRFS)* ²
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DUP3	Duplexer paper refeed sensor (DPRFS)* ²																										

Maintenance item No.	Description																								
<p>U032</p>	<p>Checking the operation of the clutches</p> <p>Description Turns each clutch ON.</p> <p>Purpose To check the operation of each clutch.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the clutch to be operated. The selected item is displayed in reverse. 3. Press the start key. The selected clutch turns on for 1 s. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Clutch name</th> </tr> </thead> <tbody> <tr> <td>RES</td> <td>Registration clutch (REGCL)</td> </tr> <tr> <td>K MAG</td> <td>Black developer drive clutch (KDLPDCL)</td> </tr> <tr> <td>C MAG</td> <td>Cyan developer drive clutch (CDLPDCL)</td> </tr> <tr> <td>M MAG</td> <td>Magenta developer drive clutch (MDLPDCL)</td> </tr> <tr> <td>Y MAG</td> <td>Yellow developer drive clutch (YDLPDCL)</td> </tr> <tr> <td>BYPASS</td> <td>Bypass paper feed clutch (BYPFCL)</td> </tr> <tr> <td>CONV</td> <td>Paper feed clutch (PFCL)</td> </tr> <tr> <td>DUP IN</td> <td>Duplexer feed clutch (DFCL)*</td> </tr> <tr> <td>DUP OUT</td> <td>Duplexer refeed clutch (DRFCL)*</td> </tr> </tbody> </table> <p>* For duplex copier only</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Clutch name	RES	Registration clutch (REGCL)	K MAG	Black developer drive clutch (KDLPDCL)	C MAG	Cyan developer drive clutch (CDLPDCL)	M MAG	Magenta developer drive clutch (MDLPDCL)	Y MAG	Yellow developer drive clutch (YDLPDCL)	BYPASS	Bypass paper feed clutch (BYPFCL)	CONV	Paper feed clutch (PFCL)	DUP IN	Duplexer feed clutch (DFCL)*	DUP OUT	Duplexer refeed clutch (DRFCL)*				
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<p>U033</p>	<p>Checking the operation of the solenoids</p> <p>Description Applies current to each solenoid in order to check its ON status.</p> <p>Purpose To check the operation of each solenoid.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the solenoid or clutch to be operated. The selected item is displayed in reverse. 3. Press the start key. The selected solenoid or clutch turns on for 1 s. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Solenoid/clutch</th> </tr> </thead> <tbody> <tr> <td>KSOL</td> <td>Black developer magnet solenoid (KDLPMSOL)</td> </tr> <tr> <td>CSOL</td> <td>Cyan developer magnet solenoid (CDLPMSOL)</td> </tr> <tr> <td>MSOL</td> <td>Magenta developer magnet solenoid (MDLPMSOL)</td> </tr> <tr> <td>YSOL</td> <td>Yellow developer magnet solenoid (YDLPMSOL)</td> </tr> <tr> <td>MPF</td> <td>Bypass tray bottom plate solenoid (BYPBPSOL)</td> </tr> <tr> <td>CLEAN</td> <td>Cleaning brush unit shift solenoid (CBSSOL)</td> </tr> <tr> <td>T2</td> <td>Secondary transfer unit shift clutch (STRSCL)</td> </tr> <tr> <td>FACE UP</td> <td>Face up/down solenoid (FUDSOL) for facing up</td> </tr> <tr> <td>FACE DOWN</td> <td>Face up/down solenoid (FUDSOL) for facing down</td> </tr> <tr> <td>BRA EJE</td> <td>Duplex paper exit selection solenoid (DUPEXSSOL)* (eject direction)</td> </tr> <tr> <td>BRA DUP</td> <td>Duplex paper exit selection solenoid (DUPEXSSOL)* (duplex copy direction)</td> </tr> </tbody> </table> <p>* For duplex copier only</p> <p>Completion 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/clutch	KSOL	Black developer magnet solenoid (KDLPMSOL)	CSOL	Cyan developer magnet solenoid (CDLPMSOL)	MSOL	Magenta developer magnet solenoid (MDLPMSOL)	YSOL	Yellow developer magnet solenoid (YDLPMSOL)	MPF	Bypass tray bottom plate solenoid (BYPBPSOL)	CLEAN	Cleaning brush unit shift solenoid (CBSSOL)	T2	Secondary transfer unit shift clutch (STRSCL)	FACE UP	Face up/down solenoid (FUDSOL) for facing up	FACE DOWN	Face up/down solenoid (FUDSOL) for facing down	BRA EJE	Duplex paper exit selection solenoid (DUPEXSSOL)* (eject direction)	BRA DUP	Duplex paper exit selection solenoid (DUPEXSSOL)* (duplex copy direction)
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BRA DUP	Duplex paper exit selection solenoid (DUPEXSSOL)* (duplex copy direction)																								

Maintenance item No.	Description												
U034	<p>Adjusting the print start timing</p> <p>Adjustment See pages p.1-6-14 and 15.</p>												
U035	<p>Setting the printing area for folio paper</p> <p>Description Changes the printing area for copying on folio paper</p> <p>Purpose To prevent cropped images on the trailing edge or left/right side of copy paper by setting the actual printing area for folio paper.</p> <p>Method Press the start key. The setting screen is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 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. <table border="1"> <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> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion 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										
LENGTH DATA	Length	330 to 356 (mm)	330										
WIDTH DATA	Width	200 to 220 (mm)	210										
U037	<p>Checking the operation of the fan motors</p> <p>Description Drives the fan motors.</p> <p>Description To check the operation of the fan motors.</p> <p>Method Press the start key. The following fan motors will start driving simultaneously.</p> <ul style="list-style-type: none"> • Power supply unit fan motor (PSFM) • Face-down unit fan motor (FDFM) • Paper conveying fan motor 1,2 (PCFM1,2) • Fuser unit fan motor (FUFM) <p>To stop the motor, press the stop/clear key.</p> <p>Completion Press the stop/clear key when the motor stops. The screen for selecting a maintenance item No. is displayed.</p>												
U051	<p>Adjusting the amount of slack in the paper</p> <p>Adjustment See page p.1-6-17.</p>												

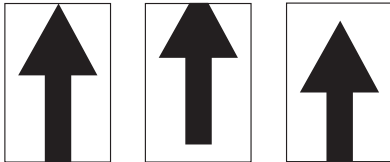
Maintenance item No.	Description																
<p>U053</p>	<p>Setting the adjustment of the motor speed</p> <p>Description Performs fine adjustment of the speeds of the motors.</p> <p>Purpose To adjust the speed of the polygon motor when the magnification of the main scanning direction is not correct. And to adjust the speed of the main drive motor when the magnification of the auxiliary scanning direction is not correct.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. 2. Change the setting using the cursor up/down keys. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>POLYGON MOTOR</td> <td>Polygon motor speed adjustment</td> <td>-20 to +20</td> <td>0</td> </tr> <tr> <td>MAIN MOTOR</td> <td>Main drive motor speed adjustment</td> <td>-10 to +10</td> <td>0</td> </tr> <tr> <td>MAIN MOTOR (ROUGH)</td> <td>Main drive motor speed adjustment for thick paper or for gloss mode</td> <td>-20 to +20</td> <td>0</td> </tr> </tbody> </table> <p>POLYGON MOTOR Increasing the setting makes the image longer in the main scanning direction and shorter in the auxiliary scanning direction; decreasing the setting makes the image shorter in the main scanning direction and longer in the auxiliary scanning direction.</p> <p>MAIN MOTOR Increasing the setting makes the image longer in the auxiliary scanning direction, and decreasing it makes the image shorter in the auxiliary scanning direction.</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being performed, a VTC pattern shown below is output in interrupt copy mode. Correct values for an A3/11" × 17" output are: A = 350 ± 1.5 mm B = 250 ± 1.0 mm</p> <div> <p>The diagram shows a rectangular grid of vertical lines. Dimension A is indicated by a vertical double-headed arrow on the right side of the grid. Dimension B is indicated by a horizontal double-headed arrow at the top of the grid.</p> </div> <p>Figure 1-4-1</p> <p>Adjustment</p> <ol style="list-style-type: none"> 1. Output an A3/11" × 17" VTC pattern in interrupt mode. 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: <ul style="list-style-type: none"> A: Main drive motor speed adjustment B: Polygon motor speed adjustment <p>Completion 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	POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0	MAIN MOTOR	Main drive motor speed adjustment	-10 to +10	0	MAIN MOTOR (ROUGH)	Main drive motor speed adjustment for thick paper or for gloss mode	-20 to +20	0
Display	Description	Setting range	Default setting														
POLYGON MOTOR	Polygon motor speed adjustment	-20 to +20	0														
MAIN MOTOR	Main drive motor speed adjustment	-10 to +10	0														
MAIN MOTOR (ROUGH)	Main drive motor speed adjustment for thick paper or for gloss mode	-20 to +20	0														

Maintenance item No.	Description						
U059	<p>Setting conveying fan motor mode</p> <p>Description Sets whether the conveying fan motor is turned on based on the paper length or regardless of the paper length.</p> <p>Purpose To change the setting when the conveying malfunction occurs.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the item to be set. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>MODE 0</td> <td>The conveying fan motor is turned on only in the case of small sizes (paper length of 210 mm or less)</td> </tr> <tr> <td>MODE 1</td> <td>The conveying fan motor is turned on regardless of the paper size.</td> </tr> </tbody> </table> <p>Initial setting: MODE 0</p> <ol style="list-style-type: none"> Press the start key. The setting is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	MODE 0	The conveying fan motor is turned on only in the case of small sizes (paper length of 210 mm or less)	MODE 1	The conveying fan motor is turned on regardless of the paper size.
Display	Description						
MODE 0	The conveying fan motor is turned on only in the case of small sizes (paper length of 210 mm or less)						
MODE 1	The conveying fan motor is turned on regardless of the paper size.						

Maintenance item No.	Description								
U061	<p>Checking the operation of the exposure lamps</p> <p>Description Lights the exposure lamps.</p> <p>Purpose To check whether the exposure lamps are turned ON.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press the start key. The exposure lamp lights. 3. To turn the exposure lamp off, press the stop/clear key. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
U063	<p>Adjusting the shading position</p> <p>Description Changes the shading position of the scanner.</p> <p>Purpose 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>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The setting screen is displayed. 2. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Setting item</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> <th style="text-align: left;">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"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion 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						
U065	<p>Adjusting the scanning magnification</p> <p>Adjustment See pages p.1-6-34 and 35.</p>								
U066	<p>Adjusting the scanner leading edge registration</p> <p>Adjustment See page p.1-6-36.</p>								
U067	<p>Adjusting the optical axis (center line)</p> <p>Adjustment See page p.1-6-37.</p>								

Maintenance item No.	Description								
U068	<p>Adjusting the DP scanning start position</p> <p>Description Adjust the scanning start position of originals fed from the optional DP</p> <p>Purpose 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.</p> <p>Method Press the start key. The setting screen is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Use the cursor up/down keys to change the setting value. <table border="1"> <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>0.169 mm</td> </tr> </tbody> </table> <p>Increasing the value moves the copy image toward the trailing edge, and decreasing it moves the copy image toward the leading edge.</p> <ol style="list-style-type: none"> Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Change in value per step	DP original scanning position	-9 to 9	0	0.169 mm
Setting item	Setting range	Default setting	Change in value per step						
DP original scanning position	-9 to 9	0	0.169 mm						

Maintenance item No.	Description										
<p>U070</p>	<p>Adjusting the DP magnification</p> <p>Description Adjusts the DP original scanning speed.</p> <p>Purpose Used if the correct magnification is not obtained in the auxiliary scanning direction when the optional DP is used.</p> <p>Caution Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U053 → U065 → U070</p> <p>Method Press the start key. The setting screen is displayed.</p> <p>Setting 1. Use the cursor up/down keys to change the setting value.</p> <table border="1"> <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> <p>Increasing the value makes the image longer, and decreasing it makes the image shorter.</p> <p>2. Press the start key. The value is set.</p> <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion 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	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															
U071	<p>Adjusting the DP scanning timing</p> <p>Description Adjust the DP original scanning timing.</p> <p>Purpose 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>Caution Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U034 → U066 → U071</p> <p>Method Press the start key. The setting screen is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 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. <table border="1"> <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>0.17 mm</td> </tr> <tr> <td>TRAIL EDGE ADJ</td> <td>DP trailing edge registration</td> <td>-32 to +32</td> <td>0</td> <td>0.17 mm</td> </tr> </tbody> </table> <p>Increasing the value moves the image backward, and decreasing the value moves the image forward.</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Method</p> <ol style="list-style-type: none"> 1. In the interrupt copy mode, make a copy using the DP. 2. Check the copy image and adjust the registration as follows. <ul style="list-style-type: none"> * For copy example 1, decrease the setting value of "LEAD EDGE ADJ". * For copy example 2, increase the setting value of "LEAD EDGE ADJ". <div style="text-align: center;">  <p>Original Copy example 1 Copy example 2</p> </div> <p>Figure 1-4-2</p> <p>Completion 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	0.17 mm	TRAIL EDGE ADJ	DP trailing edge registration	-32 to +32	0	0.17 mm
Display	Setting	Setting range	Default setting	Change in value per step												
LEAD EDGE ADJ	DP leading edge registration	-32 to +32	0	0.17 mm												
TRAIL EDGE ADJ	DP trailing edge registration	-32 to +32	0	0.17 mm												

Maintenance item No.	Description								
<p>U072</p>	<p>Adjusting the DP center line</p> <p>Description Adjusts the scanning position for an original fed from the DP.</p> <p>Purpose 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>Caution Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p style="text-align: center;"> U034 → U067 → U072 </p> <p>Method Press the start key. The setting screen is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Setting item</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> <th style="text-align: left;">Change in value per step</th> </tr> </thead> <tbody> <tr> <td>DP center line</td> <td>-20 to 20</td> <td>0</td> <td>0.17 mm</td> </tr> </tbody> </table> <p style="margin-left: 20px;">Increasing the value moves the image rightward, and decreasing it moves the image leftward.</p> <ol style="list-style-type: none"> Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Method</p> <ol style="list-style-type: none"> In the interrupt copy mode, make a copy using the DP . Check the copy image and adjust the center line as follows. <ul style="list-style-type: none"> * For copy example 1, increase the setting value. * For copy example 2, decrease the setting value. <div style="text-align: center; margin: 20px 0;"> <p>Reference</p> <p style="display: flex; justify-content: space-around; width: 100%;"> Original Copy example 1 Copy example 2 </p> </div> <p>Figure 1-4-3</p> <p>Completion Press the stop/clear key when the setting screen is displayed. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Change in value per step	DP center line	-20 to 20	0	0.17 mm
Setting item	Setting range	Default setting	Change in value per step						
DP center line	-20 to 20	0	0.17 mm						

Maintenance item No.	Description																
U073	<p>Checking the scanner operation</p> <p>Description Simulates the scanner operation under the arbitrary conditions.</p> <p>Purpose To check the scanner operation.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be operated. The selected item is displayed in reverse. <table border="1"> <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>Setting: Scanning size for the full-color or monochrome mode</p> <ol style="list-style-type: none"> 1. Select SCAN(4C) or SCAN(B/W) in the screen for selecting an item. 2. Select the scanning size, and then press the start key. <p>Setting: Random travel distance</p> <ol style="list-style-type: none"> 1. Select the desired position in the screen for selecting an item. 2. Press the start key. <p>Completion 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																
U076	<p>Executing DP automatic adjustment</p> <p>Description Uses a specified original and automatically adjusts the following items in the DP scanning section.</p> <ul style="list-style-type: none"> • 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) <p>When you run this maintenance mode, the preset values of U070, U071, U072, and U404 will also be updated.</p> <p>Purpose To perform automatic adjustment of various items in the optional DP scanning section.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Set a specified original (part number: 2A068021) in the DP. 2. Press the start key. The screen for executing is displayed. 3. Press DP automatic adjustment on the touch panel. Auto adjustment starts. When adjustment is complete, each adjusted value is displayed. <table border="1"> <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>Completion 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 B MARGIN	DP scanning margin (B side)																
DP C MARGIN	DP scanning margin (C side)																
DP D MARGIN	DP scanning margin (D side)																

Maintenance item No.	Description												
U080	<p>Setting the economy mode</p> <p>Description Sets the level in the economy mode.</p> <p>Purpose Set according to the preference of the user.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. 2. Use the cursor up/down keys (0: low/1: middle/2: high) to change the setting value. <table border="1"> <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>0</td> </tr> <tr> <td>ADJUST DATA2</td> <td>For full-color mode</td> <td>0 to 2</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion 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	0	ADJUST DATA2	For full-color mode	0 to 2	0
Display	Setting	Setting range	Default setting										
ADJUST DATA	For monochrome and single color mode	0 to 2	0										
ADJUST DATA2	For full-color mode	0 to 2	0										

Maintenance item No.	Description				
U087	<p>Setting DP reading position modification operation</p> <p>Description</p> <p>Sets the black line inspection at the time of reading the original from the optional DP.</p> <p>Method</p> <p>Press the start key. The screen for adjustment is displayed.</p> <p>Setting</p> <p>1. Change the setting using the cursor up/down keys.</p> <table border="1"> <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> <p>2. Press the start key. The value is set.</p> <p>Completion</p> <p>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				

Maintenance item No.	Description																								
<p>U089</p>	<p>Outputting the MIP-PG pattern</p> <p>Description Selects and outputs the MIP-PG pattern created by the copier.</p> <p>Purpose To check copier status other than scanner when adjusting image printing, using MIP-PG pattern output (without scanning).</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Select the MIP-PG pattern to be output. <table border="1"> <thead> <tr> <th>Display</th> <th>Output items</th> </tr> </thead> <tbody> <tr> <td>256GRADATION</td> <td>256-gradation 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-gradation gray PG</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. A MIP-PG pattern is output. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Output items	256GRADATION	256-gradation PG	GRAY	Gray PG	WHITE	Blank paper PG	GRADATION_GRAY	256-gradation gray PG														
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WHITE	Blank paper PG																								
GRADATION_GRAY	256-gradation gray PG																								
<p>U093</p>	<p>Adjusting the exposure density gradient</p> <p>Description Changes the exposure density gradient in the manual density mode, depending on respective image quality modes.</p> <p>Purpose 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>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the image quality mode. The setting screen for the selected item is displayed. <table border="1"> <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>Setting: Gradient in the text mode</p> <ol style="list-style-type: none"> 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. <table border="1"> <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"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. 	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																								
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TEXT full color	Gradient for full-color copy in the text mode	0 to 2	0																						

Maintenance item No.	Description																																																
U093	<p>Setting: Gradient in the text and photo mode</p> <ol style="list-style-type: none"> 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. <table border="1"> <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"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Setting: Gradient in other modes</p> <ol style="list-style-type: none"> 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. <table border="1"> <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"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Setting: Gradient in the text in fax mode</p> <ol style="list-style-type: none"> 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. <table border="1"> <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>2</td> </tr> <tr> <td>FAX TEXT LIGHTER</td> <td>Gradient for lighter setting</td> <td>0 to 4</td> <td>2</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Setting: Gradient in the photo in fax mode</p> <ol style="list-style-type: none"> 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. <table border="1"> <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>3</td> </tr> <tr> <td>FAX PHOTO LIGHTER</td> <td>Gradient for lighter setting</td> <td>0 to 6</td> <td>3</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Completion</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	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	Display	Setting	Setting range	Default setting	FAX TEXT DARKER	Gradient for darker setting	0 to 9	2	FAX TEXT LIGHTER	Gradient for lighter setting	0 to 4	2	Display	Setting	Setting range	Default setting	FAX PHOTO DARKER	Gradient for darker setting	0 to 6	3	FAX PHOTO LIGHTER	Gradient for lighter setting	0 to 6	3
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FAX PHOTO LIGHTER	Gradient for lighter setting	0 to 6	3																																														

Maintenance item No.	Description																																																
U099	<p>Adjusting original size detection</p> <p>Description Checks the setting value and operation for original width detection by CCD.</p> <p>Purpose To change the setting when paper width is not accurately detected.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item and then press the start key. The screen for executing the selected item is displayed. <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>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>Method: Displaying color data</p> <ol style="list-style-type: none"> 1. Press the start key. The color data to be transmitted is displayed. 2. To return to the screen for selecting an item, press the stop/clear key. <p>Method: Setting the detection threshold</p> <ol style="list-style-type: none"> 1. Select the item to be set. <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> <th style="text-align: left;">Data range</th> <th style="text-align: left;">Default setting</th> </tr> </thead> <tbody> <tr> <td>LEVEL-R</td> <td>Original size threshold (R)</td> <td>0 to 255</td> <td>140</td> </tr> <tr> <td>LEVEL-G</td> <td>Original size threshold (G)</td> <td>0 to 255</td> <td>140</td> </tr> <tr> <td>LEVEL-B</td> <td>Original size threshold (B)</td> <td>0 to 255</td> <td>140</td> </tr> <tr> <td>WAIT TIME</td> <td>Stand-by time after original size lamp turns on.</td> <td>0 to 100</td> <td>0</td> </tr> <tr> <td>A4R AREA</td> <td>Threshold value in the main scan direction for A4R detection</td> <td>220 (mm)/240 (mm)</td> <td>240</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Use the cursor up/down keys to change the setting value. 3. Press the start key. The value is set. To return to the screen for selecting an item, press the stop/clear key. <p>Method: Setting and checking the detection threshold</p> <ol style="list-style-type: none"> 1. The current setting is displayed. <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>ORIGINAL AREA SIZE</td> <td>Original width (mm) 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>Completion 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	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	140	LEVEL-G	Original size threshold (G)	0 to 255	140	LEVEL-B	Original size threshold (B)	0 to 255	140	WAIT TIME	Stand-by time after original size lamp turns on.	0 to 100	0	A4R AREA	Threshold value in the main scan direction for A4R detection	220 (mm)/240 (mm)	240	Display	Description	ORIGINAL AREA SIZE	Original width (mm) 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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LEVEL-G	Original size threshold (G)	0 to 255	140																																														
LEVEL-B	Original size threshold (B)	0 to 255	140																																														
WAIT TIME	Stand-by time after original size lamp turns on.	0 to 100	0																																														
A4R AREA	Threshold value in the main scan direction for A4R detection	220 (mm)/240 (mm)	240																																														
Display	Description																																																
ORIGINAL AREA SIZE	Original width (mm) 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																																																

Maintenance item No.	Description																				
U100	<p>Adjusting the surface potential</p> <p>Description Changes the compensation value of drum surface potential for each developing color.</p> <p>Purpose 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>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 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. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Drum surface potential compensation value for black developing</td> <td>-100 to 50</td> <td>0</td> </tr> <tr> <td>CYAN</td> <td>Drum surface potential compensation value for cyan developing</td> <td>-100 to 50</td> <td>0</td> </tr> <tr> <td>MAGENTA</td> <td>Drum surface potential compensation value for magenta developing</td> <td>-100 to 50</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>Drum surface potential compensation value for yellow developing</td> <td>-100 to 50</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	BLACK	Drum surface potential compensation value for black developing	-100 to 50	0	CYAN	Drum surface potential compensation value for cyan developing	-100 to 50	0	MAGENTA	Drum surface potential compensation value for magenta developing	-100 to 50	0	YELLOW	Drum surface potential compensation value for yellow developing	-100 to 50	0
Display	Setting	Setting range	Default setting																		
BLACK	Drum surface potential compensation value for black developing	-100 to 50	0																		
CYAN	Drum surface potential compensation value for cyan developing	-100 to 50	0																		
MAGENTA	Drum surface potential compensation value for magenta developing	-100 to 50	0																		
YELLOW	Drum surface potential compensation value for yellow developing	-100 to 50	0																		

Maintenance item No.	Description																														
U101	<p>Setting the voltage for the primary transfer</p> <p>Description Sets the control voltage for the primary transfer.</p> <p>Purpose To change the setting when any density problems, such as too dark or light, occur.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <p>Setting: Conditions of use offset table</p> <ol style="list-style-type: none"> Select 0 (use to table) or 1 (disable). Press the start key. The setting is set. <p>Setting: Adjusting the control voltage for the primary transfer</p> <ol style="list-style-type: none"> Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Setting item</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> </tr> </thead> <tbody> <tr> <td>Control voltage for the primary transfer</td> <td>-255 to 255</td> <td>118</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Control voltage for the primary transfer	-255 to 255	118																								
Setting item	Setting range	Default setting																													
Control voltage for the primary transfer	-255 to 255	118																													
U106	<p>Setting the voltage for the secondary transfer</p> <p>Description Sets the control voltage for the secondary transfer depending on each paper type.</p> <p>Purpose To change the setting when any density problems, such as too dark or light, occur.</p> <p>Implementation</p> <ol style="list-style-type: none"> Press the start key. The screen for selecting an item is displayed. Select the item to be set. The setting screen for each item is displayed. <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>PLAIN</td> <td>Adjustment of the secondary transfer voltage for plain paper</td> </tr> <tr> <td>ROUGH</td> <td>Adjustment of the secondary transfer voltage for thick paper</td> </tr> <tr> <td>TRANSPARENCY</td> <td>Adjustment of the secondary transfer voltage for transparency</td> </tr> <tr> <td>SET IGNORE</td> <td>Sets whether correction based on ambient temperature and humidity is prohibited or not for each paper type.</td> </tr> </tbody> </table> <p>Setting: Secondary transfer control voltage for plain paper</p> <ol style="list-style-type: none"> Select the item to be set. Use the cursor up/down keys to change the setting value. <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> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> </tr> </thead> <tbody> <tr> <td>Color/L<=200</td> <td>Small-size color plain paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>Color/L>200</td> <td>Large-size color plain paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/L<=200</td> <td>Small-size monochrome plain paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/L>200</td> <td>Large-size monochrome plain paper</td> <td>-255 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the start key. The value is set. 	Display	Description	PLAIN	Adjustment of the secondary transfer voltage for plain paper	ROUGH	Adjustment of the secondary transfer voltage for thick paper	TRANSPARENCY	Adjustment of the secondary transfer voltage for transparency	SET IGNORE	Sets whether correction based on ambient temperature and humidity is prohibited or not for each paper type.	Display	Description	Setting range	Default setting	Color/L<=200	Small-size color plain paper	-255 to 255	0	Color/L>200	Large-size color plain paper	-255 to 255	0	BW/L<=200	Small-size monochrome plain paper	-255 to 255	0	BW/L>200	Large-size monochrome plain paper	-255 to 255	0
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PLAIN	Adjustment of the secondary transfer voltage for plain paper																														
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Display	Description	Setting range	Default setting																												
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Color/L>200	Large-size color plain paper	-255 to 255	0																												
BW/L<=200	Small-size monochrome plain paper	-255 to 255	0																												
BW/L>200	Large-size monochrome plain paper	-255 to 255	0																												

Maintenance item No.	Description																																																
U106	<p>Setting: Secondary transfer control voltage for thick paper</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Use the cursor up/down keys to change the setting value. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Col./Full/L<=200</td> <td>Small-size color thick paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>Col./Full/L>200</td> <td>Large-size color thick paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>Col./Half/L<=200/LOW</td> <td>Small-size color thick paper at half speed</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>Col./Half/L>200/LOW</td> <td>Large-size color thick paper at half speed</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/Full/L<=200</td> <td>Small-size monochrome thick paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/Full/L>200</td> <td>Large-size monochrome thick paper</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/Half/L<=200/LOW</td> <td>Small-size monochrome thick paper at half speed</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW/Half/L>200/LOW</td> <td>Large-size monochrome thick paper at half speed</td> <td>-255 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Setting: Secondary transfer control voltage for transparency</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Use the cursor up/down keys to change the setting value. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Color</td> <td>Color transparency</td> <td>-255 to 255</td> <td>0</td> </tr> <tr> <td>BW</td> <td>Monochrome transparency</td> <td>-255 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Setting: Conditions of use offset table</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Select 0 (use to table) or 1 (disable) using the cursor up/down keys. 3. Press the start key. The setting is set. <p>Completion</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	Description	Setting range	Default setting	Col./Full/L<=200	Small-size color thick paper	-255 to 255	0	Col./Full/L>200	Large-size color thick paper	-255 to 255	0	Col./Half/L<=200/LOW	Small-size color thick paper at half speed	-255 to 255	0	Col./Half/L>200/LOW	Large-size color thick paper at half speed	-255 to 255	0	BW/Full/L<=200	Small-size monochrome thick paper	-255 to 255	0	BW/Full/L>200	Large-size monochrome thick paper	-255 to 255	0	BW/Half/L<=200/LOW	Small-size monochrome thick paper at half speed	-255 to 255	0	BW/Half/L>200/LOW	Large-size monochrome thick paper at half speed	-255 to 255	0	Display	Description	Setting range	Default setting	Color	Color transparency	-255 to 255	0	BW	Monochrome transparency	-255 to 255	0
Display	Description	Setting range	Default setting																																														
Col./Full/L<=200	Small-size color thick paper	-255 to 255	0																																														
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BW/Half/L>200/LOW	Large-size monochrome thick paper at half speed	-255 to 255	0																																														
Display	Description	Setting range	Default setting																																														
Color	Color transparency	-255 to 255	0																																														
BW	Monochrome transparency	-255 to 255	0																																														
U107	<p>Setting the middle transfer cleaning voltage</p> <p>Description</p> <p>Sets the middle transfer cleaning control voltage.</p> <p>Purpose</p> <p>To change the setting when any density problems, such as too dark or light, occur.</p> <p>Implementation</p> <p>Press the start key. The screen for selecting an item is displayed.</p> <p>Setting: Conditions of use offset table</p> <ol style="list-style-type: none"> 1. Select 0 (use to table) or 1 (disable). 2. Press the start key. The setting is set. <p>Setting: Adjusting middle transfer cleaning voltage</p> <ol style="list-style-type: none"> 1. Use the cursor up/down keys to change the setting value. <table border="1"> <thead> <tr> <th>Setting item</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>Middle transfer cleaning voltage adjustment</td> <td>-255 to 255</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The value is set. <p>Interrupt copy mode</p> <p>While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion</p> <p>Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Setting item	Setting range	Default setting	Middle transfer cleaning voltage adjustment	-255 to 255	0																																										
Setting item	Setting range	Default setting																																															
Middle transfer cleaning voltage adjustment	-255 to 255	0																																															

Maintenance item No.	Description
U110	<p>Checking the drum count</p> <p>Description Displays the drum counts for checking.</p> <p>Purpose To check the drum status.</p> <p>Method Press the start key. The current drum counts is displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U127	<p>Checking/clearing the transfer count</p> <p>Description Displays the counts of the middle transfer counter and the secondary transfer counter for checking, clearing or changing.</p> <p>Purpose Used to check the count after replacement of the secondary transfer unit.</p> <p>Method Press the start key. The current and total counts of the middle transfer counter and the secondary transfer counter are displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Press CLEAR on the touch panel. The count is cleared, and the screen for selecting a maintenance item No. is displayed. The total counts cannot be cleared. <p>Setting</p> <ol style="list-style-type: none"> 1. Select the count. 2. Enter a seven-digit count using the numeric keys. 3. Press the start key. The count is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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																				
U139	<p>Displaying the temperature and humidity inside the machine</p> <p>Description Displays the detected temperature and humidity inside the machine.</p> <p>Purpose To check the temperature and humidity inside the machine.</p> <p>Method Press the start key. The detected temperature (°C/°F) and humidity (%) inside the machine are displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																				
U140	<p>Setting the developing bias output</p> <p>Description Sets the developing bias output.</p> <p>Purpose To change the setting when any density problems, such as too dark or light, occur.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The selected item is displayed in reverse. 3. Use the cursor up/down keys to change the value. <table border="1"> <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</td> <td>-26 to 26</td> <td>0</td> </tr> <tr> <td>CYAN</td> <td>Cyan developing bias</td> <td>-26 to 26</td> <td>0</td> </tr> <tr> <td>MAGENTA</td> <td>Magenta developing bias</td> <td>-26 to 26</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>Yellow developing bias</td> <td>-26 to 26</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The value is set. <p>Completion 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	-26 to 26	0	CYAN	Cyan developing bias	-26 to 26	0	MAGENTA	Magenta developing bias	-26 to 26	0	YELLOW	Yellow developing bias	-26 to 26	0
Display	Description	Setting range	Initial setting																		
BLACK	Black developing bias	-26 to 26	0																		
CYAN	Cyan developing bias	-26 to 26	0																		
MAGENTA	Magenta developing bias	-26 to 26	0																		
YELLOW	Yellow developing bias	-26 to 26	0																		

Maintenance item No.	Description						
<p>U144</p>	<p>Setting the charged toner applying ON/OFF</p> <p>Description Turns ON/OFF to use the charged toner in the developing unit.</p> <p>Purpose To set to OFF for users who frequently copy graphic images.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>Charged toner applying ON</td> </tr> <tr> <td>OFF</td> <td>Charged toner applying OFF</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	ON	Charged toner applying ON	OFF	Charged toner applying OFF
Display	Description						
ON	Charged toner applying ON						
OFF	Charged toner applying OFF						
<p>U148</p>	<p>Setting the drum refresh mode</p> <p>Description Changes the drum refresh mode to reinforce drum refresh operation.</p> <p>Purpose To change the setting to "HARD" if an image failure such as blurred image occurs on a copy just after the power is turned on in a machine installed in high-temperature environment. If the setting is changed to "HARD", however, the warm-up time is longer and toner consumption is larger.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select NORMAL or HARD. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>NORMAL</td> <td>Normal drum refresh operation</td> </tr> <tr> <td>HARD</td> <td>Reinforced drum refresh operation</td> </tr> </tbody> </table> <p>Initial setting: NORMAL</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	NORMAL	Normal drum refresh operation	HARD	Reinforced drum refresh operation
Display	Description						
NORMAL	Normal drum refresh operation						
HARD	Reinforced drum refresh operation						

Maintenance item No.	Description																				
U155	<p>Displaying the toner sensor output</p> <p>Description Displays the toner sensor output value.</p> <p>Purpose To check the output value for each color when any image problems occur.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>MODE 1</td> <td>Agitation operation in the developing unit</td> </tr> <tr> <td>MODE 2</td> <td>Operations to start printing and select color to be applied</td> </tr> <tr> <td>SET MODE 2 DATA</td> <td>Selecting a color when performing MODE 2</td> </tr> </tbody> </table> <p>Method: Referring to the toner control voltage</p> <ol style="list-style-type: none"> 1. Select MODE 1 or MODE 2 in the screen for selecting an item. 2. Press the start key. The toner control voltage reference value is displayed for each color. <p>Method: Selecting a color to be applied when the print start operation is set.</p> <ol style="list-style-type: none"> 1. Select SET MODE 2 DATA in the screen for selecting an item. 2. Select the desired color to be set. 3. Use the numeric keys to enter 1 (color to be applied). Multiple colors cannot be selected simultaneously. 4. Press the start key. The setting is set. When no color is selected, "BLACK" is automatically selected. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	MODE 1	Agitation operation in the developing unit	MODE 2	Operations to start printing and select color to be applied	SET MODE 2 DATA	Selecting a color when performing MODE 2												
Display	Setting																				
MODE 1	Agitation operation in the developing unit																				
MODE 2	Operations to start printing and select color to be applied																				
SET MODE 2 DATA	Selecting a color when performing MODE 2																				
U156	<p>Setting the toner replenishment level</p> <p>Description Sets the toner replenishment level for each color.</p> <p>Purpose Used to change settings according to the original image.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. 3. Use the cursor up/down keys to change the setting value. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>toner replenishment level (black)</td> <td>-200 to 400</td> <td>0</td> </tr> <tr> <td>CYAN</td> <td>toner replenishment level (cyan)</td> <td>-200 to 400</td> <td>0</td> </tr> <tr> <td>MAGENTA</td> <td>toner replenishment level (magenta)</td> <td>-200 to 400</td> <td>0</td> </tr> <tr> <td>YELLOW</td> <td>toner replenishment level (yellow)</td> <td>-200 to 400</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The value is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	BLACK	toner replenishment level (black)	-200 to 400	0	CYAN	toner replenishment level (cyan)	-200 to 400	0	MAGENTA	toner replenishment level (magenta)	-200 to 400	0	YELLOW	toner replenishment level (yellow)	-200 to 400	0
Display	Setting	Setting range	Default setting																		
BLACK	toner replenishment level (black)	-200 to 400	0																		
CYAN	toner replenishment level (cyan)	-200 to 400	0																		
MAGENTA	toner replenishment level (magenta)	-200 to 400	0																		
YELLOW	toner replenishment level (yellow)	-200 to 400	0																		

Maintenance item No.	Description												
<p>U158</p>	<p>Checking/clearing the developing count</p> <p>Description Displays the developing count for checking, clearing or changing the figure.</p> <p>Purpose Used to check the developing count after replacement of the developing unit.</p> <p>Method Press the start key. The current developing count and total developing count are displayed for each color.</p> <p>Clearing the developing count</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. 2. Press the reset key. 3. Press the start key. The count is cleared, and the screen for selecting a maintenance item No. is displayed. The total developing count cannot be cleared. <p>Setting the developing count</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Use the numeric keys to enter the 7-digit count value. 3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>U161</p>	<p>Setting the fixing control temperature</p> <p>Description Changes the fixing control temperature.</p> <p>Purpose 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>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The selected item is displayed in reverse. 3. Use the cursor up/down keys to change the setting value. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> <th>Setting range</th> <th>Default setting</th> </tr> </thead> <tbody> <tr> <td>ROUGH/COLD</td> <td>Correction value in the thick paper mode at ambient temperature of 15 °C or less</td> <td>-15 to 15</td> <td>0</td> </tr> <tr> <td>PLAIN/GROSS</td> <td>Correction value for plain paper in the glossy paper mode</td> <td>-30 to 15</td> <td>0</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The value is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	Setting range	Default setting	ROUGH/COLD	Correction value in the thick paper mode at ambient temperature of 15 °C or less	-15 to 15	0	PLAIN/GROSS	Correction value for plain paper in the glossy paper mode	-30 to 15	0
Display	Setting	Setting range	Default setting										
ROUGH/COLD	Correction value in the thick paper mode at ambient temperature of 15 °C or less	-15 to 15	0										
PLAIN/GROSS	Correction value for plain paper in the glossy paper mode	-30 to 15	0										

Maintenance item No.	Description
U162	<p>Stabilizing fixing forcibly</p> <p>Description Stops the stabilization fixing drive forcibly, regardless of fixing temperature.</p> <p>Purpose To forcibly stabilize the machine before the fixing section reaches stabilization temperature.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. 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. <p>Completion 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>
U163	<p>Resetting the fixing problem data</p> <p>Description Resets the detection of a service call code indicating a problem in the fixing section.</p> <p>Purpose To prevent accidents due to an abnormally high fixing temperature.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. The fixing problem data is initialized. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U167	<p>Checking/clearing the fixing count</p> <p>Description Displays the fixing count for checking or clearing.</p> <p>Purpose Used to check the fixing count after replacement of the fixing unit.</p> <p>Method Press the start key. The fixing count and total fixing count are displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. 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. <p>Completion 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>U200</p>	<p>Turning all LEDs ON</p> <p>Description Turns all of the LEDs on the operation panel on.</p> <p>Purpose To check the operation of all of the LEDs on the operation panel.</p> <p>Method 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>										
<p>U201</p>	<p>Initializing the touch panel</p> <p>Description Automatically correct the positions of the X- and Y-axes of the touch panel.</p> <p>Purpose To automatically correct the display positions on the touch panel after it is replaced.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed, and the + key displayed at the upper left of the touch panel flashes. 2. Press on the center of the + key. The + key on lower right flashes. 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. <p>Completion To exit this maintenance item without initializing, press the stop/clear key. The screen for selecting a maintenance mode No. is displayed.</p>										
<p>U202</p>	<p>Setting the KMAS host monitoring system</p> <p>Description Initializes or operates the KMAS host monitoring system. This is an optional device which is currently supported only by Japanese specifications machines, so no setting is necessary.</p>										
<p>U203</p>	<p>Operating the DP separately</p> <p>Description Simulates the original conveying operation separately in the optional DP.</p> <p>Purpose Used to check the DP operation.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Place an original in the DP if running this simulation with paper. 3. Select the item to be operated. The selected item is displayed in reverse and the operation starts. <table border="1"> <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"> 4. To stop continuous operation, press the stop/clear key. <p>Completion 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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ADP (NON P)	Without paper, single-sided original (continuous operation)										
RADP (NON P)	Without paper, double-sided original (continuous operation)										

Maintenance item No.	Description								
U204	<p>Setting the presence or absence of a key card or key counter</p> <p>Description Sets the presence or absence of the optional key card or key counter.</p> <p>Purpose Used when the optional key card or key counter is installed.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the optional counter to be installed. The selected counter is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>KEY-CARD1</td> <td>DC Keycard I installed</td> </tr> <tr> <td>KEY-COUNTER</td> <td>Key counter installed</td> </tr> <tr> <td>KEY-CARD2</td> <td>MK-1 key card installed</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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-CARD1	DC Keycard I installed	KEY-COUNTER	Key counter installed	KEY-CARD2	MK-1 key card installed
Display	Description								
KEY-CARD1	DC Keycard I installed								
KEY-COUNTER	Key counter installed								
KEY-CARD2	MK-1 key card installed								
U206	<p>Setting the presence or absence of the coin vender</p> <p>Description 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>Checking the keys on the operation panel</p> <p>Description Checks operations of the keys on the operation panel.</p> <p>Purpose Used to check the operations of all the keys and LEDs on the operation panel.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing the maintenance item is displayed. 2. COUNT1 is displayed and the leftmost LED on the operation panel lights. 3. As the keys lined up in the same line as the lit indicator are pressed in the order from the top to the bottom, the figure shown on the touch panel increases in increments of 1. When all the keys in that line are pressed and if there are any LEDs corresponding to the keys in the line on the immediate right, the top LED in that line will light. 4. When all the keys on the operation panel have been pressed, all the LEDs light for up to 10 seconds. 5. When the LEDs go off, press the start key. All the LEDs light for 10 seconds again. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								

Maintenance item No.	Description
U209	<p>Setting the date and time</p> <p>Description Sets the time to adjust a time difference.</p> <p>Purpose To check the accuracy of the copier clock.</p> <p>Method</p> <ol style="list-style-type: none"> 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. 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. 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. 4. Press the stop/clear key. The screen for selecting a maintenance item No. is displayed. <p>Completion 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>
U216	<p>Setting the paper feeder type</p> <p>Description Set the paper feeder type in the copier.</p> <p>Purpose You do not need to change the setting.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Select the paper capacity in the paper drawer. (Initial setting: 500 sheets). 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>Setting the total count indication</p> <p>Description Selects whether or not to indicate the total counter in the counter report and the counter check mode on the operation panel.</p> <p>Purpose To change the setting according to the user.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 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. <p>Completion 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																		
U237	<p>Setting the maximum number of sheets for finisher stacking</p> <p>Description</p> <p>Sets the maximum number of sheets to be stacked on the main tray and middle tray of the optional document finisher.</p> <p>Purpose</p> <p>To change the setting when a stack malfunction has occurred.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The setting screen is displayed. 2. Select the item to be set. The screen for executing the selected item is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>MAIN TRAY</td> <td>Number of sheets to be stacked on the main tray</td> </tr> <tr> <td>MIDDLE TRAY</td> <td>Number of sheets to be stacked on the middle tray in the sort copy mode or staple copy mode.</td> </tr> </tbody> </table> <p>Setting: Number of sheets to be stacked on the main tray</p> <ol style="list-style-type: none"> 1. Select the desired number of sheets of paper. <table border="1"> <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</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Setting: Number of sheets to be stacked on the middle tray</p> <ol style="list-style-type: none"> 1. Select the desired number of sheets of paper. <table border="1"> <thead> <tr> <th>Setting value</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>In the sort copy mode: 30 sheets In the staple copy mode: 50 sheets</td> </tr> <tr> <td>1</td> <td>In the sort copy mode: 30 sheets In the staple copy mode: 30 sheets</td> </tr> </tbody> </table> <p>Initial setting: 0</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion</p> <p>Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	MAIN TRAY	Number of sheets to be stacked on the main tray	MIDDLE TRAY	Number of sheets to be stacked on the middle tray in the sort copy mode or staple copy mode.	Setting value	Setting	0	3000 sheets	1	1500 sheets	Setting value	Setting	0	In the sort copy mode: 30 sheets In the staple copy mode: 50 sheets	1	In the sort copy mode: 30 sheets In the staple copy mode: 30 sheets
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Maintenance item No.	Description																																		
<p>U240</p>	<p>Checking the operation of the finisher</p> <p>Description Turns each clutch and solenoid of the optional document finisher ON.</p> <p>Purpose To check the operation of each clutch and solenoid of the optional document finisher.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 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. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>HBCL</td> <td>Paper conveying belt clutch (PCBCL)</td> </tr> <tr> <td>SBSL</td> <td>Rotating plate solenoid (RPSOL)</td> </tr> <tr> <td>PSL 1</td> <td>Paddle solenoid 3 (PDSOL3)</td> </tr> <tr> <td>PSL 2</td> <td>Paddle solenoid 2 (PDSOL2)</td> </tr> <tr> <td>PSL 3</td> <td>Paddle solenoid 1 (PDSOL1)</td> </tr> <tr> <td>BSL 1</td> <td>Feedshift solenoid 1 (FSSOL1)</td> </tr> <tr> <td>BSL 2</td> <td>Feedshift solenoid 2 (FSSOL2)</td> </tr> <tr> <td>PCL</td> <td>Paddle clutch (PDCL)</td> </tr> <tr> <td>PNSL OFF</td> <td>Punch pattern solenoid (PPSOL) OFF</td> </tr> <tr> <td>PNSL ON</td> <td>Punch pattern solenoid (PPSOL) ON</td> </tr> <tr> <td>PNCL</td> <td>Punch clutch (PCL)</td> </tr> <tr> <td>KYSL</td> <td>Trailing edge press solenoid (TEPSOL)</td> </tr> <tr> <td>PCSL</td> <td>Pressure switching solenoid (PSWSOL)</td> </tr> <tr> <td>DCSL</td> <td>Drive switching solenoid (DSSOL)</td> </tr> <tr> <td>OKCL</td> <td>Paper conveying clutch (PCCL)</td> </tr> <tr> <td>B5SL</td> <td>Forwarding solenoid (FWSOL)</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. To turn on a clutch or solenoid with the motor driving, press the interrupt key before selecting the clutch or solenoid. * The driving motor starts operation, and the selected clutch or the solenoid remains on until the interrupt key is pressed again. 4. To stop motor driving, press the interrupt key again. 5. To return to the screen for selecting an item, press the stop/clear key when the motor stops. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	HBCL	Paper conveying belt clutch (PCBCL)	SBSL	Rotating plate solenoid (RPSOL)	PSL 1	Paddle solenoid 3 (PDSOL3)	PSL 2	Paddle solenoid 2 (PDSOL2)	PSL 3	Paddle solenoid 1 (PDSOL1)	BSL 1	Feedshift solenoid 1 (FSSOL1)	BSL 2	Feedshift solenoid 2 (FSSOL2)	PCL	Paddle clutch (PDCL)	PNSL OFF	Punch pattern solenoid (PPSOL) OFF	PNSL ON	Punch pattern solenoid (PPSOL) ON	PNCL	Punch clutch (PCL)	KYSL	Trailing edge press solenoid (TEPSOL)	PCSL	Pressure switching solenoid (PSWSOL)	DCSL	Drive switching solenoid (DSSOL)	OKCL	Paper conveying clutch (PCCL)	B5SL	Forwarding solenoid (FWSOL)
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Maintenance item No.	Description																																																		
U241	<p>Checking the operation of the switches of the finisher</p> <p>Description</p> <p>Displays the status of each switch of the optional document finisher.</p> <p>Purpose</p> <p>To check the operation of each switch of the optional document finisher.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key to run the maintenance item. 2. Turn each switch on manually. When a switch is detected to be in the on position, it is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr><td>KOS</td><td>Trailing edge press detection sensor (TEPDS)</td></tr> <tr><td>PS 3</td><td>Eject switch (ESW)</td></tr> <tr><td>FJHS</td><td>Front jogger home position sensor (FJHPS)</td></tr> <tr><td>PS 2</td><td>Internal tray wheel sensor (ITWS)</td></tr> <tr><td>DS</td><td>Front cover switch (FCSW)</td></tr> <tr><td>SS</td><td>Joint switch (JSW)</td></tr> <tr><td>RJHS</td><td>Rear jogger home position sensor (RJHPS)</td></tr> <tr><td>FSES</td><td>Front stapler empty sensor (STES)</td></tr> <tr><td>FSPS</td><td>Front stapler self-priming sensor (STSPS)</td></tr> <tr><td>RSES</td><td>Rear stapler empty sensor (STES)</td></tr> <tr><td>RSPS</td><td>Rear stapler self-priming sensor (STSPS)</td></tr> <tr><td>US</td><td>Upper cover switch (UCSW)</td></tr> <tr><td>FSTHS</td><td>Front stapler home position sensor (STHPS)</td></tr> <tr><td>RSTHS</td><td>Rear stapler home position sensor (STHPS)</td></tr> <tr><td>FS A3</td><td>Paper conveying sensor 1 (PCS1)</td></tr> <tr><td>FS A4</td><td>Paper conveying sensor 2 (PCS2)</td></tr> <tr><td>SKS 1</td><td>Tray stock sensor A (TSSA)</td></tr> <tr><td>PS</td><td>Paper entry sensor (PES)</td></tr> <tr><td>HBHS</td><td>Paper conveying belt home position sensor (PCBHPS)</td></tr> <tr><td>SKS 2</td><td>Tray upper limit sensor (TULS)</td></tr> <tr><td>PS 4</td><td>Internal tray sensor (ITS)</td></tr> <tr><td>SKS 4</td><td>Tray lower limit sensor (TLLS)</td></tr> <tr><td>PKS</td><td>Scrap hole-punch sensor (PDTs)</td></tr> <tr><td>SKS 3</td><td>Tray midpoint sensor (TMS)</td></tr> </tbody> </table> <p>Completion</p> <p>Press the stop/clear key when all operations complete. The screen for selecting a maintenance item No. is displayed.</p>	Display	Setting	KOS	Trailing edge press detection sensor (TEPDS)	PS 3	Eject switch (ESW)	FJHS	Front jogger home position sensor (FJHPS)	PS 2	Internal tray wheel sensor (ITWS)	DS	Front cover switch (FCSW)	SS	Joint switch (JSW)	RJHS	Rear jogger home position sensor (RJHPS)	FSES	Front stapler empty sensor (STES)	FSPS	Front stapler self-priming sensor (STSPS)	RSES	Rear stapler empty sensor (STES)	RSPS	Rear stapler self-priming sensor (STSPS)	US	Upper cover switch (UCSW)	FSTHS	Front stapler home position sensor (STHPS)	RSTHS	Rear stapler home position sensor (STHPS)	FS A3	Paper conveying sensor 1 (PCS1)	FS A4	Paper conveying sensor 2 (PCS2)	SKS 1	Tray stock sensor A (TSSA)	PS	Paper entry sensor (PES)	HBHS	Paper conveying belt home position sensor (PCBHPS)	SKS 2	Tray upper limit sensor (TULS)	PS 4	Internal tray sensor (ITS)	SKS 4	Tray lower limit sensor (TLLS)	PKS	Scrap hole-punch sensor (PDTs)	SKS 3	Tray midpoint sensor (TMS)
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RSPS	Rear stapler self-priming sensor (STSPS)																																																		
US	Upper cover switch (UCSW)																																																		
FSTHS	Front stapler home position sensor (STHPS)																																																		
RSTHS	Rear stapler home position sensor (STHPS)																																																		
FS A3	Paper conveying sensor 1 (PCS1)																																																		
FS A4	Paper conveying sensor 2 (PCS2)																																																		
SKS 1	Tray stock sensor A (TSSA)																																																		
PS	Paper entry sensor (PES)																																																		
HBHS	Paper conveying belt home position sensor (PCBHPS)																																																		
SKS 2	Tray upper limit sensor (TULS)																																																		
PS 4	Internal tray sensor (ITS)																																																		
SKS 4	Tray lower limit sensor (TLLS)																																																		
PKS	Scrap hole-punch sensor (PDTs)																																																		
SKS 3	Tray midpoint sensor (TMS)																																																		

Maintenance item No.	Description																								
U243	<p>Checking the operation of the DP motors, clutch and solenoids</p> <p>Description Turns ON the motors, clutch and solenoids of the optional DP.</p> <p>Purpose To check the operation of the motors, clutch and solenoids of the DP.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the motor, clutch or solenoid to be operated. The selected item is displayed in reverse and the operation starts. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">motor, clutch or solenoid</th> <th style="text-align: left;">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"> 3. To turn each motor off, press the stop/clear key. <p>Completion 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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FD SL	Original feed solenoid (OFSOL)	ON → OFF																							
RP SL	Switchback pressure solenoid (SBPSOL)	ON → OFF																							
U244	<p>Checking the operation of the DP switches</p> <p>Description Display the status of each switch of the optional DP.</p> <p>Purpose To check the operation of each switch of the optional DP.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the type of switches (SW or VR) to be checked. The screen for executing each item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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>Method for the on/off switches (SW)</p> <ol style="list-style-type: none"> 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. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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"> 2. To return to the screen for selecting an item, press the stop/clear key. 	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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Maintenance item No.	Description																																																			
U244	<p>Method for the volume switch (VR)</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 with the decimals omitted.</p> <table border="1"> <thead> <tr> <th>Numerical value</th> <th colspan="2">Original width to be detected</th> </tr> </thead> <tbody> <tr> <td>000</td> <td></td> <td>$5\frac{1}{2}" \times 8\frac{1}{2}"$</td> </tr> <tr> <td>49.664</td> <td></td> <td></td> </tr> <tr> <td>50.176</td> <td>A5R</td> <td></td> </tr> <tr> <td>61.440</td> <td></td> <td></td> </tr> <tr> <td>61.952</td> <td></td> <td></td> </tr> <tr> <td>103.936</td> <td>B5R</td> <td></td> </tr> <tr> <td>104.448</td> <td></td> <td>$8\frac{1}{2}" \times 14"/$ $8\frac{1}{2}" \times 11"$</td> </tr> <tr> <td>139.264</td> <td>Folio/A4R</td> <td></td> </tr> <tr> <td>139.776</td> <td></td> <td></td> </tr> <tr> <td>146.432</td> <td></td> <td></td> </tr> <tr> <td>146.994</td> <td>B4/B5</td> <td></td> </tr> <tr> <td>197.120</td> <td></td> <td></td> </tr> <tr> <td>197.632</td> <td></td> <td></td> </tr> <tr> <td>197.720</td> <td>CF (11" × 15")</td> <td>$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$</td> </tr> <tr> <td>223.232</td> <td></td> <td></td> </tr> <tr> <td>256</td> <td>A3/A4</td> <td></td> </tr> </tbody> </table> <p>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>2. To return to the screen for selecting an item, press the stop/clear key.</p> <p>Completion</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>	Numerical value	Original width to be detected		000		$5\frac{1}{2}" \times 8\frac{1}{2}"$	49.664			50.176	A5R		61.440			61.952			103.936	B5R		104.448		$8\frac{1}{2}" \times 14"/$ $8\frac{1}{2}" \times 11"$	139.264	Folio/A4R		139.776			146.432			146.994	B4/B5		197.120			197.632			197.720	CF (11" × 15")	$11" \times 17"/$ $11" \times 15"/$ $11" \times 8\frac{1}{2}"$	223.232			256	A3/A4	
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U245	<p>Checking messages</p> <p>Description</p> <p>Displays a list of messages and graphics that appear on the operation panel screen.</p> <p>Purpose</p> <p>To check the messages to be displayed.</p> <p>Method</p> <ol style="list-style-type: none"> <li>1. Press the start key. <li>2. Select the item to be displayed. <li>3. Change the screen using the cursor up/down keys to display each message one at a time. <p>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>Completion</p> <p>Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																																																			

Maintenance item No.	Description																								
U248	<p>Changing the paper ejection device settings</p> <p>Description Adjusts the paper flexure level in the punch mode when the optional document finisher is installed in your copier. Also sets the limit for the number of punches that can be made, and displays or clears or changes the waste punch count.</p> <p>Purpose</p> <ul style="list-style-type: none"> • Paper flexure level adjustment in the punch mode Used to adjust the paper flexure level in the punch mode if it is too high and frequently causes paper to jam or be folded in a z-pattern, or it is set too low and causes disparity in the punch hole position. • 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. • Displaying (or clearing) the punch count Used to clear the punch count when a message telling you to dispose of the waste punch remains after disposing of waste punch. <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Display</th> <th style="width: 50%;">Setting</th> </tr> </thead> <tbody> <tr> <td>PUNCH TIMING</td> <td>Paper flexure level adjustment in the punch mode</td> </tr> <tr> <td>PUNCH COUNT</td> <td>Punch limit/Punch count</td> </tr> </tbody> </table> <p>Setting: Paper flexure level</p> <ol style="list-style-type: none"> 1. Select PUNCH TIMING in the screen for selecting an item and then press the start key. 2. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Setting</th> <th style="width: 30%;">Setting range</th> <th style="width: 30%;">Default setting</th> </tr> </thead> <tbody> <tr> <td>Paper flexure level</td> <td>-10 to +10</td> <td>0</td> </tr> </tbody> </table> <p>If there is disparity in the punch hole position, increase the paper flexure level by raising the setting value. If paper frequently jams or is folded in a z-pattern frequently, decrease the paper flexure level by lowering the value. Change in value per step: 1.25 mm (paper flexure)</p> <ol style="list-style-type: none"> 3. Press the start. The value is set. 4. To return to the screen for selecting an item, press the stop/clear key. <p>Setting: Punch limit/Punch count</p> <ol style="list-style-type: none"> 1. Select PUNCH COUNT in the screen for selecting an item and then press the start key. 2. Select the item to be set. 3. Use the cursor up/down keys to change the setting value. Press the reset key to clear the punching count. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Display</th> <th style="width: 40%;">Setting</th> <th style="width: 20%;">Setting range</th> <th style="width: 25%;">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 999000 times</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"> 4. Press the start key. The value is set. 5. To return to the screen for selecting an item, press the stop/clear key. <p>Completion To exit this maintenance item without changing the current setting, 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	PUNCH TIMING	Paper flexure level adjustment in the punch mode	PUNCH COUNT	Punch limit/Punch count	Setting	Setting range	Default setting	Paper flexure level	-10 to +10	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 999000 times	—
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Maintenance item No.	Description
U250	<p>Setting the maintenance cycle</p> <p>Description Displays and changes the maintenance cycle.</p> <p>Purpose To check and change the maintenance cycle.</p> <p>Method Press the start key. The currently set maintenance cycle is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. 2. Use the numeric keys to change the setting value (0 to 9999999). 3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>
U251	<p>Checking/Clearing the maintenance count</p> <p>Description Displays and clears or changes the maintenance count.</p> <p>Purpose To check, as well as to clear or change, the maintenance count during the periodic maintenance service.</p> <p>Method Press the start key. The current maintenance count is displayed.</p> <p>Clearing the count</p> <ol style="list-style-type: none"> 1. Select the item to be cleared. 2. Press the reset key. 3. Press the start key. The maintenance count is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Use the numeric keys to enter the 7-digit count value. 2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>Setting the destination</p> <p>Description Sets operation procedures and displayed screens according to the destination in which the machine is used.</p> <p>Purpose Used to returns the destination setting to the value before replacement or initialization when the backup RAM on the scanner main PCB has been replaced, or when the backup RAM has been initialize by running maintenance item U020.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <p>1. Select the destination. The selected item is displayed in reverse.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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> <p>2. Press the start key. The setting is set, and the machine automatically returns to the same status as when the power is turned on.</p> <p>Completion 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>Supplement 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> <ul style="list-style-type: none"> • Default setting according to the destinations <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Maintenance No.</th> <th style="text-align: left;">Title</th> <th style="text-align: center;">Japan spec.</th> <th style="text-align: center;">Inch spec.</th> <th style="text-align: center;">Europe/Asia Pacific spec.</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">255</td> <td>Setting auto clear time</td> <td style="text-align: center;">120 s</td> <td style="text-align: center;">90 s</td> <td style="text-align: center;">90 s</td> </tr> <tr> <td style="text-align: center;">264</td> <td>Setting the display order of the date</td> <td style="text-align: center;">Year/Month/Day</td> <td style="text-align: center;">Month/Day/Year</td> <td style="text-align: center;">Day/Month/Year</td> </tr> <tr> <td style="text-align: center;">276</td> <td>Setting the copy count mode</td> <td style="text-align: center;">MODE1</td> <td style="text-align: center;">MODE0</td> <td style="text-align: center;">MODE0</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 No.	Title	Japan spec.	Inch spec.	Europe/Asia Pacific spec.	255	Setting auto clear time	120 s	90 s	90 s	264	Setting the display order of the date	Year/Month/Day	Month/Day/Year	Day/Month/Year	276	Setting the copy count mode	MODE1	MODE0	MODE0
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U253	<p>Switching between double and single counts</p> <p>Description Switches the count system for the total counter and other counters.</p> <p>Purpose Used to select, according to the preference of the user (copy service provider), if A3/11" × 17" paper is to be counted as one sheet (single count) or two sheets (double count).</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select double or single count. The selected item is displayed in reverse. <table border="1"> <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/LEGAL)</td> <td>Double count for B4/LEGAL size or larger</td> </tr> </tbody> </table> <p>Initial setting: DOUBLE COUNT(A3/LEDGER)</p> <ol style="list-style-type: none"> 3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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	SINGLE COUNT	Single count for all size paper	DOUBLE COUNT(A3/LEDGER)	Double count for A3/LEDGER paper only	DOUBLE COUNT(B4/LEGAL)	Double count for B4/LEGAL size or larger
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/LEGAL)	Double count for B4/LEGAL size or larger								
U254	<p>Turning the auto start function ON/OFF</p> <p>Description Selects if the auto start function is turned ON.</p> <p>Purpose 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>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <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"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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						
<p>U255</p>	<p>Setting auto clear time</p> <p>Description Sets the time to return to default settings after copying is complete.</p> <p>Purpose 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>Method Press the start key. * The current setting is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Setting item</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">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"> Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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 item	Setting range	Default setting	Auto clear time	0 to 270 (seconds)	90
Setting item	Setting range	Default setting					
Auto clear time	0 to 270 (seconds)	90					
<p>U260</p>	<p>Selecting the timing for copy counting</p> <p>Description Changes the copy count timing for the total counter and other counters.</p> <p>Purpose 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>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select timing for counting. The selected item is displayed in reverse. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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								
U263	<p>Setting the paper ejection when copying from the DP</p> <p>Description Sets the way of paper ejection when copying from the optional DP.</p> <p>Purpose Set according to the preference of the user.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the ejection order. The selected item is displayed in reverse. <table border="1"> <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"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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.								
U264	<p>Setting the display order of the date</p> <p>Description Selects year, month and day as the order of that appears on lists, etc.</p> <p>Purpose Set according to the user preference.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the desired order. The selected item is displayed in reverse. <table border="1"> <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"> Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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								

Maintenance item No.	Description						
<p>U265</p>	<p>Setting OEM purchaser code</p> <p>Description Sets the OEM purchaser code.</p> <p>Purpose Sets the code when replacing the scanner main PCB and the like.</p> <p>Method Press the start key.</p> <p>Setting 1. Use the cursor up/down keys to change the setting value. 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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>U276</p>	<p>Setting the copy count mode</p> <p>Description Changes the unit of counting according to the mode of paper ejection.</p> <p>Purpose To set the unit of counting depending upon the number of colors used, such as full-color or black.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select the mode. The selected item is displayed in reverse.</p> <table border="1"> <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> <p>2. Press the enter key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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			
U276	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>Setting auto application change time</p> <p>Description Sets the time that passes until the machine starts automatically printing after completing copying or operation when the machine is used as a printer (only if the printer board is installed).</p> <p>Purpose According to user request, changes the setting.</p> <p>Method Press the start key. The current setting is displayed.</p> <p>Setting 1. Change the setting using the cursor up/down keys.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Description</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Initial setting</th> </tr> </thead> <tbody> <tr> <td>Switching time</td> <td>0 to 270 (s)</td> <td>90</td> </tr> </tbody> </table> <p>The setting can be changed by 30 s per step.</p> <p>2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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	0 to 270 (s)	90							
Description	Setting range	Initial setting												
Switching time	0 to 270 (s)	90												
U330	<p>Setting the number of copies to be handled by the stacking mode during sorting</p> <p>Description 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 your copier.)</p> <p>Purpose Performed as necessary depending upon the number of copy sets being made by the user.</p> <p>Method Press the start key. The current setting value is displayed.</p> <p>Setting 1. Use the cursor up/down keys to set the desired number of sheets of paper (1 to 100). 2. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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>													
U332	<p>Setting the size coefficient</p> <p>Description Sets the size coefficient based on A4 (11" × 8¹/₂") paper sizes. The coefficient settings made here is used for A4 conversion of the black ratio and is displayed under user simulation.</p> <p>Purpose Enables the setting of the coefficient in order to have A4 (11" × 8¹/₂") conversion performed for the black ratio of custom paper size.</p> <p>Method 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item (COPY, PRT and FAX) to be set. 3. Use the cursor up/down keys to change the setting value.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: left;">Setting</th> <th rowspan="2" style="text-align: left;">Setting range</th> <th colspan="3" style="text-align: left;">Default setting</th> </tr> <tr> <th style="text-align: left;">COPY</th> <th style="text-align: left;">PRT</th> <th style="text-align: left;">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> <p>4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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										

Maintenance item No.	Description										
U339	<p>Setting the internal thermal heater</p> <p>Description Turns the internal thermal heater ON or OFF.</p> <p>Purpose To change the setting to OFF to eliminate the fan motor sound after turning the power off. If the setting is changed to OFF, however, an image failure due to dew condensation on the drum may occur.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>The internal thermal heater is turned ON.</td> </tr> <tr> <td>OFF</td> <td>The internal thermal heater is turned OFF.</td> </tr> </tbody> </table> <p>Initial setting: ON</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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	The internal thermal heater is turned ON.	OFF	The internal thermal heater is turned OFF.				
Display	Setting										
ON	The internal thermal heater is turned ON.										
OFF	The internal thermal heater is turned OFF.										
U341	<p>Specific paper feed location setting for printing function</p> <p>Description Sets a paper feed location specified for printer output (only if a printer board installed).</p> <p>Purpose To use a paper feed location only for printer output.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. <p>Setting</p> <ol style="list-style-type: none"> 1. Select the paper feed location for the printer. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>DRAWER 1</td> <td>Drawer 1</td> </tr> <tr> <td>DRAWER 2</td> <td>Drawer 2</td> </tr> <tr> <td>DRAWER 3</td> <td>Drawer 3*</td> </tr> <tr> <td>DRAWER 4</td> <td>Drawer 4*</td> </tr> </tbody> </table> <p>*Optional.</p> <ol style="list-style-type: none"> 2. Press the start key. The setting is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item is displayed.</p>	Display	Description	DRAWER 1	Drawer 1	DRAWER 2	Drawer 2	DRAWER 3	Drawer 3*	DRAWER 4	Drawer 4*
Display	Description										
DRAWER 1	Drawer 1										
DRAWER 2	Drawer 2										
DRAWER 3	Drawer 3*										
DRAWER 4	Drawer 4*										

Maintenance item No.	Description						
<p>U343</p>	<p>Switching between duplex/simplex copy mode</p> <p>Description Switches the default setting between duplex and simplex copy.</p> <p>Purpose To be set, according to the frequency of use, to the more frequently used mode.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting 1. Select ON or OFF. The selected item is displayed in reverse.</p> <table border="1"> <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> <p>2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed.</p> <p>Completion 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						
<p>U345</p>	<p>Setting the value for maintenance due indication</p> <p>Description 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.</p>						
<p>U402</p>	<p>Adjusting the margins for the image printing</p> <p>Adjustment See page 1-6-16.</p>						
<p>U403</p>	<p>Adjusting the margins for scanning an original on the contact glass</p> <p>Adjustment See page 1-6-38.</p>						

Maintenance item No.	Description																									
<p>U404</p>	<p>Adjusting the margins for scanning an original from the DP</p> <p>Description Adjusts the margins for scanning an original from the DP</p> <p>Purpose Used if correct margins are not obtained when the optional DP is used.</p> <p>Caution Before performing this adjustment, ensure that the following adjustments have been made in maintenance mode.</p> <p>U402 → U403 → U404</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 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. <table border="1"> <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>0.1 mm</td> </tr> <tr> <td>RIGHT/mm</td> <td>Right margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.1 mm</td> </tr> <tr> <td>TOP/mm</td> <td>Leading edge margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.1 mm</td> </tr> <tr> <td>BOTTOM/mm</td> <td>Trailing edge margin</td> <td>0 to 10.0</td> <td>2.0</td> <td>0.1 mm</td> </tr> </tbody> </table> <p>Increasing the value makes the margin wider, and decreasing it makes the margin narrower.</p> <div> <p>The diagram illustrates a document with four margins. A large upward-pointing arrow on the left is labeled 'Ejection direction (reference)'. The document itself is a rectangle with four smaller rectangles at its corners, each representing a margin. Arrows point from text labels to these margins: 'DF leading edge margin (2 ± 1.0 mm)' at the top, 'DF left margin (2 ± 1.0 mm)' on the left, 'DF right margin (2 ± 1.0 mm)' on the right, and 'DF trailing edge margin (2 ± 1.0 mm)' at the bottom.</p> </div> <p>Figure 1-4-4 Correct margin amount</p> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Interrupt copy mode While this maintenance item is being executed, copying from an original can be made in interrupt copy mode.</p> <p>Completion 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	0.1 mm	RIGHT/mm	Right margin	0 to 10.0	2.0	0.1 mm	TOP/mm	Leading edge margin	0 to 10.0	2.0	0.1 mm	BOTTOM/mm	Trailing edge margin	0 to 10.0	2.0	0.1 mm
Display	Setting	Setting range	Default setting	Change in value per step																						
LEFT/mm	Left margin	0 to 10.0	2.0	0.1 mm																						
RIGHT/mm	Right margin	0 to 10.0	2.0	0.1 mm																						
TOP/mm	Leading edge margin	0 to 10.0	2.0	0.1 mm																						
BOTTOM/mm	Trailing edge margin	0 to 10.0	2.0	0.1 mm																						
<p>U407</p>	<p>Adjusting the leading edge registration for memory image printing</p> <p>Adjustment See page 1-6-18.</p>																									

Maintenance item No.	Description												
U410	<p>Adjusting the halftone automatically</p> <p>Description 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>Purpose Performed when the quality of reproduced halftones has dropped.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be adjusted. The screen for executing the selected maintenance item is displayed <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Display</th> <th style="text-align: center;">Adjustment</th> </tr> </thead> <tbody> <tr> <td>Engine adjust</td> <td>Performs the appropriate data acquisition process for automatic correction.</td> </tr> <tr> <td>Continuation adjust</td> <td>Performs continuous automatic adjustment for each mode.</td> </tr> <tr> <td>Separate adjust</td> <td>Performs automatic adjustment for a specific mode.</td> </tr> </tbody> </table> <p>Method: Engine adjust</p> <ol style="list-style-type: none"> 1. Select the item to be adjusted. The selected item is adjusted. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Display</th> <th style="text-align: center;">Adjustment</th> </tr> </thead> <tbody> <tr> <td>Density adjust</td> <td>Performs automatic correction.</td> </tr> </tbody> </table> <p>Method: Continuation adjust</p> <ol style="list-style-type: none"> 1. Select Continuation adjust at the screen for selecting an item. A test pattern on A4/11" × 8¹/₂" paper is outputted. 2. Place the output test pattern as the original and press the start key. Adjustment is made (first time). 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). 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). 5. Select END to set the data. <p>Method: Separate adjust</p> <ol style="list-style-type: none"> 1. Select Separate adjust at the screen for selecting an item. 2. Select Adjust screen gamma to output a test pattern on A4/11" × 8¹/₂" paper. 3. Place the output test pattern as the original and press the start key. Adjustment is made (first time). 4. 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). 5. 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). 6. Select END to set the data. <p>Completion Press the stop/clear key at the screen for selecting an item. The screen for selecting a maintenance item No. is displayed.</p>	Display	Adjustment	Engine adjust	Performs the appropriate data acquisition process for automatic correction.	Continuation adjust	Performs continuous automatic adjustment for each mode.	Separate adjust	Performs automatic adjustment for a specific mode.	Display	Adjustment	Density adjust	Performs automatic correction.
Display	Adjustment												
Engine adjust	Performs the appropriate data acquisition process for automatic correction.												
Continuation adjust	Performs continuous automatic adjustment for each mode.												
Separate adjust	Performs automatic adjustment for a specific mode.												
Display	Adjustment												
Density adjust	Performs automatic correction.												

Maintenance item No.	Description															
U411	<p>Adjusting the scanner automatically</p> <p>Description Carries out the automatic adjustment of scanner-related settings (gain adjustment, automatic adjustment of the input start position, shading offset adjustment, γ adjustment, matrix adjustment) as well as the adjustment of the color differential and MTF.</p> <p>Purpose To perform automatic adjustment on the scanner after replacing the scanner circuit board. If the LSU is replaced as well, adjustment of the color differential and MTF is performed after running the automatic adjustment of the scanner.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Set the original to be used for adjustment (P/N: 2A668010) on the platen. 2. Press the start key. The screen for selecting an item is displayed. 3. Select the item to be adjusted. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Adjustment</th> </tr> </thead> <tbody> <tr> <td>Scan. Characteristic adj.</td> <td>Perform gain adjustment, automatic adjustment of the input start position, shading offset adjustment, γ adjustment, matrix adjustment</td> </tr> <tr> <td>C.A./MTF</td> <td>Perform adjustment of the color differential and MTF in the main and auxiliary directions</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The selected item is adjusted. Do not turn the main switch off or open/close the cover (turning the safety switch ON/OFF) before automatic adjustment is complete. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Adjustment	Scan. Characteristic adj.	Perform gain adjustment, automatic adjustment of the input start position, shading offset adjustment, γ adjustment, matrix adjustment	C.A./MTF	Perform adjustment of the color differential and MTF in the main and auxiliary directions									
Display	Adjustment															
Scan. Characteristic adj.	Perform gain adjustment, automatic adjustment of the input start position, shading offset adjustment, γ adjustment, matrix adjustment															
C.A./MTF	Perform adjustment of the color differential and MTF in the main and auxiliary directions															
U416	<p>Changing the base curve for scanner output</p> <p>Description Sets the gradient for the density that was adjusted under "U410 Adjusting the halftone automatically".</p> <p>Purpose To change the setting according to the user preference.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The selected item is displayed in reverse. 3. Use the cursor up/down keys to change the setting value. <table border="1"> <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"> 4. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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														

Maintenance item No.	Description																																													
U425	<p>Setting the target</p> <p>Description Sets the target value for fine-adjustment of the results when performing adjustment of the shading offset, γ, 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>Purpose Performs data input in order to correct for differences in originals during automatic adjustment.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The setting screen for the selected item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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 γ 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>Setting: Monochrome adjustment</p> <ol style="list-style-type: none"> 1. Select the item to be set. 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. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting</th> <th style="text-align: left;">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:</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"> 3. Press the start key. The value is set. <p>Setting: Gamma adjustment</p> <ol style="list-style-type: none"> 1. Select REGULAR. 2. Select the item to be set. 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. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting</th> <th style="text-align: left;">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"> 4. Press the start key. The value is set. 	Display	Setting	B/W adjust	Target value for shading offset adjustment	Gamma adjust	Target value for γ 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:	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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Maintenance item No.	Description																																																																								
U425	<p>Setting: Cyan matrix adjustment</p> <ol style="list-style-type: none"> 1. Select REGULAR. 2. Select the item to be set. 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. <table border="1"> <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"> 4. Press the start key. The value is set. <p>Setting: Magenta matrix adjustment, normal mode</p> <ol style="list-style-type: none"> 1. Select REGULAR. 2. Select the item to be set. 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. <table border="1"> <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"> 4. Press the start key. The value is set. <p>Setting: Yellow matrix adjustment</p> <ol style="list-style-type: none"> 1. Select REGULAR. 2. Select the item to be set. 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. <table border="1"> <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"> 4. Press the start key. The value is set. <p>Completion 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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Maintenance item No.	Description																																
U427	<p>Setting the UCR multiplication coefficient for black generation</p> <p>Description Displays the UCR multiplication coefficient for black generation (part of the data in the MIP register settings) and performs the related setting.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. 3. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Multiplication coefficient</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> </tr> </thead> <tbody> <tr><td>A1</td><td>0 to 15</td><td>4</td></tr> <tr><td>A2</td><td>0 to 15</td><td>4</td></tr> <tr><td>A3</td><td>0 to 15</td><td>4</td></tr> <tr><td>A4</td><td>0 to 15</td><td>4</td></tr> <tr><td>B1</td><td>0 to 127</td><td>64</td></tr> <tr><td>B2</td><td>0 to 127</td><td>64</td></tr> <tr><td>B3</td><td>0 to 127</td><td>64</td></tr> <tr><td>B4</td><td>0 to 127</td><td>64</td></tr> </tbody> </table> <ol style="list-style-type: none"> 4. Press the start key. The value is set. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Multiplication coefficient	Setting range	Default setting	A1	0 to 15	4	A2	0 to 15	4	A3	0 to 15	4	A4	0 to 15	4	B1	0 to 127	64	B2	0 to 127	64	B3	0 to 127	64	B4	0 to 127	64					
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B1	0 to 127	64																															
B2	0 to 127	64																															
B3	0 to 127	64																															
B4	0 to 127	64																															
U429	<p>Setting the offset for the color balance</p> <p>Description Displays and changes the density for each color during copying in the various image quality modes.</p> <p>Purpose To change the balance for each color.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the image quality mode. The setting screen for the selected item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting</th> </tr> </thead> <tbody> <tr><td>TEXT+PHOTO</td><td>Density of each color in the text & 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>Setting</p> <ol style="list-style-type: none"> 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. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">Setting</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">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"> 3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>Setting the center offset for the exposure</p> <p>Description 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>Purpose Set according to the preference of the user.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The setting screen for the selected item is displayed. <table border="1"> <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>Setting</p> <ol style="list-style-type: none"> 1. Select image quality mode. The selected item is displayed in reverse. 2. Use the cursor up/down keys to change the setting value. <table border="1"> <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 & 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"> 3. Press the start key. The value is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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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Other	Offset value for other modes	-4 to +4	0																				

Maintenance item No.	Description																		
U464	<p>Setting the ID correction operation</p> <p>Description Turns ID correction ON/OFF. Also sets the number of copies after which ID correction is initiated.</p> <p>Purpose To restrict ID correction when poor image quality is generated.</p> <p>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The setting screen for the selected item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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>Setting: ID correction ON/OFF</p> <ol style="list-style-type: none"> 1. Select ON of OFF. The selected item is displayed in reverse. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Display</th> <th style="text-align: left;">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"> 2. Press the start key. The setting is set, and The screen for selecting a maintenance item No. is displayed. <p>Setting: Number of copies after which ID correction is initiated</p> <ol style="list-style-type: none"> 1. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Setting item</th> <th style="text-align: left;">Setting range</th> <th style="text-align: left;">Default setting</th> </tr> </thead> <tbody> <tr> <td>Number of copies after which ID correction is initiated</td> <td>0 to 500 sheets</td> <td>250</td> </tr> </tbody> </table> <p>The setting can be change to any value in increments of 50 sheets. 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"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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	Setting item	Setting range	Default setting	Number of copies after which ID correction is initiated	0 to 500 sheets	250
Display	Setting																		
MOVE	Setting to allow ID correction																		
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Setting item	Setting range	Default setting																	
Number of copies after which ID correction is initiated	0 to 500 sheets	250																	

Maintenance item No.	Description																																																						
U465	<p>Data reference for ID correction</p> <p>Description References the data related to ID correction</p> <p>Purpose To check the corresponding data.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The screen for executing an item is displayed. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>RESULT</td> <td>Developing bias control value after ID correction</td> </tr> <tr> <td>SENSOR</td> <td>Toner concentration measuring sensor</td> </tr> <tr> <td>TARGET</td> <td>Concentration after ID correction</td> </tr> </tbody> </table> <p>Checking the value for developing bias</p> <ol style="list-style-type: none"> 1. Select RESULT at the screen for selecting an item. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>BIAS KID</td> <td>Developing bias control value after ID correction (black)</td> </tr> <tr> <td>BIAS CID</td> <td>Developing bias control value after ID correction (cyan)</td> </tr> <tr> <td>BIAS MID</td> <td>Developing bias control value after ID correction (magenta)</td> </tr> <tr> <td>BIAS YID</td> <td>Developing bias control value after ID correction (yellow)</td> </tr> <tr> <td>LASER KID</td> <td>Laser intensity control value after ID correction (black)</td> </tr> <tr> <td>LASER CID</td> <td>Laser intensity control value after ID correction (cyan)</td> </tr> <tr> <td>LASER MID</td> <td>Laser intensity control value after ID correction (magenta)</td> </tr> <tr> <td>LASER YID</td> <td>Laser intensity control value after ID correction (yellow)</td> </tr> </tbody> </table> <p>Checking the sensor for toner density</p> <ol style="list-style-type: none"> 1. Select SENSOR at the screen for selecting an item. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>P SENSOR</td> <td>Middle transfer background density (black toner)</td> </tr> <tr> <td>S SENSOR</td> <td>Middle transfer background density (cyan, magenta, and yellow toners)</td> </tr> <tr> <td>P CURRENT</td> <td>Concentration sensor dark current (black toner)</td> </tr> <tr> <td>S CURRENT</td> <td>Concentration sensor dark current (cyan, magenta, and yellow toners)</td> </tr> </tbody> </table> <p>Checking the density after correction</p> <ol style="list-style-type: none"> 1. Select TARGET at the screen for selecting an item. <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>K BIAS TARGET</td> <td>Target concentration for bias correction (black)</td> </tr> <tr> <td>C BIAS TARGET</td> <td>Target concentration for bias correction (cyan)</td> </tr> <tr> <td>M BIAS TARGET</td> <td>Target concentration for bias correction (magenta)</td> </tr> <tr> <td>Y BIAS TARGET</td> <td>Target concentration for bias correction (yellow)</td> </tr> <tr> <td>K LASER TARGET</td> <td>Target concentration for laser correction (black)</td> </tr> <tr> <td>C LASER TARGET</td> <td>Target concentration for laser correction (cyan)</td> </tr> <tr> <td>M LASER TARGET</td> <td>Target concentration for laser correction (magenta)</td> </tr> <tr> <td>Y LASER TARGET</td> <td>Target concentration for laser correction (yellow)</td> </tr> </tbody> </table> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	RESULT	Developing bias control value after ID correction	SENSOR	Toner concentration measuring sensor	TARGET	Concentration after ID correction	Display	Setting	BIAS KID	Developing bias control value after ID correction (black)	BIAS CID	Developing bias control value after ID correction (cyan)	BIAS MID	Developing bias control value after ID correction (magenta)	BIAS YID	Developing bias control value after ID correction (yellow)	LASER KID	Laser intensity control value after ID correction (black)	LASER CID	Laser intensity control value after ID correction (cyan)	LASER MID	Laser intensity control value after ID correction (magenta)	LASER YID	Laser intensity control value after ID correction (yellow)	Display	Setting	P SENSOR	Middle transfer background density (black toner)	S SENSOR	Middle transfer background density (cyan, magenta, and yellow toners)	P CURRENT	Concentration sensor dark current (black toner)	S CURRENT	Concentration sensor dark current (cyan, magenta, and yellow toners)	Display	Setting	K BIAS TARGET	Target concentration for bias correction (black)	C BIAS TARGET	Target concentration for bias correction (cyan)	M BIAS TARGET	Target concentration for bias correction (magenta)	Y BIAS TARGET	Target concentration for bias correction (yellow)	K LASER TARGET	Target concentration for laser correction (black)	C LASER TARGET	Target concentration for laser correction (cyan)	M LASER TARGET	Target concentration for laser correction (magenta)	Y LASER TARGET	Target concentration for laser correction (yellow)
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U470	<p>Setting the compression ratio</p> <p>Description Sets the compression ratio coefficient for each compression level based on the quantum chart for JPEG brightness and color differential.</p> <p>Purpose 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>Implementation</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be set. The setting screen for the selected item is displayed. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Display</th> <th style="width: 50%;">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>Setting: JPEG compression ratio (brightness)</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Display</th> <th style="width: 40%;">Setting range</th> <th style="width: 30%;">Default setting</th> </tr> </thead> <tbody> <tr> <td>COPY</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NT SCAN (1)</td> <td>1 to 100</td> <td>30</td> </tr> <tr> <td>NT SCAN (2)</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NT SCAN (3)</td> <td>1 to 100</td> <td>50</td> </tr> <tr> <td>NT SCAN (4)</td> <td>1 to 100</td> <td>80</td> </tr> <tr> <td>NT SCAN (5)</td> <td>1 to 100</td> <td>95</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Setting: JPEG compression ratio (color differential)</p> <ol style="list-style-type: none"> 1. Select the item to be set. 2. Use the cursor up/down keys to change the setting value. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Display</th> <th style="width: 40%;">Setting range</th> <th style="width: 30%;">Default setting</th> </tr> </thead> <tbody> <tr> <td>COPY</td> <td>1 to 100</td> <td>70</td> </tr> <tr> <td>NT SCAN (1)</td> <td>1 to 100</td> <td>30</td> </tr> <tr> <td>NT SCAN (2)</td> <td>1 to 100</td> <td>40</td> </tr> <tr> <td>NT SCAN (3)</td> <td>1 to 100</td> <td>50</td> </tr> <tr> <td>NT SCAN (4)</td> <td>1 to 100</td> <td>80</td> </tr> <tr> <td>NT SCAN (5)</td> <td>1 to 100</td> <td>95</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. The value is set. <p>Completion 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	NT SCAN (1)	1 to 100	30	NT SCAN (2)	1 to 100	40	NT SCAN (3)	1 to 100	50	NT SCAN (4)	1 to 100	80	NT SCAN (5)	1 to 100	95	Display	Setting range	Default setting	COPY	1 to 100	70	NT SCAN (1)	1 to 100	30	NT SCAN (2)	1 to 100	40	NT SCAN (3)	1 to 100	50	NT SCAN (4)	1 to 100	80	NT SCAN (5)	1 to 100	95
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Maintenance item No.	Description																
U475	<p>Setting the smudge compensation mode</p> <p>Description Adjusts exposure compensation for copying from the DP for each mode.</p> <p>Purpose 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>Method Press the start key. The setting screen is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select the item to be set. The selected item is displayed in reverse. <table border="1"> <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"> 2. Use the cursor up/down keys to change the setting value. 3. Press the start key. The value is set. <p>Completion 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
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														
U485	<p>Setting the image processing mode</p> <p>Description Sets image processing type switching based on the plan for each destination.</p> <p>Purpose Set according to the preference of the user.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. 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. Exposure in the map mode is lightened and proper exposure is obtained for map originals with relatively dark colors. 3. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																

Maintenance item No.	Description						
<p>U504</p>	<p>Initializing the scanner NIC</p> <p>Description Initializing the scanner NIC to its factory default.</p> <p>Purpose Used when a scanner NIC malfunction (ex. transmission error) occurs.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing the maintenance item is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. All data in the scanner NIC is initialized. <p>Completion To exit this maintenance item without initializing, press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>						
<p>U505</p>	<p>Setting Data Base Assistant</p> <p>Description Sets whether or not the database linkage setting is enabled if an optional network scanner is installed.</p> <p>Purpose According to user request, changes the setting.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <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"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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.						

