KYOCERA

TASKalfa 420i
TASKalfa 520i

SERVICE MANUAL

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Rev. 4

CAUTION

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

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

ATTENTION

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

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

Revision history

Revision	Date	Replaced pages	Remarks
1	December 14, 2009	1-3-4, 1-3-5, 1-3-10, 1-3-12 to 1-3-16, 1-3-22, 1-3-23, 1-3-38, 1-3-41 to 1-3-43, 1-3-58, 1-3-59, 1-3-60, 1-3-74, 1-3-81, 1-3-84, 1-3-94 to 1-3-97, 1-3-100, 1-3-101, 1-4-3, 1-4-4, 1-4-8, 1-5-24, 1-5-25, 1-5-28, 1-6-1, 2-3-6, 2-3-7, 2-3-15 to 2-3-17, 2-4-1, 2-4-3 to 2-4-6	-
2	February 4, 2010	1-2-4, 1-2-11, 1-3-2, 1-3-3, 1-3-5, 1-3-25, 1-3-26, 1-3-50 to 1-3-53, 1-3-74, 1-3-95, 1-4-8, 1-4-11, 2-1-11	-
3	May 7, 2010	1-1-1	-
4	June 27,2011	1-3-94, 1-3-95	-

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Safety precautions

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

Safety warnings and precautions

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

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

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

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

Symbols

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

 General warning.

 Warning of risk of electric shock.

 Warning of high temperature.

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

 General prohibited action.

 Disassembly prohibited.

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

 General action required.

 Remove the power plug from the wall outlet.

 Always ground the copier.

1.Installation Precautions

⚠WARNING

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

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

⚠CAUTION:

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

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

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

  This may cause fire. .....

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

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

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

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

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

2.Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. .....

- Always follow the procedures for maintenance described in the service manual and other related brochures. .....

- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. .....

- Always use parts having the correct specifications. .....
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. .....

- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. .....

- Always check that the copier is correctly connected to an outlet with a ground connection. .....
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. .....

- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. .....

- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. .....

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. .....

- Use utmost caution when working on a powered machine. Keep away from chains and belts. .....

- Handle the fixing section with care to avoid burns as it can be extremely hot. .....
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. .....

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

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

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

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

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

- Run wire harnesses carefully so that wires will not be trapped or damaged. .....
- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. .....

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

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

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

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

3.Miscellaneous

⚠WARNING

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

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CONTENTS

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1-1-1 Specifications

Machine

Type	Desktop
Printing method	Electrophotography by semiconductor laser, tandem drum system
Supported original types	Sheets, books and three-dimensional objects Maximum original size: A3/Ledger
Original feed system	Fixed
Paper weight	Cassette : 60 to 105 g/m^2 MP tray : 45 to 200 g/m^2
Paper type	Cassette: Plain, Rough, Vellum, Recycled, Preprinted, Bond, Color (Colour), Prepunched, Letterhead, High Quality, Custom 1 to 8 (Duplex: Same as Simplex) MP tray: Plain, Transparency (OHP film), Rough, Vellum, Labels, Recycled, Preprinted, Bond, Cardstock (Hagaki), Color (Colour), Prepunched, Letterhead, Thick, Envelope, High Quality, Custom 1 to 8
Paper size	Cassette: A3, B4, A4, A4R, B5, B5R, A5R, Ledger, Legal, Letter, LetterR, Statement, Oficio II, 8.5 x 13.5", Folio, 8K, 16K, 16KR MP tray: A3, B4, A4, A4R, B5, B5R, A5R, B6R, A6R, Ledger, Legal, Letter, LetterR, ExecutiveR, Statement, Oficio II, 8.5 x 13.5", Folio, 8K, 16K, 16KR, Postcards (100 x 148 mm), Return postcard (148 x 200 mm), Envelope DL, Envelope C5, Envelope C4, Envelope #10 (Commercial #10), Envelope #9 (Commercial #9), Envelope #6 (Commercial #6 3/4), Monarch, ISO B5, Youkei 2, Youkei 4
Zoom level	Manual mode: 25 to 400%, 1% increments Auto mode: Preset zoom
Printing speed	42 ppm model A4/Letter: 42 sheets/min. A4R/LetterR: 27 sheets/min. A3/Ledger: 23 sheets/min. B4/Legal: 23 sheets/min. B5: 42 sheets/min. B5R: 22 sheets/min. A5R: 16 sheets/min. 52 ppm model A4/Letter: 52 sheets/min. A4R/LetterR: 31 sheets/min. A3/Ledger: 26 sheets/min. B4/Legal: 26 sheets/min. B5: 52 sheets/min. B5R: 24 sheets/min. A5R: 18 sheets/min.
First copy time	3.9 s or less
Warm-up time	Room temperature 22°C/71.6°F, 60% RH Power on: 30 s or less Sleep mode: 15 s or less
Paper capacity	Cassette : 500 sheets (80 g/m^2) MP tray : 200 sheets (80 g/m^2)
Output tray capacity	Top tray : 250 sheets (80 g/m^2) When built-in finisher installed: 150 sheets (80 g/m^2) When job separator installed: 250 sheets (80 g/m^2)
Continuous copying	1 to 999 sheets
Light source	Inert gas lamp
Scanning system	Flat bed scanning by CCD image sensor
Photoconductor	a-Si (drum diameter 40 mm)
Image write system	Semiconductor laser and electrophotography
Charging system	Single positive corona charging
Developing system	Dry, reverse developing (single component system) Developer: 1-component, magnetism toner Toner replenishing: automatic from a toner container

Transfer system	Transfer roller
Separation system	Curvature separation and separation electrode
Cleaning system	Cleaning blade and roller
Charge erasing system	Exposure by cleaning lamp
Fusing system	Heat roller Heat source: halogen heaters Abnormally high temperature protection devices: thermostats
Main memory	Standard : 2048 MB Maximum: 2048 MB
Hard disk	160 GB
Interface	USB interface connector: 1 (USB Hi-speed) USB memory slot: 2 (Full-speed USB) Network interface: 1 (10 BASE-T/100 BASE-TX) Optional interface: 2 (KUIO/W)
Resolution	600 x 600 dpi
Operating environment	Temperature: 10 to 32.5°C/50 to 90.5°F Humidity: 15 to 80% RH Altitude: 2500 m/8,202 ft maximum Brightness: 1500 lux maximum
Dimensions	599 (W) x 646 (D) x 745 (H) mm (main unit only) 23 9/16" (W) x 25 7/16" (D) x 29 5/16" (H) (main unit only)
Weight	85 kg/187 lbs
Space required	753 (W) x 646 (D) mm (using MP tray) 29 5/8" (W) x 25 7/16" (D) (using MP tray)
Power source	120 V AC, 60 Hz, 12 A 220 to 240 V AC, 50 Hz, 6.3 A
Options	Document processor, paper feeder, 3000-sheet paper feeder, document finisher, 3000-sheet document finisher, centerfold unit, mailbox, punch unit, built-in finisher, job separator, key counter, fax kit, expansion memory, data security kit and printed document guard kit

Printer functions

Printing speed	Same as copying speed
First print time	4.8 s or less
Resolution	600 dpi
Operating system	Windows 2000 (Service Pack 2 or later), Windows XP, Windows Server 2003, Windows Vista, Apple Macintosh OS 10.x
Interface	USB interface connector: 1 (USB Hi-speed) Network interface: 1 (10 BASE-T/100 BASE-TX)
PDL	PRESCRIBE

Scanner functions

Operating system	Windows 2000 (Service Pack 2 or later), Windows XP, Windows Vista		
System requirements	CPU 600 MHz or higher RAM 128 MB or more		
Resolution	600 dpi, 400 dpi, 300 dpi, 200 dpi, 200 x 100 dpi, 200 x 400 dpi		
File format	TIFF (MMR/JPEG compression), JPEG, XPS, PDF (MMR/JPEG compression), PDF (high compression)		
Scanning speed	A4, 600 dpi, Image quality: Text/Photo original, B/W Single scanning: 52 images/min		
Interface	Ethernet (10 BASE-T/100 BASE-TX)		
Network protocol	TCP/IP		
Transmission system	PC transmission	SMB	Scan to SMB
		FTP	Scan to FTP, FTP over SSL
	E-mail transmission	SMTP	Scan to E-mail
	Twain scan		
	WIA scan		

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

(1) Machine

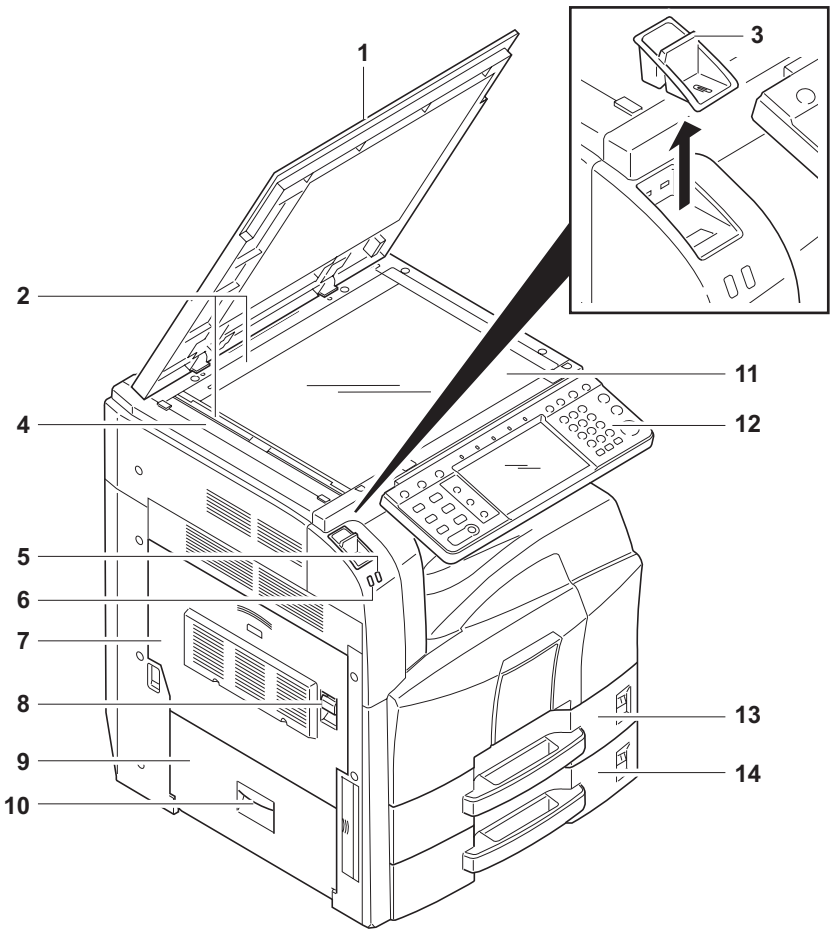


Figure 1-1-1

1. Original cover (option)
2. Original size indicator plates
3. Clip holder
4. Slit glass
5. Attention indicator
6. Receive indicator
7. Left cover 1
8. Left cover 1 lever
9. Left cover 2
10. Left cover 2 handle
11. Contact glass
12. Operation panel
13. Cassette 1
14. Cassette 2

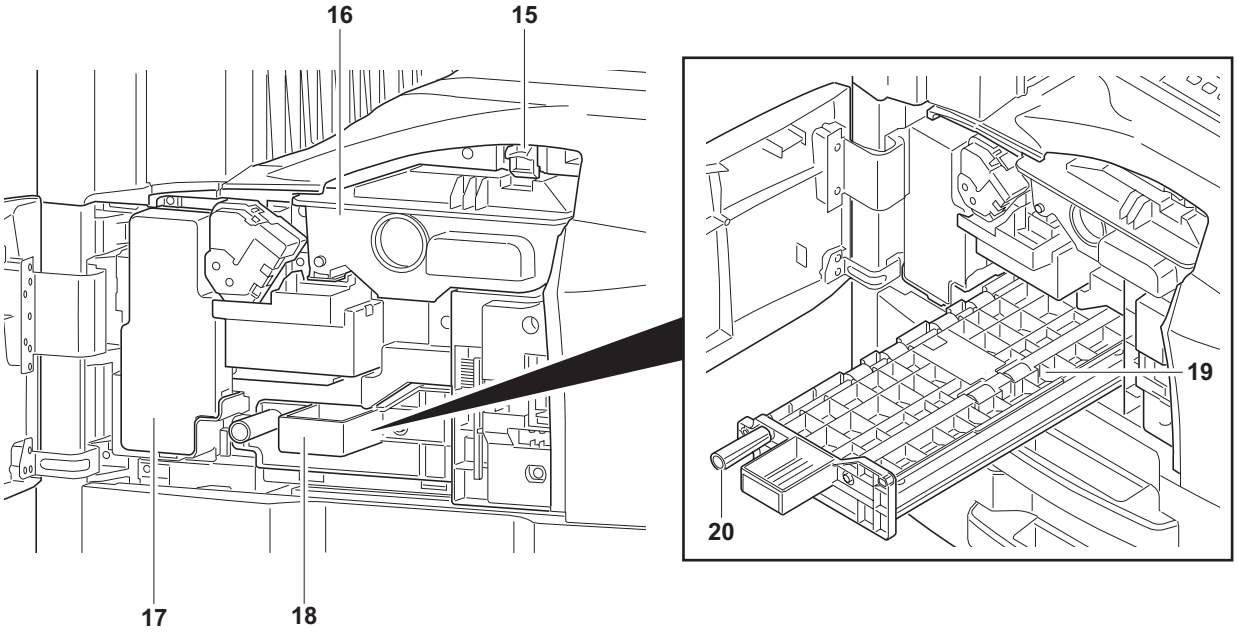


Figure 1-1-2

15. Toner container stopper
16. Toner container
17. Waste toner box
18. Paper feed unit (A2)
19. Paper feed unit cover (A3)
20. Knob