Maintenance item No.	Description						
U506	<p>Setting the time out</p> <p>Description Sets the communication timeout time for connection to a computer.</p> <p>Purpose 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>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Timeout 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"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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	Timeout time	10 to 120 (s)	10
Description	Setting range	Initial setting					
Timeout time	10 to 120 (s)	10					
U508	<p>Setting the LDAP</p> <p>Description Enables or disables an LDAP server.</p> <p>Purpose To change the setting to ON when use of an LDAP server is requested.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Select ON or OFF. The selected item is displayed in reverse. <table border="1"> <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"> 2. Press the start key. The setting is set, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>U901</p>	<p>Checking/clearing total copy counts by paper feed location</p> <p>Description Checks the copy count of each paper feed location or resets the count back to zero.</p> <p>Purpose To check the timing of the standard replacement of maintenance parts, or to clear all copy counts after replacement of those parts.</p> <p>Method Press the start key. The counts by paper feed locations are displayed. Simplex copier</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Paper source</th> </tr> </thead> <tbody> <tr> <td>BYPASS</td> <td>Bypass</td> </tr> <tr> <td>DRAWER 1</td> <td>Drawer 1</td> </tr> <tr> <td>DRAWER 2</td> <td>Drawer 2</td> </tr> <tr> <td>DRAWER 3</td> <td>Drawer 3*</td> </tr> <tr> <td>DRAWER 4</td> <td>Drawer 4*</td> </tr> </tbody> </table> <p>Duplex copier</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Paper source</th> </tr> </thead> <tbody> <tr> <td>BYPASS</td> <td>Bypass</td> </tr> <tr> <td>DUPLEX</td> <td>Duplexer</td> </tr> <tr> <td>DRAWER 2</td> <td>Drawer 2</td> </tr> <tr> <td>DRAWER 3</td> <td>Drawer 3*</td> </tr> <tr> <td>DRAWER 4</td> <td>Drawer 4*</td> </tr> </tbody> </table> <p>* Optional</p> <p>Clearing the count</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key to clear the count. The count for individual types cannot be cleared. <p>Completion 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	DRAWER 1	Drawer 1	DRAWER 2	Drawer 2	DRAWER 3	Drawer 3*	DRAWER 4	Drawer 4*	Display	Paper source	BYPASS	Bypass	DUPLEX	Duplexer	DRAWER 2	Drawer 2	DRAWER 3	Drawer 3*	DRAWER 4	Drawer 4*
Display	Paper source																								
BYPASS	Bypass																								
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DRAWER 3	Drawer 3*																								
DRAWER 4	Drawer 4*																								
Display	Paper source																								
BYPASS	Bypass																								
DUPLEX	Duplexer																								
DRAWER 2	Drawer 2																								
DRAWER 3	Drawer 3*																								
DRAWER 4	Drawer 4*																								

Maintenance item No.	Description						
<p>U903</p>	<p>Checking/clearing the paper jam counts</p> <p>Description Displays or clears the jam counts by jam locations.</p> <p>Purpose To check the paper jam status. Also to clear the jam counts after replacing consumable parts.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <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>Method: Displays/clears the jam counts</p> <ol style="list-style-type: none"> 1. Select COUNT in the screen for selecting an item. The count for jam detection by type is displayed. 2. 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. <p>Method: Displays the total jam counts</p> <ol style="list-style-type: none"> 1. Select TOTAL COUNT in the screen for selecting an item. The total number of jam counts by type is displayed. 2. 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. <p>Completion 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						
<p>U904</p>	<p>Checking/clearing the call for service counts</p> <p>Description Checks the total number of call for service counts that have been generated by type, or resets the count back to zero.</p> <p>Purpose To check the occurrence of call for service counts, or to clear the count after replacement of maintenance parts.</p> <p>Implementation Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <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>Method: Displays/clears the call for service counts</p> <ol style="list-style-type: none"> 1. Select COUNT in the screen for selecting an item. The count for call for service detection by type is displayed. 2. 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. <p>Method: Displays the total call for service counts</p> <ol style="list-style-type: none"> 1. Select TOTAL COUNT in the screen for selecting an item. The total number of call for service counts by type is displayed. 2. 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. <p>Completion 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
Display	Setting						
COUNT	Displays/clears the call for service counts						
TOTAL COUNT	Displays the total call for service counts						

Maintenance item No.	Description																
<p>U905</p>	<p>Checking count by optional devices</p> <p>Description Displays the counts for the DP and document finisher (both optional).</p> <p>Purpose To check the use of the DP and document finisher.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the device, the count of which is to be checked. The count of the selected device is displayed. <ul style="list-style-type: none"> • DP <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>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> • FINISHER <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>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> </tbody> </table> <p>Completion 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
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<p>U906</p>	<p>Resetting partial operational control</p> <p>Description Resets the service call code for partial operation control.</p> <p>Purpose Be sure to execute this maintenance item after partial operation is performed due to problems in the drawers or other sections, and the related parts are serviced.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 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 main switch is turned on. 																

Maintenance item No.	Description
U908	<p>Checking the total count</p> <p>Description Display the total count value.</p> <p>Purpose To check the total count value.</p> <p>Method Press the start key. The current total count is displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>
U910	<p>Clearing the black ratio data</p> <p>Description Clears the accumulated black ratio data for each A4 size of paper.</p> <p>Purpose Clears the data as necessary during the periodic maintenance.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. The black ratio data is cleared, and the screen for selecting a maintenance item No. is displayed. <p>Completion 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>Checking/clearing the paper feed counts by paper size</p> <p>Description Checks and clears the paper feed counts by paper size</p> <p>Purpose To check, as well as to clear, the paper feed counts by paper size after replacement of maintenance parts.</p> <p>Method Press the start key. The paper feed counts by paper size is displayed.</p> <p>Clearing the count</p> <ol style="list-style-type: none"> 1. Press the reset key. 2. Press the start key to clear the count. The count for individual types cannot be cleared. <p>Completion 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>U917</p>	<p>Setting backup data reading/writing</p> <p>Description Stores backup data from the scanner main PCB, engine controller PCB, and fax control PCB (when an optional fax kit is installed) into CompactFlash or reads the data from CompactFlash.</p> <p>Purpose To store and write data when replacing the PCB.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Turn the power switch off and disconnect the power plug. 2. Remove the middle rear cover. 3. Insert Compact Flash in a notch hole of the copier. 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. 5. Enter the maintenance item. 6. Press the start key. The screen for selecting an item is displayed. 7. Select the item. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SCAN BACKUP SAVE</td> <td>Writing the backup data of scanner main PCB</td> </tr> <tr> <td>SCAN BACKUP LOAD</td> <td>Reading the backup data of scanner main PCB</td> </tr> <tr> <td>ENGN BACKUP SAVE</td> <td>Writing the backup data of engine controller PCB</td> </tr> <tr> <td>ENGN BACKUP LOAD</td> <td>Reading the backup data of engine controller PCB</td> </tr> <tr> <td>FAX BACKUP SAVE</td> <td>Writing the backup data of fax control PCB</td> </tr> <tr> <td>FAX BACKUP LOAD</td> <td>Reading the backup data of fax control PCB</td> </tr> <tr> <td>FAX DIAL INFO SAVE</td> <td>Writing the backup data of fax dial information</td> </tr> <tr> <td>FAX DIAL INFO LOAD</td> <td>Reading the backup data of fax dial information</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 8. Press the start key. Reading or writing is executed, and the screen displays the result. <ul style="list-style-type: none"> • If the operation was successful: EXECUTE 0100 CODE 0000 • If the operation failed: EXECUTE 0100 CODE XXXX Where XXX is the error code indicating the reason for the failure. See "Error Codes for Operation U917 and U926" on page 1-4-81. <ol style="list-style-type: none"> 9. Turn the power switch off and disconnect the power plug. 10. Remove the Compact Flash from the copier. 	Display	Description	SCAN BACKUP SAVE	Writing the backup data of scanner main PCB	SCAN BACKUP LOAD	Reading the backup data of scanner main PCB	ENGN BACKUP SAVE	Writing the backup data of engine controller PCB	ENGN BACKUP LOAD	Reading the backup data of engine controller PCB	FAX BACKUP SAVE	Writing the backup data of fax control PCB	FAX BACKUP LOAD	Reading the backup data of fax control PCB	FAX DIAL INFO SAVE	Writing the backup data of fax dial information	FAX DIAL INFO LOAD	Reading the backup data of fax dial information
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<p>U917</p>	<p>Error Codes for Operation U917 and U926</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0102</td> <td>Detects call for service on fax control PCB.</td> </tr> <tr> <td>0103</td> <td>Detects call for service on engine controller PCB.</td> </tr> <tr> <td>0104</td> <td>Communication error.</td> </tr> <tr> <td>0105</td> <td>Detects call for service on scanner main PCB.</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 PCB flash memory error.</td> </tr> </tbody> </table>	Code	Meaning	0102	Detects call for service on fax control PCB.	0103	Detects call for service on engine controller PCB.	0104	Communication error.	0105	Detects call for service on scanner main PCB.	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 PCB flash memory error.
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<p>U920</p>	<p>Checking the copy counts</p> <p>Description Checks the copy counts.</p> <p>Purpose To check the copy counts.</p> <p>Method Press the start key. The current counts of full color copy counter, mono-color copy counter, color printer counter, black & white copy counter, black & white printer counter and black & white fax counter are displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>																										
<p>U924</p>	<p>Resetting the toner level detection</p> <p>Description Resets the toner level gauge indicated when the status page is output, to the full level.</p> <p>Purpose To run this mode if the toner gauge indication is different from the actual toner level.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for selecting an item is displayed. 2. Select the item to be reset. The selected item is displayed in reverse. <table border="1"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>BLACK</td> <td>Resets the black toner.</td> </tr> <tr> <td>CYAN</td> <td>Resets the cyan toner.</td> </tr> <tr> <td>MAGENTA</td> <td>Resets the magenta toner.</td> </tr> <tr> <td>YELLOW</td> <td>Resets the yellow toner.</td> </tr> <tr> <td>ALL</td> <td>Resets all toners.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Press the start key. Reset is executed, and the screen for selecting a maintenance item No. is displayed. <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>	Display	Description	BLACK	Resets the black toner.	CYAN	Resets the cyan toner.	MAGENTA	Resets the magenta toner.	YELLOW	Resets the yellow toner.	ALL	Resets all toners.														
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Maintenance item No.	Description
U925	<p>Checking/clearing the system error counts</p> <p>Description Displays and clears the count value of system error.</p> <p>Purpose To check the system error status by types. Also to clear the service call code counts after replacing consumable parts.</p> <p>Method Press the start key. The count for system error detection by type is displayed.</p> <p>Clearing</p> <ol style="list-style-type: none"> 1. Change the screen using the * or # keys. 2. Select the counts for all system error and press the reset key. 3. Press the start key. The count is cleared. <p>Completion 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>
U926	<p>Rewriting FAX program</p> <p>Description Downloads the fax program and fax fonts when installing an optional fax kit.</p> <p>Purpose To run when upgrading the fax program and fax fonts.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Turn the power switch off and disconnect the power plug. 2. Remove the middle rear cover. 3. Insert Compact Flash in a notch hole of the copier. 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. 5. Enter the maintenance item. 6. Press the start key. The screen for selecting an item is displayed. 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. <ul style="list-style-type: none"> • If the operation was successful: EXECUTE 0100 CHECKSUM 5555 CODE 0000 • If the operation failed: EXECUTE 0100 CHECKSUM 5555 CODE XXXX Where XXX is the error code indicating the reason for the failure. <ol style="list-style-type: none"> 8. Then, downloading of the fax fonts starts and the result shown below is displayed. <ul style="list-style-type: none"> • If the operation was successful: EXECUTE 0100 CHECKSUM 5555 CODE 0000 • If the operation failed: EXECUTE 0100 CHECKSUM 5555 CODE XXXX Where XXX is the error code indicating the reason for the failure. See "Error Codes for Operation U917 and U926" on page 1-4-81. <ol style="list-style-type: none"> 9. Turn the power switch off and disconnect the power plug. 10. Remove the Compact Flash from the copier.

Maintenance item No.	Description								
<p>U927</p>	<p>Clearing the all copy counts and machine life counts</p> <p>Description Resets all of the counts back to zero.</p> <p>Purpose The total account counter and the machine life counter can be cleared only once only if the count values are 1000 or less.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Press the start key. The screen for executing is displayed. 2. Press EXECUTE on the touch panel. It is displayed in reverse. 3. Press the start key. All copy counts and machine life counts are cleared. <p>Completion 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>U928</p>	<p>Checking machine life counts</p> <p>Description Displays the machine life counts.</p> <p>Purpose To check the machine life counts.</p> <p>Method Press the start key. The current machine life counts is displayed.</p> <p>Completion Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</p>								
<p>U991</p>	<p>Checking the scanner operation count</p> <p>Description Displays the scanner operation count.</p> <p>Purpose To check the use of the scanner.</p> <p>Method Press the start key. The screen for selecting an item is displayed.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>COPY SCAN COUNT</td> <td>Scanner operation count for copying</td> </tr> <tr> <td>FAX SCAN COUNT</td> <td>Scanner operation count for fax</td> </tr> <tr> <td>NT SCAN COUNT</td> <td>Network scanner operation count</td> </tr> </tbody> </table> <p>Completion 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	Network scanner operation count
Display	Setting								
COPY SCAN COUNT	Scanner operation count for copying								
FAX SCAN COUNT	Scanner operation count for fax								
NT SCAN COUNT	Network scanner operation count								

Maintenance item No.	Description
U998	<p>Printing from memory</p> <p>Description</p> <p>Prints the data stored in memory.</p> <p>Purpose</p> <p>Executes as necessary.</p> <p>Method</p> <ol style="list-style-type: none"><li>1. Press the start key. The screen for selecting an item is displayed.<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>3. Press the interrupt key to output the list. <p>Completion</p> <p>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 the front cover, left cover, side cover or drawer.

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 turn safety switch 1, 2, 3 or 4 off and on.

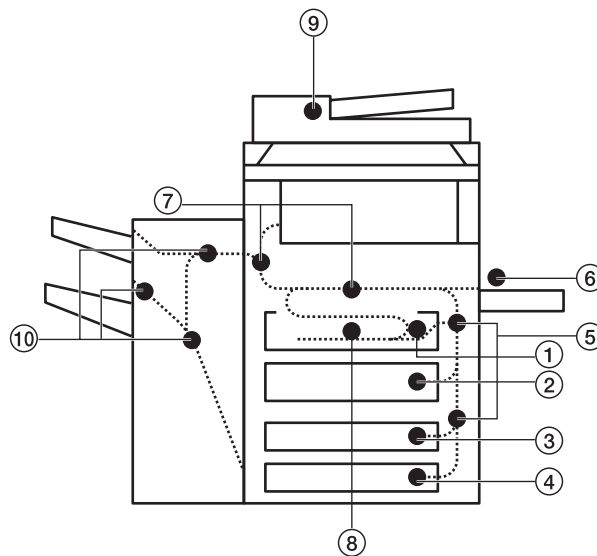


Figure 1-5-1

- ① Misfeed in drawer 1
 - ② Misfeed in drawer 2
 - ③ Misfeed in drawer 3*¹
 - ④ Misfeed in drawer 4*¹
 - ⑤ Misfeed in side cover
 - ⑥ Misfeed in bypass tray
 - ⑦ Misfeed in paper feed unit/
transfer units/fuser section/eject
section
 - ⑧ Misfeed in duplex unit*²
 - ⑨ Misfeed in DP*¹
 - ⑩ Misfeed in document finisher*¹
- *¹: Optional.
*²: Duplex copier only.

(2) Paper misfeed detection conditions

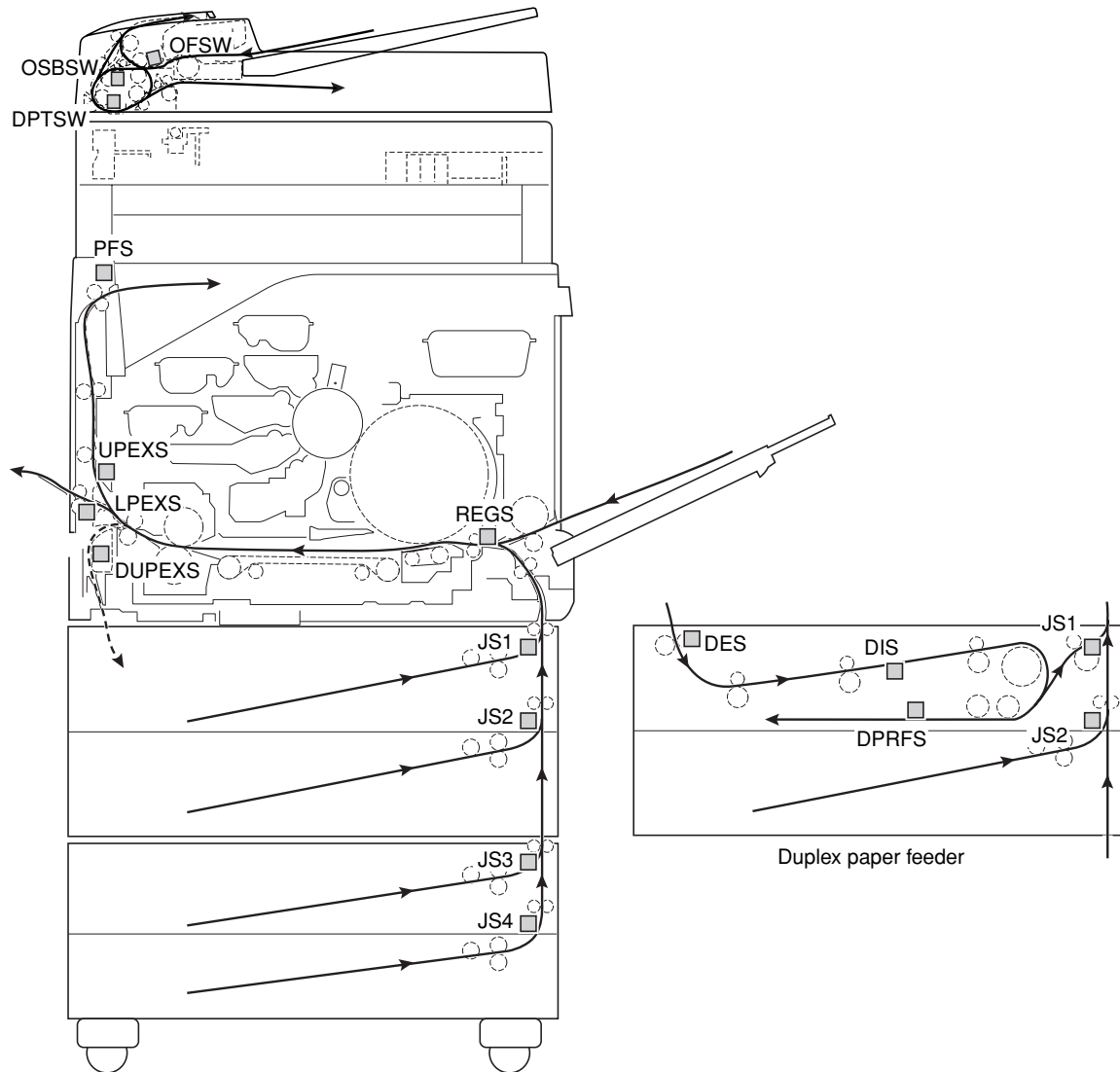


Figure 1-5-2

Section	Jam code	Description	Conditions
Paper feed section	10	No paper feed from copier drawer 1	Jam sensor 1 (JS1) does not turned on within 830 ms of the paper feed clutch (PFCL) turning on (when paper is fed from drawer 1).
	11	No paper feed from copier drawer 2	Jam sensor 2 (JS2) does not turned on within 850 ms of the paper feed clutch (PFCL) turning on (when paper is fed from drawer 2).
	12	No paper feed from optional drawer 3	Jam sensor 3 (JS3) does not turned on within 830 ms of the paper feed clutch (PFCL) turning on (when paper is fed from optional drawer 3).
	13	No paper feed from optional drawer 4	Jam sensor 3 (JS3) does not turned on within 1250 ms of the paper feed clutch (PFCL) turning on (when paper is fed from optional drawer 4).
	14	No paper feed from bypass tray	The registration sensor (REGS) does not turned on within 950 ms of the bypass paper feed clutch (BYPFCL) turning on.
	15	No paper feed from duplexer paper refeed section	Jam sensor 1 (JS1) does not turned on within 1330 ms of the duplexer feed clutch (BYPFCL) turning on.
	21	Misfeed in copier vertical paper conveying section 1	Jam sensor 1 (JS1) does not turned on within 680 ms of jam sensor 2 (JS2) turning on.
	22	Misfeed in copier vertical paper conveying section 2	Jam sensor 2 (JS2) does not turned on within 970 ms of jam sensor 3 (JS3) turning on (when paper is fed from optional third drawer).
Paper conveying section	30	Misfeed before registration section	The registration sensor (REGS) does not turned on within 760 ms of jam sensor 1 (JS1) turning on.
	31	Misfeed in registration section	The registration sensor (REGS) does not turned off within the time requires to convey the length of the used paper size plus 350 ms of the registration clutch (REGCL) turning on.
Fixing section	40	Misfeed in fuser section	The lower paper exit sensor (LPEXS) does not turned on within 3770 ms of the registration clutch (REGCL) turning on (when paper is ejected to the left tray). The upper paper exit sensor (UPEXS) does not turned on within 3640 ms of the registration clutch (REGCL) turning on (when paper is ejected to the upper tray). The duplex paper exit sensor (DUPEXS) does not turned on within 3770 ms of the registration clutch (REGCL) turning on.*1
Eject section	45	Misfeed in left tray	The lower paper exit sensor (LPEXS) does not turned off within 3770 ms of the registration sensor (REGS) turning off.
	46	Misfeed in face-down unit	The upper paper exit sensor (UPEXS) does not turned off within 3640 ms of the registration sensor (REGS) turning off.
	47	Misfeed in duplex entrance	The duplex paper exit sensor (DUPEXS) does not turned off within 3640 ms of the registration sensor (REGS) turning off.
	50	Misfeed in left tray closed	The left tray has been closed while face-up output was being performed.
	51	Misfeed in eject section of face-down unit	The paper full sensor (PFS) does not turned on within 3800 ms of the upper paper exit sensor (UPEXS) turning on.

Section	Jam code	Description	Conditions
Eject section	52	Misfeed in face-down unit ejection	The paper full sensor (PFS) does not turned off within 3800 ms of the upper paper exit sensor (UPEXS) turning off.
Duplex section	60	Misfeed in duplexer entrance section	The duplex unit entrance sensor (DES) does not turned on within 1200 ms of the duplex paper exit sensor (DUPEXS) turning on.
	61	Misfeed in duplex vertical paper conveying section 1	The duplexer intermediate sensor (DIS) does not turned off within 2650 ms of the duplex unit entrance sensor (DUPEXS) turning on.
	62	Misfeed in duplex vertical paper conveying section 2	The duplex unit entrance sensor (DUPEXS) does not turned off within 1200 ms of the duplex paper exit sensor (DUPEXS) turning on.
	63	Misfeed in duplex vertical paper conveying section 3	The duplexer paper refeed sensor (DPRFS) does not turned on within 2320 ms of the duplexer intermediate sensor (DIS) turning on.
	64	Misfeed in duplex vertical paper conveying section 4	The duplexer intermediate sensor (DIS) does not turned off within 2320 ms of the duplex unit entrance sensor (DES) turning off.
	69	Remaining paper in the duplex unit	Two sheets of paper remained in the duplex unit and the third sheet has been fed.
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.
	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.

Section	Jam code	Description	Conditions
Optional DP	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	When outputting the output signal from the copier, the signal does not return from the finisher such as communication error.
	81	Jam in paper entry section	The paper entry sensor (PES) does not turn on within a specified time (plain: 2156 ms, thick: 4313 ms and transparency: 8257 ms) of paper ejection from the copier. Paper conveying sensor 1 (PCS1) does not turn on within a specified time (plain: 1771 ms and thick: 3421 ms) of the paper entry sensor (PES) turning on.
	82	Jam in eject section of non-sort tray	The paper entry sensor (PES) does not turn off within a specified time (plain: 3389 ms, thick: 5130 ms and transparency: 8610 ms) of its turning on.
	83	Jam in paper conveying section of internal tray	When large paper (A3/11" × 17, B4/8½" × 14" or A4R/8½" × 11"R) is fed, the internal tray wheel sensor (ITWS) does not turn on within a specified time (plain: 2038 ms and thick: 3105 ms) of paper conveying sensor 1 (PCS1) turning on. When small paper (A4/11" × 8½" or B5) is fed, paper conveying sensor 2 (PCS2) does not turn on within 811 ms of paper conveying sensor 1 (PCS1) turning on. When small paper (A4/11" × 8½" or B5) is fed, the internal tray wheel sensor (ITWS) does not turn on within 633 ms of paper conveying sensor 2 (PCS2) turning on.

Section	Jam code	Description	Conditions
Optional document finisher	84	Jam in eject section of sort tray	<p>The eject switch (ESW) does not turn on within a specified time (A3: 650 ms, B4:850 ms, A4R: 1000 ms, A4: 1250 ms, B5: 1350 ms, 11" × 17": 650 ms, 8½" × 14":850 ms, 8½" × 11"R: 1000 ms, 11" × 8½": 1250 ms) of the paper conveying belt clutch (PCBCL) turning on.</p> <p>The eject switch (ESW) does not turn off within a specified time (A3: 1550 ms, B4:1350 ms, A4R: 1100 ms, A4: 850 ms, B5: 750 ms, 11" × 17": 1550 ms, 8½" × 14":1350 ms, 8½" × 11"R: 1100 ms, 11" × 8½": 850 ms) of its turning on.</p>
		Staple jam	Stapler motor of the finisher does not turn 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 main switch is turned on.	A piece of paper torn from copy paper is caught around jam sensor 1/2/3, registration sensor, upper or lower paper exit sensor.	Check visually and remove it, if any.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace jam sensor 1 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective jam sensor 2.	Run maintenance item U031 and turn jam sensor 2 on and off manually. Replace jam sensor 2 if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective jam sensor 3.	Run maintenance item U031 and turn jam sensor 3 on and off manually. Replace jam sensor 3 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 upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the upper paper exit sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective lower paper exit sensor.	Run maintenance item U031 and turn the lower paper exit sensor on and off manually. Replace the lower paper 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 drawer 1). Jam code 10	Paper in the drawer 1 is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the first drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken jam sensor 1 actuator.	Check visually and replace jam sensor 1 if its actuator is broken.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace jam sensor 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the paper feed clutch malfunctions.	Run maintenance item U032 and select the paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch.	Check (see page 1-5-66).

Problem	Causes/check procedures	Corrective measures
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from copier drawer 2). Jam code 11	Paper in the drawer 2 is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the second drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken jam sensor 2 actuator.	Check visually and replace jam sensor 1 if its actuator is broken.
	Defective jam sensor 2.	Run maintenance item U031 and turn jam sensor 2 on and off manually. Replace jam sensor 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the paper feed clutch malfunctions.	Run maintenance item U032 and select the paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch.	Check (see page 1-5-66).
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from optional drawer 3). Jam code 12	Paper in the optional drawer 3 is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the optional third drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken jam sensor 3 actuator.	Check visually and replace jam sensor 1 if its actuator is broken.
	Defective jam sensor 3.	Run maintenance item U031 and turn jam sensor 3 on and off manually. Replace jam sensor 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the paper feed clutch malfunctions.	Run maintenance item U032 and select the paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch.	Check (see page 1-5-66).

Problem	Causes/check procedures	Corrective measures
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from optional drawer 4). Jam code 13	Paper in the optional drawer 4 is extremely curled.	Change the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the optional fourth drawer are deformed.	Check visually and replace any deformed pulleys.
	Broken jam sensor 3 actuator.	Check visually and replace jam sensor 1 if its actuator is broken.
	Defective jam sensor 3.	Run maintenance item U031 and turn jam sensor 3 on and off manually. Replace jam sensor 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the paper feed clutch malfunctions.	Run maintenance item U032 and select the paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch.	Check (see page 1-5-66).
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from bypass tray). Jam code 14	Paper on the bypass table is extremely curled.	Change the paper.
	Check if the bypass paper feed pulley, separation pulley or forwarding pulley 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.
	Check if the bypass paper feed clutch malfunctions.	Run maintenance item U032 and select the bypass paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the bypass paper feed clutch.	Check (see page 1-5-66).

Problem	Causes/check procedures	Corrective measures
(7) A paper jam in the paper feed section is indicated during copying (no paper feed from duplexer paper refeed section). Jam code 15	Broken jam sensor 1 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 1.	Run maintenance item U031 and turn the duplex unit entrance sensor on and off manually. Replace the duplex unit entrance sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the duplexer feed clutch malfunctions.	Run maintenance item U032 and select the duplexer feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the duplexer feed clutch.	Check (see page 1-5-67).
(8) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 1). Jam code 21	Broken jam sensor 1 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace jam sensor 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken jam sensor 2 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 2.	Run maintenance item U031 and turn jam sensor 2 on and off manually. Replace jam sensor 2 if indication of the corresponding switch 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 switch on the touch panel is not displayed in reverse.
	Check if the feed pulleys and feed roller are deformed.	Check and repair it if necessary.

Problem	Causes/check procedures	Corrective measures
(9) A paper jam in the paper feed section is indicated during copying (jam in copier vertical paper conveying section 2). Jam code 22	Broken jam sensor 1 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace jam sensor 1 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken jam sensor 2 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 2.	Run maintenance item U031 and turn jam sensor 2 on and off manually. Replace jam sensor 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken jam sensor 3 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 3.	Run maintenance item U031 and turn jam sensor 3 on and off manually. Replace jam sensor 3 if indication of the corresponding switch 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 switch on the touch panel is not displayed in reverse.
	Check if the feed pulleys and feed roller are deformed.	Check and repair it if necessary.
(10) A paper jam in the paper feed section is indicated during copying (jam before registration section). Jam code 30	Broken jam sensor 1 actuator.	Check visually and replace any deformed pulleys.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace jam sensor 1 if indication of the corresponding switch 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 switch on the touch panel is not displayed in reverse.
(11) A paper jam in the paper feed section is indicated during copying (jam in registration section). Jam code 31	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.
	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).

Problem	Causes/check procedures	Corrective measures
(12) A paper jam in the fuser section is indicated during copying (jam in fuser section). Jam code 40	Broken upper paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the upper paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken lower paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective lower paper exit sensor.	Run maintenance item U031 and turn the lower paper exit sensor on and off manually. Replace the lower paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex paper exit sensor.	Run maintenance item U031 and turn the duplex paper exit sensor on and off manually. Replace the duplex paper exit sensor if indication of the corresponding switch 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).
(13) A paper jam in the eject section is indicated during copying (jam in eject section of left tray). Jam code 45	Broken lower paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective lower paper exit sensor.	Run maintenance item U031 and turn the lower paper exit sensor on and off manually. Replace the lower paper exit sensor if indication of the corresponding switch 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 switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(14) A paper jam in the eject section is indicated during copying (jam in face - down unit). Jam code 46	Broken upper paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the upper paper exit sensor if indication of the corresponding switch 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 switch on the touch panel is not displayed in reverse.
(15) A paper jam in the eject section is indicated during copying (jam in eject section of duplex entrance). Jam code 47	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.
	Broken duplex paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex paper exit sensor.	Run maintenance item U031 and turn the duplex paper exit sensor on and off manually. Replace the duplex paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(16) A paper jam in the eject section is indicated during copying (jam in eject section of face-down unit). Jam code 51	Broken upper paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the upper paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper full sensor actuator.	Check visually and replace any deformed pulleys.
	Defective paper full sensor.	Run maintenance item U031 and turn the paper full sensor on and off manually. Replace the paper full sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(17) A paper jam in the eject section is indicated during copying (jam in face-down unit ejection). Jam code 52	Broken upper paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the upper paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken paper full sensor actuator.	Check visually and replace any deformed pulleys.
	Defective paper full sensor.	Run maintenance item U031 and turn the paper full sensor on and off manually. Replace the paper full sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(18) A paper jam in the duplex section is indicated during copying (jam in duplex entrance). Jam code 60	Broken duplex paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex paper exit sensor.	Run maintenance item U031 and turn the duplex paper exit sensor on and off manually. Replace the duplex paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex unit entrance sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex unit entrance sensor.	Run maintenance item U031 and turn the duplex paper exit sensor on and off manually. Replace the duplex paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(19) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 1). Jam code 61	Broken duplex unit entrance sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex unit entrance sensor.	Run maintenance item U031 and turn the duplex unit entrance sensor on and off manually. Replace the duplex unit entrance sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplexer intermediate sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplexer intermediate sensor.	Run maintenance item U031 and turn the duplexer intermediate sensor on and off manually. Replace the duplexer intermediate sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(20) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 2). Jam code 62	Broken duplex paper exit sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex paper exit sensor.	Run maintenance item U031 and turn the duplex paper exit sensor on and off manually. Replace the duplex paper exit sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplex unit entrance sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex unit entrance sensor.	Run maintenance item U031 and turn the duplex unit entrance sensor on and off manually. Replace the duplex unit entrance sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(21) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 3). Jam code 63	Broken duplexer intermediate sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplexer intermediate sensor.	Run maintenance item U031 and turn the duplexer intermediate sensor on and off manually. Replace the duplexer intermediate sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplexer paper refeed sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplexer paper refeed sensor.	Run maintenance item U031 and turn the duplexer paper refeed sensor on and off manually. Replace the duplexer paper refeed sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(22) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 4). Jam code 64	Broken duplex unit entrance sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplex unit entrance sensor.	Run maintenance item U031 and turn the duplex unit entrance sensor on and off manually. Replace the duplex unit entrance sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken duplexer intermediate sensor actuator.	Check visually and replace any deformed pulleys.
	Defective duplexer intermediate sensor.	Run maintenance item U031 and turn the duplexer intermediate sensor on and off manually. Replace the duplexer intermediate sensor if indication of the corresponding switch on the touch panel is not displayed in reverse.
(23) An original jams in the 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. Run maintenance item U244 and turn the DP timing switch on
(24) An original jams in the DP* is indicated during copying (jam in the original feed/ conveying section 1). Jam code 71	Defective DP timing switch.	and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. 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.
	Check if the original feed motor malfunctions.	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.
(25) An original jams in the 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 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 feed 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 original switchback 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.
(26) An original jams in the 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 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.

*Optional.

Problem	Causes/check procedures	Corrective measures
(27) An original jams in the 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 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 DP timing switch.	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.
	Check if the original conveying motor malfunctions.	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.
(28) An original jams in the DP* is indicated during copying (jam in the original switchback section 2). Jam code 76	Defective original switchback switch.	Change the paper. With 5 V DC present at CN6-1 on the finisher main PCB, check if CN6-2 on the finisher main PCB remains low or high when the paper entry sensor is turned on and off. If it does, replace the paper entry sensor.
(29) A paper jam in the document finisher* is indicated during copying (jam in paper entry section). Jam code 81	Extremely curled paper.	Check and remedy.
	Defective paper entry sensor.	With 5 V DC present at CN6-1 on the finisher main PCB, check if CN6-2 on the finisher main PCB remains low or high when the
	Check if the upper or lower paper entry guide is deformed.	paper entry sensor is turned on and off. If it does, replace the paper entry sensor. Check and replace if there are any problems.
(30) A paper jam in the document finisher* is indicated during copying (jam in the non-sort tray eject section). Jam code 82	Defective paper entry sensor.	Check and remedy.
	The paper conveying roller and the upper paper conveying pulley do not make proper contact.	With 5 V DC present at CN5-19 on the finisher main PCB, check if CN5-8 on the finisher main PCB remains low or high when the internal tray wheel sensor is turned on and off. If it does, replace the internal tray wheel sensor.
	Check if the upper or lower paper entry guide is deformed.	Check and replace if there are any problems.

*Optional.

Problem	Causes/check procedures	Corrective measures
(31) A paper jam in the document finisher* is indicated during copying (jam in the internal tray paper conveying section). Jam code 83	Defective internal tray sensor.	Check and replace if there are any problems.
	The feedshift rollers 1, 2, 3 and 4 and the feedshift pulleys 1, 2, 3 and 4 do not make proper contact.	With 5 V DC present at CN6-3 on the finisher main PCB, check if CN6-4 on the finisher main PCB remains low or high when the eject switch is turned on and off. If it does, replace the eject
(32) A paper jam in the document finisher* is indicated during copying (jam in the sort tray eject section). Jam code 84	Broken eject switch actuator.	switch. Check and replace if there are any problems.
	Defective eject switch.	Check and replace if there are any problems.
	The eject roller and pulley do not make proper contact.	
	Defective paper conveying belt.	

*Optional.

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 8220, 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 interlock switch off and back on.



Figure 1-5-3 Service call code display

• List of system errors

When an unexpected error is detected for some reason, a system error will be indicated. After a system error is indicated, the error can be cleared by turning the main 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	System error → Normal C call processing
0440	Finisher communication problem	System error → Normal C call processing
0630	DMA problem	Repetition of system error → C call → system error
0640	Hard disk drive problem	System error → Normal C call processing
3100	Scanner carriage problem	System error → Normal C call processing

Table 1-5-1 List of system errors

• 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.

C1010(Overcurrent detection of drawer 1 base motor), C1020(Overcurrent detection of drawer 2 base motor), C1030(Overcurrent detection of drawer 3* base motor), C1040(Overcurrent detection of drawer 4* base motor), C1210(Side registration home position sensor detection error), C8010(Document finisher* paper conveying motor problem), C8030(Document finisher* paper conveying belt problem), C8140(Document finisher* tray elevation motor problem), C8170(Document finisher* front side registration motor problem), C8220(Document finisher* rear stapler problem)

*Optional.

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0030	Fax control PCB* problem • Processing with the fax software was disabled due to a hardware or software problem.	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C0070	Abnormal detection of fax control PCB incompatibility • In the initial communication with the fax control PCB, any normal communication command is not transmitted.	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C0100	Scanner main PCB backup memory device problem • Writing or erasing has not completed even after a certain time.	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
C0110	Backup memory data problem A • Data in the specified area of the backup memory does not match the specified values.	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.
C0120	Drum EEPROM read error • The ASIC of engine controller PCB does not access to the EEPROM of drum PCB normally.	Poor contact in the connector terminals.	Check the connection of connector YC17 on the engine controller PCB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine controller PCB or drum PCB.	Replace the engine controller PCB or drum unit and check for correct operation (see pages 1-6-62 and 40).
C0130	Backup memory device problem	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation.
		Data damage of EEPROM.	Contact the Service Administrative Division.
C0140	Backup memory data problem	Data damage of EEPROM.	Contact the Service Administrative Division.
C0150	Backup memory device problem • Data cannot be read or written in the flash ROM.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C0170	Copy counts problem • A check sum error occurred with the backup data of the copy counters.	Data damage of EEPROM.	Contact the Service Administrative Division.
C0180	Backup memory data problem B • Backup data on the scanner main PCB enters initial condition.	Correct EEPROM is not installed.	Install the correct EEPROM. If it does not solve the problem, contact the Service Administrative Division.
		Data damage of EEPROM.	Contact the Service Administrative Division.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0210	CPU communication problem <ul style="list-style-type: none"> There is no reply after 16 retries at communication. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-61).
		Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		Poor contact in the connector terminals.	Check the connection of the engine controller PCB and scanner main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
C0240	Printer board* communication problem <ul style="list-style-type: none"> The printer does not respond 120 seconds after the power is turned on. 	Poor contact in the connector terminals.	Check the connection of connector YC201 on the engine controller-printer board relay PCB 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 PCB or printer board.	Replace the engine controller-printer board relay PCB or printer board and check for correct operation.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C0250	Network scanner board* communication problem <ul style="list-style-type: none"> There is no reply after 20 retries at communication. 	Poor contact in the connector terminals.	Check the connection of connector YC1114 on the scanner main PCB and the connector on the network scanner board. Repair or replace if necessary.
		Defective scanner main PCB or network scanner board.	Replace the scanner main PCB or network scanner board and check for correct operation.
C0280	Abnormal communication between MMI and fax control PCB <ul style="list-style-type: none"> After MMI PCB status change signal turns on 1 minute, when it does not receive key required command from the fax control PCB, one time it resets the FAX. After that, while MMI PCB status change signal turns on furthermore 1 minute, when it does not receive key required command from the fax control PCB. 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. 	Poor contact in the connector terminals.	Check the connection of connector YC1123 on the scanner main PCB and the connector on the fax control PCB. Repair or replace if necessary.
		Defective scanner main PCB or fax control PCB.	Replace the scanner main PCB or fax control PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0440	Document finisher* communication problem <ul style="list-style-type: none"> The microcomputer of scanner main PCB does not communicate to the document Document finisher. No communication: there is no reply after 3 retries. Abnormal communication: a communication error (parity or checksum error) is detected five times in succession.	Poor contact in the connector terminals.	Check the connection of connectors YC1125 on the scanner main PCB and CN2 on the finisher main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C0600	Bitmap problem <ul style="list-style-type: none"> The DIMM on the scanner main PCB does not operate correctly. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
C0630	DMA problem <ul style="list-style-type: none"> DMA transmission of compressed, decompressed, rotated, relocated or blanked-out image data does not complete within the specified period of time. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
C0640	Hard disk problem <ul style="list-style-type: none"> The hard disk cannot be accessed. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		Defective memory copy board PCB.	Replace the memory copy board PCB and check for correct operation .
		Defective hard disk.	Replace the hard disk device and check for correct operation.
C0810	SCC microcomputer status problem <ul style="list-style-type: none"> Abnormal SCC microcomputer status has been detected. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
C0820	Fax control PCB* CG ROM checksum error <ul style="list-style-type: none"> A checksum error occurred with the CG ROM data of the fax control PCB. 	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C0830	Fax control PCB* flash program area checksum error <ul style="list-style-type: none"> A checksum error occurred with the program of the fax control PCB. 	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C0840	RTC problem <ul style="list-style-type: none"> 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. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
C0860	Fax control PCB* software switch checksum error <ul style="list-style-type: none"> A checksum error occurred with the software switch value of the fax control PCB. 	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0870	Graphics data transfer problem <ul style="list-style-type: none"> High-capacity data transfer between the fax control PCB and the main PCB of the machine was not normally performed even if the data transfer was retried the specified times. 	Poor contact in the connector terminals.	Check the connection of connector YC1 on the fax control PCB and YC1123 on the scanner main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective fax control PCB or scanner main PCB.	Replace the fax control PCB or scanner main PCB and check for correct operation.
C0880	Program archive problem <ul style="list-style-type: none"> When power is turned on, the compressed program in the Flash ROM on the fax control PCB was not successfully decompressed. 	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C0890	Fax control PCB* CG FONT archive problem <ul style="list-style-type: none"> When power is turned on, the compressed CG font in the Flash ROM on the fax control PCB was not successfully decompressed. 	Defective fax control PCB.	Replace the fax control PCB and check for correct operation.
C1010	Overcurrent detection of drawer 1 base motor <ul style="list-style-type: none"> Excessive current has flowed through the first drawer base motor which elevates the bottom plate in the drawer. Lift-up does not finish even after 8 seconds. Detection occurs twice continuously after the drawer 1 is removed and then inserted. 	Defective upper drawer base motor.	Replace the upper drawer base motor.
		Defective bottom plate elevation mechanism of drawer 1.	Check whether there is an object that prevents the bottom plate of drawer 1 from operating normally.
		Defective main board of paper feeder.	Replace the main board of paper feeder.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C1020	Overcurrent detection of drawer 2 base motor <ul style="list-style-type: none"> Excessive current has flowed through the second drawer base motor which elevates the bottom plate in the drawer. Lift-up does not finish even after 8 seconds. Detection occurs twice continuously after the drawer 2 is removed and then inserted. 	Defective lower drawer base motor.	Replace the lower drawer base motor.
		Defective bottom plate elevation mechanism of second drawer.	Check whether there is an object that prevents the bottom plate of drawer 2 from operating normally.
		Defective main board of paper feeder.	Replace the main board of paper feeder.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1030	Overcurrent detection of drawer 3* base motor <ul style="list-style-type: none"> Excessive current has flowed through the third drawer base motor which elevates the bottom plate in the drawer. Lift-up does not finish even after 8 seconds. Detection occurs twice continuously after the drawer 3 is removed and then inserted. 	Defective upper drawer base motor.	Replace the upper drawer base motor.
		Defective bottom plate elevation mechanism of third drawer.	Check whether there is an object that prevents the bottom plate of drawer 3 from operating normally.
		Defective main board of paper feeder.	Replace the main board of paper feeder.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C1040	Overcurrent detection of drawer 4* base motor <ul style="list-style-type: none"> Excessive current has flowed through the fourth drawer base motor which elevates the bottom plate in the drawer. Lift-up does not finish even after 8 seconds. Detection occurs twice continuously after the drawer 4 is removed and then inserted. 	Defective lower drawer base motor.	Replace the lower drawer base motor.
		Defective bottom plate elevation mechanism of fourth drawer.	Check whether there is an object that prevents the bottom plate of drawer 4 from operating normally.
		Defective main board of paper feeder.	Replace the main board of paper feeder.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C1210	Side registration home position sensor detection error <ul style="list-style-type: none"> The side registration home position sensor does not detect home position of side registration guides. Detection occurs twice continuously after the duplex unit is removed and then inserted. 	Defective side registration home position sensor.	Replace the side registration home position sensor.
		Defective side registration motor.	Replace the side registration motor.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2000	Main drive motor lock <ul style="list-style-type: none"> The frequency generation pulse which the main drive motor generates to CPU (U2) on the engine controller PCB in normal operation (after self-diagnostics codes 2010 and 2020 are cleared) is not at the correct frequency. 	Defective main drive motor.	Replace the main drive motor.
		Excessive torque for driving drum unit or primary transfer unit. (Overloaded by a damaged gear.)	Check if the drum unit or primary transfer unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
		Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C2010	Main drive motor starting error <ul style="list-style-type: none"> No FG (Frequency generation) pulse is entered within the predetermined period since ASIC (U8) on the engine controller PCB has issued a motor activation signal to the main drive motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective main drive motor.	Replace the main drive motor.
		Excessive torque for driving drum unit or primary transfer unit. (Overloaded by a damaged gear.)	Check if the drum unit or primary transfer unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2020	Main drive motor starting time-out • The FG (Frequency generation) pulse does not reach the correct frequency within 30 s since ASIC (U8) on the engine controller PCB has issued a motor activation signal to the main drive motor.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective main drive motor.	Replace the main drive motor.
		Excessive torque for driving drum unit or primary transfer unit. (Overloaded by a damaged gear.)	Check if the drum unit or primary transfer unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C2101	Black developer drive motor lock • The FG (Frequency generation) pulse which the black developer drive motor generates is not entered at the correct frequency in CPU (U2) on the engine controller PCB during normal operation (after self-diagnostics codes 2111 and 2121 are cleared).	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black developer drive motor.	Replace the black developer drive motor.
		Excessive torque for driving black developer. (Overloaded by a damaged gear.)	Check if the black developer rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and black developer drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2102	Color developers drive motor lock <ul style="list-style-type: none"> The FG (Frequency generation) pulse which the color developers drive motor generates is not entered at the correct frequency in ASIC (U8) on the engine controller PCB during normal operation (after self-diagnostics codes 2112 and 2122 are cleared). 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective color developers drive motor.	Replace the color developers drive motor.
		Excessive torque for driving color developers. (Overloaded by a damaged gear.)	Check if the yellow, magenta, and cyan developers rotate smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and color developers drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C2111	Black developer drive motor starting error <ul style="list-style-type: none"> No FG (Frequency generation) pulse is entered when ASIC (U7) on the engine controller PCB has issued a motor activation signal to the black developer drive motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black developer drive motor.	Replace the black developer drive motor.
		Excessive torque for driving black developer. (Overloaded by a damaged gear.)	Check if the black developer rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2112	Color developers drive motor starting error <ul style="list-style-type: none"> No FG (Frequency generation) pulse is entered when ASIC (U7) on the engine controller PCB has issued a motor activation signal to the drive motor for the color developers. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective color developers drive motor.	Replace the color developers drive motor.
		Excessive torque for driving color developers. (Overloaded by a damaged gear.)	Check if the yellow, magenta, and cyan developers rotate smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and color developers drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C2121	Black developer drive motor starting time-out <ul style="list-style-type: none"> The FG (Frequency generation) pulse does not reach the correct frequency within 5 s when ASIC (U7) on the engine controller PCB has issued a motor activation signal to the black developer drive motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black developer drive motor.	Replace the black developer drive motor.
		Excessive torque for driving black developer. (Overloaded by a damaged gear.)	Check if the black developer rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2122	Color developers drive motor starting time-out <ul style="list-style-type: none"> The FG (Frequency generation) pulse does not reach the correct frequency within 5 s when ASIC (U8) on the engine controller PCB has issued a motor activation signal to the drive motor that drives the color developers. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective color developers drive motor.	Replace the color developers drive motor.
		Excessive torque for driving color developers. (Overloaded by a damaged gear.)	Check if the yellow, magenta, and cyan developers rotate smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and color developers drive motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C2340	Fuser drive motor driving clock table error <ul style="list-style-type: none"> An error has occurred in the driving clock table on the engine controller PCB that controls the fuser drive motor (a stepping motor). 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
C2500	Paper feed motor lock <ul style="list-style-type: none"> The FG (Frequency generation) pulse which the paper feed motor generates is not entered at the correct frequency in ASIC (U8) on the engine controller PCB during normal operation. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective paper feed motor.	Replace the paper feed motor.
		Excessive torque for driving paper feed unit. (Overloaded by a damaged gear.)	Check if the paper feed unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and paper feed motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2510	Paper feed motor starting error <ul style="list-style-type: none"> No FG (Frequency generation) pulse is entered within the predetermined period when ASIC (U8) on the engine controller PCB has issued a motor activation signal to the paper feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective paper feed motor.	Replace the paper feed motor.
		Excessive torque for driving paper feed unit. (Overloaded by a damaged gear.)	Check if the paper feed unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and paper feed motor, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C2520	Paper feed motor starting time-out <ul style="list-style-type: none"> The FG (Frequency generation) pulse does not reach the correct frequency within 30 s when ASIC (U8) on the engine controller PCB has issued a motor activation signal to the paper feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective paper feed motor.	Replace the paper feed motor.
		Excessive torque for driving paper feed unit. (Overloaded by a damaged gear.)	Check if the paper feed unit rotates smoothly. Check for broken gears. Replace if any.
		Defective harness between engine controller PCB and main paper feed, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C3100	Scanner carriage problem <ul style="list-style-type: none"> The home position is not correct when the power is turned on or at the start of copying using the bypass table. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		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 CN40 on the scanner main PCB 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.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3200	Exposure lamp problem <ul style="list-style-type: none"> 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. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		Defective exposure lamp or inverter PCB.	Replace the exposure lamp or inverter PCB.
		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 CN40 on the scanner main PCB, and the continuity across the connector terminals. Repair or replace if necessary.
C4000	Polygon motor error <ul style="list-style-type: none"> The CPU (U2) of the engine controller PCB outputs a motor start signal to the laser scanner unit but the READY signal is not input within 30 seconds. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective laser scanner unit (PD PCB).	Replace the laser scanner unit (see page 1-6-32).
		Defective harness between engine controller PCB and laser scanner unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C4200	Horizontal synchronized signal (PD) detection error <ul style="list-style-type: none"> The ASIC (U7) of the engine controller PCB outputs a laser start signal but a horizontal synchronizing signal (PD) is not input from the laser scanner unit within 600 ms. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective laser scanner unit (PD PCB).	Replace the laser scanner unit (see page 1-6-32).
		Defective harness between engine controller PCB and laser scanner unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C5300	Cleaning lamp broken detection <ul style="list-style-type: none"> The current at the correct level is not detected when ASIC (U8) on the engine controller PCB generates the signal to activate the cleaning lamp. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective drum unit (cleaning lamp or drum PCB).	Replace the drum unit (see page 1-6-40).
		Defective harness between engine controller PCB and drum unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C6000	Heat roller heating time-out 1 <ul style="list-style-type: none"> The temperature on the heat roller does not rise within 200 s when ASIC (U8) on the engine controller PCB has turned on the upper heater lamp. This is detected when the upper heater lamp is turned on. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective upper fuser heater.	Replace the fuser unit (upper fuser heater). See page 1-6-54.
		Defective upper thermostat.	Replace the fuser unit (upper thermostat). See page 1-6-53.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective upper fuser thermistor, or fitting is not proper.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective power supply unit.	Replace the power supply unit (see page 1-6-63).
		Defective harness between engine controller PCB and paper feeder/options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6010	Heat roller heating time-out 2 <ul style="list-style-type: none"> The temperature on the heat roller does not reach the correct temperature within 480 s after self-diagnostic code 6000 is cleared. The period for detection is longer than the condition for self-diagnostics code 6000. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective upper fuser heater.	Replace the fuser unit (upper fuser heater). See page 1-6-54.
		Defective upper thermostat.	Replace the fuser unit (upper thermostat). See page 1-6-53.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective upper fuser thermistor, or fitting is not proper.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective AC power source. (Abnormal low voltage)	Connect to the proper AC power source.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C6020	Heat roller abnormal high temperature <ul style="list-style-type: none"> The fixing temperature exceeds 180°C/356 °F for 512 ms. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective upper fuser heater.	Replace the fuser unit (upper fuser heater). See page 1-6-54.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective upper fuser thermistor.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective power supply unit.	Replace the power supply unit (see page 1-6-63).
		Defective AC power source. (Abnormal high voltage)	Connect to the proper AC power source.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6030	Upper fuser thermistor broken detection <ul style="list-style-type: none"> No temperature detection output is obtained from the upper fuser thermistor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective upper fuser thermistor, or improper fitting.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C6040	Upper fuser thermistor abnormal temperature detection <ul style="list-style-type: none"> The temperature detection output from the upper fuser thermistor is abnormal change within 512 ms. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective upper fuser thermistor, or fitting is not proper.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6100	Press/heat roller heating time-out 1 • The temperature on the press/heat roller does not rise within 200 s when ASIC (U8) on the engine controller PCB has turned on the lower heater lamp. This is detected when the lower heater lamp is turned on.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-61).
		Defective lower fuser heater.	Replace the fuser unit (lower fuser heater). See page 1-6-54.
		Defective lower thermostat.	Replace the fuser unit (lower thermostat). See page 1-6-53.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective lower fuser thermistor, or fitting is not proper.	Replace the fuser unit (lower fuser thermistor). See page 1-6-51.
		Defective power supply unit.	Replace the power supply unit (see page 1-6-63).
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C6110	Press/heat roller heating time-out 2 • The temperature on the press/heat roller does not reach the correct temperature within 480 s after self-diagnostic code 6100 is cleared. The period for detection is longer than the condition for self-diagnostics code 6100.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective lower fuser heater.	Replace the fuser unit (lower fuser heater). See page 1-6-54.
		Defective lower thermostat.	Replace the fuser unit (lower thermostat). See page 1-6-53.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective lower fuser thermistor, or fitting is not proper.	Replace the fuser unit (upper fuser thermistor). See page 1-6-51.
		Defective AC power source. (Abnormal low voltage)	Connect to the proper AC power source.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6120	Press/heat roller abnormal high temperature <ul style="list-style-type: none"> The fixing temperature exceeds 180°C/356 °F for 512 ms. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective lower fuser heater.	Replace the fuser unit (lower fuser heater). See page 1-6-54.
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective lower fuser thermistor.	Replace the lower fuser thermistor (see page 1-6-51).
		Defective power supply unit.	Replace the power supply unit (see page 1-6-63).
		Defective AC power source (abnormal high voltage).	Connect to the proper AC power source.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C6130	Lower fuser thermistor broken detection <ul style="list-style-type: none"> The temperature detection is not obtained from the lower fuser thermistor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective lower fuser thermistor, or improper fitting.	Replace the fuser unit (lower fuser thermistor). See page 1-6-51.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6140	Lower fuser thermistor abnormal temperature detection <ul style="list-style-type: none"> The temperature detection output from the lower fuser thermistor is abnormal change within 512 ms. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-61).
		Defective fuser PCB.	Replace the fuser unit (fuser PCB).
		Defective lower fuser thermistor, or fitting is not proper.	Replace the fuser unit (lower fuser thermistor). See page 1-6-51.
		Defective harness between engine controller PCB and paper feeder/ options relay PCB and fixing unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7001	Black toner feed motor lock <ul style="list-style-type: none"> The revolution of the black toner feed motor does not reach the predetermined revolution within the predetermined period when ASIC (U8) on the engine controller PCB activates the black toner feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black developer (Black developer PCB).	Replace the black developer (see page 1-6-42).
		Defective harness between engine controller PCB and black developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7002	Cyan toner feed motor lock <ul style="list-style-type: none"> The revolution of the cyan toner feed motor does not reach the predetermined revolution within the predetermined period when ASIC (U8) on the engine controller PCB activates the cyan toner feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective cyan developer (cyan developer PCB).	Replace the cyan developer (see page 1-6-42).
		Defective harness between engine controller PCB and cyan developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7003	Magenta toner feed motor lock <ul style="list-style-type: none"> The revolution of the magenta toner feed motor does not reach the predetermined revolution within the predetermined period when ASIC (U8) on the engine controller PCB activates the magenta toner feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective magenta developer (magenta developer PCB).	Replace the magenta developer (see page 1-6-42).
		Defective harness between engine controller PCB and magenta developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7004	Yellow toner feed motor lock <ul style="list-style-type: none"> The revolution of the yellow toner feed motor does not reach the predetermined revolution within the predetermined period when ASIC (U8) on the engine controller PCB activates the yellow toner feed motor. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective yellow developer (yellow developer PCB).	Replace the yellow developer (see page 1-6-42).
		Defective harness between engine controller PCB and yellow developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7101	Black T/C sensor toner density detection error <ul style="list-style-type: none"> A normal toner density signal is not entered in the A/D port of CPU (U2) on the engine controller PCB. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black developer (black developer PCB or black T/C sensor).	Replace the black developer (see page 1-6-42).
		Defective black developer (black toner feed motor does not rotate in the correct revolution) .	Replace the black developer (see page 1-6-42).
		Defective harness between engine controller PCB and black developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7102	Cyan T/C sensor toner density detection error • A normal toner density signal is not entered in the A/D port of CPU (U2) on the engine controller PCB.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective cyan developer (cyan developer PCB or cyan T/C sensor).	Replace the cyan developer (see page 1-6-42).
		Defective cyan developer (cyan toner feed motor does not rotate in the correct revolution) .	Replace the cyan developer (see page 1-6-42).
		Defective harness between engine controller PCB and cyan developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7103	Magenta T/C sensor toner density detection error • A normal toner density signal is not entered in the A/D port of CPU (U2) on the engine controller PCB.	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective magenta developer (magenta developer PCB or magenta T/C sensor).	Replace the magenta developer (see page 1-6-42).
		Defective magenta developer (magenta toner feed motor does not rotate in the correct revolution) .	Replace the magenta developer (see page 1-6-42).
		Defective harness between engine controller PCB and magenta developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7104	Yellow T/C sensor toner density detection error <ul style="list-style-type: none"> A normal toner density signal is not entered in the A/D port of CPU (U2) on the engine controller PCB. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective yellow developer (yellow developer PCB or yellow T/C sensor).	Replace the yellow developer (see page 1-6-42).
		Defective yellow developer (yellow toner feed motor does not rotate in the correct revolution) .	Replace the yellow developer (see page 1-6-42).
		Defective harness between engine controller PCB and yellow developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7301	Intermediate toner hopper toner feed error <ul style="list-style-type: none"> Black toner is not fed in the intermediate toner hopper in the black toner developer from the black toner container within the predetermined period. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective black toner empty sensor PCB.	Replace the black toner empty sensor PCB.
		Defective black toner feed clutch.	Replace the black toner feed clutch.
		Poor contact of the black toner feed clutch.	Check the insertion of connectors.
		Defective feed drive PCB.	Replace the feed drive PCB.
		Defective harness between engine controller PCB and black developer, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
		Defective harness between engine controller PCB and feed drive PCB, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7600	Image density sensor problem <ul style="list-style-type: none"> The sensor indication value is abnormal when the LED is turned on or off. 	Defective image density sensor.	Replace the primary transfer unit (see page 1-6-41).
		Broken image density sensor wire.	Check to see if the image density sensor is properly connected.
C7610	Image density measurement timing problem <ul style="list-style-type: none"> The measured value of density patch is abnormal. 	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.
C7700	Offset drum sensor detection timeout error <ul style="list-style-type: none"> When the drum home position is to be detected, the input level from the offset drum sensor to ASIC (U7) of the engine controller PCB has been gone high for 5 seconds. 	Defective drum PCB.	Replace the drum unit (see page 1-6-40).
		Defective engine controller PCB.	Replace the engine controller PCB (see page 1-6-62).
		Defective harness between engine controller PCB and drum unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7710	Offset drum sensor detection error <ul style="list-style-type: none"> When the drum home position is to be detected, the input level from the offset drum sensor to ASIC (U7) of the engine controller PCB has been gone low for 4 seconds. 	Defective drum PCB.	Replace the drum unit (see page 1-6-40).
		Defective engine controller PCB.	Replace the engine controller PCB (see page 1-6-62).
		Defective harness between engine controller PCB and drum unit, or poor contact of the connector terminals.	Check the continuity of the harness and the insertion of connectors.
C7800	Broken external temperature thermistor wire <ul style="list-style-type: none"> The thermistor output value is 3.8 V or more for 500 ms continuously. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective humidity/temperature sensor.	Replace the humidity/temperature sensor.
C7810	Short-circuited external temperature thermistor <ul style="list-style-type: none"> The thermistor input value is 0.4 V or less for 500 ms continuously. 	Defective engine controller PCB.	Replace the engine controller PCB and check for correct operation (see page 1-6-62).
		Defective humidity/temperature sensor.	Replace the humidity/temperature sensor.

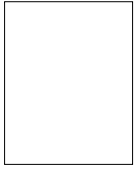
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8000	Sorter/document finisher* incorrect type problem <ul style="list-style-type: none"> The document finisher of the type other than the finishers supported by this machine is connected. 	Defective scanner main PCB.	Replace the scanner main PCB and check for correct operation (see page 1-6-60).
		The document finisher of the different type is connected.	Install the proper type of the document finisher.
C8010	Document finisher* paper conveying motor problem <ul style="list-style-type: none"> The paper conveying motor lockup signal is detected for 0.5 s or longer. 	Poor contact in the paper conveying motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The paper conveying motor malfunctions.	Replace the paper conveying motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8030	Document finisher* paper conveying belt problem <ul style="list-style-type: none"> An on-to-off or off-to-on state change of the paper conveying belt home position sensor is not detected within 2 s of the paper conveying belt clutch turning on. 	The paper conveying belt is out of phase.	Adjust the paper conveying belt so that it is in phase and check for correct operation.
		The paper conveying belt clutch malfunctions.	Replace the paper conveying belt clutch and check for correct operation.
		The paper conveying belt home position sensor malfunctions.	Replace the paper conveying belt home position sensor and check for correct operation.
		The paper conveying belt home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The internal tray is incorrectly inserted.	Check whether the internal tray unit or front cover catches are damaged.
C8140	Document finisher* tray elevation motor problem <ul style="list-style-type: none"> The sort tray is not detected in the home position within 30 s of the start of the tray elevation motor rotation. 	Poor contact in the tray elevation motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The tray elevation motor malfunctions.	Replace the tray elevation motor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8170	Document finisher* front side registration motor problem <ul style="list-style-type: none"> If the front side registration home position sensor is on in initialization, the sensor does not turn off within 570 ms of starting initialization. If the front side registration home position sensor is off in initialization, the sensor does not turn on within 3180 ms of starting initialization. 	The front side registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front side registration motor malfunctions.	Replace the front side registration motor and check for correct operation.
		The front side registration home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front side registration home position sensor malfunctions.	Replace the front side registration home position sensor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8180	Document finisher* rear side registration motor problem <ul style="list-style-type: none"> If the rear side registration home position sensor is on in initialization, the sensor does not turn off within 570 ms of starting initialization. If the rear side registration home position sensor is off in initialization, the sensor does not turn on within 2880 ms of starting initialization. 	The rear side registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear side registration motor malfunctions.	Replace the rear side registration motor and check for correct operation.
		The rear side registration home position sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear side registration home position sensor malfunctions.	Replace the rear side registration home position sensor and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C8210	Document finisher* front stapler problem <ul style="list-style-type: none"> The front stapler home position sensor does not change state from non-detection to detection within 200 ms of the start of front stapler motor counterclockwise (forward) rotation. During initialization, the front stapler home position sensor does not change state from non-detection to detection within 600 ms of the start of front stapler motor clockwise (reverse) rotation. 	The front stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The front stapler malfunctions. <ul style="list-style-type: none"> a) The front stapler is blocked with a staple. b) The front stapler is broken. 	<ul style="list-style-type: none"> a) Remove the front stapler cartridge, and check the cartridge and the stapling section of the stapler. b) Replace the front stapler and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8220	Document finisher* rear stapler problem <ul style="list-style-type: none"> The rear stapler home position sensor does not change state from non-detection to detection within 200 ms of the start of rear stapler motor counterclockwise (forward) rotation. During initialization, the rear stapler home position sensor does not change state from non-detection to detection within 600 ms of the start of rear stapler motor clockwise (reverse) rotation. 	The rear stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The rear stapler malfunctions. <ul style="list-style-type: none"> a) The rear stapler is blocked with a staple. b) The rear stapler is broken. 	<ul style="list-style-type: none"> a) Remove the front stapler cartridge, and check the cartridge and the stapling section of the stapler. b) Replace the front stapler and check for correct operation.
		Defective finisher main PCB.	Replace the finisher main PCB and check for correct operation.
C9500	Scanner sub PCB problem	/	Check the connection of the connector of the scanner sub PCB.
			Replace the scanner sub PCB or the scanner main PCB one by one.
C9510	Scanner sub PCB problem	/	Check the connection of the connector of the scanner sub PCB.
			Replace the scanner sub PCB or the scanner main PCB one by one.
C9520	Scanner sub PCB problem	/	Check the connection of the connector of the scanner sub PCB.
			Replace the scanner sub PCB or the scanner main PCB one by one.
C9530			Contact the Service Administrative Division.
C9540			Contact the Service Administrative Division.

1-5-3 Image formation problems

(1) No image appears (entirely white).



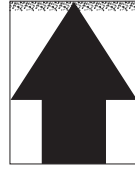
See page 1-5-45

(2) No image appears (entirely black).



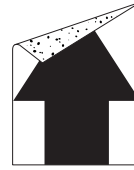
See page 1-5-46

(3) Dirty on the top edge.



See page 1-5-46

(4) Dirty on the back side.



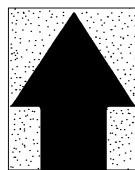
See page 1-5-47

(5) Image is too light.



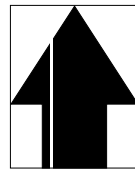
See page 1-5-47

(6) Background is visible.



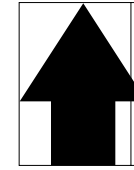
See page 1-5-48

(7) A white line appears longitudinally.



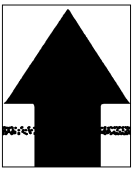
See page 1-5-48

(8) A black line appears longitudinally.



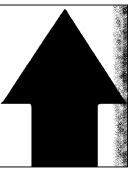
See page 1-5-49

(9) A black line appears laterally.



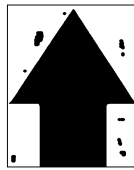
See page 1-5-49

(10) One side of the copy image is darker than the other.



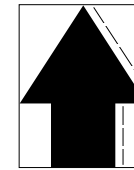
See page 1-5-49

(11) Black dots appear on the image.



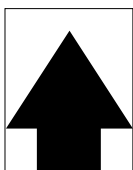
See page 1-5-50

(12) Image is blurred.



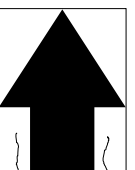
See page 1-5-50

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



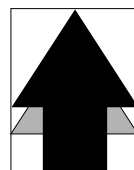
See page 1-5-50

(14) Paper creases.



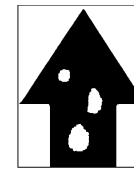
See page 1-5-51

(15) Offset occurs.



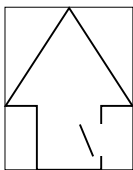
See page 1-5-51

(16) Image is partly missing.



See page 1-5-51

(17) Fixing is poor.



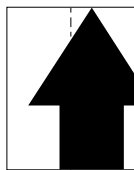
See page 1-5-52

(18) Image is out of focus.



See page 1-5-52

(19) Image center does not align with the original center.



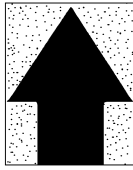
See page 1-5-52

(20) Blurred image occurs.



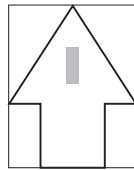
See page 1-5-53

(21) Carrier sticking occurs.



See page 1-5-53

(22) A black bar occurs near the center.



See page 1-5-53

(1) No image appears (entirely white).



Causes

1. No transfer charging.
2. No LSU laser beam output.
3. No developing.

Causes	Check procedures/corrective measures
1. No transfer charging.	
A. Defective secondary transfer unit.	Replace the secondary transfer unit (see page 1-6-45).
B. Secondary transfer unit shift clutch installed or operating incorrectly.	Check the installation position and operation of the secondary transfer unit shift clutch. If the either operates incorrectly, replace it.
2. No LSU laser beam output.	
A. Defective laser scanner unit.	Replace the laser scanner unit (see page 1-6-30).
B. Defective scanner main PCB.	Replace the scanner main PCB (see page 1-6-60).
C. Defective harness between engine controller PCB and laser scanner unit.	Replace the harness.
3. No developing.	
A. Yellow, magenta, cyan, and black magnet solenoids are not driven.	Replace the main drive PCB.

2CX

(2) No image appears (entirely black).

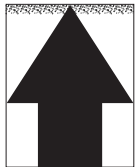


Causes

1. No main charging.
2. 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. Leaking main charger housing.	Clean the main charger wire, grid and shield.
D. Defective engine controller PCB.	Replace the engine controller PCB (see page 1-6-62).
E. Defective drum unit.	Replace the drum unit (see page 1-6-40).
2. Exposure lamp fails to light.	
A. Defective exposure lamp.	Replace the exposure lamp (see page 1-6-19).
B. Defective inverter PCB.	Replace the inverter PCB.
C. Defective scanner relay PCB.	Replace the scanner relay PCB.
D. Defective scanner main PCB.	Replace the scanner main PCB (see page 1-6-60).

(3) Dirty on the top edge.

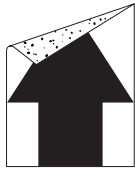


Causes

1. Dirty transfer belts.
2. Defective cleaning brush unit operation.

Causes	Check procedures/corrective measures
1. Dirty transfer belts.	Copy several pages.
2. Defective cleaning brush unit operation.	Replace the cleaning brush unit (see page 1-6-39).

(4) Dirty on the back side. **Causes**



1. Dirty conveying belts.
2. Dirty transfer belts.

Causes	Check procedures/corrective measures
1. Dirty conveying belts.	Clean the conveying belts.
2. Dirty transfer belts.	Print several pages.

(5) Image is too light. **Causes**



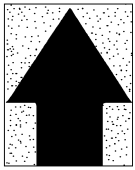
1. Defective developing bias output.
2. Insufficient toner.
3. Dirty or flawed drum.
4. Dirty main charger wire and grid.
5. Defective scanner main PCB.

Causes	Check procedures/corrective measures
1. Defective developing bias output.	
A. Defective developer.	Check the image. If any color appears defect, replace the developer of cause.
B. Defective drum unit.	Replace the drum unit (see page 1-6-40).
C. Defective developing/primary transfer/cleaning brush bias high voltage PCB.	Replace developing/primary transfer/cleaning brush bias high voltage PCB (see page 1-6-65).
D. Defective engine controller PCB.	Replace the engine controller PCB (see page 1-6-62).
2. Insufficient toner.	If the display shows the message requesting toner replenishment, replace the container.
3. Dirty or flawed drum.	Perform the drum surface refreshing. If the drum is flawed, replace the drum unit (see page 1-6-40).
4. Dirty main charger wire and grid.	Clean the main charger wire and grid or, if they are extremely dirty, replace them.
5. Defective scanner main PCB.	Replace the scanner main PCB (see page 1-6-60).

(6) Background is visible.

Causes

1. Defective developing bias output.
2. Defective cleaning brush bias.
3. Dirty main charger wire and grid.

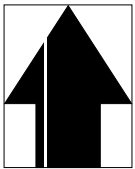


Causes	Check procedures/corrective measures
1. Defective developing bias output.	
A. Defective developer.	Replace the developer (see page 1-6-42).
B. Defective drum unit.	Replace the drum unit (see page 1-6-40).
C. Defective developing/primary transfer/cleaning brush bias high voltage PCB.	Replace developing/primary transfer/cleaning brush bias high voltage PCB (see page 1-6-65).
D. Defective engine controller PCB.	Replace the engine controller PCB (see page 1-6-62).
2. Defective cleaning brush bias.	Replace the cleaning brush unit (see page 1-6-41).
3. Dirty main charger wire and grid.	Clean the main charger wire and grid or, if they are extremely dirty, replace them.

(7) A white line appears longitudinally.

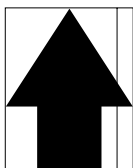
Causes

1. Foreign object in one of the developers.
2. Dirty shading plate.
3. Dirty CCD sensor cover glass.
4. Dirty scanner mirror.



Causes	Check procedures/corrective measures
1. Foreign object in one of the developers.	Check the image. If the white line appears on a particular page, replace the developer for that color.
2. Dirty shading plate.	Clean the shading plate.
3. Dirty CCD sensor cover glass.	Clean the CCD sensor cover glass.
4. Dirty scanner mirror.	Clean the scanner mirror.

(8) A black line appears longitudinally.

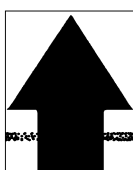


Causes

1. Dirty contact glass.
2. Dirty or flawed drum.
3. Deformed or worn cleaning blade.
4. Dirty scanner mirror.
5. Dirty main charger wire and grid.
6. Dirty CCD sensor cover glass.

Causes	Check procedures/corrective measures
1. Dirty contact glass.	Clean the contact glass.
2. Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-6-40).
3. Deformed or worn cleaning blade.	Replace the drum unit (see page 1-6-40).
4. Dirty scanner mirror.	Clean the scanner mirror.
5. Dirty main charger wire and grid.	Clean the main charger wire and grid or, if they are extremely dirty, replace them.
6. Dirty CCD sensor cover glass.	Clean the CCD sensor cover glass.

(9) A black line appears laterally.

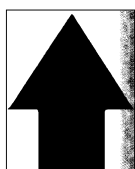


Causes

1. Flawed drum.
2. Leaking main charger housing.

Causes	Check procedures/corrective measures
1. Flawed drum.	Replace the drum unit (see page 1-6-40).
2. Leaking main charger housing.	Clean the main charger wire, grid and shield.

(10) One side of the copy image is darker than the other.

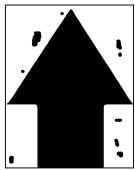


Causes

1. Dirty main charger wire and grid.
2. Defective exposure lamp.

Causes	Check procedures/corrective measures
1. Dirty main charger wire and grid.	Clean the main charger wire and grid or, if they are extremely dirty, replace them.
2. Defective exposure lamp.	Check if the exposure lamp light is distributed evenly. If not, replace the exposure lamp (see page 1-6-19).

(11) Black dots appear on the image.

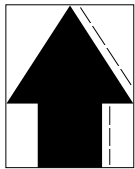


Causes

1. Dirty or flawed drum.
2. Dirty contact glass.
3. Deformed or worn cleaning blade.

Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-6-40).
2. Dirty contact glass.	Clean the contact glass.
3. Deformed or worn cleaning blade.	Replace the drum unit (see page 1-6-40).

(12) Image is blurred.

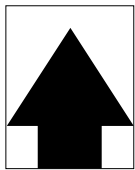


Causes

1. Scanner moves erratically.
2. Deformed press/heat roller.
3. Paper conveying section drive problem.

Causes	Check procedures/corrective measures
1. Scanner moves erratically.	Check if there is any foreign matter on the front and rear scanner rails. If any, remove it.
2. Deformed press/heat roller.	Replace the heat/press roller (see page 1-6-55).
3. Paper conveying section drive problem.	Check the gears and belts and, if necessary, grease them.

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

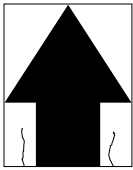


Causes

1. Misadjusted leading edge registration.
2. Misadjusted scanner leading edge registration.
3. Defective registration clutch.
4. Defective engine controller PCB.

Causes	Check procedures/corrective measures
1. Misadjusted leading edge registration.	Readjust the leading edge registration (see page 1-6-14).
2. Misadjusted scanner leading edge registration.	Readjust the scanner leading edge registration (see page 1-6-36).
3. Defective registration clutch.	Check the registration clutch, and replace it if any.
4. Defective engine controller PCB.	Replace the engine controller PCB.

(14) Paper creases.

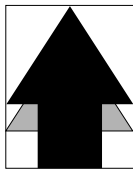


Causes

1. Paper curled.
2. Paper damp.

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

(15) Offset occurs.

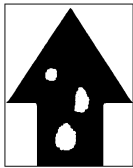


Causes

1. Defective cleaning blade.
2. Defective fuser section.

Causes	Check procedures/corrective measures
1. Defective cleaning blade.	Replace the drum unit (see page 1-6-40).
2. Defective fuser section.	Check the heat and press/heat roller, and replace it if any (see page 1-6-55).

(16) Image is partly missing.

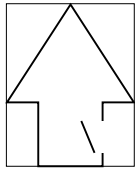


Causes

1. Paper damp.
2. Paper creased.
3. Drum condensation.
4. Flawed drum.

Causes	Check procedures/corrective measures
1. Paper damp.	Check the paper storage conditions.
2. Paper creased.	Replace the paper.
3. Drum condensation.	Perform the drum refresh operation.
4. Flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-6-40).

(17) Fixing is poor.

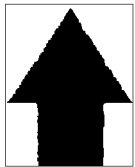


Causes

1. Wrong type of paper.
2. Defective pressure springs for the heat and press/heat rollers.
4. Flawed heat or press/heat roller.

Causes	Check procedures/corrective measures
1. Wrong type of paper.	Check if the paper meets specifications. Replace paper.
2. Defective pressure springs for the heat and press/heat rollers.	Secure the press/heat roller pressure screws (see page 1-3-10).
3. Flawed heat or press/heat roller.	Replace the heat or press/heat roller (see page 1-6-55).

(18) Image is out of focus.

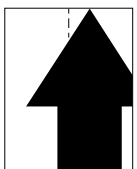


Causes

1. Defective image scanner unit.
2. Drum condensation.

Causes	Check procedures/corrective measures
1. Defective image scanner unit.	Replace the image scanning unit (see page 1-6-30).
2. Drum condensation.	Perform the drum refreshment.

(19) Image center does not align with the original center.

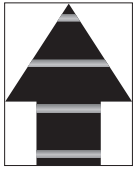


Causes

1. Misadjusted center line of image printing.
2. Misadjusted scanner center line.
3. Original placed incorrectly.

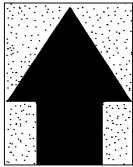
Causes	Check procedures/corrective measures
1. Misadjusted center line of image printing.	Readjust the center line of image printing (see page 1-6-15).
2. Misadjusted scanner center line.	Readjust the scanner center line (see page 1-6-31).
3. Original placed incorrectly.	Place the original correctly.

(20) Blurred image occurs. **Causes**
 1. Drum condensation.



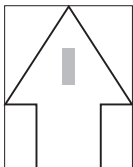
Causes	Check procedures/corrective measures
1. Drum condensation.	Perform the drum refresh operation.

(21) Carrier sticking occurs. **Causes**
 1. Dirty main charger wire and grid.
 2. Defective drum surface potential.
 3. Defective main charger unit.



Causes	Check procedures/corrective measures
1. Dirty main charger wire and grid.	Clean the main charger wire and grid.
2. Defective drum surface potential.	Change the setting value of BLACK in the maintenance item U100 "Adjusting the surface potential" by -20.
3. Defective main charger unit.	Replace the main charger unit.

(22) A black bar occurs near the center. **Causes**
 1. Faulty voltage applied to the cleaning brush in cleaning of the primary transfer unit.



Causes	Check procedures/corrective measures
1. Faulty voltage applied to the cleaning brush in cleaning of the primary transfer unit.	Check the setting value of maintenance item U107 "Setting the middle transfer cleaning voltage". If the value is 1 (Disable), change the value to 0 (Use of table).

1-5-4 Electrical problems

Problem	Causes	Check procedures/corrective measures
(1) The machine does not operate when the main 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 main switch.	Check for continuity across the contacts. If none, replace the main switch.
	Blown fuse in the power source PCB.	Check for continuity. If none, remove the cause of blowing and replace the fuse.
	Defective interlock switch.	Check for continuity across the contacts of each switch. If none, replace the switch.
	Defective power source PCB.	With AC present, check for 24 V DC at CN12-1 and 5 V DC at CN12-3 on the power source PCB. If none, replace the power source PCB.
(2) The main drive motor does not operate (C2000).	Poor contact in the main drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken main drive motor gear.	Check visually and replace the main drive motor if necessary.
	Defective main drive motor.	Run maintenance item U030 and check if the main drive motor operates when YC7-12 and YC7-18 on the engine controller PCB go low. If not, replace the main drive motor.
	Defective engine controller PCB.	Run maintenance item U030 and check if YC7-12 and YC7-18 on the engine controller PCB go low. If not, replace the engine controller PCB.
(3) 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 YC19-26, YC19-27 and YC19-28 on the engine controller PCB go low. If not, replace the paper feed motor.
	Defective engine controller PCB.	Run maintenance item U030 and check if YC9-7, YC9-8 and YC9-9 on the engine controller PCB go low. If not, replace the engine controller PCB.