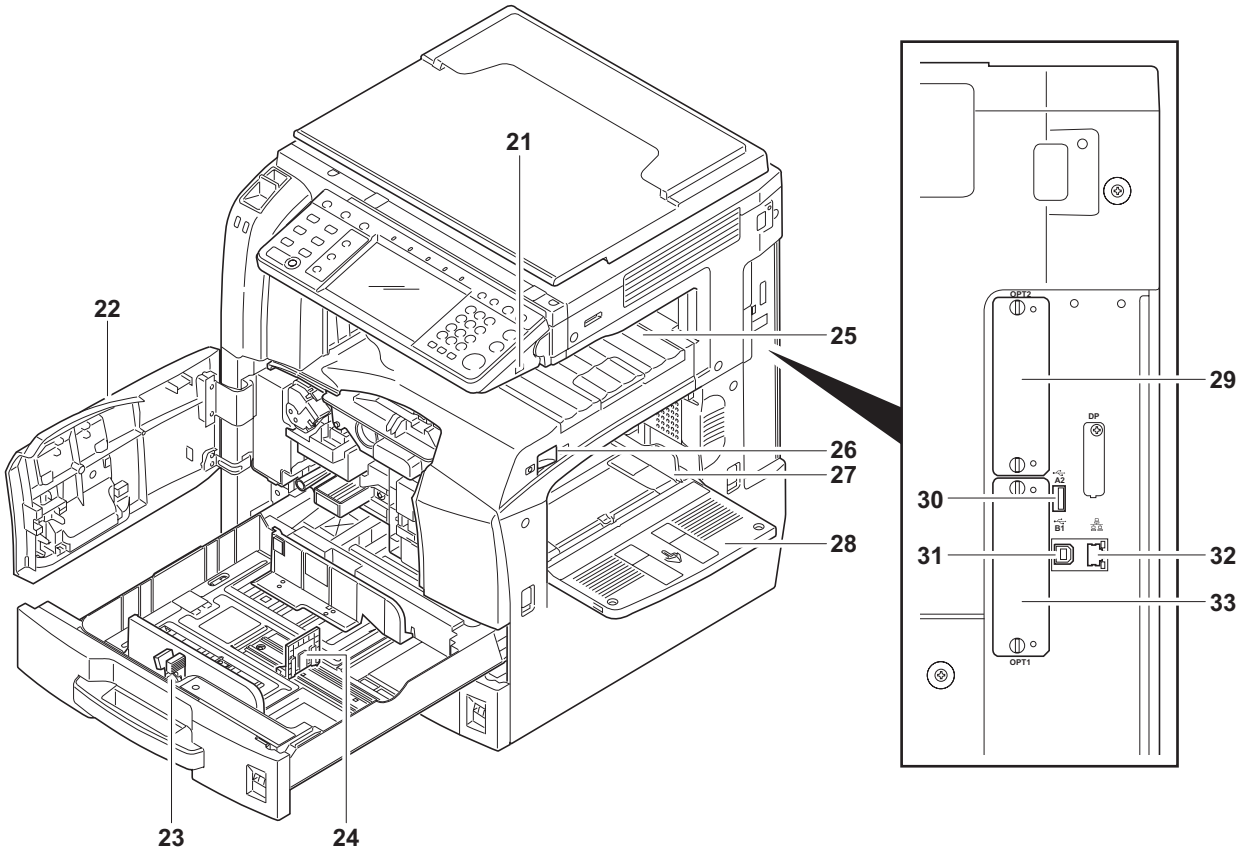


Figure 1-1-3

21. USB memory slot (A1)
22. Front cover
23. Paper width adjusting tab
24. Paper length guide
25. Top tray
26. Main power switch
27. Paper width guide
28. MP tray (multi purpose tray)
29. Optional interface slot (OPT2)
30. USB memory slot (A2)
31. USB interface connector (B1)
32. Network interface connector
33. Optional interface slot (OPT1)

(2) Operation panel

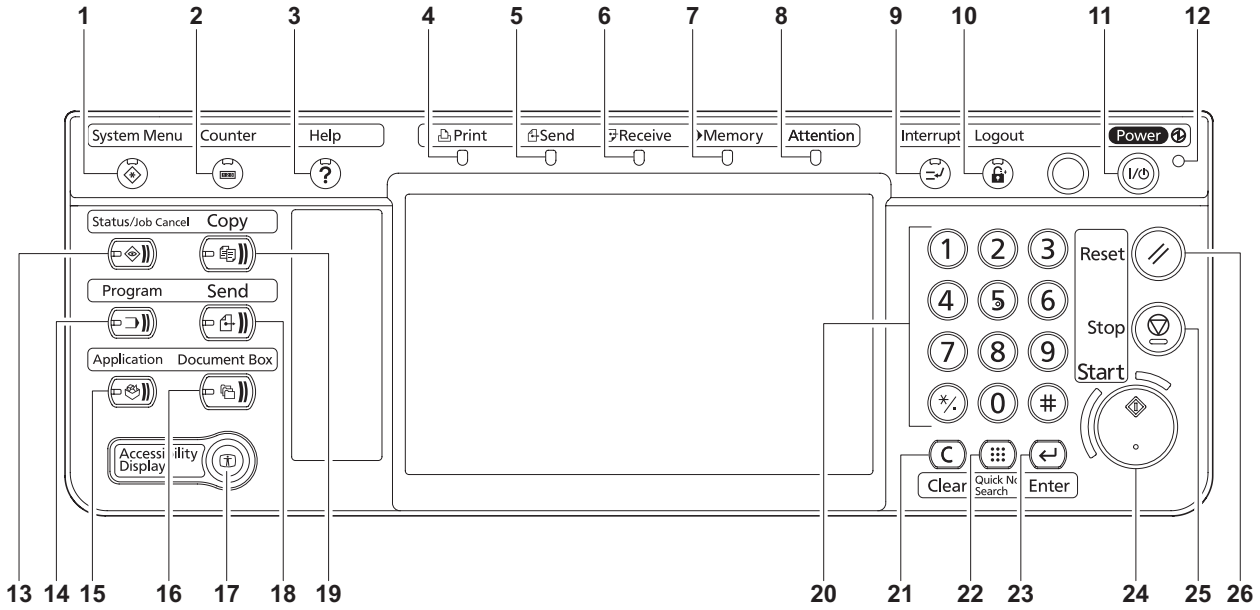


Figure 1-1-4

1. System menu key/indicator
2. Counter key/indicator
3. Help key/indicator
4. Print indicator
5. Send indicator
6. Receive indicator
7. Memory indicator
8. Attention indicator
9. Interrupt key/indicator
10. Logout key/indicator
11. Power key/indicator
12. Main power indicator
13. Status/Job cancel key/indicator
14. Program key/indicator
15. Application key/indicator
16. Document box key/indicator
17. Accessibility key/indicator
18. Send key/indicator
19. Copy key/indicator
20. Numeric keys
21. Clear key
22. Quick No. search key
23. Enter key
24. Start key/indicator
25. Stop key
26. Reset key

1-1-3 Machine cross section

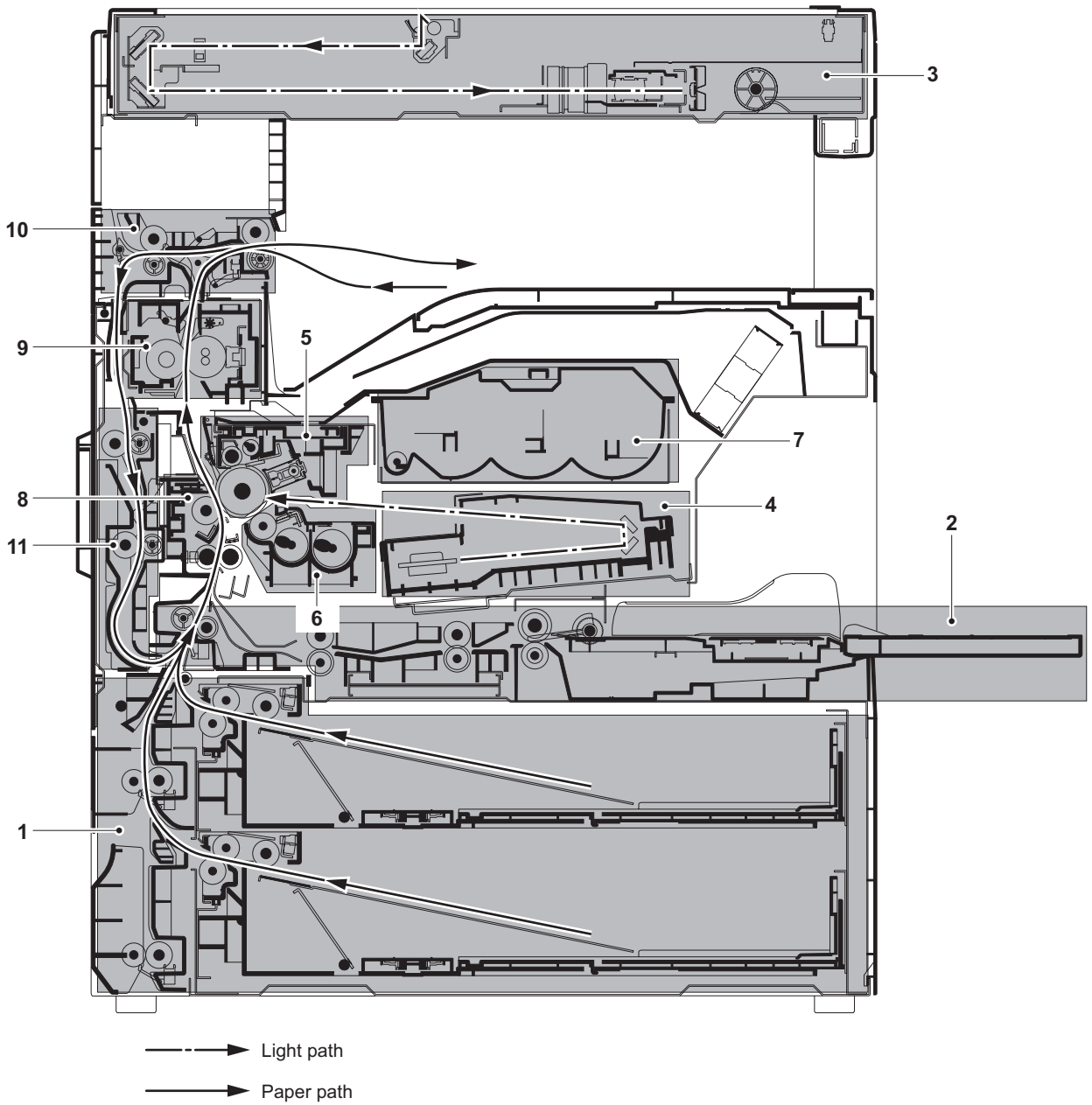


Figure 1-1-5 Machine cross section

1. Cassette paper feed section
2. MP tray paper feed section
3. Image scanner section
4. Laser scanner section
5. Drum section
6. Developing section
7. Toner container section
8. Transfer and separation sections
9. Fuser section
10. Eject and switchback sections
11. Duplex section

1-2-1 Installation environment

1. Temperature: 10 to 32.5°C/50 to 90.5°F
2. Humidity: 15 to 80%RH
3. Power supply: 120 V AC, 12 A
   220 to 240 V AC, 6.3 A
4. Power source frequency: 50 Hz ± 0.3%/60 Hz ± 0.3%
5. Installation location
   Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
   Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.
   Avoid places subject to dust and vibrations.
   Choose a surface capable of supporting the weight of the machine.
   Place the machine on a level surface (maximum allowance inclination: 1°).
   Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
   Select a well-ventilated location.
6. Allow sufficient access for proper operation and maintenance of the machine.
   Machine front: 1000 mm/39 3/8" Machine rear: 100 mm/3 15/16"
   Machine right: 300 mm/11 13/16" Machine left: 300 mm/11 13/16"