Problem	Causes	Check procedures/corrective measures
(4) The fuser unit drive motor does not operate.	Poor contact in the fuser unit drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken fuser unit drive motor gear.	Check visually and replace the fuser unit drive motor if necessary.
	Defective fuser unit drive motor.	Run maintenance item U030 and check if the fuser unit drive motor operates when YC852-1, YC852-3, YC852-4 and YC852-6 on the paper feeder/options relay PCB go low. If not, replace the fuser unit drive motor.
	Defective paper feeder/options relay PCB.	Run maintenance item U030 and check if the fuser unit drive motor operates when YC21-15, YC21-17, YC21-31 and YC21-34 on the engine controller PCB go low. If not, replace the fuser unit drive motor.
(5) The black developer drive motor does not operate (C2101).	Poor contact in the black developer drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken black developer drive motor gear.	Check visually and replace the black developer drive motor if necessary.
	Defective black developer drive motor.	Run maintenance item U030 and check if the black developer drive motor operates when YC7-7, YC7-8 and YC7-9 on the engine controller PCB go low. If not, replace the black developer drive motor.
	Defective engine controller PCB.	Run maintenance item U030 and check if YC7-7, YC7-8 and YC7-9 on the engine controller PCB go low. If not, replace the engine controller PCB.
(6) The color developers drive motor does not operate (C2102).	Poor contact in the color developers drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken color developers drive motor gear.	Check visually and replace the color developers drive motor if necessary.
	Defective color developers drive motor.	Run maintenance item U030 and check if the color developers drive motor operates when YC20-22, YC20-23 and YC20-24 on the engine controller PCB go low. If not, replace the color developers drive motor.
	Defective engine controller PCB.	Run maintenance item U030 and check if YC20-22, YC20-23 and YC20-24 on the engine controller PCB go low. If not, replace the engine controller PCB.
(7) The upper intermediate feed motor does not operate.	Poor contact in the upper intermediate feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken upper intermediate feed motor gear.	Check visually and replace the upper intermediate feed motor if necessary.
	Defective upper intermediate feed motor.	Run maintenance item U030 and check if the upper intermediate feed motor operates when YC854-6, YC854-7 and YC854-8 on the paper feeder/options relay PCB go low. If not, replace the upper intermediate feed motor.
	Defective paper feeder/options relay PCB.	Run maintenance item U030 and check if YC854-6, YC854-7 and YC854-8 on the paper feeder/options relay PCB go low. If not, replace the paper feeder/options relay PCB.

Problem	Causes	Check procedures/corrective measures
(8) The lower intermediate feed motor does not operate.	Poor contact in the lower intermediate feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken lower intermediate feed motor gear.	Check visually and replace the lower intermediate feed motor if necessary.
	Defective lower intermediate feed motor.	Run maintenance item U030 and check if the lower intermediate feed motor operates when YC854-6, 7 and 8 on the paper feeder/options relay PCB goes low. If not, replace the lower intermediate feed motor.
	Defective paper feeder/options relay PCB.	Run maintenance item U030 and check if YC854-6, 7 and 8 on the paper feeder/options relay PCB goes low. If not, replace the paper feeder/options relay PCB.
(9) The duplexer drive motor does not operate.	Poor contact in the duplexer drive motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Broken duplexer drive motor gear.	Check visually and replace the duplexer drive motor if necessary.
	Defective duplexer drive motor.	Run maintenance item U030 and check if the duplexer drive motor operates when YC854-6, 7 and 8 on the paper feeder/options relay PCB goes low. If not, replace the duplexer drive motor.
	Defective paper feeder/options relay PCB.	Run maintenance item U030 and check if YC854-6, 7 and 8 on the paper feeder/options relay PCB goes low. If not, replace the paper feeder/options relay PCB.
(10) The yellow toner feed motor does not operate.	Broken yellow toner feed motor coil.	Check for continuity across the coil. If none, replace the yellow toner feed motor.
	Poor contact in the yellow toner feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(11) The magenta toner feed motor does not operate.	Broken magenta toner feed motor coil.	Check for continuity across the coil. If none, replace the magenta toner feed motor.
	Poor contact in the magenta toner feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(12) The cyan toner feed motor does not operate.	Broken cyan toner feed motor coil.	Check for continuity across the coil. If none, replace the cyan toner feed motor.
	Poor contact in the cyan toner feed motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(13) The black toner feed motor does not operate.	Broken black toner feed motor coil.	Check for continuity across the coil. If none, replace the black toner feed motor.
	Poor contact in the black toner feed motor 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
(14) The face-down unit fan motor does not operate.	Broken face-down unit fan motor coil.	Check for continuity across the coil. If none, replace the face-down unit fan motor.
	Poor contact in the face-down unit fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(15) The power supply unit fan motor does not operate.	Broken power supply unit fan motor coil.	Check for continuity across the coil. If none, replace the power supply unit fan motor.
	Poor contact in the power supply unit fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(16) The fuser unit fan motor does not operate.	Broken fuser unit fan motor coil.	Check for continuity across the coil. If none, replace the fuser unit fan motor.
	Poor contact in the fuser unit fan motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(17) The paper conveying fan motor 1 does not operate.	Broken paper conveying fan motor 1 coil.	Check for continuity across the coil. If none, replace paper conveying fan motor 1.
	Poor contact in paper conveying fan motor 1 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(18) The paper conveying fan motor 2 does not operate.	Broken paper conveying fan motor 2 coil.	Check for continuity across the coil. If none, replace paper conveying fan motor 2.
	Poor contact in paper conveying fan motor 2 connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(19) 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 the scanner motor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(20) 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 the 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.
(21) The paper feed clutch does not operate.	Broken paper feed clutch coil.	Check for continuity across the coil. If none, replace the paper feed clutch.
	Poor contact in the paper 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 PCB.	Run maintenance item U032 and check if YC19-6 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective feed drive PCB.	Run maintenance item U032 and check if YC705-2 on the feed drive PCB goes low. If not, replace the feed drive PCB.

Problem	Causes	Check procedures/corrective measures
(22) The middle paper feed clutch does not operate.	Broken middle paper feed clutch coil.	Check for continuity across the coil. If none, replace the middle paper feed clutch.
	Poor contact in the middle paper feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(23) The bypass paper feed clutch does not operate.	Broken bypass paper feed clutch coil.	Check for continuity across the coil. If none, replace the bypass paper feed clutch.
	Poor contact in the bypass paper 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 PCB.	Run maintenance item U032 and check if YC16-8 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective bypass feed PCB.	Run maintenance item U032 and check if YC902-2 on the bypass feed PCB goes low. If not, replace the bypass feed PCB.
(24) 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 PCB.	Run maintenance item U032 and check if YC19-8 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective feed drive PCB.	Run maintenance item U032 and check if YC704-2 on the feed drive PCB goes low. If not, replace the feed drive PCB.
(25) The yellow developer drive clutch does not operate.	Broken yellow developer drive clutch coil.	Check for continuity across the coil. If none, replace the yellow developer drive clutch.
	Poor contact in the yellow developer drive clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U032 and check if YC17-6 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective yellow developer PCB.	Run maintenance item U032 and check if YC915-2 on the yellow developer PCB goes low. If not, replace the yellow developer PCB.

Problem	Causes	Check procedures/corrective measures
(26) The magenta developer drive clutch does not operate.	Broken magenta developer drive clutch coil.	Check for continuity across the coil. If none, replace the magenta developer drive clutch.
	Poor contact in the magenta developer drive clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U032 and check if YC17-13 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective magenta developer PCB.	Run maintenance item U032 and check if YC635-2 on the magenta developer PCB goes low. If not, replace the magenta developer PCB.
(27) The cyan developer drive clutch does not operate.	Broken cyan developer drive clutch coil.	Check for continuity across the coil. If none, replace the cyan developer drive clutch.
	Poor contact in the cyan developer drive clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U032 and check if YC18-6 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective cyan developer PCB.	Run maintenance item U032 and check if YC635-2 on the cyan developer PCB goes low. If not, replace the cyan developer PCB.
(28) The black developer drive clutch does not operate.	Broken black developer drive clutch coil.	Check for continuity across the coil. If none, replace the black developer drive clutch.
	Poor contact in the black developer drive clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U032 and check if YC18-11 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective black developer PCB.	Run maintenance item U032 and check if YC655-2 on the cyan developer PCB goes low. If not, replace the black developer PCB.
(29) The duplexer feed clutch does not operate.	Broken duplexer feed clutch coil.	Check for continuity across the coil. If none, replace the duplexer feed clutch.
	Poor contact in the duplexer 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/options relay PCB.	Run maintenance item U030 and check if YC854-6, YC854-7 and YC854-8 on the paper feeder/options relay PCB go low. If not, replace the paper feeder/options relay PCB.

Problem	Causes	Check procedures/corrective measures
(30) The duplexer refeed clutch does not operate.	Broken duplexer refeed clutch coil.	Check for continuity across the coil. If none, replace the duplexer refeed clutch.
	Poor contact in the duplexer refeed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective paper feeder/options relay PCB.	Run maintenance item U030 and check if YC854-6, YC854-7 and YC854-8 on the paper feeder/options relay PCB go low. If not, replace the paper feeder/options relay PCB.
(31) The secondary transfer unit shift clutch does not operate.	Broken secondary transfer unit shift clutch coil.	Check for continuity across the coil. If none, replace the secondary transfer unit shift clutch.
	Poor contact in the secondary transfer unit shift clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC19-16 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective feed drive PCB.	Run maintenance item U033 and check if YC702-14 on the feed drive PCB goes low. If not, replace the feed drive PCB.
	Defective feed PCB.	Run maintenance item U033 and check if YC804-2 on the feed PCB goes low. If not, replace the feed PCB.
(32) The cleaning brush unit drive clutch does not operate.	Broken cleaning brush unit drive clutch coil.	Check for continuity across the coil. If none, replace the cleaning brush unit drive clutch.
	Poor contact in the cleaning brush unit drive clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(33) The black toner feed clutch does not operate.	Broken black toner feed clutch coil.	Check for continuity across the coil. If none, replace the black toner feed clutch.
	Poor contact in the black toner feed clutch connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
(34) The yellow developer magnet solenoid does not operate.	Broken yellow developer magnet solenoid coil.	Check for continuity across the coil. If none, replace the yellow developer magnet solenoid.
	Poor contact in the yellow developer magnet solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC20-13 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective main drive PCB.	Run maintenance item U033 and check if YC751-2 on the main drive PCB goes low. If not, replace the main drive PCB.

Problem	Causes	Check procedures/corrective measures
(35) The magenta developer magnet solenoid does not operate.	Broken magenta developer magnet solenoid coil.	Check for continuity across the coil. If none, replace the magenta developer magnet solenoid.
	Poor contact in the magenta developer magnet solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC20-11 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective main drive PCB.	Run maintenance item U033 and check if YC752-2 on the main drive PCB goes low. If not, replace the main drive PCB.
(36) The cyan developer magnet solenoid does not operate.	Broken cyan developer magnet solenoid coil.	Check for continuity across the coil. If none, replace the cyan developer magnet solenoid.
	Poor contact in the cyan developer magnet solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC20-9 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective main drive PCB.	Run maintenance item U033 and check if YC753-2 on the main drive PCB goes low. If not, replace the main drive PCB.
(37) The black developer magnet solenoid does not operate.	Broken black developer magnet solenoid coil.	Check for continuity across the coil. If none, replace the black developer magnet solenoid.
	Poor contact in the black developer magnet solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC20-7 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective main drive PCB.	Run maintenance item U033 and check if YC754-2 on the main drive PCB goes low. If not, replace the main drive PCB.
(38) The cleaning brush unit shift solenoid does not operate.	Broken cleaning brush unit shift solenoid coil.	Check for continuity across the coil. If none, replace the cleaning brush unit shift solenoid.
	Poor contact in the cleaning brush unit shift solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC20-7 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective main drive PCB.	Run maintenance item U033 and check if YC756-2 on the main drive PCB goes low. If not, replace the main drive PCB.

Problem	Causes	Check procedures/corrective measures
(39) The bypass tray bottom plate solenoid does not operate.	Broken bypass tray bottom plate solenoid coil.	Check for continuity across the coil. If none, replace the bypass tray bottom plate solenoid.
	Poor contact in the bypass tray bottom plate solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC16-7 on the engine controller PCB goes low. If not, replace the engine controller PCB.
	Defective bypass feed PCB.	Run maintenance item U033 and check if YC903-2 on the bypass feed PCB goes low. If not, replace the bypass feed PCB.
(40) The face up/down solenoid does not operate.	Broken face up/down solenoid coil.	Check for continuity across the coil. If none, replace the face up/down solenoid.
	Poor contact in the face 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 PCB.	Run maintenance item U033 and check if YC14-8 and YC14-9 on the engine controller PCB go low. If not, replace the engine controller PCB.
	Defective face-down PCB.	Run maintenance item U033 and check if YC833-1 and YC833-3 on the face-down PCB go low. If not, replace the face-down PCB.
(41) The duplex paper exit selection solenoid does not operate.	Broken duplex paper exit selection solenoid coil.	Check for continuity across the coil. If none, replace the duplex paper exit selection solenoid.
	Poor contact in the duplex paper exit selection solenoid connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective engine controller PCB.	Run maintenance item U033 and check if YC19-15 and YC19-17 on the engine controller PCB go low. If not, replace the engine controller PCB.
	Defective feed drive PCB.	Run maintenance item U033 and check if YC702-11 and YC702-13 on the feed drive PCB go low. If not, replace the feed drive PCB.
	Defective feed PCB.	Run maintenance item U033 and check if YC808-1 and YC808-3 on the feed PCB go low. If not, replace the feed PCB.
(42) The cleaning lamp does not turn on.	Poor contact in the cleaning lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective cleaning lamp.	Check for continuity. If none, replace the cleaning lamp.
	Defective drum PCB.	If the cleaning lamp turns on when YC623-1 and YC623-2 on the drum PCB are held low, replace the drum PCB.
	Defective engine controller PCB.	If the cleaning lamp turns on when YC13-2 on the engine controller PCB is held low, replace the engine controller PCB.

Problem	Causes	Check procedures/corrective measures
(43) 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 PCB.	Run maintenance item U061 and check if the exposure lamp turns on with CN1-5 and CN1-6 on the inverter PCB go low. If not, replace the inverter PCB.
	Defective scanner relay PCB.	Run maintenance item U061 and check if the exposure lamp turns on with YC1144-1 and YC1144-2 on the scanner relay PCB go low. If not, replace the scanner relay PCB.
	Defective scanner main PCB.	Run maintenance item U061 and check if YC1119-B5 on the scanner main PCB goes low. If not, replace the scanner main PCB.
(44) The exposure lamp does not turn off.	Defective inverter PCB.	If the exposure lamp does not turn off with CN1-5 and CN1-6 on the inverter PCB high, replace the inverter PCB.
	Defective scanner relay PCB.	If the exposure lamp does not turn off with YC1144-1 and YC1144-2 on the scanner relay PCB high, replace the scanner relay PCB.
	Defective scanner main PCB.	If YC1119-B5 on the scanner main PCB are always low, replace the scanner main PCB.
(45) The fuser heater does not turn on.	Broken wire in upper or lower fuser heater.	Check for continuity across each heater lamp. If none, replace the upper or lower fuser heater.
	Upper or lower thermostat triggered.	Check for continuity across thermostat. If none, remove the cause and replace the upper or lower thermostat.
(46) The fuser heater 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.
(47) Main charging is not performed.	Poor insertion main charger unit.	See page 1-5-46.
	Broken main charger wire.	
	Leaking main charger housing.	
	Defective engine controller PCB.	
	Defective drum unit.	
(48) Transfer charging is not performed.	Defective secondary transfer unit operation.	See page 1-5-45.
	Secondary transfer unit shift clutch installed or operating incorrectly.	

Problem	Causes	Check procedures/corrective measures
(49) No developing bias is output.	Defective developer.	See page 1-5-47.
	Defective drum unit.	
	Defective developing/primary transfer/cleaning brush bias high voltage PCB.	
	Defective engine controller PCB.	
(50) The original size is not detected.	Defective original detection switch.	If the level of YC1107-A3 on the scanner main PCB does not go low when the original detection switch is turned on and off, replace the original detection switch.
(51) 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.
(52) The message requesting paper to be loaded is shown when paper is present on the bypass tray.	Poor contact in the bypass feed PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass feed PCB.	If the level of YC901-10 on the bypass feed PCB always goes high, replace the bypass feed PCB.
(53) The size of paper on the bypass tray is not displayed correctly.	Poor contact in the bypass feed PCB connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective bypass feed PCB.	If the level of YC901-11 on the bypass feed PCB always goes high or low, replace the bypass feed PCB.

Problem	Causes	Check procedures/corrective measures
(54) A paper jam in the paper feed, paper conveying or fuser section is indicated when the main switch is turned on.	A piece of paper torn from copy paper is caught around jam sensor 1/2/3, registration sensor or upper/lower paper exit sensor.	Check and remove if any.
	Defective jam sensor 1.	Run maintenance item U031 and turn jam sensor 1 on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective jam sensor 2.	Run maintenance item U031 and turn jam sensor 2 on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective jam sensor 3.	Run maintenance item U031 and turn jam sensor 3 on and off manually. Replace the 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 sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective upper paper exit sensor.	Run maintenance item U031 and turn the upper paper exit sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective lower paper exit sensor.	Run maintenance item U031 and turn the lower paper exit sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(55) The message requesting cover to be closed is displayed when the front cover is closed.	Poor contact in the connector terminals of interlock switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	Defective interlock switch.	Check for continuity across each switch. If there is no continuity when the switch is on, replace it.
(56) 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: forwarding pulley, paper feed pulley, separation pulley, middle roller, bypass paper feed roller and bypass retard roller.	Clean with isopropyl alcohol.
	Check if the forwarding pulleys, paper feed pulleys or separation pulleys is deformed.	Check visually and replace any deformed pulleys.
	Electrical problem with the following electromagnetic clutches: paper feed clutch and bypass paper feed clutch.	See page 1-5-57.
(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 registration clutch.	See page 1-5-58.
(3) Skewed paper feed.	Width guide in a drawer installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a drawer.	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 1-6-19).
	The scanner motor malfunctions.	See page 1-5-57.
	Check if the drive belt is loose.	Reinstall the drive belt.
(5) Multiple sheets of paper are fed at one time.	Check if the separation pulley is worn.	Replace the upper or lower separation 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 contact between the middle roller and middle pulley is correct.	Check visually and remedy if necessary.
	Check if the press/heat roller is extremely dirty or deformed.	Clean or replace the press/heat roller.
	Check if the contact between the FD roller and eject pulley is correct.	Check visually and remedy if necessary.

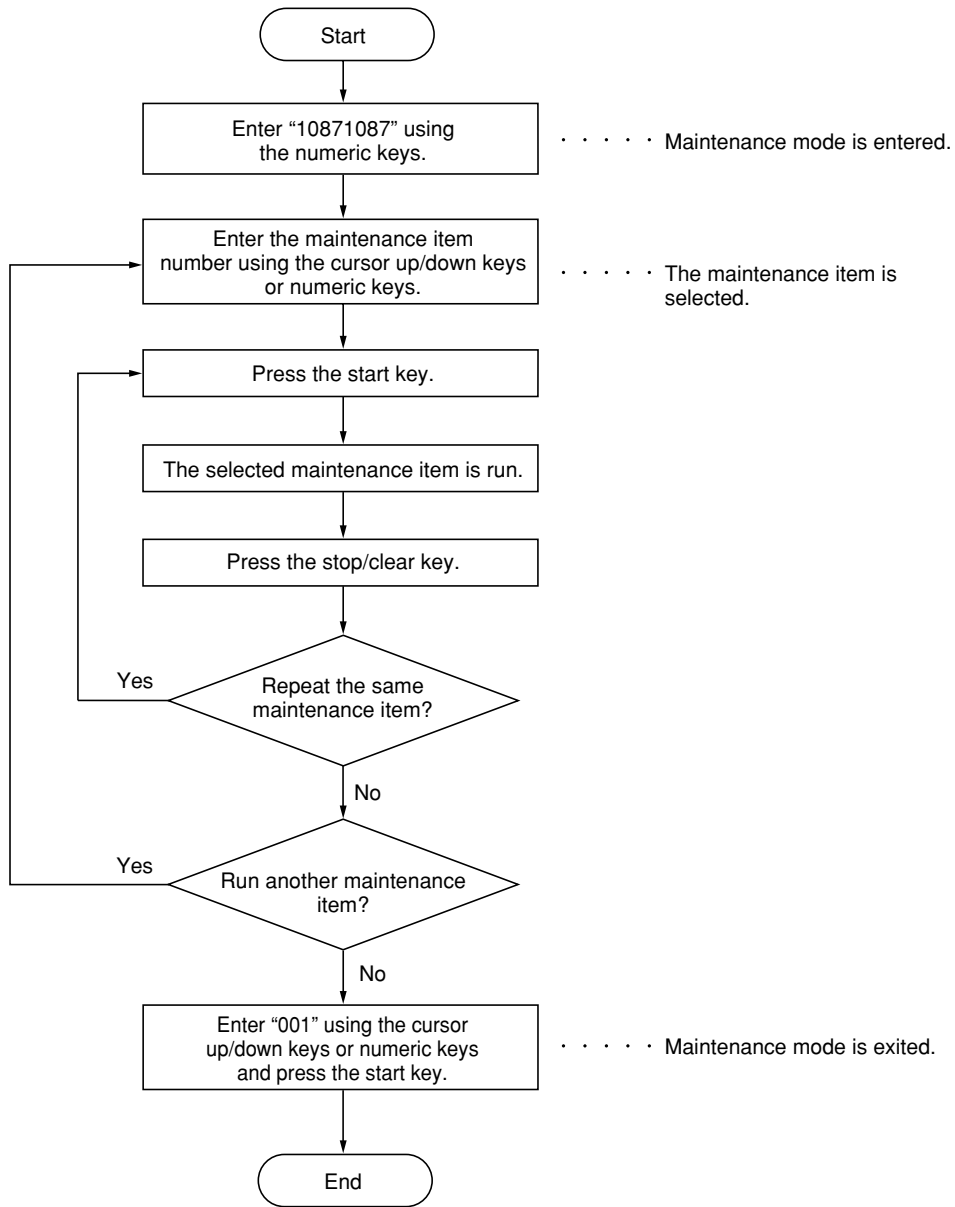
Problem	Causes/check procedures	Corrective measures
(7) Toner drops on the paper conveying path.	Check if the developer is extremely dirty.	Clean the developer.
(8) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following electromagnetic clutches are installed correctly: paper feed clutch, registration clutch and bypass paper feed clutch.	Correct.

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 PCBs, do not touch connectors with bare hands or damage the board.
- Do not touch any PCB containing ICs with bare hands or any object prone to static charge.
- Use only the specified parts to replace the fixing unit thermostat. Never substitute electric wires, as the copier may be seriously damaged.
- Use the following testers when measuring voltages:
 - Hioki 3200
 - Sanwa MD-180C
 - Sanwa YX-360TR
 - Beckman TECH300
 - Beckman DM45
 - Beckman 330*
 - Beckman 3030*
 - Beckman DM850*
 - Fluke 8060A*
 - Arlec DMM1050
 - Arlec YF1030C
- * Capable of measuring RMS values.
- Prepare the following as test originals:
 1. NTC (new test chart)
 2. NPTC (newspaper test chart)

(2) Running a maintenance item



1-6-2 Paper feed section

(1) Detaching and refitting the bypass tray unit

Follow the procedure below to check or to replace the bypass tray unit.

Procedure

1. Remove the two screws and then remove the right rear cover.

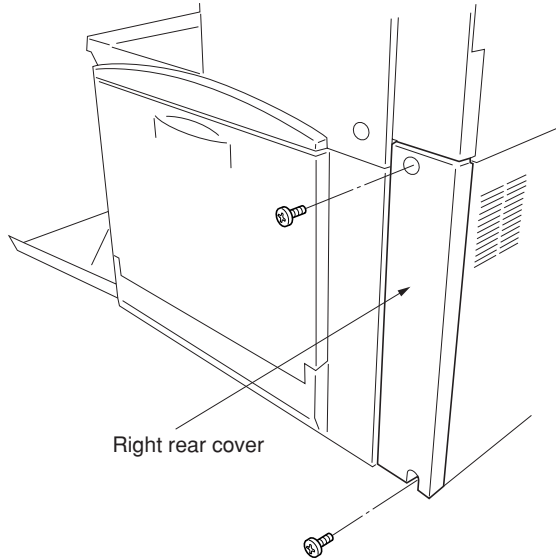


Figure 1-6-1

2. Remove the two screws and then remove the right upper cover.

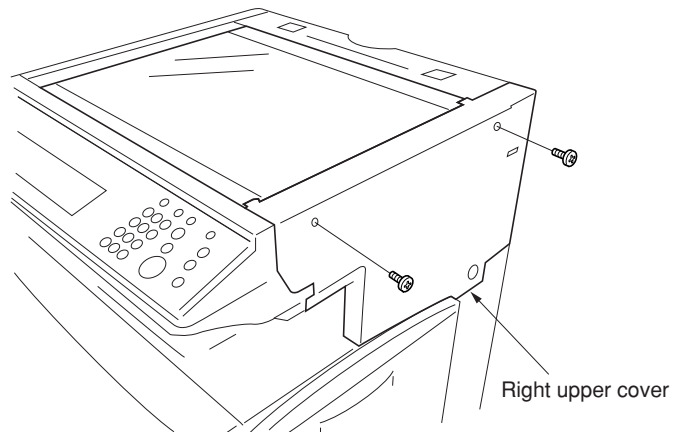


Figure 1-6-2

3. Remove the two screws and then remove the operation unit lower cover.
4. Remove the left middle cover.

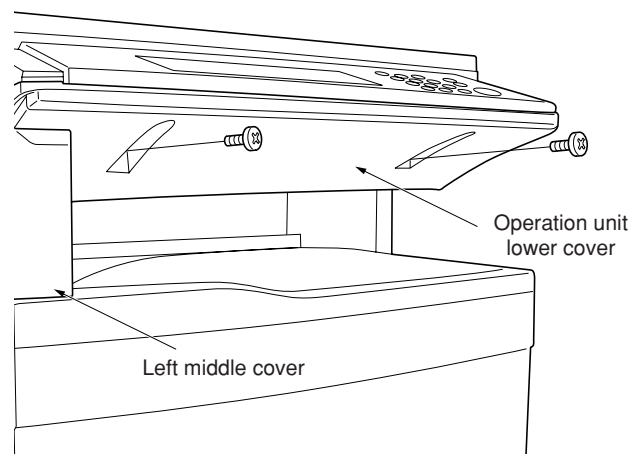


Figure 1-6-3

2CX

5. Open the front cover.
6. Remove the two screws and then remove the eject cover.

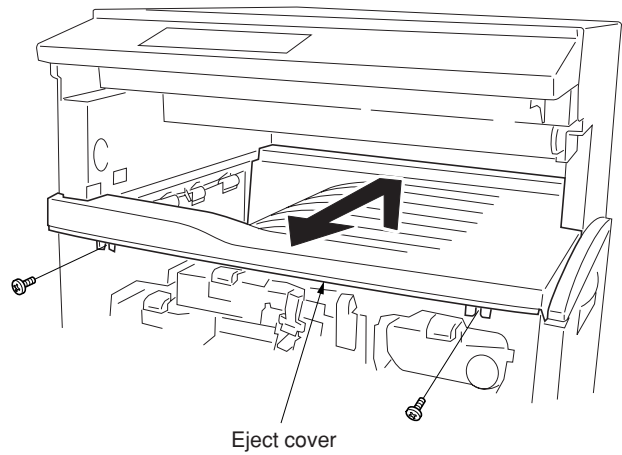


Figure 1-6-4

7. Remove the six screws and then remove the right lower cover.

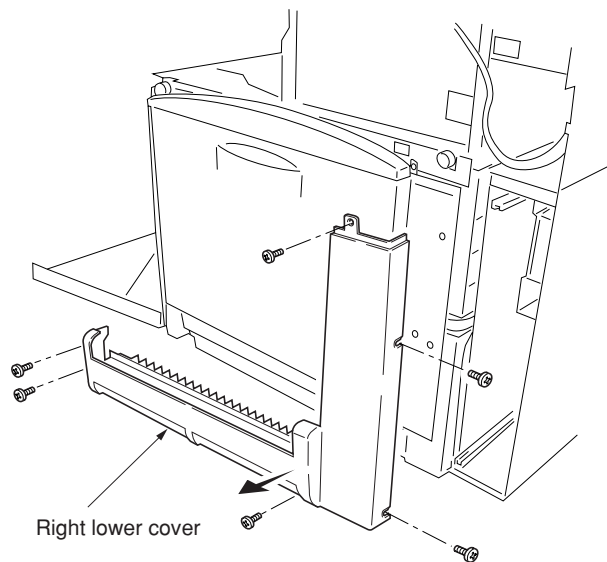


Figure 1-6-5

8. Remove the six screws and the connector, and then remove the bypass tray unit.
9. Replace the bypass tray unit and refit all the removed parts.

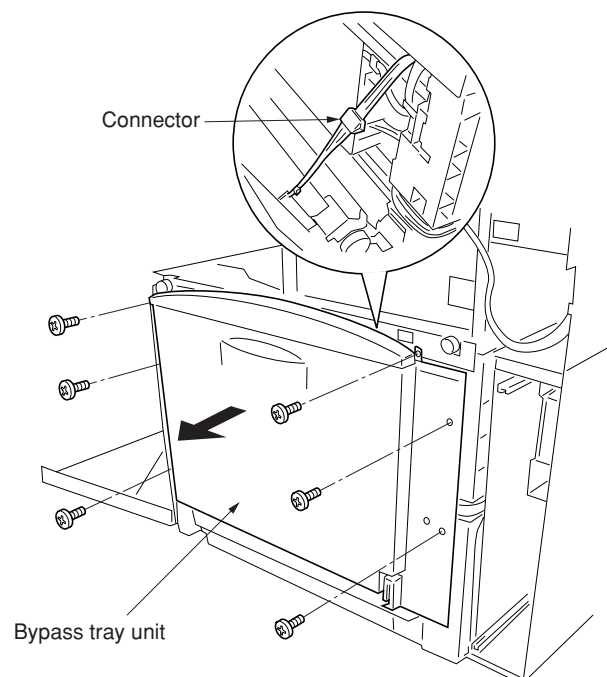


Figure 1-6-6

(2) Detaching and refitting the bypass feed roller and bypass retard roller

Follow the procedure below to check or to replace the bypass feed roller and bypass retard roller.

Procedure

1. Remove the primary transfer unit (see page 1-6-41).
2. Remove the bypass feed roller from the shaft while pressing the lever to the direction of the arrow.
3. Remove the holder from the bypass tray unit.
4. Remove the bypass retard roller from the holder.
5. Replace the bypass feed roller and bypass retard roller and refit all the removed parts.

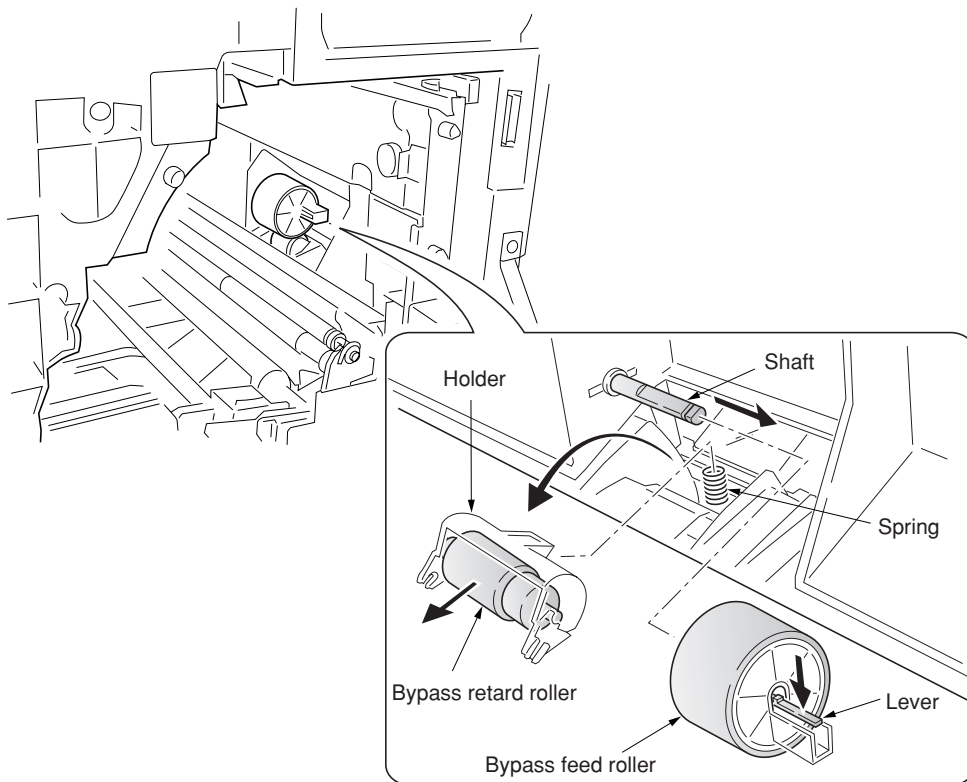


Figure 1-6-7

(3) Detaching and refitting the face-down unit

Follow the procedure below to check or to replace the face-down unit.

Procedure

1. Open the front cover.
2. Remove the two screws and then remove the left upper cover.

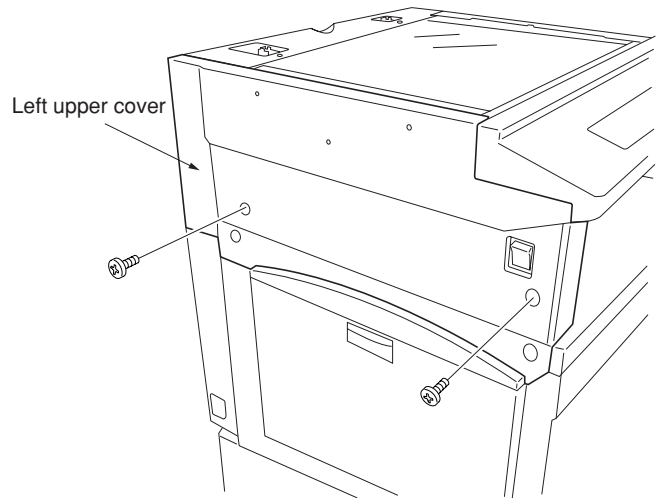


Figure 1-6-8

3. Detach the two belts and then remove the left tray and left cover.
4. Remove the six screws and then remove the left lower cover while pulling it to upward (hooked inside).

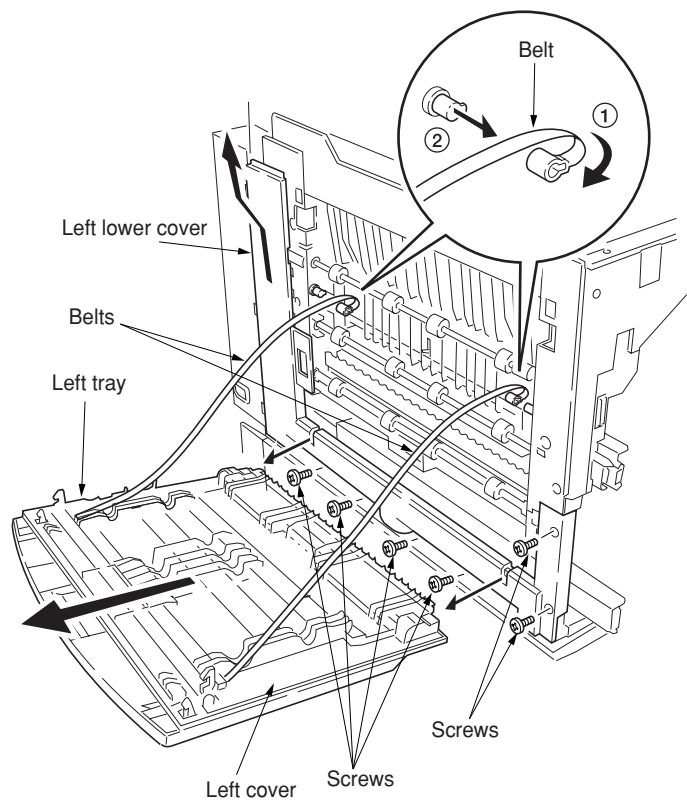


Figure 1-6-9

5. Remove the five screws and two connectors, and then remove the face down unit.
6. Replace the face-down unit and refit all the removed parts.

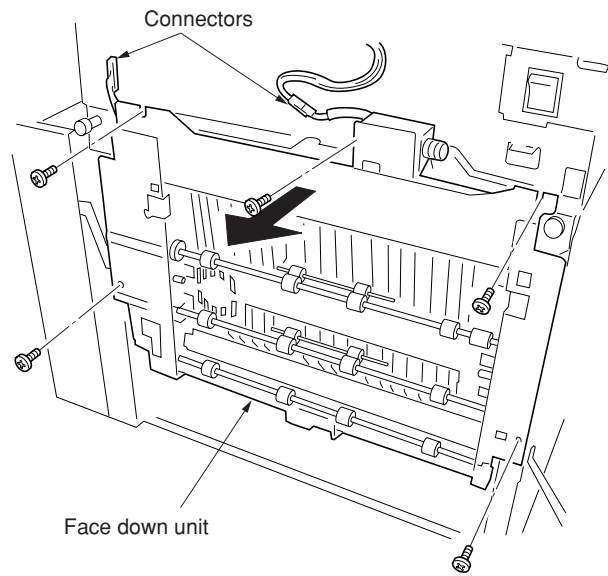


Figure 1-6-10

(4) Detaching and refitting the drive assembly B

Follow the procedure below to check or to replace the drive assembly B.

Procedure

1. Remove the engine controller PCB (See page 1-6-62).
2. Remove the four screws and then remove the controller box support.
3. Remove the six screws and then remove the main controller box.
4. Remove the black toner feed assembly (See page 1-6-45).

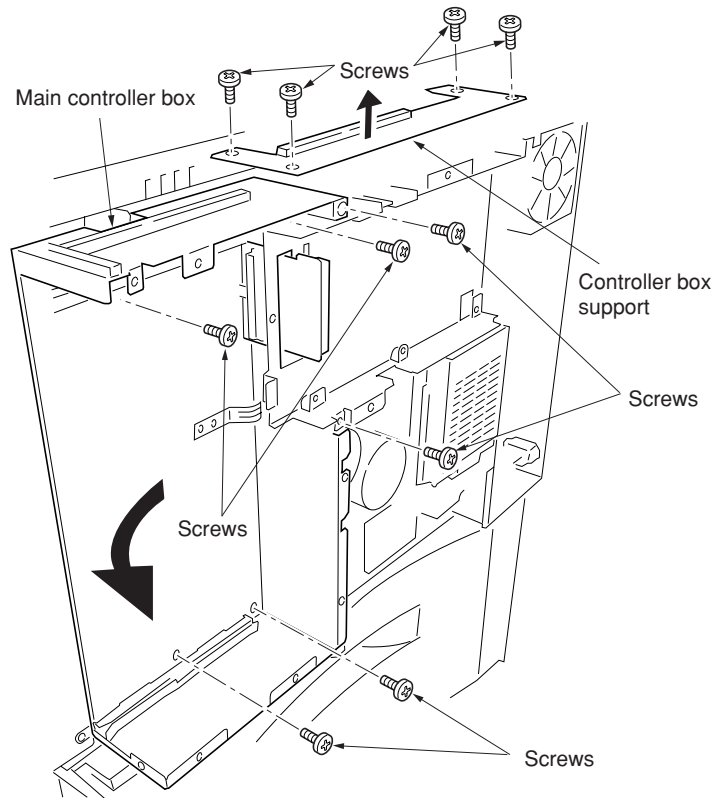


Figure 1-6-11

5. Remove the two connectors.
6. Remove the four screws and then remove the drive assembly B.
7. Check or replace the drive assembly B and refit all the removed parts.

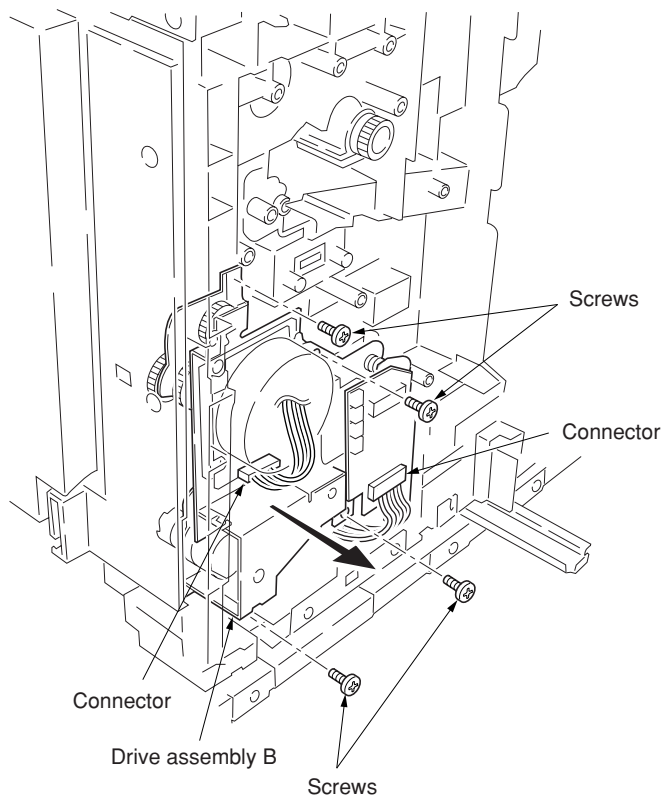


Figure 1-6-12

(5) Detaching and refitting the drive assembly A

Follow the procedure below to check or to replace the drive assembly A.

Procedure

1. Remove the power supply unit (See page 1-6-63).
2. Remove the two screws and then remove the fuser unit fan motor.

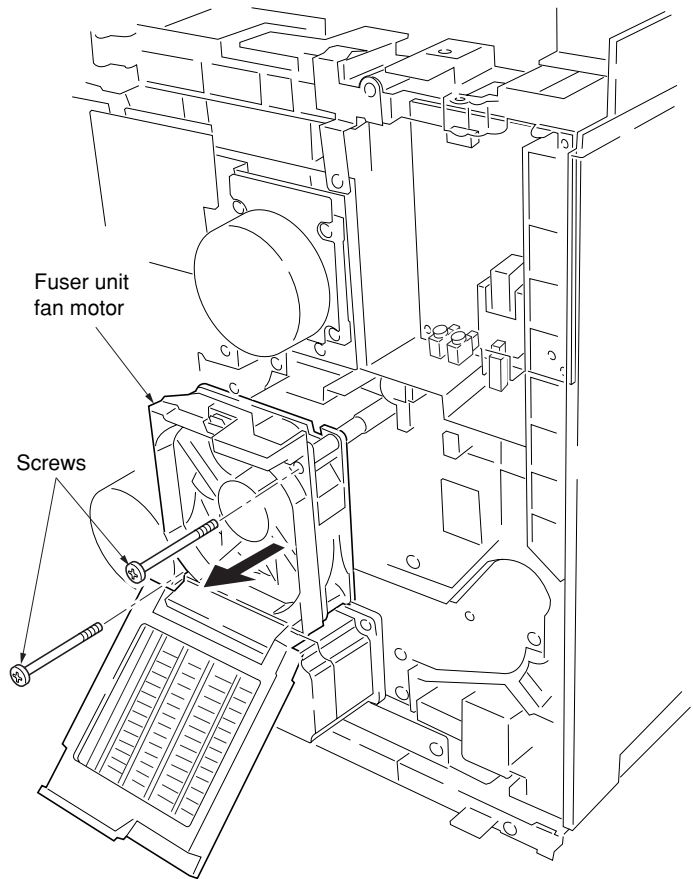


Figure 1-6-13

3. Remove all (six) tabs from the drive assembly A.
4. Remove the seven screws and then remove the grounding plate and the drive assembly A.
5. Check or replace the drive assembly A and refit all the removed parts.

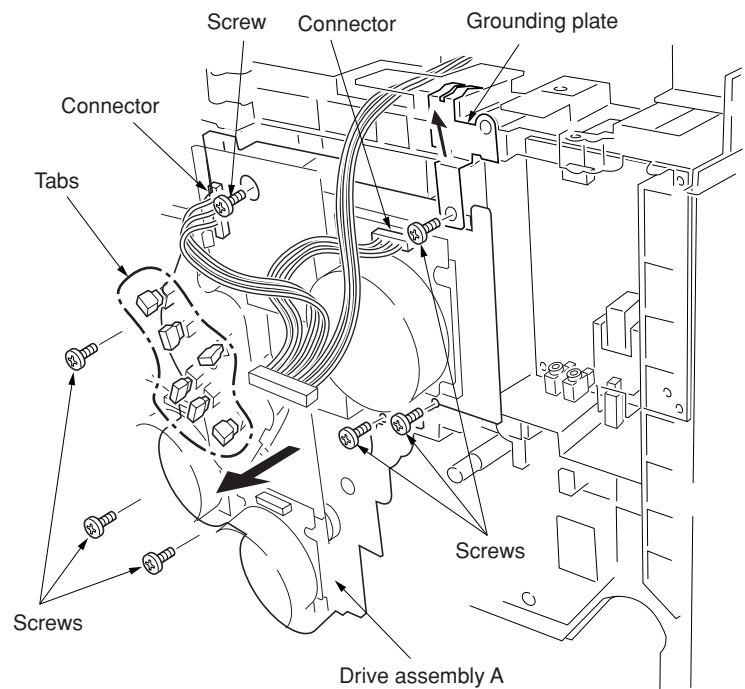


Figure 1-6-14

(6) Detaching and refitting the paper conveying belts

Follow the procedure below to check or to replace the paper conveying belts.

Procedure

1. Open the front cover and draw the paper feed unit.
2. Remove the secondary transfer unit (See page 1-6-47).
3. Remove the fuser unit (See page 1-6-49).
4. Remove the five screws and then remove the paper conveying assembly.
5. Remove the connector.

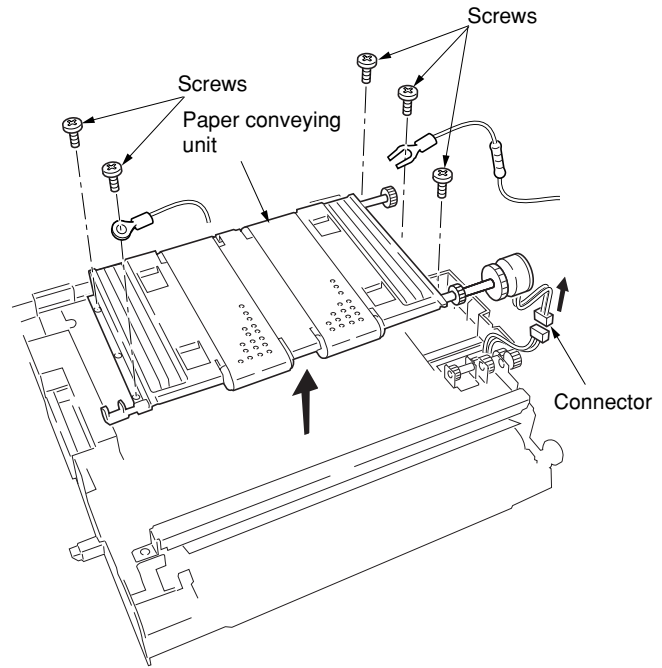


Figure 1-6-15

6. Remove the E-ring and bush and then remove each tension roller.
7. Remove the two conveying belts from the paper conveying unit.
8. Check or replace the conveying belts and refit all the removed parts.

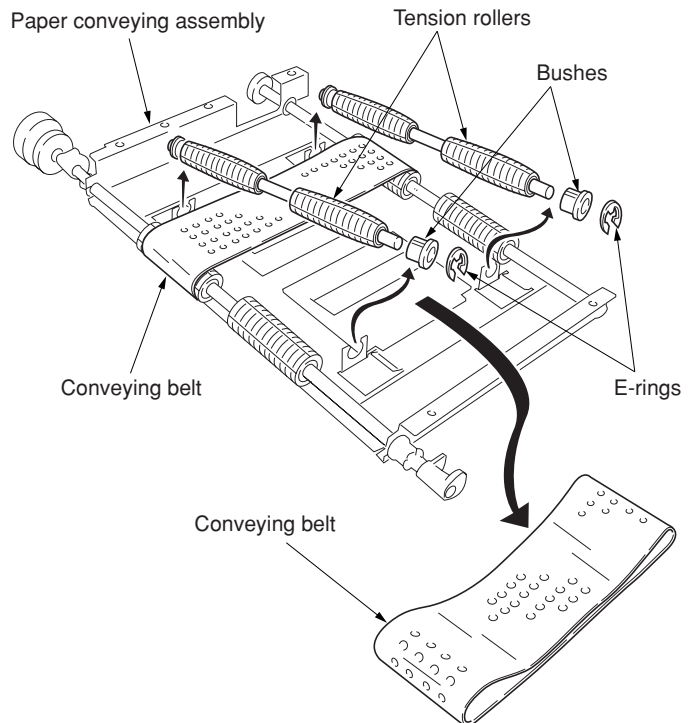


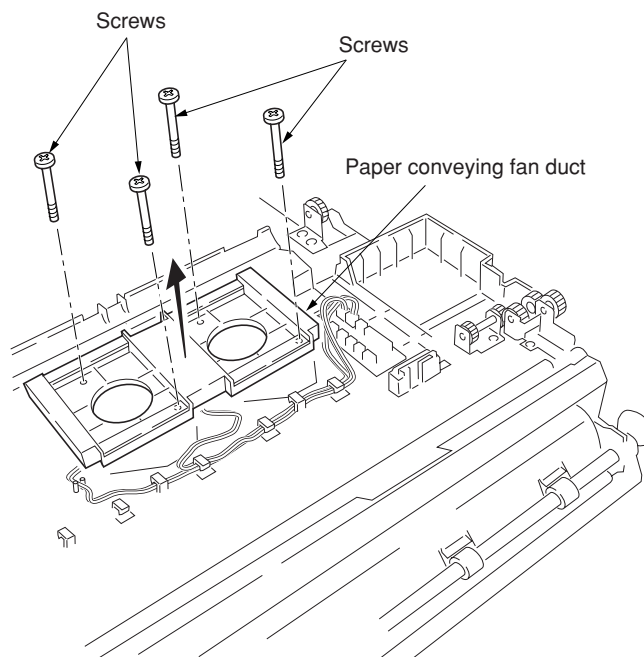
Figure 1-6-16

(7) Detaching and refitting the paper conveying fan motors 1 and 2

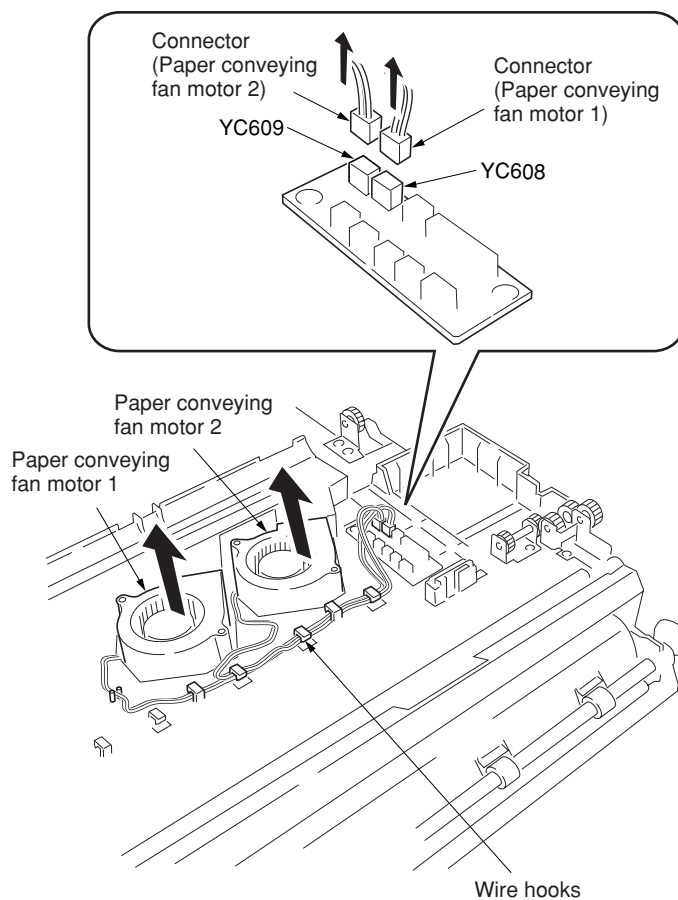
Follow the procedure below to check or to replace the paper conveying fan motors 1 and 2.

Procedure

1. Remove the paper conveying unit (see page 1-6-10).
2. Remove four screws and then remove the paper conveying fan duct.

**Figure 1-6-17**

3. Remove the two connectors and wire hooks and then remove the paper conveying fan motors 1 and 2.
4. Check or replace the paper conveying fan motors 1 and 2, and refit all the removed parts.

**Figure 1-6-18**

(8) Detaching and refitting the upper and lower registration rollers

Follow the procedure below to check or to replace the upper and lower registration rollers.

Procedure

1. Remove the secondary transfer unit (see page 1-6-47).
2. Remove the two screws and then remove the registration sensor plate.
3. Remove the two springs and then remove the upper registration roller assembly.
4. Remove the two E-rings, two bushes, and gear from the upper registration roller.

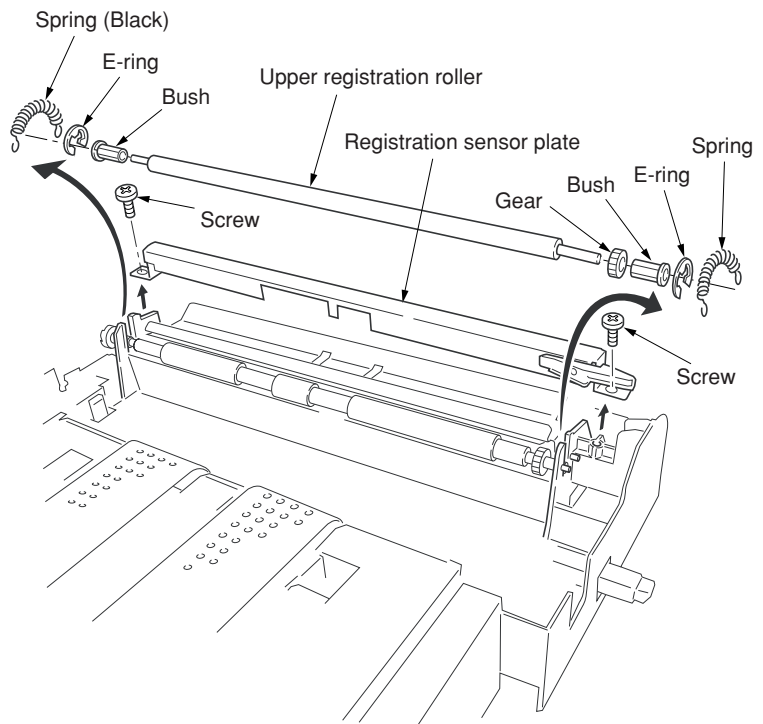


Figure 1-6-19

5. While unlatching the latch, remove the input gear.
6. Remove the two screws and then remove registration paper guide.
7. Remove the two bushes.
8. While sliding the lower registration roller back and forth and then remove it. Do not deform the sheet.
9. Remove the E-ring and gear from the lower registration roller.
10. Check or replace the upper and lower registration rollers, and refit all the removed parts.

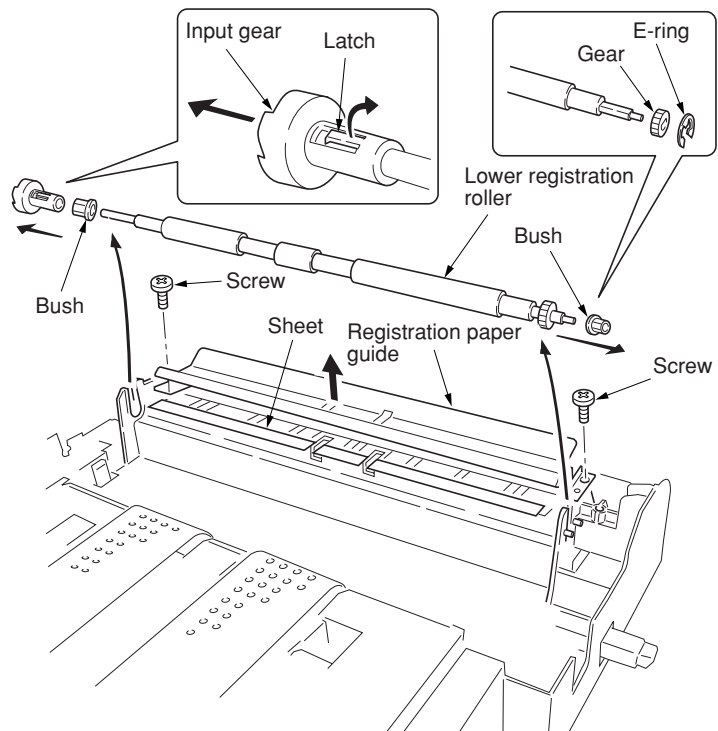


Figure 1-6-20

(9) Detaching and refitting the middle roller

Follow the procedure below to check or to replace the middle roller.

Procedure

1. Open the front cover and draw the paper feed unit out.
2. Remove the two springs and then remove the middle guide assembly.

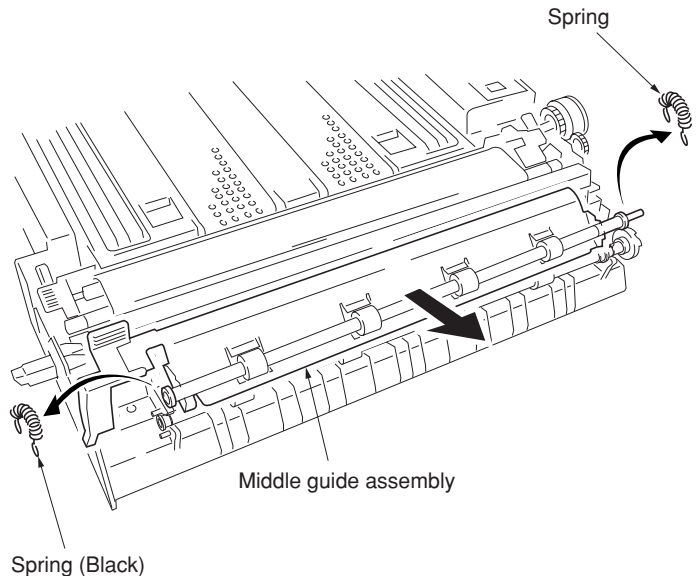


Figure 1-6-21

3. Remove the left edge of the middle roller (the front side of the machine), and slide MID R bush and the middle roller to the right (the back side of the machine).
4. Remove the middle roller assembly from the paper feed unit.
5. While unlatching the latch and then remove the input gear.
6. Remove the two E-rings, bush, and MID R bush from the middle roller.
7. Check or replace the middle roller and refit all the removed parts.

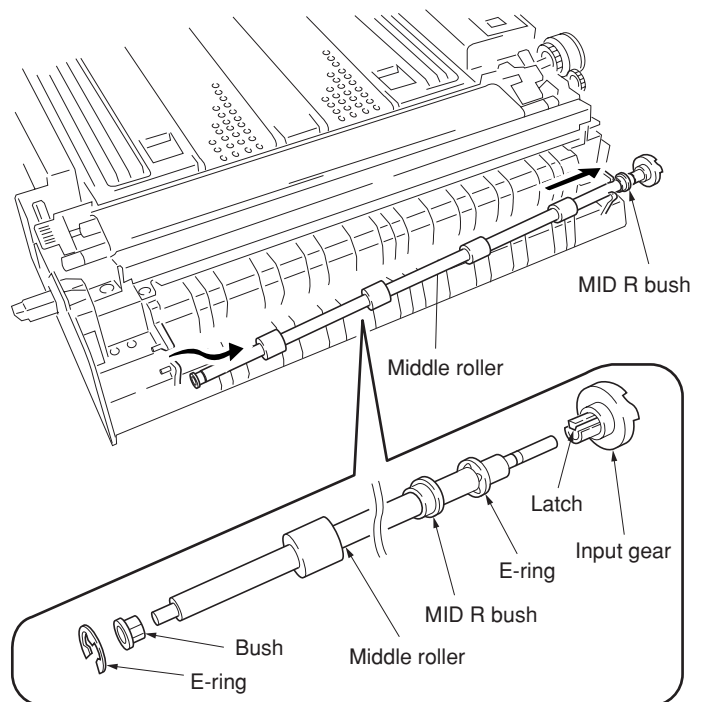


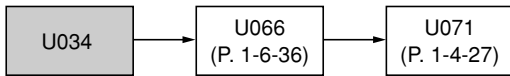
Figure 1-6-22

(10) Adjustment after roller and clutch replacement

Perform the following adjustment after refitting rollers and clutches.

(10-1) Adjusting the leading edge registration of image printing

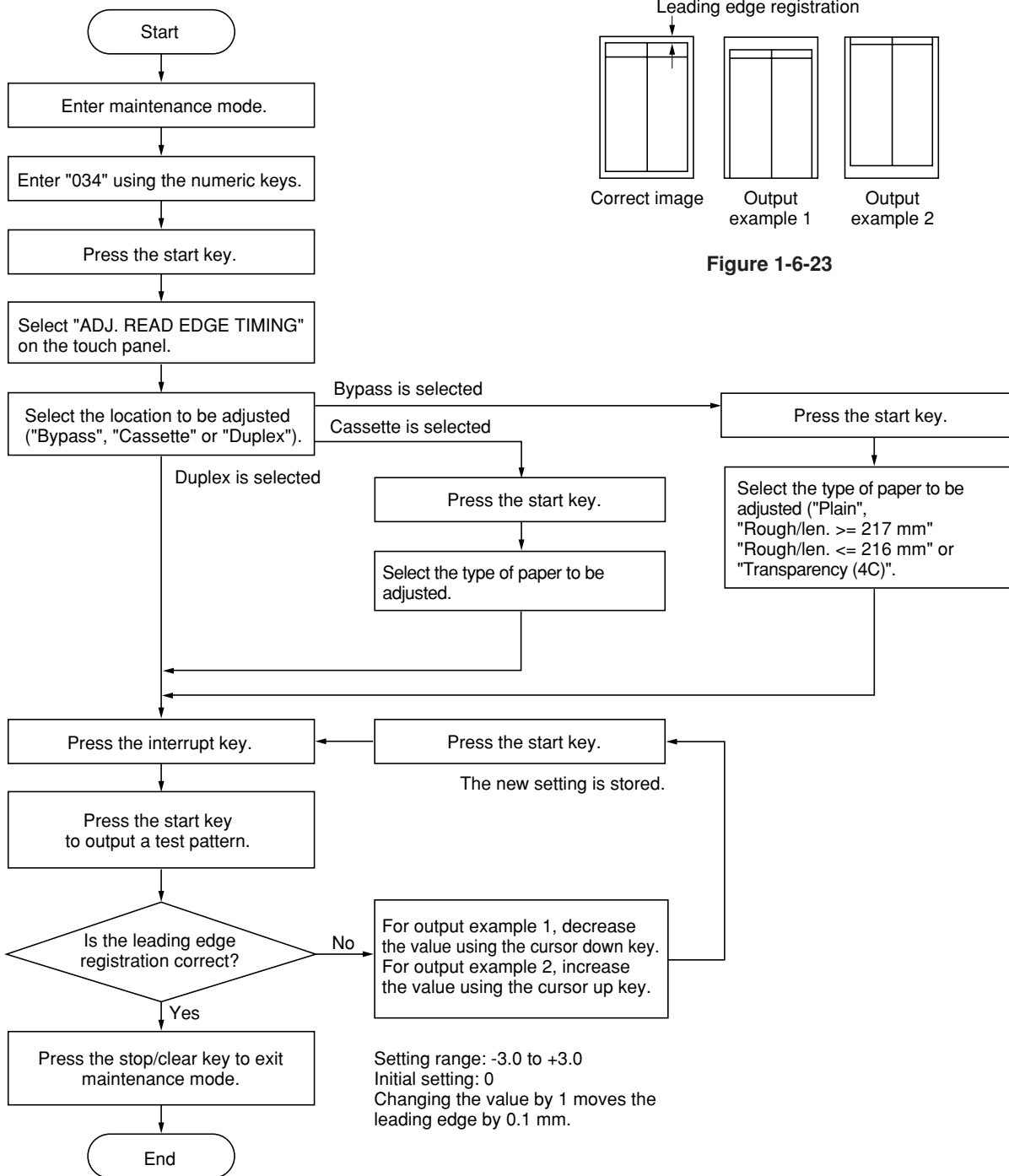
Make the following adjustment if there is a regular error between the leading edges of the copy image and original.



Caution:

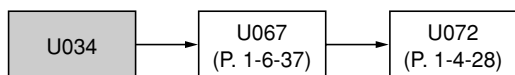
Check the copy image after the adjustment. If the image is still incorrect, perform the above adjustments in maintenance mode.

Procedure

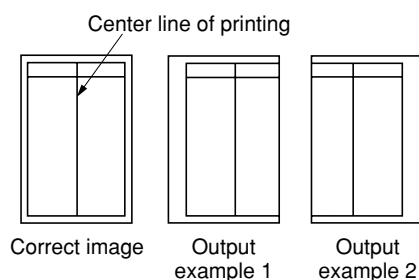
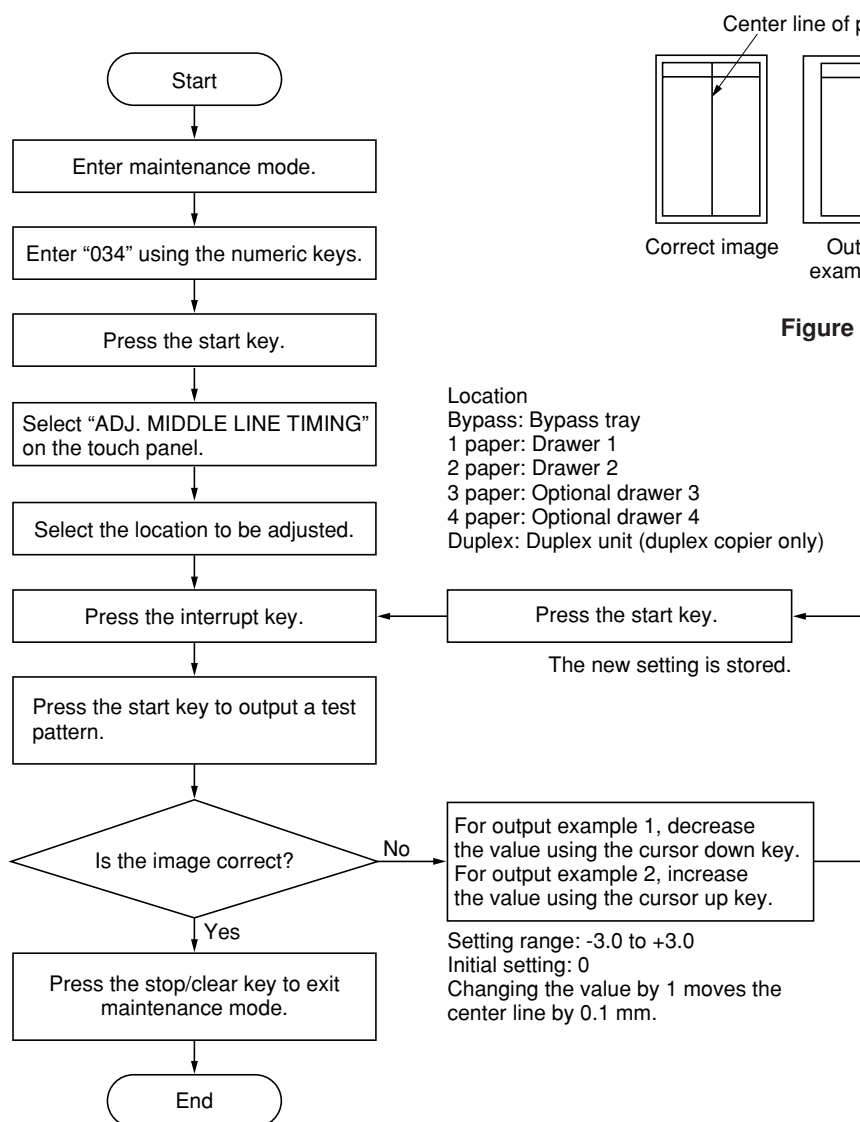


(10-2) Adjusting the center line of image printing

Make the following adjustment if there is a regular error between the center lines of the copy image and original when paper is fed from the drawer.

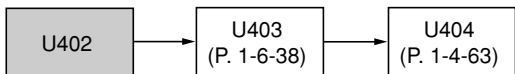
**Caution:**

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

Procedure**Figure 1-6-24**

(10-3) Adjusting the margins for printing

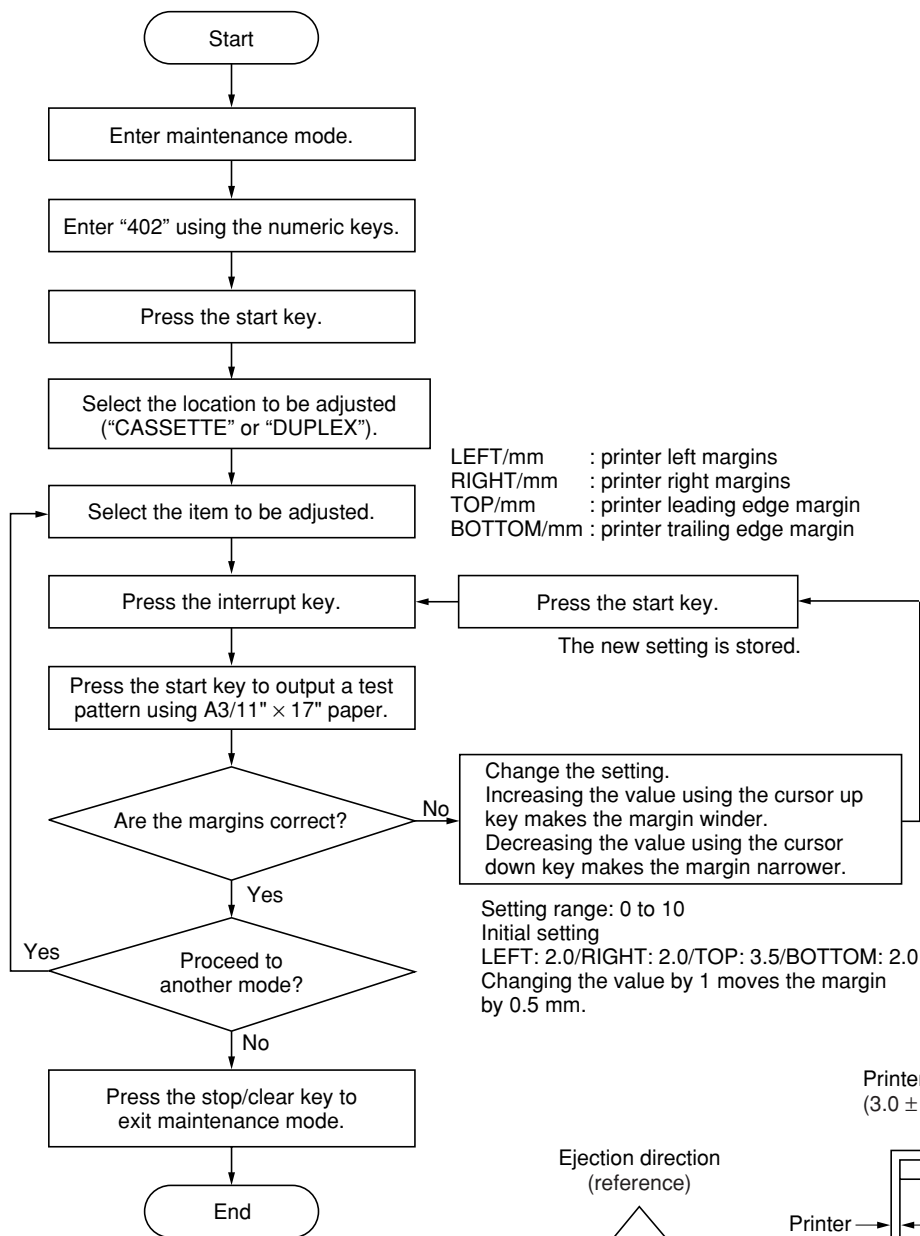
Make the following adjustment if the margins are not correct.



Caution:

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

Procedure



LEFT/mm : printer left margins
 RIGHT/mm : printer right margins
 TOP/mm : printer leading edge margin
 BOTTOM/mm : printer trailing edge margin

Change the setting.
 Increasing the value using the cursor up key makes the margin wider.
 Decreasing the value using the cursor down key makes the margin narrower.

Setting range: 0 to 10
 Initial setting
 LEFT: 2.0/RIGHT: 2.0/TOP: 3.5/BOTTOM: 2.0
 Changing the value by 1 moves the margin by 0.5 mm.

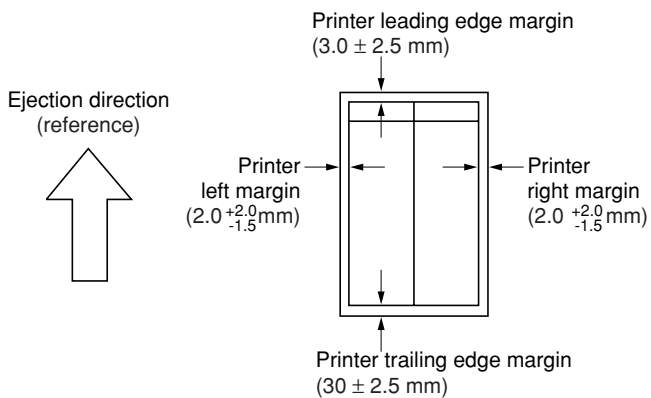


Figure 1-6-25

(10-4) 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

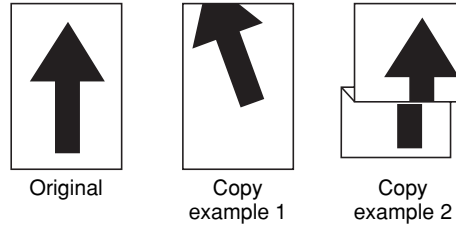
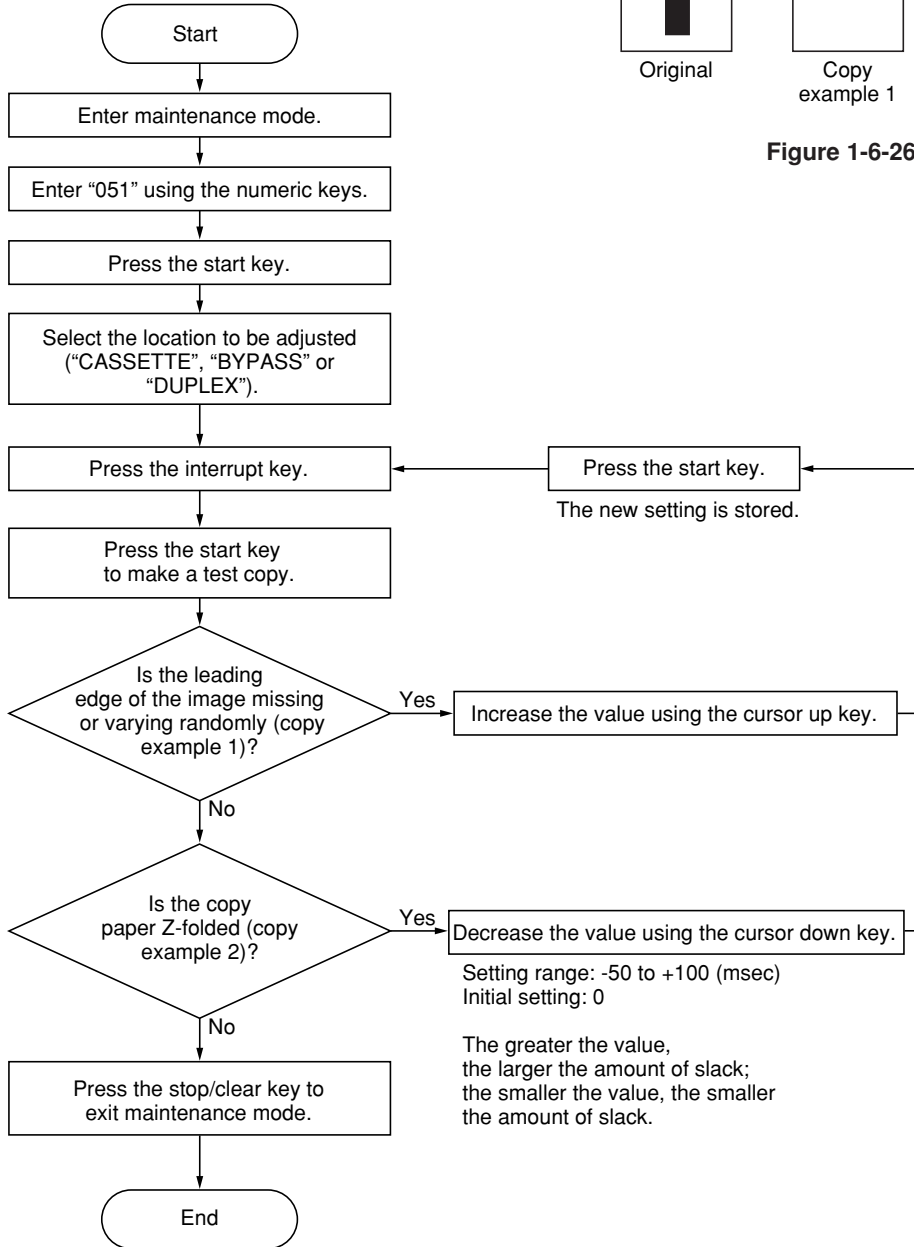
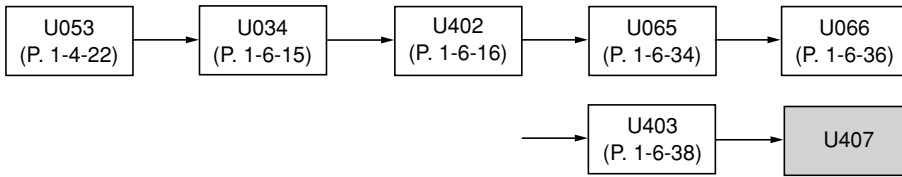


Figure 1-6-26



(10-5) Adjusting the leading edge registration for duplex switchback copying

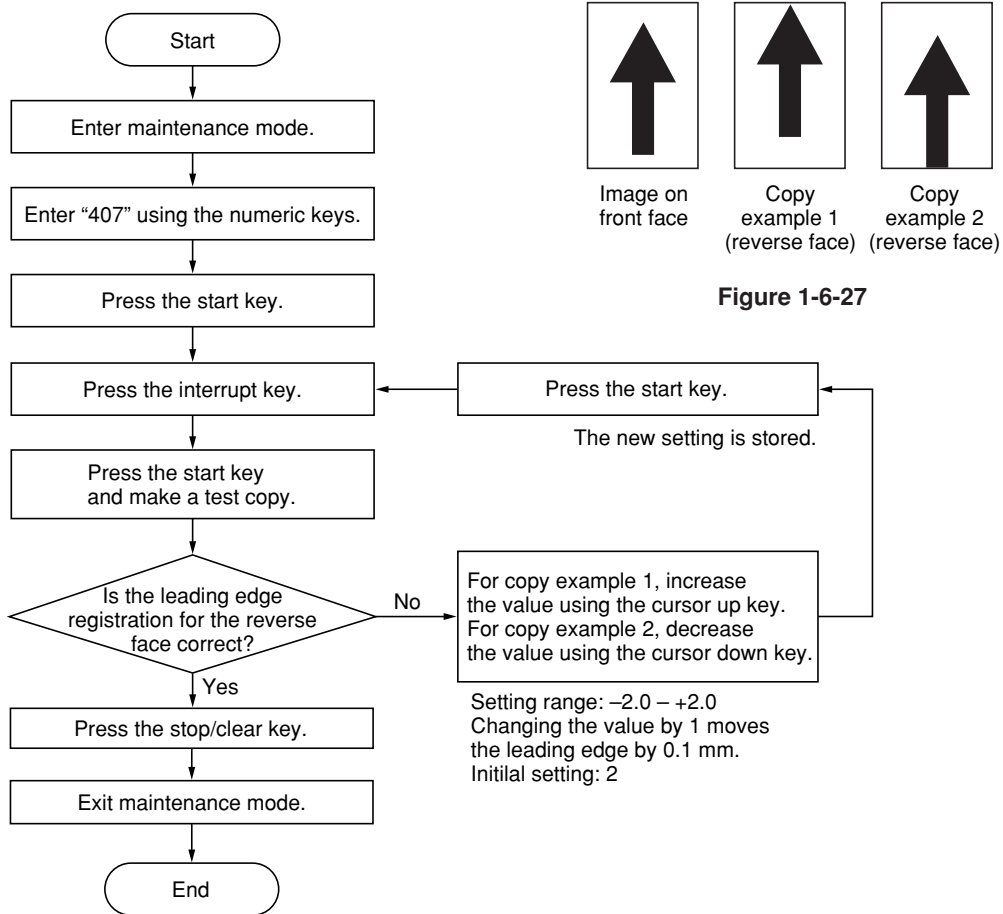
Make the following adjustment if there is a regular error between the leading edge of the copy image on the front face and that on the reverse face during duplex switchback copying.



Caution:

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

Procedure



1-6-3 Optical section

(1) Detaching and refitting the exposure lamp

Follow the procedure below to replace the exposure lamp.

Procedure

1. Remove the original cover or the DP.
2. Remove the three screws and then remove the rear middle cover.

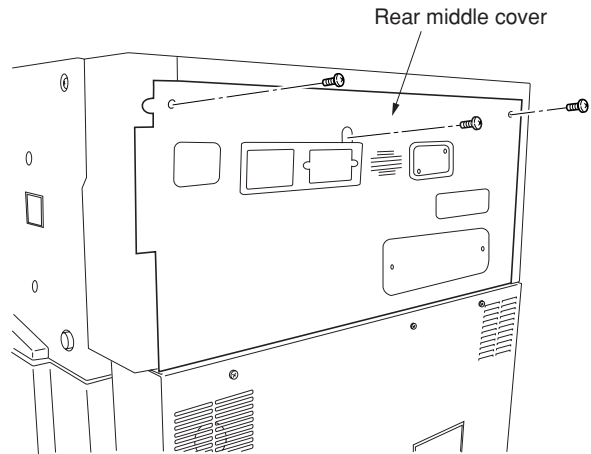


Figure 1-6-28

3. Remove the two screws and then remove the right upper cover.
4. Remove the contact glass.

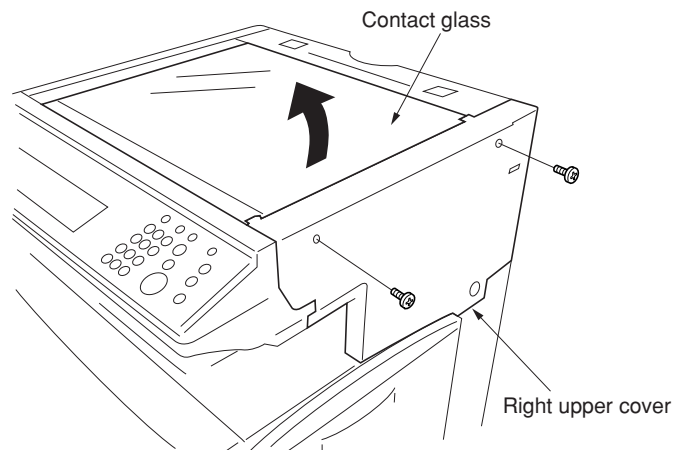


Figure 1-6-29

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 PCB and remove the wire from the two clamps.

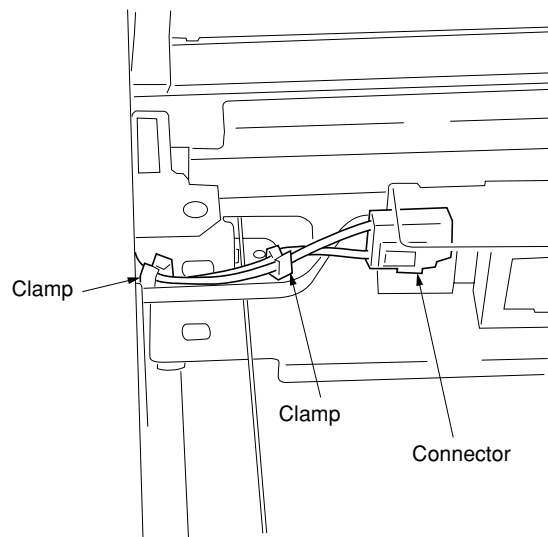


Figure 1-6-30

2CX

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.

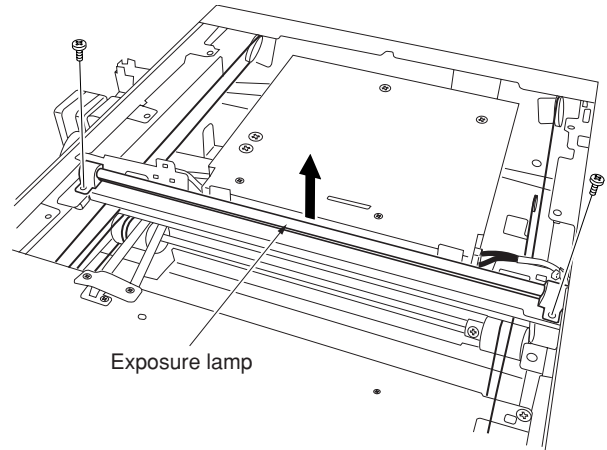


Figure 1-6-31

(2) Detaching and refitting the scanner wires

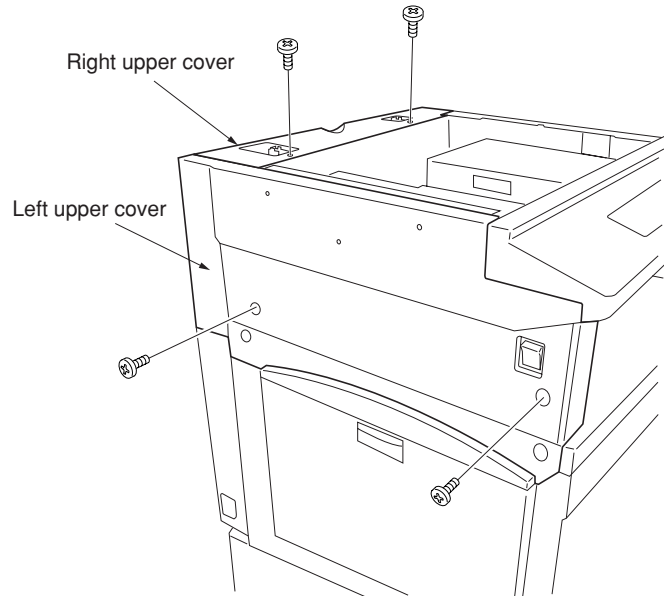
Take the following procedure when the scanner wires are broken or to be replaced.

Caution:

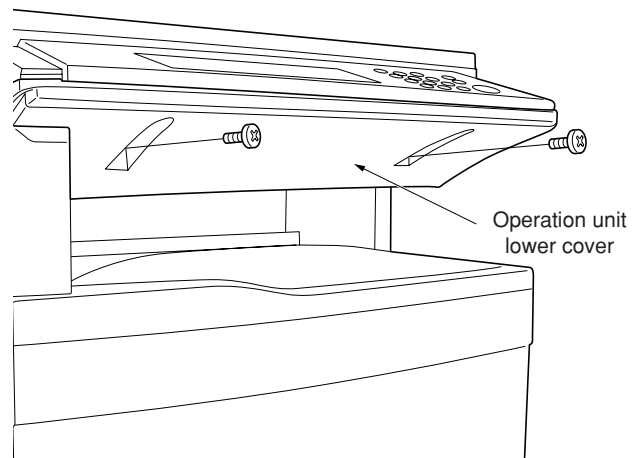
After replacing the scanner wire, make a test copy and check the copy image. If the image is incorrect, perform the adjustments (see pages 1-6-34 to 38).

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

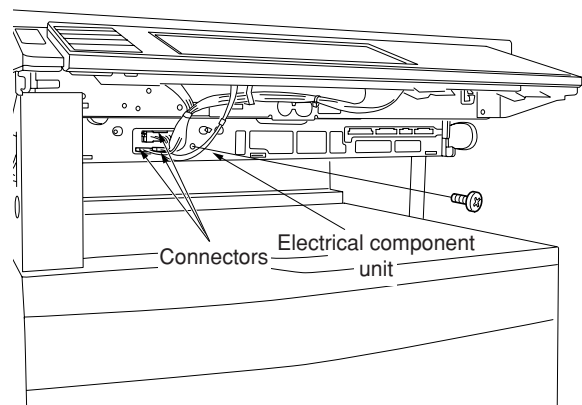
1. Remove the original cover/DP, rear middle cover, right upper cover and then remove the contact glass (see page 1-6-19).
2. Remove the two screws and then remove the left upper cover.
3. Remove the two screws and then remove the rear upper cover.

**Figure 1-6-32**

4. Remove the two screws and then remove the operation unit lower cover.

**Figure 1-6-33**

5. Remove the three connectors and the screws from the electrical component unit.

**Figure 1-6-34**

6. Remove the five connectors and the two screws from the electrical component unit. Remove the connectors when optional device(s) is/are installed.

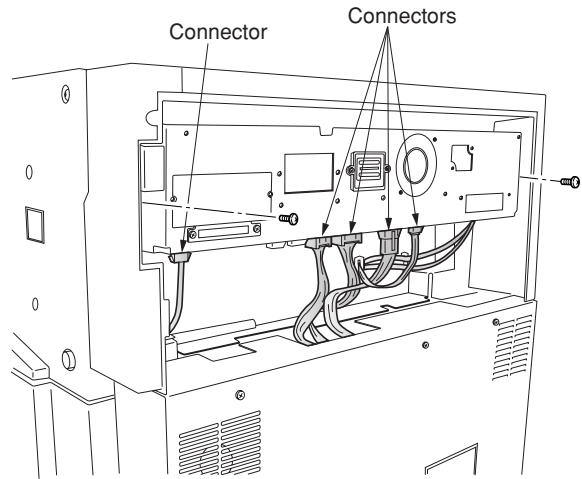


Figure 1-6-35

7. Draw the electrical component unit and remove the five connectors.
8. Remove the wire saddle to release the wires of the connector and the connector.
9. Pull the electrical component unit out from the machine.

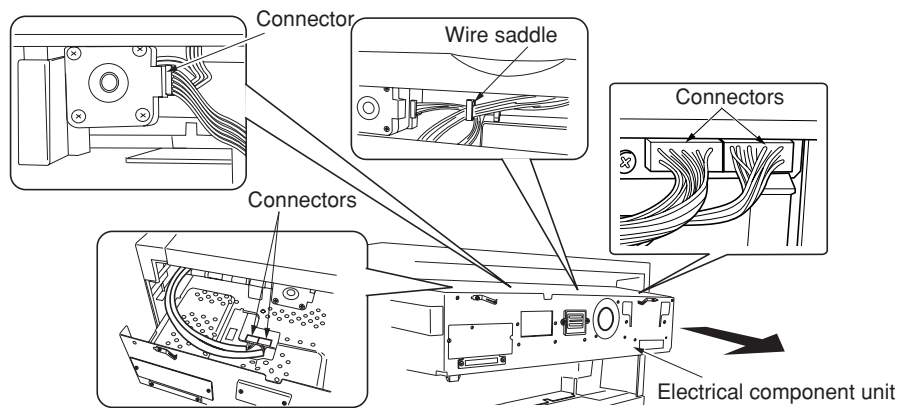


Figure 1-6-36

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

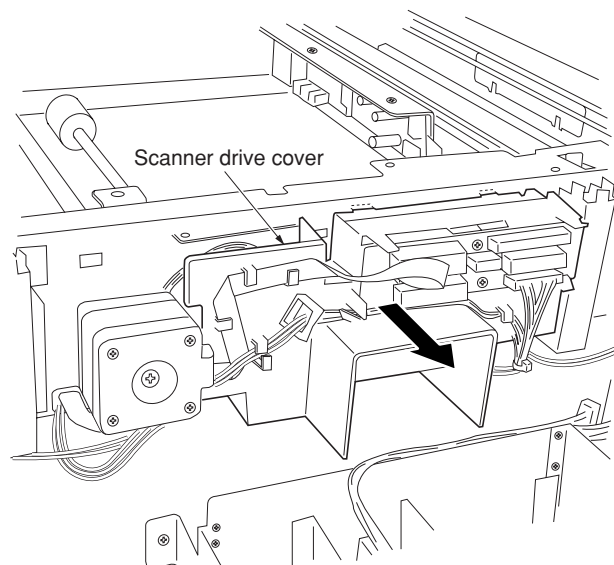


Figure 1-6-37

11. 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.
12. 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.

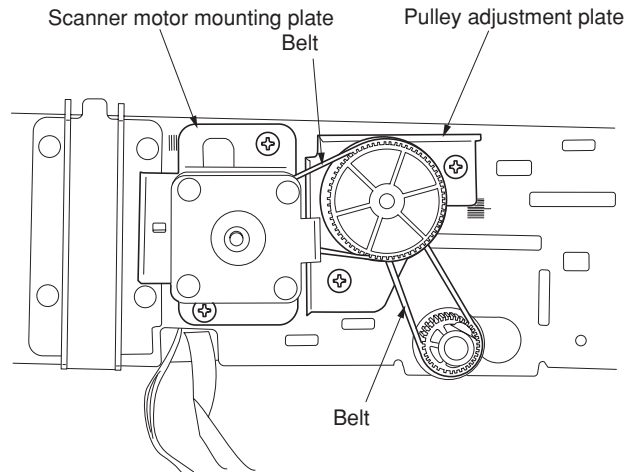


Figure 1-6-38

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

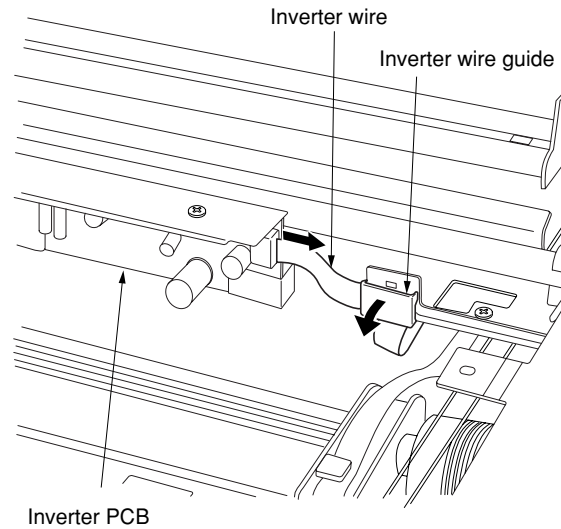


Figure 1-6-39

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

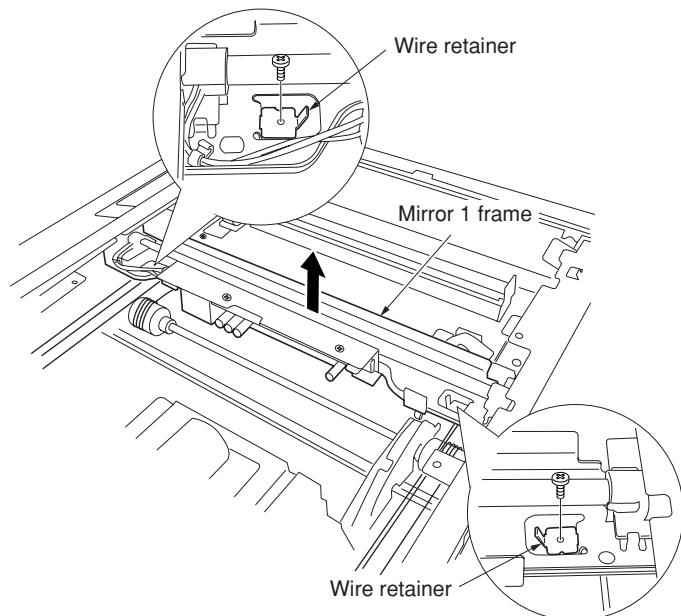


Figure 1-6-40

2CX

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

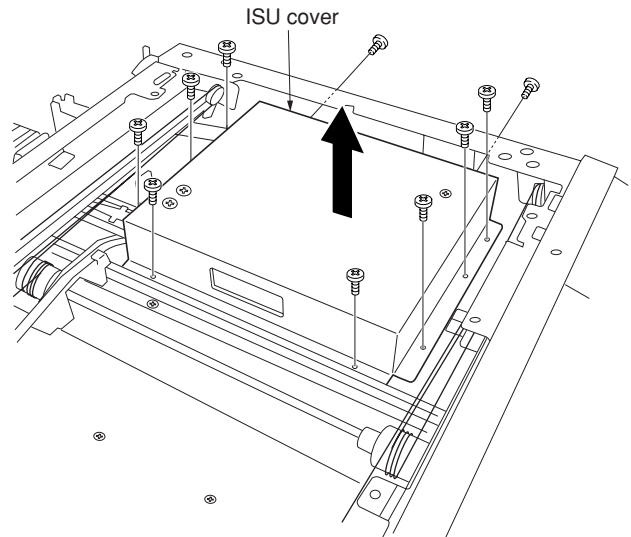


Figure 1-6-41

18. Pull out the inverter wire from the mirror 2 frame.
19. Hold the six claws of the scanner wire guide and then remove the guide.

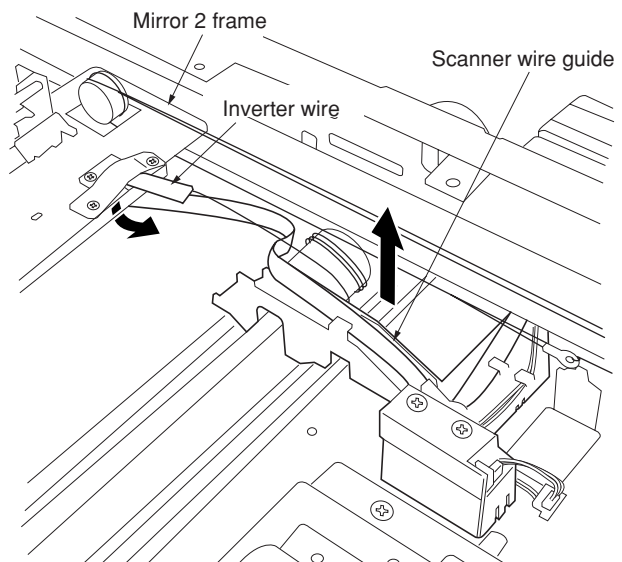


Figure 1-6-42

20. Unhook the round terminal of the scanner wire from the scanner tension spring on the left side of the scanner unit.
21. Remove the scanner wire.

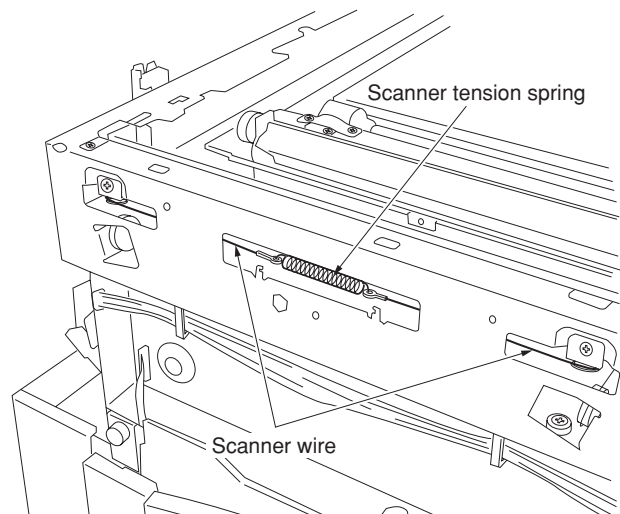


Figure 1-6-43

(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.

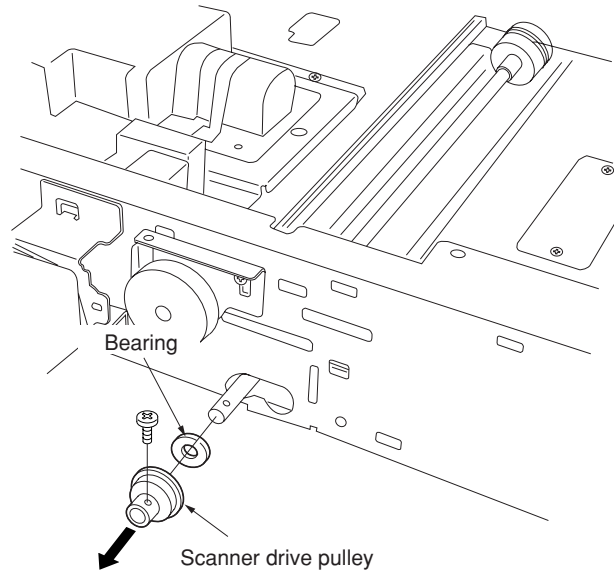


Figure 1-6-44

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.

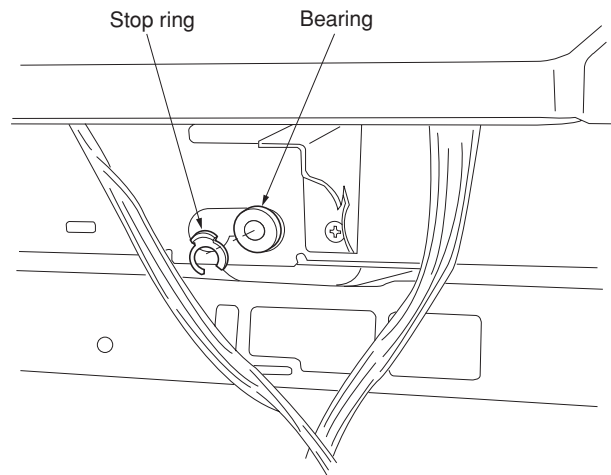


Figure 1-6-45

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.

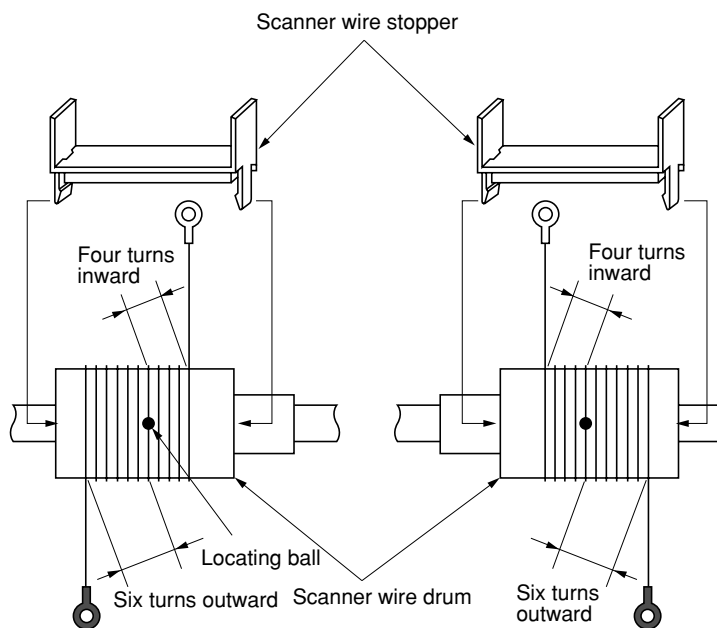


Figure 1-6-46

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.

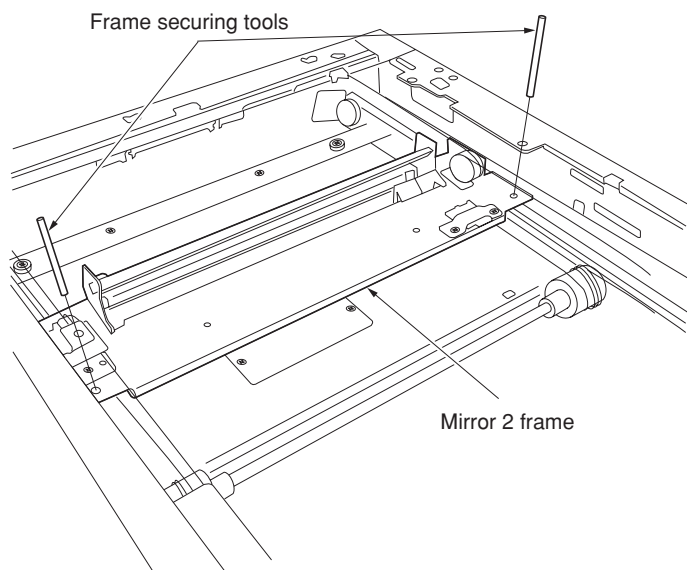


Figure 1-6-47

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 scanner wire guides 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

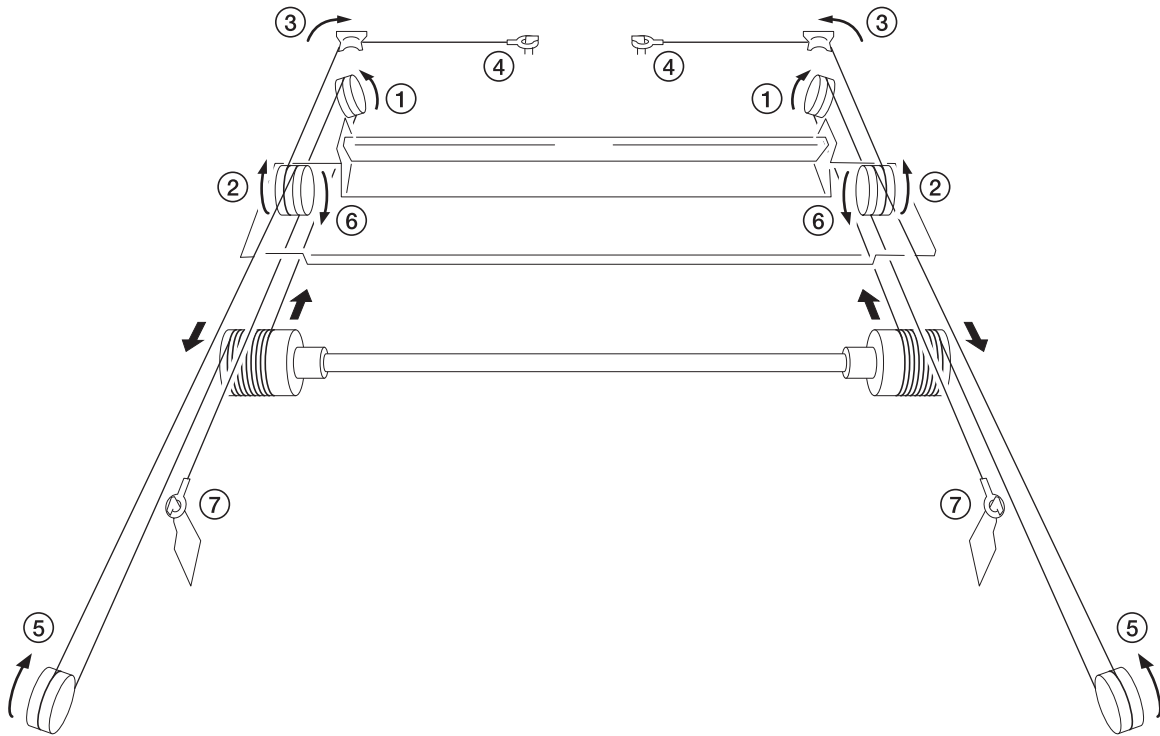


Figure 1-6-48

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.

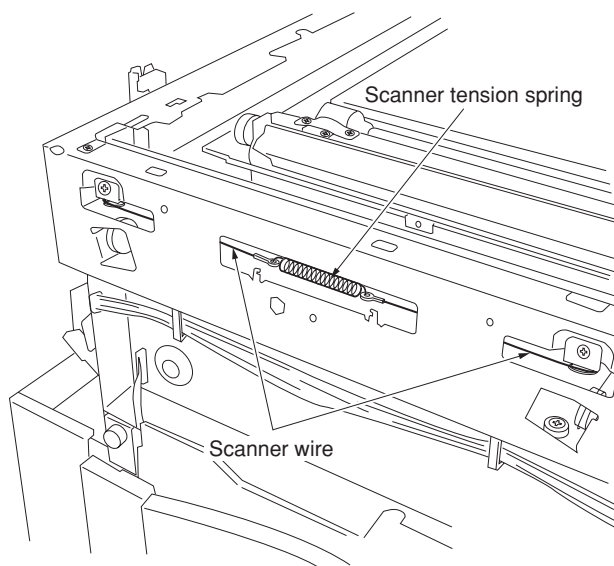


Figure 1-6-49

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.

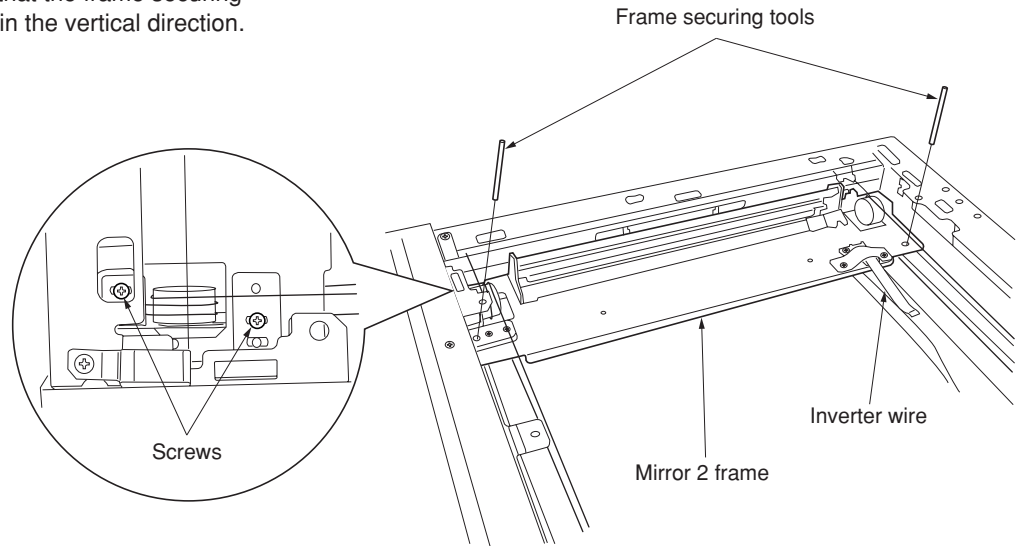


Figure 1-6-50

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.

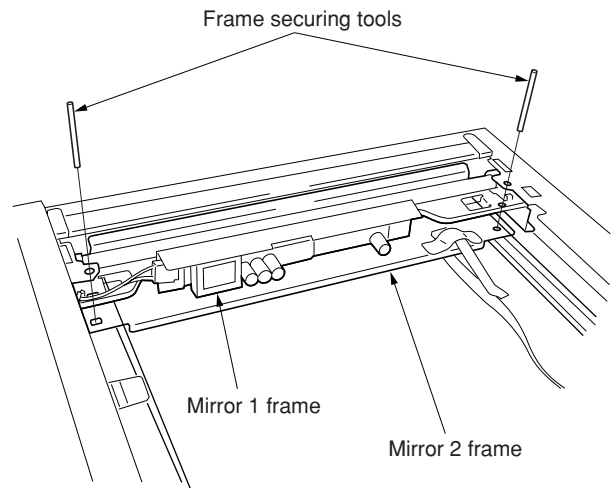


Figure 1-6-51

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.

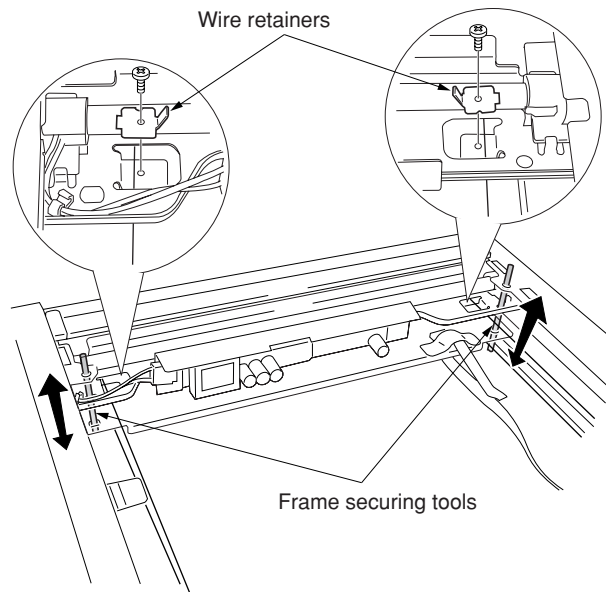


Figure 1-6-52

25. Connect the inverter wire to the inverter PCB 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.

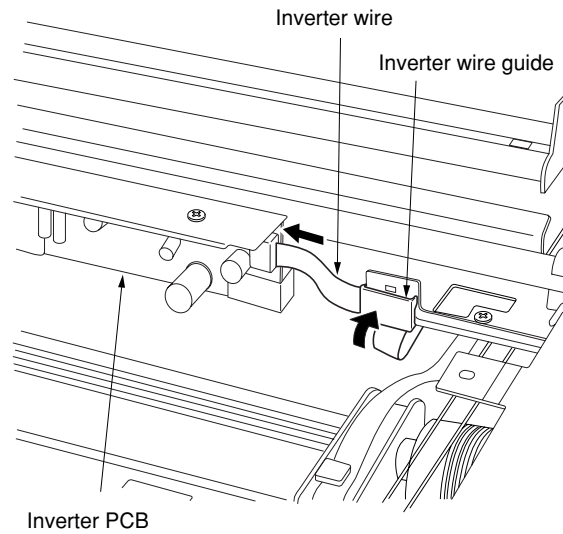


Figure 1-6-53

(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 1-6-34 to 38).

ISU installation requires the following tools:

Two positions pins (P/N 1856810)

Procedure

• Detaching the ISU

1. Remove the original cover/DP, rear middle cover, upper right cover and then remove the contact glass (see page 1-6-19).
2. Remove the ten screws (machine inside: 8, right side:2), and then remove the ISU cover (see page 1-6-24).
3. Remove the screws and two connectors and then remove the ISU.
4. Replace the ISU.

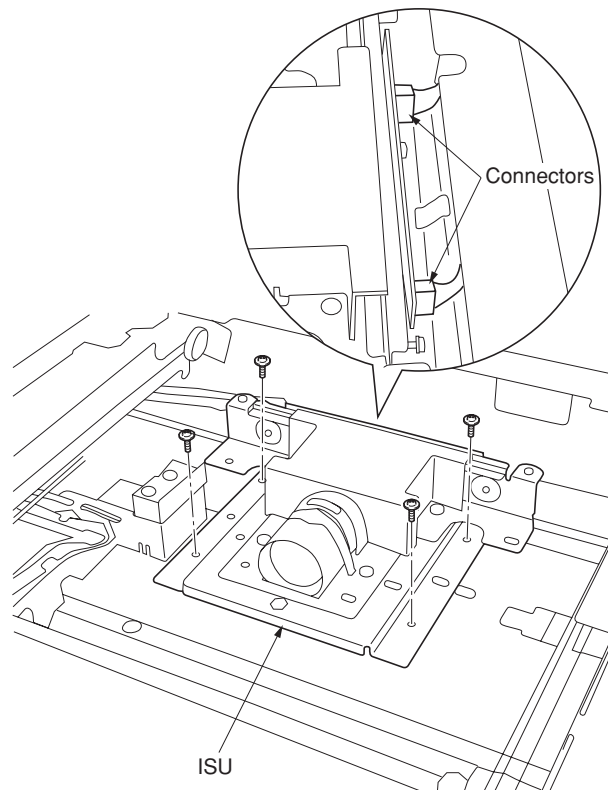


Figure 1-6-54

• Refitting the ISU

5. Fit the ISU using the two positioning pins.
6. Refit the ISU using the screw.
7. Remove the two positioning pins and connect the two connectors.
8. Refit all the removed parts.

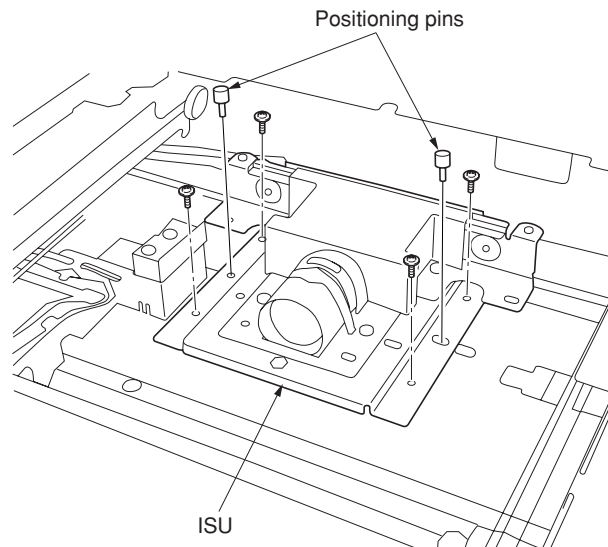


Figure 1-6-55

(4) Detaching and refitting the original size detection switch

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

Procedure

1. Remove the original cover/DP, rear middle cover, upper right cover and then remove the contact glass (see page 1-6-19).
2. Remove the ten screws (machine inside: 8, right side:2), and then remove the ISU cover (see page 1-6-24).
3. Remove the screw and connector and then the original size detection switch.
4. Replace the original size detection switch and refit all the removed parts.

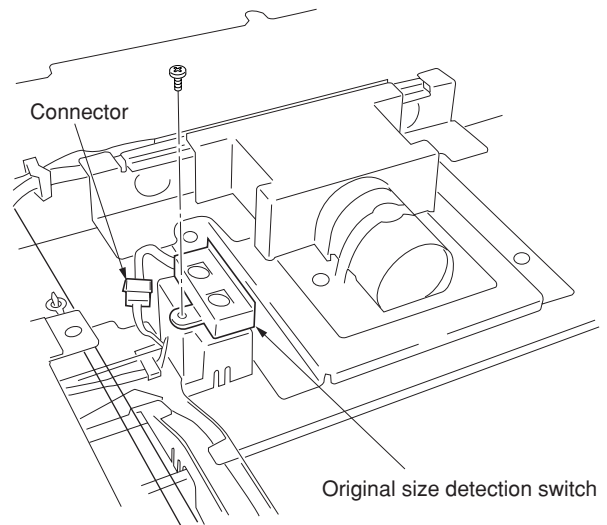


Figure 1-6-56

(5) Detaching and refitting the laser scanner unit

Follow the procedure below to replace the laser scanner unit.

Procedure

1. Remove the upper right cover and contact glass (see page 1-6-19).
2. Remove the left upper cover.
3. Remove the eject cover (see page 1-6-4).
4. Remove the screw and then remove the scanner unit.

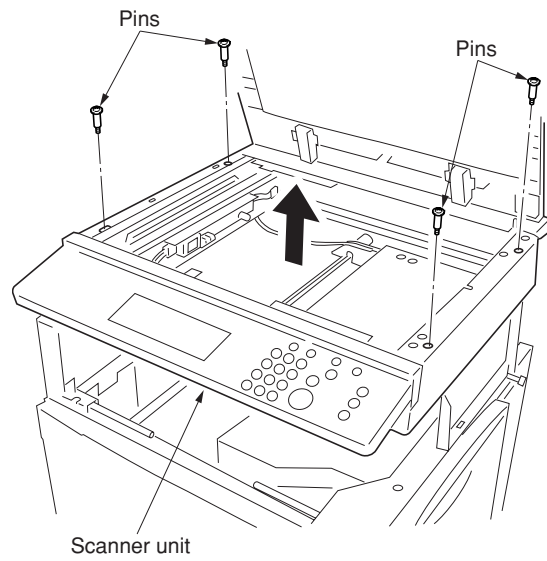


Figure 1-6-57

5. Remove the screw and then remove the handle of the right rear.
6. Remove the nine screws and then remove the electric component frame.

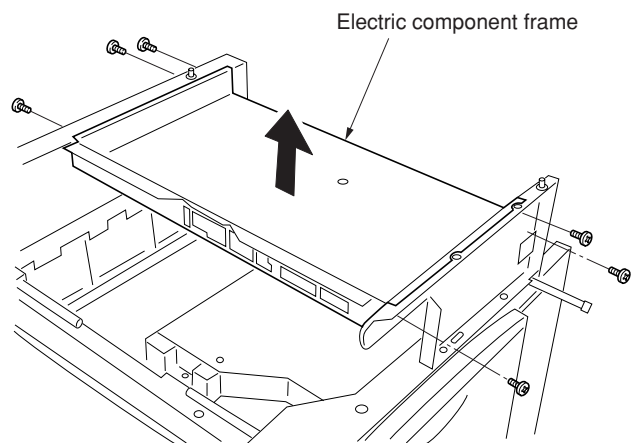
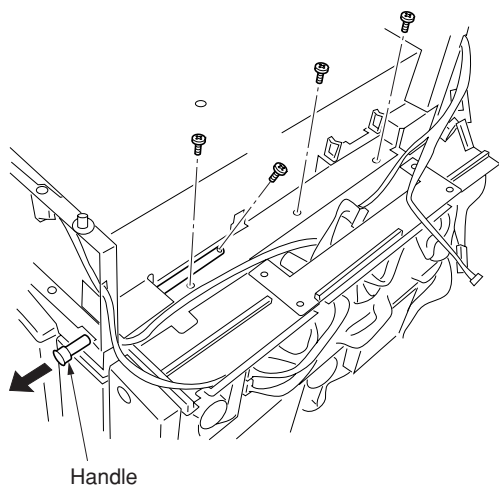
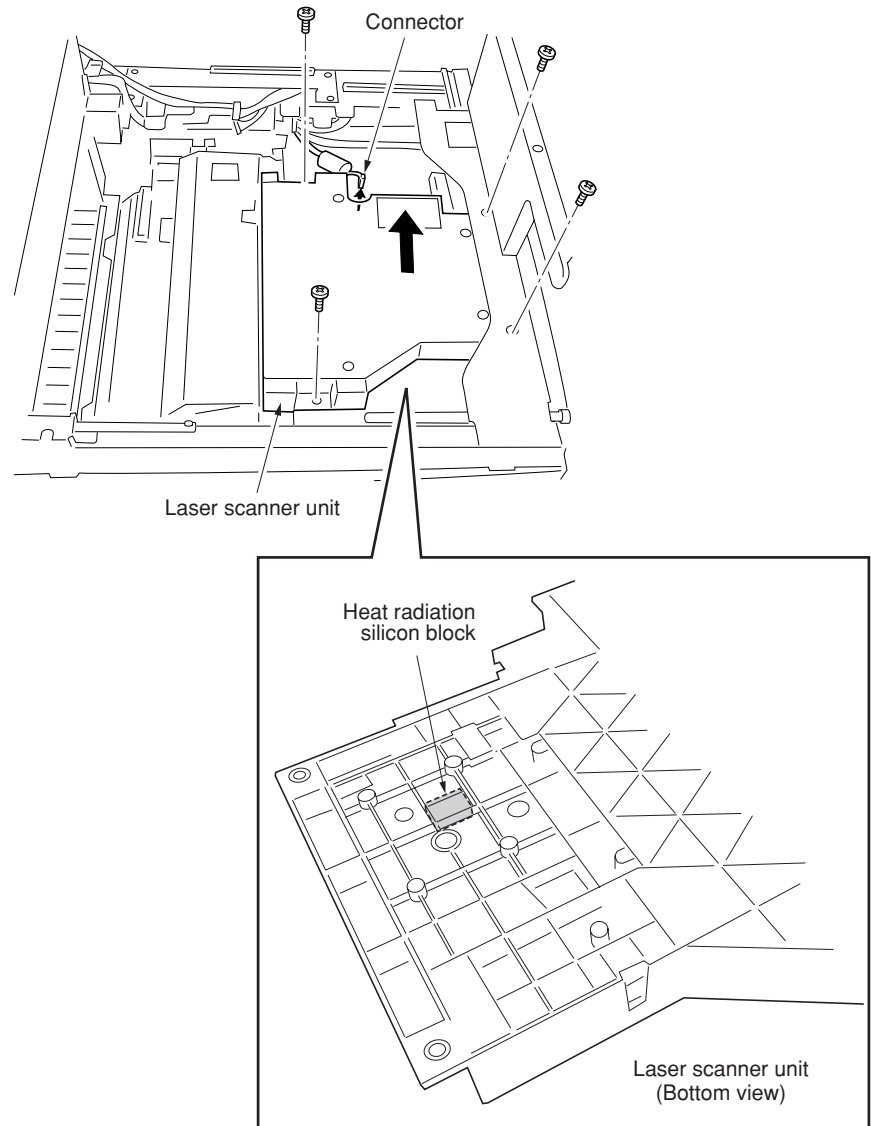


Figure 1-6-58

7. Remove the connector from the laser scanner unit.
8. Remove the four screws and then remove the laser scanner unit.
9. Replace the laser scanner unit and refit all the removed parts.

Cautions:

- When refitting the laser scanner unit, make sure placing the heat radiation silicon block between the laser scanner unit (bottom of the polygon motor) and frame.

**Figure 1-6-59**

(6) 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 “(7) Adjusting magnification of the scanner in the auxiliary scanning direction” (page 1-6-35) and “(9) Adjusting the scanner center line” (page 1-6-37) after this adjustment.

Procedure

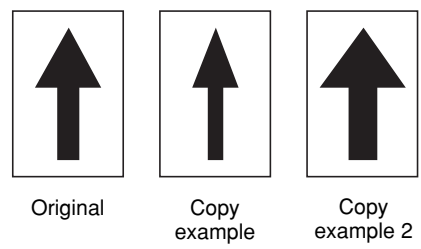
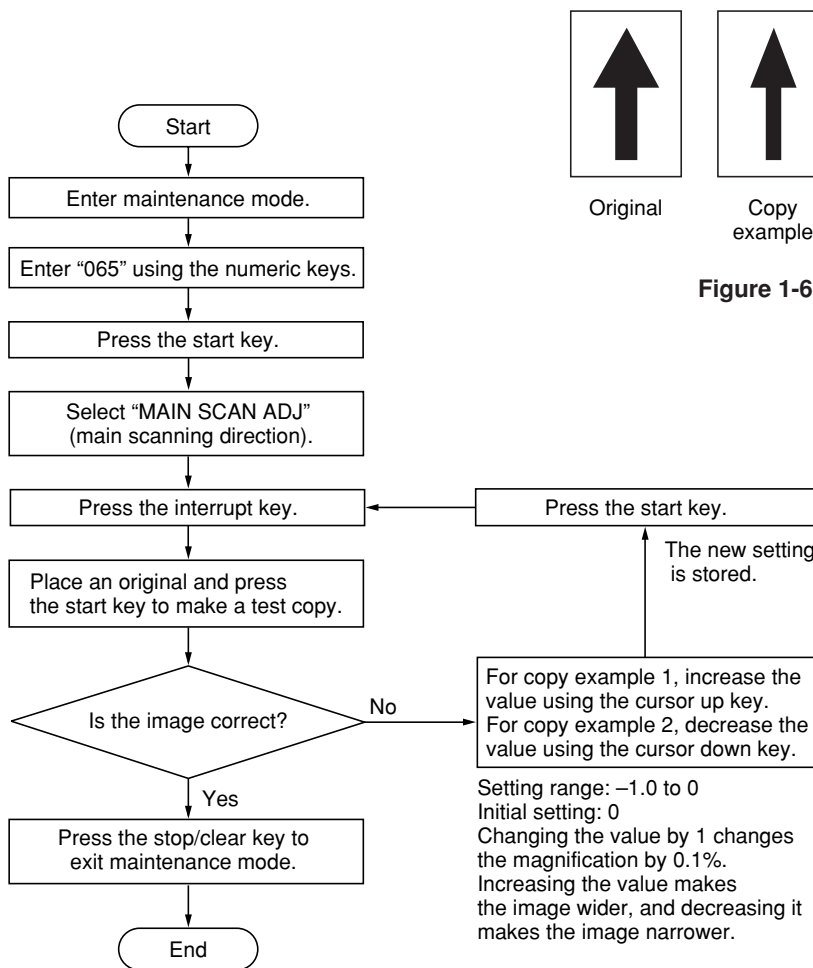


Figure 1-6-60

(7) Adjusting magnification of the scanner in the auxiliary scanning direction

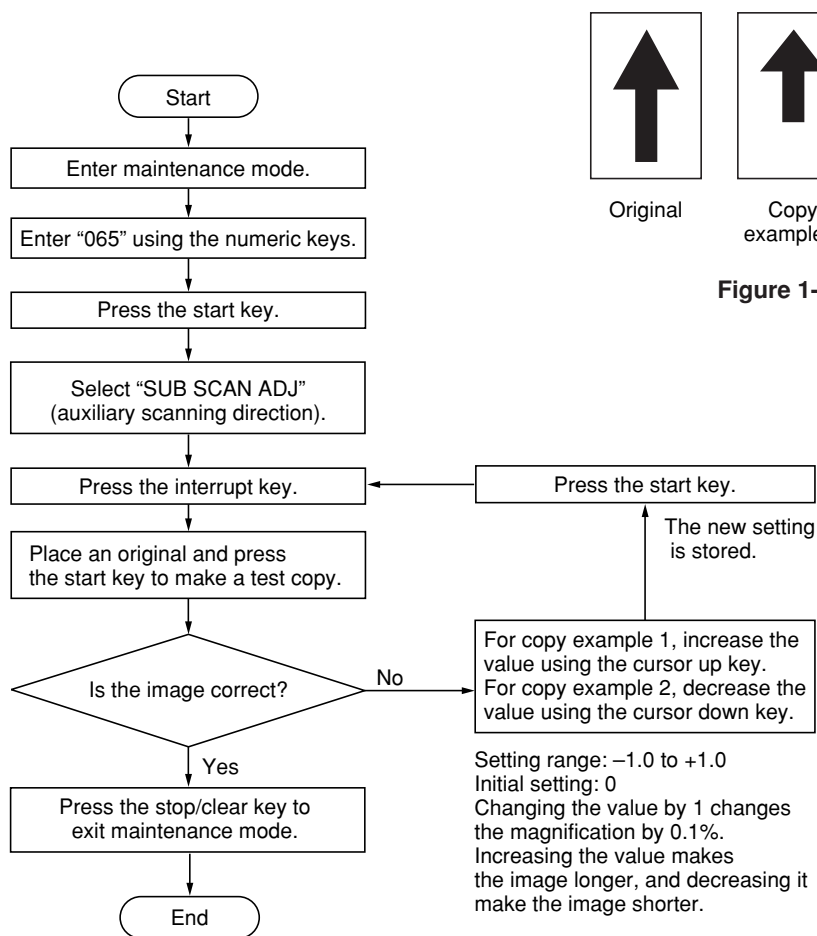
Perform the following adjustment if the magnification in the auxiliary scanning direction is not correct.



Caution:

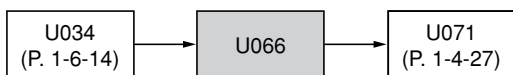
Before making the following adjustment, ensure that the above adjustments have been made in maintenance mode.

Procedure



(8) 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

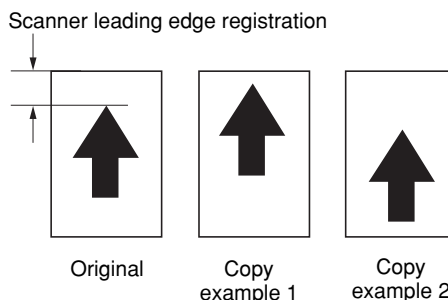
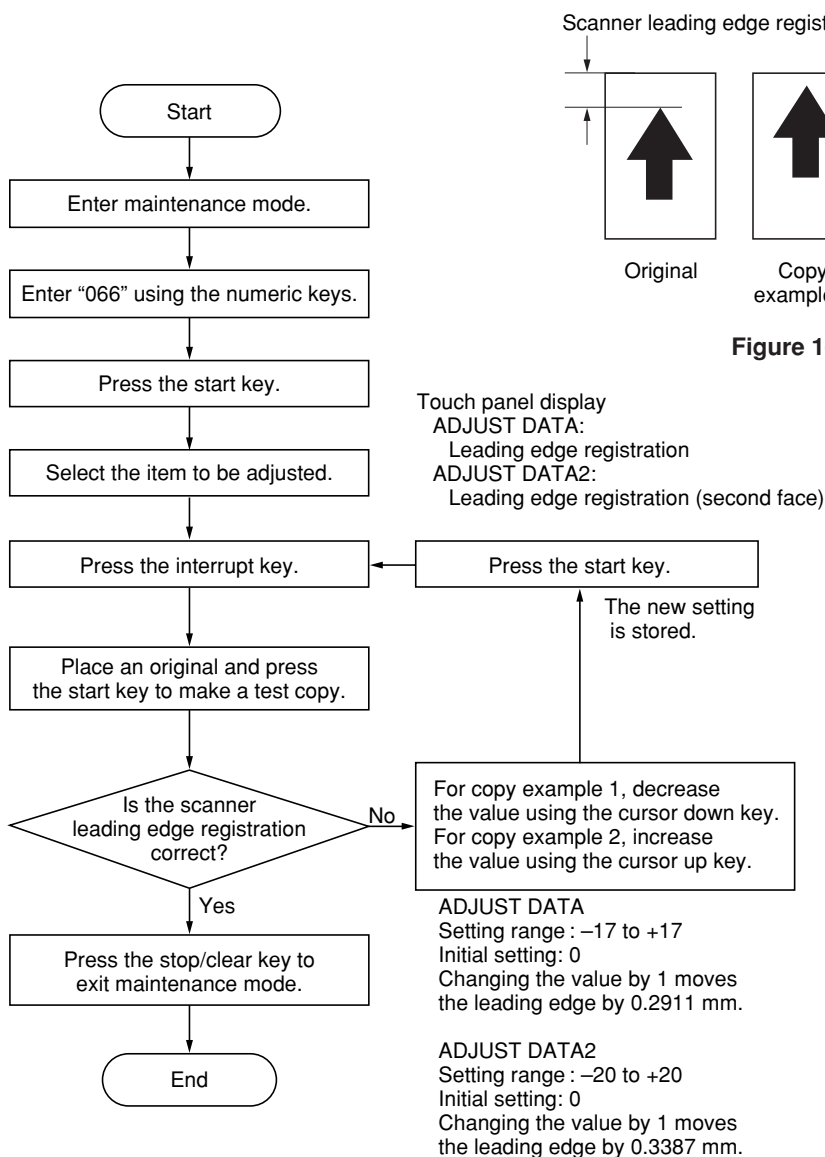


Figure 1-6-62

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

Press the start key.
 The new setting is stored.

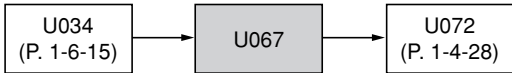
For copy example 1, decrease the value using the cursor down key.
 For copy example 2, increase the value using the cursor up key.

ADJUST DATA
 Setting range : -17 to +17
 Initial setting: 0
 Changing the value by 1 moves the leading edge by 0.2911 mm.

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

(9) Adjusting the scanner center line

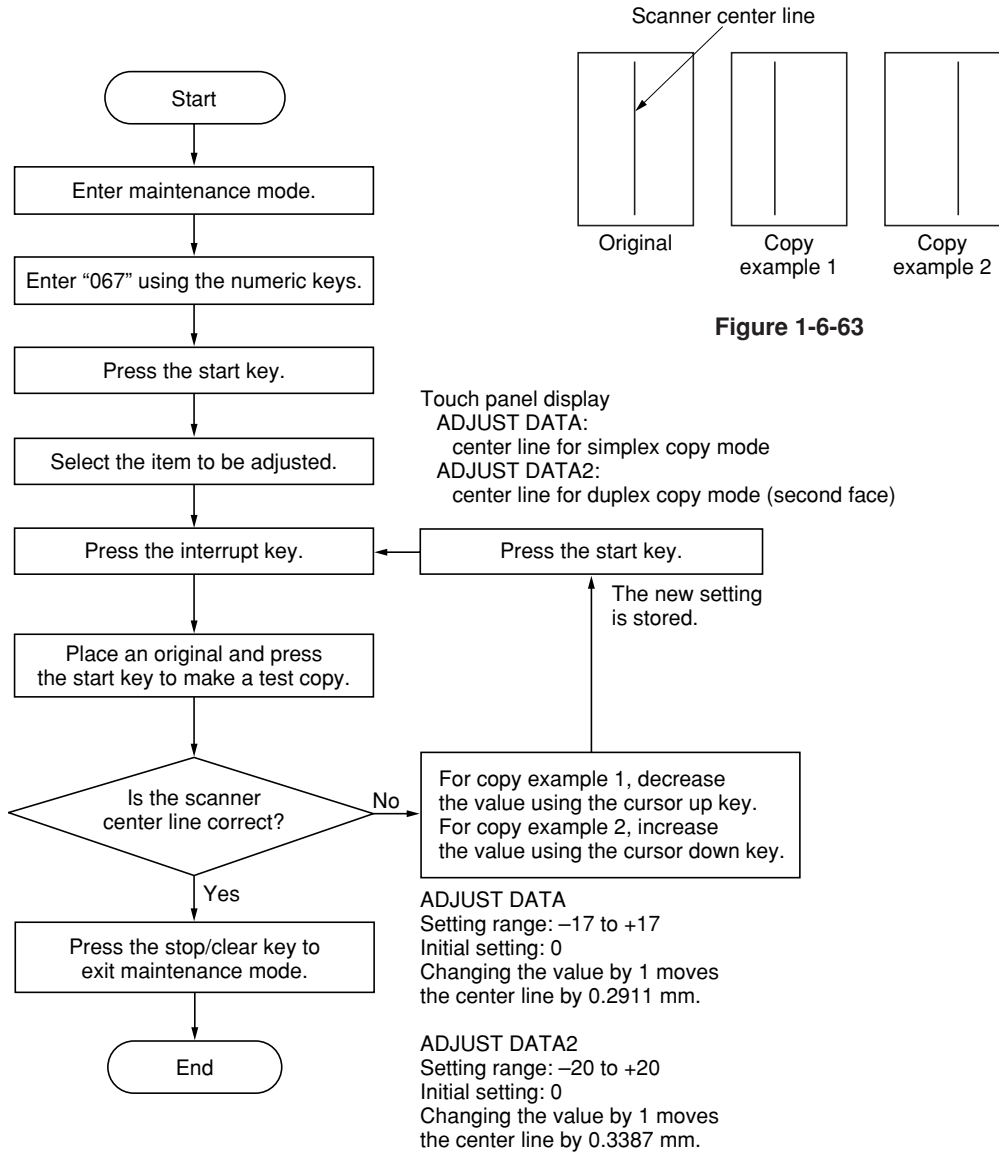
Perform the following adjustment if there is a regular error between the center lines of the copy image and original.



Caution:

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

Procedure



(10) 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

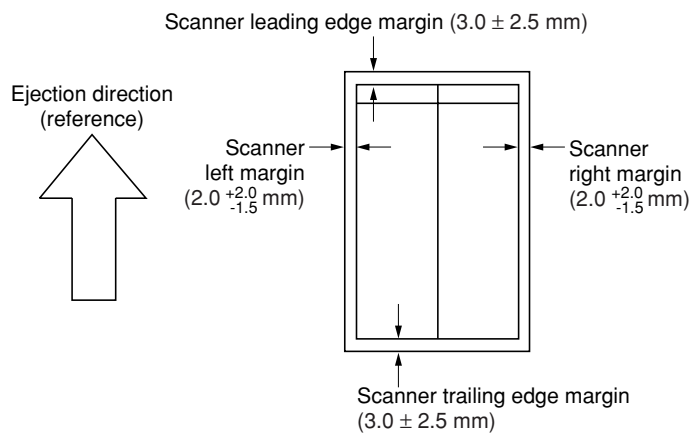
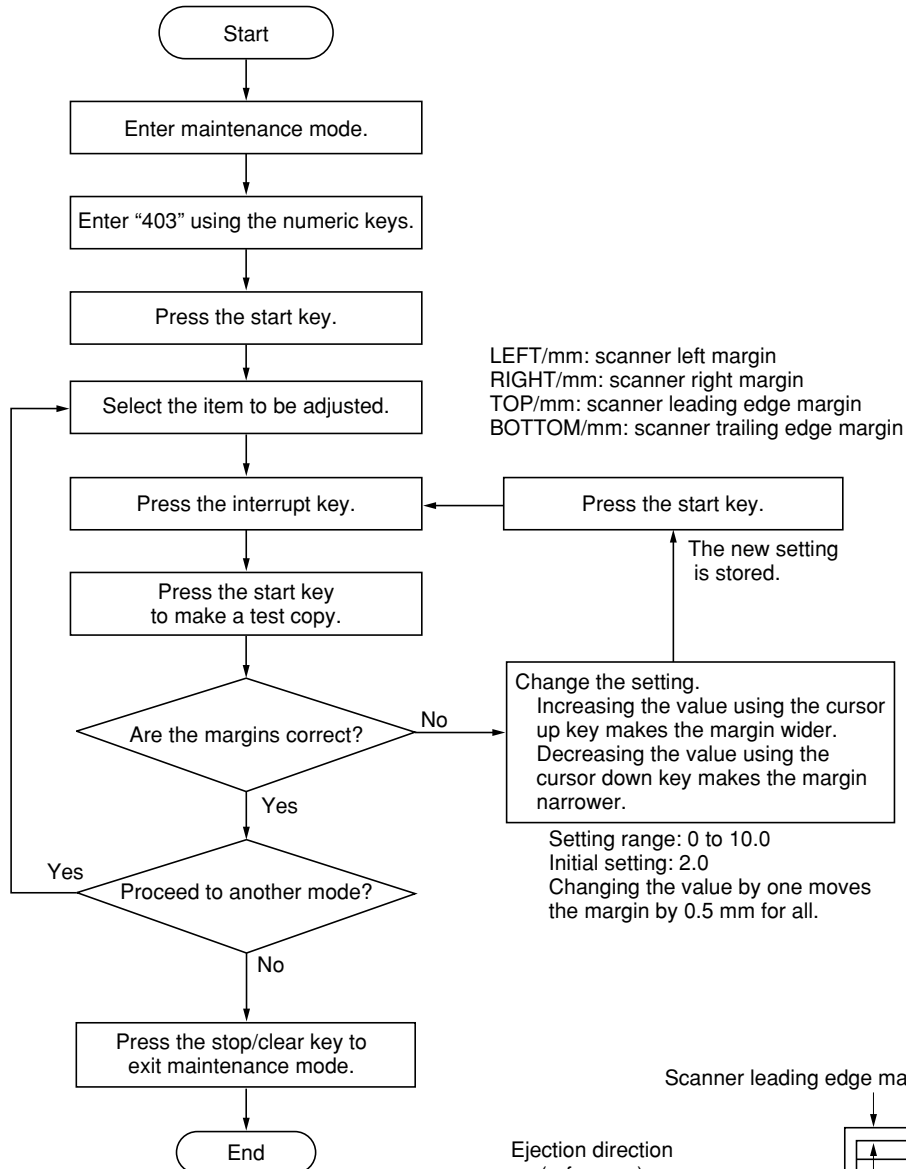


Figure 1-6-64

1-6-4 Main charger unit

(1) Detaching and refitting the main charger unit

Follow the procedure below to check or to replace the main charger unit.

Procedure

1. Open the front cover.
2. While pushing the main charger unit release lever upward, slightly lift the main charger unit, and then pull it out.

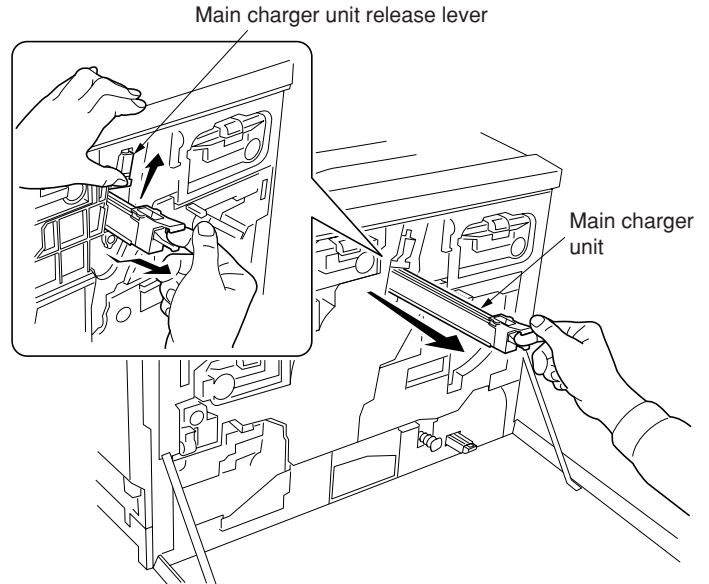


Figure 1-6-65

(2) Detaching and refitting the main charger grid

Follow the procedure below to check or to replace the main charger grid.

Procedure

1. Remove the main charger unit.
2. Detach the main charger grid from the hooks.
3. Replace the main charger grid and refit all the removed parts.

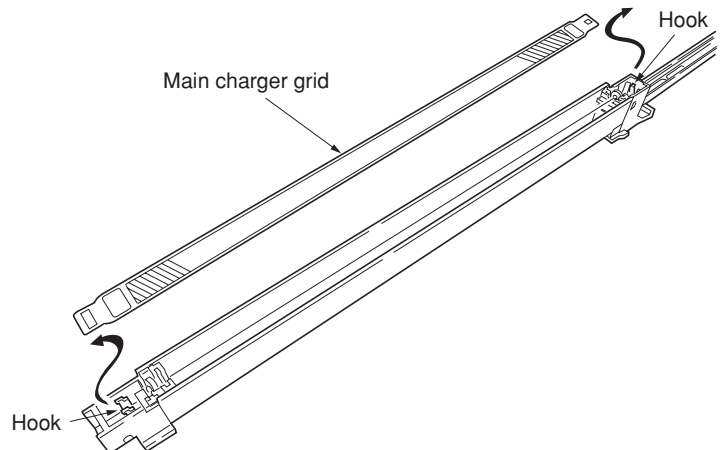


Figure 1-6-66

1-6-5 Drum section

(1) Detaching and refitting the drum unit

Follow the procedure below to check or to replace the drum unit.

Cautions:

- Before removing the drum unit, first remove the main charger unit (see page 1-6-39).
- While the drum unit is removed from the machine, keep the drum unit on a clean, flat surface in a dry place.

Procedure

1. Remove all (four) developers (see page 1-6-42).
2. Remove the main charger unit (see page 1-6-39).
3. Remove the screw and then remove the drum unit holding the handle.
4. Check or replace the drum unit and refit all the removed parts.

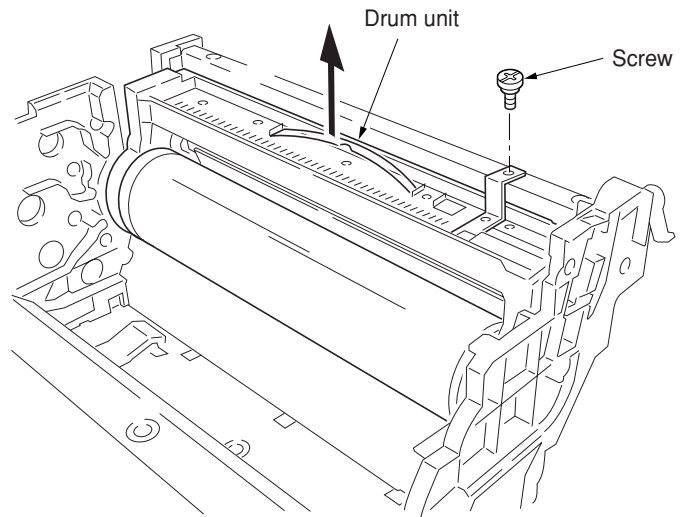


Figure 1-6-67

1-6-6 Primary transfer unit

(1) Detaching and refitting the primary transfer unit

Follow the procedure below to replace the primary transfer unit.

Cautions:

- While the primary transfer unit is removed from the machine, keep the primary transfer unit on a clean, flat surface in a dry place.

Procedure

1. Open the front cover.
2. Draw the paper feed unit.
3. Turn the primary transfer unit release lever to the direction of the arrow.
4. Draw the primary transfer unit until it stops.
5. Remove the screw of the gray lever.
6. While pressing the gray lever, remove the primary transfer unit from the machine.
7. Replace the primary transfer unit and refit all the removed parts.

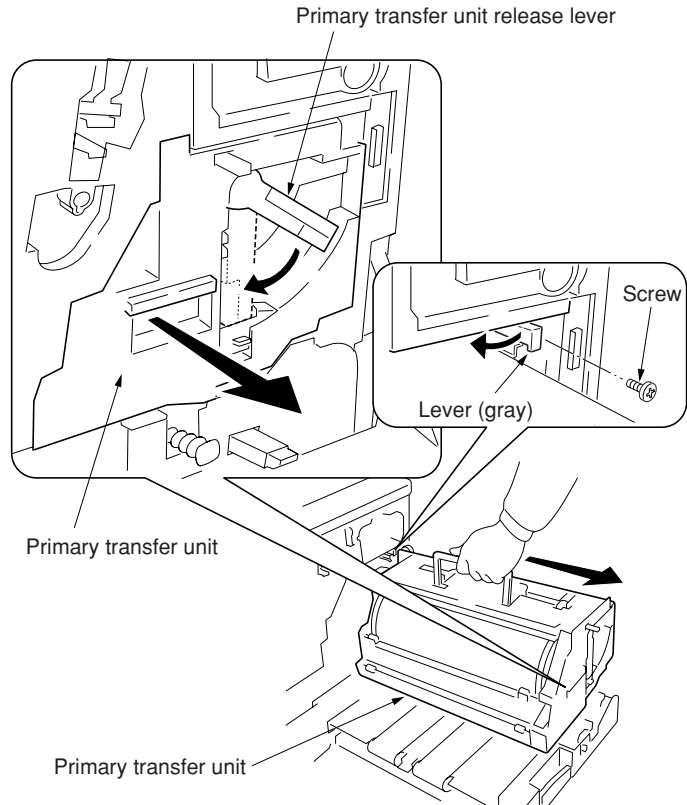


Figure 1-6-68

(2) Detaching and refitting the cleaning brush unit

Follow the procedure below to replace the cleaning brush unit.

Procedure

1. Remove the primary transfer unit.
2. Remove the screw.
3. Pull the release lever up.
4. Pull the levers down and then remove the cleaning brush unit.
5. Replace the cleaning brush unit and refit all the removed parts.

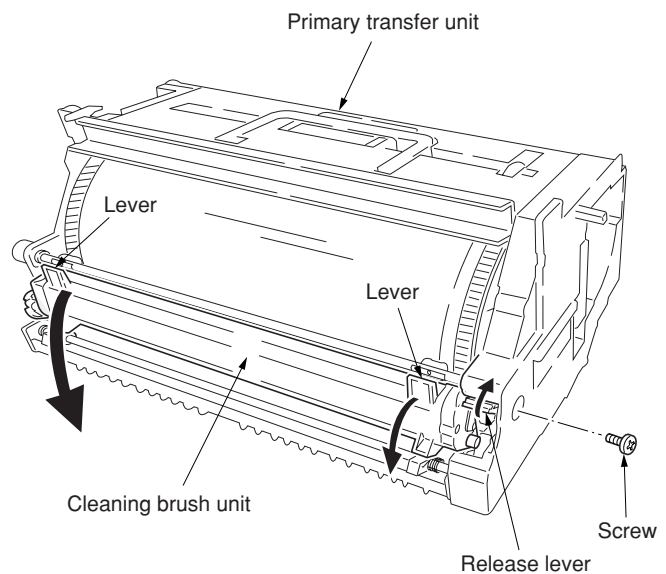


Figure 1-6-69

1-6-7 Developing section

(1) Detaching and refitting the developers

Follow the procedure below to check or to replace the developers.

Procedure

1. Remove the primary transfer unit (see page 1-6-41).
2. Close the paper feed unit.
3. Remove the two screws and open the two stoppers.
4. Remove the two screws from the process frame.
5. Draw the process frame.

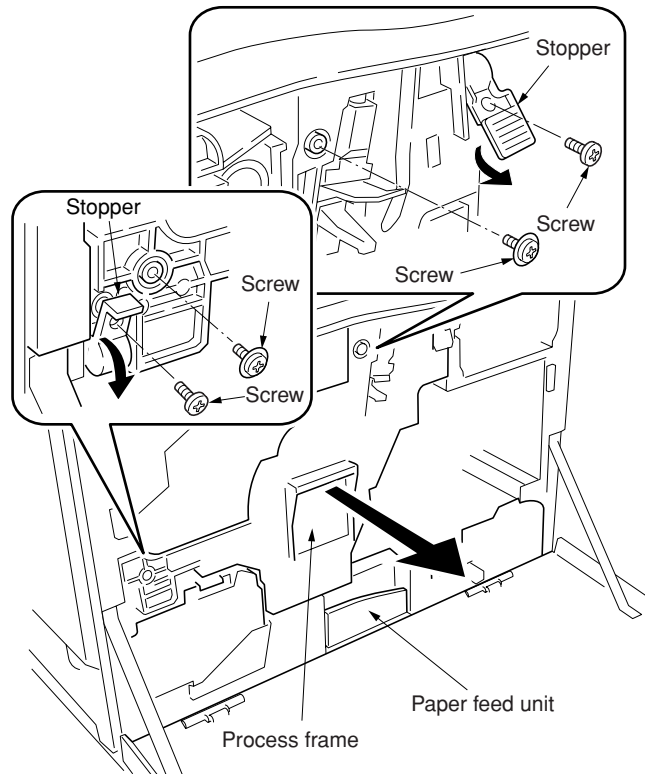


Figure 1-6-70

6. Remove the developers in the order of black, yellow, magenta, and cyan from the process frame.

7. Check or replace the developers and refit all the removed parts.

Cautions:

- Do not bring any magnetic media or credit cards close to the developers that have been removed from the copier.

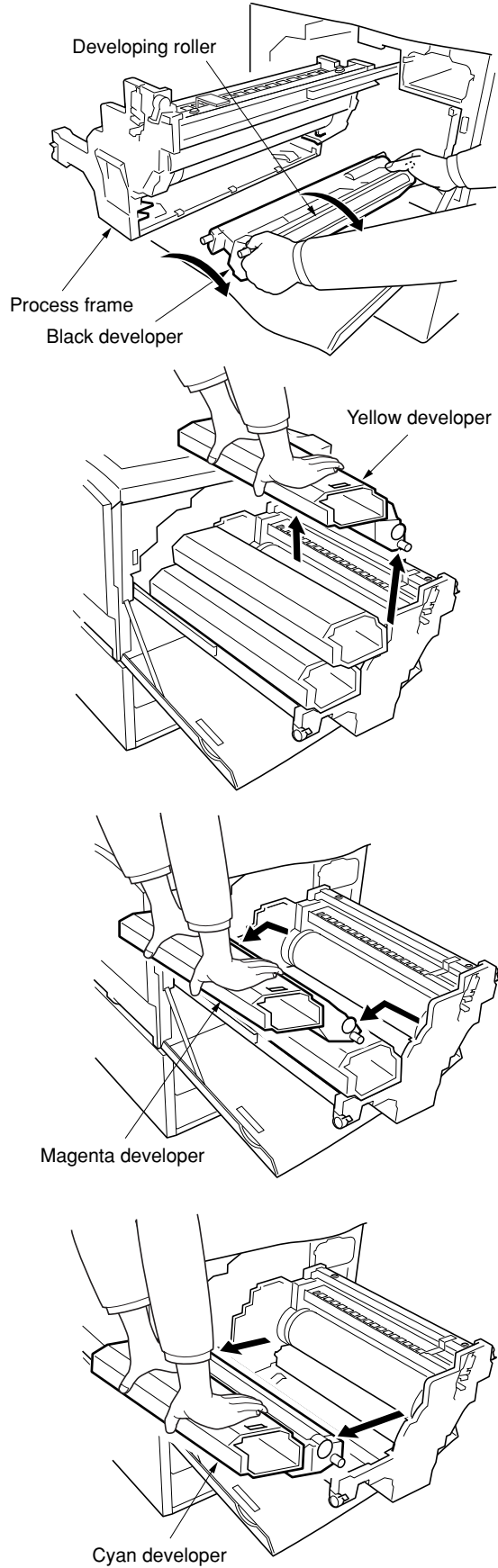


Figure 1-6-71

(2) Detaching and refitting the waste toner duct assembly

Follow the procedure below to check or to replace the waste toner duct assembly.

Procedure

1. Remove the drum unit (see page 1-6-40).
2. Remove the screw and then remove the process frame left cover.
3. Remove the four pins and conical springs and then remove the process frame from the rails.

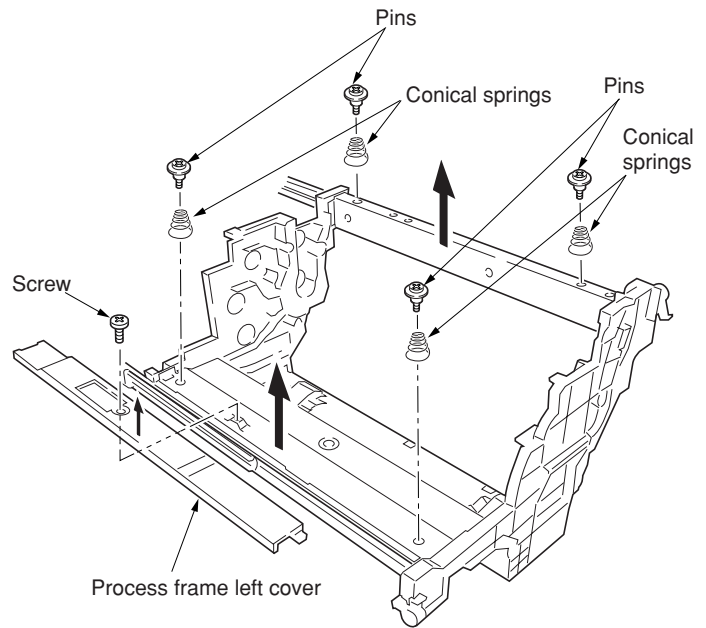


Figure 1-6-72

4. Remove the three screws.
5. Remove the waste toner duct assembly and the steel ball.
6. Check or replace the waste toner duct assembly and refit all the removed parts.

Cautions:

- When refitting the waste toner duct, make sure to place the steel ball in the opening of the duct.

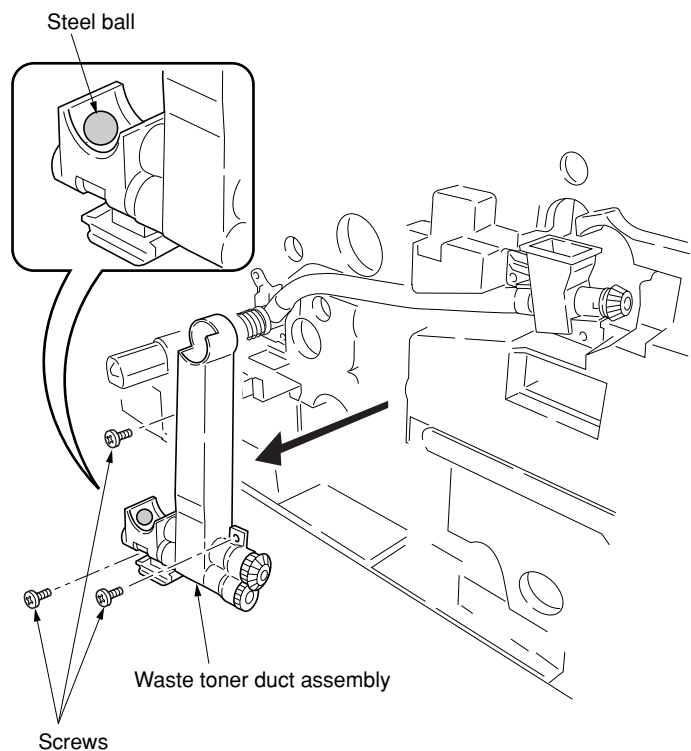


Figure 1-6-73

(3) Detaching and refitting the black toner feed assembly

Follow the procedure below to check or to replace the black toner feed assembly.

Procedure

1. Remove the waste toner duct assembly (see page 1-6-44).
2. Remove the four screws and then remove the black toner feed assembly.
3. Replace the black toner feed assembly and refit all the removed parts.

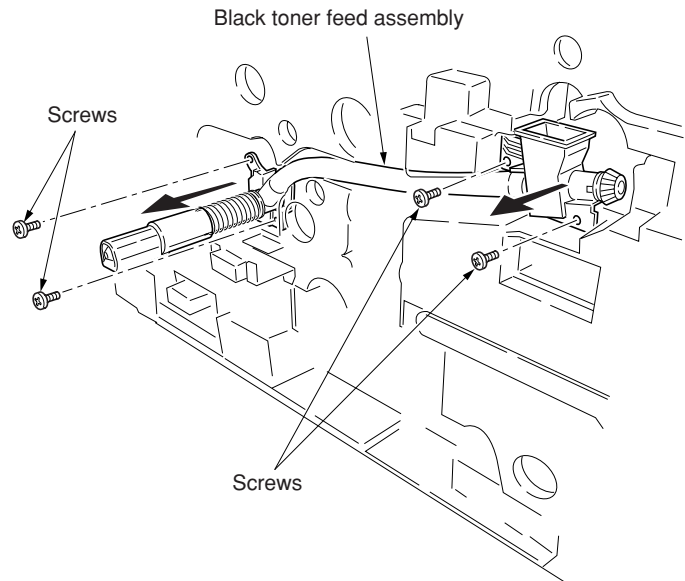


Figure 1-6-74

(4) Detaching and refitting the black toner container feed assembly

Follow the procedure below to check or to replace the black toner container feed assembly.

Procedure

1. Remove the process frame (see page 1-6-44).
2. Remove the black toner container.
3. Remove the screw and then remove the black toner container feed assembly.
4. Replace the black toner container feed assembly and refit all the removed parts.

Cautions:

- When refitting the black toner container feed assembly, remove the two screw of the right side of the black toner container feed assembly once, and then reinstall the assembly with the opening.

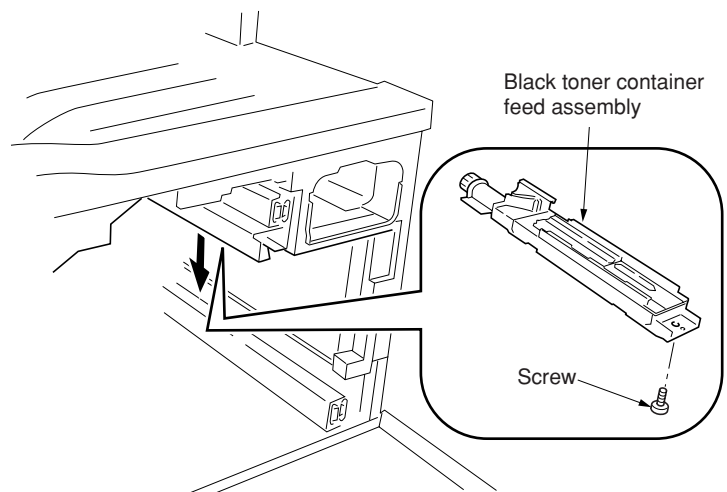


Figure 1-6-75

(5) Detaching and refitting the black toner feed drive assembly

Follow the procedure below to check or to replace the black toner feed drive assembly.

Procedure

1. Draw the process frame (see page 1-6-42).
2. Remove the engine controller PCB (See page 1-6-62).
3. Remove the engine controller box (See page 1-6-63).
4. Remove the main controller box (See page 1-6-8).
5. Remove the all (five) tabs from the drive assembly A and remove two connectors from the feed drive PCB.
6. Remove the all harnesses from the harness holder.
7. Remove the two screws and then remove the harness holder.

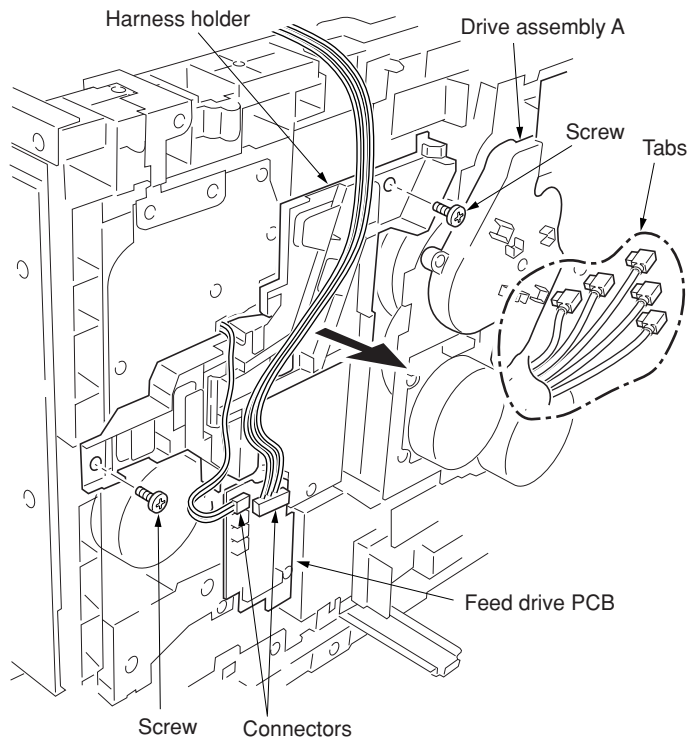


Figure 1-6-76

8. Remove the four screws and then remove the black toner feed drive assembly.
9. Check or replace the black toner feed drive assembly and refit all the removed parts.

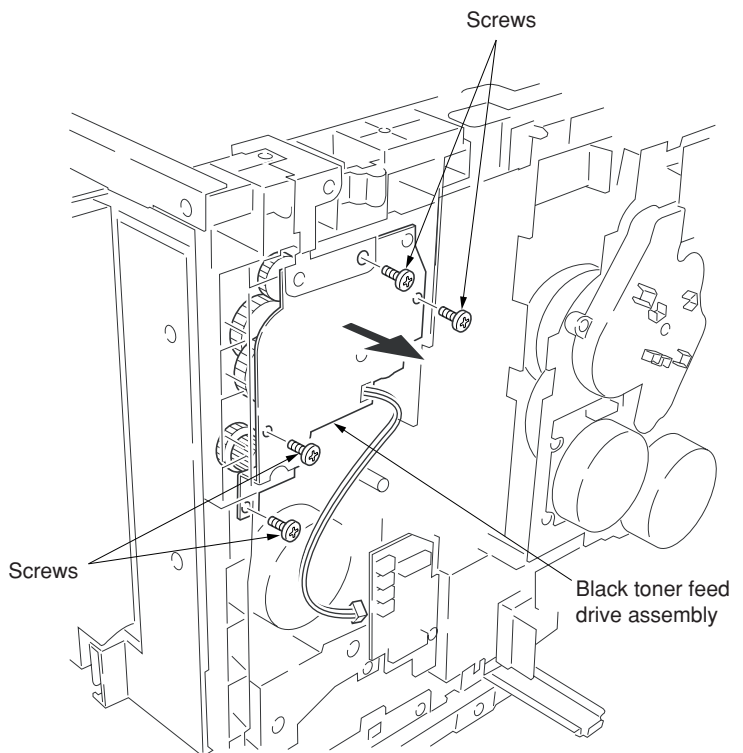


Figure 1-6-77

1-6-8 Secondary transfer unit

(1) Detaching and refitting the transfer unit

Follow the procedure below to check or to replace the transfer unit.

Procedure

1. Open the front cover.
2. Draw the paper feed unit.
3. Remove the waste toner tank.
4. Remove each one screw and remove two secondary transfer unit anchor plates.
5. Remove the secondary transfer unit from the paper feed unit.

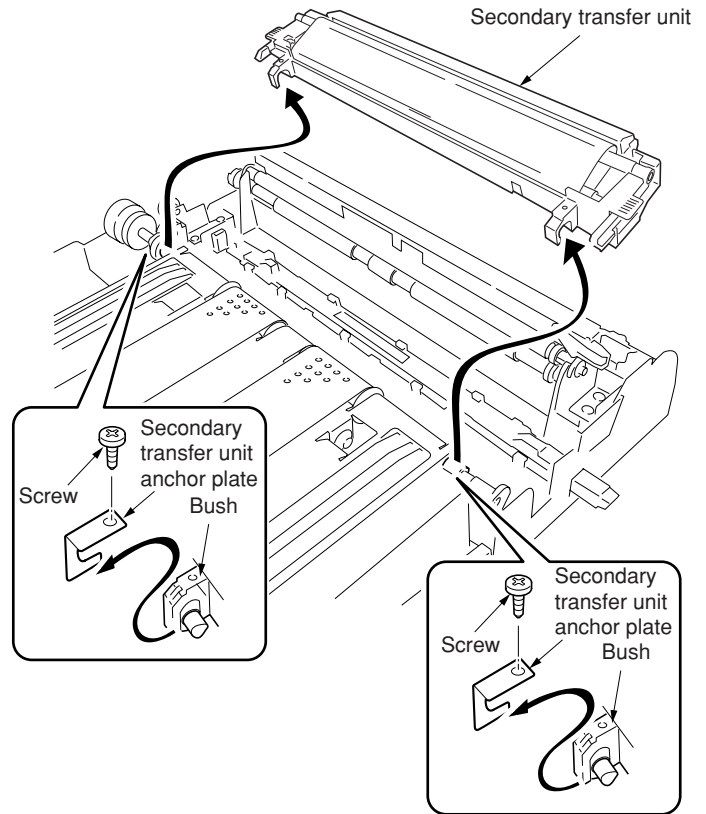


Figure 1-6-78

(2) Detaching and refitting the secondary transfer unit shift clutch

Follow the procedure below to check or to replace the secondary transfer unit shift clutch.