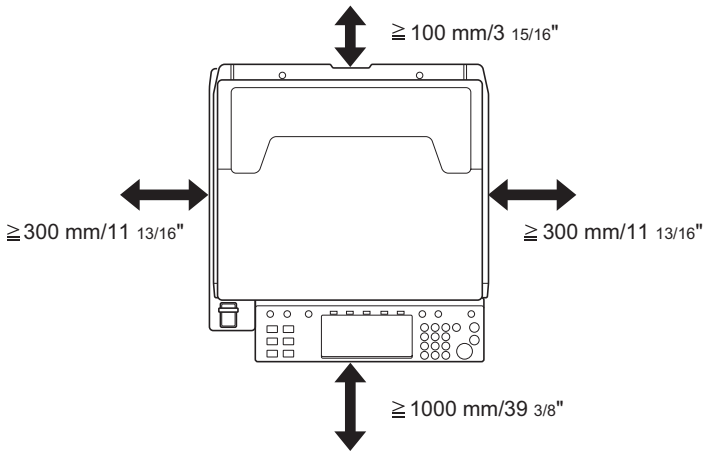
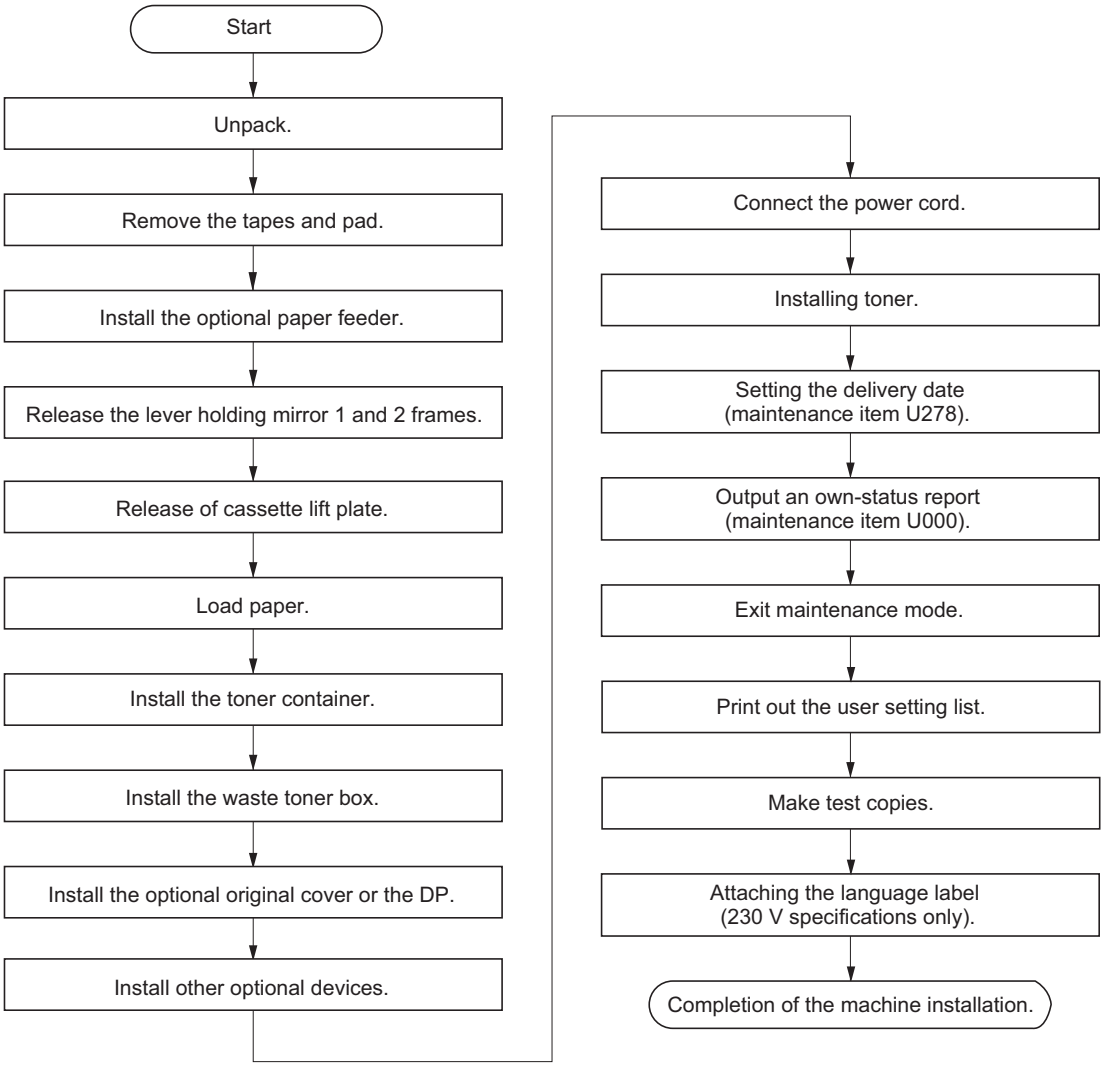


Figure 1-2-1 Installation dimensions

1-2-2 Unpacking and installation

(1) Installation procedure



Moving the machine
When moving the machine, pull out the four handles on the right and left sides and hold them.

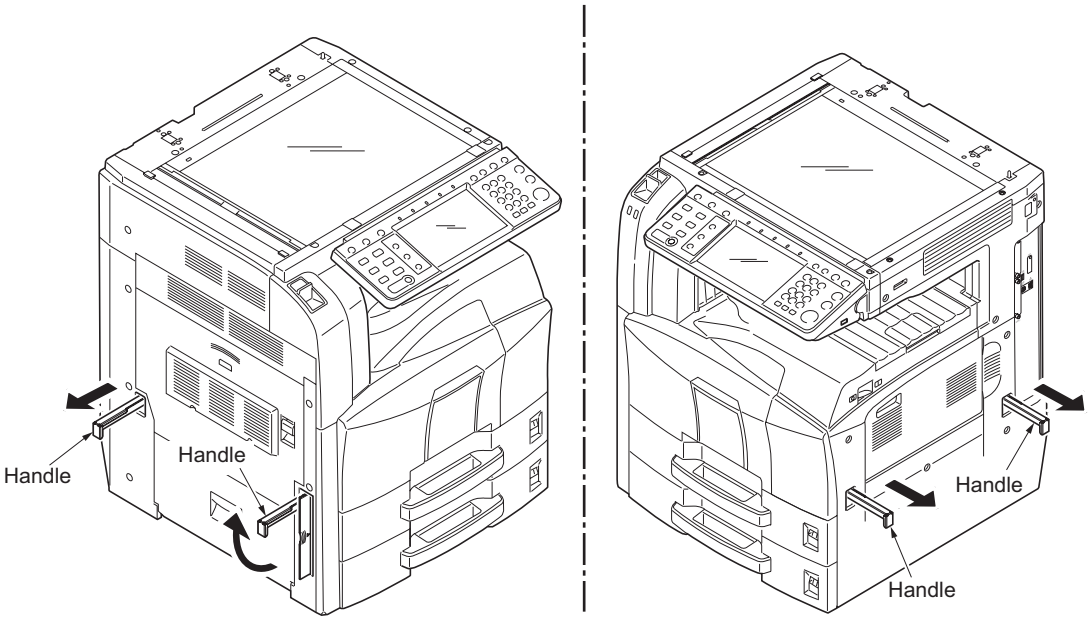


Figure 1-2-2

Unpacking.

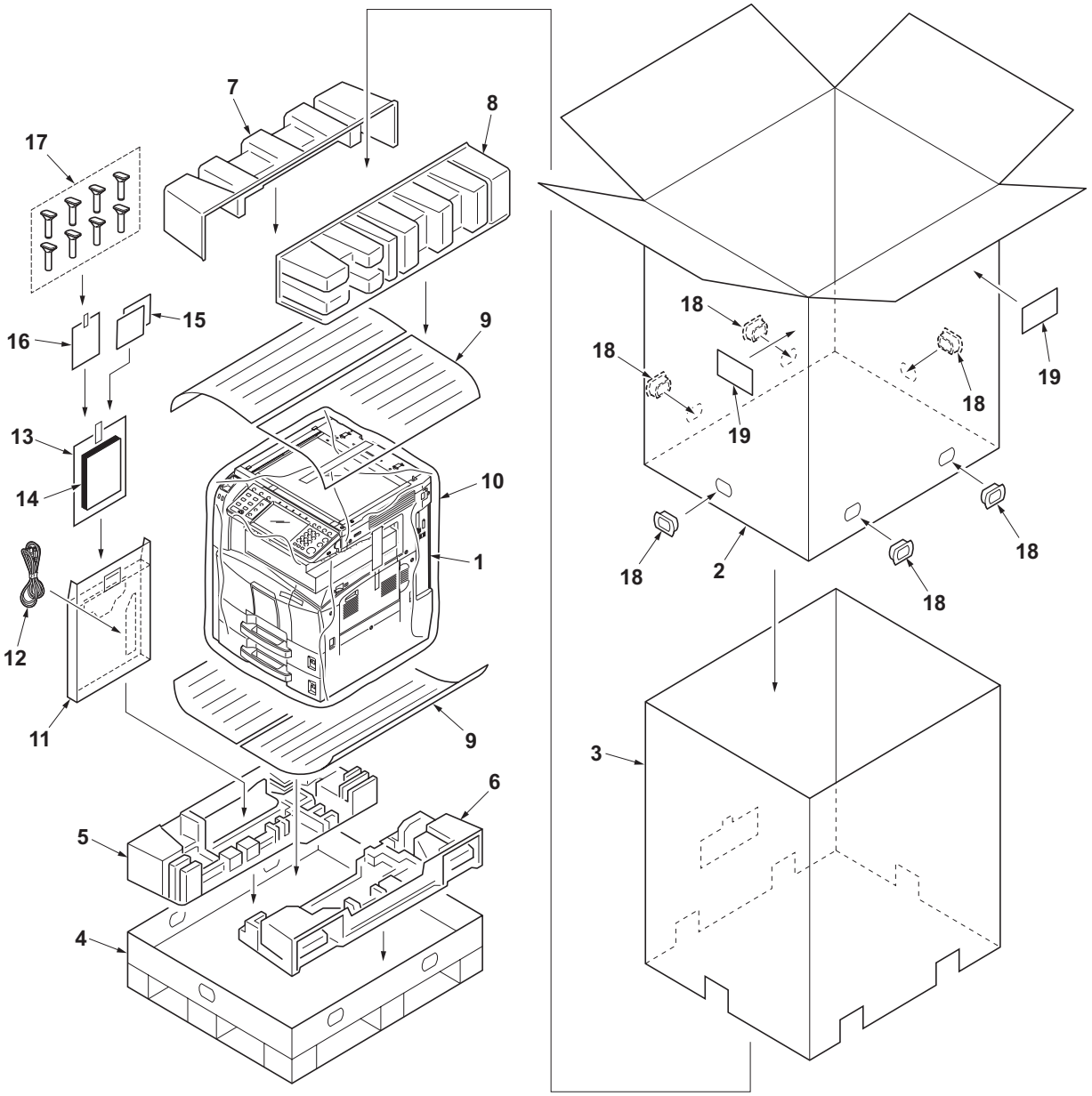


Figure 1-2-3 Unpacking

1. Machine
2. Outer case
3. Inner frame
4. Skid
5. Bottom left pad
6. Bottom right pad
7. Upper left pad
8. Upper right pad
9. Sheets
10. Machine cover
11. Document tray
12. Power cord
13. Plastic bag
14. Operation guide
15. Paper size plates
16. Plastic bag
17. Cursor pins
18. Hinge joints
19. Bar code labels

Caution: Place the machine on a level surface.

Remove the tapes and pad.

1. Remove two tapes.
2. Remove the pad.

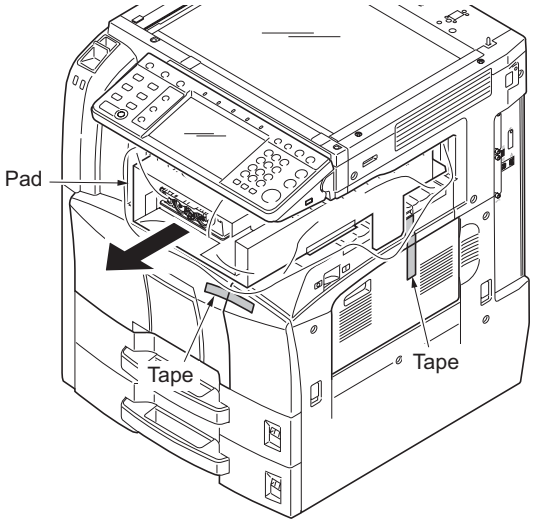


Figure 1-2-4

Install the optional paper feeder.

1. Install the optional paper feeder as necessary.
2. Verify levelness at the four corners of the platen using a level gauge, and adjust the level bolts at the bottom of the machine to optimize levelness.

Release the lever holding mirror 1 and 2 frames.

1. Turn the lever of the machine rear side with the tool to release the lever holding the mirror 1 and 2 frames.

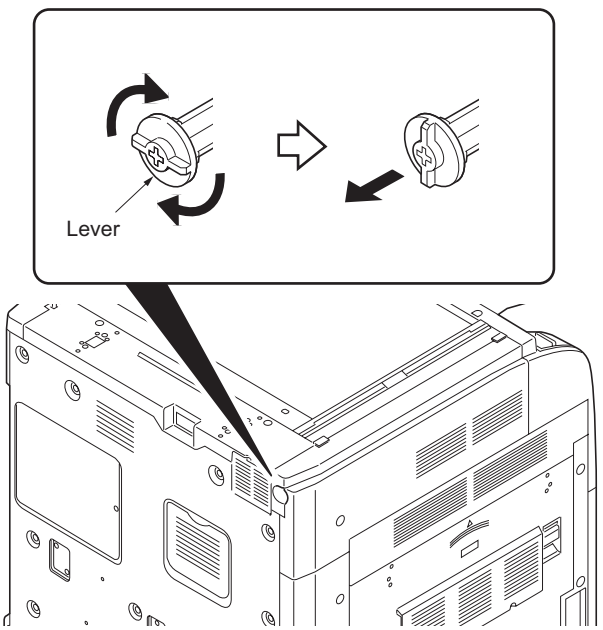


Figure 1-2-5

Release of cassette lift plate.

1. Pull cassette 1 and 2 out.
   Remove the lift plate stopper from each cassette and attach it to the storage location.
   When moving the machine, attach the lift plate in original position.

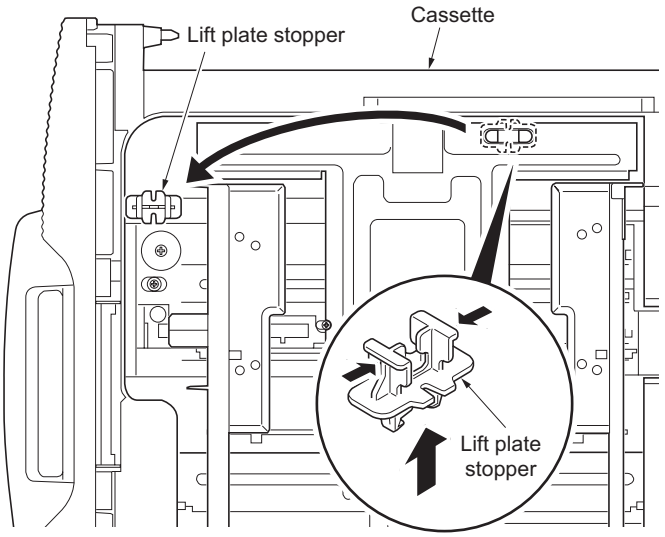


Figure 1-2-6

Load paper.

1. Pull the cassette out.
2. Holding the paper width adjusting tab both ends, move the paper width guides to fit the paper size.

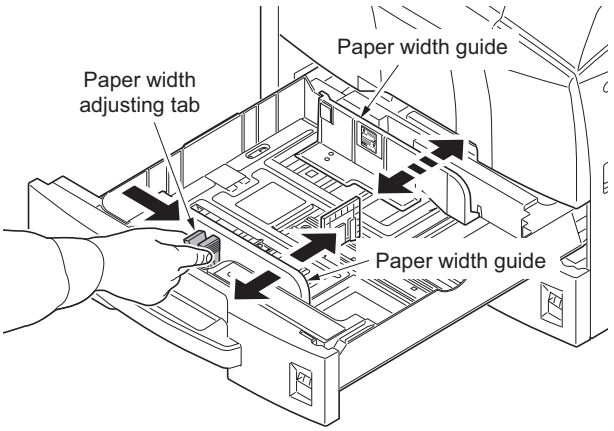


Figure 1-2-7

3. Adjust the length adjustment plate to fit the paper size.

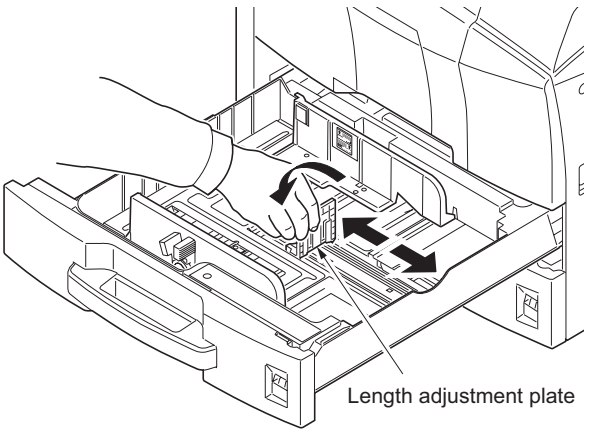


Figure 1-2-8

4. Align the paper flush against the left side of the cassette.

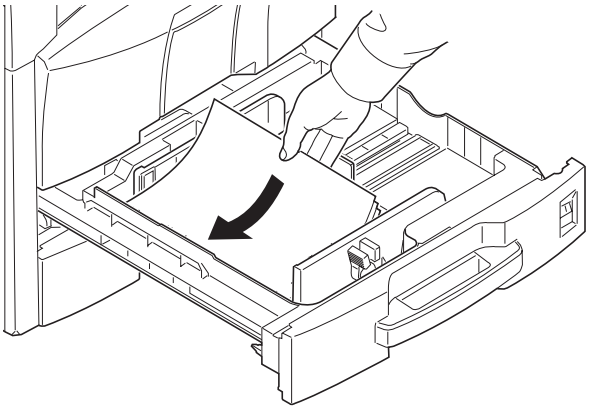


Figure 1-2-9

Install the toner container.

1. Open the front cover.
2. Tap the top of the toner container five to six times.

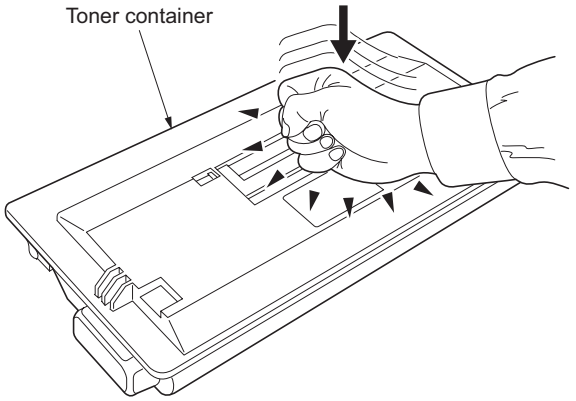


Figure 1-2-10

3. Shake the toner container approximately 10 times in the horizontal direction to stir toner.

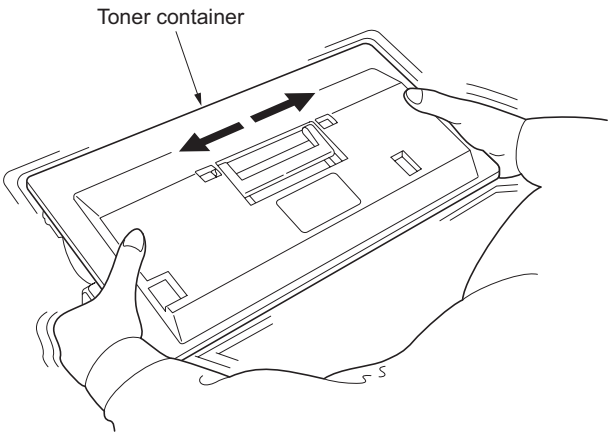


Figure 1-2-11

4. Gently push the toner container into the machine along the rails.
   Push the container all the way into the machine until it locks in place.

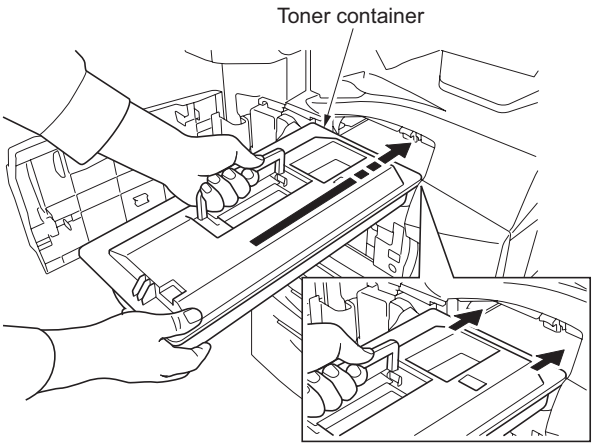


Figure 1-2-12

Install the waste toner box.

1. Install the waste toner box in the machine.
2. Close the front cover.

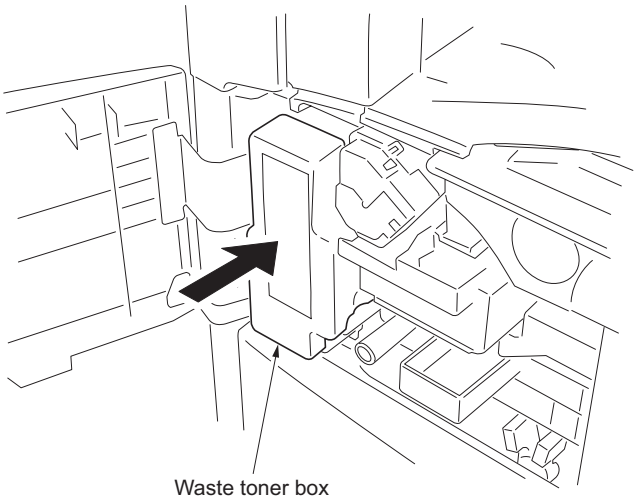


Figure 1-2-13

Install the optional original cover or the DP.

1. Install the optional original cover or DP.

Install other optional devices.

1. Install the optional devices (job separator, built-in finisher, document finisher and/or fax kit etc.) as necessary.

Connect the power cord.

1. Connect the power cord to the connector on the machine.
2. Insert the power plug into the wall outlet.

Installing toner.

1. Turn the main power switch on. Toner installation is started.
2. The drive chain is disengaged when toner installation is completed.
   Run maintenance mode U130 if [Add Toner] remains displayed even after the drive chain is disengaged.

Setting the delivery date (maintenance item U278).

1. Enter the maintenance mode by entering 10871087 using the numeric keys.
2. Enter 278 using the numeric keys and press the start key.
3. Select [TODAY] and press the start key. The delivery date is set.
4. Press the stop key.

Output an own-status report (maintenance item U000).

1. Enter 000 using the numeric keys and press the start key.
2. Select [MAINTENANCE] and press the start key to output a list of the current settings of the maintenance items.
3. Press the stop key.

Exit maintenance mode.

1. Enter 001 using the numeric keys and press the start key. The machine exits the maintenance mode.

Print out the user setting list.

1. Select [Report Print] to output the user various setting reports.

Make test copies.

1. Place an original and make test copies.

Attaching the language label (230 V specifications only).

1. According to need, attach the correspond language label.

Completion of the machine installation.

(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(A3/LEDGER)
U260	Selecting the timing for copy counting	After ejection
U285	Setting service status page	ON
U326	Setting the black line cleaning indication	ON/8
U328	Side ejection setting	OFF
U342	Setting the ejection restriction	ON
U343	Switching between duplex/simplex copy mode	OFF

1-2-3 Installing the key counter (option)

Installing the key counter requires the following component:
Key counter (P/N 3025418011)
Key counter set (P/N 302A369708)

Supplied parts of key counter set:
Key counter socket assembly (P/N 3029236241)
Key counter cover (P/N 3066060011)
Key counter mount (P/N 3066060041)
Key counter retainer (P/N 302GR03020)
Key counter cover retainer (P/N 302GR03010)
Two (2) Edgings (P/N 7YZM210006++H01)
One (1) Band (P/N M21AH010)
One (1) M3 × 8 tap-tight P screw (P/N 5MBTPB3008PW++R)
Two (2) M4 × 10 tap-tight P screws (P/N 5MBTPB4010PW++R)
Two (2) M4 × 10 tap-tight S screws (P/N 5MBTPB4010TW++R)
Two (2) M3 × 6 bronze flat-head screws (P/N 7BB003306H)
One (1) M4 × 20 tap-tight S screw (P/N 7BB100420H)
One (1) M3 bronze nut (P/N 7BC1003055++H01)
One (1) M3 × 8 bronze binding screw (P/N B1B03080)
One (1) M4 × 30 tap-tight S screw (P/N B1B54300)
Five (5) M4 × 6 chrome TP screws (P/N B4A04060)
Two (2) M4 × 10 chrome TP screws (P/N B4A04100)

Procedure

1. Press the power key on the operation panel to off. Make sure that the main power indicator and the memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.
2. Fit the key counter socket assembly to the key counter retainer using two screws and nut.
3. Fit the key counter mount to the key counter cover using two screws.
4. Fit the key counter retainer to the key counter mount using two screws.

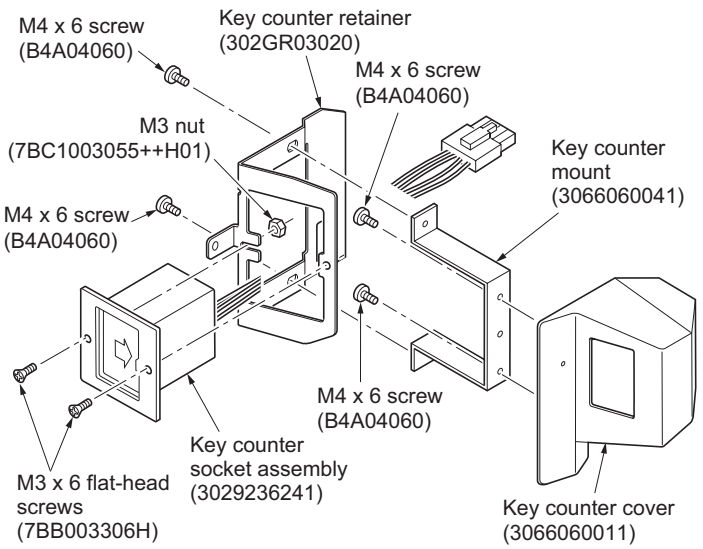


Figure 1-2-14

5. Remove the ISU filter cover.
6. Remove ten screws and then remove the rear cover.

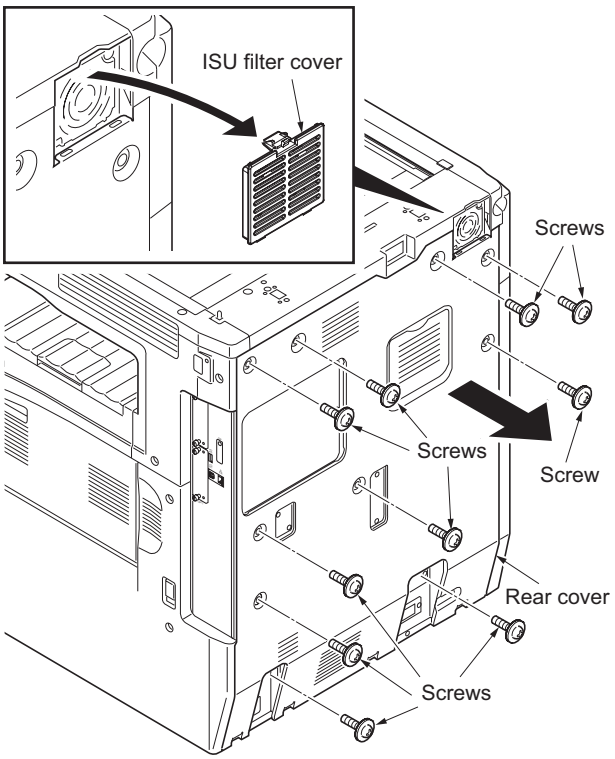


Figure 1-2-15

7. Remove two screws and then remove the scanner right cover.

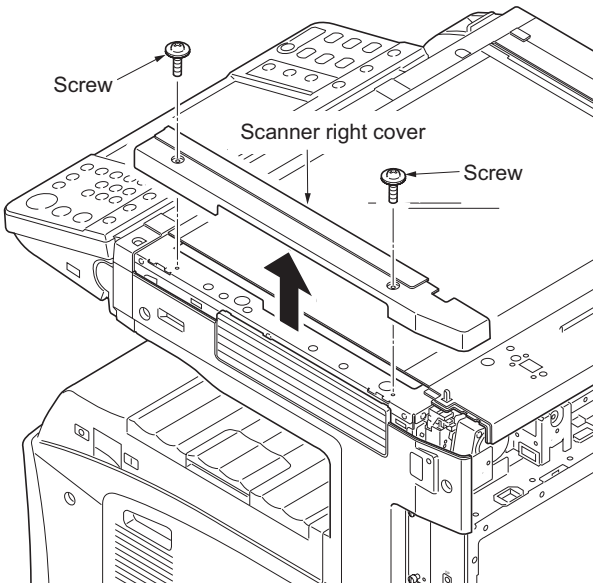


Figure 1-2-16

8. Remove three screws and then remove the right upper cover.
9. Cut out the aperture plate on the right upper cover using nippers.