Procedure

1. Open the front cover and draw the paper feed unit.
2. Remove the secondary transfer unit (See previous page).
3. Remove the five screws and then remove the paper conveying unit.
4. Remove the connector.

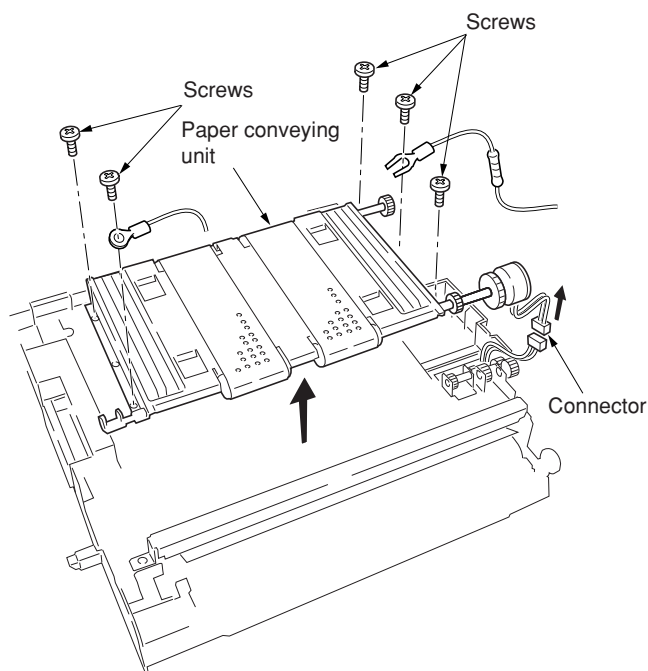


Figure 1-6-79

5. Remove the cut-washer and then remove the secondary transfer unit shift clutch.
6. Check or replace the secondary transfer unit shift clutch and refit all the removed parts.

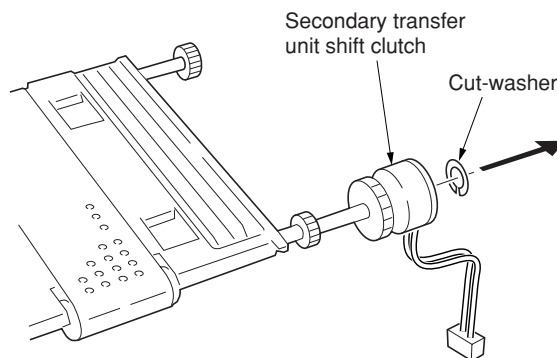


Figure 1-6-80

1-6-9 Fuser unit

(1) Detaching and refitting the fuser unit

Follow the procedure below to detach the fuser unit.

Cautions:

- The fuser unit is hot after the copier was running. Wait until it cools down.

Procedure

1. Open the front cover and draw the paper feed unit.
2. Remove the screw.
3. Open the left paper guide down.
4. Remove the fuser unit.
5. Check or replace the fuser unit and refit all the removed parts.

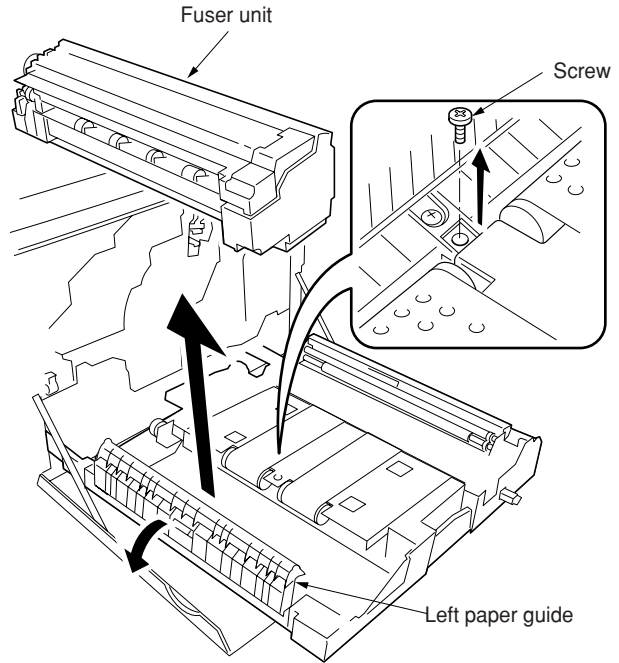


Figure 1-6-81

(2) Detaching and refitting the fuser top cover

Follow the procedure below to check or to replace the fuser top cover.

Procedure

1. Detach the fuser unit.
2. Remove the screw and then remove the fuser knob.
3. Remove the three screws and then remove the fuser rear cover.

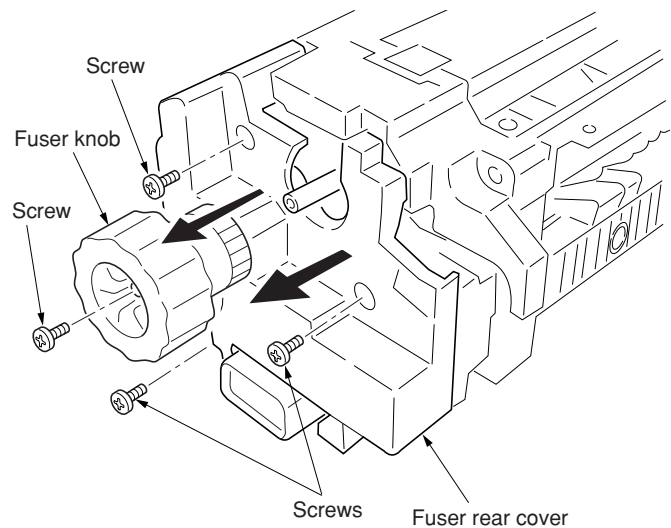


Figure 1-6-82

2CX

4. Open the fuser top cover.
5. Remove three screws and then remove the fuser front cover.

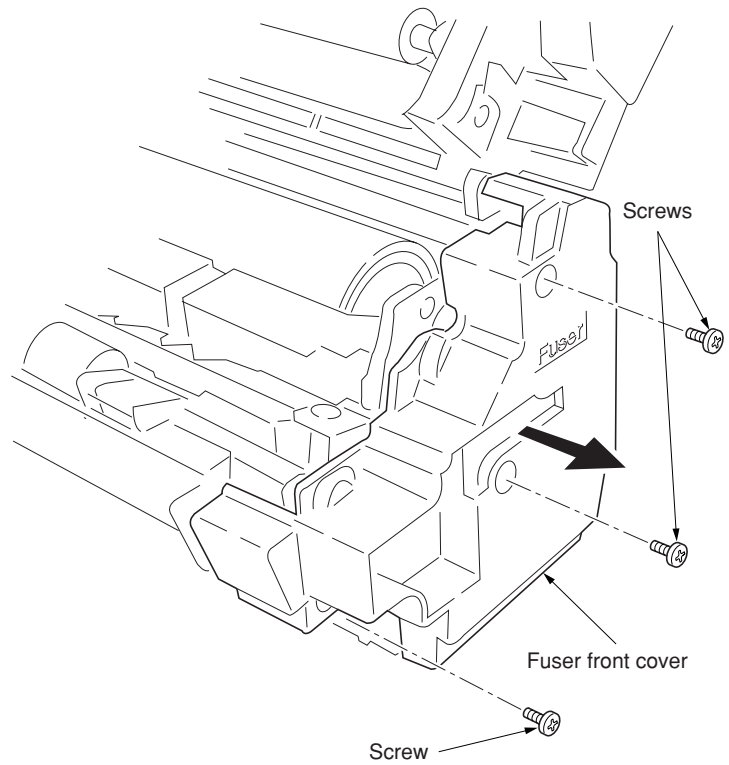


Figure 1-6-83

6. Open and hold the fuser top cover in its upright position and pull it out.

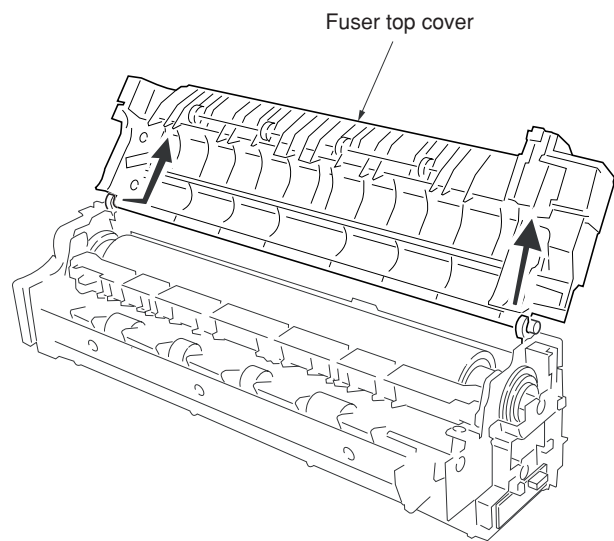


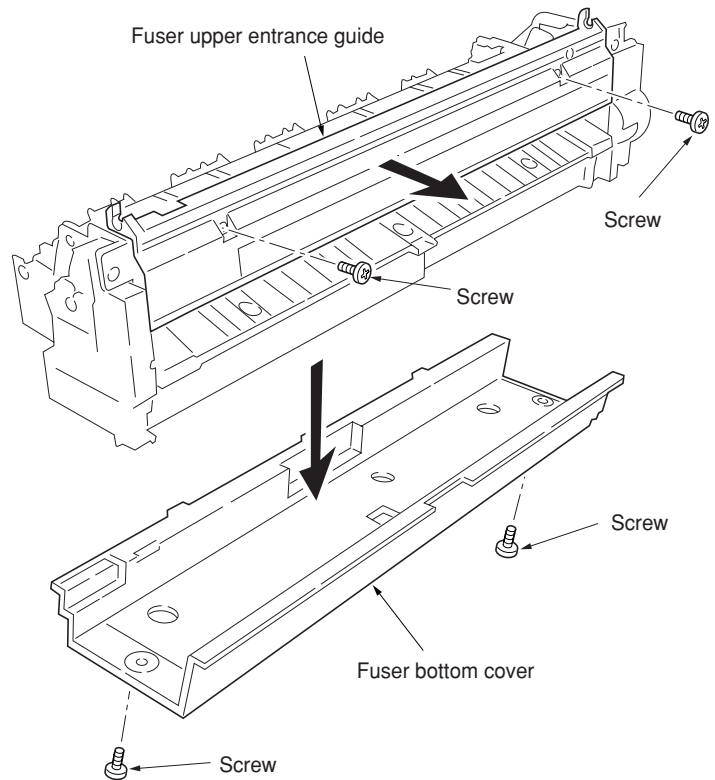
Figure 1-6-84

(3) Detaching and refitting the upper and lower fuser thermistors

Follow the procedure below to check or to replace the upper and lower fuser thermistors.

Procedure

1. Remove the fuser top cover (see page 1-6-49).
2. Remove the two screws and then remove the fuser upper entrance guide.
3. Remove the two screws and then remove the fuser bottom cover.

**Figure 1-6-85**

2CX

4. Remove the connector.
5. Remove the two screws and then remove the holder.
6. Remove the screw and then remove the upper fuser thermistor.

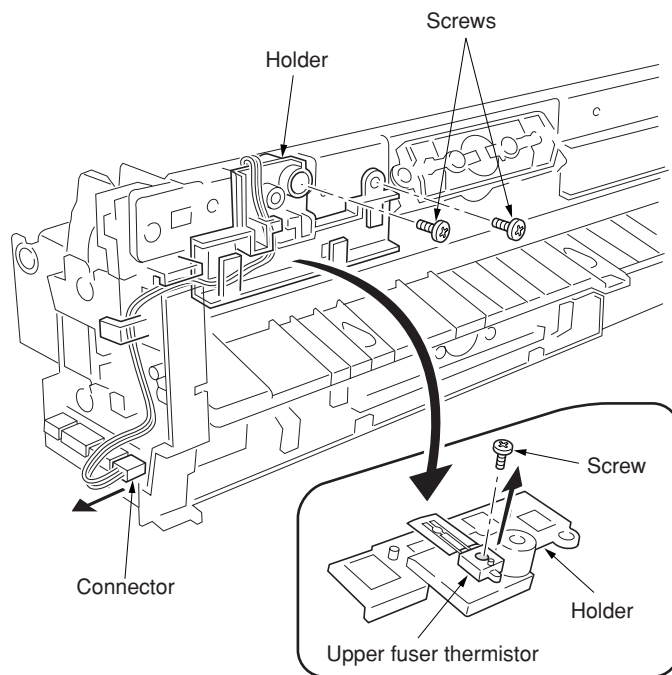


Figure 1-6-86

7. Remove the connector.
8. Remove the screw and then remove the lower fuser thermistor.
9. Check or replace the upper and lower thermistors and refit all the removed parts.

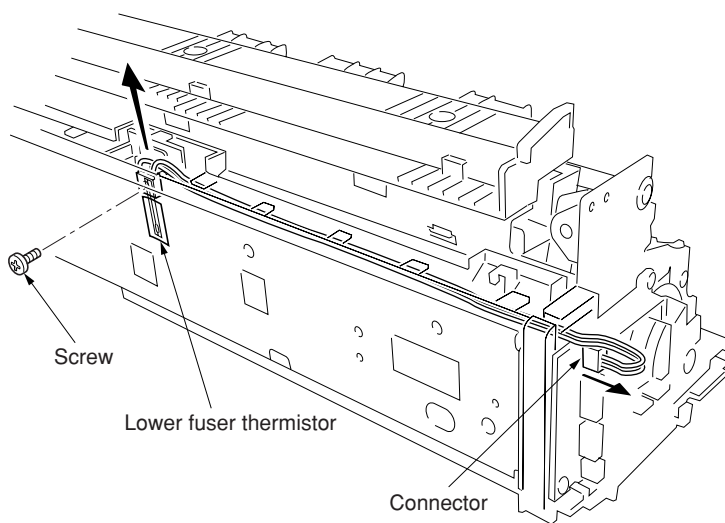


Figure 1-6-87

(4) Detaching and refitting the upper and lower thermostats

Follow the procedure below to check or to replace the upper and lower thermostats.

Procedure

1. Remove the fuser top cover (see page 1-6-49).
2. Remove each two screws and then remove each two terminals.
3. Remove the upper and lower thermostats.
4. Check or replace the upper and lower thermostats and refit all the removed parts.

Cautions:

- Tighten the screws on the terminal securely. If the screws are loosened or removed, abnormal overheat may occur.

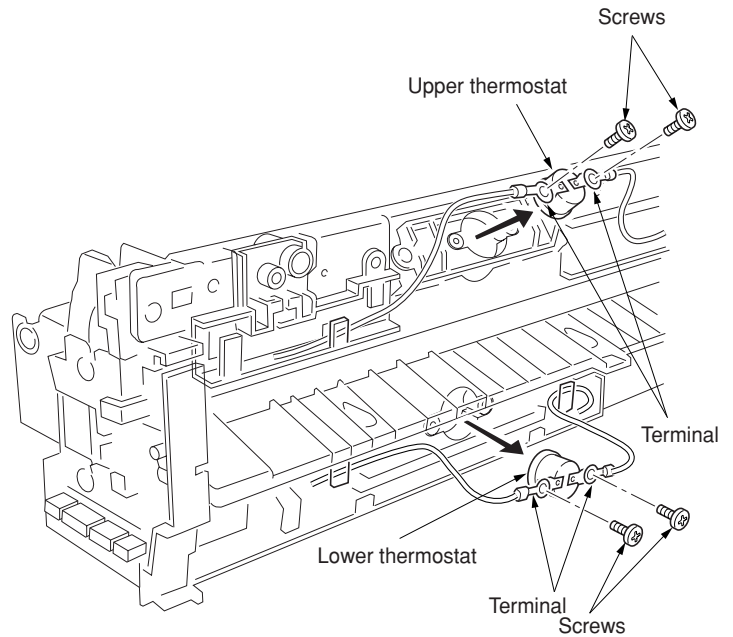


Figure 1-6-88

(5) Detaching and refitting the upper and lower heater lamps

Follow the procedure below to check or to replace the upper and lower heater lamps.

Procedure

1. Remove the fuser top cover (See page 1-6-49).
2. Remove the each one screw and then remove the terminal of one side from the upper and lower thermostat.

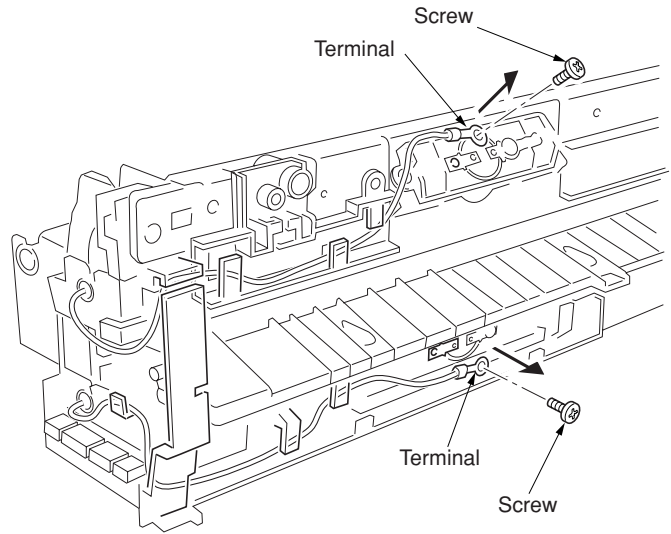


Figure 1-6-89

3. Remove the each one screw and then remove the terminals.
4. Draw the upper and lower heater lamps out from the fuser unit.
5. Check or replace the upper and lower heater lamps and refit all the removed parts.

Cautions:

- When refitting the heater lamps, do not mix them. The upper and lower heater lamps are not identical and each has a cable of different length.
- The terminal must be fixed by the screw with the soldered side facing up.
- Tighten the screws on the terminal securely. If the screws are loosened or removed, abnormal overheat may occur.

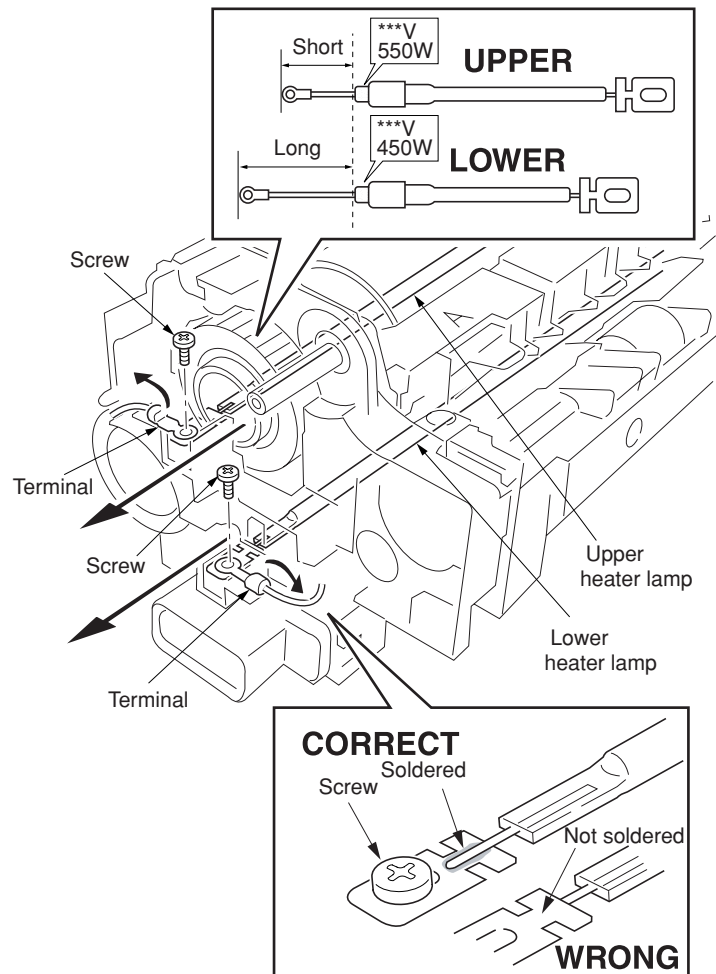


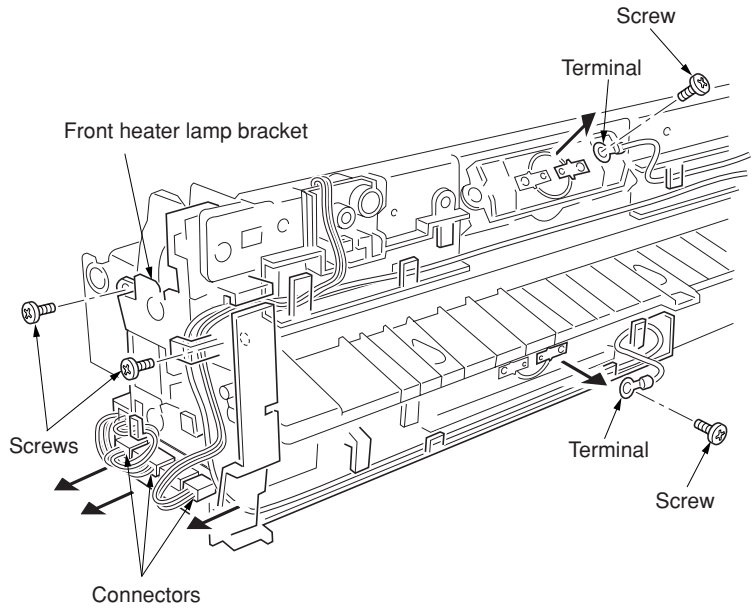
Figure 1-6-90

(6) Detaching and refitting the heat roller, press/heat roller and separator

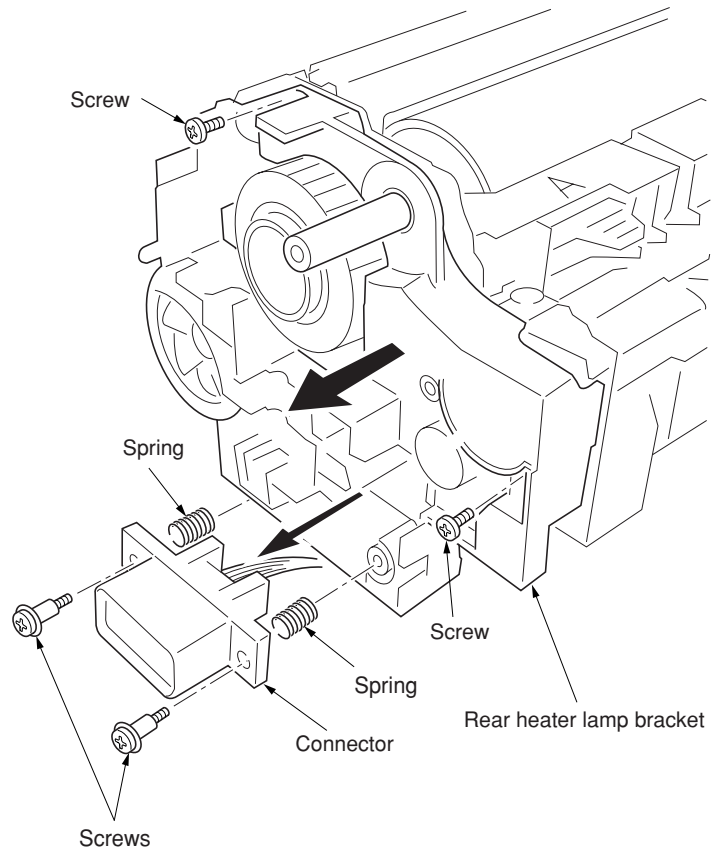
Follow the procedure below to check or to replace the heat roller, press/heat roller and separator.

Procedure

1. Remove the upper and lower heater lamps (see page 1-6-54).
2. Remove the screw and then remove the terminal.
3. Remove the four connectors.
4. Remove the two screws.
5. Remove the front heater lamp bracket.

**Figure 1-6-91**

6. Remove two screws and then remove the connector and two springs.
7. Remove two screws and then remove the rear heater lamp bracket.

**Figure 1-6-92**

2CX

8. Remove the two screws and then remove the fuser top frame.
9. Remove the gear.

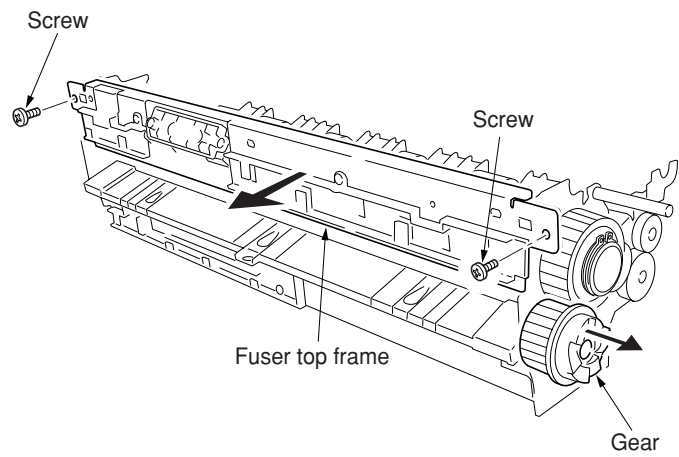


Figure 1-6-93

10. Loosen the two screws to release the press/heat roller pressure.
11. Remove the flange gear.
12. Remove the two C-rings.
13. Remove the two bearings and two bushes and then remove the heat roller.

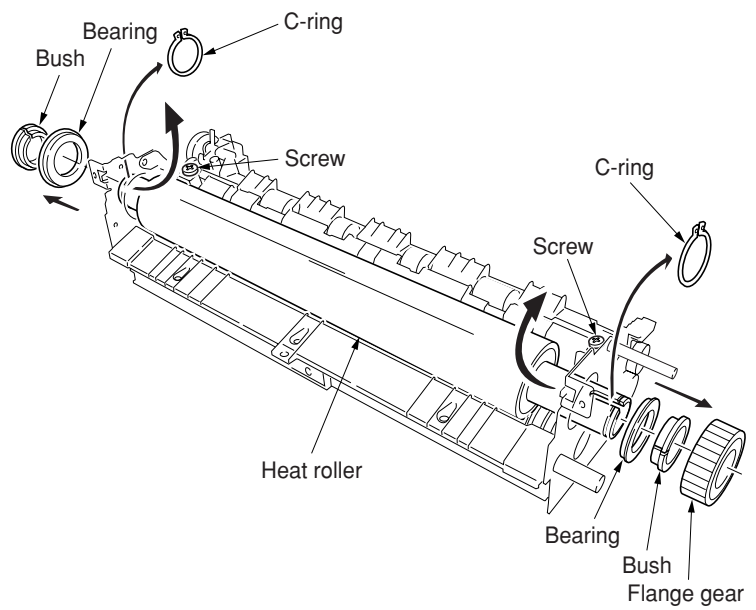


Figure 1-6-94

- 14. Remove the three screws and then remove the fuser right paper guide.
- 15. Remove the three screws and then remove the fuser left lower cover.

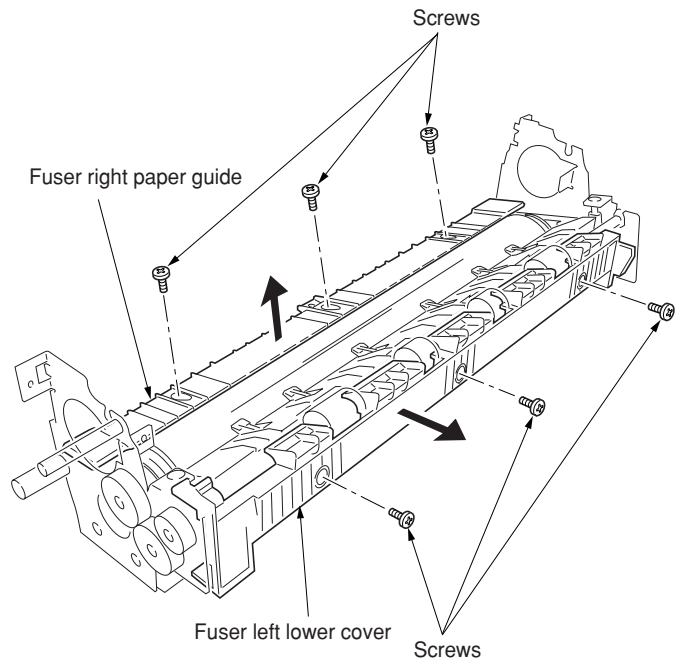


Figure 1-6-95

- 16. Remove the two E-rings and then remove the two bushes and the exit roller gear.
- 17. Remove the fuser exit roller.

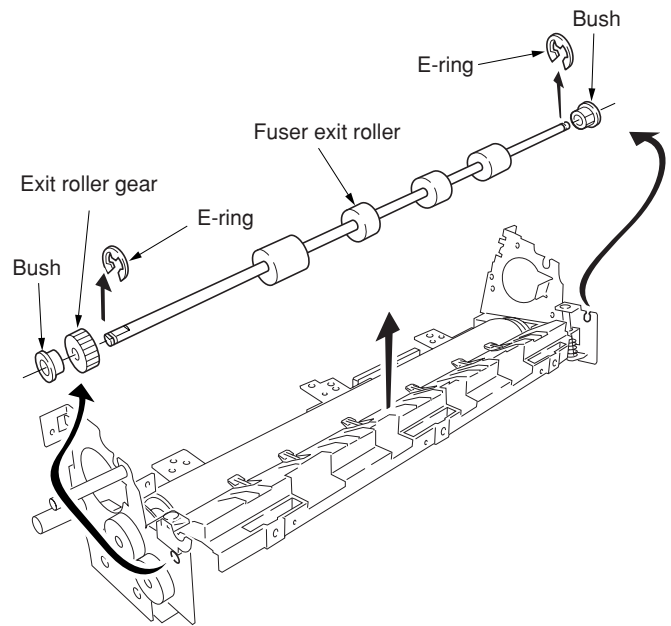


Figure 1-6-96

2CX

- 18. Remove three screws and then remove the fuser left paper guide.
- 19. Remove the spring and then remove the separator.

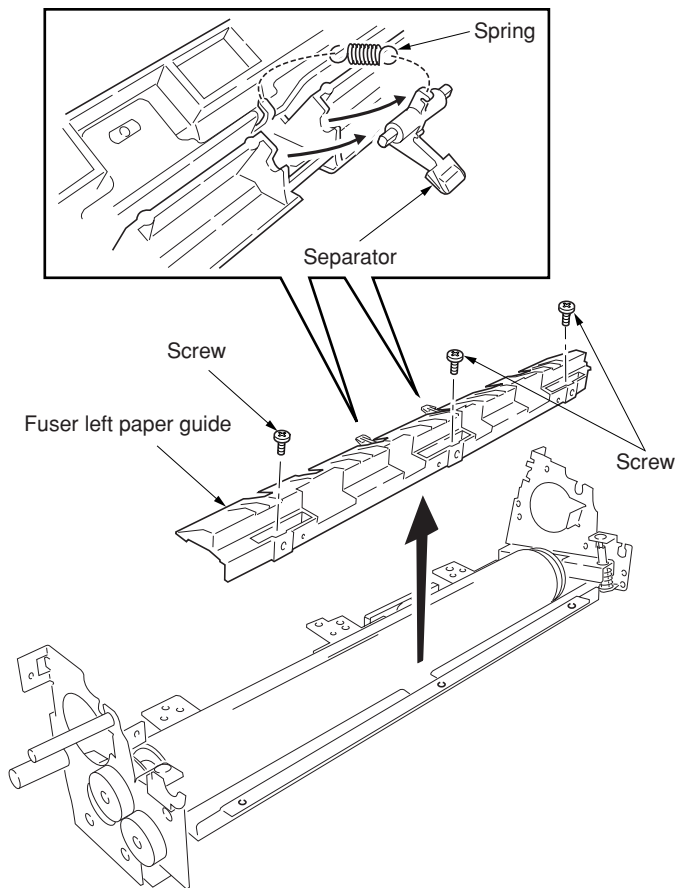


Figure 1-6-97

- 20. Remove the press/heat roller and then remove two bearings.
- 21. Check or replace the heat roller, the press/heat roller and separator, and refit all the removed parts.

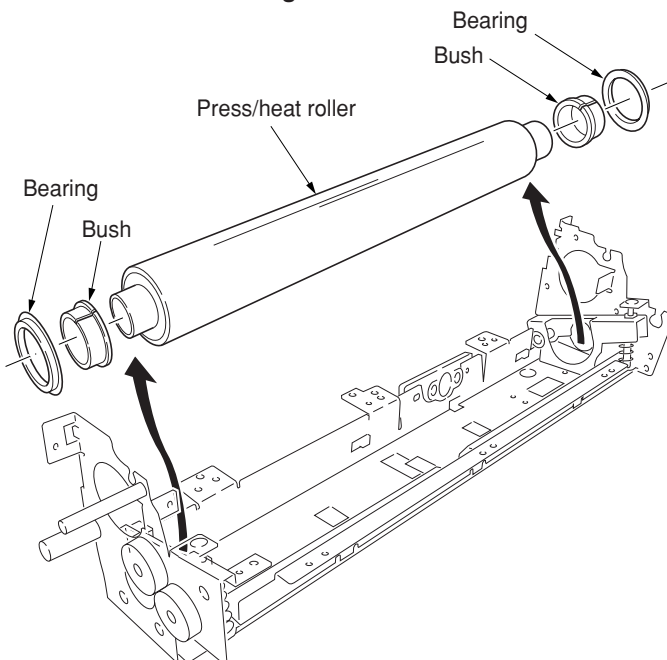


Figure 1-6-98

(7) Detaching and refitting the drive assembly C

Follow the procedure below to check or to replace drive assembly C.

Procedure

1. Remove the power supply unit (see page 1-6-63).
2. Remove the connector.
3. Remove the three screws and then remove the grounding plate and the drive assembly C.
4. Check or replace the drive assembly C and refit all the removed parts.

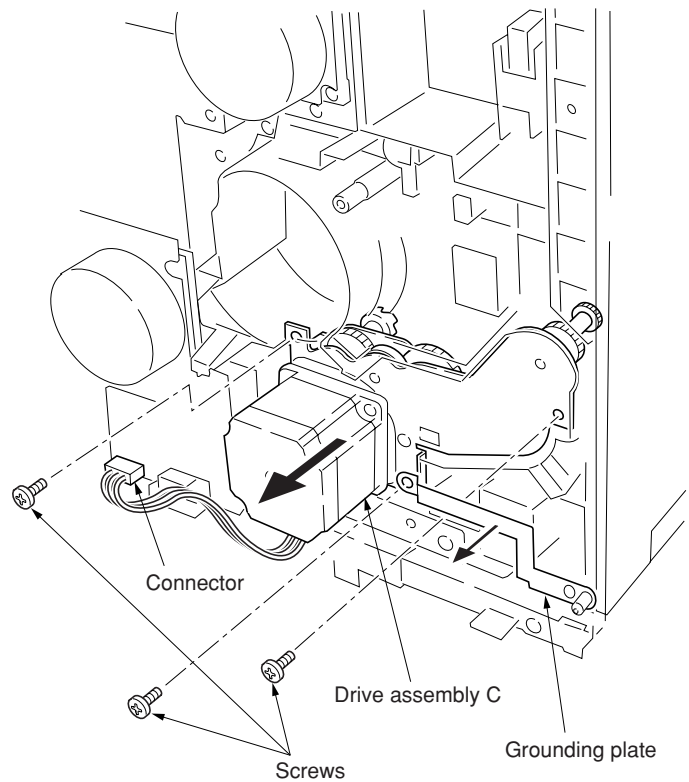


Figure 1-6-99

1-6-10 PCBs

(1) Detaching and refitting the scanner main PCB and scanner sub PCB

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

Caution:

- When replacing the scanner main PCB, run maintenance item U026 (Evacuation of the backup data) before (see page 1-4-18).

Procedure

1. Remove the electrical component unit (see page 1-6-21).
2. Remove the thirteen screws and then the electrical component cover.

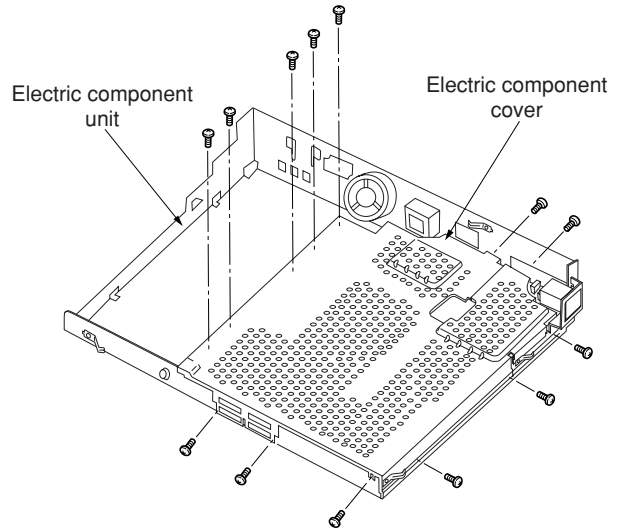


Figure 1-6-100

3. Remove the three board supports and then remove the scanner sub PCB.
4. Remove all the connectors of the scanner main PCB.
5. Remove the six screws and then the scanner main PCB.
6. Replace the scanner main PCB or scanner sub PCB and refit all the removed parts.

Caution:

- When refitting the scanner main PCB, remove the EEPROM from the scanner main PCB that has been removed and then reattach it to the new scanner main PCB.

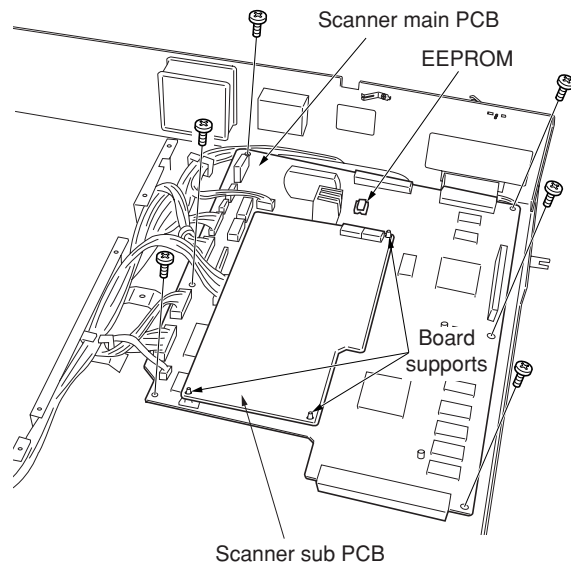
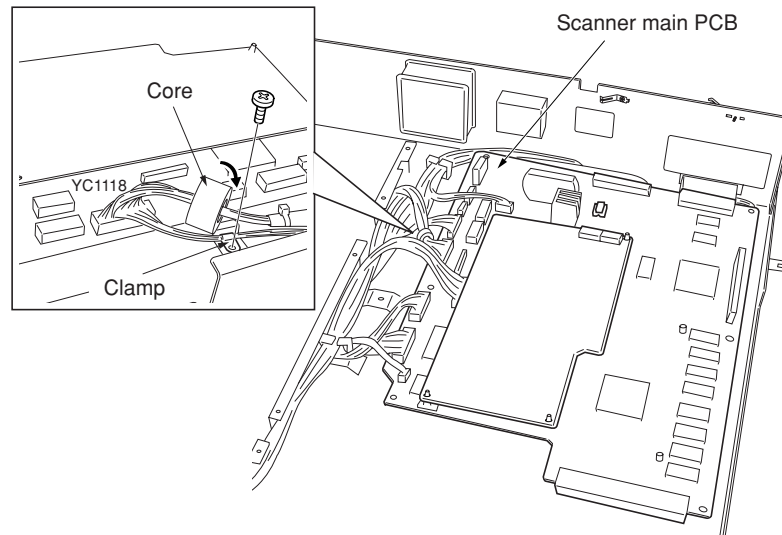


Figure 1-6-101

Cautions:

- When replacing the scanner main PCB and connecting the connector YC1118 of the operation section, fit a clamp to wires A6 to A17 of YC1118 and fix it with a screw.
As shown in the figure, separate wires A1 to A5 of YC1118 securely from wires A6 to A17 of YC1118. Place the core outside the scanner main PCB.

**Figure 1-6-102**

- Run maintenance item U027 (return of the backup data) after replacing the scanner main PCB (see page 1-4-18).

(2) Detaching and refitting the engine controller PCB

Follow the procedure below to detaching and refitting the engine controller PCB.

Procedure

1. Remove the three screws and then remove the rear middle cover.
2. Remove the fifteen screws and then remove the rear lower cover.

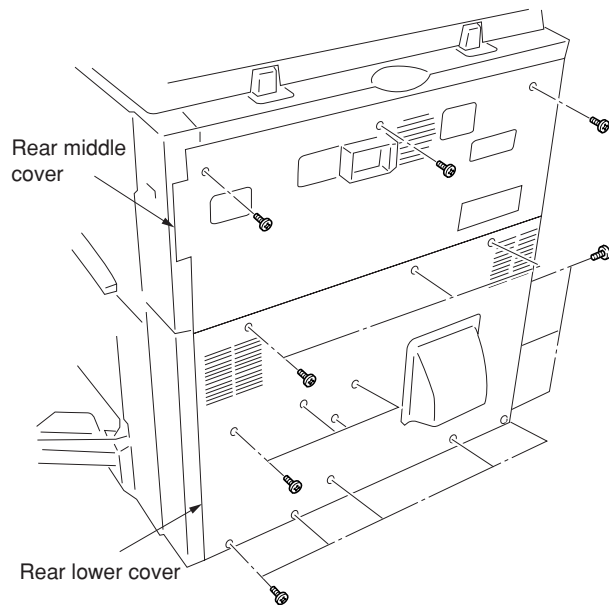


Figure 1-6-103

3. Remove all connectors from the engine controller PCB.
4. Remove six screws and then remove the engine controller PCB.
5. Check or replace the engine controller PCB and refit all the removed parts.

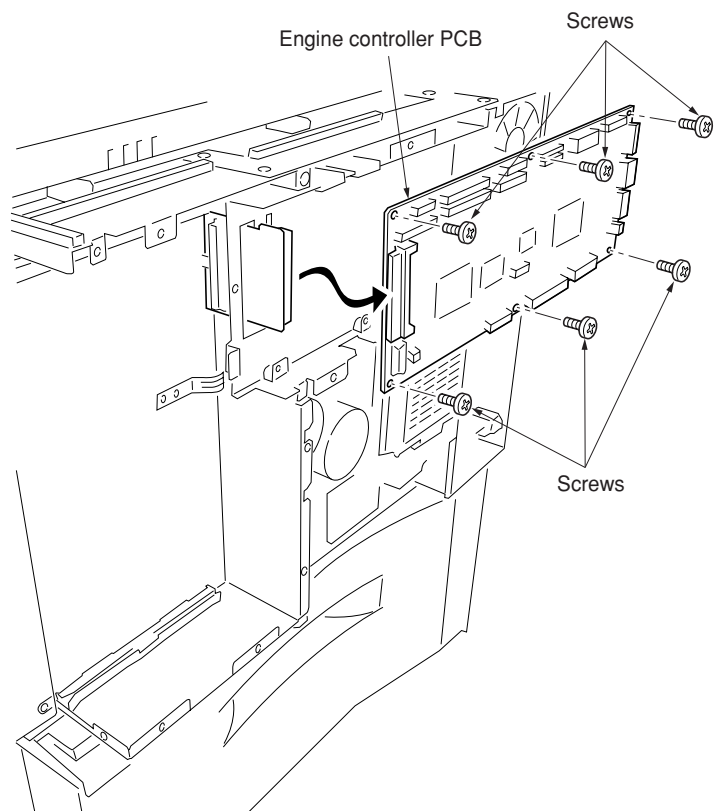


Figure 1-6-104

(3) Detaching and refitting the power supply unit

Follow the procedure below to detaching and refitting the power supply unit.

Procedure

1. Remove the engine controller PCB (see page 1-6-62).
2. Remove the four screws and then remove the controller box support.

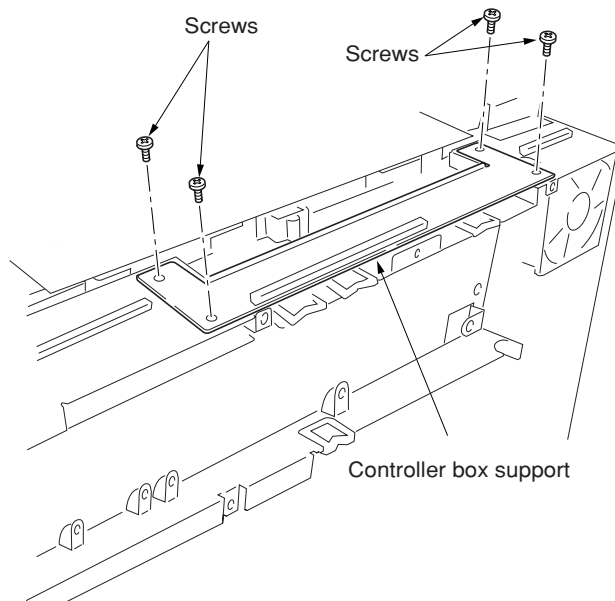


Figure 1-6-105

3. Remove the four screws and then remove the engine controller box.

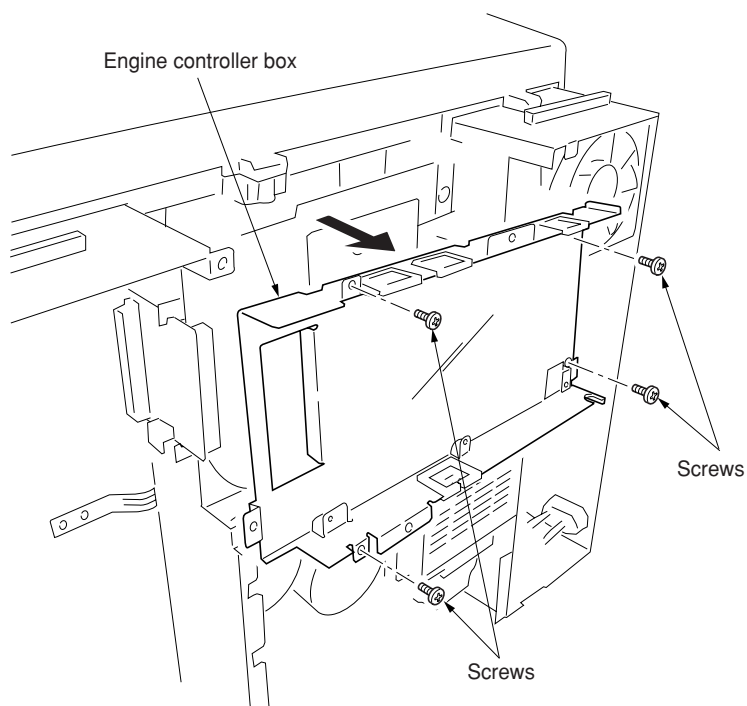


Figure 1-6-106

4. Remove the face-down unit (See page 1-6-6).
5. Remove the two connectors.
6. Remove five screws and then remove the grounding plate and the power supply unit.
7. Check or replace the power supply unit and refit all the removed parts.

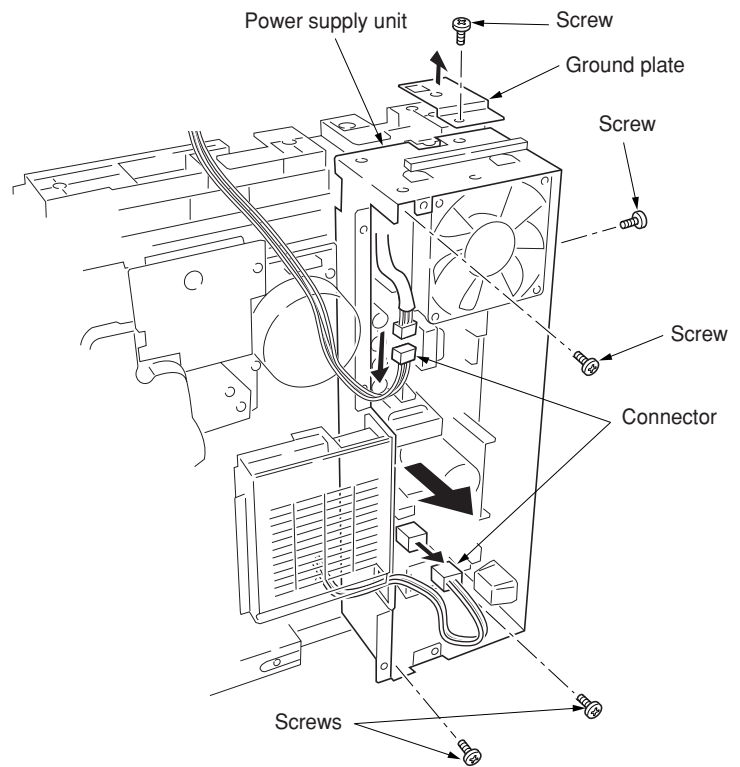


Figure 1-6-107

(4) Detaching and refitting the developing/primary transfer/cleaning brush bias high voltage PCB

Follow the procedure below to replace the developing/primary transfer/cleaning brush bias high voltage PCB.

Procedure

1. Remove the bypass tray unit (see page 1-6-3).
2. Remove the five screws.
3. Remove the seven connectors from developing/primary transfer/cleaning brush bias high voltage PCB.
4. Remove the developing/primary transfer/cleaning brush bias high voltage PCB.
5. Check or replace the developing/primary transfer/cleaning brush bias high voltage PCB and refit all the removed parts.

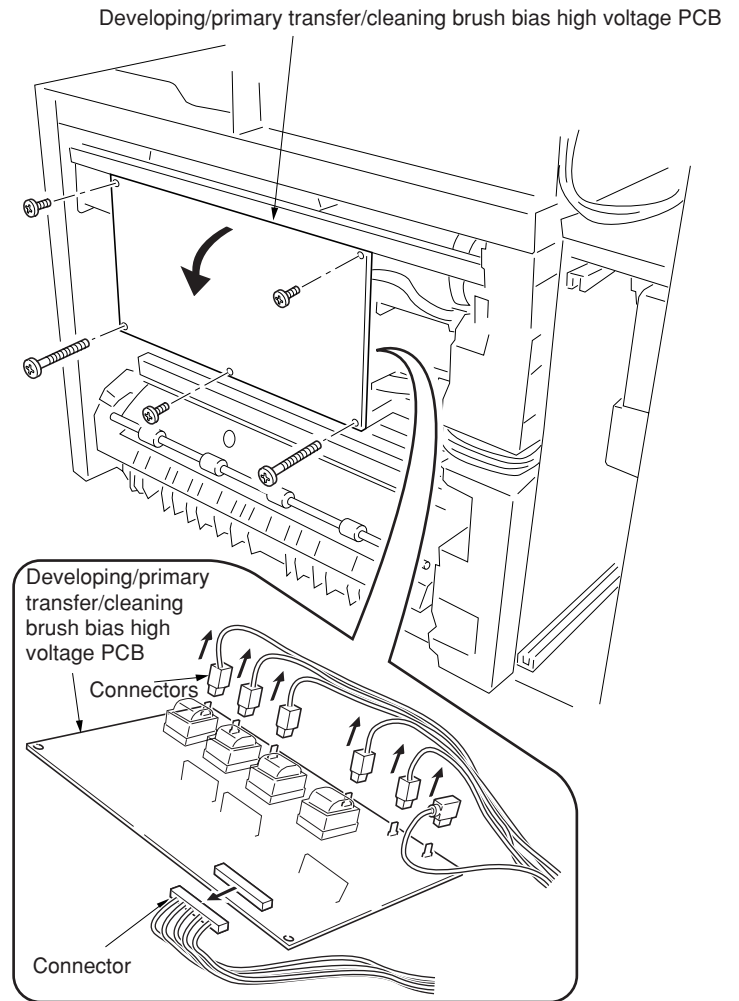


Figure 1-6-108

(5) Detaching and refitting the main charger high voltage unit

Follow the procedure below to replace the main charger high voltage unit.

Procedure

1. Remove the power supply unit (see page 1-6-63).
2. Remove the four connectors from the main charger high voltage PCB.
3. Remove the four screws and then remove the main charger high voltage PCB.
4. Check or replace the main charger high voltage PCB and refit all the removed parts.

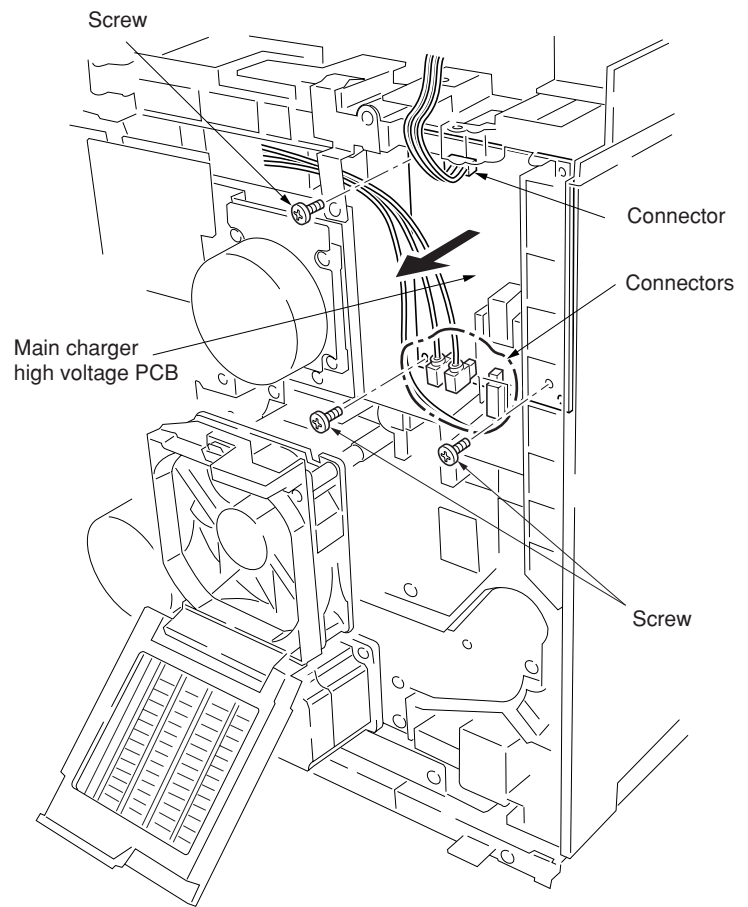


Figure 1-6-109

(6) Detaching and refitting the paper feeder/options relay PCB

Follow the procedure below to replace the paper feeder/options relay PCB.

Procedure

1. Remove the rear cover.
2. Remove the six connectors from the paper feeder/options relay PCB.
3. Remove the two screws and then remove the paper feeder/options relay PCB.
4. Check or replace the paper feeder/options relay PCB and refit all the removed parts.

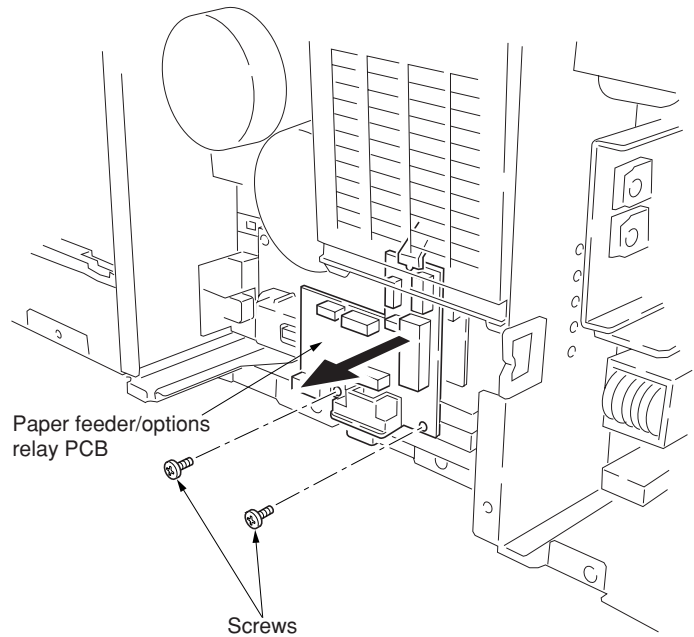


Figure 1-6-110

(7) Detaching and refitting the secondary transfer bias high voltage PCB

Follow the procedure below to detach and refit the secondary transfer bias high voltage PCB.

Procedure

1. Remove the paper feeder/options relay PCB.
2. Remove the tab from the secondary transfer bias high voltage PCB.
3. Remove the two screws and then remove the secondary transfer bias high voltage PCB.
4. Check or replace the secondary transfer bias high voltage PCB and refit all the removed parts.

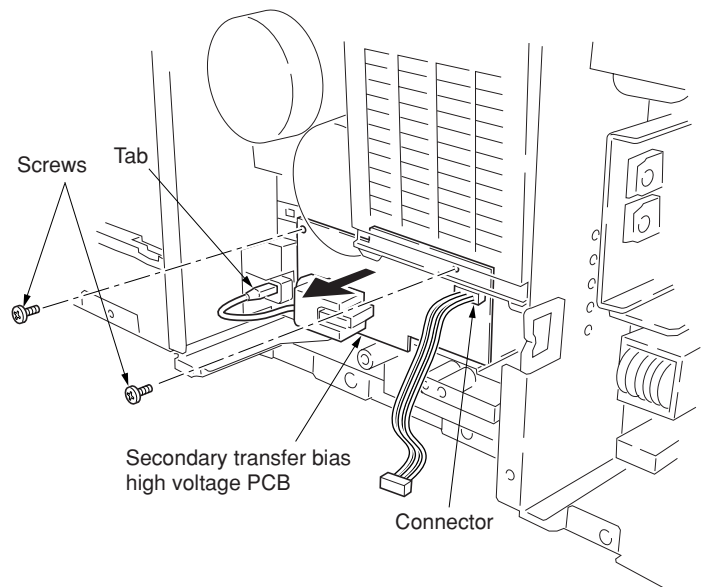


Figure 1-6-111

1-7-1 Upgrading the firmware

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

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.

(For formatting, insert a Compact Flash and select a drive.)

For a desktop computer, connect a Compact Flash card reader/writer to it. For a notebook computer, use a PC card adapter or a connection portion only for Compact Flash.

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 middle rear 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 3 minutes.

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 middle rear cover.
8. Insert the power plug and turn the power switch on.

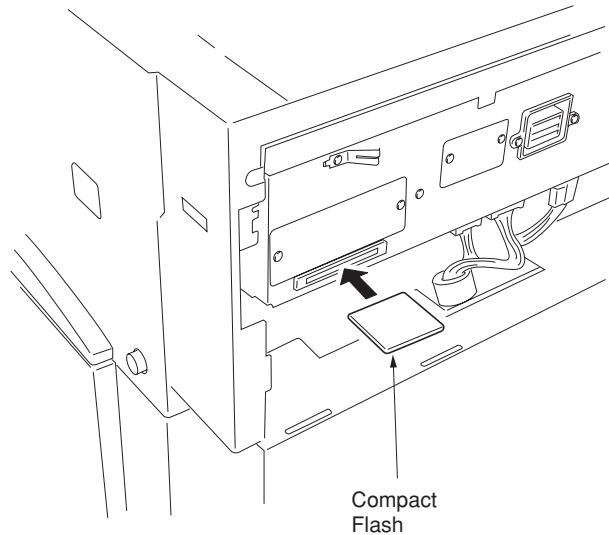


Figure 1-7-1

2CX

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 PCB: VR1

2-1-1 Paper feed unit and secondary transfer unit

(1) Paper feed unit

The paper feed unit includes several portions such as the paper feed section that drives the paper fed from the paper feeder or the duplex unit towards the secondary transfer unit, paper conveying section that moves the paper from the secondary transfer unit to the fuser unit, and the left paper guide that determines the destination of the paper which has passed through the fuser unit. A cam that works to dress the transfer belt on the secondary transfer unit from the primary transfer unit in conjunction with color copying process, and a link that lifts the secondary transfer unit when the paper feed unit is drawn in connection with the front cover.

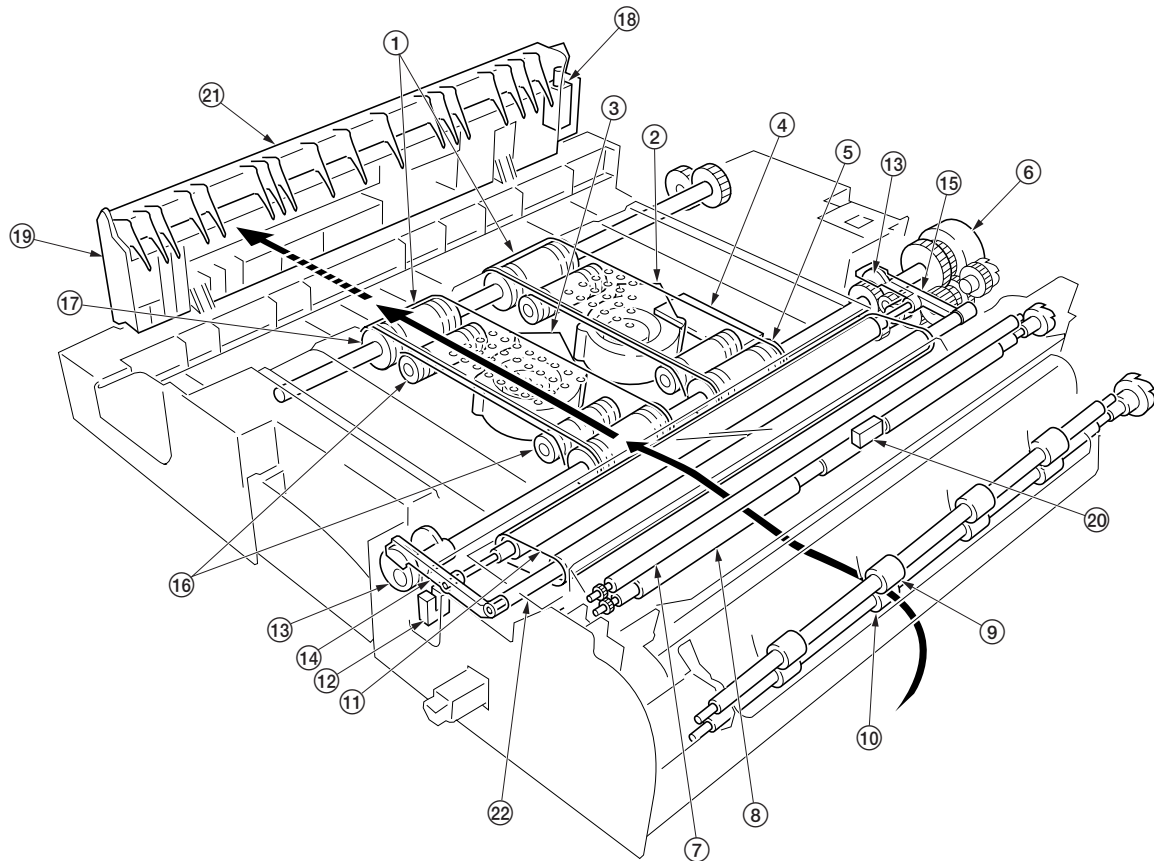


Figure 2-1-1 Paper feeder unit and secondary transfer unit

- | | |
|---|--|
| ① Paper conveying belts | ⑫ Secondary transfer unit position sensor (STRPS) |
| ② Paper conveying fan motor 1 (PCFM1) | ⑬ Cams |
| ③ Paper conveying fan motor 2 (PCFM2) | ⑭ Front transfer lever |
| ④ Feed PCB (FPCB) | ⑮ Rear transfer lever |
| ⑤ Paper conveying belt pulleys | ⑯ Tension rollers |
| ⑥ Secondary transfer unit shift clutch (STRSCL) | ⑰ Paper conveying belt rollers |
| ⑦ Upper registration roller | ⑱ Duplex paper exit selection solenoid (DUPEXSSOL) |
| ⑧ Lower registration roller | ⑲ Left paper guide |
| ⑨ Middle pulleys | ⑳ Registration sensor (REGS) |
| ⑩ Middle roller | ㉑ Change guide |
| ⑪ Transfer belt | ㉒ Secondary transfer unit |

The paper feed section of the paper feed unit and for the paper conveying section are driven by separate driving systems: Since the paper conveying section must be driven in synchronization with speeds that paper passes through the fuser unit, it is driven by the fuser unit drive motor (FUDM) that drives the fuser unit; whereas, the paper feed section is driven by the paper feed motor (PFM). The paper feed section has a longer pathway than the length of A4 or Letter size to allow variation of the paper feed speed. An A4 or Letter size sheet whenever it is on the paper conveying belts can be free from both the secondary transfer unit and the fuser unit. To stabilize this situation of the sheet, two fans (PCFM1 and PCFM2) are provided. The suction air flows through the punched holes on the conveying belts.

The left-sided paper guide includes a change guide which is activated in conjunction with a solenoid that selects duplex exit for the paper (DUPEXSSOL) when duplex copying. This guides the paper towards the duplex unit underneath the copier.

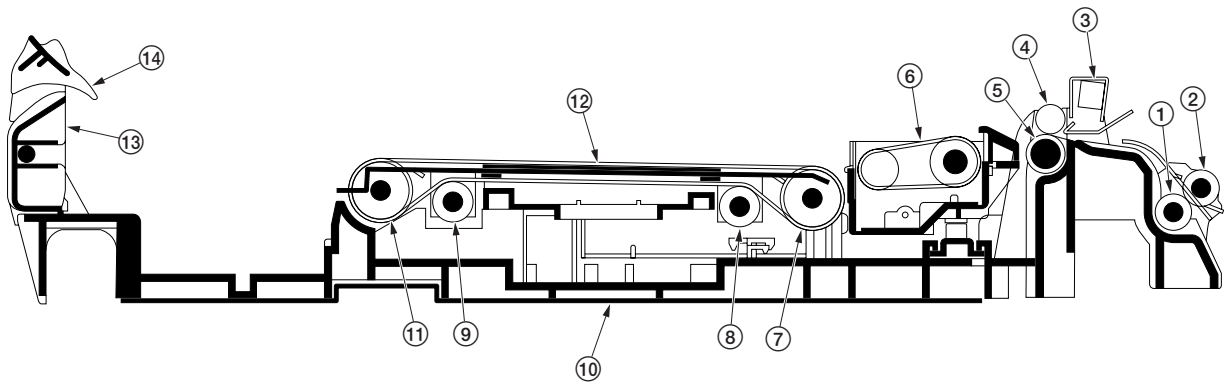


Figure 2-1-2 Paper feed unit

- | | |
|--------------------------------|--------------------------------|
| ① Middle roller | ⑧ Tension roller |
| ② Middle pulleys | ⑨ Tension roller |
| ③ Registration sensor (REGS) | ⑩ Paper feed unit |
| ④ Upper registration roller | ⑪ Paper conveying belt rollers |
| ⑤ Lower registration roller | ⑫ Paper conveying belts |
| ⑥ Secondary transfer unit | ⑬ Left paper guide |
| ⑦ Paper conveying belt pulleys | ⑭ Change guide |

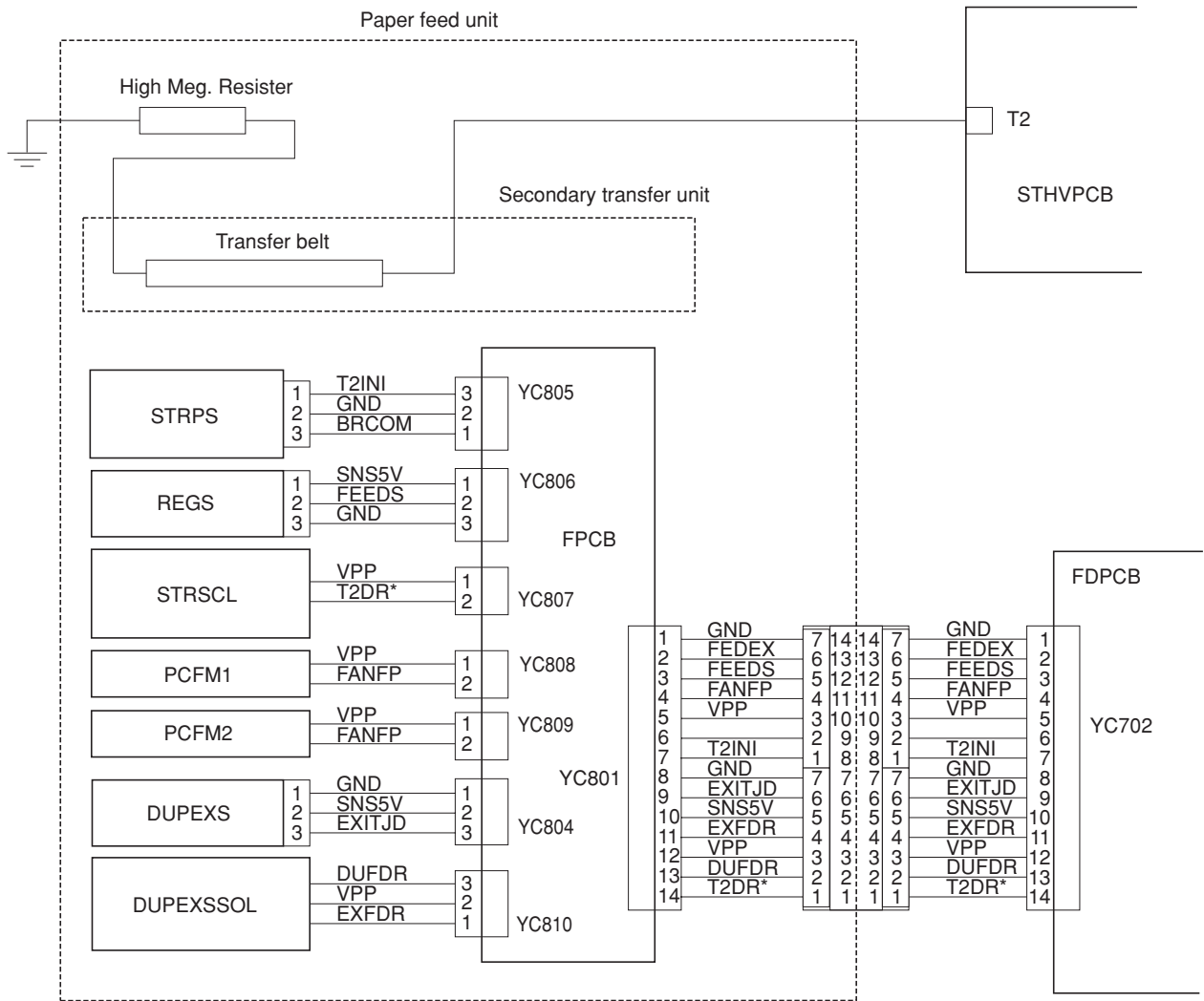


Figure 2-1-3 Paper feed unit block diagram

(2) Secondary transfer unit

The secondary transfer unit includes the transfer belt. The transfer belt is used to transfer images of toner constituted by the primary transfer drum towards the paper. The separation charger gives the paper the repelling charge so that the paper is effectively scraped off of the primary transfer drum.

At the beginning of transferring process, the drum is given a bias of approximately -20 microamperes and -0.5 to -2 kV generated by the high-voltage unit for the transfer belt. This bias is automatically adjusted according to the paper type currently selected.

Since the primary transfer unit has to revolve four turns until four layers of different colored toner have been constituted, the secondary transfer unit should be dressed away from the primary transfer drum until all layers have been done. The secondary transfer unit therefore includes levers and springs for this purpose, which are driven by a cam and a clutch on the paper feed unit.

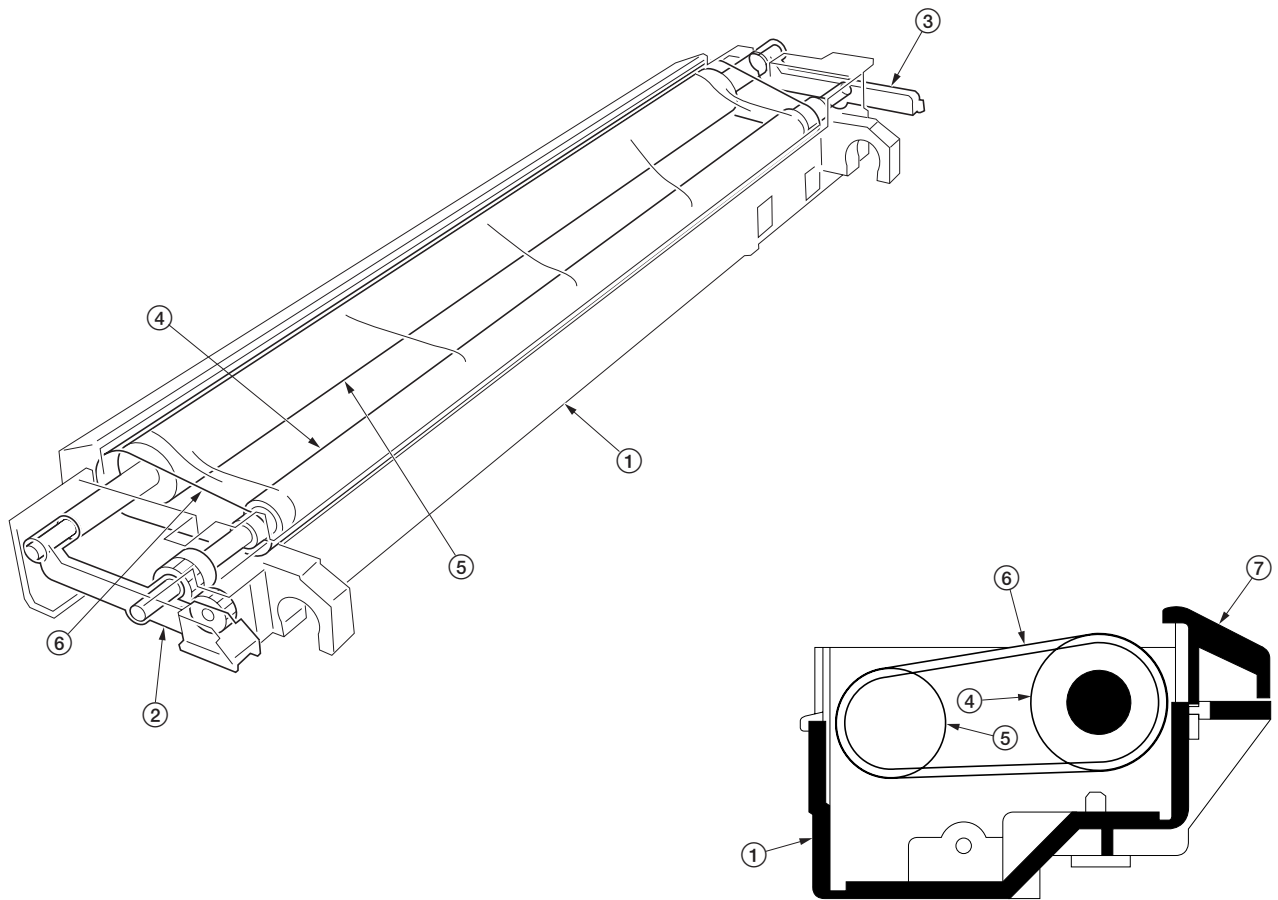


Figure 2-1-4 Secondary transfer unit

- ① Secondary transfer unit
- ② Transfer roller lever front
- ③ Transfer roller lever rear
- ④ Transfer belt drive roller
- ⑤ Transfer belt roller
- ⑥ Transfer belt
- ⑦ Paper guide chute

2-1-2 Bypass tray unit

The bypass tray unit includes sections of paper stack, paper feed, and paper detection.

The paper detection is accomplished by two sensors mounted on the bypass tray PCB (BYPFPCB) that measures the width of the paper and detects the presence of paper.

The paper stack section holds approximately 150 sheets of paper and includes a bottom plate that pushes up the paper stack for paper feeding. When paper feeding is required, the solenoid for the bypass bottom plate (BYPBSOL) is activated to rotate the cam for the bypass tray. The actuator for the cam pushes up the bottom plate which in turn pushes up the paper stack about the feed roller. The activation of the bottom plate is detected as the cam revolves, using a reflection plate. The bypass tray includes the bypass tray paper length sensor to detect the length of paper.

The paper feed section includes a feed roller and a clutch (BYPFCL). When the clutch is activated, the feed roller revolves and the bottom plate is raised to feed paper. The retard roller beneath the feed roller prevents that more than one sheet are fed at a time.

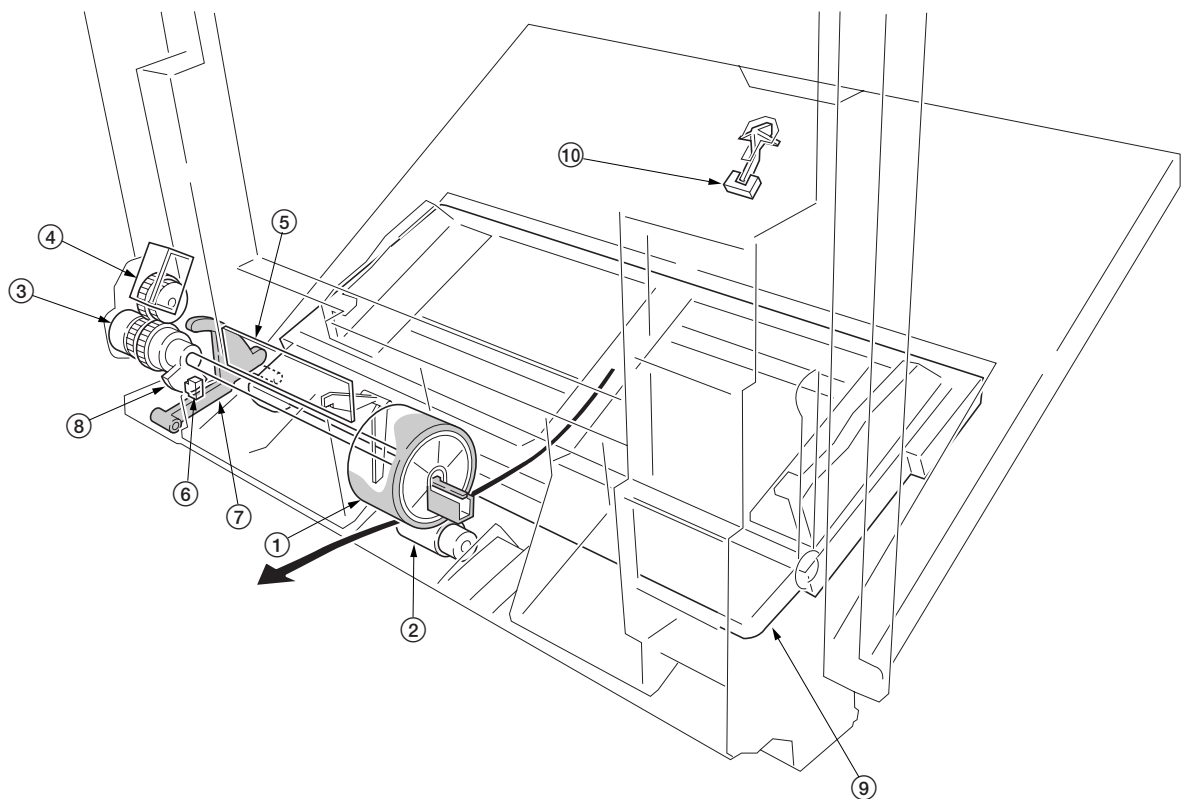


Figure 2-1-5 Bypass tray unit

- ① Bypass feed roller
- ② Bypass retard roller
- ③ Bypass paper feed clutch (BYPFCL)
- ④ Bypass tray bottom plate solenoid (BYPBSOL)
- ⑤ Bypass feed PCB (BYPFPCB)
- ⑥ Bypass tray bottom plate position sensor (BYBPPTS)
- ⑦ Bypass tray cam actuator
- ⑧ Bypass tray cam
- ⑨ Bypass tray bottom plate
- ⑩ Bypass tray paper length sensor

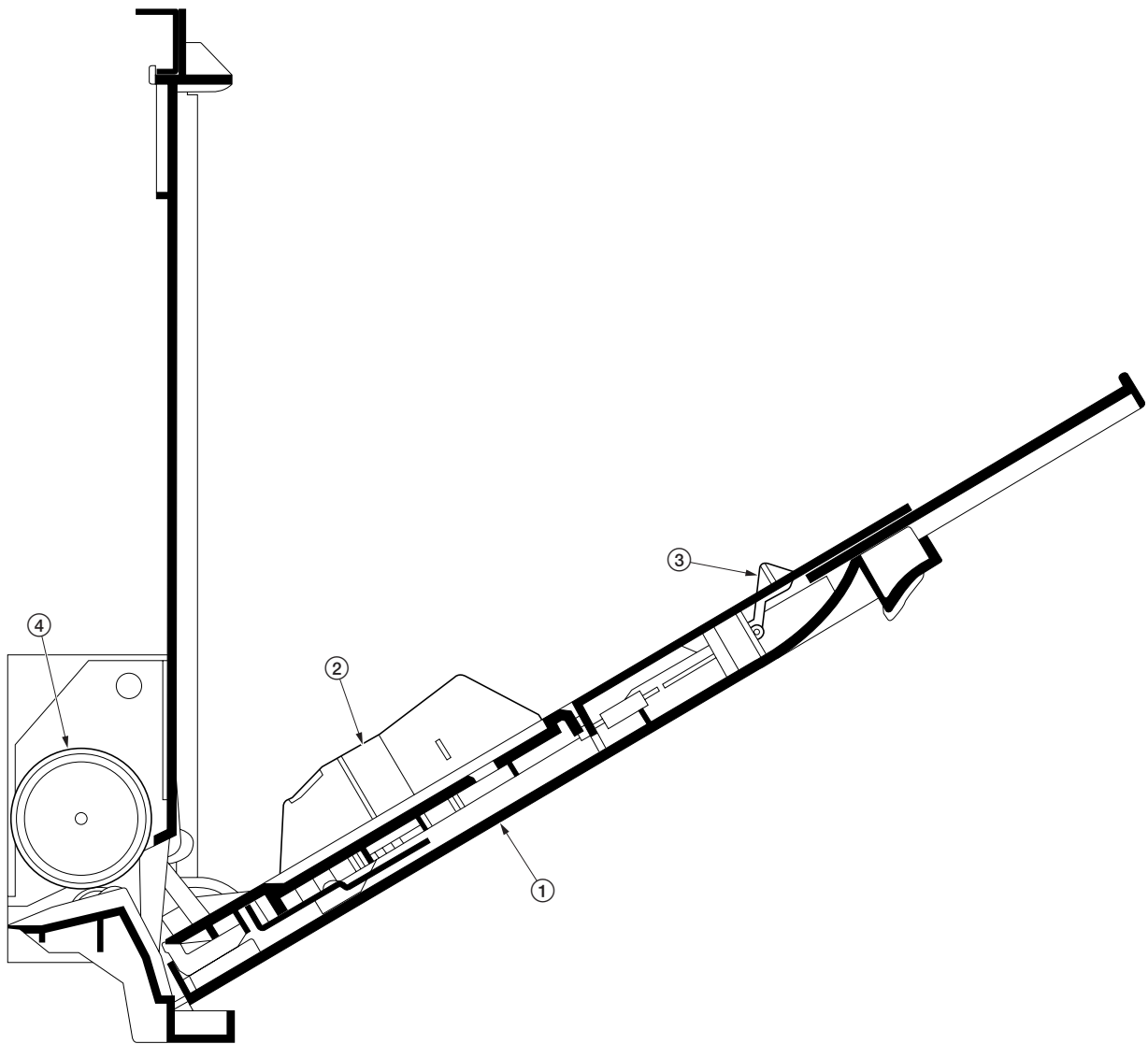


Figure 2-1-6 Bypass tray unit

- ① Bypass tray
- ② Paper guide
- ③ Bypass tray paper length sensor
- ④ Bypass tray feed roller

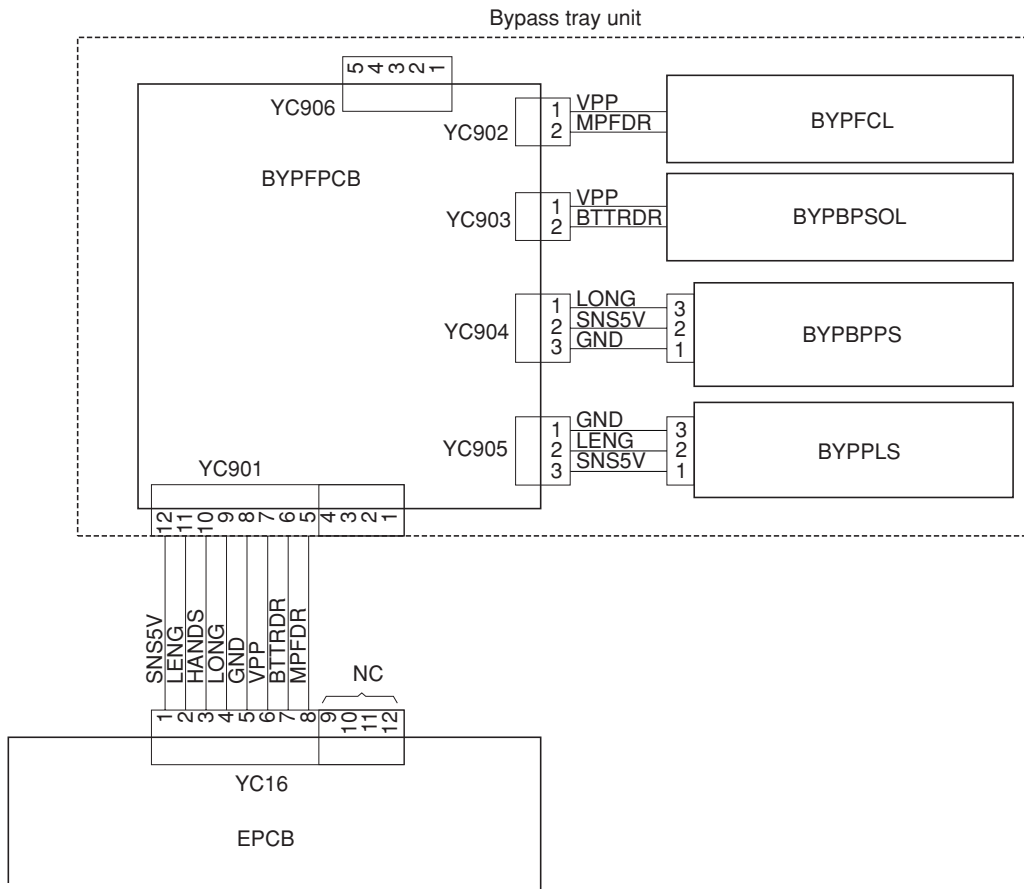


Figure 2-1-7 Bypass tray feed unit block diagram

2-1-3 Scanner unit

The optical section consists of the scanner, mirror frame and image scanning unit for scanning and the laser scanner unit for printing.