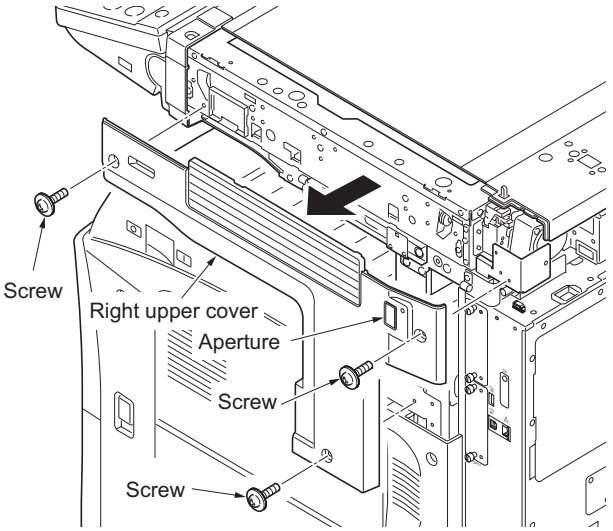


Figure 1-2-17

10. Release the wire saddle and then stretch the key counter wire.
11. Close the wire saddle.

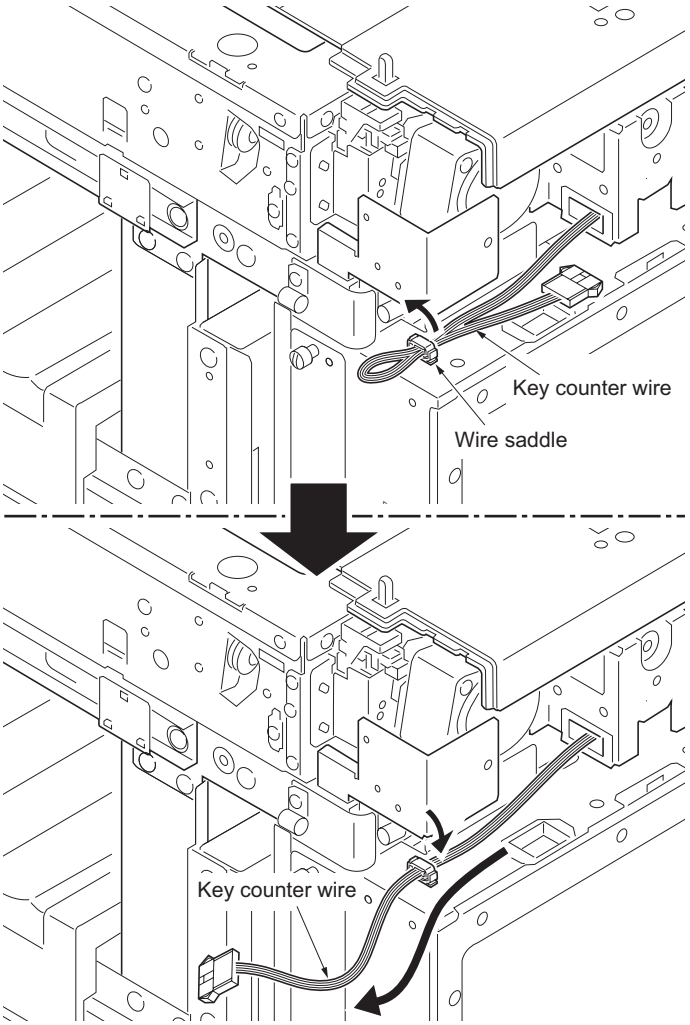


Figure 1-2-18

12. Refit the rear cover and ISU filter cover.
13. Pass the key counter wire through the aperture and then refit the upper right cover.

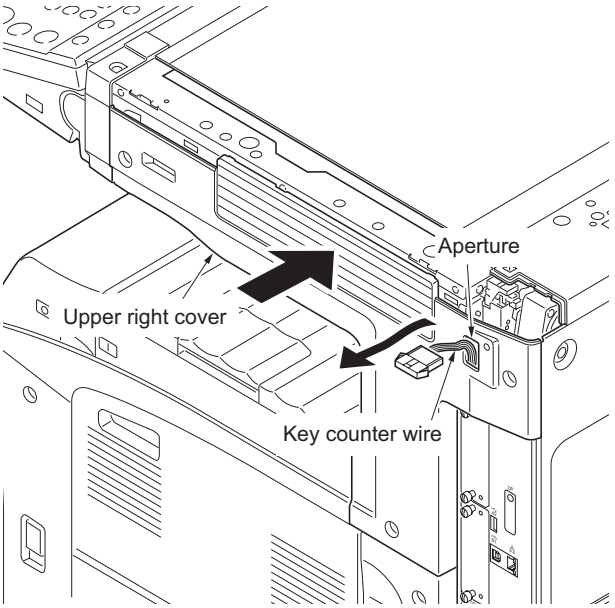


Figure 1-2-19

14. Pass the connector of the key counter wire through the aperture in the key counter cover retainer.
15. Insert the hook of the key counter cover retainer in the slit of the right upper cover.
16. Fit the key counter cover retainer to the machine using the M4 x 20 screw.
17. Refit the scanner right cover.

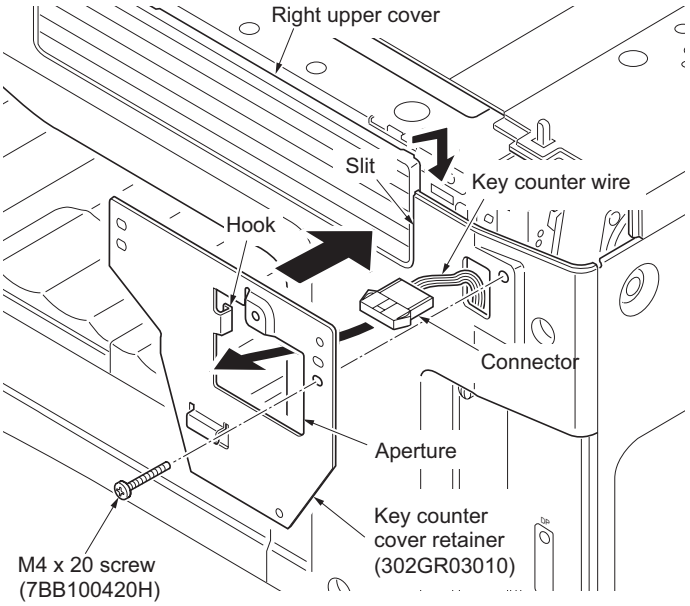


Figure 1-2-20

18. Connect the connector of the key counter signal cable to the connector of the key counter wire.
19. Fit the key counter cover with the key counter socket assembly inserted to the key counter cover retainer using the M4 x 6 screw.
20. Insert the key counter into the key counter socket assembly.

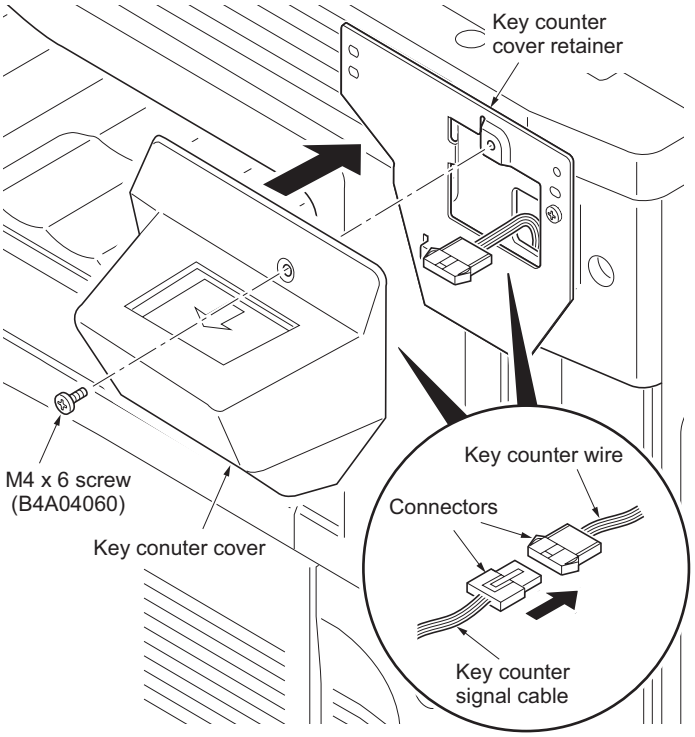


Figure 1-2-21

21. Turn the main power switch on and enter the maintenance mode.
22. Run maintenance item U204 and select [KEY COUNTER].
23. Exit the maintenance mode.
24. Check that the message requesting the key counter to be inserted is displayed on the touch panel when the key counter is pulled out.
25. Check that the counter counts up as prints are made.

1-2-4 Replacing the expanded memory

Procedure

1. Press the power key on the operation panel to off. Make sure that the main power indicator and the memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.
2. Remove the screw and remove the main PWB lid.
3. Open clamps on both ends of the memory socket on the main PWB.
4. Remove the expanded memory.
5. Insert the expanded memory into the memory socket so that the notch on the memory align with the corresponding protrusion in the slot.
   The memory module is secured to the memory socket with the clamps.
6. Refit the main PWB lid.
7. Print a status page to check the expanded memory (See page 1-3-6).

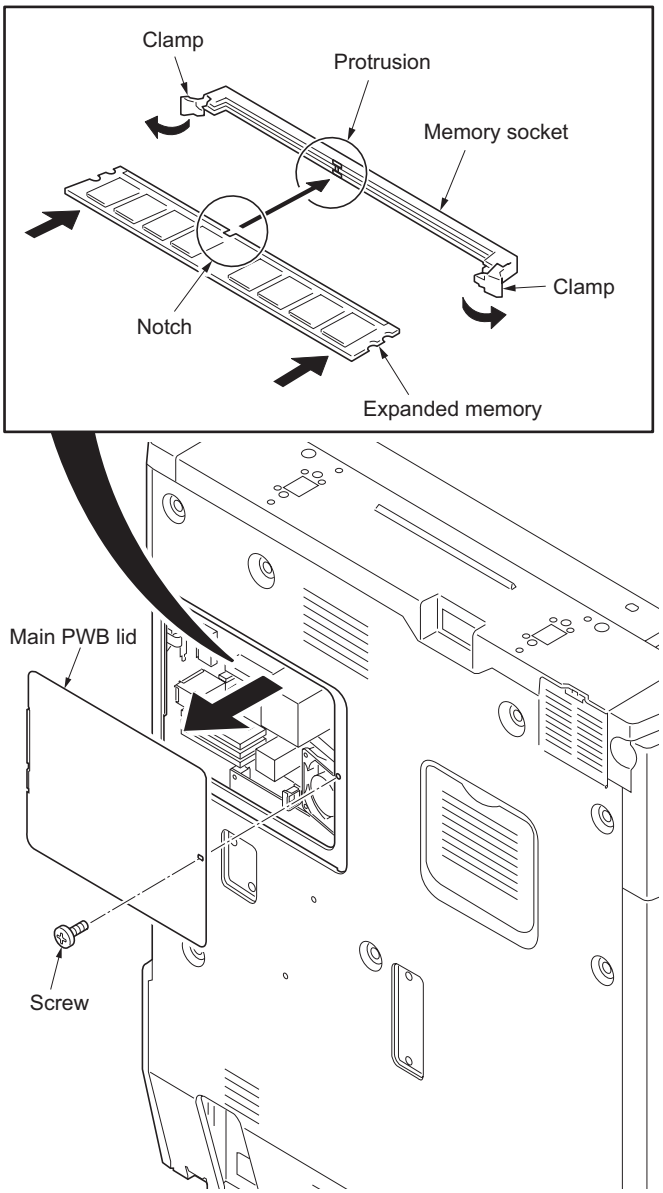
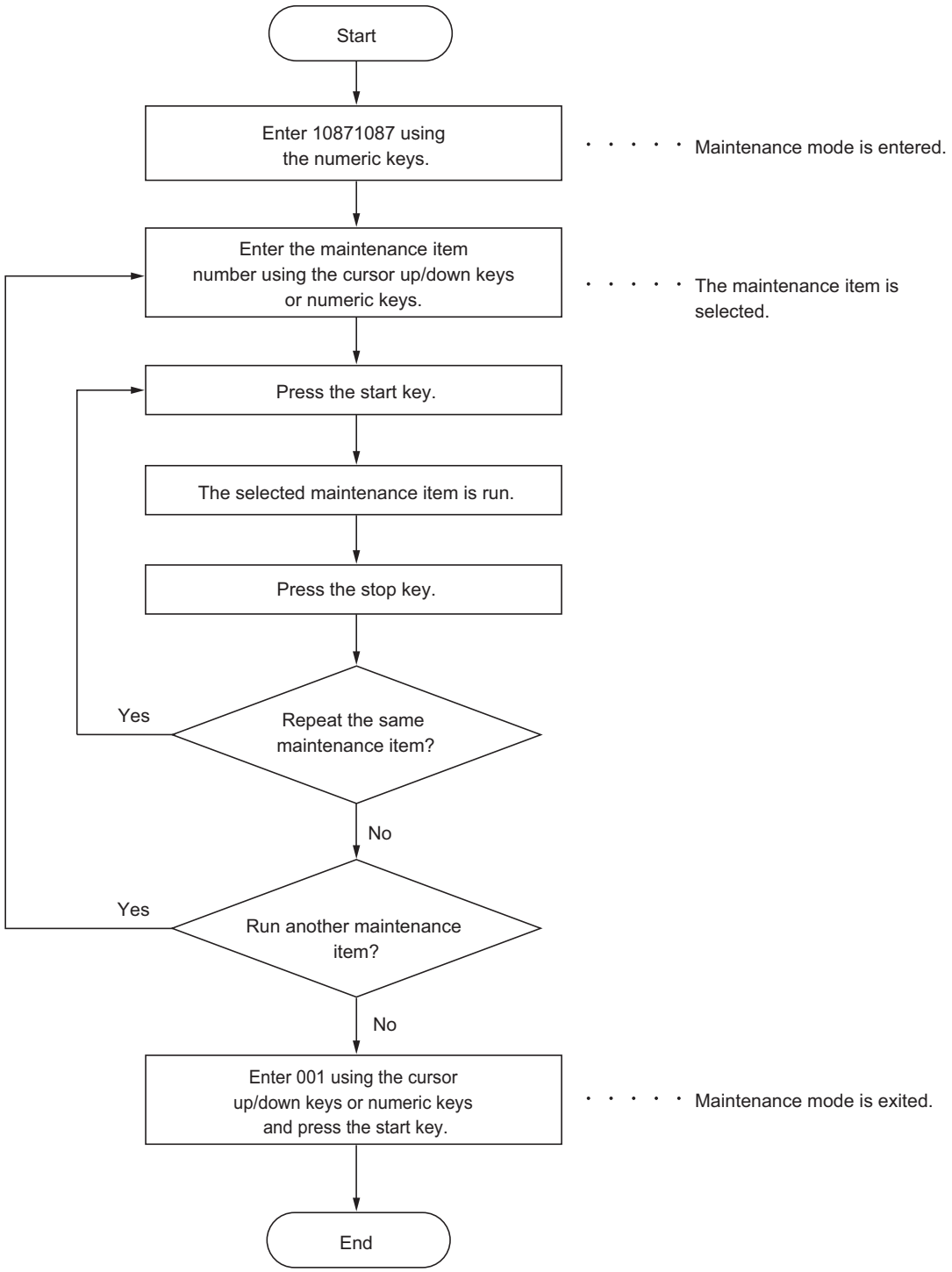


Figure 1-2-22

1-3-1 Maintenance mode

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

(1) Executing a maintenance item



(2) Maintenance modes item list

Section	Item No.	Content of maintenance item	Initial setting*
General	U000	Outputting an own-status report	-
	U001	Exiting the maintenance mode	-
	U002	Setting the factory default data	-
	U003	Setting the service telephone number	**********
	U004	Displaying the machine number	-
	U019	Displaying the ROM version	-
Initialization	U021	Initializing counters and mode settings	-
	U024	HDD formatting	-
Drive, paper feed, paper conveying and cooling system	U030	Checking motor operation	-
	U031	Checking switches for paper conveying	-
	U032	Checking clutch operation	-
	U033	Checking solenoid operation	-
	U034	Adjusting the print start timing Adjusting the leading edge registration Adjusting the center line	 0/0/0/0/0/0 0/0/0/0/0/0
	U035	Setting the printing area for folio paper Length/Width	 330/210
	U037	Checking the operation of the fan motors	-
	U051	Adjusting the deflection in the paper	0/0/0/0
	U053	Setting the adjustment of the motor speed Drive motor Eject motor Polygon motor Paper feed motor	 0 0 0 0
	U059	Setting fan mode	MODE1
Optical	U061	Turning the exposure lamp on	-
	U063	Adjusting the shading position	0
	U065	Adjusting the scanner magnification Main scanning direction/Auxiliary scanning direction	 0/0
	U066	Adjusting the scanner leading edge registration	0/0
	U067	Adjusting the scanner center line	0/0
	U068	Adjusting the scanning position for originals from the DP	0/0
	U070	Adjusting the DP magnification	0/0/0/0
	U071	Adjusting the DP scanning timing	0/0/0/0/0/0
	U072	Adjusting the DP center line	0/0/0
	U073	Checking scanner operation	-
	U074	Adjusting the DP input light luminosity	0
	U080	Setting the economy mode	60
	U081	Adjusting the correct exposure	0/0/0
	U087	Setting DP reading position modification operation	145/145/145
	U089	Outputting a MIP-PG pattern	-
	U091	Setting the white line correction	75/0
	U093	Setting the exposure density gradient	0/0/0/0/0

*: Factory initial setting, *1: The item initialized for executing U021

Section	Item No.	Content of maintenance item	Initial setting*
Optical	U099	Adjusting original size detection	40/30/20/40/30/20/40/30/20/19/19/19/150 (DP not installed) 50/50/50/50/50/50/50/50/50/49/49/49/150 (DP installed)
High voltage	U100	Setting the main high voltage	-
	U101	Setting the other high voltages Developing bias AC component frequency at image formation Developing shift bias potential at image formation Developing bias AC component duty at image formation Transfer control voltage Separation control voltage	 28 1 50 130 20
	U102	Setting the cleaning interval for the main charger	5*1
	U109	Displaying the drum type	-
	U110	Checking the drum count	-
	U111	Checking the drum drive time	-
	U112	Setting toner refresh operation Time of toner refreshment Developing bias on time	 120 540
	U114	Setting separation charger mode	MODE3
	U117	Checking the drum number	-
	U118	Displaying the drum history	-
	U127	Checking the transfer count	-
Developing	U130	Initial setting for the developing unit	-
	U136	Setting toner near end mode	OFF
	U139	Displaying the temperature and humidity	-
	U144	Setting toner disposal operation	MODE2
	U155	Checking sensors for toner	-
	U157	Checking the developing drive time	-
	U158	Checking the developing count	-
Fuser and cleaning	U161	Setting the fuser control temperature Driving start temperature when warm-up starts Control temperature for displaying [Ready for copying.] Control temperature during printing Printing speed control at over-hearing on the fuser ends	 185*1 200*1 200*1 MODE1
	U163	Resetting the fuser problem data	-
	U167	Checking/clearing the fuser counts	-
	U196	Turning the fuser heater on	-
	U198	Setting the fuser phase control	ON
	U199	Checking the fuser temperature	-
Operation panel and support equipment	U200	Turning all LEDs on	-
	U201	Initializing the touch panel	-
	U202	Setting the KMAS host monitoring system	-
	U203	Checking DP operation	-
	U204	Setting the presence or absence of a key card or key counter	OFF/KEY-DEVICE*1
	U206	Setting the presence or absence of the coin vender	-
	U207	Checking the operation panel keys	-

*: Factory initial setting, *1: The item initialized for executing U021

Section	Item No.	Content of maintenance item	Initial setting*
Operation panel and support equipment	U208	Setting the paper size for the paper feeder	Inch specifications: Letter*1 Metric specifications: A4*1
	U221	Setting the USB host lock function	OFF*1
	U222	Setting the IC card type	-
	U223	Operation panel lock	Unlock*1
	U224	Panel sheet extension	-
	U234	Setting punch destination	AUTO
	U236	Setting the limit for the ejection section of the built-in finisher	OFF*1
	U237	Setting finisher stack quantity	0/0*1
	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	-
	U244	Checking the DP switches	-
	U245	Checking messages	-
	U246	Setting the finisher 3000-sheet document finisher Centerfold unit Built-in finisher	 0/0/0/0/0/0*1 0/0/0/0/0/0/0/0*1 0/0/0*1
	U247	Setting the paper feed device	-
Mode setting	U250	Setting the maintenance cycle	-
	U251	Checking/clearing the maintenance count	-
	U252	Setting the destination	-
	U253	Switching between double and single counts	DOUBLE COUNT (A3/LEDGER)*1
	U260	Selecting the timing for copy counting	After ejection*1
	U265	Setting OEM purchaser code	-
	U278	Setting the delivery date	-
	U285	Setting service status page	ON
	U326	Setting the black line cleaning indication	ON/8*1
	U328	Side ejection setting	OFF*1
	U332	Setting the size conversion factor	1.0*1
	U341	Specific paper feed location setting for printing function	-
	U342	Setting the ejection restriction	ON*1
	U343	Switching between duplex/simplex copy mode	OFF*1
	U345	Setting the value for maintenance due indication	0*1
Image processing	U402	Adjusting margins of image printing	4.0/3.0/3.0/3.9/4.0/4.0
	U403	Adjusting margins for scanning an original on the platen	2.0/2.0/2.0/2.0
	U404	Adjusting margins for scanning an original from the DP	3.0/2.5/3.0/4.0/ 3.0/2.5/3.0/4.0
	U407	Adjusting the leading edge registration for memory image printing	0
	U410	Adjusting the halftone automatically	-
	U411	Adjusting the scanner automatically	-

*: Factory initial setting, *1: The item initialized for executing U021

Section	Item No.	Content of maintenance item	Initial setting*
Image processing	U425	Setting the target	-
	U470	Setting the JPEG compression ratio System Copy Send	 90/90*1 90/90/90/90*1 30/40/51/70/90*1 30/40/51/70/90*1 30/40/51/70/90*1 30/40/51/70/90*1 15/25/60*1 15/25/60*1
	U473	Adjusting laser power output	0
	U485	Setting the image processing mode	1/0*1
Network scanner	U510	Setting the enterprise mode	-
Others	U901	Checking/clearing copy counts by paper feed locations	-
	U902	Checking/clearing the punch-hole scrap counter	35000/0
	U903	Checking/clearing the paper jam counts	-
	U904	Checking/clearing the service call counts	-
	U905	Checking/clearing counts by optional devices	-
	U906	Resetting partial operation control	-
	U908	Checking the total counter value	-
	U910	Clearing the black ratio data	-
	U911	Checking copy counts by paper sizes	-
	U917	Setting backup data reading/writing	-
	U920	Checking the copy counts	-
	U927	Clearing the all copy counts and machine life counts (one time only)	-
	U928	Checking machine life counts	-
	U931	Setting the automatic toner install	OFF
	U935	Relay board maintenance	MODE0*1
	U942	Setting of deflection for feeding from DP	0/0/0
	U964	Checking of log	-
	U969	Checking of toner area code	-
	U977	Data capture mode	-
	U984	Checking the developing unit number	-
	U985	Displaying the developing unit history	-
	U989	HDD scandisk	-
	U990	Checking/clearing the time for the exposure lamp to light	-
	U991	Checking the scanner count	-