The scanner and mirror frame travel to scan on the optical rails on the front and rear of the machine to scan from side to side. The speed of the mirror frame is half the speed of the scanner.

The scanner scans original images up to 4 times depending on the copy mode (full color, single color, or black and white).

The original image is illuminated by the exposure lamp (EL) and scanned by the CCD PCB (CCDPCB) in the image scanning unit via the three mirrors.

The CCD PCB converts to RGB (red, green, and blue) data from scanned original images and sends the data to the scanner main PCB.

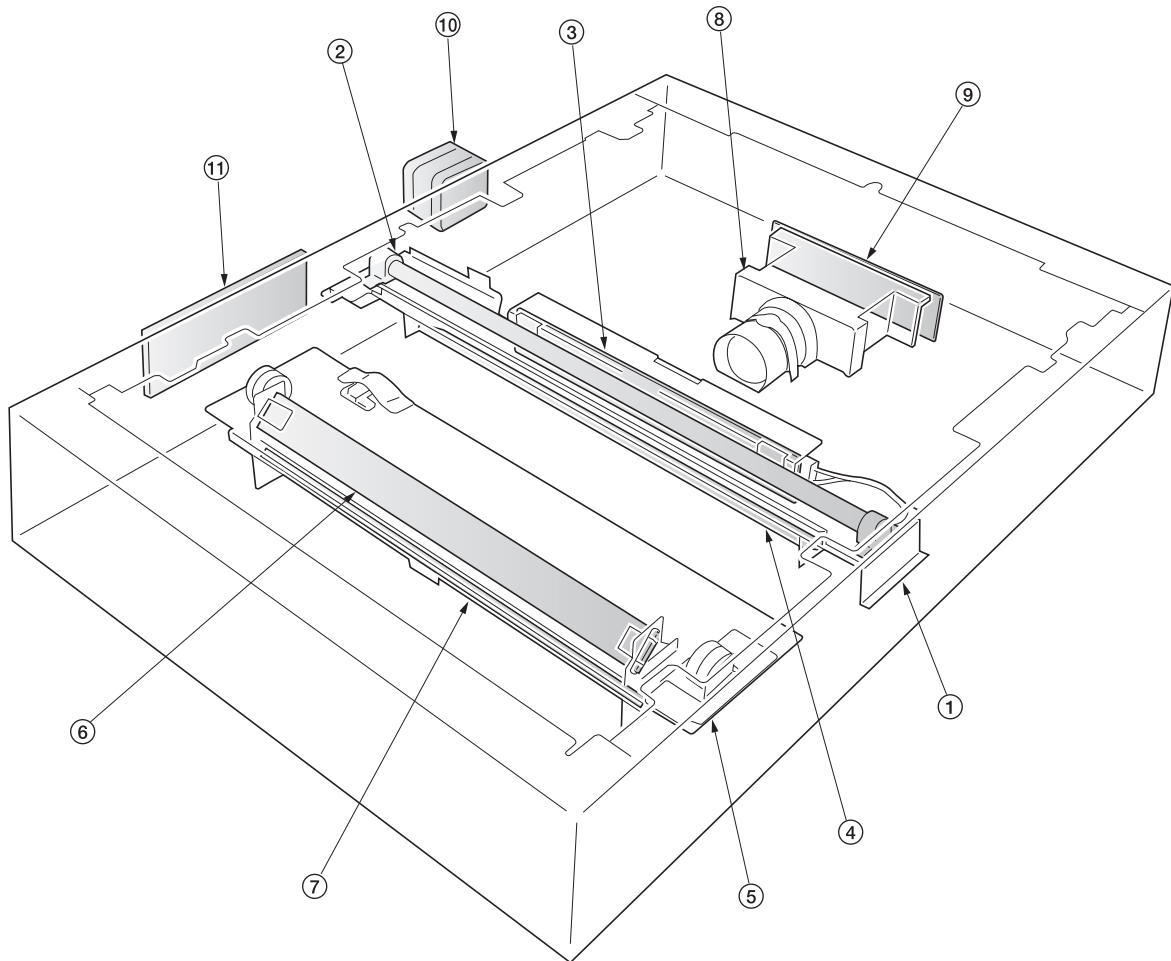


Figure 2-1-8 Scanner unit

- ① Mirror 1 frame
- ② Exposure lamp (EL)
- ③ Inverter PCB (INPCB)
- ④ Mirror 1
- ⑤ Mirror 2 frame
- ⑥ Mirror 2
- ⑦ Mirror 3
- ⑧ Image scanning unit
- ⑨ CCD PCB (CCDPCB)
- ⑩ Scanner motor (SM)
- ⑪ Scanner relay PCB (SRYP CB)

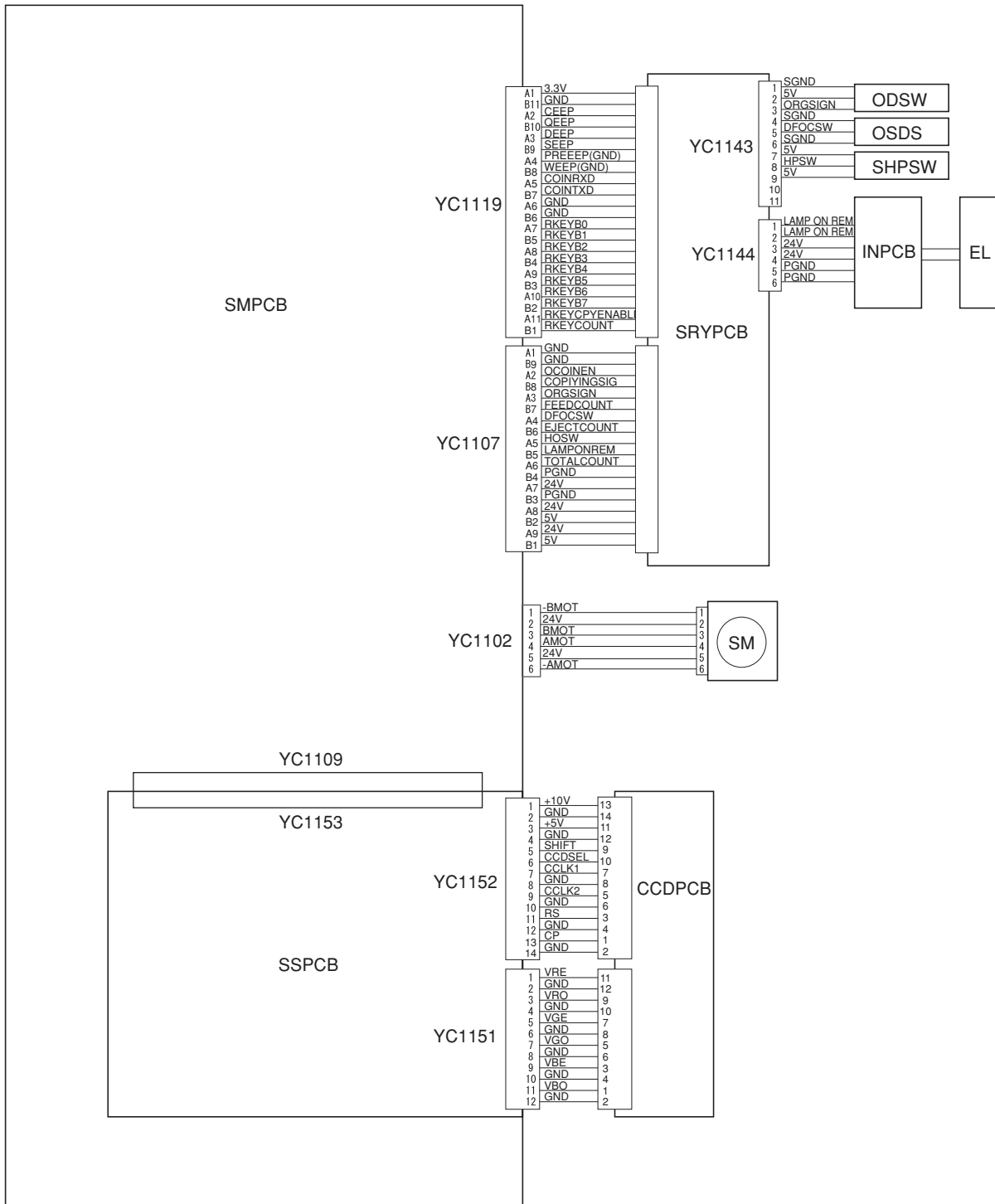


Figure 2-1-9 Scanner unit block diagram

The image data scanned by the CCD PCB (CCDPCB) is processed on the scanner sub PCB (SSPCB) and transmitted as image printing data to the laser scanner unit (LSU) through the scanner main PCB (SMPCB) and the engine controller PCB (EPCB). By repeatedly turning the laser on and off, the laser scanner unit forms a latent image on the drum surface.

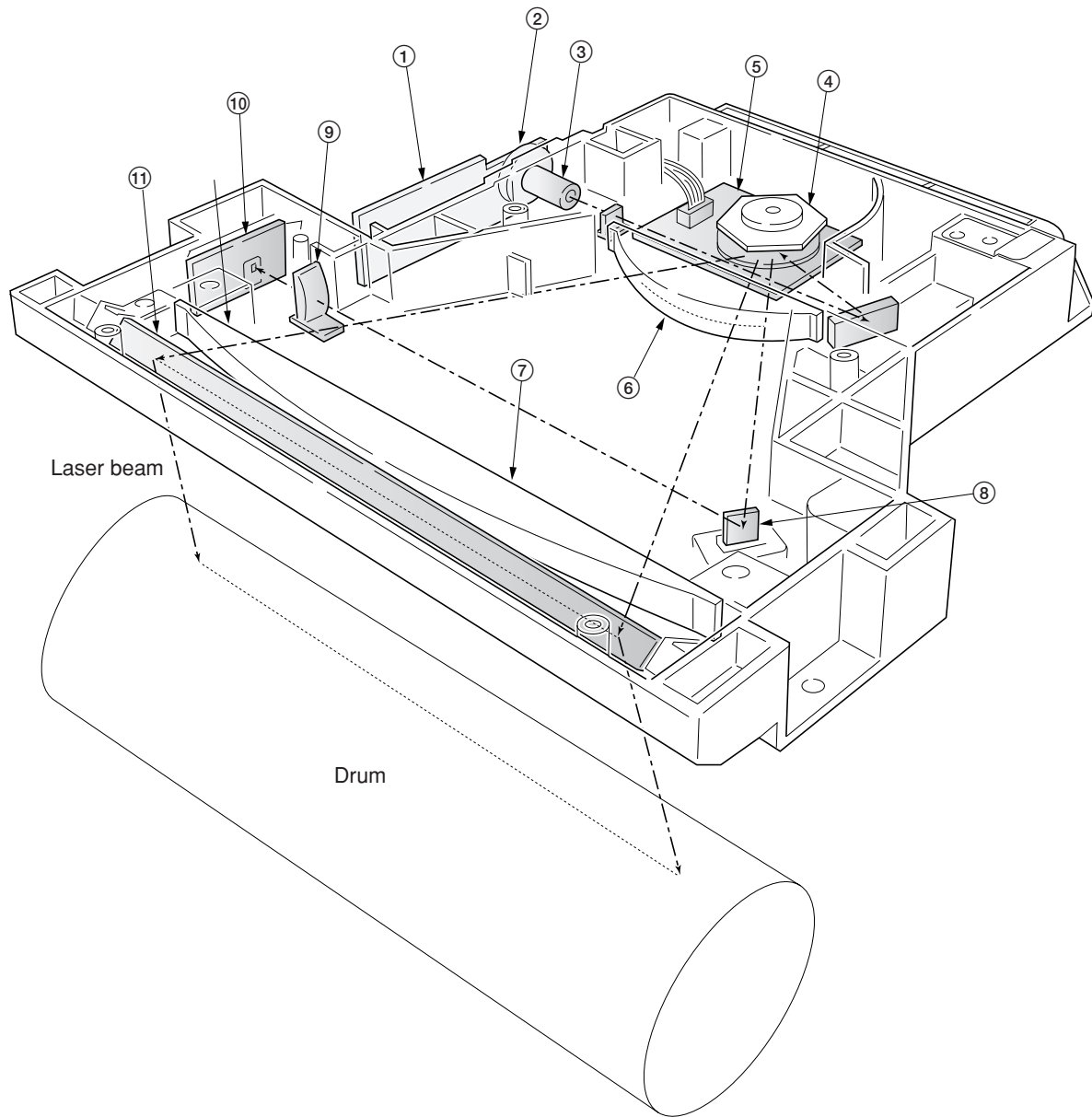


Figure 2-1-10 Laser scanner unit

- ① APC PCB (APCPCB)
- ② Laser diode
- ③ Collimator lens
- ④ Polygon mirror
- ⑤ Polygon motor (PM)
- ⑥ f θ lens
- ⑦ f θ lens
- ⑧ BD sensor mirror
- ⑨ Cylindrical correcting lens
- ⑩ PD PCB (PDPCB)
- ⑪ Diversion mirror

- ① APCPCB: Laser power control.
- ② Laser diode: Generates the laser beam (400 mW±30 %, 670 nm) which forms a latent image on the drum.
- ③ Collimator lens: Collimates the diffused laser beam emitted from the laser diode to convert it into a cylindrical beam.
- ④ Polygon mirror: Six-facet mirror that rotates at approximately 31690.52224 rpm with each face reflecting the laser beam toward the drum for one main-direction scan.
- ⑤ Polygon motor (PM): Rotation polygon mirror.
- ⑥ Fθ lens: Corrects for non-linearity of the laser beam scanning speed on the drum surface, keeps the beam diameter constant and corrects for the vertical alignment of the polygon mirror to ensure that the focal plane of the laser beam is on the drum surface.
- ⑦ Fθ lens: Corrects for non-linearity of the laser beam scanning speed on the drum surface, keeps the beam diameter constant and corrects for the vertical alignment of the polygon mirror to ensure that the focal plane of the laser beam is on the drum surface.
- ⑧ BD sensor mirror: Reflects the laser beam to the BD sensor (PDPCB) to generate the main-direction (horizontal) sync signal.
- ⑨ Cylindrical correcting lens: Corrects for the deviation of the laser beam reflected by the BD sensor mirror to the BD sensor (PDPCB).
- ⑩ BD sensor (PDPCB): Detects the beam reflected by the BD sensor mirror, outputting a signal to the engine controller PCB (EPCB) to provide timing for the main-direction sync signal.
- ⑪ Diversion mirror: Reflects the laser beams onto the drum surface.

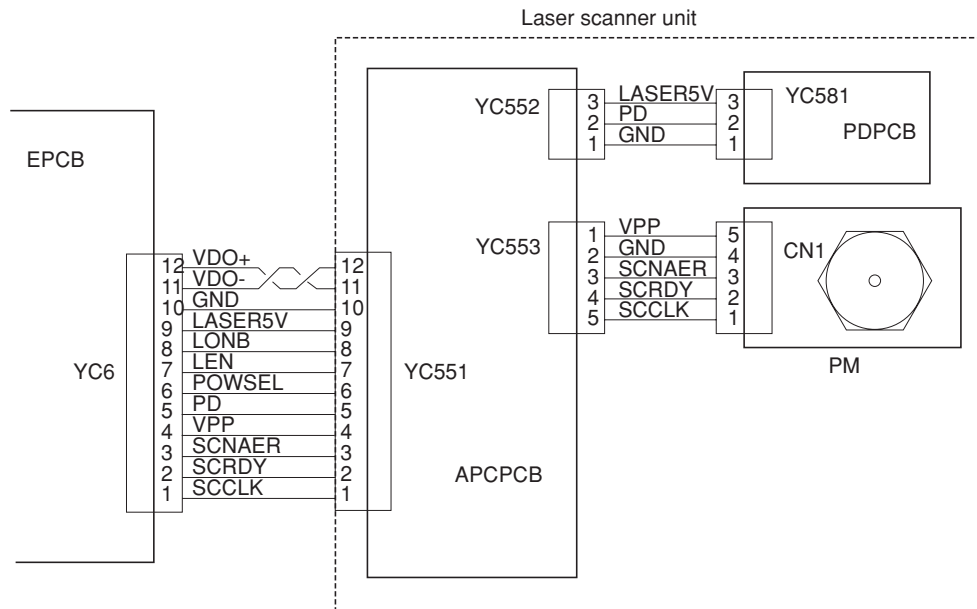


Figure 2-1-11 Laser scanner unit block diagram

2-1-4 Developing section

The copier has developers in four colors - yellow, magenta, cyan, and black. Each of the developers except black has the respective toner container mounted directly, including the toner feed mechanism. Since the black developer has to be seated right underneath the drum unit, which prevents the black toner container directly mounted on the developer, the toner container is separated from the developer.

To accomplish color copy process, each developer implements developing in the specific color as the drum unit rotates a turn. While a color development is in process, the developers for other colors should be disabled. For this purpose, a shutter utilizing magnetism is provided for each developer that effectively close the gateway for the toner to the developing roller. When development for the specific color is not required, the magnet in the sleeve faces towards the developing roller by means of a spring. The magnet behaves as a shutter and prevents toner from being fed outwards as the magnet repels the toner. When development is required for the color, a solenoid is activated to turn the magnet so that the magnet is away 180° from the developing roller. Then the toner is free to proceed over the developing roller towards the drum, forming a magnetic brush.

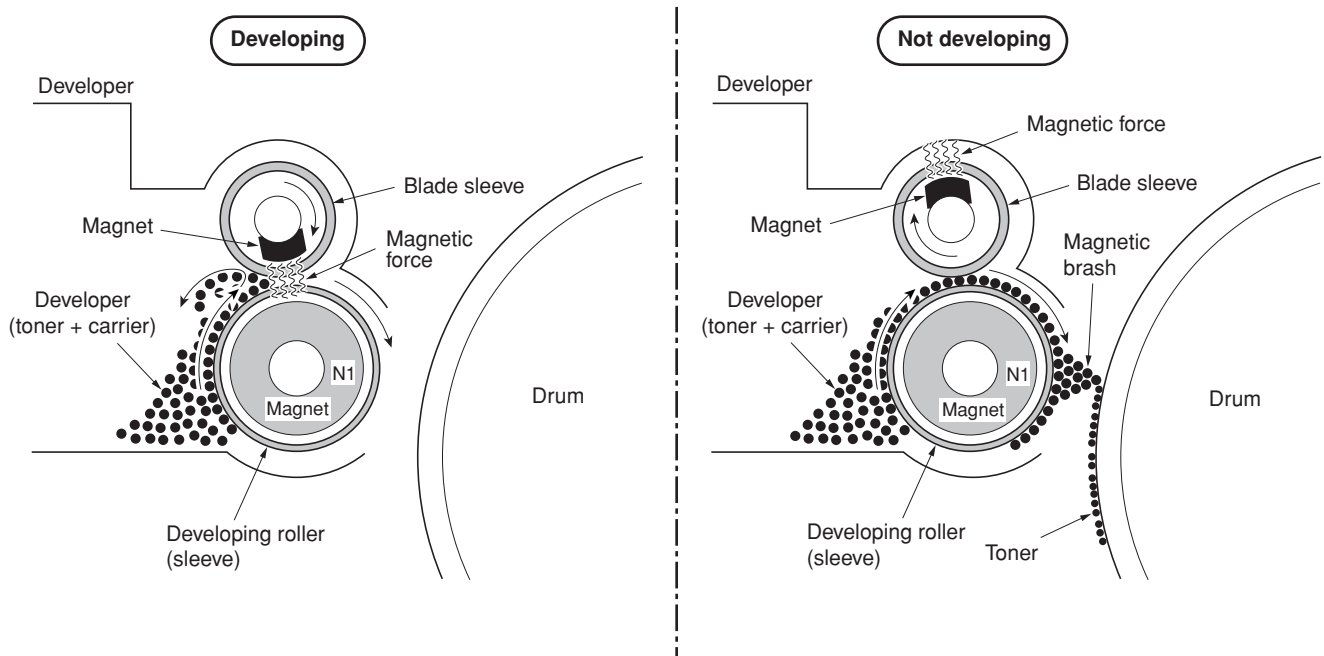


Figure 2-1-12 Magnetic shutter

(1) Yellow developer

The yellow developer is directly mounted atop with the yellow toner container. As the yellow toner feed motor (YTFM) turns on to feed toner, the toner pours down in the toner hopper onto the paddle. The paddle drives toner to the mixer tube. The mixer tube has a mixer screw inside which revolves coaxially with the paddle. The mixer screw and the paddle rotate in the opposite direction to each other, ensuring the effective circulation of developer (toner + carrier) in the hopper.

The developing roller has a 5-pole magnet and a sleeve located coaxially to the magnet. Developer (toner + carrier) is carried along the sleeve as it rotates and passed between the blade sleeve and the developing sleeve. The gap between the sleeves is adjusted so that a constant layer of toner is constituted over the developing roller. The magnetic brush (toner + carrier) is constituted at the opposite area circumferentially to pole N1 and flies over to the drum.

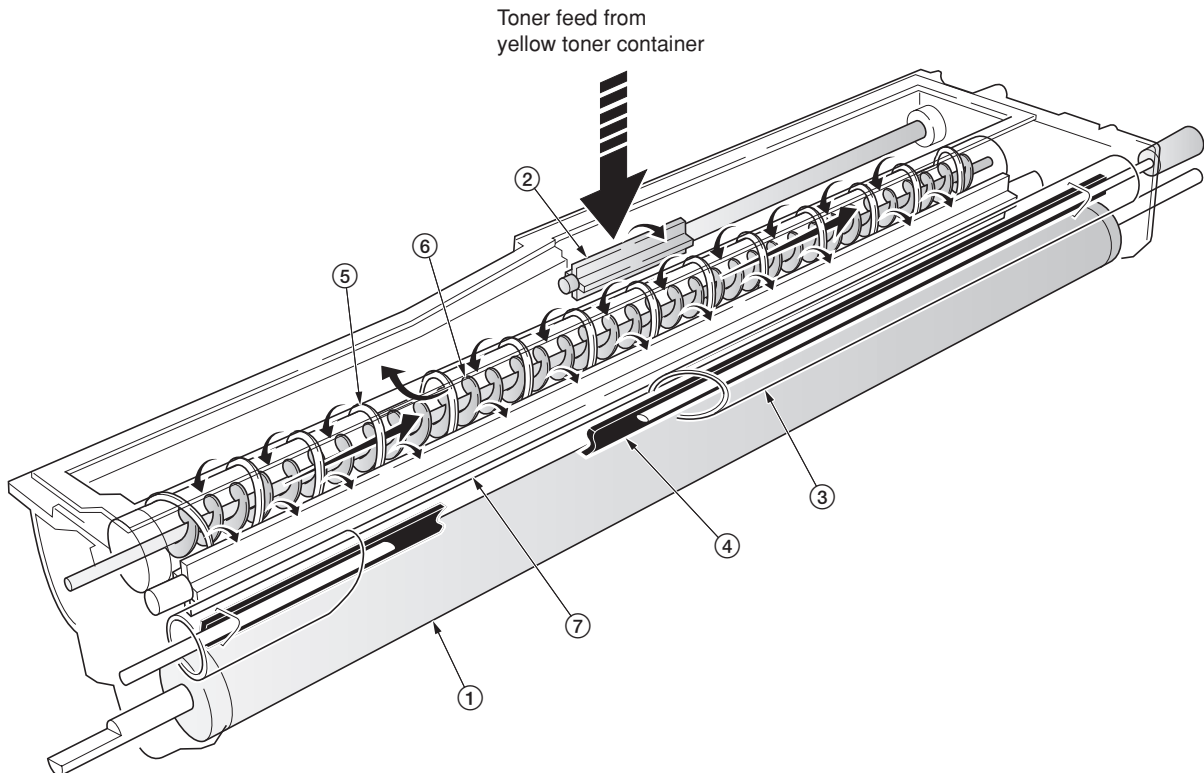


Figure 2-1-13 Yellow developer

- ① Developing roller
- ② Toner feed paddle
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Agitation paddle

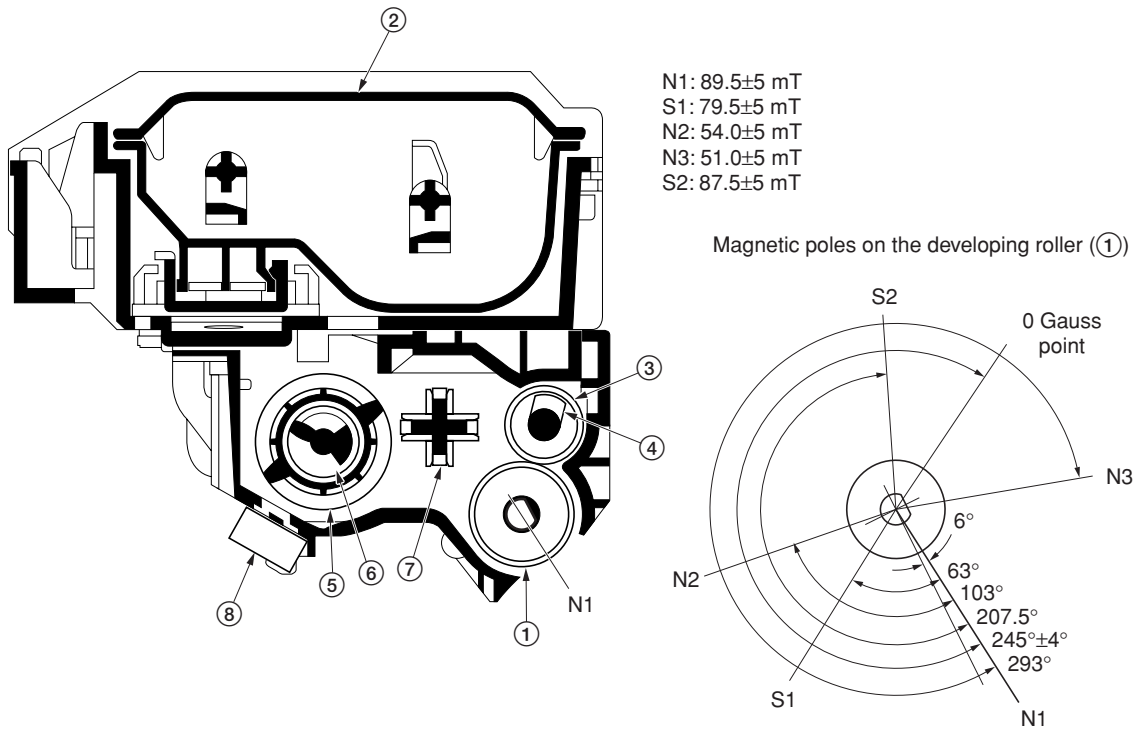


Figure 2-1-14 Yellow developer and magnetic poles on the developing roller

- ① Developing roller
- ② Yellow toner container
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Agitation paddle
- ⑧ Yellow T/C sensor (YTPCS)

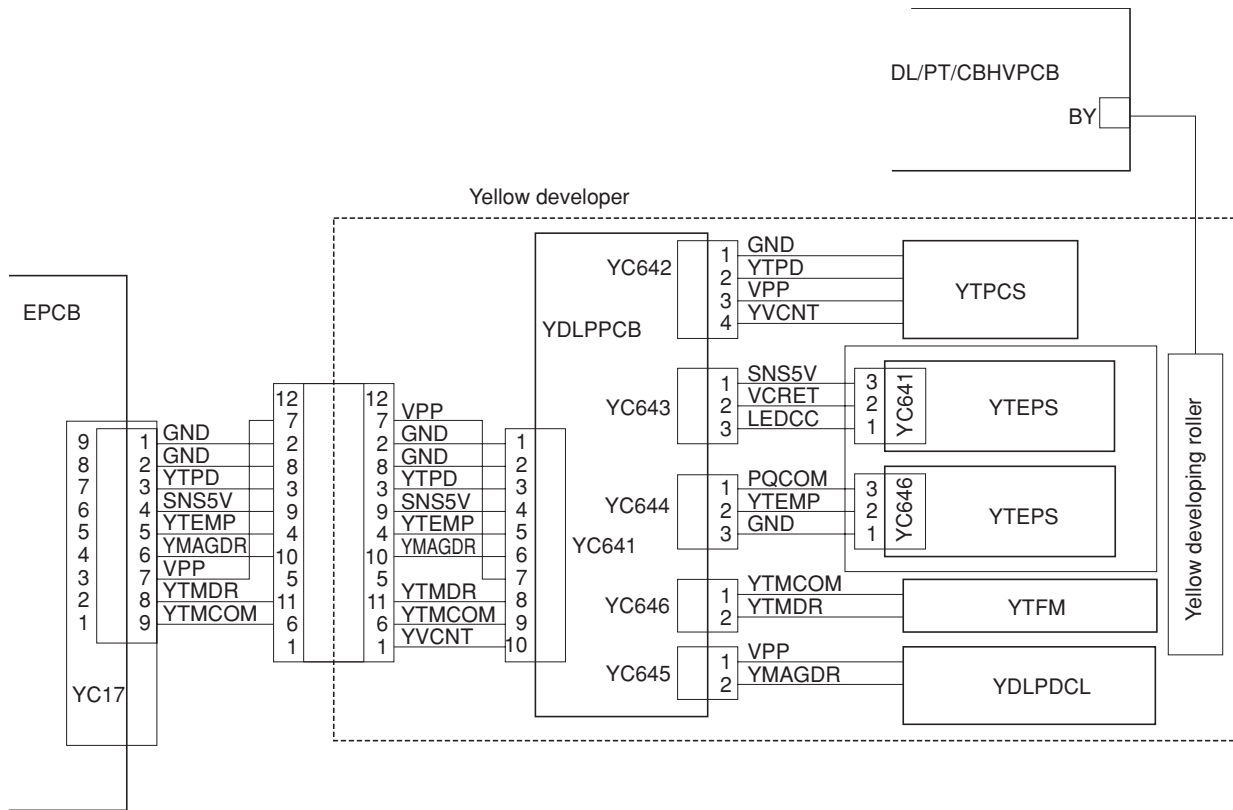


Figure 2-1-15 Yellow developer block diagram

(2) Magenta developer

The magenta developer is directly mounted atop with the magenta toner container. As the magenta toner feed motor (MTFM) turns on to feed toner, the toner pours down in the toner hopper onto the paddle. The paddle drives toner to the mixer tube. The mixer tube has a mixer screw inside which revolves coaxially with the paddle. The mixer screw and the paddle rotate in the opposite direction to each other, ensuring the effective circulation of developer (toner + carrier) in the hopper.

The developing roller has a 5-pole magnet and a sleeve located coaxially to the magnet. Developer (toner + carrier) is carried along the sleeve as it rotates and passed between the blade sleeve and the developing sleeve. The gap between the sleeves is adjusted so that a constant layer of developer (toner + carrier) is constituted over the developing roller. The magnetic brush (toner + carrier) is constituted at the opposite area circumferentially to pole N1 and flies over to the drum.

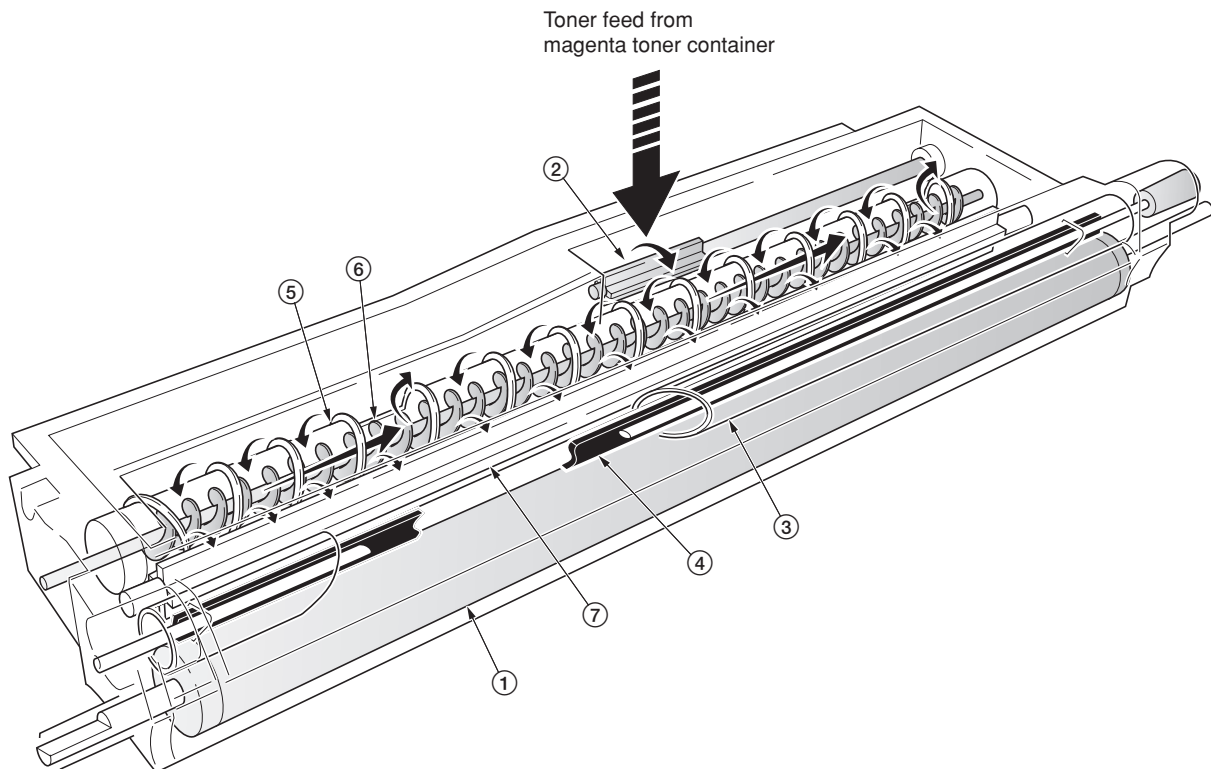


Figure 2-1-16 Magenta developer

- ① Developing roller
- ② Toner feed paddle
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Agitation paddle

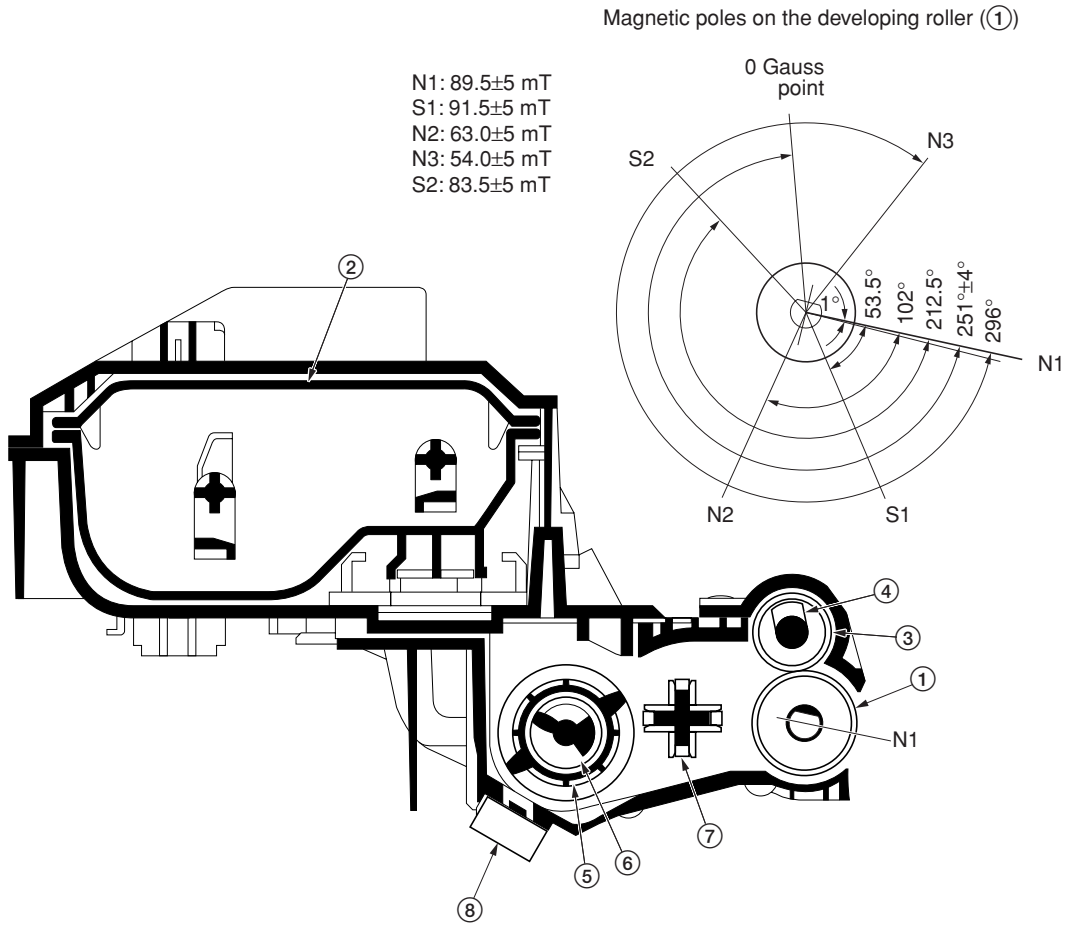


Figure 2-1-17 Magenta developer and magnetic poles on the developing roller

- ① Developing roller
- ② Magenta toner container
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Agitation paddle
- ⑧ Magenta T/C sensor (MTPCS)

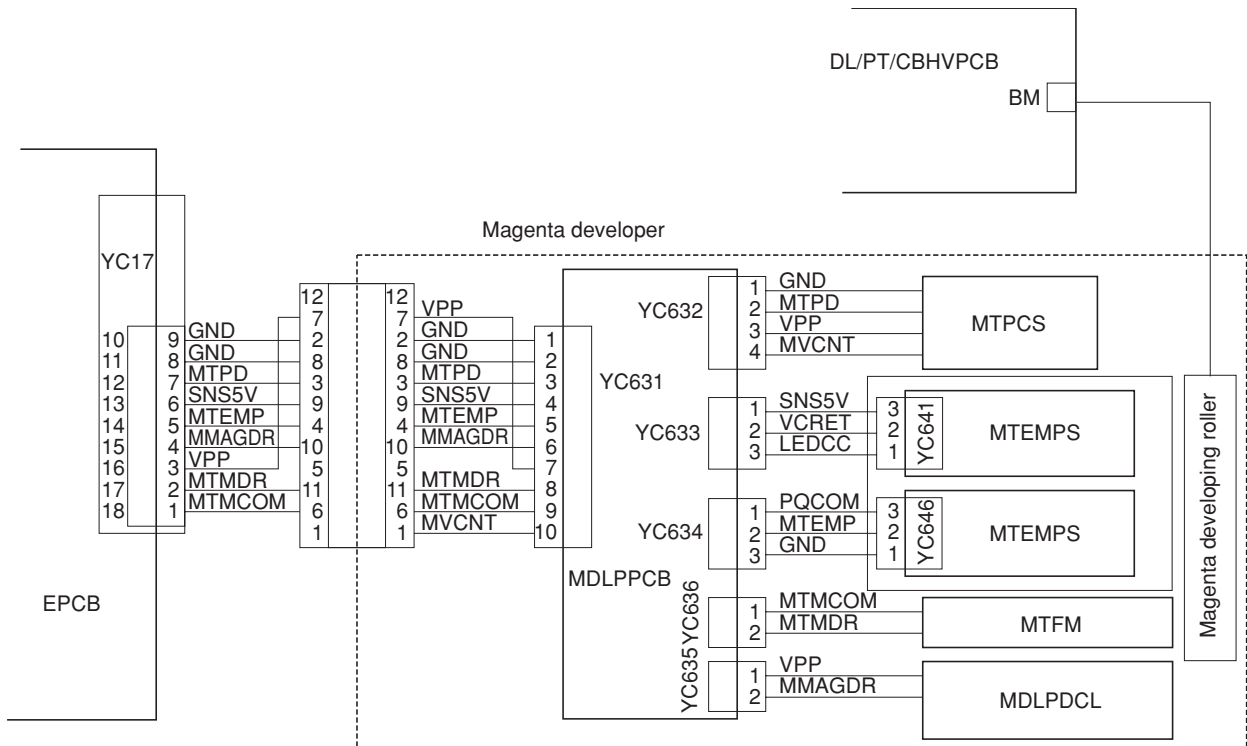


Figure 2-1-18 Magenta developer block diagram

(3) Cyan developer

The cyan developer, unlike the other color developers, has the toner container with a considerable offset in terms of mounting. Toner replenished by the cyan toner container is driven via a horizontal pathway into the hopper in the developer. As the motor for feeding toner turns on, toner begins driven in a free-fall fashion onto the toner supply screw which is joined with the motor for feeding the cyan toner. The toner supply screw horizontally relays the toner up to the mixer tube. The mixer tube has a mixer screw inside which revolves coaxially with the tube. The mixer tube and the mixer screw rotate in the opposite direction to each other, ensuring the effective circulation of developer (toner + carrier) in the hopper.

The developing roller has a 5-pole magnet and a sleeve located coaxially to the magnet. Developer (toner + carrier) is carried along the sleeve as it rotates and passed between the blade sleeve and the developing sleeve. The gap between the sleeves is adjusted so that a constant layer of developer (toner + carrier) is constituted over the developing roller. The magnetic brush (toner + carrier) is constituted at the opposite area circumferentially to pole N1 and flies over to the drum.

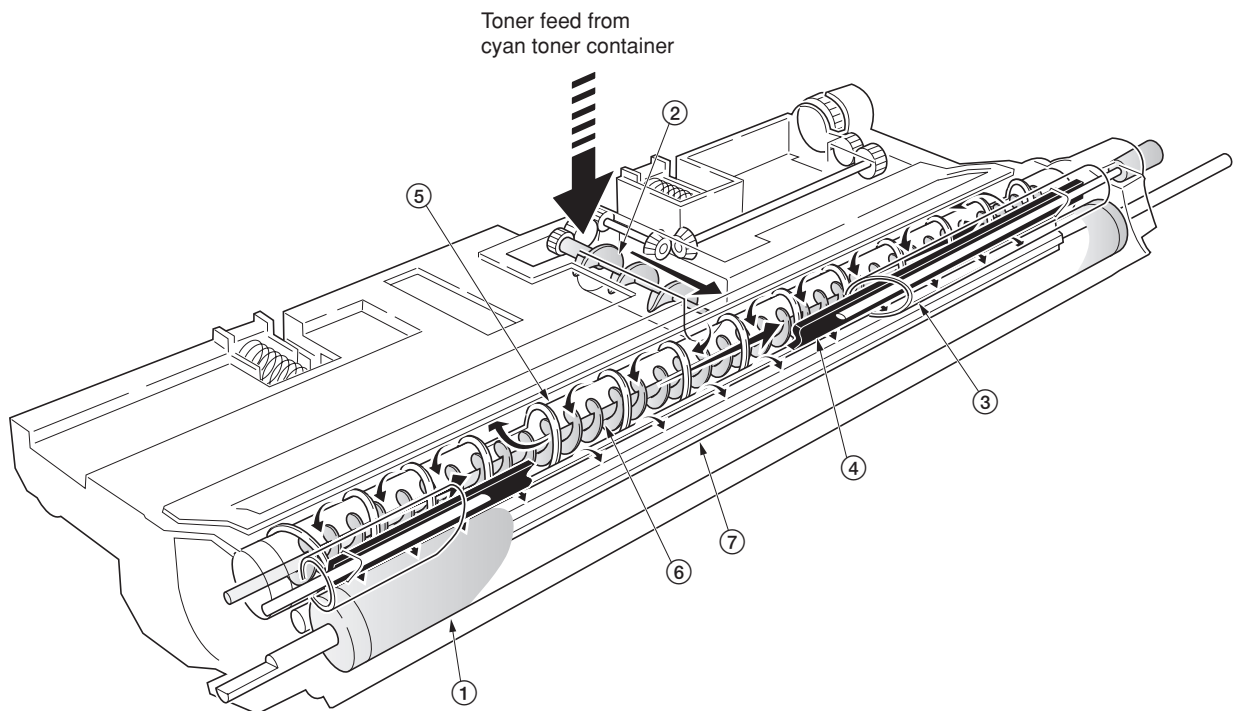


Figure 2-1-19 Cyan developer

- ① Developing roller
- ② Toner supply screw
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Agitation paddle

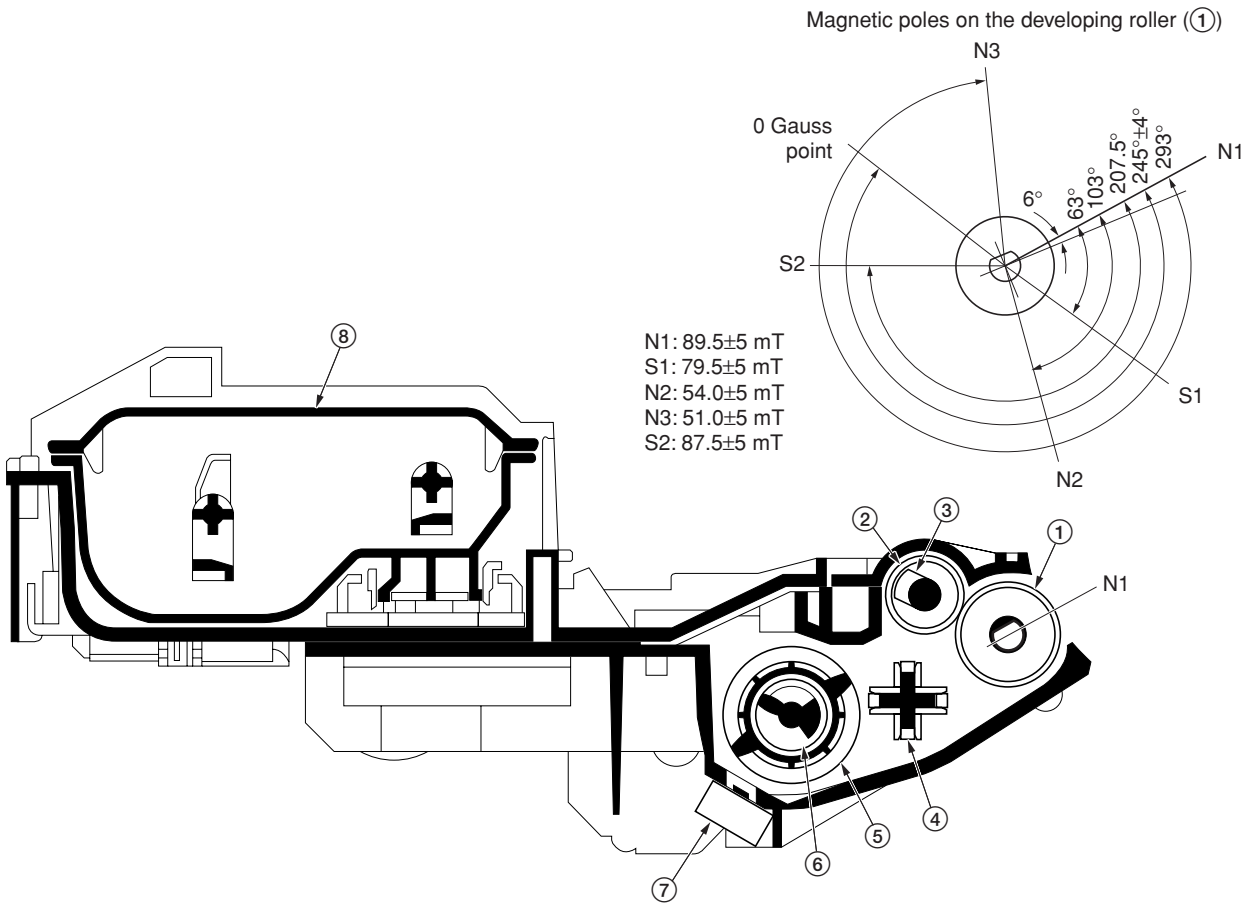


Figure 2-1-20 Cyan developer and magnetic poles on the developing roller

- ① Developing roller
- ② Blade sleeve
- ③ Shutter magnet
- ④ Agitation paddle
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Cyan T/C sensor (CTPCS)
- ⑧ Cyan toner container

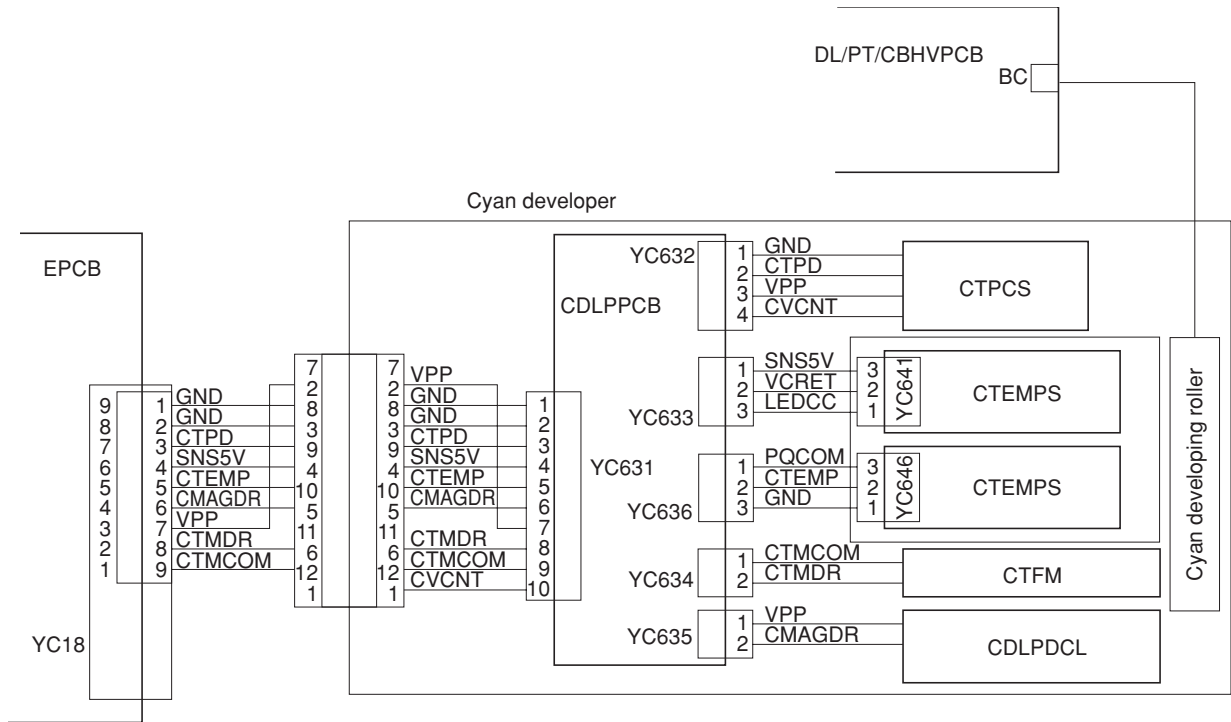


Figure 2-1-21 Cyan developer block diagram

(4) Black developer

Since the black developer has to be seated right underneath the drum unit, which prevents the black toner container directly mounted on the developer. The toner container is located in area above the primary transfer unit. Toner feeding from the toner container to the developer is accomplished by the feed assembly which includes a tube through which the toner is conveyed.

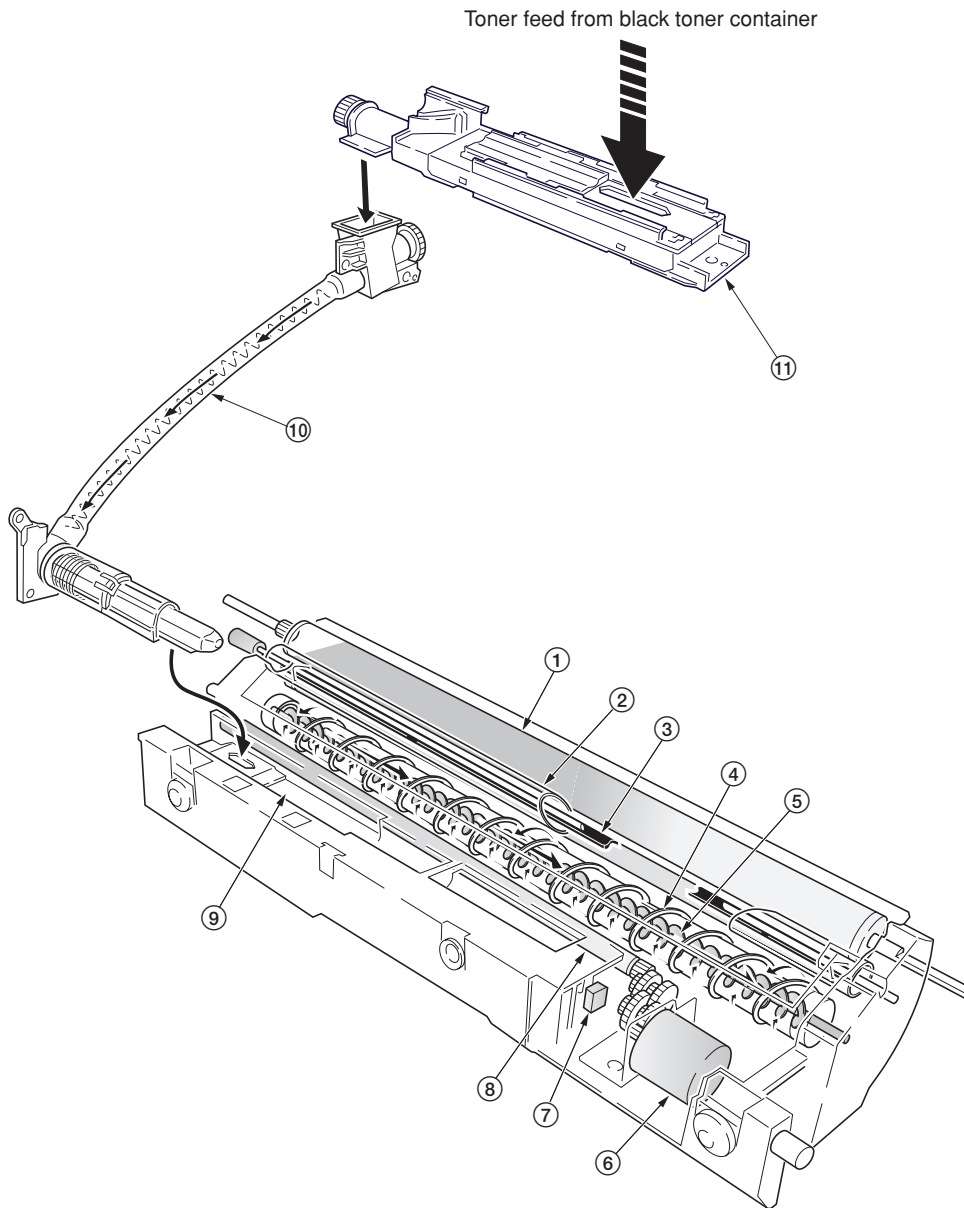


Figure 2-1-22 Black developer

- ① Developing roller
- ② Blade sleeve
- ③ Shutter magnet
- ④ Mixer tube
- ⑤ Mixer screw
- ⑥ Black toner feed motor (KTFM)
- ⑦ Black toner intermediate hopper sensor (KTIHS)
- ⑧ Toner feed magnet roller
- ⑨ Intermediate toner hopper
- ⑩ Black toner feed assembly
- ⑪ Black toner container feed assembly

The black developer has an intermediate toner hopper and developing hopper inside. The toner temporarily stored in this intermediate hopper is driven to the mixer tube in the toner hopper by means of the magnet roller when the toner density falls. The mixer tube which has a mixer screw inside which revolves coaxially with the mixer tube redistributing developer (toner + carrier) in the opposite directions. Redistributing developer (toner + carrier) also positive-charges the developer (toner + carrier) owing to static electricity. The charged developer (toner + carrier) is then sent to the developing roller. Since the black developer has its developing roller at its top, developer (toner + carrier) must be escalated from the hopper to the developing roller. To accomplish this, the developer (toner + carrier) is slightly magnetized and an intermediate (3-pole) magnet roller is provided in the middle of the developing chamber. The developer (toner + carrier) is attracted by magnetism by this intermediate magnet roller, escalated, and fed to the developing roller.

The developing roller has a 5-pole magnet and a sleeve which rotates coaxially to the magnet. Developer (toner + carrier) is carried along the sleeve as it rotates and passed between the blade sleeve and the developing sleeve. The gap between the sleeves is adjusted so that a constant layer of developer (toner + carrier) is constituted over the developing roller. The magnetic brush (toner + carrier) is constituted at the opposite area circumferentially to pole N1 and flies toner over to the drum.

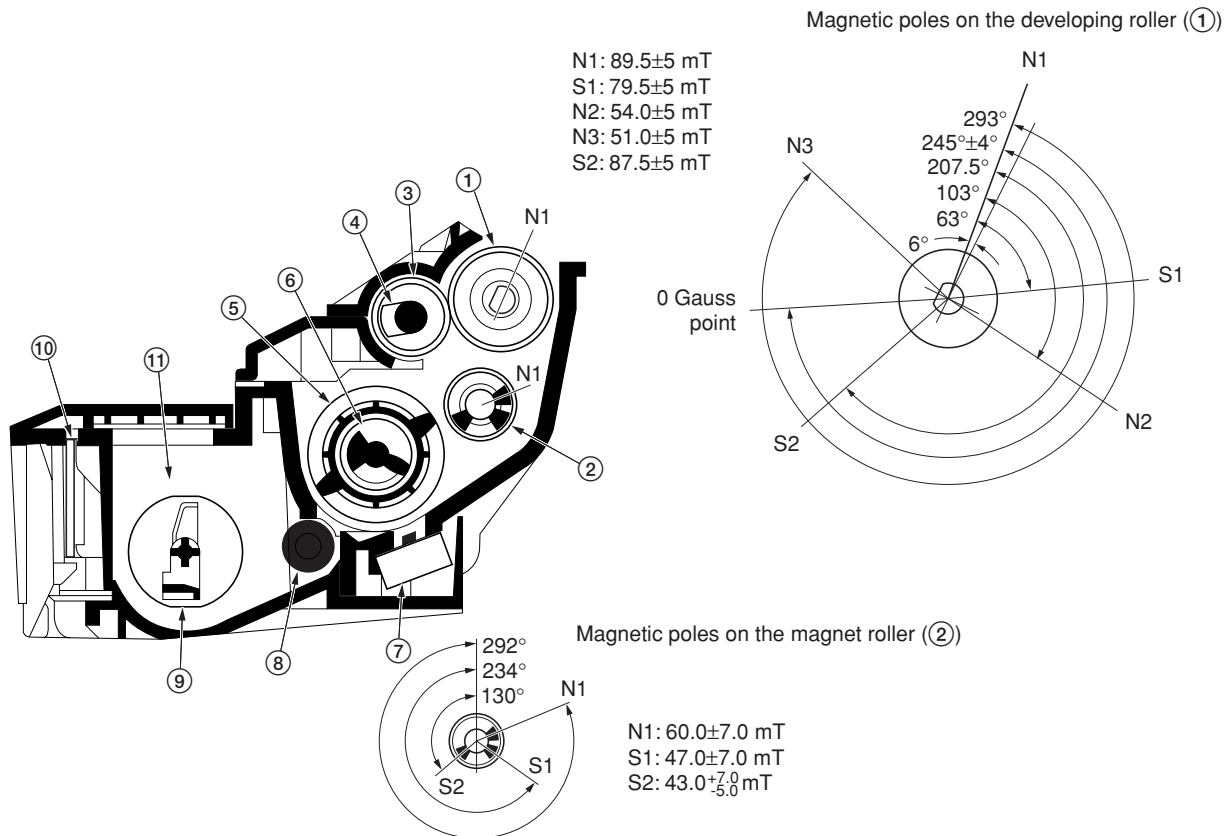


Figure 2-1-23 Black developer and magnetic poles on the developing roller

- ① Developing roller
- ② Magnet roller
- ③ Blade sleeve
- ④ Shutter magnet
- ⑤ Mixer tube
- ⑥ Mixer screw
- ⑦ Black T/C sensor (KTPCS)
- ⑧ Toner feed magnet roller
- ⑨ Agitation paddle
- ⑩ Black developer PCB (KDLPPCB)
- ⑪ Intermediate toner hopper

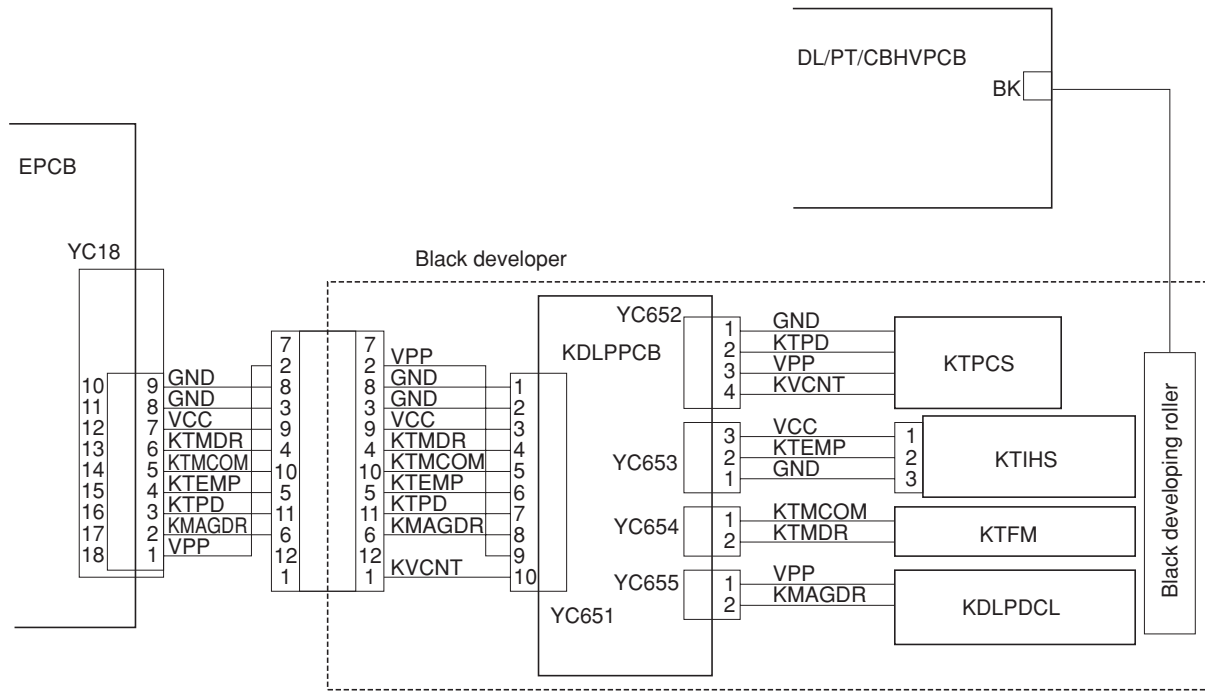


Figure 2-1-24 Black developer block diagram

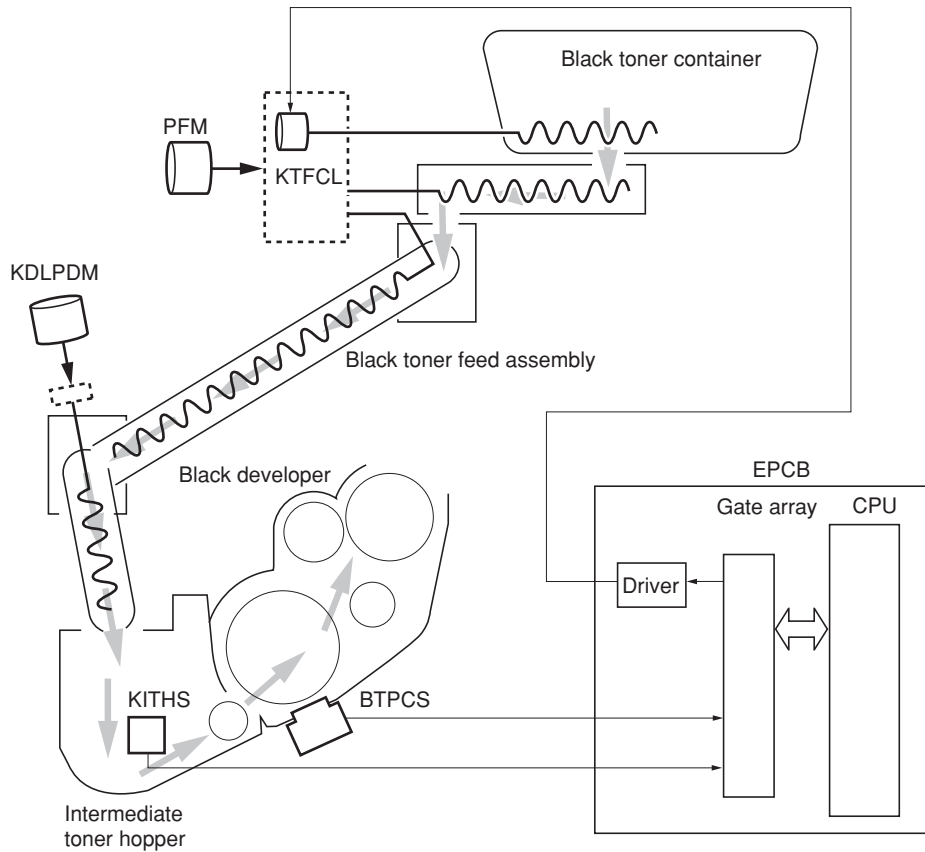
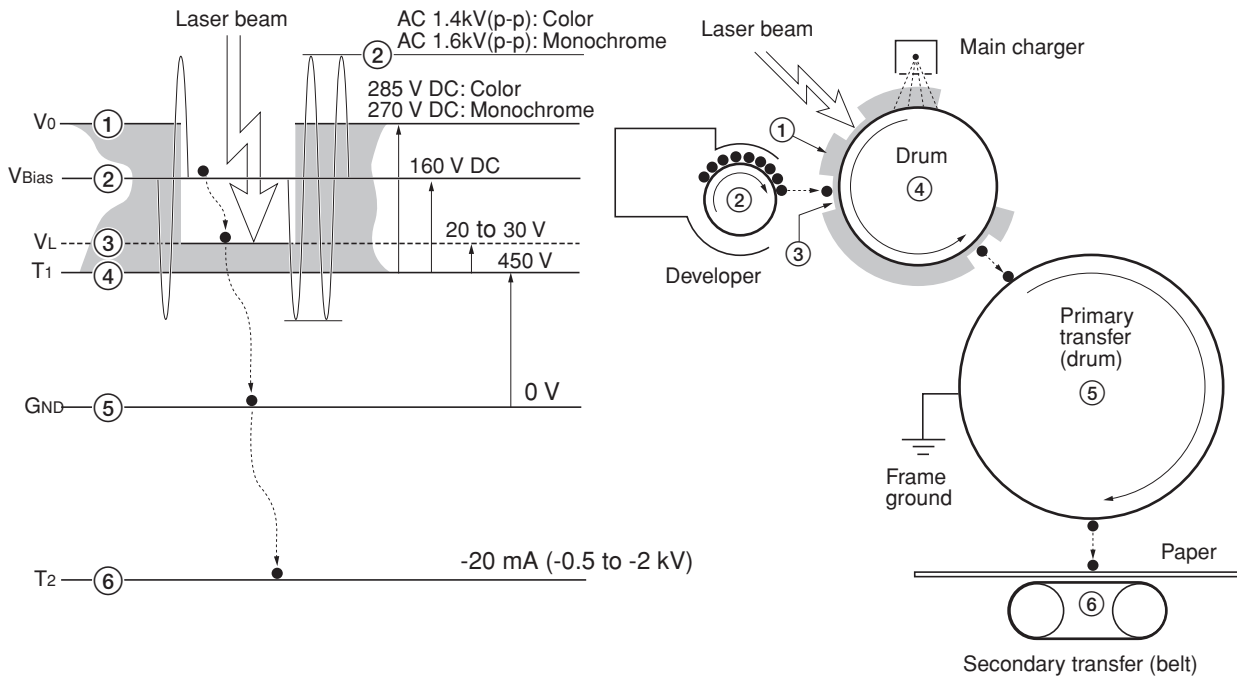


Figure 2-1-25 Black developer block diagram

CPU on the engine controller PCB (EPCB) watches the amount of the black toner by means of a sensor (IMTHS) in the intermediate toner hopper in the black developer. When the black toner dwindles, the clutch (KTFCL) that feeds the black toner is activated to feed toner from the black toner container to the feed assembly for the black toner. Then the black toner is lowered to the side of the black developer by the screw in the black toner feed assembly and fed to the intermediate toner hopper in the black developer by drive of the black toner developer drive motor. The feed assembly for the black toner is driven by a motor (KDLPDM) and passed to the intermediate hopper in the black developer.

(5) Transition of toner for development

Toner, basically a charged ink in positive polarity, travels through the developer, the drum, the primary transfer unit, and finally transferred on paper, all by means of voltage differences. The diagram below shows how the toner moves from the developer to the paper in a delicate balance among the biases.



●●●		: Toner (positive-charged)
■		Main charge on the drum
V ₀	①	Drum surface voltage by the main charger output (Yellow/Magenta/Cyan: 285 V DC, Black: 270 V DC)
V _L	③	Exposed drum surface voltage
V _{Bias}	②	Developing bias DC + AC (f= 6.0 kHz) (Yellow/Magenta/Cyan: 160 V DC, 1.4 kV AC, Black: 180 V DC, 1.6 kV AC)
T ₁	④	Drum base voltage (variable by temperature and humidity)
GND	⑤	Frame ground
T ₂	⑥	Secondary transfer bias (adjusted according to paper type)

Figure 2-1-26 Transition of toner for development

2-1-5 Drum unit and main charger unit

(1) Drum unit

The drum unit includes the photoconductor (\varnothing 80 mm), cleaning system, eraser system, etc. Amorphous-silicon material is used for the photoconductor. During the electrophotographic process, the photoconductor is charged with high voltage dispersed by the main charger wire. On the flange located at the back of the drum unit are 18 pins which are used for interrupters to the offset drum sensor (ODRS). These pins and the sensor generate the pulse signal which is used as the reference at which the drum begins revolution.

The residual toner on the drum unit is scraped off by the cleaning blade and removed by the cleaning roller. The cleaning roller is directly in contact with the drum and rotates 1.2 times faster than the drum unit in the opposite direction, effectively polishing the drum. The waste toner is driven outwards by a screw.

The cleaning lamp (CL) disperses the light over the drum to quench the residual charge when image transfer has finished.

The drum unit includes a PCB on which a EEPROM is held to store data such as the drum sensitivity and maintain the serial number, life count, etc., proprietary to the individual drum unit. The drum sensitivity information is utilized for compensation of the main charging magnitude specifically to the individual drum. The innate image quality is not obtainable in case the photoconductor is replaced in the drum unit.

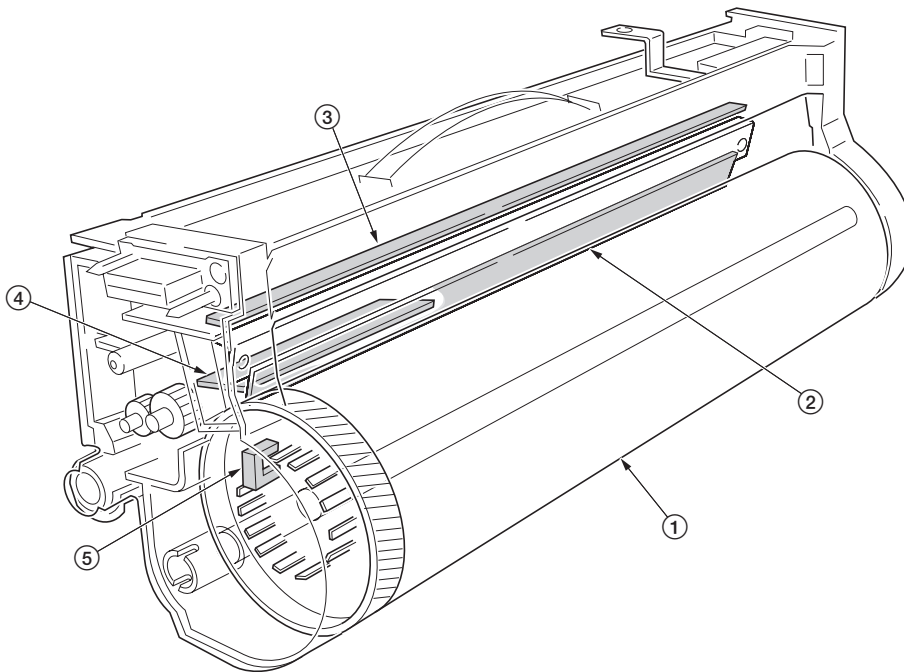


Figure 2-1-27 Drum unit

- ① Drum
- ② Cleaning blade
- ③ Cleaning lamp (CL)
- ④ Drum PCB (DRPCB)
- ⑤ Offset drum sensor (ODRS)

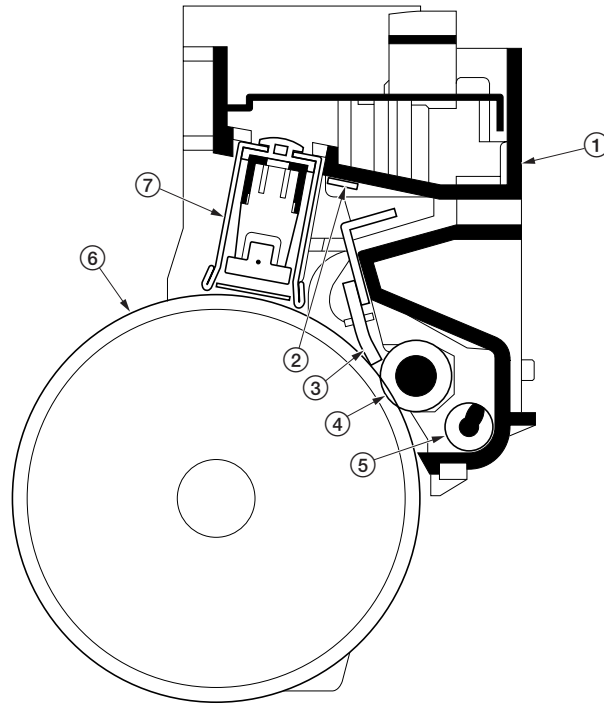


Figure 2-1-28 Drum unit

- ① Drum unit
- ② Cleaning lamp (CL)
- ③ Cleaning blade
- ④ Cleaning roller
- ⑤ Waste toner exit screw
- ⑥ Drum
- ⑦ Main charger unit

The copier use the long lasting amorphous silicon drum. The drum surface is a composite of five substances coated in five layers as shown below.

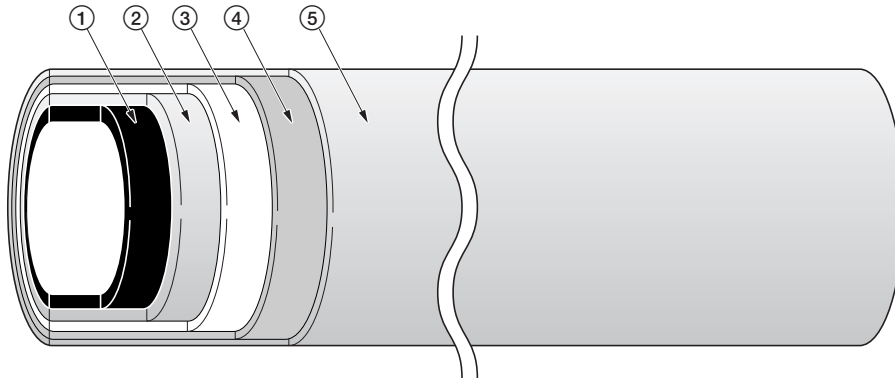


Figure 2-1-29 Amorphous silicon drum layer

- ① Aluminum base
- ② Carrier block (1 to 3 μm thick)
- ③ Photoconductor a-Si
- ④ Primary protection layer (1 μm thick)
- ⑤ Secondary protection layer

The primary and secondary layers are for protecting the amorphous silicon layer underneath. The amorphus silicon layer is of photoconductive, meaning it can be electronically conductive when exposed to a (laser) light source to effectively ground electrons charged on its outer surface to the ground. This layer is approximately 12 μm thick. The carrier block layer lies between the amorphous silicon layer and the aluminum base cylinder and prevents the backward electron flow, from the base cylinder to the drum's outer surface, which might give adverse effect (possibly "ghost") on the print quality.

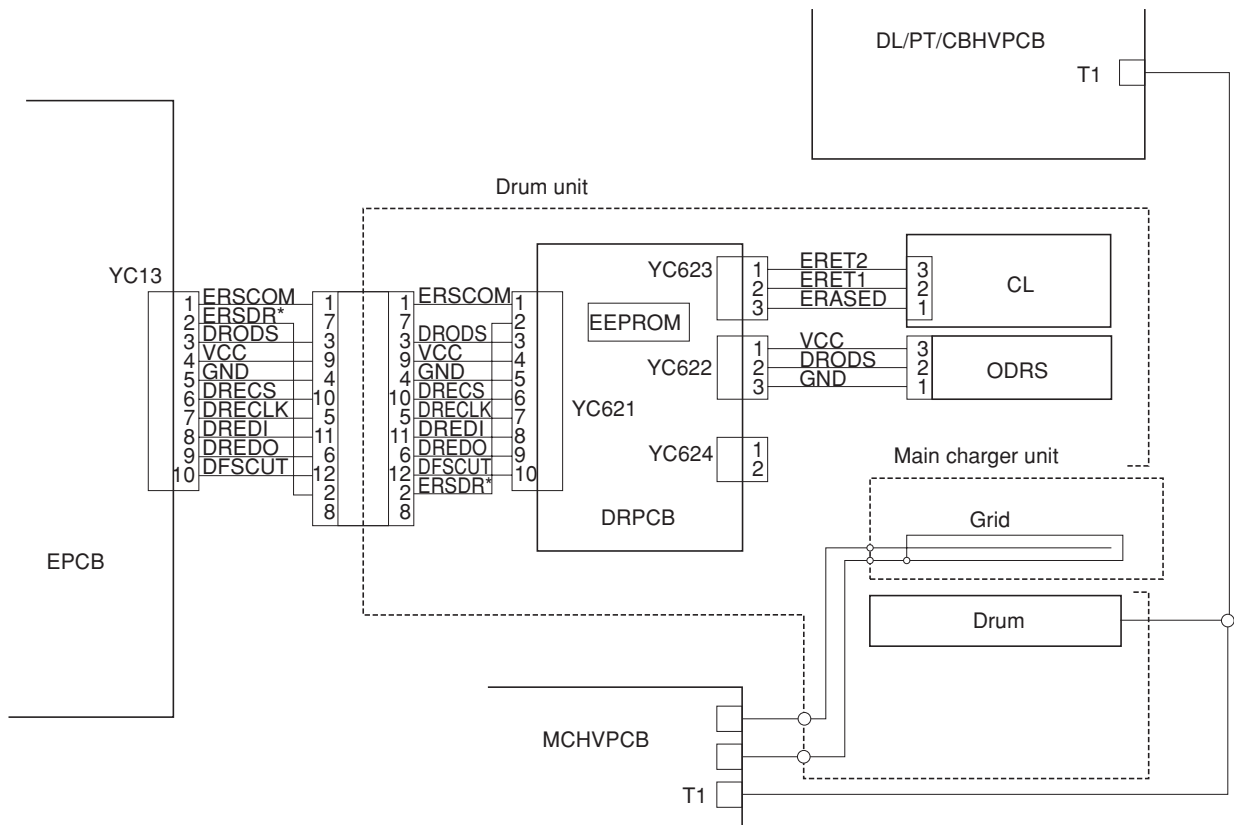


Figure 2-1-30 Drum unit and main charger unit block diagram

Dark decay

The main charge to the drum is delicately controlled by adjusting both the high voltage (+6 to +7 kV) and the potential at the main charger grid. The potential developed at the surface of the drum is also affected by the inherent sensitivity of the drum. The charge on the surface of the drum decreases as time passes by at the rate of approximately 100 V per second, known as the "dark decay". Since the developer units are located over different distances around the drum's circumference, to maintain the target surface potential (285 V for yellow/magenta/cyan, and 270 V for black) in the area on the drum where development for specific color occurs, the main charging is controlled in compensation with the dark decay for each color.

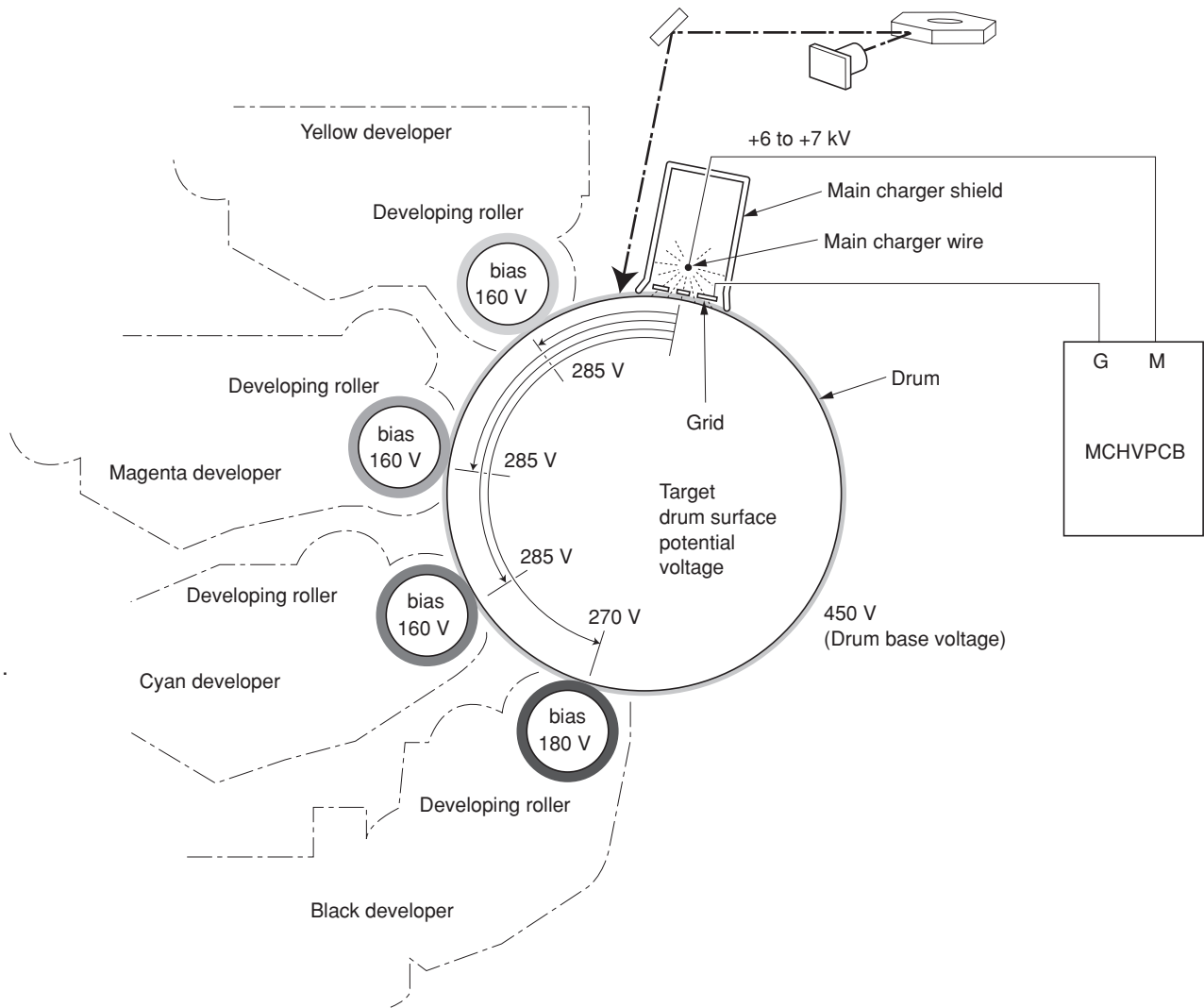


Figure 2-1-31 Dark decay

(2) Main charger unit

The main charger unit is devised at the top of the drum unit, consisting of a wire, grid, and a shield. The main charger disperses +6 kV to +7 kV high voltage over the drum in the beginning of the electrophotographic cycle. To clean the main charger wire of carbon dioxide, a manual cleaning system is provided.