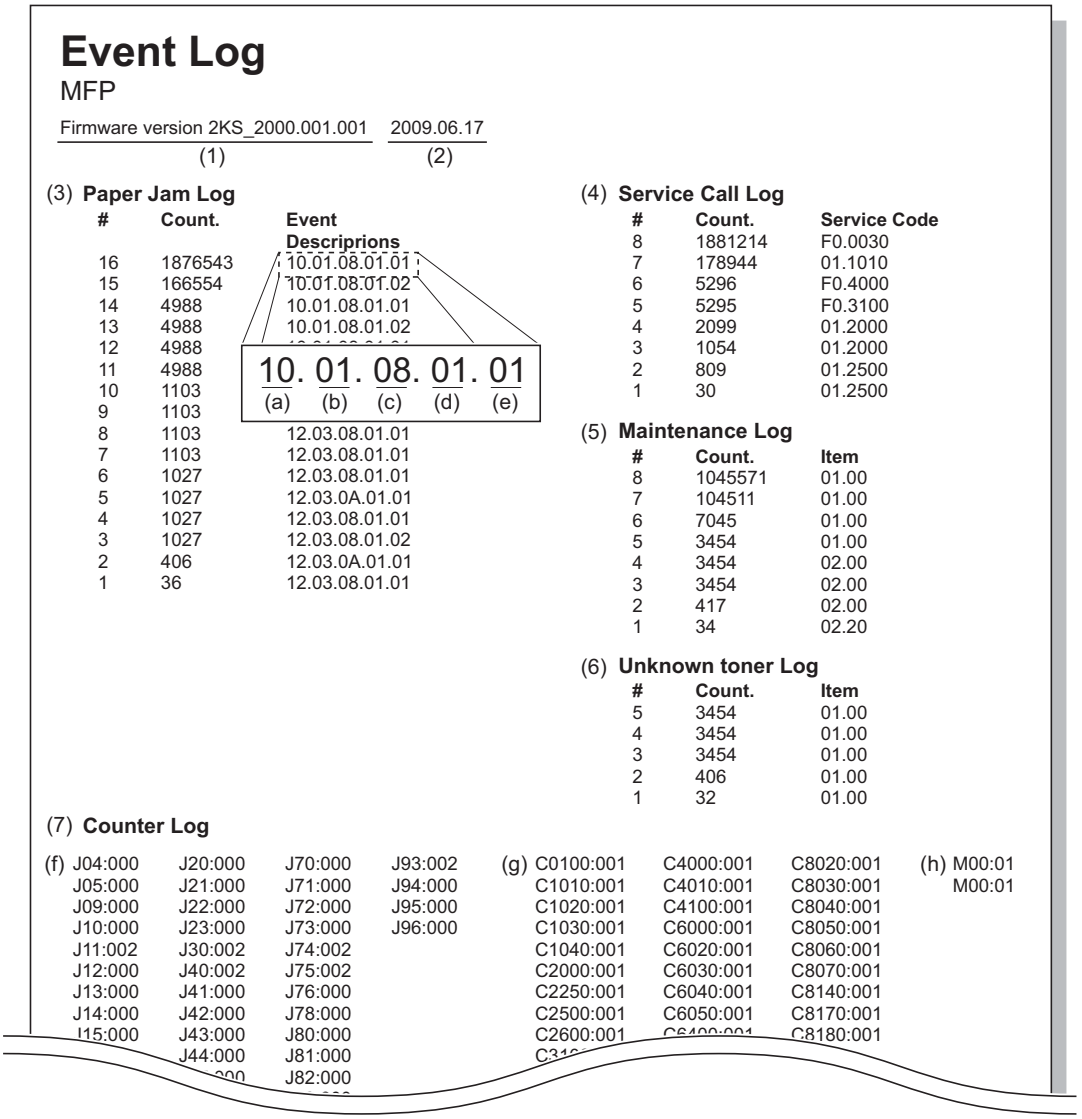
*: Factory initial setting, *1: The item initialized for executing U021

(3) Contents of the maintenance mode items

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
Outputting an own-status report
Description
Outputs lists of the current settings of the maintenance items, and paper jam and service call occurrences. Outputs the event log or service status page. Also sends output data to the USB memory.
Printing a report is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.
Purpose
To check the current setting of the maintenance items, or paper jam or service call occurrences. Before initializing or replacing the backup RAM, output a list of the current settings of the maintenance items to reenter the settings after initialization or replacement.

Method
1. Press the start key.
2. Select the item to be output.
<table>
<tr><th>Display</th><th>Output list</th></tr>
<tr><td>MAINTENANCE</td><td>List of the current settings of the maintenance modes</td></tr>
<tr><td>USER STATUS</td><td>Outputs the user status page</td></tr>
<tr><td>SERVICE STATUS</td><td>Outputs the service status page</td></tr>
<tr><td>EVENT</td><td>Outputs the event log</td></tr>
<tr><td>NETWORK STATUS</td><td>Outputs the network status page</td></tr>
<tr><td>ALL</td><td>Outputs the all reports</td></tr>
</table>
3. Press the start key. The interrupt print mode is entered and a list is output.
When A4/Letter 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.
The output status is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>READY</td><td>Standing by for output (including while outputting other reports)</td></tr>
<tr><td>ACTIVE</td><td>Performing output processing</td></tr>
<tr><td>COMPLETE</td><td>Output processing completed normally</td></tr>
<tr><td>ERROR</td><td>Output processing terminated with an error</td></tr>
</table>
Method: Send to the USB memory
1. Press the power key on the operation panel, and after verifying the main power indicator has gone off, switch off the main power switch.
2. Insert USB memory in USB memory slot.
3. Turn the main power switch on.
4. Enter the maintenance item.
5. Press the start key.
6. Select the item to be send.
7. Select [TEXT] or [HTML].
<table>
<tr><th>Display</th><th>Output list</th></tr>
<tr><td>Print</td><td>Outputs the report</td></tr>
<tr><td>To USB (TEXT)</td><td>Sends output data to the USB memory (text type)</td></tr>
<tr><td>To USB (HTML)</td><td>Sends output data to the USB memory (HTML type)</td></tr>
</table>
8. Press the start key.
Output will be sent to the USB memory.
</td></tr>
</table>

Maintenance item No.	Description
U000	**Event log**



Event Log

MFP

Firmware version 2KS_2000.001.001 (1) 2009.06.17 (2)

(3) **Paper Jam Log**

#	Count.	Event Descriprions
16	1876543	10.01.08.01.01
15	166554	10.01.08.01.02
14	4988	10.01.08.01.01
13	4988	10.01.08.01.02
12	4988	
11	4988	
10	1103	
9	1103	
8	1103	12.03.08.01.01
7	1103	12.03.08.01.01
6	1027	12.03.08.01.01
5	1027	12.03.0A.01.01
4	1027	12.03.08.01.01
3	1027	12.03.08.01.02
2	406	12.03.0A.01.01
1	36	12.03.08.01.01

10. 01. 08. 01. 01
(a) (b) (c) (d) (e)

(4) **Service Call Log**

#	Count.	Service Code
8	1881214	F0.0030
7	178944	01.1010
6	5296	F0.4000
5	5295	F0.3100
4	2099	01.2000
3	1054	01.2000
2	809	01.2500
1	30	01.2500

(5) **Maintenance Log**

#	Count.	Item
8	1045571	01.00
7	104511	01.00
6	7045	01.00
5	3454	01.00
4	3454	02.00
3	3454	02.00
2	417	02.00
1	34	02.20

(6) **Unknown toner Log**

#	Count.	Item
5	3454	01.00
4	3454	01.00
3	3454	01.00
2	406	01.00
1	32	01.00

(7) **Counter Log**

(f) J04:000 J05:000 J09:000 J10:000 J11:002 J12:000 J13:000 J14:000 J15:000 J20:000 J21:000 J22:000 J23:000 J30:002 J40:002 J41:000 J42:000 J43:000 J44:000 J70:000 J71:000 J72:000 J73:000 J74:002 J75:002 J76:000 J78:000 J80:000 J81:000 J82:000 J93:002 J94:000 J95:000 J96:000

(g) C0100:001 C1010:001 C1020:001 C1030:001 C1040:001 C2000:001 C2250:001 C2500:001 C2600:001 C4000:001 C4010:001 C4100:001 C6000:001 C6020:001 C6030:001 C6040:001 C6050:001 C8020:001 C8030:001 C8040:001 C8050:001 C8060:001 C8070:001 C8140:001 C8170:001 C8180:001

(h) M00:01 M00:01

Figure 1-3-1

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
Detail of event log
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td>(1)</td><td>System version</td><td colspan="3"></td></tr>
<tr><td>(2)</td><td>System date</td><td colspan="3"></td></tr>
<tr><td rowspan="4">(3)</td><td rowspan="4">Paper Jam Log</td><td>#</td><td>Count.</td><td>Event</td></tr>
<tr><td>Remembers 1 to 16 of occurrence. If the occurrence of the previous paper jam is less than 16, all of the paper jams are logged. When the occurrence excesseds 16, the oldest occurrence is removed.</td><td>The total page count at the time of the paper jam.</td><td>Log code (2 digit, hexadecimal, 5 categories)

(a) Cause of a paper jam
(b) Paper source
(c) Paper size
(d) Paper type
(e) Paper eject</td></tr>
<tr><td colspan="3">(a) Cause of paper jam (Hexadecimal)</td></tr>
<tr><td colspan="3">04: Cover open
05: Secondary paper feed does not start
09: 3000-sheet paper feeder sequence error jam
10: No paper feed from cassette 1
11: No paper feed from cassette 2
12: No paper feed from optional cassette 3
13: No paper feed from optional cassette 4
14: No paper feed from MP tray
15: Jam in paper feeder horizontal paper conveying section 1
16: Jam in paper feeder horizontal paper conveying section 2
17: Jam in paper feeder horizontal paper conveying section 3
18: Misfeed in vertical paper conveying section
19: Misfeed in paper feeder vertical paper conveying section
20: Misfeed in MP tray vertical paper conveying section
21: Multiple sheets in paper feed section
22: Multiple sheets in vertical conveying section
23: Multiple sheets in MP tray conveying section
30: Misfeed in registration/transfer section
40: Misfeed in fuser section (MP tray)
41: Misfeed in fuser section (cassette 1)
42: Misfeed in fuser section (cassette 2)
43: Misfeed in fuser section (optional cassette 3)
44: Misfeed in fuser section (optional cassette 4)
46: Misfeed in fuser section (optional 3000-sheet paper feeder)
47: Misfeed in fuser section (duplex section)
50: Misfeed in eject section
51: Misfeed in job separator eject section
52: Misfeed in feedshift section
60: Duplex paper conveying section 1
61: Duplex paper conveying section 2
70: No original feed
71: An original jam in the original feed/conveying section 1
72: An original jam in the original feed/conveying section 2
73: An original jam in the original conveying section
74: An original jam in the original registration section
75: An original jam in the original registration section
76: An original jam in the original feed/conveying section
78: Document processor top cover open
80: Jam between the finisher and machine (3000-sheet document finisher)
81: Paper entry sensor nonarrival jam</td></tr>
</table>
</td></tr>
</table>

Maintenance item No.	Description
U000	

No.	Items	Description		
(3) cont.	Paper Jam Log	82: Jam in stapler 83: Exit sensor stay jam 84: Jam in eject section of right sub tray (3000-sheet document finisher) 85: Jam in eject section of left sub tray (3000-sheet document finisher) 86: Jam in eject section of internal tray 1 (3000-sheet document finisher) 87: Jam in eject section of internal tray 2 (3000-sheet document finisher) 88: Jam in eject section of main tray (3000-sheet document finisher) 89: Jam in centerfold unit (3000-sheet document finisher) 90: Jam in mailbox (3000-sheet document finisher) 91: Finisher cover open 92: Exit sensor non-arrival jam (document finisher) 93: Reverse sensor jam (document finisher) 94: Paper entry sensor stay/remaining jam (document finisher) 95: Paper conveying sensor jam (document finisher) 96: Jam between the built-in finisher and machine (built-in finisher)		
		(b) Detail of paper source (Hexadecimal)		
		00: MP tray 01: Cassette 1 02: Cassette 2 03: Cassette 3 (paper feeder) 04: Cassette 4 (paper feeder) 08: 3000-sheet paper feeder 05/06/07/09: Reserved		
		(c) Detail of paper size (Hexadecimal)		
		01: Monarch 02: Business 03: International DL 04: International C5 05: Executive 06: Letter-R 86: Letter-E 07: Legal 08: A4R 88: A4E 09: B5R 89: B5E 0A: A3 0B: B4	0C: Ledger 0D: A5 0E: A6 0F: B6 10: Commercial #9 11: Commercial #6 12: ISO B5 13: Custom size 1E: C4 1F: Postcard 20: Reply-paid postcard 21: Oficio II 22: Special 1 23: Special 2	24: A3 wide 25: Ledger wide 26: Full bleed paper (12 x 8) 27: 8K 28: 16K-R A8: 16K-E 32: Statement-R B2: Statement-E 33: Folio 34: Western type 2 35: Western type 4
		(d) Detail of paper type (Hexadecimal)		
		01: Plain 02: Transparency 03: Preprinted 04: Labels 05: Bond 06: Recycled 07: Vellum 08: Rough 09: Letterhead	0A: Color 0B: Prepunched 0C: Envelope 0D: Cardstock 0E: Coated 0F: 2nd side 10: Media 16 11: High quality	15: Custom 1 16: Custom 2 17: Custom 3 18: Custom 4 19: Custom 5 1A: Custom 6 1B: Custom 7 1C: Custom 8

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
<table>
<tr><th>No.</th><th>Items</th><th colspan="3">Description</th></tr>
<tr><td rowspan="2">(3) cont.</td><td rowspan="2">Paper Jam Log</td><td colspan="3">(e) Detail of paper exit location (Hexadecimal)</td></tr>
<tr><td colspan="3">01: Face down (FD)
02: Face up (FU)/
Document finisher face up (FU)/
3000-sheet document finisher left sub tray (FU)
03: Document finisher face down (FD)
04: Reserved
05: Reserved
06: 3000-sheet document finisher right sub tray (FU)
07: 3000-sheet document finisher left sub tray (FD)
09: 3000-sheet document finisher right sub tray (FD)
0A: Center-folding unit tray
0B: Mailbox tray 1 (FD)
0C: Mailbox tray 1 (FU)
0D: Reserved
0E: Reserved
15: Mailbox tray 2 (FD)
16: Mailbox tray 2 (FU)
1F: Mailbox tray 3 (FD)
20: Mailbox tray 3 (FU)
29: Mailbox tray 4 (FD)
2A: Mailbox tray 4 (FU)
33: Mailbox tray 5 (FD)
34: Mailbox tray 5 (FU)
3D: Mailbox tray 6 (FD)
3E: Mailbox tray 6 (FU)
47: Mailbox tray 7 (FD)
48: Mailbox tray 7 (FU)</td></tr>
<tr><td rowspan="2">(4)</td><td rowspan="2">Service Call Log</td><td>#</td><td>Count.</td><td>Service Code</td></tr>
<tr><td>Remembers 1 to 8 of occurrence of self diagnostics error. If the occurrence of the previous diagnostics error is less than 8, all of the diagnostics errors are logged.</td><td>The total page count at the time of the self diagnostics error.</td><td>Self diagnostic error code
(See page 1-4-26)