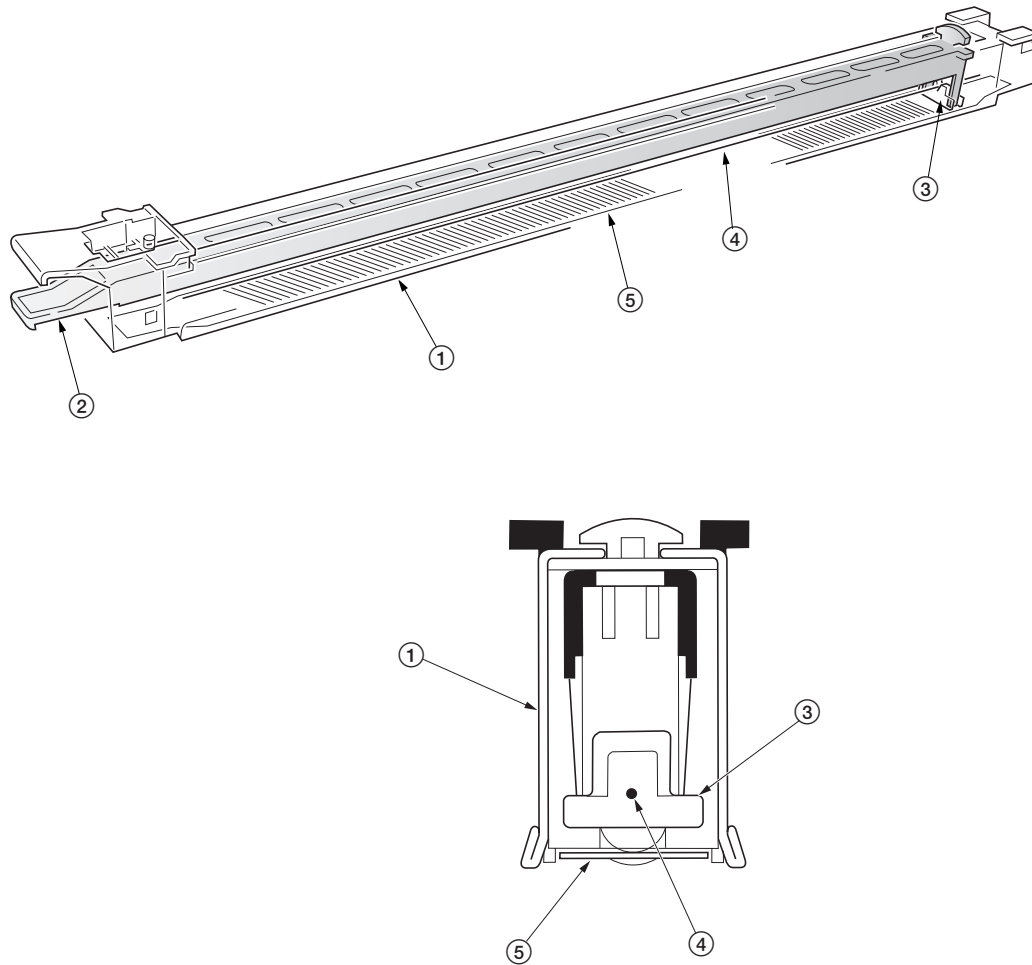


Figure 2-1-32 Main charger unit

- ① Main charger shield
- ② Main charger cleaning knob
- ③ Main charger cleaner
- ④ Main charger wire
- ⑤ Main charger grid

2-1-6 Primary transfer unit

(1) Primary transfer unit

The primary transfer unit has the primary transfer drum, as the main part, and the cleaning brush unit. The primary transfer drum is an aluminum cylinder, covered by the electroconductive sponge, and outermost by the fluorine-coated rubber. The primary transfer drum is 160 mm diametric; whereas the photoconductor drum is 80 mm diametric, having a diameter ratio of 2 to 1. One rotation of the photoconductor drum can produce one page of A4/11" \times 8 $\frac{1}{2}$ " image over the half circumference of the primary transfer drum. In other words, the primary transfer drum can have two pages of A4/11" \times 8 $\frac{1}{2}$ " size; or one page of A3/11" \times 17" size at a time.

The cleaning brush unit is equipped with a primary transfer unit heater at the lower part to prevent image running due to dew condensation at the primary transfer unit and drum (photoconductor). The heater is turned on when the machine is in the sleep mode to keep the temperature at the primary transfer unit and drum (photoconductor).

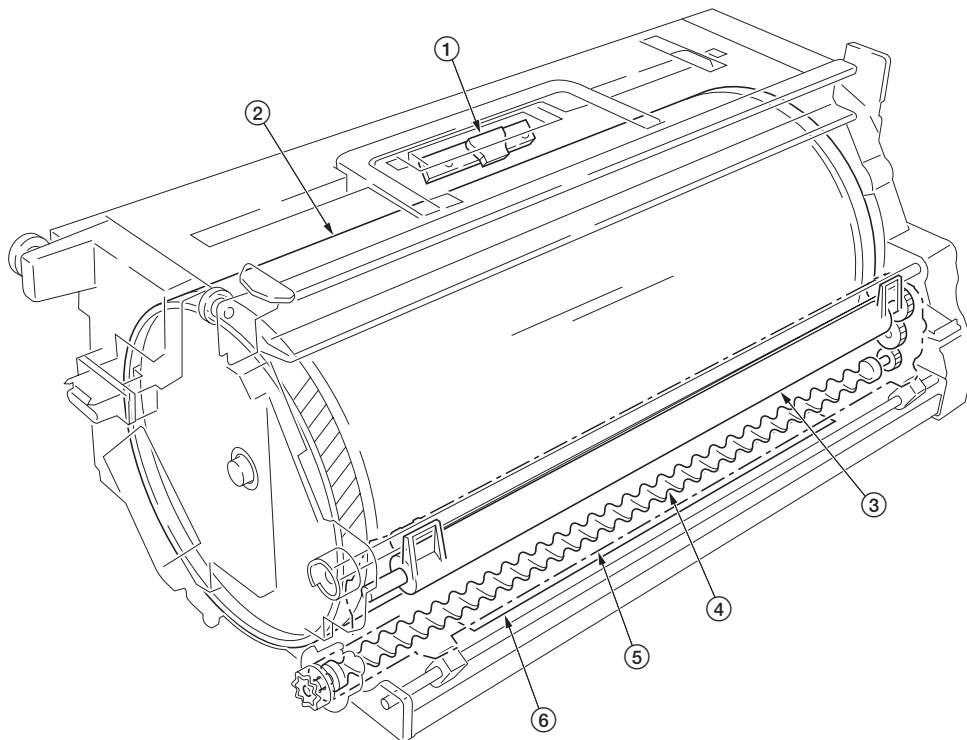


Figure 2-1-33 Primary transfer unit

- ① Primary transfer drum
- ② Image density sensor (IDS)
- ③ Cleaning brush
- ④ Exit screw
- ⑤ Cleaning brush unit
- ⑥ Primary transfer unit heater

(2) Cleaning brush unit

The cleaning brush unit contains the cleaning brush, cleaning roller, scrapers, and a spiral screw, and acts to remove and recollect the residual toner on the primary transfer drum. Note that the residual toner is removed not by being scraped off but by the electrostatic attraction. The cleaning brush is applied via the cleaning roller with the -600 V bias. Since the toner is positively biased, it is attracted to the cleaning brush. The residual toner attracted onto the cleaning brush is then scraped off by a blade and passed to the exit screw which in turn drives the toner to the waste toner duct.

A color image is constituted by four images of different colors overlapped one by one. The cleaning brush therefore must be dressed away from the primary transfer drum while a color image is being laid over the primary transfer drum before the subsequent transferring process. For this purpose, a cam mechanism that operates the cleaning brush unit is provided. The cam is driven by the cleaning brush unit shift solenoid for the cleaning brush.

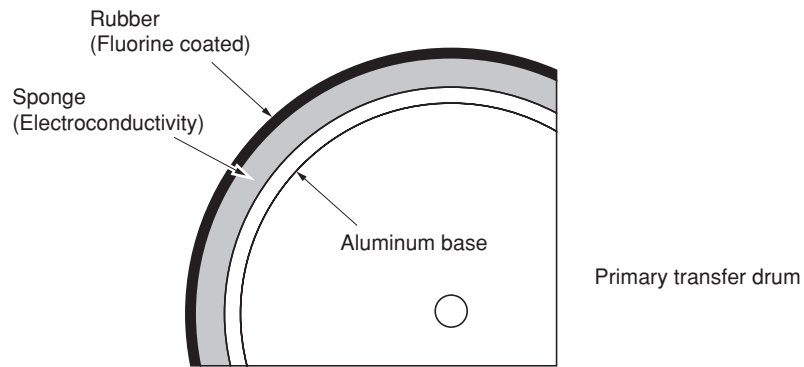


Figure 2-1-34 Primary transfer drum layer

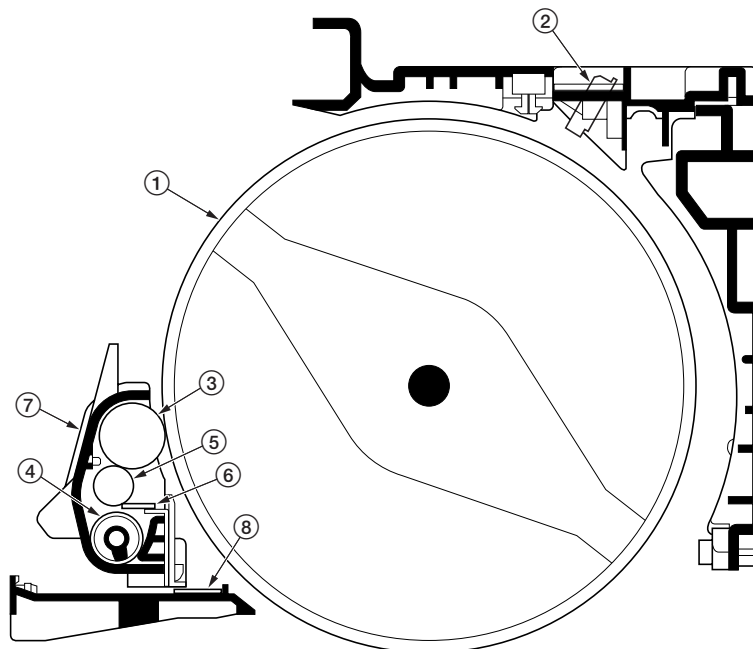


Figure 2-1-35 Primary transfer unit

- ① Primary transfer drum
- ② Image density sensor (IDS)
- ③ Cleaning brush
- ④ Exit screw
- ⑤ Cleaning roller
- ⑥ Cleaning brush blade
- ⑦ Cleaning brush unit
- ⑧ Primary transfer unit heater

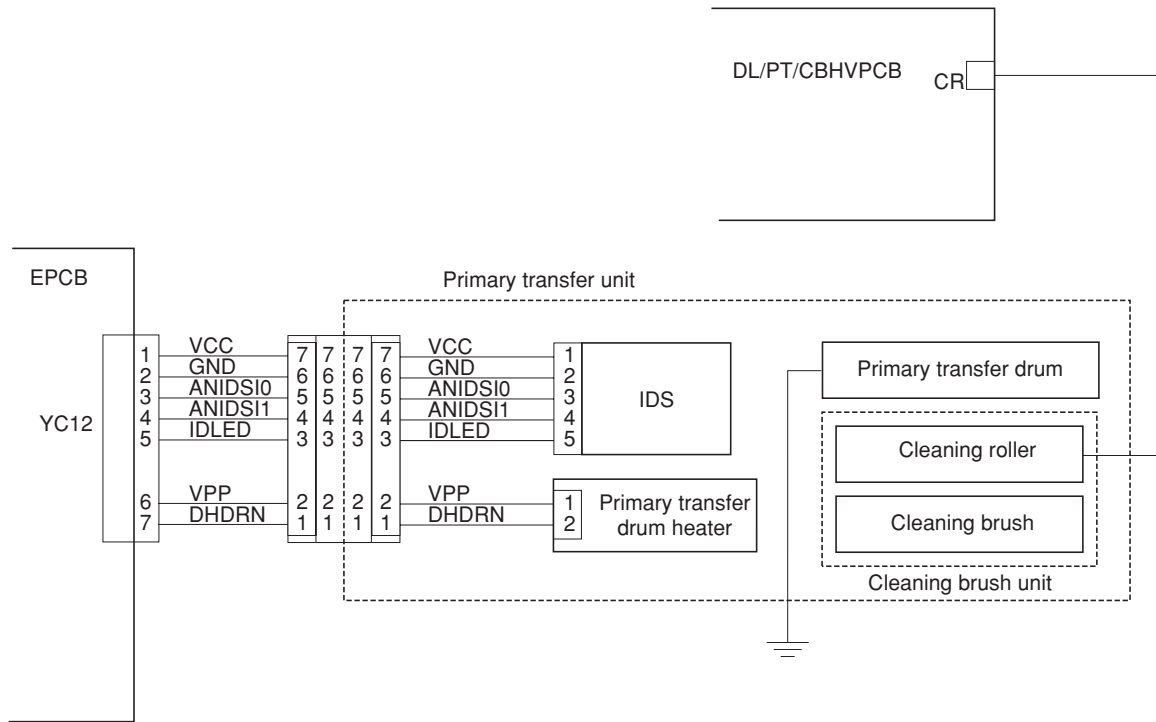


Figure 2-1-36 Primary transfer unit block diagram

Color copy process

In color copying, an image in each color is constituted over the drum unit one after another. Each image is developed by toner and transferred onto the primary transfer drum until four layers of cyan, magenta, yellow, and black are constituted over the primary transfer drum. The color layers are constituted on the primary transfer drum in the order of yellow (bottom-most), magenta, cyan, and black (top-most).

The photoconductor drum can create an A4/11" × 8½" image in two revolutions. (The diametric ratio for the photoconductor drum and the primary transfer drum is 1 to 2.) The primary transfer drum can complete two A4/11" × 8½" size image in one revolution, or one A3/11" × 17" size image in one revolution.

A3/11" × 17" size paper color copying process

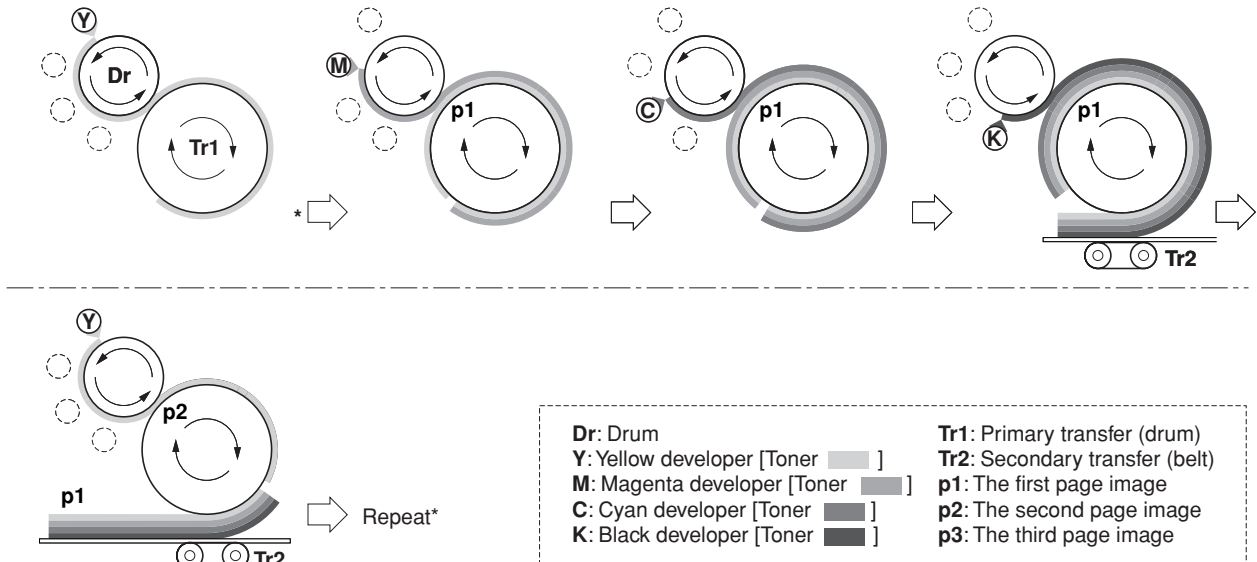


Figure 2-1-37 A3/11" × 17" size paper color printing process

Two-page mode

Two-page mode is the way the machine copys two A4/11" × 8½" size images in a single revolution of the primary transfer drum.

Two pages of A4/11" × 8½" size are laid side by side over the primary transfer drum in the order of yellow, magenta, cyan, and black as explained previously. For the fullest efficiency of printing, the machine copys these two pages in a way explained in Figure 2-1-38.

Table 2-1-1

Drum revolution	Page	Color	Page copied
1	1	Yellow	-
2	1	Magenta	-
3	1	Cyan	-
4	2	Yellow	-
5	1	Black	-
6	2	Magenta	1
7	3	Yellow	-
8	2	Cyan	-
9	3	Magenta	-
10	2	Black	-
11	3	Cyan	2

A4/11" × 8½" size paper color copying process (Two-page mode)

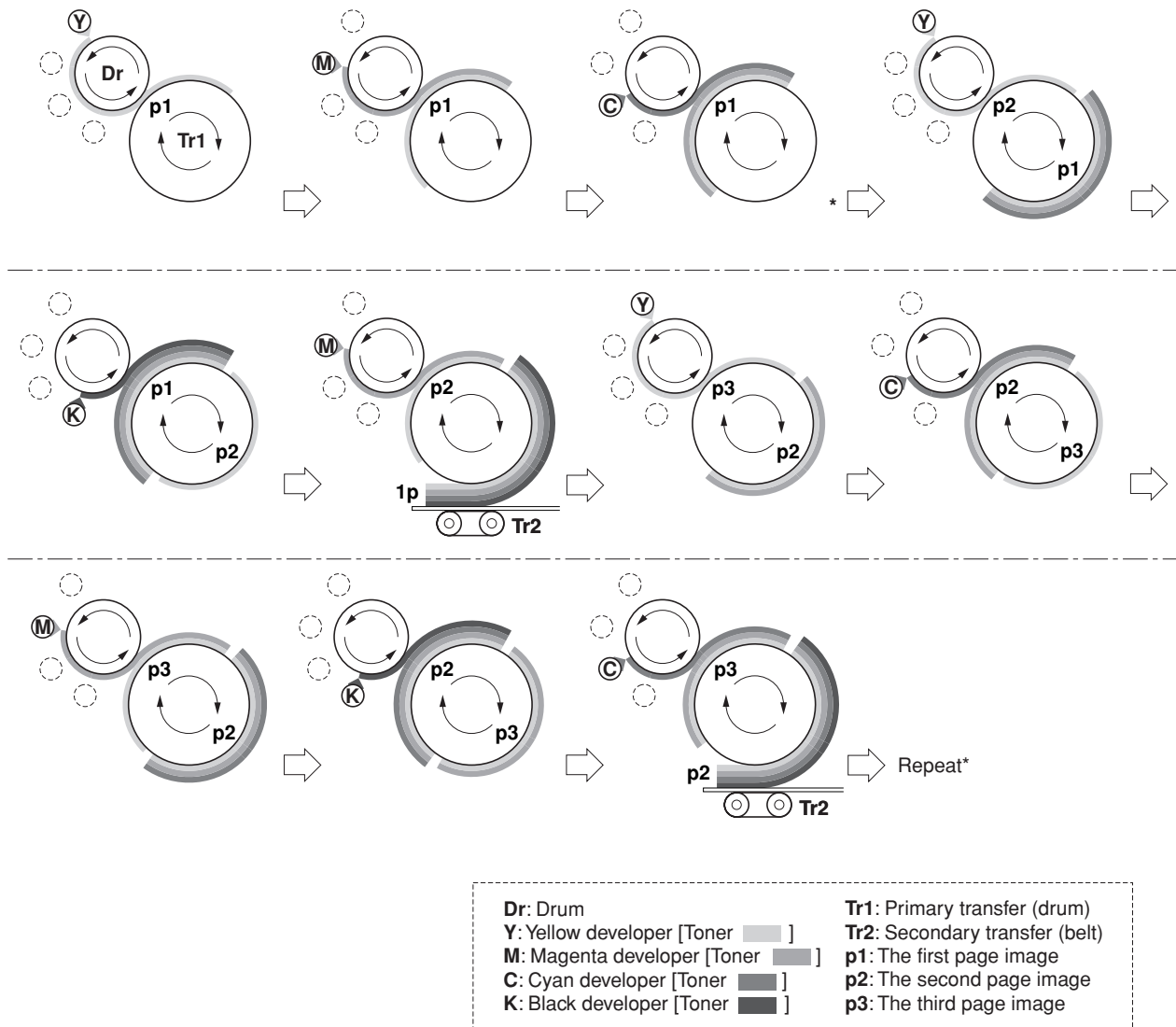


Figure 2-1-38 A4/11" × 8½" size paper color copying process (Two-page mode)

2-1-7 Fuser unit

The fuser unit is mounted on the left-most end of the paper feed unit and fixed by one screw, and detachable. The fuser unit literally fuse toner on the paper by means of heat and pressure, following the transferring process of the electrophotographic cycle.

Both the heat roller and the press/heat roller are of soft type (\varnothing 45 mm) and in contact with each other with a nip of approximately 10 mm. The nip is required to apply a sufficient heat capacity to the paper in color printing. Both rollers have a heater lamp inside (heat roller: 500 W, press/heat roller: 450 W). The heat roller and the press/heat roller hold paper on which toner images have been transferred in the secondary transfer process and apply heat and pressure to the paper to fix the toner images.

The fusing temperature is controlled as the thermistor for the top roller and the bottom roller signals the engine controller PCB. The heaters are activated in PWM (Pulse-Width Modulation) system depending on the temperature the two thermistor detect and report. The rollers are driven by a dedicated fuser motor. To optimize fusing depending on paper type, the revolution of the rollers are changed accordingly in half the normal speed for thick paper; quadruple the normal speed for transparencies.

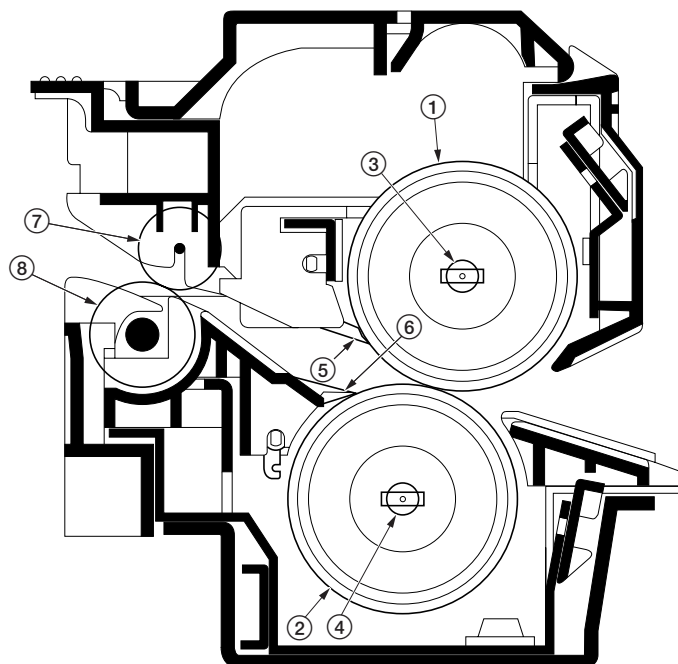


Figure 2-1-39 Fuser unit section

- ① Heat roller
- ② Press/heat roller
- ③ Upper fuser heater lamp (UFH)
- ④ Lower fuser heater lamp (LFH)
- ⑤ Upper separator
- ⑥ Lower separator
- ⑦ Exit pulley
- ⑧ Exit roller

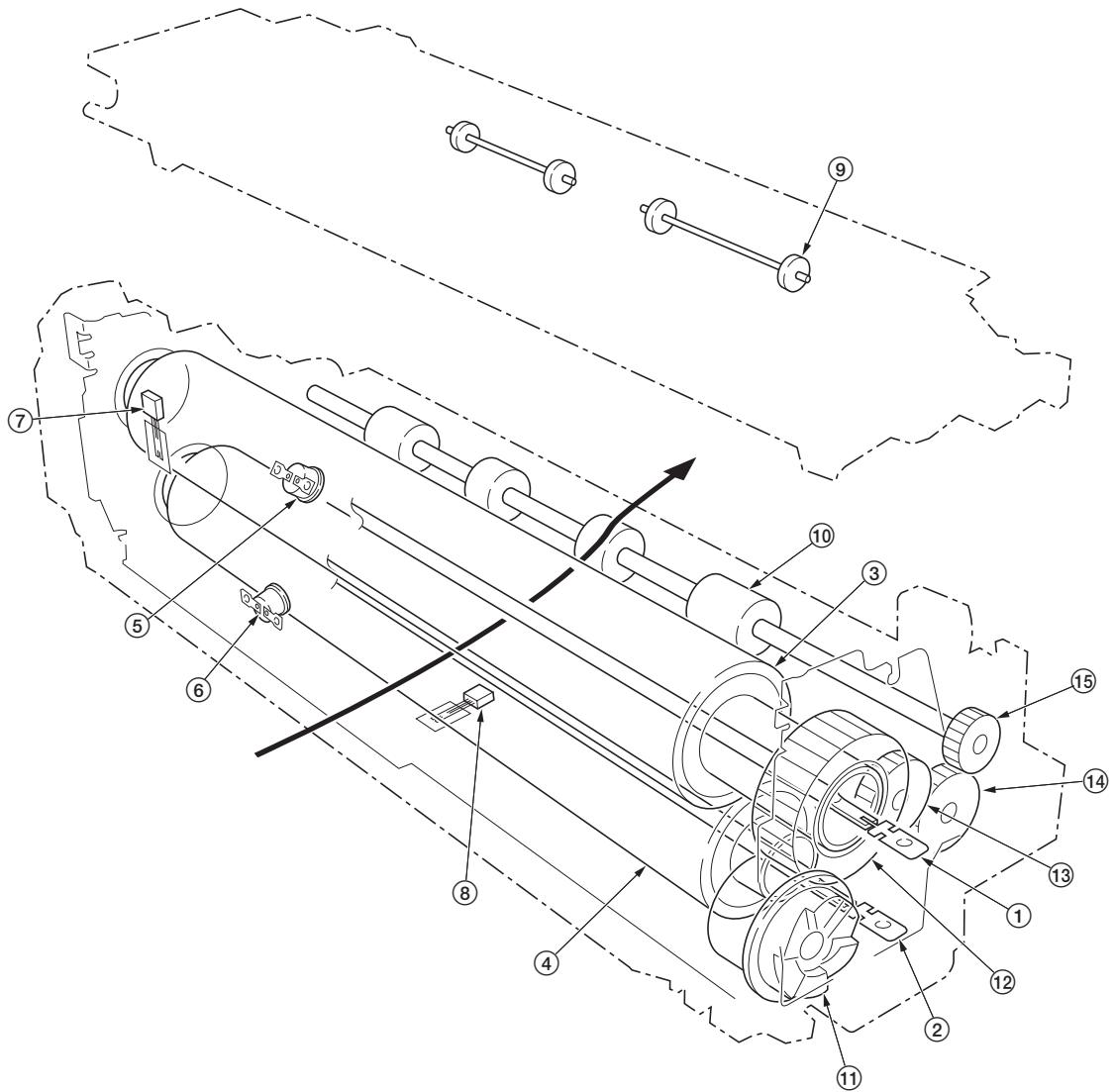


Figure 2-1-40 Fuser unit section

- | | |
|---------------------------------|--------------------|
| ① Upper fuser heater lamp (UFH) | ⑨ Exit pulley |
| ② Lower fuser heater lamp (LFH) | ⑩ Exit roller |
| ③ Heat roller | ⑪ Input gear |
| ④ Press/heat roller | ⑫ Fuser gear |
| ⑤ Upper thermostat (UTHS) | ⑬ Idle gear |
| ⑥ Lower thermostat (LTHS) | ⑭ Idle gear |
| ⑦ Upper fuser thermistor (UFTH) | ⑮ Exit roller gear |
| ⑧ Lower fuser thermistor (LFTH) | |

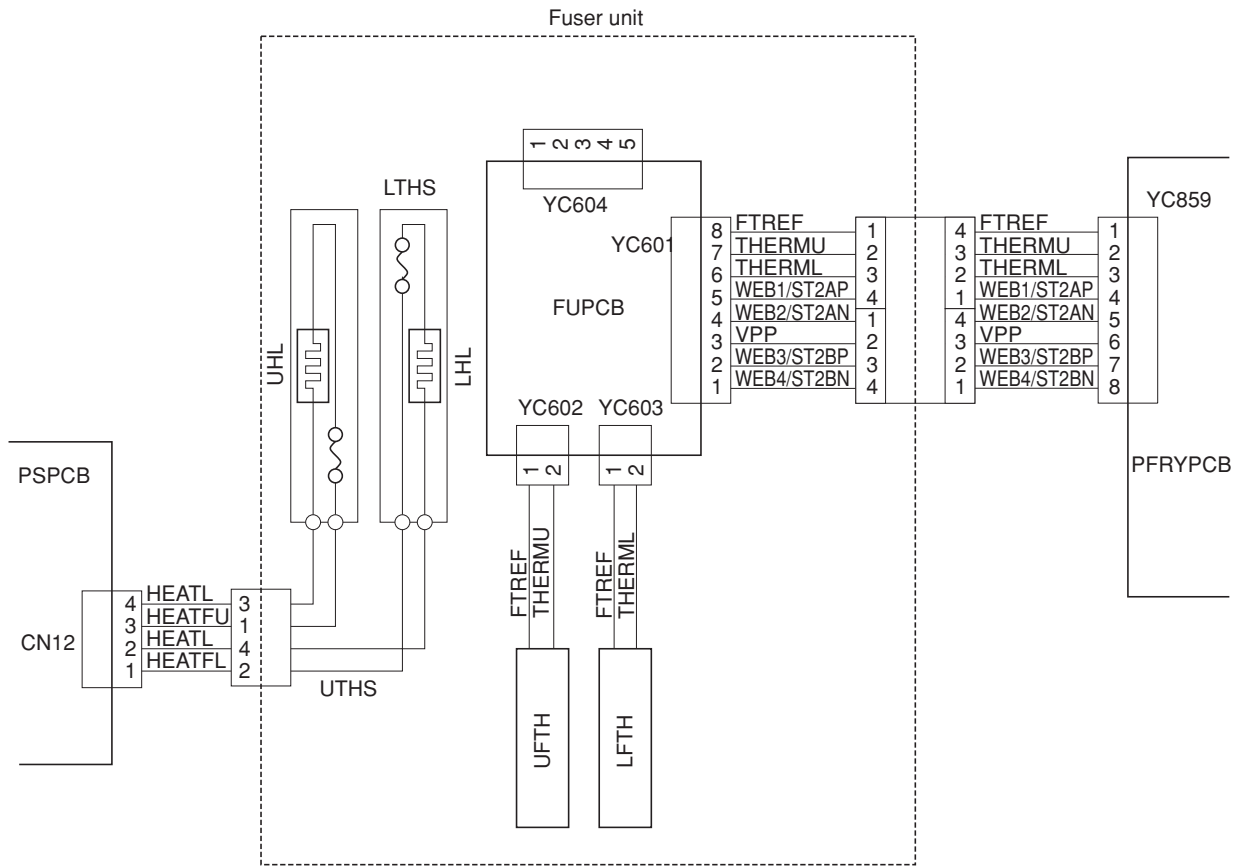


Figure 2-1-41 Fuser unit block diagram

2-1-8 Face-down unit

The face-down unit changes the destination the printed pages are stuck. For face-down, the paper is guided along the change guide vertically into the top tray. In face-up, a solenoid is activated (FUDSOL) to manipulate the change guide so that the paper is sent horizontally in the left tray.

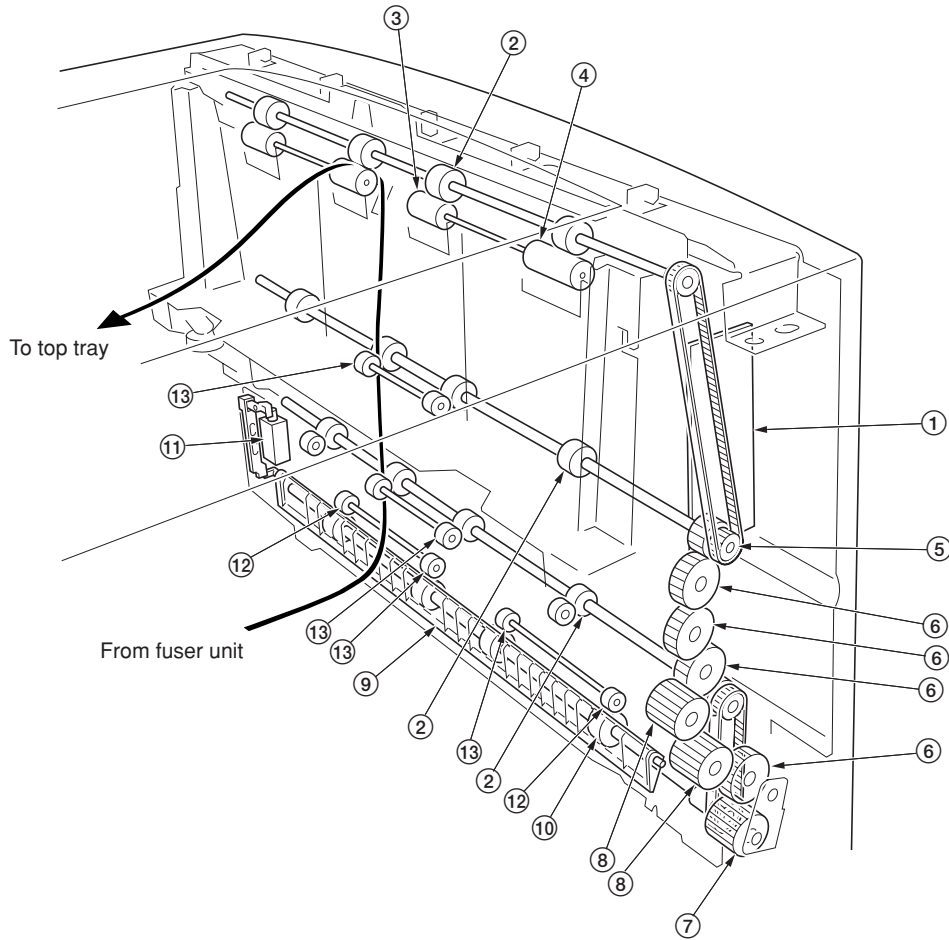


Figure 2-1-42 Face-down unit

- ① Face-down PCB (FDWPCB)
- ② FD roller
- ③ Exit AL pulley
- ④ Exit BL pulley
- ⑤ FD pulley gear Z18
- ⑥ Gear Z26
- ⑦ Input gear Z24
- ⑧ Gear Z22
- ⑨ Change guide
- ⑩ FU roller
- ⑪ Face up/down solenoid (FUDSOL)
- ⑫ Exit C pulley
- ⑬ Exit A pulley

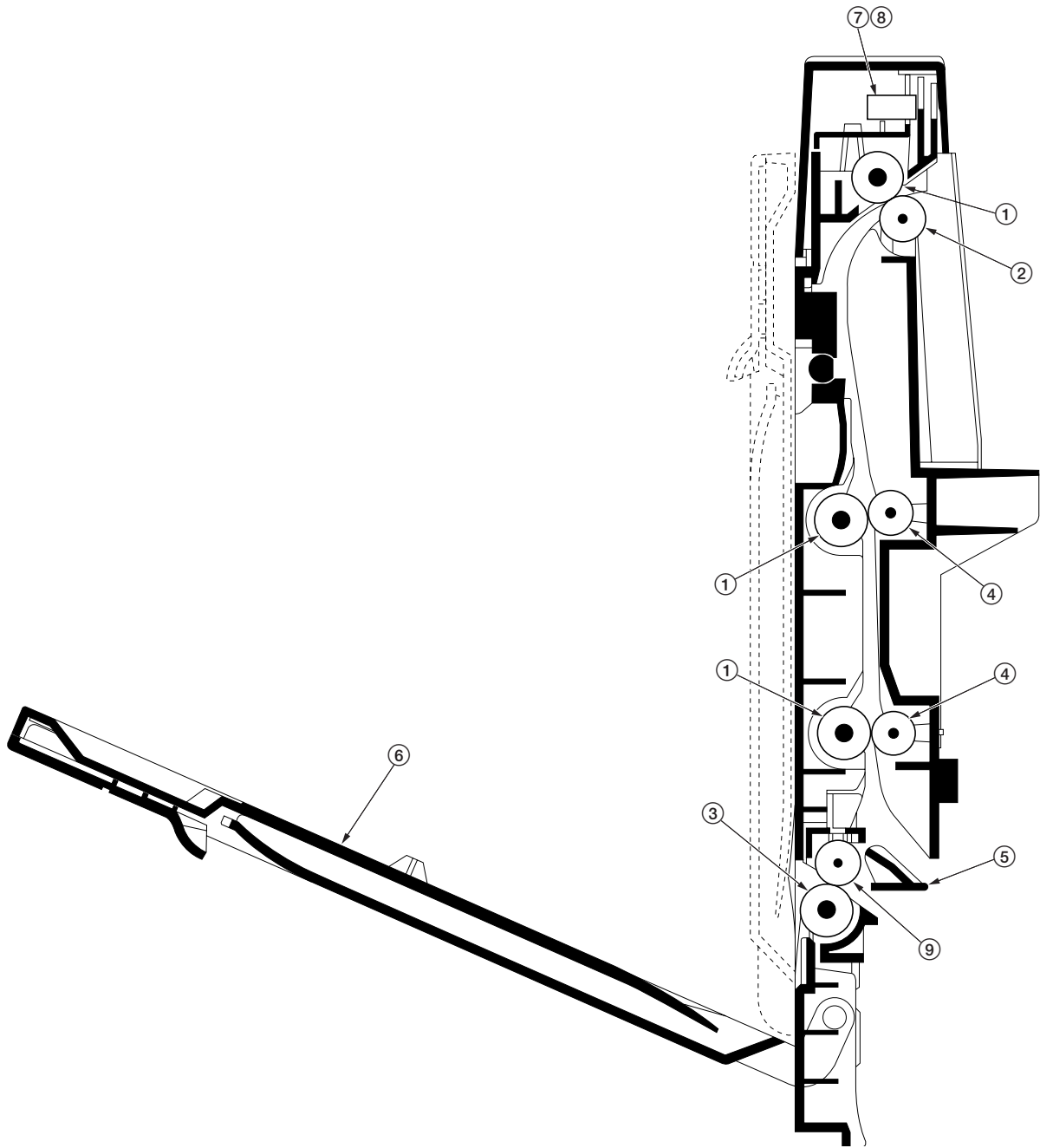


Figure 2-1-43 Face-down tray unit

- ① FD roller
- ② Exit AL pulley, Exit BL pulley
- ③ FU roller
- ④ Exit A pulley
- ⑤ Change guide
- ⑥ Face-up tray
- ⑦ Paper full sensor (PFS)
- ⑧ Face-down unit paper exit sensor (FDPEXS)
- ⑨ Exit A pulley, Exit C pulley

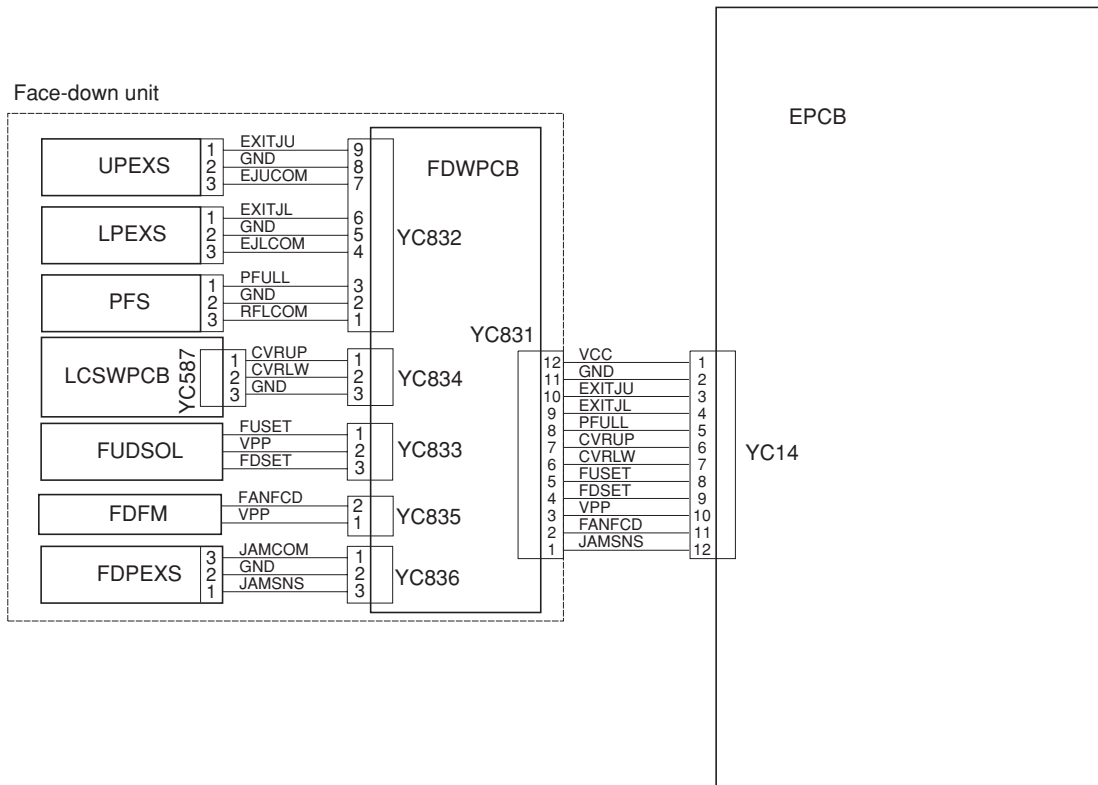


Figure 2-1-44 Face-down block diagram

2-2-1 Electrical parts layout

(1) Main frame front, face-down unit and bypass tray unit

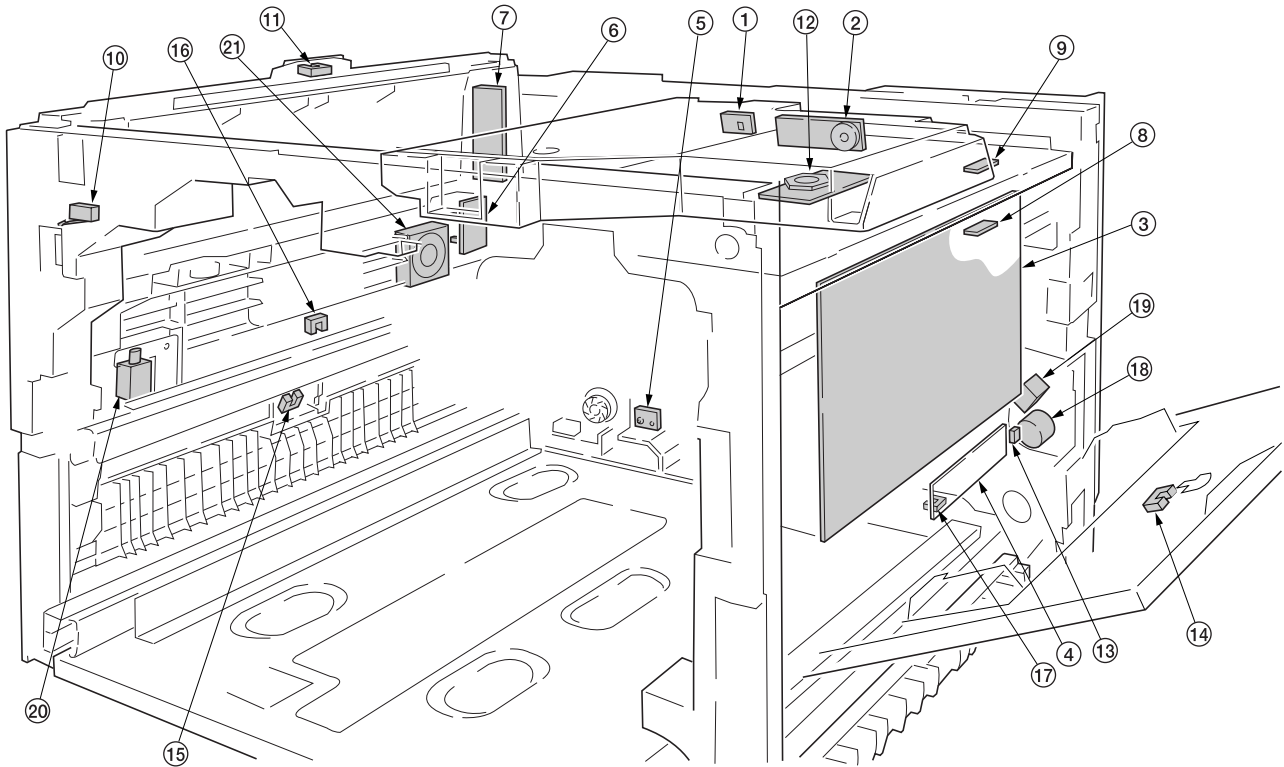


Figure 2-2-1 Main frame front, face-down unit and bypass tray unit

- | | | |
|---|-------|---|
| 1. PD PCB (PDPCB) | ..... | Detects laser beam. Generates the horizontal sync output. |
| 2. APC PCB (APCPCB) | ..... | Controls the laser beam output. |
| 3. Developing/primary transfer/cleaning
brush bias high voltage PCB
(DL/CBHVPB) | | Generates the developing bias and the primary transfer cleaning brush
bias. |
| 4. Bypass tray feed PCB (BYPFPCB) | | Detects the paper and its width in bypass tray. Activates electrical
components. |
| 5. Waste toner full sensor PCB (WTFSPCB) | ... | Detects the waste toner tank being full. |
| 6. Left cover switch PCB (LCSWPCB) | ..... | Monitors whether the left tray and the left cover is open. |
| 7. Face-down PCB (FDPCB) | ..... | Relays wirings for the face-down tray unit electrical components. |
| 8. Black toner empty sensor PCB
(KTESPCB) | | Monitors toner in the black toner container (emitter) |
| 9. Black toner empty sensor PCB
(KTESPCB) | | Monitors toner in the black toner container (receptor) |
| 10. Interlock switch (INTLSW) | ..... | Monitors whether the front cover is open and the 24 V DC power. |
| 11. Paper full sensor (PFS) | ..... | Detects whether the top tray is full. |
| 12. Polygon motor (PM) | ..... | Revolves the polygon mirror. |
| 13. Bypass tray bottom plate position sensor
(BYBPBPS) | | Detects bypass tray bottom plate position. |
| 14. Middle paper feed sensor (MPFS) | ..... | Detects paper jam at the paper feed unit. |
| 15. Lower paper exit sensor (LPEXS) | ..... | Detects paper jam at the top tray. |
| 16. Upper paper exit sensor (UPEXS) | ..... | Detects paper jam at the left cover. |
| 17. Bypass tray sensor (BYPS) | ..... | Detects paper on the bypass tray. |
| 18. Bypass paper feed clutch (BYPFCL) | ..... | Controls drive chain to the bypass tray feed roller. |

2CX

- 19. Bypass tray bottom plate solenoid (BYPBPSOL) Activates the bypass tray bottom plate.
- 20. Face up/down solenoid (FUDSOL) Switches the output stack between face up and face down.
- 21. Face-down unit fan motor (FDFM) Dissipates the heated air in the copier.

(2) Developers, drum unit and main charger unit

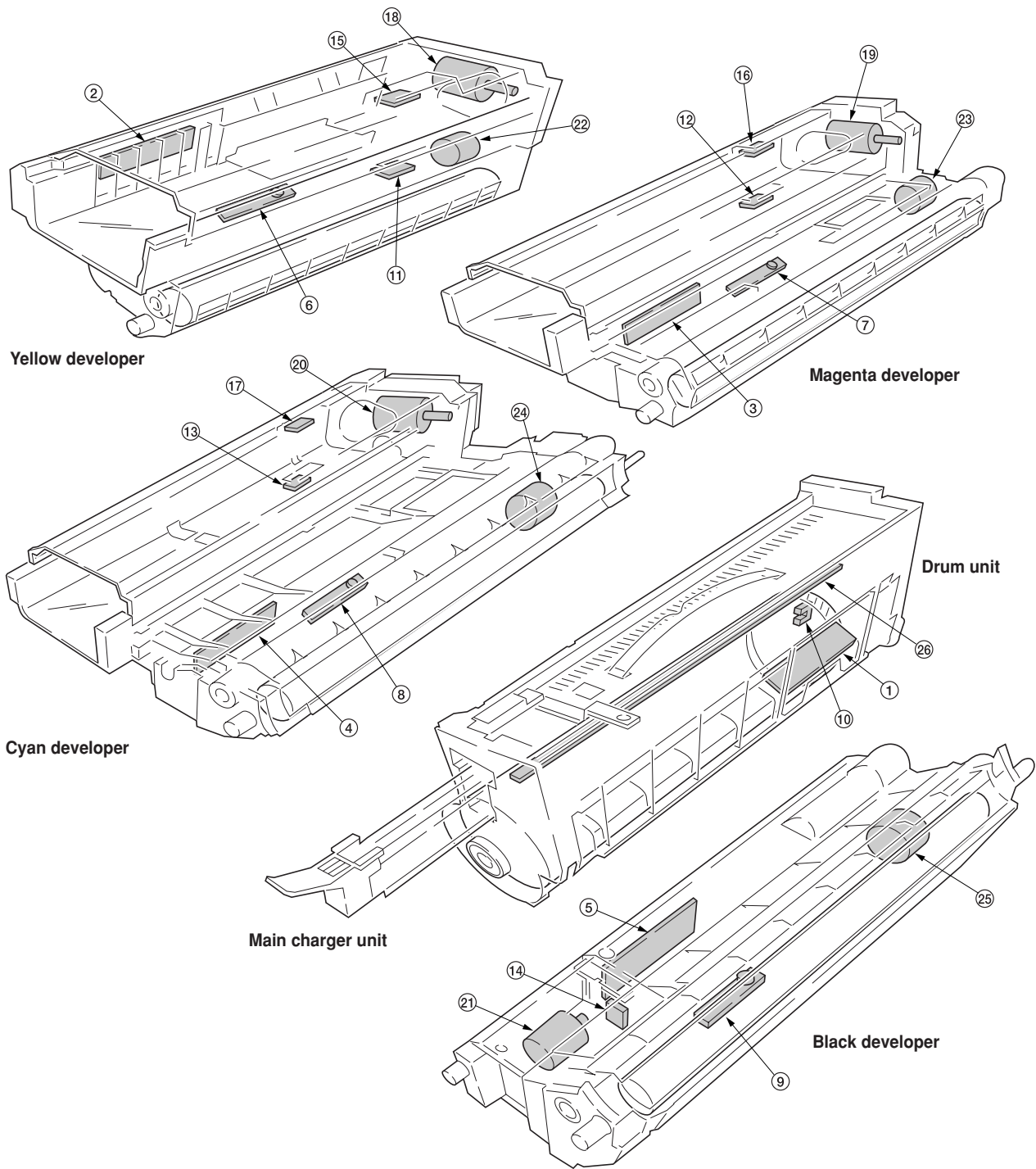


Figure 2-2-2 Developers, drum unit and main charger unit

2CX

1. Drum PCB (DRPCB) Accommodates the individual information for the drum including the light sensitivity, serial number, etc.
2. Yellow developer PCB (YDLPPCB) Relays wirings for the electrical component in the yellow developer.
3. Magenta developer PCB (MDLPPCB) Relays wirings for the electrical component in the magenta developer.
4. Cyan developer PCB (CDLPPCB) Relays wirings for the electrical component in the cyan developer.
5. Black developer PCB (KDLPPCB) Relays wirings for the electrical component in the black developer.
6. Yellow T/C sensor (YTPCS) Measures the toner concentration in the hopper for the yellow developer.
7. Magenta T/C sensor (MTPCS) Measures the toner concentration in the hopper for the magenta developer.
8. Cyan T/C sensor (CTPCS) Measures the toner concentration in the hopper for the cyan developer.
9. Black T/C sensor (KTPCS) Measures the toner concentration in the hopper for the black developer.
10. Offset drum sensor (ODRS) Detects the home position for the drum at which revolution begins.
11. Yellow toner empty sensor (YTEMPS) Measures toner in the yellow toner container (emitter).
12. Magenta toner empty sensor (MTEMPS) Measures toner in the magenta toner container (emitter).
13. Cyan toner empty sensor (CTEMPS) Measures toner in the cyan toner container (emitter).
14. Black toner Intermediate hopper sensor (KTIHS) Measure toner in the intermediate hopper for the black developer.
15. Yellow toner empty sensor (YTEMPS) Measures toner in the yellow toner container (receptor).
16. Magenta toner empty sensor (MTEMPS) Measures toner in the magenta toner container (receptor).
17. Cyan toner empty sensor (CTEMPS) Measures toner in the cyan toner container (receptor).
18. Yellow toner feed motor (YTFM) Replenishes the yellow developer with toner.
19. Magenta toner feed motor (MTFM) Replenishes the magenta developer with toner.
20. Cyan toner feed motor (CTFM) Replenishes the cyan developer with toner.
21. Black toner feed motor (KTFM) Replenishes the intermediate toner hopper for the black developer with toner.
22. Yellow developer drive clutch (YDLPDCL) ... Drives the yellow developer.
23. Magenta developer drive clutch (MDLPDCL) Drives the magenta developer.
24. Cyan developer drive clutch (CDLPDCL) Drives the cyan developer.
25. Black developer drive clutch (KDLPDCL) Drives the black developer.
26. Cleaning lamp (CL) Discharges the drum.

(3) Primary transfer, secondary transfer, paper feed and fuser units

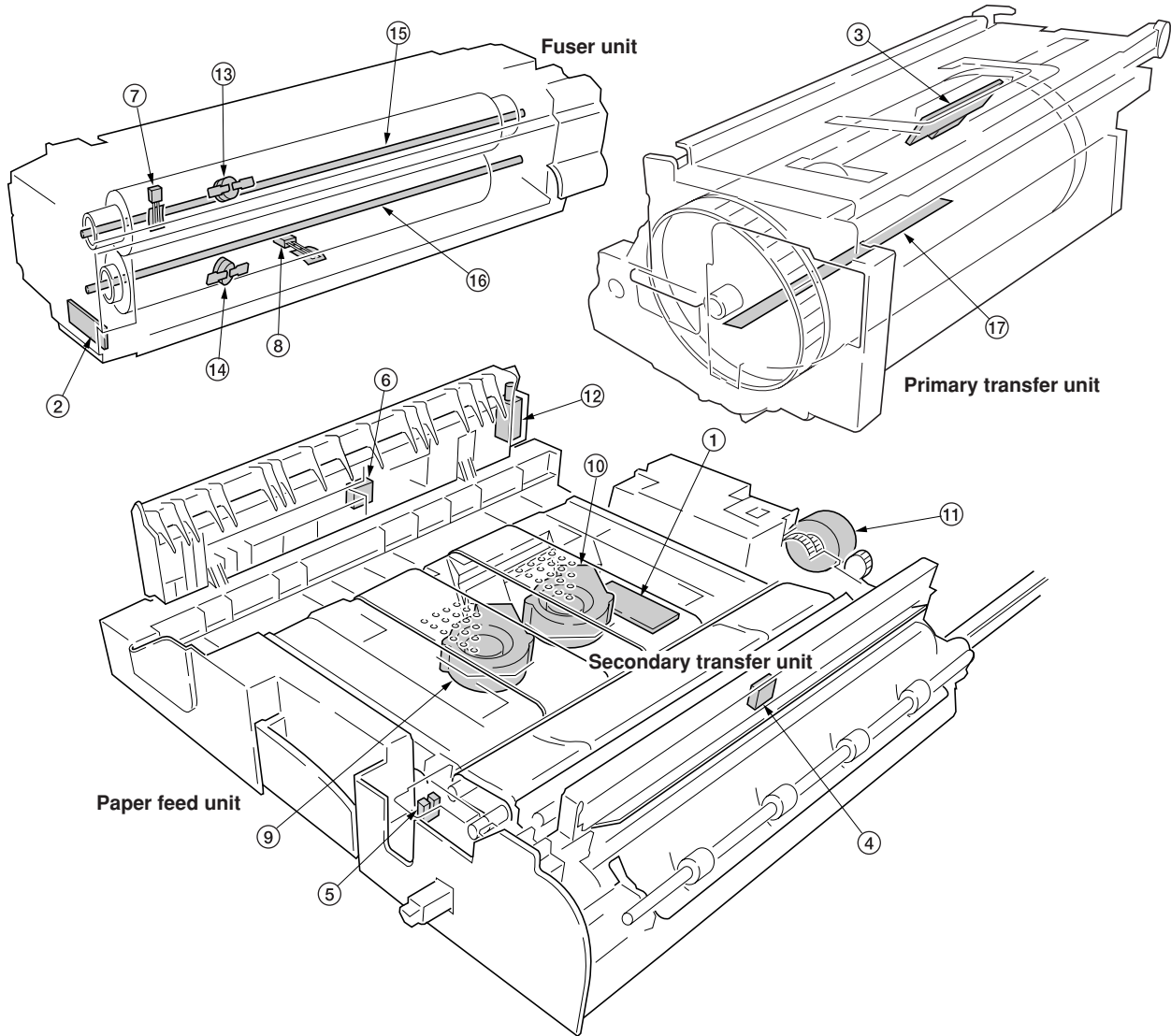


Figure 2-2-3 Primary transfer, secondary transfer, paper feed and fuser units

- 1. Feed PCB (FPCB) Controls electrical components in the paper feed unit.
- 2. Fuser PCB (FUPCB) Relays wirings from electrical components on the fuser unit.
- 3. Image density sensor (IDS) Measures image density for color calibration.
- 4. Registration sensor (REGS) Determines the starting point for registration.
- 5. Secondary transfer unit position sensor (STRPS) Determines the starting point for secondary transfer unit (transfer belt).
- 6. Duplex paper exit sensor (DUPEXS) Detects paper jam at the outlet for the duplex unit.
- 7. Upper fuser thermistor (UFTH) Measures the upper heat roller temperature.
- 8. Lower fuser thermistor (LFTH) Measures the lower heat roller temperature.
- 9. Paper conveying fan motor 1 (PCFM1) Attracts paper towards the conveying belt.
- 10. Paper conveying fan motor 2 (PCFM2) Attracts paper towards the conveying belt.
- 11. Secondary transfer unit shift clutch (STRSCL) Controls recessing the secondary transfer unit (transfer belt).
- 12. Duplex paper exit selection solenoid (DUPEXSOL) Switches the flap for guiding paper to the duplex unit.

2CX

- 13. Upper thermostat (UTHS) Disable power for the upper heater lamp in emergency.
- 14. Lower thermostat (LTHS) Disable power for the lower heater lamp in emergency.
- 15. Upper fuser heater (UFH) Energize the upper heat roller.
- 16. Lower fuser heater (LFH) Energize the lower heat roller.
- 17. Primary transfer unit heater Prevents the dew condensation in the primary transfer unit and the drum (photoconductor).

(4) Main frame rear and controller box

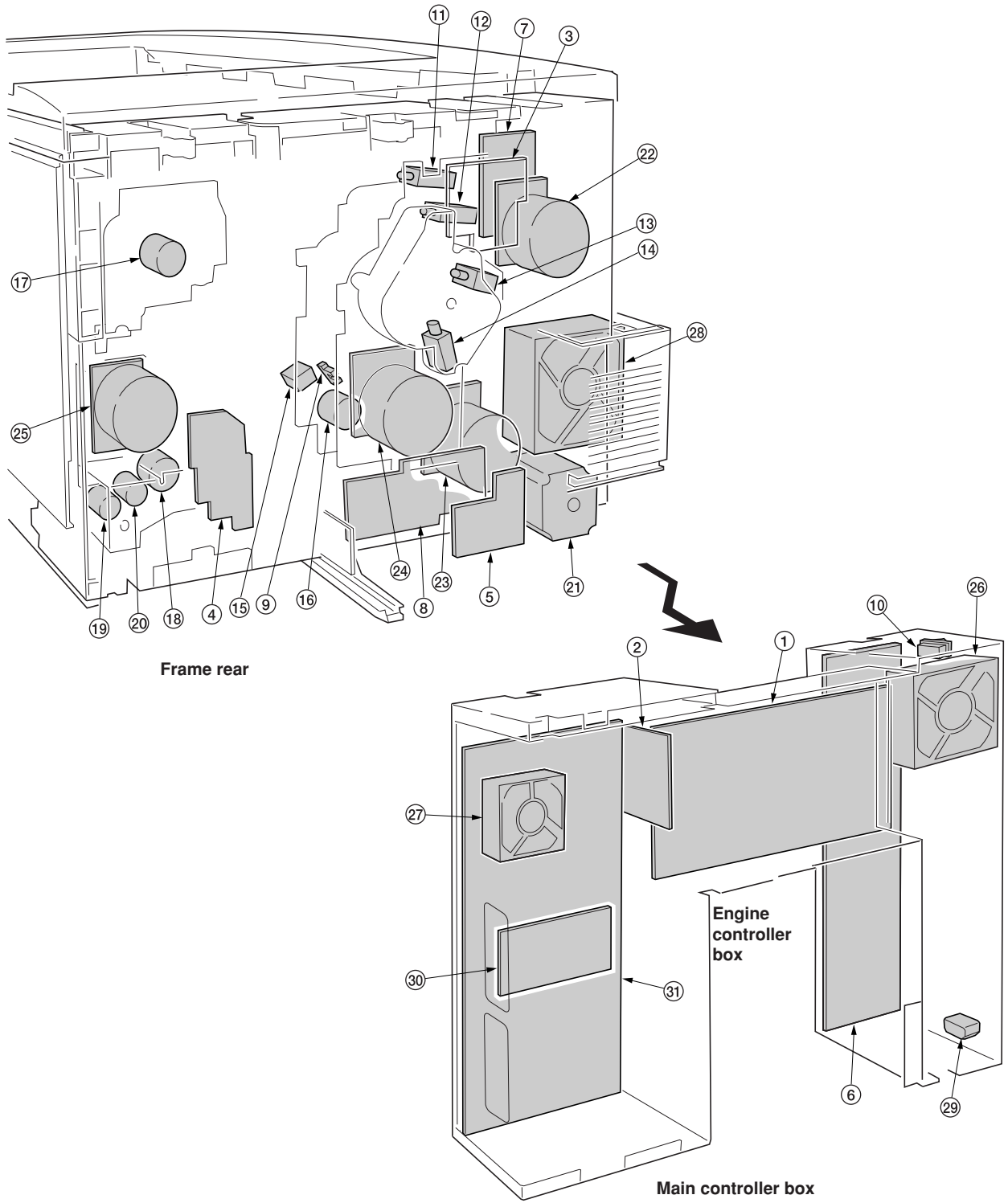


Figure 2-2-4 Main frame rear and controller box

1. Engine controller PCB (EPCB) Controls copier hardware including electrical components.
2. Engine controller-printer board relay PCB (EPRYP) Interconnects the engine controller PCB and the printer board PCB.
3. Main drive PCB (MDPCB) Controls the developer units, solenoids for the primary transfer unit, and clutches.
4. Feed drive PCB (FDPCB) Interconnects the electrical components paper in the paper feed unit.
5. Paper feeder/options relay PCB (PFRYP) Interconnects the bottom-mounted options and paper exit options.
Drives the fuser unit drive motor.
6. Power supply PCB (PSPCB) Receives AC mains supply and converts into 5 V DC and 24 V DC.
7. Main charger high voltage PCB (MCHVPCB) Generates the main charger high voltage.
8. Secondary transfer bias high voltage PCB (STHVPCB) Generates the secondary transfer bias.
9. Cleaning brush unit position sensor (CBPS) Detects the position of the cleaning brush unit.
10. Power switch (PSW) Switches AC power input on and off.
11. Yellow developer magnet solenoid (YDLPMSOL) Activates the magnetic brush for development (by repositioning the magnet), yellow.
12. Magenta developer magnet solenoid (MDLPMSOL) Activates the magnetic brush for development (by repositioning the magnet), magenta.
13. Cyan developer magnet solenoid (CDLPMSOL) Activates the magnetic brush for development (by repositioning the magnet), cyan.
14. Black developer magnet solenoid (KDLPM) Activates the magnetic brush for development (by repositioning the magnet), black.
15. Cleaning brush unit sift solenoid (CBSSOL) Controls recessing the cleaning brush unit.
16. Cleaning brush unit drive clutch (CBDCL) Controls driving the cleaning brush unit.
17. Black toner feed clutch (KTFCL) Controls driving the black toner container and the black toner feed assembly.
18. Registration clutch (REGCL) Controls driving the registration roller.
19. Paper feed clutch (PFCL) Controls driving the paper feed roller.
20. Middle paper feed clutch Controls driving the paper feed roller.
21. Fuser unit drive motor (FUDM) Controls driving the fuser unit and the conveying belts in the paper feed unit.
22. Color developers drive motor (CDLPDM) Drives the yellow, magenta, and cyan developers.
23. Black developer drive motor (KDLPDM) Drives the black developer.
24. Main drive motor (MDM) Drives the drum unit.
25. Paper feed motor (PFM) Drives the paper feed unit.
26. Power supply unit fan motor (PSFM) Dissipates heat in the power supply unit.
27. Main controller box fan motor (MFM)* Dissipates heat from the main controller box.
28. Fuser unit fan motor (FUFM) Dissipates heat from the fuser unit.
29. AC inlet Inputs AC mains supply.
30. Hard disk unit (HDD)* Holds print jobs.
31. Printer board PCB (PRYP) Implements firmware for managing data processing for printing, interface with PC and the network, etc.

(5) Scanner unit, electric component unit and operation unit

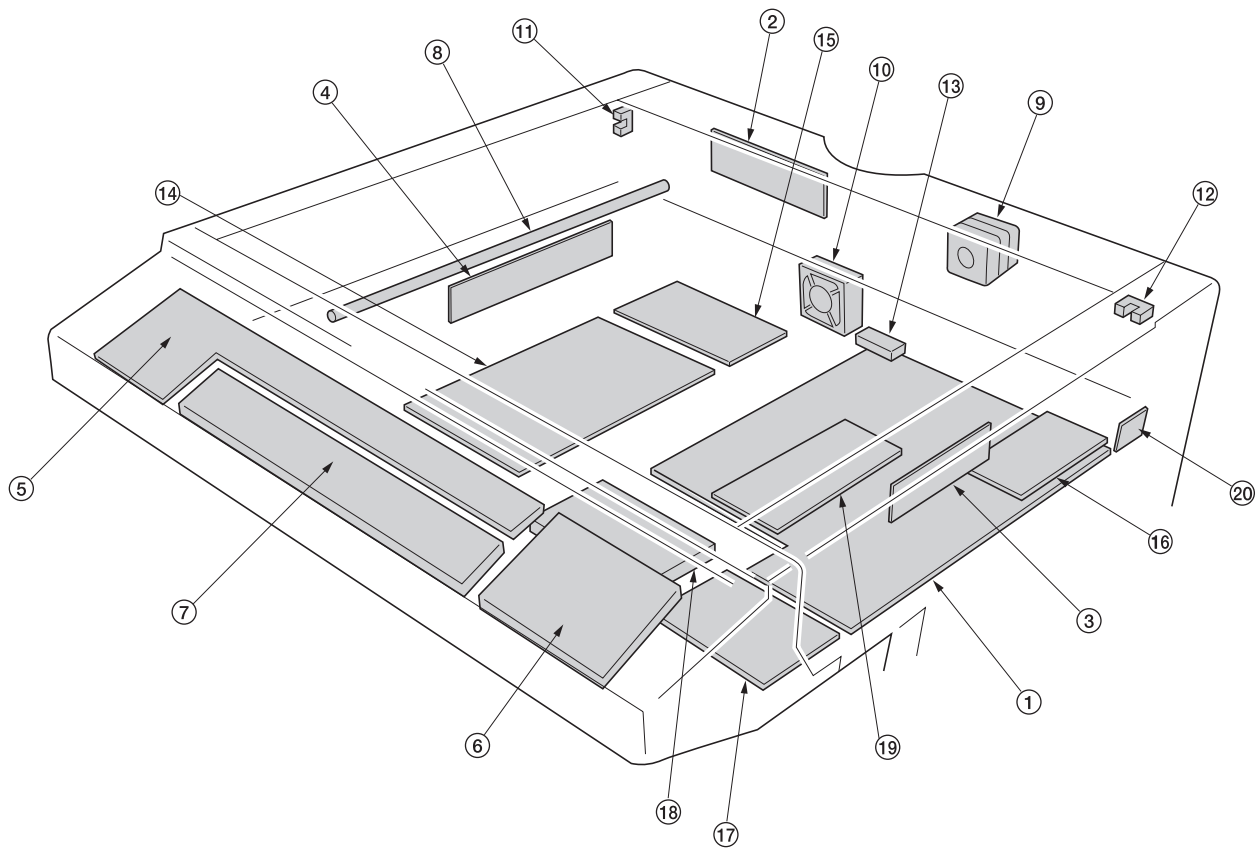


Figure 2-2-5 Scanner unit, electric component unit and operation unit

- | | |
|--|--|
| 1. Scanner main PCB (SMPCB) | Controls the scanning PCBs and electrical parts. |
| 2. Scanner relay PCB (SRYPCB) | Interconnects scanner electrical parts and the scanner main PCB. |
| 3. CCD PCB | Reads the image of original. |
| 4. Inverter PCB (INPCB) | Controls the exposure lamp. |
| 5. Operation unit left PCB (OPPCB-L) | Controls touch panel. |
| 6. Operation unit right PCB (OPPCB-R) | Consists of the operation keys and display LEDs. |
| 7. LCD PCB (LCDPCB) | Controls LCD indication. |
| 8. Exposure lamp (EL) | Exposes originals. |
| 9. Scanner motor (SM) | Drives the optical system. |
| 10. Electric component unit fan motor
(ECUFM) | Dissipates the heated air in the electric component unit. |
| 11. Scanner home position switch (SHPSW) | Detects the optical system in the home position. |
| 12. Original detection switch (ODSW) | Operates the original size detection sensor. |
| 13. Original size detection sensor (OSDS) | Detects the size of the original. |
| 14. Fax control PCB (FAXPCB)*1 | Processes the image data and controls overall fax functions. |
| 15. NCU PCB (FAXPCB)*1 | Controls connection to the telephone line. |
| 16. Network scanner board PCB (NSPCB)*1 | Controls the network connection. |
| 17. Memory copy board PCB (MCPCB)*2 | Stores the image data. |
| 18. Hard disk unit (HDD)*2 | Holds print jobs. |
| 19. Scanner sub PCB (SSPCB) | Assists the scanner main PCB. |
| 20. Humidity/temperature sensor
(HUMTEMPMS) | Detects the ambient temperature and humidity. |

*1: Optional.

*2: Optional for simplex copiers.

2-3-1 Power source PCB

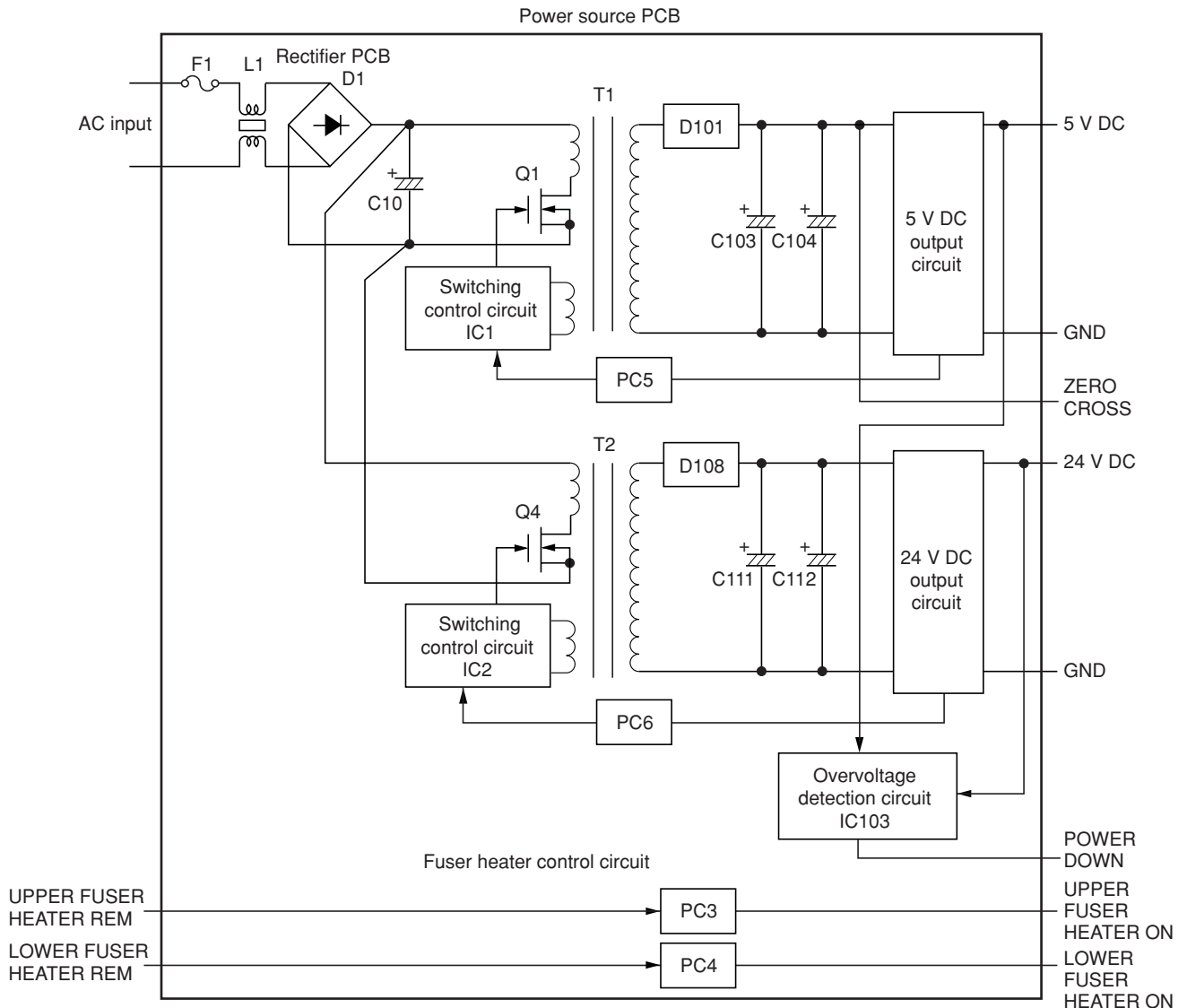


Figure 2-3-1 Power source PCB block diagram

The power source PCB (PSPCB) is a switching regulator that converts an AC input to generate 24 V DC and 5 V DC. It includes a rectifier circuit, a switching regulator circuit, a 24 V DC output circuit, a 5 V DC output circuit, an overvoltage detection circuit and a fuser heater control circuit.

The rectifier circuit full-wave rectifies the AC input using the diode bridge D1. The smoothing capacitor C10 smoothes out the pulsed current from the diode bridge.

In the switching control circuit, PWM controller IC1 and IC2 turn the power MOSFET Q1 and Q4 on and off to switch the current induced in the primary coil of the transformer T1 and T2.

The 5 V DC output circuit smoothes the current induced in the secondary coil of the transformer T1 via diode D101 and smoothing capacitors C103 and C104, and the output is controlled by the overvoltage detection circuit IC103. For 5 V DC output, the PWM controller IC (IC2) of the switching control circuit changes the duty of the switching pulse width of the power MOSFET Q1 via a photo coupler PC5 based on the output voltage status to adjust the 5 V DC output.

The 24 V DC output circuit smoothes the current induced in the secondary coil of the transformer T1 via diode D108 and smoothing capacitors C111 and C112, and the output is controlled by the overvoltage detection circuit IC103. For 24 V DC output, the PWM controller IC (IC1) of the switching control circuit changes the duty of the switching pulse width of the power MOSFET Q1 via a photo coupler PC6 based on the output voltage status to adjust the 24 V DC output.

The overvoltage detection circuit IC103 monitors the overvoltage status of 24 V DC and 5 V DC, and when it detects an abnormal status, it moves the power source to a standby condition.

The fuser heater control circuit sends a waveform of which zero-cross is detected to the engine controller PCB (EPCB), which controls the timing of upper and lower heaters based on it to turn on the phototriacs PC3 and PC4. When the phototriacs PC3 and PC4 turn on, AC current flows to turn the upper and lower heaters on.

Connector	Pin No.	Signal	I/O	Description
CN1 Connected to the AC power plug	1	LIVE	I	120 V AC or 220-240 V AC
	2	N.C.	-	
	3	NEUTRAL	I	120 V AC or 220-240 V AC
CN2 Connected to the fuser unit	1	HEATFL	O	Lower heater lamp (COMMON)
	2	HEATL	O	Lower heater lamp (LIVE)
	3	HEATFU	O	Lower heater lamp (COMMON)
	4	HEATL	O	Lower heater lamp (LIVE)
CN13 Connected to the power switch	1	PWRDYC	O	Power switch ON/OFF detection signal
	2	-	-	
	3	POWC1	O	AC power on/off
	4	-	-	
	5	NTRL1	O	Power switch ON/OFF detection signal
	6	-	-	
	7	POWC2	O	AC power on/off
CN14 Connected to optional fax or document finisher	1	FAXLIVE	O	Power source for FAX (LIVE)
	2	NC	-	Not used
	3	FINLIVE	O	Power source for finisher (LIVE)
	4	FAXLIVE	I	AC power (LIVE)
	5	NC	-	Not used
	6	FAXNEUTRAL	O	Power source for FAX (NEUTRAL)
	7	FINNEUTRAL	O	Power source for finisher (NEUTRAL)
CN22 Connected to the engine controller PCB	1	RET24V	O	Interlock switch detecting signal
	2	FANB*	I	Fuser unit fan motor drive signal (L: On)
	3	FAN+12V	I	12 V DC
	4	GND	-	Ground
	5	PSCNT	I	Shutdown control signal (H: Power supply unit shutdown)
	6	LHEAT*	I	Lower heater lamp ON signal (L: On)
	7	UHEAT*	I	Upper heater lamp ON signal (L: On)
	8	HTEM*	I	Heater lamp ON enable signal (L: Enable)
	9	PSOFF*	O	Power switch OFF detection signal (L: Power switch off)
	10	ZEROC*	O	Zero-cross signal (H: Zero-cross point detecting pulse)
	11	SLVPP	I	24 V DC power-off signal (H: Power off)
CN23 Connected to the interlock switch	1	VPP	I	24 V DC (via interlock switch)
	2	VPRET	I	Interlock detecting signal
	3	N.C.	-	
	4	VPPCOM	O	24 V DC
CN24 Connected to the power supply unit fan motor	1	FANB	O	Power supply unit fan motor drive signal (L: On)
	2	N.C.	-	
	3	VPPCOM	O	24 V DC
CN25 Connected to the scanner main PCB	1	V3R3	O	3.3 V DC
	2	GND	-	Ground
	3	VCC	O	Ground
	4	GND	-	Ground
	5	GND	-	Ground
	6	VPP	O	24 V DC (via interlock switch)

2-3-2 Engine controller PCB

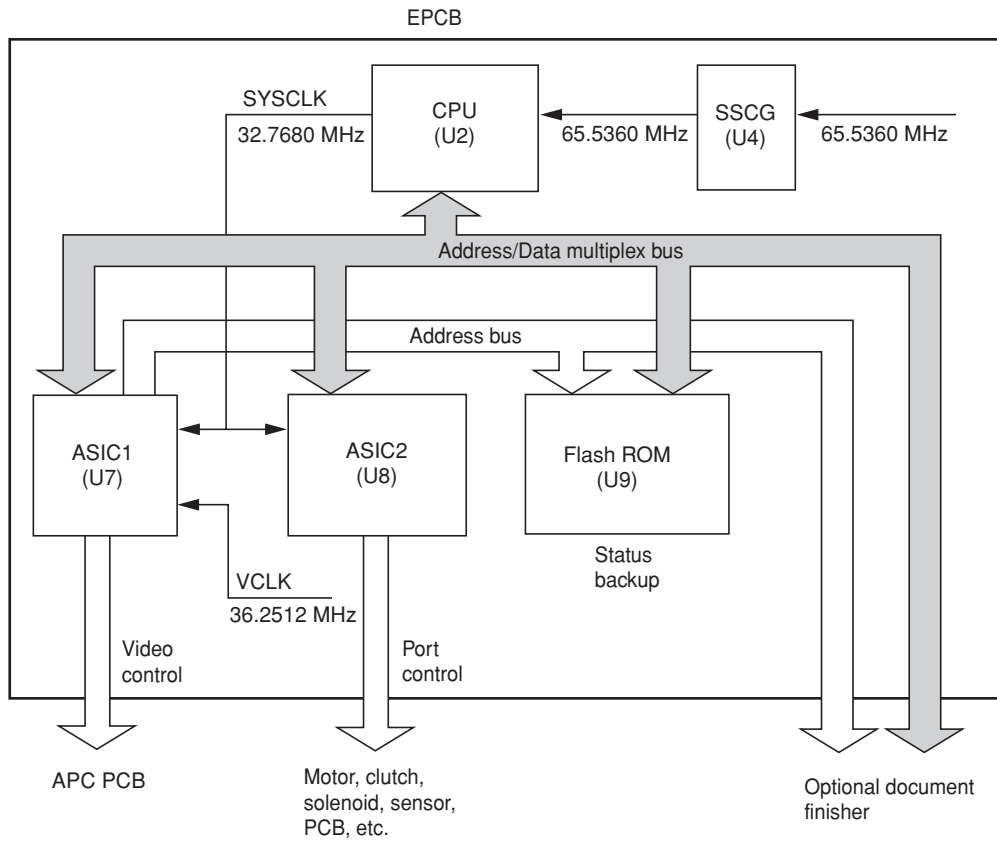


Figure 2-3-3 Engine controller PCB block diagram

The engine controller PCB (EPCB) consists of the CPU U2, communicates with other PCBs and the engine drive system. The CPU U2 operates on an 8-bit bus. It uses the FLASH ROM U9 for status backup memory. The CPU U2 controls the LSU for image output control via ASIC1 U7 and controls driving of each electric part via ASIC2 U8.

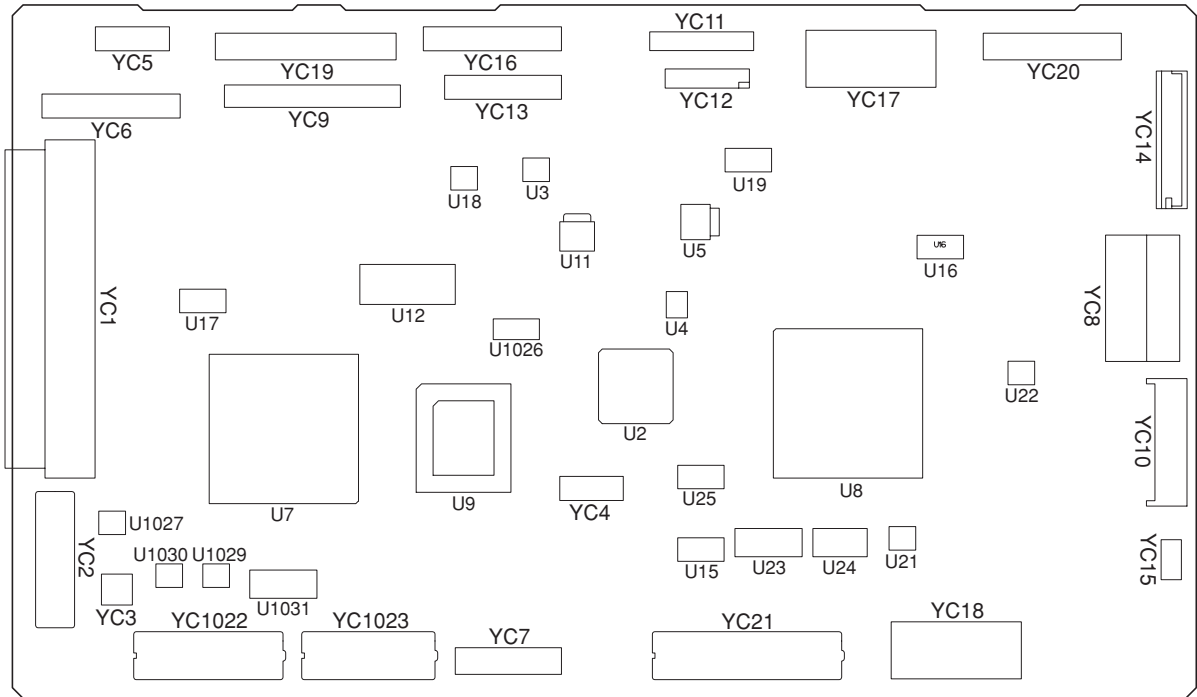


Figure 2-3-4 Engine controller PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
YC1	1	SO	O	Serial communication data transmission
Connected to the printer board PCB via engine controller-printer board relay PCB	2	SDIR	O	Serial communication control
	3	SI	I	Serial communication data reception
	4	ENGIRN	O	Serial communication interrupt
	5	VPPSEL	I	Engine program write control
	6	GND	-	Ground
	7	VD0p	I	Image data
	8	VD0n	I	Image data
	9	GND	-	Ground
	10	VD1p	I	Image data
	11	VD1n	I	Image data
	12	VHALF	O	Voltage for differential output
	13	VD2p	I	Image data
	14	VD2n	I	Image data
	15	GND	-	Ground
	16	VD3p	I	Image data
	17	VD3n	I	Image data
	18	GND	-	Ground
	19	MMODESp	I	Gradation control
	20	MMODESn	I	Gradation control
	21	GND	-	Ground
	22	MMODELp	I	Gradation control
	23	MMODESn	I	Gradation control
	24	GND	-	Ground
	25	MODEp	I	Image/text data selection
	26	MODEn	I	Image/text data selection
	27	GND	-	Ground
	28	VENBp	I	Image data output timing
	29	VENBn	I	Image data output timing
	30	GND	-	Ground
	31	SVCLKp	I	Main (horizontal) scanning video clock
	32	SVCLKn	I	Main (horizontal) scanning video clock
	33	GND	-	Ground
	34	LSYNCp	O	Image data output scanning synchronization
	35	LSYNCn	O	Image data output scanning synchronization
	36	GND	-	Ground
	37	PURGE	O	Paper exit completion
	38	FPCLK	I	Serial communication clock, for the operation unit PCB
	39	FPDIR	I	Serial communication control, for the operation unit PCB
	40	PFRESn	I	Reset signal, for the operation unit PCB
	41	SBSY	I	Serial communication control
	42	GND	-	Ground
	43	SCLK	I	Serial communication clock
	44	GND	-	Ground
	45	PRGRESn	I	Engine program writing control
	46	RSTn	O	Reset
	47	GND	-	Ground
	48	VCC	O	5 V DC
	49	GND	-	Ground
	50	VCC	O	5 V DC
	51	GND	-	Ground
	52	VCC	O	5 V DC
	53	GND	-	Ground
	54	VCC	O	5 V DC
	55	GND	-	Ground
	56	VCC	O	5 V DC
	57	GND	-	Ground
	58	VCC	O	5 V DC
	59	GND	-	Ground
	60	VCC	O	5 V DC
	61	GND	-	Ground
	62	VCC	O	5 V DC

Connector	Pin No.	Signal	I/O	Description
YC1 Connected to the printer board PCB via engine controller-printer board relay PCB	63	GND	-	Ground
	64	VCC	O	5 V DC
	65	GND	-	Ground
	66	VCC	O	5 V DC
	67	GND	-	Ground
	68	VCC	O	5 V DC
	69	GND	-	Ground
	70	VCC	O	5 V DC
	71	GND	-	Ground
	72	VCC	O	5 V DC
	73	GND	-	Ground
	74	VCC	O	5 V DC
	75	VSYNCO	O	Sub (vertical) scanning video clock
	76	VCC	O	5 V DC
	77	PSEL	O	First/second page selection (Two pages mode), H: First , L: Second
	78	GND	-	Ground
79	FPDATA	O	Serial communicationdata, for operation unit PCB	
80	EOPO	O	Page ending signal	
YC6 Connected to the APC PCB	1	SCCLK	O	Polygon motor rotating control clock signal
	2	SCRDY	I	Polygon motor continuous rotating signal, L: Continuous
	3	SCANNER	I	Polygon motor drive signal, L: Drive
	4	VPP	I	24 V DC
	5	PD	-	Horizontal synchronization signal from PD PCB
	6	POWSEL	O	Laser power control signal
	7	LEN	O	Laser output enable signal
	8	LONB	O	Laser output drive signal
	9	LASER5V	-	5 V DC for laser scanner unit (for APC and PD PCB)
	10	GND	-	Ground
	11	VD0	O	Image data signal signal
	12	VD0+	O	Image data signal signal
YC7 Connected to the black developer drive motor and main drive motor	1	DMKFG	I	Black developer drive motor FG (Frequency generation) pulse
	2	VCC	O	5 V DC
	3	DMKHU	I	Black developer drive motor control
	4	DMKHV	I	Black developer drive motor control
	5	DMKHW	I	Black developer drive motor control
	6	GND	-	Ground
	7	DMKU	O	Black developer drive motor control
	8	DMKV	O	Black developer drive motor control
	9	DMKW	O	Black developer drive motor control
	10	MMFG	I	Main drive motor FG (Frequency generation) pulse
	11	VCC	O	5 V DC
	12	MMHU	I	Main drive motor control
	13	MMHV	O	Main drive motor control
	14	MMHW	I	Main drive motor control
	15	GND	I	Ground
	16	MMU	I	Main drive motor control
	17	MMV	-	Main drive motor control
	18	MMW	O	Main drive motor control

Connector	Pin No.	Signal	I/O	Description
YC9 Connected to the developing/primary transfer/cleaning brush bias high voltage PCB	1	GND	-	Ground
	2	GND	-	Ground
	3	VPP	O	24 V DC
	4	VPP	O	24 V DC
	5	T1REM*	O	Primary transfer bias control signal (T1), L: On
	6	ANT1	O	Primary transfer bias voltage control PWM signal
	7	BAYREM*	O	Yellow developing AC bias control signal, L: On
	8	ANBDY	O	Yellow developing DC voltage control PWM signal
	9	BDYREM*	O	Yellow developing bias control signal, L: On
	10	BAMREM*	O	Magenta developing AC bias control signal, L: On
	11	ANBDM	O	Magenta developing DC voltage control PWM signal
	12	BDMREM*	O	Magenta developing bias control signal, L: On
	13	BACREM*	O	Cyan developing AC bias control signal, L: On
	14	ANBDC	O	Cyan developing DC voltage control PWM signal
	15	BDCREM*	O	Cyan developing bias control signal, L: On
	16	BAKREM*	O	Black developing AC bias control signal, L: On
	17	ANBDK	O	Black developing DC voltage control PWM signal
	18	BDKREM*	O	Black developing bias control signal, L: On
	19	ANCR	O	Cleaning brush bias voltage control PWM signal
	20	CRREM*	O	Cleaning brush bias control signal, L: On
YC10 Connected to the power source PCB	1	RET24V	I	Interlock switch detecting signal
	2	FANB*	O	Fuser unit fan motor drive signal (L: On)
	3	FAN+12V	O	12 V DC
	4	GND	-	Ground
	5	PSCNT	O	Shutdown control signal (H: Power supply unit shutdown)
	6	LHEAT*	O	Lower heater lamp ON signal (L: On)
	7	UHEAT*	O	Upper heater lamp ON signal (L: On)
	8	HTEM*	O	Heater lamp ON enable signal (L: Enable)
	9	PSOFF*	I	Power switch OFF detection signal (L: Power switch off)
	10	ZEROC*	I	Zero-cross signal (H: Zero-cross point detecting pulse)
	11	SLVPP	O	24 V DC power-off signal (H: Power off)
YC11 Connected to black toner empty sensor	1	VCC	O	5 V DC
	2	VCRET	I	5 V DC
	3	LEDCC	O	Black toner empty sensor emitter [infrared LED] drive signal
	4	PQCOM	O	5 V DC (via resistor)
	5	TONE	I	Black toner empty sensor receiver [photo transistor] detection (analog) signal
	6	GND	-	Ground
YC12 Connected to image density sensor and primary transfer unit heater	1	VCC	O	5 V DC
	2	GND	-	Ground
	3	ANIDSI0	O	Image density sensor detection signal 0
	4	ANIDSI1	O	Image density sensor detection signal 1
	5	IDLED	O	5 V DC power supply for Image density sensor emitter (LED)
	6	VPP	O	12 V DC
	7	DHDRN	O	Primary transfer unit heater ON signal, L: On
YC13 Connected to the drum PCB	1	ERSCOM	I	Cleaning lamp broken detecting signal input
	2	ERSDR*	O	Cleaning lamp drive signal, H: On
	3	DRODS	I	Off set drum sensor output pulse
	4	VCC	O	5 V DC
	5	GND	-	Ground
	6	DRECS	O	Chip select signal for EEPROM
	7	DRECLK	O	Clock signal for reading/writing EEPROM
	8	DREDI	I	Data input signal for EEPROM
	9	DREDO	O	Data output signal for EEPROM
	10	DFSCUT	O	Not used

Connector	Pin No.	Signal	I/O	Description
YC14 Connected to the face-down PCB	1	VCC	O	5 V DC
	2	GND	-	Ground
	3	EXITJU	I	Upper exit sensor detecting signal, L: detected
	4	EXITJL	I	Lower exit sensor detecting signal, L: detected
	5	PFULL	I	Paper full sensor detecting signal, H: detected
	6	CVRUP	I	Left cover OPEN/CLOSE detecting signal, H: Open
	7	CVRLW	I	Top tray OPEN/CLOSE detecting signal, H: Open
	8	FUSET	O	Face up/down solenoid drive signal
	9	FDSET	O	Face up/down solenoid drive signal
	10	VPP	O	24 V DC
	11	FANFCD	O	Face-down unit fan motor drive signal
	12	JAMSNS	I	Face-down unit paper exit sensor detecting signal
YC15 Connected to the fuser unit fan motor	1	FANF+	O	Fuser unit fan motor drive signal
	2	GND	-	Ground
YC16 Connected to the bypass tray feed PCB	1	SNS5V	O	5 V DC
	2	LENG	I	Bypass tray paper length sensor detection, L: Detected
	3	HANDS	I	Bypass tray paper detection signal, L: Detected
	4	LONG	I	Bypass tray bottom plate position sensor detection signal, H: Home position
	5	GND	-	Ground
	6	VPP	O	24 V DC
	7	BTTRDR	O	Bypass tray bottom plate solenoid drive signal
	8	MPFDR	O	Bypass tray feed clutch drive signal, L: On
	9	-	-	Not used
	10	-	-	Not used
	11	-	-	Not used
	12	-	-	Not used
YC17 Connect to the yellow developer PCB and magenta developer PCB	1	YTMCOM	I	Yellow toner feed motor back electromotive force
	2	YTMDR	O	Yellow toner feed motor drive (PWM) signal
	3	VPP	O	24 V DC
	4	YMAGDR	O	Yellow developer drive clutch drive signal, L: On
	5	YTEMP	I	Yellow toner empty sensor detection signal, L: Empty
	6	SNS5V	O	5 V DC
	7	YTPD	I	Yellow T/C sensor detection signal (analog)
	8	GND	-	Ground
	9	GND	-	Ground
	10	GND	-	Ground
	11	GND	-	Ground
	12	MTPD	O	Magenta T/C sensor detection signal (analog)
	13	SNS5V	O	5 V DC
	14	MTEMP	I	Magenta toner empty sensor detection signal, L: Empty
	15	MMAGDR	I	Magenta developer drive clutch drive signal, L: On
	16	VPP	O	24 V DC
	17	MTMDR	O	Magenta toner feed motor drive (PWM) signal
	18	MTMCOM	I	Magenta toner feed motor back electromotive force

Connector	Pin No.	Signal	I/O	Description
YC18 Connected to the cyan developer PCB and black developer PCB	1	CTMCOM	I	Cyan toner feed motor back electromotive force
	2	CTMDR	O	Cyan toner feed motor drive (PWM) signal
	3	VPP	O	24 V DC
	4	CMAGDR	O	Cyan developer drive clutch drive signal, L: On
	5	CTEMP	I	Cyan toner empty sensor detection signal, L: Empty
	6	SNS5V	O	5 V DC
	7	CTPD	I	Cyan T/C sensor detection signal (analog)
	8	GND	-	Ground
	9	GND	-	Ground
	10	GND	-	Ground
	11	GND	-	Ground
	12	VCC	O	5 V DC
	13	KTMDR	O	Black toner feed motor drive (PWM) signal
	14	KTMCOM	I	Black toner feed motor back electromotive force
	15	KTEMP	I	Black toner intermediate hopper sensor detection signal, L: Empty
	16	KTPD	I	Black T/C sensor detection signal (analog)
	17	KMAGDR	O	Black developer drive clutch drive signal, L: On
	18	VPP	O	24 V DC
YC19 Connected to the feed drive PCB, paper feed motor and temperature/humidity sensor	1	GND	-	Ground
	2	GND	-	Ground
	3	FEDEX	I	Paper feed unit installation detection signal, L: Installed
	4	MROLDL	O	Intermediate feed clutch drive signal
	5	FEEDS	I	Registration sensor detection signal, L: Detected
	6	FEDDR	O	Paper feed clutch drive signal
	7	FANFP	O	Paper conveying fan motors 1 and 2 drive signal
	8	REGDR	O	Registration clutch drive signal
	9	VPP	O	24 V DC
	10	VPP	O	24 V DC
	11	-	-	Not used
	12	TNRKDR	O	Black toner feed clutch drive signal
	13	T2INI	I	Secondary transfer unit home position detection, L: Home position
	14	GND	-	Ground
	15	DUFDR	O	Duplex paper exit selection solenoid drive signal (for duplex unit)
	16	T2DR	O	Secondary transfer unit shift clutch drive signal (for duplex unit)
	17	EXFDR	O	Duplex paper exit selection solenoid drive signal (for duplex unit)
	18	EXITJD	I	Duplex paper exit sensor detection signal, L: Detected
	19	SNS5V	O	5 V DC
20	FMFG	I	Paper feed motor FG (Frequency generation) pulse	
21	VCC	O	5 V DC	
22	FMHU	I	Paper feed motor control signal	
23	FMHV	I	Paper feed motor control signal	
24	FMHW	I	Paper feed motor control signal	
25	GND	-	Ground	
26	FMU	O	Paper feed motor control signal	
27	FMV	O	Paper feed motor control signal	
28	FMW	O	Paper feed motor control signal	
29	TEMP	I	Temperature detection data signal (analog)	
30	GND	-	Ground	
31	HMOU	I	Humidity detection data signal (analog)	
32	VCC	O	5 V DC	

Connector	Pin No.	Signal	I/O	Description
YC20 Connected to the main charger high voltage PCB, main drive PCB and color developers drive motor	1	GND	-	Ground
	2	VPP	O	24 V DC
	3	MCREM	O	Main charger grid bias control signal, L: On
	4	ANMC	O	Main charger grid bias voltage signal PWM
	5	GND	-	Ground
	6	SNS5V	O	5 V DC
	7	KSOL1	O	Black developer magnet solenoid drive signal
	8	BUIINI	I	Cleaning brush unit position sensor detection signal, H: Home position
	9	CSOL1	O	Cyan developer magnet solenoid drive signal
	10	ROLDLDR	O	Cleaning brush unit shift solenoid drive signal
	11	MSOL1	O	Magenta developer magnet solenoid drive signal
	12	BRUSDR	O	Cleaning brush unit drive clutch drive signal
	13	YSOL1	O	Yellow developer magnet solenoid drive signal
	14	MIXDR*	O	Not used
	15	VPP	O	24 V DC
	16	DMCFG	I	Color developers drive motor FG (Frequency generation) pulse
	17	VCC	O	5 V DC
	18	DMCHU	I	Color developers drive motor control signal
	19	DMCHV	I	Color developers drive motor control signal
	20	DMCHW	I	Color developers drive motor control signal
	21	GND	-	Ground
	22	DMCU	O	Color developers drive motor control signal
	23	DMCV	O	Color developers drive motor control signal
	24	DMCW	O	Color developers drive motor control signal
YC21 Connected to the paper feeder/ options relay PCB (Connected to the waste toner full sensor, fuser unit drive motor, fuser PCB, lower fuser thermistor, upper fuser thermistor and secondary transfer bias high voltage PCB via paper feeder/ options relay PCB)	1	PFSDI	I	Serial communication data transmit signal, for option paper feeder/duplex unit
	2	PFSCCLK	O	Serial communication clock signal, for option paper feeder/duplex unit
	3	PFSDO	O	Serial communication data receive signal, for option paper feeder/duplex unit
	4	FINTX	O	Communication control transmit signal, for option document finisher
	5	WTLED	O	Waste toner full sensor emitter (LED) drive signal
	6	PFSEL2	O	Option unit selection signal 2, for option paper feeder/duplex unit
	7	PFSEL1	O	Option unit selection signal 1, for option paper feeder/duplex unit
	8	FINRX	I	Communication control receive signal, for option document finisher
	9	PFSEL0	O	Option unit selection signal 0, for option paper feeder/duplex unit
	10	DUSEN	I	Duplexer paper exit sensor detection, H: Detected
	11	VCC	O	5 V DC
	12	VCC	O	5 V DC
	13	VPP	O	5 V DC
	14	STPEN	O	Option document finisher POWER-OFF signal, H: Off
	15	STOBN	O	Fuser unit drive motor (stepping drive) control signal
	16	VPP	O	24 V DC
	17	STOAN	O	Fuser unit drive motor (stepping drive) control signal
	18	GND	-	Ground
	19	T2INV*	O	Transfer belt bias (negative) control, H: On
	20	VPP	O	24 V DC
	21	-	-	Not used
	22	-	-	Not used
	23	-	-	Not used
	24	-	-	Not used
25	THERML	I	Lower fuser thermistor detecting signal (analog)	
26	THERMU	I	Upper fuser thermistor detecting signal (analog)	
27	FTREF	O	Reference voltage (+4.2 V DC) for fuser thermistors	
28	ANT2*	O	Transfer belt bias voltage control signal PWM	
29	T2REM*	O	Transfer belt bias (positive) control signal H: On	
30	GND	-	Ground	
31	STOAP	O	Fuser unit drive motor (stepping drive) control signal	
32	VPP	O	24 V DC	
33	GND	-	Ground	

Connector	Pin No.	Signal	I/O	Description
YC21	34	STOBP	O	Fuser unit drive motor (stepping drive) control signal
Connected to the paper feeder/ options relay PCB (Connected to the waste toner full sensor, fuser unit drive motor, fuser PCB, lower fuser thermistor, upper fuser thermistor and secondary transfer bias high voltage PCB via paper feeder/ options relay PCB)	35	WTBS	I	Waste toner full sensor, waste toner bottle detection, H: Installed
	36	VPP	O	24 V DC
	37	VCC	O	5 V DC
	38	VCC	O	5 V DC
	39	GND	-	Ground
	40	GND	-	Ground
	YC1122	A1	EXVDOP	I	EXVDOP signal
Connected to the scanner main PCB	A2	EXVDON	I	EXVDON signal
	A3	EXVD1P	I	EXVD1P signal
	A4	EXVD1N	I	EXVD1N signal
	A5	EXVD2P	I	EXVD2P signal
	A6	EXVD2N	I	EXVD2N signal
	A7	EXVD3P	I	EXVD3P signal
	A8	EXVD3N	I	EXVD3N signal
	A9	GND	-	Ground
	A10	EXVD4P	I	EXVD4P signal
	A11	EXVD4N	I	EXVD4N signal
	A12	EXVD5P	I	EXVD5P signal
	A13	EXVD5N	I	EXVD5N signal
	A14	EXVD6P	I	EXVD6P signal
	A15	EXVD6N	I	EXVD6N signal
	B1	GND	-	Ground
	B2	EXVD7P	I	EXVD7P signal
	B3	EXVD7N	I	EXVD7N signal
	B4	GND	-	Ground
	B5	EXVENBP	I	EXVENBP signal
	B6	EXVENBN	I	EXVENBN signal
	B7	EXMMODELP	I	EXMMODELP signal
	B8	EXMMODELN	I	EXMMODELN signal
	B9	EXMMODESP	I	EXMMODESP signal
	B10	EXMMODESN	I	EXMMODESN signal
	B11	GND	-	Ground
	B12	EXLSYNCP	I	EXLSYNCP signal
	B13	EXLSYNCN	I	EXLSYNCN signal
B14	EXSVCKP	I	EXSVCKP signal	
B15	EXSVCKN	I	EXSVCKN signal	

Connector	Pin No.	Signal	I/O	Description
YC1123	A1	VPPSEL	-	Ground
Connected to the scanner main PCB	A2	GND	-	Ground
	A3	EXTXD	I	EXTXD signal
	A4	GND	-	Ground
	A5	EXRXD	I	EXRXD signal
	A6	PRGRESN	I	PRGRESN signal
	A7	EXOUT1	I	EXOUT1 signal
	A8	EXRSTN	I	EXRSTN signal
	A9	SI	I	SI signal
	A10	EXPURGE	I	EXPURGE signal
	A11	SCNPOWER	I	SCNPOWER signal
	A12	CFDET	I	CFDET signal
	A13	SETFAX	I	SETFAX signal
	B1	EXPSEL	I	EXPSEL signal
	B2	CONT	I	CONT signal
	B3	EXVSYNC	I	EXVSYNC signal
	B4	SO	I	SO signal
	B5	EXEOP	I	EXEOP signal
	B6	RIPCLK	I	RIPCLK signal
	B7	EXOUT2	I	EXOUT2 signal
	B8	EXOUT3	I	EXOUT3 signal
B9	EXIN1	I	EXIN1 signal	
B10	PSOFFN	I	PSOFFN signal	
B11	MSWOFF	I	MSWOFF signal	
B12	SLINO1	I	SLINO1 signal	
B13	SLOUTO1	I	SLOUTO1 signal	

2-3-3 Scanner main and sub PCBs

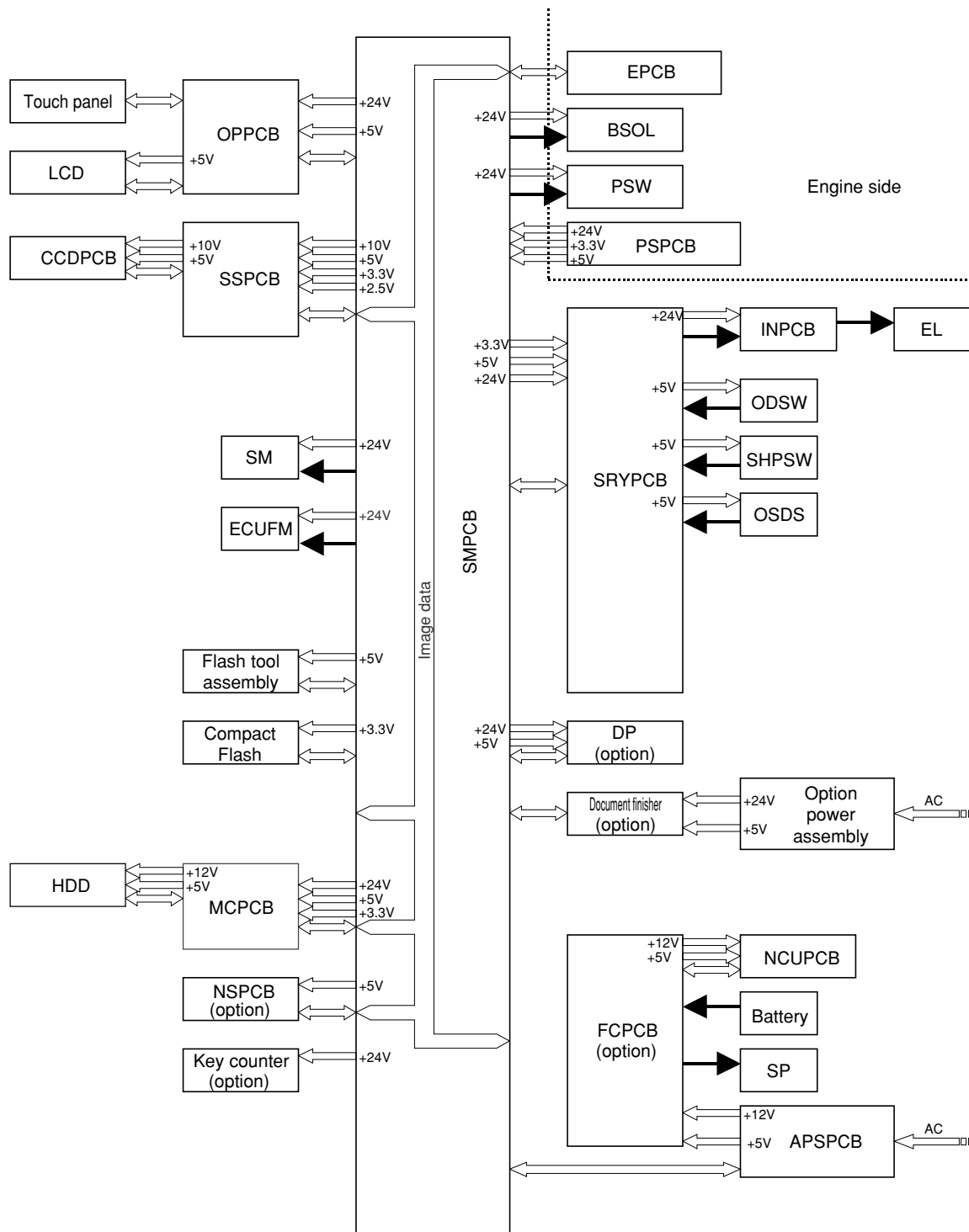


Figure 2-3-5 Scanner main and sub PCBs block diagram

The scanner main PCB (SMPCB) consists of mainly the CPU U1 and performs communication with other PCBs, control of the image processing system, and driving control of the optical system.

The CPU U1 operates on an 8-bit bus and SDRAM U5 for work memory is added. 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 U19 and LCD Controller U15 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 PCB (SMPCB) converts analog image signals input from the CCD PCB (CCDPCB) to digital image signals and outputs them to the engine controller PCB (EPCB) via the scanner main PCB (SMPCB).

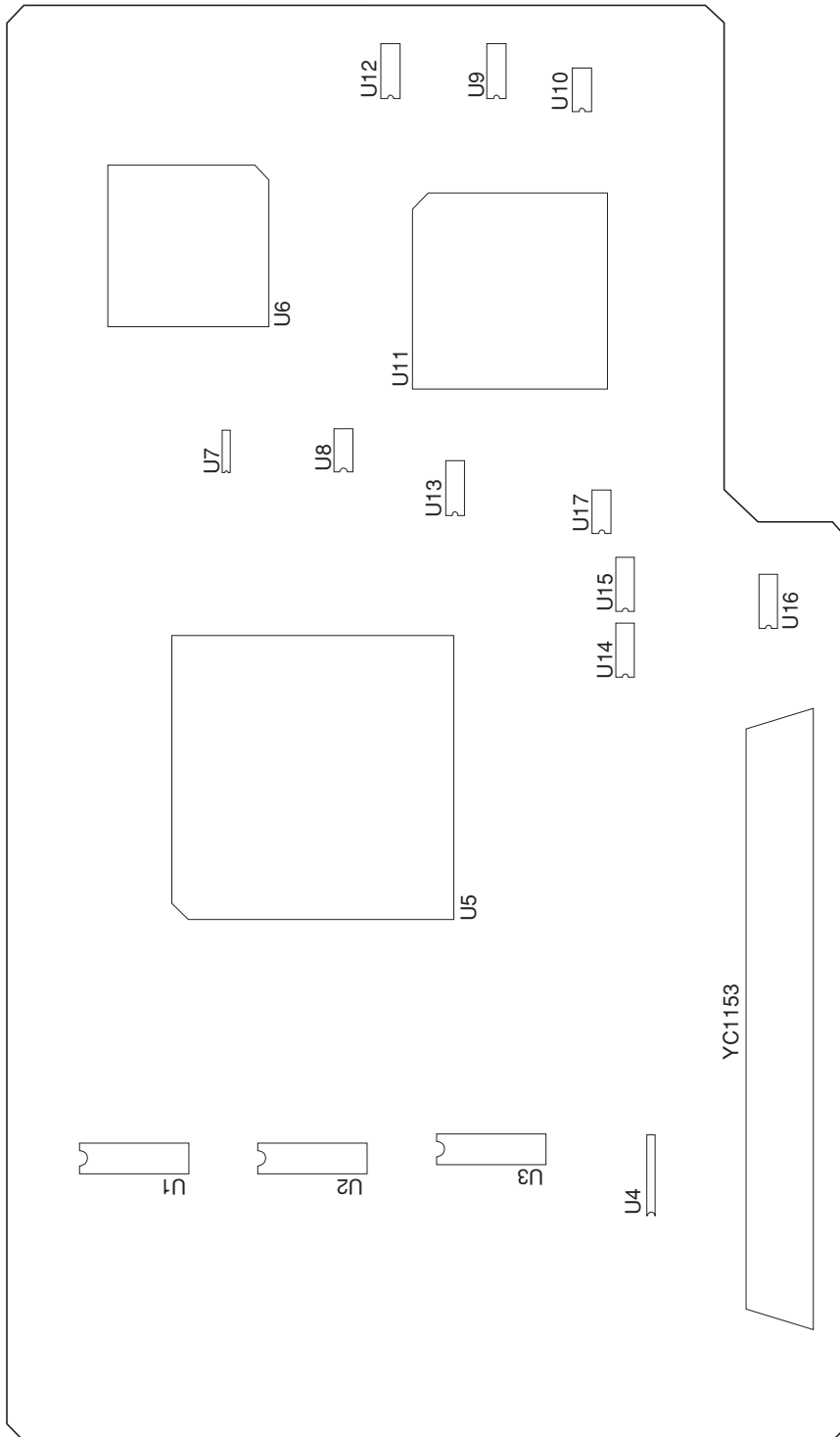


Figure 2-3-7 Scanner sub PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
YC1102 Connected to the scanner motor	1	_BMOT	O	Scanner motor control
	2	24V	O	24 V DC
	3	BMOT	O	Scanner motor control
	4	AMOT	O	Scanner motor control
	5	24V	O	24 V DC
	6	_AMOT	O	Scanner motor control
YC1103 Connected to the optional DP	1	LERED	O	LED (red) on/off signal
	2	LEDGN	O	LED (green) on/off signal
	3	REVPRSSOLRET	O	Switchback press solenoid drive
	4	REVPRSSOLACT	O	Switchback press solenoid drive
	5	FDCL	O	Original feed clutch drive
	6	EJCTSOL	O	Eject feedshift solenoid drive
	7	REVJCTSOL	O	Switchback feedshift solenoid drive
	8	FDSOLRET	O	Original feed solenoid drive
	9	FDSOLACT	O	Original feed solenoid drive
	10	FMOTENABLE	O	Original feed motor control enable signal
	11	REVS	I	Original switchback switch detection, L: On
	12	FDS	I	Original feed switch detection, L: On
	13	SETS	I	Original set switch detection, L: On
	14	DFSHORT	I	Original size width switch detection, L: On
	15	SZDET	I	DP installation detection, L: installed
	16	COVSFSW	I	DP safty switch 2 detection, L: On
	17	DFSFSW	I	DP safty switch 1 detection, L: On
	18	SZWSA	I	Original size length switch detection, L: On
	19	TMGSW	I	DP timing switch detection, L: On
	20	NC	-	Not used
	21	FMOTRET	O	Original feed motor control return signal
	22	FMOTCLK	O	Original feed motor control clock signal
	23	FMOTCWB	O	Original feed motor CWB return signal
	24	CMOTENABLE	O	Original conveying motor control enable signal
	25	CMOTCLK	O	Original conveying motor control clock signal
	26	CMOTCWB	O	Original conveying motor control CWB signal
	27	CMOTVREF	O	Original conveying motor current control voltage
	28	CMOTM3	O	Original conveying motor control M3
	29	CMOTM2	O	Original conveying motor control M2
	30	CMOTM1	O	Original conveying motor control M1
YC1107 Connected to the scanner relay PCB	A1	GND	-	Ground
	A3	ORGSIGN	I	Original size detection sensor detection, L: On
	A4	DFOCSW	I	Original detection switch, L: On
	B5	LAMPONREM	O	Exposure lamp on/off signal
	B9	GND	-	Ground
YC1118 Connected to the operation unit left and right PCBs	1	DIGLED6	I	DIGLED6 signal
	2	DIGLED5	I	DIGLED5 signal
	3	DIGLED4	I	DIGLED4 signal
	4	DIGLED3	I	DIGLED3 signal
	5	DIGLED2	I	DIGLED2 signal
	6	DIGLED1	I	DIGLED1 signal
	7	SCAN4	I	SCAN4 signal
	8	SCAN3	I	SCAN3 signal
	9	SCAN2	I	SCAN2 signal
	10	SCAN1	I	SCAN1 signal
	11	DIGKEY3	O	DIGKEY3 signal
	12	DIGKEY2	O	DIGKEY2 signal
	13	DIGKEY1	O	DIGKEY1 signal
	A1	BUZZER	I	BUZZER signal
	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	

Connector	Pin No.	Signal	I/O	Description
YC1118 Connected to the operation unit left and right PCBs	A6	LCDFRAME	O	LCD FRAME signal
	A7	LCDLOAD	O	LCD LOAD signal
	A8	LDCDP	O	LCD CP signal
	A9	LCDVSS1	O	LCD VSS1 signal
	A10	LCDVDD	O	LCD VDD signal
	A11	LCDVSS2	O	LCD VSS2 signal
	A12	LCDDISPOFF	I	LCD DISPLAY signal
	A13	LCDD0	O	LCD D0 data
	A14	LCDD1	O	LCD D1 data
	A15	LCDD2	O	LCD D2 data
	A16	LCDD3	O	LCD D3 data
	A17	VEEOFF	I	LCD VEE signal
	B1	PGND	-	Ground
	B2	24V	I	24 V DC supply for OPPCB-R
	B3	LAMPOFF	I	OPCB-R LAMP OFF signal
	B4	GND	-	Ground
	B5	5V	I	5 V DC supply for OPPCB-R
	B6	DIGLED8	I	DIGLED8 signal
	B7	DIGLED7	I	DIGLED7 signal
	B8	SCAN8	I	SCAN8 signal
	B9	SCAN7	I	SCAN7 signal
	B10	SCAN6	I	SCAN6 signal
	B11	SCAN5	I	SCAN5 signal
	B12	DIGKEY9	O	DIGKEY9 signal
	B13	DIGKEY8	O	DIGKEY8 signal
	B14	DIGKEY7	O	DIGKEY7 signal
	B15	DIGKEY6	O	DIGKEY6 signal
B16	DIGKEY5	O	DIGKEY5 signal	
B17	DIGKEY4	O	DIGKEY4 signal	
YC1119 Connected to the scanner relay PCB	A1	3.3V	O	3.3 V DC supply for EEPROM
	A2	CEEP	O	CEEP signal for EEPROM
	A3	DEEP	O	DEEP signal for EEPROM
	A4	PREEEP(GND)	O	PREEEP signal for EEPROM
	A6	GND	-	Ground
	B6	GND	-	Ground
	B8	WEEP(GND)	O	WEEP signal for EEPROM
	B9	SEEP	O	SEEP signal for EEPROM
	B10	QEEP	O	QEEP signal for EEPROM
	B11	GND	-	Ground
	YC1120 Connected to the engine controller PCB	A1	EXVD6N	O	EXVD6N signal
A2		EXVD6P	O	EXVD6P signal
A3		EXVD5N	O	EXVD5N signal
A4		EXVD5P	O	EXVD5P signal
A5		EXVD4N	O	EXVD4N signal
A6		EXVD4P	O	EXVD4P signal
A7		GND	-	Ground
A8		EXVD3N	O	EXVD3N signal
A9		EXVD3P	O	EXVD3P signal
A10		EXVD2N	O	EXVD2N signal
A11		EXVD2P	O	EXVD2P signal
A12		EXVD1N	O	EXVD1N signal
A13		EXVD1P	O	EXVD1P signal
A14		EXVD0N	O	EXVD0N signal
A15		EXVD0P	O	EXVD0P signal
B1		EXSVCKN	O	EXSVCKN signal
B2		EXSVCKP	O	EXSVCKP signal
B3		EXLSYN CN	O	EXLSYN CN signal
B4		EXLSYN CP	O	EXLSYN CP signal
B5		GND	-	Ground
B6	EXMMODESN	O	EXMMODESN signal	

Connector	Pin No.	Signal	I/O	Description
YC1120 Connected to the engine controller PCB	B7	EXMMODESP	O	EXMMODESP signal
	B8	EXMMODELN	O	EXMMODELN signal
	B9	EXMMODELP	O	EXMMODELP signal
	B10	EXVENBN	O	EXVENBN signal
	B11	EXVENBP	O	EXVENBP signal
	B12	GND	-	Ground
	B13	EXVD7N	O	EXVD7N signal
	B14	EXVD7P	O	EXVD7P signal
	B15	GND	-	Ground
YC1121 Connected to the engine controller PCB	A1	SETFAX	O	SETFAX signal
	A2	CFDET	O	CFDET signal
	A3	SCNPOWER	O	SCNPOWER signal
	A4	EXPURGE	O	EXPURGE signal
	A5	SI	O	SI signal
	A6	EXRSTN	O	EXRSTN signal
	A7	EXOUT1	O	EXOUT1 signal
	A8	PRGRESN	O	PRGRESN signal
	A9	EXRXD	O	EXRXD signal
	A10	GND	-	Ground
	A11	EXTXD	O	EXTXD signal
	A12	GND	-	Ground
	A13	VPPSEL	O	VPPSEL signal
	B1	SLOUT01	O	SLOUT01 signal
	B2	SLINO1	O	SLINO1 signal
	B3	MSWOFF	O	MSWOFF signal
	B4	PSOFFN	O	PSOFFN signal
	B5	EXIN1	O	EXIN1 signal
	B6	EXOUT3	O	EXOUT3 signal
	B7	EXOUT2	O	EXOUT2 signal
	B8	RIPCLK	O	RIPCLK signal
	B9	EXEOP	O	EXEOP signal
	B10	SO	O	SO signal
	B11	EXVSYNC	O	EXVSYNC signal
	B12	CONT	O	CONT signal
B13	EXPSEL	O	EXPSEL signal	
YC1123 Connected to the optional fax control PCB	1	FMAINRXD0	I	Serial communication data reception
	2	GND	-	Ground
	3	FMAINTXD0	O	Serial communication data transmission
	4	GND	-	Ground
	5	MAINSTS	O	MAINSTS signal
	6	SETFAX	I	Fax board installation detection, L: Installed
	7	SREQ	I	SREQ signal
	8	PREQ	I	PREQ signal
	9	FAXREADY	I	FAXREADY signal
	10	FAXRESET	O	FAXRESET signal
	11	GND	-	Ground
	12	FAXMMIRXD3	I	Serial communication data reception
	13	GND	-	Ground
	14	FAXMMITXD3	O	Serial communication data transmission
	15	GND	-	Ground
	16	MMISTS	O	MMISTS signal
	17	GND	-	Ground
	18	FFOCLK	O	FFOCLK signal
	19	GND	-	Ground
	20	FMREOUT	O	FMREOUT signal
	21	GND	-	Ground
	22	FMIPOUTO	O	FMIPOUTO signal
	23	GND	-	Ground
	24	FOHSTHIN	O	FOHSTHIN signal
	25	GND	-	Ground

Connector	Pin No.	Signal	I/O	Description
YC1123	26	FOVSYNC	O	FOVSYNC signal
Connected to the optional fax control PCB	27	GND(FOVSYNC)	-	Ground
	28	FPVSYNC	O	FPVSYNC signal
	29	GND	-	Ground
	30	FPHSYNC	O	FPHSYNC signal
	31	GND	-	Ground
	32	FPVD	I	FPVD signal
	33	GND	-	Ground
	34	FMRE	I	FMRE signal
	35	GND	-	Ground
	36	FVCLK	I	FVCLK signal
	37	GND	-	Ground
	38	FPVCLK	O	FPVCLK signal
	39	GND	-	Ground
40	M3.3V	O	DC 3.3 V	
YC1124	1	GND	-	Ground
Connected to the optional fax control PCB and fax power source PCB	2	MSW	I	FAX power supply on/off
	3	MRY	O	MRY signal
	4	MRYOUT	O	MRYOUT signal
YC1125	1	FN-RXD	I	Serial communication data reception
Connected to the optional document finisher	2	GND	-	Ground
	3	FN-TXD	O	Serial communication data transmission
	4	GND	-	Ground
	5	RESET	O	Reset signal
	6	FN-SET	I	Document finisher installation detection, L: Installed
YC1126	1	MSREM	O	MSREM
Connected to the power switch and branch solenoid	2	24V	O	24 V DC
	3	BRSOL	O	Branch solenoid drive
	4	24V	O	24 V DC
	5	BRSOL	O	Branch solenoid drive
YC1127	1	NC	-	Ground
Connected to the electric component unit fan motor	2	FAN1	O	Electric component unit fan motor control
	3	24V	O	24 V DC
YC1128	1	24V	O	24 V DC
Connected to the optional key counter	2	KEYCOUNT	O	Key counter count signal
	3	KEYCOUNTSET	I	Key counter installation detection, L: Installed
	4	GND	-	Ground
YC1129	1	GND	-	Ground
Connected to the optional fax NCUPCB	2	24V	O	24 V DC

2-3-4 CCD PCB

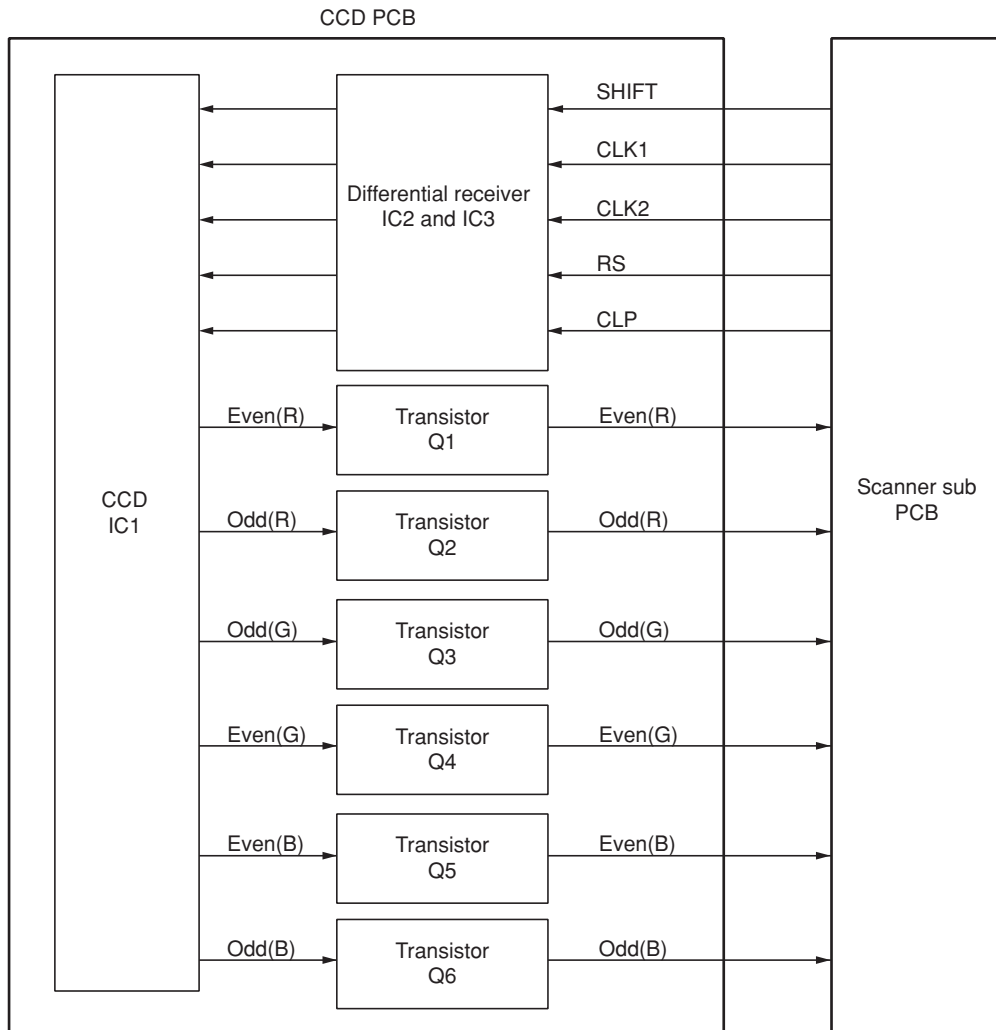


Figure 2-3-8 CCD PCB block diagram

The CCD PCB (CCDPB) 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 main PCB (SMPCB), reconstructed to normal signals by the differential receiver (IC2 and IC3), 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 main PCB (SMPCB).

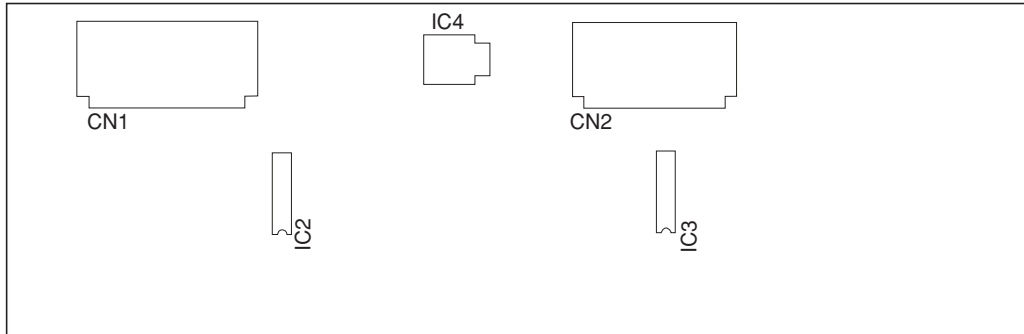
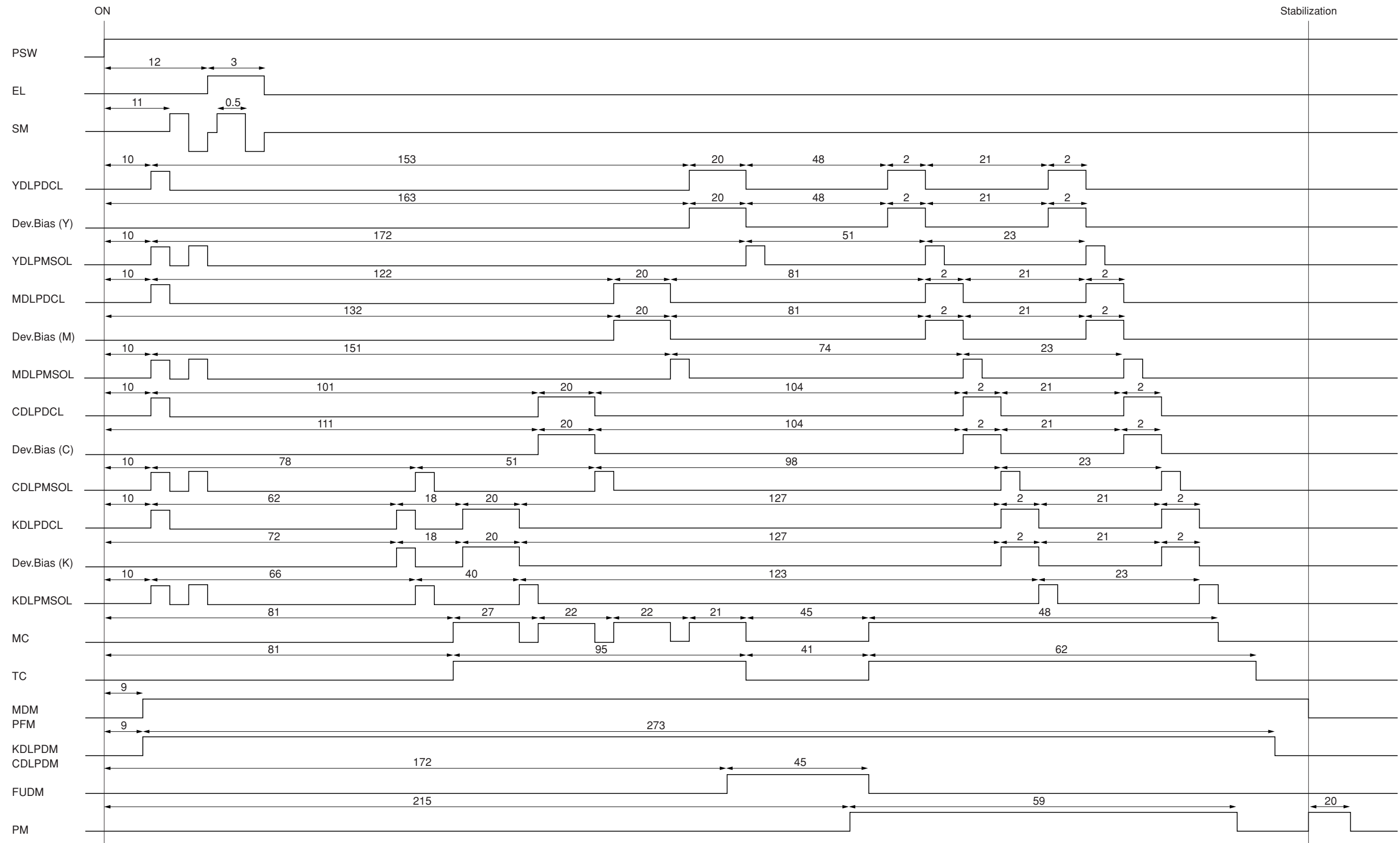


Figure 2-3-9 CCD PCB silk-screen diagram

Connector	Pin No.	Signal	I/O	Description
CN1 Connected to the scanner sub PCB	1	CP	I	CCD CP signal
	2	GND	-	Ground
	3	RS	I	CCD RS signal
	4	GND	-	Ground
	5	CCLK2	I	Clock signal
	6	GND	-	Ground
	7	CCLK1	I	Clock signal
	8	GND	-	Ground
	9	SHIFT	I	CCD SHIFT signal
	10	CCDSEL	I	CCD control signal
	11	+5 V	I	5 V DC
	12	GND	-	Ground
	13	+10 V	I	10 V DC
	14	GND	-	Ground
CN2 Connected to the scanner sub PCB	1	VBO	O	Image data B (blue) ODD signal (analog)
	2	GND	-	Ground
	3	VBE	O	Image data B (blue) EVEN signal (analog)
	4	GND	-	Ground
	5	VGO	O	Image data G (green) ODD signal (analog)
	6	GND	-	Ground
	7	VGE	O	Image data G (green) EVEN signal (analog)
	8	GND	-	Ground
	9	VRO	O	Image data R (red) ODD signal (analog)
	10	GND	-	Ground
	11	VRE	O	Image data R (red) EVEN signal (analog)
	12	GND	-	Ground

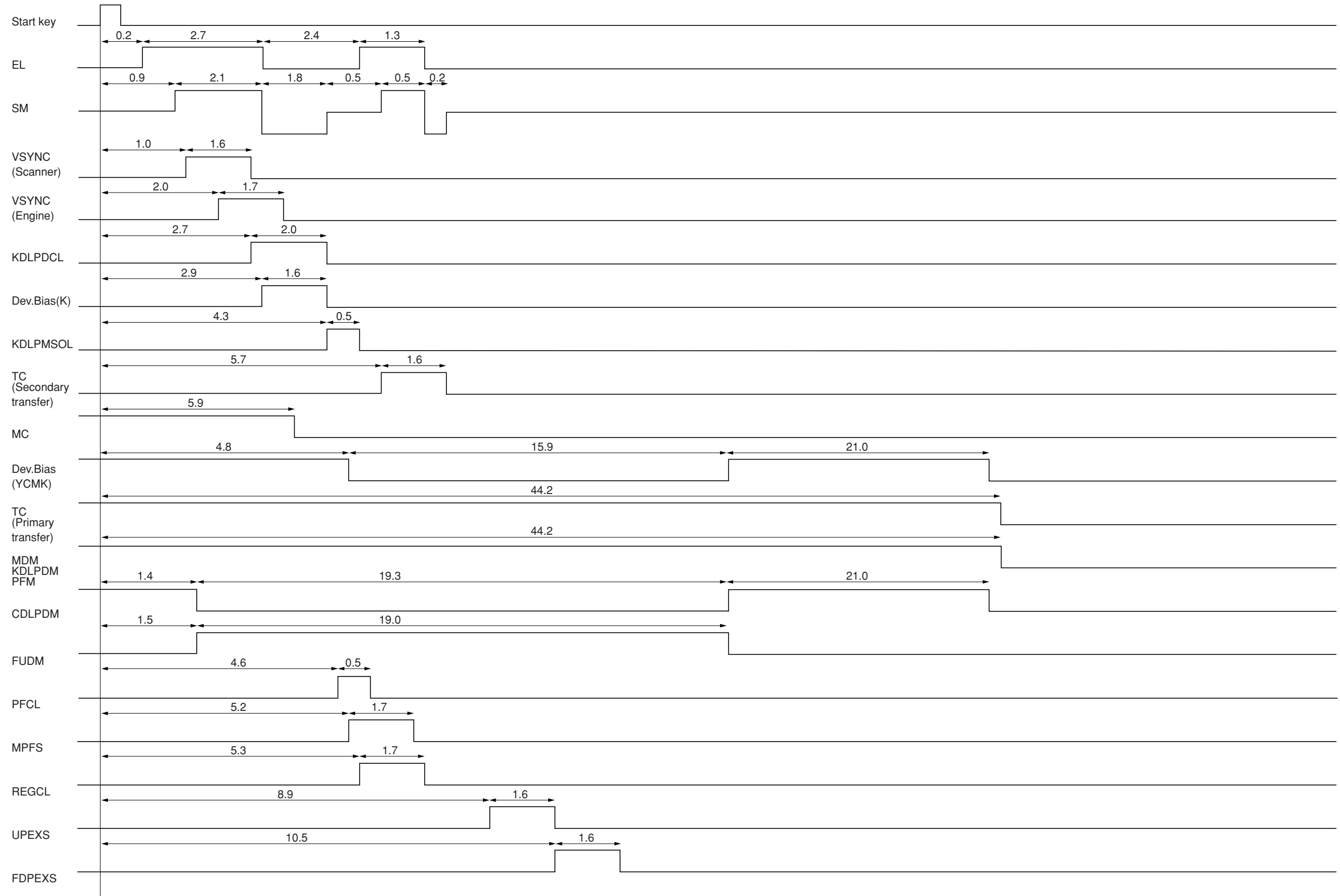
Timing chart No. 1 From the main switch turned on to machine stabilization



• Operation and time vary with the conditions of temperature, humidity, and fuser temperature.
 • Time without time indication means 0.5 second or less.

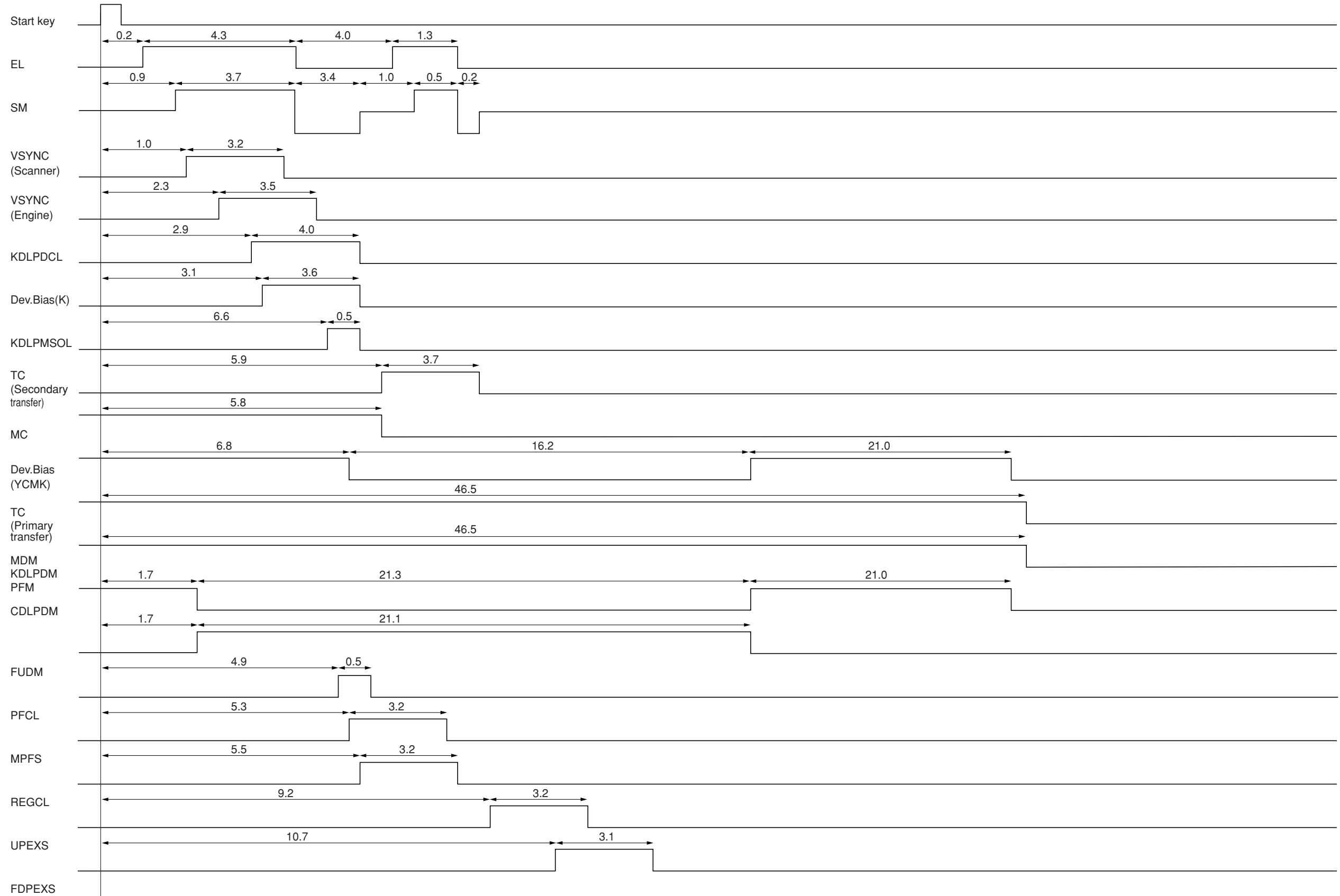
Value: second (s)

Timing chart No. 2 Black and white copying of an A4/11" × 8¹/₂"



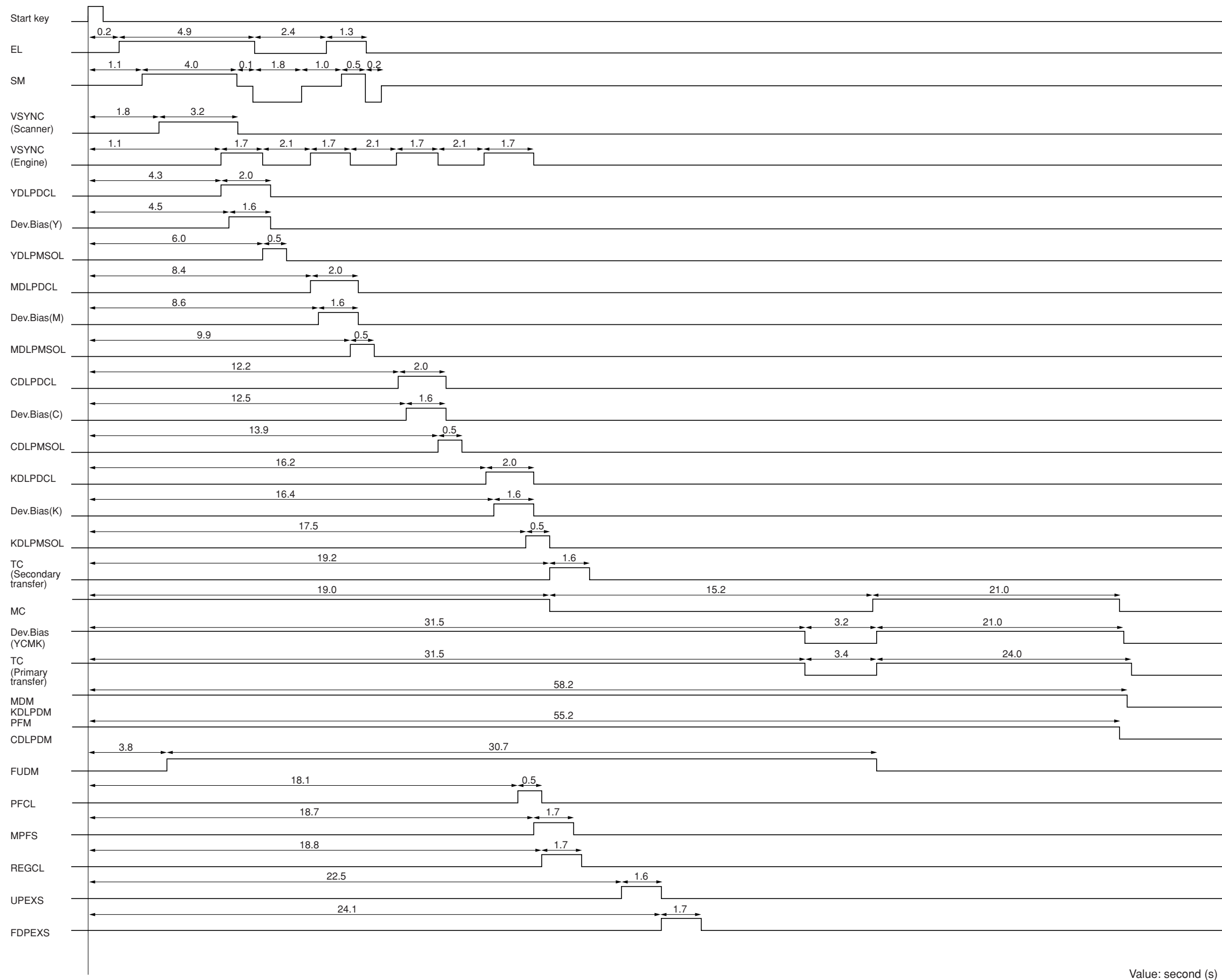
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Timing chart No. 3 Black and white copying of an A3/11" × 17"



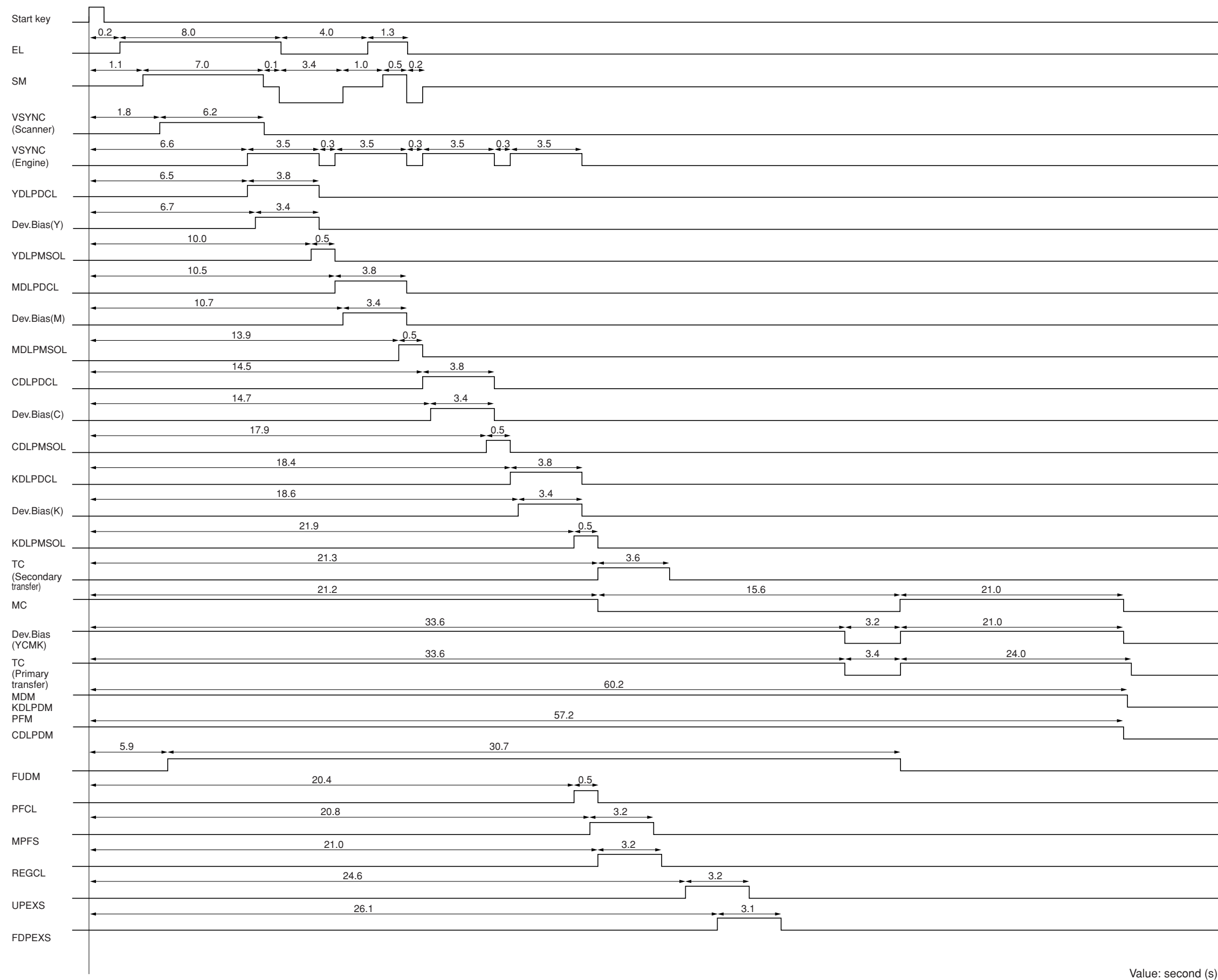
Value: second (s)

Timing chart No. 4 Full color copying of an A4/11" × 8 1/2"



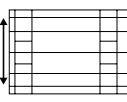
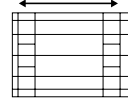
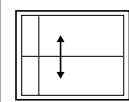
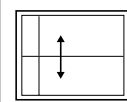
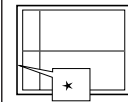
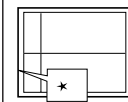
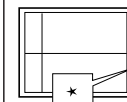
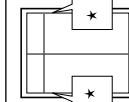
Value: second (s)

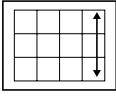
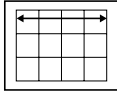
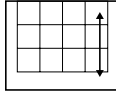
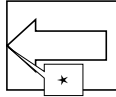
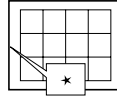
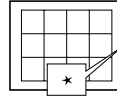
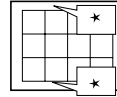
Timing chart No. 5 Full color copying of an A3/11" × 17"



Value: second (s)

Chart of image adjustment procedures

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
①	Adjusting the magnification in the main scanning direction (printing adjustment)		Polygon motor speed adjustment	U053	POLYGON MOTOR	U053 test pattern	1-4-22	
②	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Main drive motor speed adjustment	U053	MAIN MOTOR	U053 test pattern	1-4-22	
③	Adjusting the center line of the bypass table (printing adjustment)		Adjusting the LSU print start timing	U034	ADJ. MIDDLE LINE TIMING	U034 test pattern	1-6-15	The center line of the bypass table is used as the reference in the adjustment of the center lines for other paper sources.
④	Adjusting the center line of the drawers (printing adjustment)		Adjusting the LSU print start timing	U034	ADJ. MIDDLE LINE TIMING	U034 test pattern	1-6-15	
⑤	Adjusting the leading edge registration (printing adjustment)		Registration clutch turning on timing (secondary paper feed start timing)	U034	ADJ. READ EDGE TIMING	U034 test pattern	1-6-14	
⑥	Adjusting the leading edge margin (printing adjustment)		LSU illumination start timing	U402	TOP/mm	U402 test pattern	1-6-16	
⑦	Adjusting the trailing edge margin (printing adjustment)		LSU illumination end timing	U402	BOTTOM/mm	U402 test pattern	1-6-16	
⑧	Adjusting the left and right margins (printing adjustment)		LSU illumination start/end timing	U402	LEFT/mm RIGHT/mm	U402 test pattern	1-6-16	

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
⑨	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	MAIN SCAN ADJ (%)	Test chart	1-6-34	No adjustment for copying using the DP.
⑩	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment)		Original scanning speed	U065 U070	SUB SCAN ADJ (%) CONVEY SPEED (%)	Test chart	1-6-35 1-4-26	U065: For copying an original placed on the contact glass. U070: For copying originals from the DP.
⑪	Adjusting the center line (scanning adjustment)		Adjusting the original scan data (image adjustment)	U067 U072	ADJUST DATA ADJUST DATA	Test chart	1-6-37 1-4-28	U067: For copying an original placed on the contact glass. U072: For copying originals from the DP.
⑫	Adjusting the leading edge registration (scanning adjustment)		Original scan start timing	U066 U071	ADJUST DATA LEAD EDGE ADJ	Test chart	1-6-36 1-4-27	U066: For copying an original placed on the contact glass. U071: For copying originals from the DP.
⑬	Adjusting the leading edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	TOP/mm TOP/mm	Test chart	1-6-38 1-4-63	U403: For copying an original placed on the contact glass. U404: For copying originals from the DP.
⑭	Adjusting the trailing edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	BOTTOM/mm BOTTOM/mm	Test chart	1-6-38 1-4-63	U403: For copying an original placed on the contact glass. U404: For copying originals from the DP.
⑮	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	1-6-38 1-4-63	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: $\pm 0.8\%$
Enlargement/reduction	Using SRDF: $\pm 1.5\%$ Copier: $\pm 1.0\%$
Lateral squareness (copier mode)	Using SRDF: $\pm 1.5\%$
Lateral squareness (printer mode)	Copier: ± 1.5 mm/375 mm
Margins (copier mode)	Using SRDF: ± 2.5 mm/375 mm ± 1.0 mm/375 mm
Margins (printer mode)	A: $2.0^{+2.0}_{-1.0}$ mm
	B: 3.0 ± 2.5 mm
	C: $2.0^{+2.0}_{-1.0}$ mm
	D: 3.0 ± 2.5 mm
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
Skewed paper feed (left-right difference)	Duplex copying: ± 2.5 mm
	Drawer: 1.0 mm or less
	Bypass: 1.0 mm or less
Lateral image shifting	Duplex copying: 2.0 mm or less
	Drawer: ± 2.0 mm or less
	Bypass: ± 2.0 mm or less
	Duplex copying: ± 3.0 mm or less
Curling	Drawer: ± 3.0 mm or less
	Bypass: 15.0 mm or less
	Duplex copying: 15.0 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	2BM17400	8	1
Low registration roller	ROLLER REGIST LOW	2BM17370	8	6
Bypass feed roller	ROLL FEED MPF ASSY	2BM07270	17	30
Bypass retard roller	RETARD ROLL ASSY	2BM07340	17	20
Slit glass	CONTACT GLASS, ADF	2A612440	11	1
Contact glass	CONTACT GLASS	35912010	11	67
Mirror 1	MIRROR A, SCANNER	2A612120	11	26
Mirror 2	MIRROR B, SCANNER	2A612140	11	23
Exposure lamp	PARTS, LAMP SCANNER (SP)	2A693020	11	31
Original size detection sensor	SENSOR, ORIGINAL DETECTION	35927290	11	38

Maintenance kits

Maintenance kit part name		Part No.	Fig. No.	Ref. No.
Name used in service manual	Name used in parts list			
Maintenance kit A				
Drum unit	PARTS, DRUM UNIT	2CX93130	10	-
Primary transfer unit	TR-803P(J)PRI TRANSFER UNIT(J)	2CX93040	18	-
Maincharger unit	MC-803 MAIN CHARGER ASSY	2CK93230	10	6
Secondary transfer unit	TR-803S SEC TRANSFER UNIT	2CK93170	8	201
Cleaning brush unit	BC-803 BRUSH CLEANER	2CK93240	18	56
Maintenance kit B ^{*1}				
Black developer	PARTS, DEVELOPING UNIT (BK), (USA)	2CX93120	15	-
Fuser unit	PARTS, FIXING UNIT 120	2CX93020	9	-
Conveying belts	BELT TRANS	2CK17480	8	92
Maintenance kit B ^{*2}				
Black developer	PARTS, DEVELOPING UNIT (BK), (J/E)	2CX93110	15	-
Fuser unit	PARTS, FIXING UNIT 230	2CX93030	9	-
Conveying belts	BELT TRANS	2CK17480	8	92
Maintenance kit C ^{*1}				
Yellow developer	PARTS, DEVELOPING UNIT (Y), (USA)	2CX93060	12	-
Magenta developer	PARTS, DEVELOPING UNIT (M), (USA)	2CX93080	13	-
Cyan developer	PARTS, DEVELOPING UNIT (M), (USA)	2CX93100	14	-
Maintenance kit C ^{*2}				
Yellow developer	PARTS, DEVELOPING UNIT (Y), (J/E)	2CX93050	12	-
Magenta developer	PARTS, DEVELOPING UNIT (M), (J/E)	2CX93070	13	-
Cyan developer	PARTS, DEVELOPING UNIT (C), (J/E)	2CX93090	14	-

*1: For 120 V specifications.

*2: For 220-240 V specifications.

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.	1-6-12
	Lower registration roller	Clean	Every service	Clean with alcohol or a dry cloth.	1-6-12
	Bypass feed roller	Clean	Every service	Clean with alcohol or a dry cloth.	1-6-5
	Bypass retard roller	Clean	Every service	Clean with alcohol or a dry cloth.	1-6-5
	Paper feed roller	Clean Check and replace	Every service	Clean with alcohol or a dry cloth. Replace after feeding 350,000 sheets.	
	Paper retard roller	Clean Check and replace	Every service	Clean with alcohol or a dry cloth. Replace after feeding 350,000 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 alcohol and then a dry cloth.	
	Contact glass (face)	Clean	Every service	Clean with alcohol and then a dry cloth.	
	Contact glass (back)	Clean	Every service	Clean with alcohol and then a dry cloth only if vertical black lines or stains appear on the copy image.	
	Mirror 1	Clean	Every service	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Mirror 2	Clean	Every service	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Scanner lens	Clean	Every service	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Exposure lamp	Check or replace	Every service	Replace if an image problem occurs or after feeding 100,000 sheets.	
	Optical rail	Grease	Every service	Check noise and shifting and then apply scanner rail grease PG-671.	
	Original size detection sensor	Clean	Every service	Clean the sensor emitter and receiver with alcohol or a dry cloth only if there is a problem.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit A	Drum unit	Replace	Every 600,000 counts		1-6-40
	Middle transfer unit	Replace	Every 600,000 counts		1-6-41
	Main charger unit	Replace	Every 600,000 counts		1-6-39
	Secondary transfer unit	Replace	Every 600,000 counts		1-6-47
	Cleaning brush unit	Replace	Every 600,000 counts		1-6-41



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit B	Black developer	Replace	Every 300,000 counts		1-6-42
	Fuser unit	Replace	Every 300,000 counts		1-6-49
	Conveying belts	Replace	Every 300,000 counts		1-6-10



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Maintenance kit C	Yellow developer	Replace	Every 300,000 counts		1-6-42
	Magenta developer	Replace	Every 300,000 counts		1-6-42
	Cyan developer	Replace	Every 300,000 counts		1-6-42



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Eject section	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	



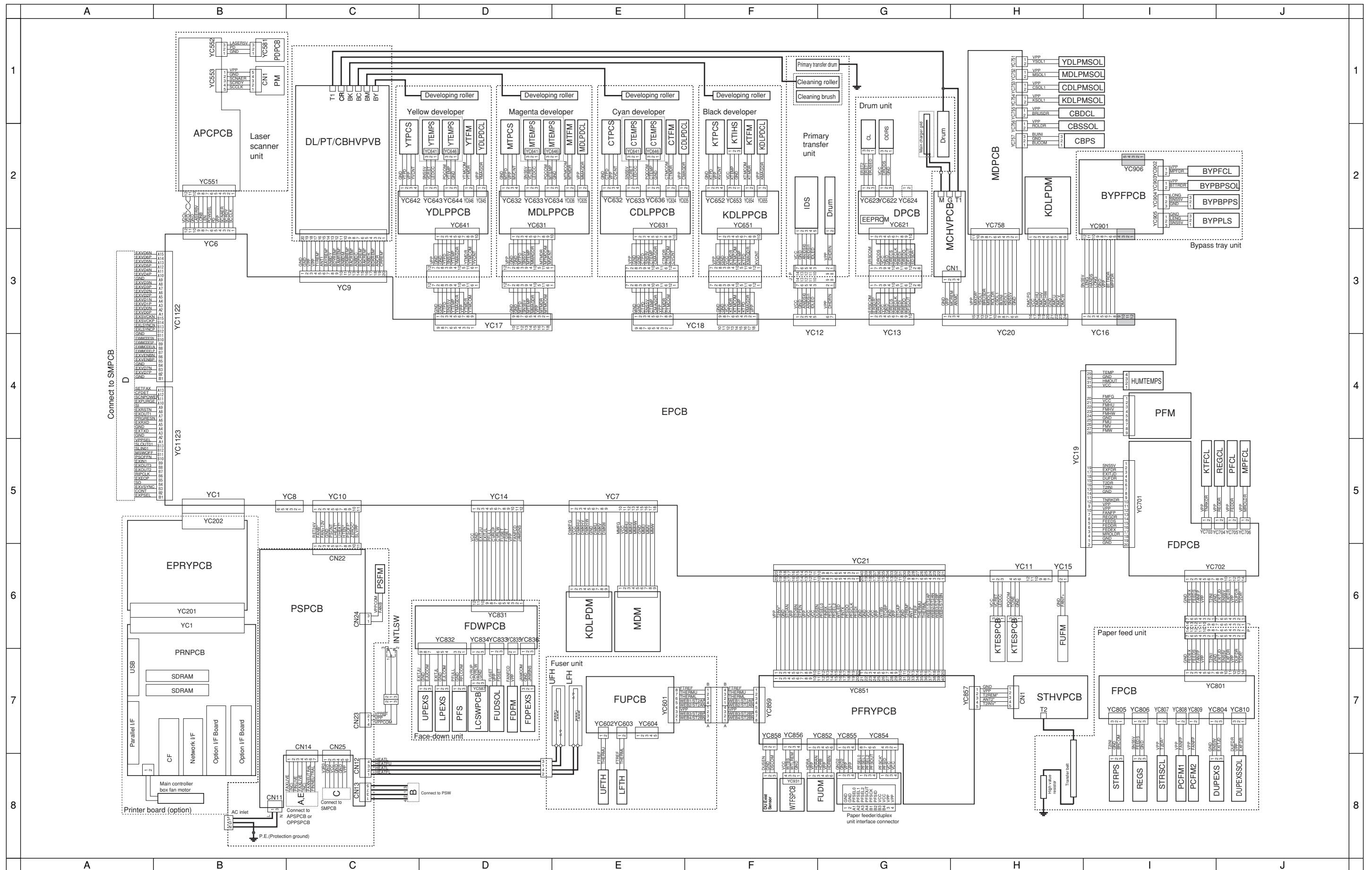
Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Duplex section	Rollers	Clean	Every service	Clean with alcohol or a dry cloth.	
	Guides	Clean	Every service	Clean with alcohol or a dry cloth.	

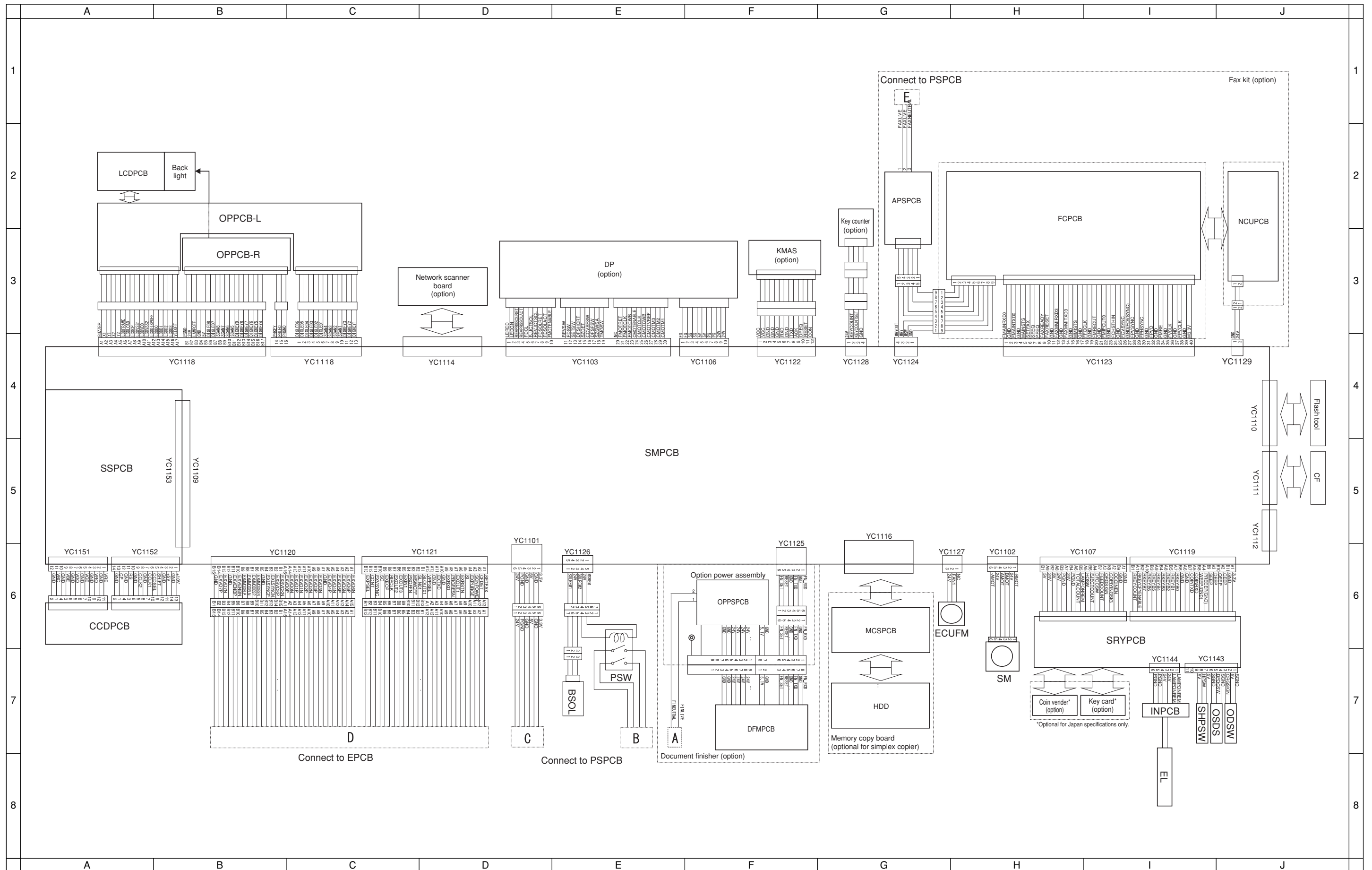


Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Covers	Covers	Clean	Every service	Clean with alcohol or a dry cloth.	



Section	Maintenance part/location	Method	Maintenance cycle	Points and cautions	Page
Other	Image quality	Check and adjust	Every service		





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