Example:
01.6000

01: Self diagnostic error
6000: Self diagnostic error code number</td></tr>
<tr><td rowspan="2">(5)</td><td rowspan="2">Maintenance Log</td><td>#</td><td>Count.</td><td>Item</td></tr>
<tr><td>Remembers 1 to 8 of occurrence of replacement. If the occurrence of the previous replacement of toner container is less than 8, all of the occurrences of replacement are logged.</td><td>The total page count at the time of the replacement of the toner container.</td><td>Code of maintenance replacing item (1 byte, 2 categories)

First byte (Replacing item)
01: Toner container
02: Maintenance kit

Second byte (Type of replacing item)
00: Fixed</td></tr>
</table>
</td></tr>
</table>

Maintenance item No.	Description
U000	

No.	Items	Description		
(6)	Unknown Toner Log	#	Count.	Item
		Remembers 1 to 5 of occurrence of unknown toner detection. If the occurrence of the previous unknown toner detection is less than 5, all of the unknown toner detection are logged.	The total page count at the time of the [Toner Empty] error with using an unknown toner container.	Unknown toner log code (1 byte, 2 categories) First byte 01: Fixed (Toner container) Second byte 00: Fixed (Black)
(7)	Counter Log Comprised of three log counters including paper jams, self diagnostics errors, and replacement of the toner container.	(f) Paper jam	(g) Self diagnostic error	(h) Maintenance item replacing
		Indicates the log counter of paper jams depending on location. Refer to Paper Jam Log. All instances including those are not occurred are displayed.	Indicates the log counter of self diagnostics errors depending on cause. (See page 1-4-26) Example: C6000: 4 Self diagnostics error 6000 has happened four times.	Indicates the log counter depending on the maintenance item for maintenance. T: Toner container 00: Black M: Maintenance kit 00: MK-726 Example: T00: 1 The toner container has been replaced once.

Maintenance item No.	Description
U000	**Service status page (1)**

Service Status Page

MFP

(2) 17/06/2009 08:40

(1) Firmware version 2KS_2000.000.000 2009.06.17

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

Controller Information

Memory status

(6) Total Size 1.0 GB

Time

(7) Local Time Zone +01:00 Tokio
(8) Date and Time 17/06/2009 08:40
(9) Time Server 10.183.53.13

Installed Options

(10) Document Processor Installed
(11) Paper feeder Cassette
(12) Finisher 3000-Finisher
(13) Mail Box Not Installed
(14) Job Sparator Installed
(15) Security Kit
Data Security Kit (E) Software Type II

Digital Dot Coverage

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

(23) FAX Information Slot1/Slot2

(24) Rings (Normal) 3
(25) Rings (FAX/TEL) 3
(26) Rings (TAD) 3
(27) Option DIMM Size 16 MB

(28) FRPO Status

Default Pattern Switch	B8	0
Default Font Number	C5*10000+C2*100+C3	00000
.		
e-MPS error control	Y6	0

1 (29) [XXXXXXXXXXXXXXXX]

Figure 1-3-2

Maintenance item No.	Description
U000	**Service status page (2)**

Service Status Page

MFP

17/06/2009 08:40

Firmware version 2KS_2000.000.000 2009.06.17 [XXXXXXXX] [XXXXXXXX] [XXXXXXXX]

Engine Information

(30) NVRAM Version _Bb04B29_Bb04B29
(31) Scanner Version 2KS_1200.001.089
(32) FAX Slot1
FAX BOOT Version 5JP_5000.001.001
FAX APL Version 5JP_5100.001.001
FAX IPL Version 5JP_5200.001.001
(33) MAC Address 00:C0:EE:D0:01:0D

Send Information
(34) Date and Time 09/06/17
(35) Address

(36) 1/2
(37) 100/100
(38) 0/0/0/0/0/0/0/0/
(39) 0000000/0000000/0000000/0000000/0000000/0000000/0000000/
0000000/0000000/0000000/
F00/U00/0/0/0/30/30/70/70/abcde/1/
(40)(41)(42)(43)(44)(45)(46)(47)(48)(49)(50)
(51) 0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
0000/0000/0000/0000/0000/0000/0000/0000/0000/0000/
(52) 12345678/11223344/00001234abcd567800001234abcd5678/012345678901234567890123456789012345678901/0008/00/07
(53) XXXXXXXX
(54) 0000000000/F80C001A37/302A183C00/000100013D/8791BEC305/0000003100/000F5D0000/01FD000000/
0000000FB7/0000000000/0000260000/0000000000/0000000000/0000008400/0000000000/011E000F51/
0000000FB7/0000000000/0000260000/0000000000/0000
(55) ABCDEFGHIJ/

2 [XXXXXXXXXXXXXXXX]

Figure 1-3-3

Maintenance item No.	Description
U000	**Detail of service status page**

No.	Description	Supplement
(1)	System version	
(2)	System date	
(3)	Engine soft version	
(4)	Engine boot version	
(5)	Operation panel mask version	
(6)	Total RAM size	
(7)	Local time zone	
(8)	Report output date	Day/Month/Year hour:minute
(9)	NTP server name	
(10)	Presence or absence of the optional DP	Installed/Not Installed
(11)	Presence or absence of the optional paper feeder	Cassette/LCF/Not Installed
(12)	Presence or absence of the optional document finisher	Inner Finisher Tray/3000-Finisher/1000-Finisher/ Not Installed
(13)	Presence or absence of the optional mailbox	Installed/Not Installed
(14)	Presence or absence of the optional job separator	Installed/Not Installed
(15)	Presence or absence of the optional data security kit	Installed/Not Installed
(16)	Page of relation to the A4/Letter	
(17)	Average coverage for total	
(18)	Average coverage for copy	
(19)	Average coverage for printer	
(20)	Average coverage for fax	
(21)	Cleared date and output date	
(22)	Coverage on the final output page	
(23)	Fax kit information	This item is printed only when the fax kit is installed.
(24)	Number of rings	0 to 15
(25)	Number of rings before automatic switching	0 to 15
(26)	Number of rings before connecting to answering machine	0 to 15
(27)	Optional DIMM size	
(28)	FRPO setting	
(29)	Machine serial number	

Maintenance item No.	Description
U000	

No.	Description	Supplement
(30)	NV RAM version	_ Bb 04B29 _ Bb 04B29 (a) (b) (c) (d) (e) (f) (a) Consistency of the present software version and the database _ (underscore): OK * (Asterisk): NG (b) Database version (c) The oldest time stamp of database version (d) Consistency of the present software version and the ME firmware version _ (underscore): OK * (Asterisk): NG (e) ME firmware version (f) The oldest time stamp of the ME database version Normal if (a) and (d) are underscored, and (b) and (e) are identical with (c) and (f).
(31)	Scanner firmware version	
(32)	Fax firmware version	This item is printed only when the fax kit is installed.
(33)	Mac address	
(34)	Send date	
(35)	Send address	
(36)	Destination information/Area information	
(37)	Margin settings	Top margin/Left margin
(38)	Margin/Page length/Page width settings	Top margin integer part/Top margin decimal part/ Left margin integer part/Left margin decimal part/ Page length integer part/Page length decimal part/ Page width integer part/Page width decimal part
(39)	Life counter (The first line)	Machine life counter/MP tray counter/ Cassette 1 counter/Cassette 2 counter/ Cassette 3 counter/Cassette 4 counter/Duplex counter
	Life counter (The second line)	Drum unit counter/Developing unit counter/ Maintenance kit counter/
(40)	Panel lock information	0: OFF/1: Partial lock/2: Full lock
(41)	USB information	0: Not installed/1: Full speed/2: Hi speed
(42)	Paper handling information	0: Paper source unit select/1: Paper source unit
(43)	Black and white printing double count mode	0: All single counts 3: Folio, Single count, Less the 330 mm (length)
(44)	Billing counting timing	
(45)	Temperature (machine inside)	
(46)	Temperature (machine outside)	
(47)	Relative temperature (machine outside)	
(48)	Absolute temperature (machine outside)	

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U000</td><td>
<table>
<tr><th>No.</th><th>Description</th><th>Supplement</th></tr>
<tr><td>(49)</td><td>Fixed assets number</td><td></td></tr>
<tr><td>(50)</td><td>Job complete judgment timeout time setting for local interface</td><td></td></tr>
<tr><td>(51)</td><td>Media type attributes
1 to 28 (Not used: 18, 19, 20)</td><td>Weight settings
0: Light/1: Normal 1 / 2: Normal 2 / 3: Normal 3/
4: Heavy 1 / 5: Heavy 2 / 6: Heavy 3 / 7: Extra Heavy
Fuser settings
0: High / 1: Middle / 2: Low / 3: Vellum
Duplex settings
0: Disable / 1: Enable</td></tr>
<tr><td>(52)</td><td>RFID information</td><td></td></tr>
<tr><td>(53)</td><td>RFID reader/writer version information</td><td></td></tr>
<tr><td>(54)</td><td>Maintenance information</td><td></td></tr>
<tr><td>(55)</td><td>Drum serial number</td><td>Black/Cyan/Magenta/Yellow</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U001</td><td>Exiting the maintenance mode
Description
Exits the maintenance mode and returns to the normal copy mode.
Purpose
To exit the maintenance mode.

Method
Press the start key. The normal copy mode is entered.</td></tr>
<tr><td>U002</td><td>Setting the factory default data
Description
Restores the machine conditions to the factory default settings.
Purpose
To move the mirror frame of the scanner to the position for transport (position in which the frame can be fixed).

Method
1. Press the start key.
2. Press [MODE1(ALL)] on the touch panel.
3. Press the start key.
The mirror frame of the scanner returns to the position for transport.
4. Turn the main power switch off and on.

An error code is displayed in case of an initialization error. Refer to the table of the error codes on P.1-3-19. When ERROR 09 occurred, turn main power switch off then on, format the hard disk using maintenance item U024, and execute initialization using maintenance item U002. For other errors occurred, turn main power switch off then on, and execute initialization using maintenance item U002.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U003</td><td>
Setting the service telephone number
Description
Sets the telephone number to be displayed when a service call code is detected.
Purpose
To set the telephone number to call service when installing the machine.
Method
Press the start key. The currently set telephone number is displayed.

Setting
1. Press the start key.
The keys to enter the number are displayed on the touch panel.
2. Enter a telephone number (up to 15 digits).
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U004</td><td>
Displaying the machine number
Description
Sets or displays the machine number.
Purpose
To check or set the machine number.

Method
1. Press the start key.
If the machine serial number of engine PWB matches with that of main PWB
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>MACHINE No.</td><td>Displays the machine serial number</td></tr>
</table>
If the machine serial number of engine PWB does not match with that of main PWB
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>MACHINE No. (MAIN)</td><td>Displays the machine serial number of main</td></tr>
<tr><td>MACHINE No. (ENGINE)</td><td>Displays the machine serial number of engine</td></tr>
</table>
Setting
Carry out if the machine serial number does not match.
1. Press [EXECUTE].
2. Press the start key. Writing of serial No. starts.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U019	**Displaying the ROM version** **Description** Displays the part number of the ROM fitted to each PWB. **Purpose** To check the part number or to decide, if the newest version of ROM is installed. **Method** 1. Press the start key. The ROM version are displayed. 2. Change the screen using the cursor up/down keys.

Display	Description
MAIN	Main ROM
MMI	Operation ROM
ENGINE	Engine ROM
ENGINE BOOT	Engine booting
SCANNER	Scanner ROM
BROWSER	Browser ROM
OPTION LANGUAGE	Optional language ROM
DICTIONARY	-
DBA	Database connection
Solution Framework	Solution framework
DP	Optional DP ROM
500x2PF	Optional paper feeder ROM
3000PF	Optional 3000-sheet paper feeder ROM
1000DF	Optional document finisher ROM
3000DF MAIN	Optional 3000-sheet document finisher main ROM
3000DF MIDDLE	Optional 3000-sheet document finisher Inner tray ROM
MAIL BOX	Optional mailbox ROM
BOOKLET	Optional center-folding unit ROM
INNER DF	Optional built-in finisher ROM
FAX BOOT1	Optional fax control PWB booting (port 1)
FAX APL1	Optional fax control PWB APL (port 1)
FAX IPL1	Optional fax control PWB IPL (port 1)
FAX BOOT2	Fax control PWB booting (port 2: optional dual FAX)
FAX APL2	Fax control PWB APL (port 2: optional dual FAX)
FAX IPL2	Fax control PWB IPL (port 2: optional dual FAX)

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U021</td><td>
Initializing counters and mode settings
Description
Initializes all settings, except those pertinent to the type of machine, namely each counter, service call history and mode setting. Also initializes backup RAM according to region specification selected in maintenance item U252 Setting the destination.
Refer to *1 of the maintenance mode item list about the item initialized.
Purpose
To return the machine settings to their factory default.

Method
1. Press the start key.
2. Press [EXECUTE] on the touch panel.
3. Press the start key. All data other than that for adjustments due to variations between machines is initialized based on the destination setting.
4. Turn the main power switch off and on.

An error code is displayed in case of an initialization error.
When ERROR 09 occurred, turn main power switch off then on, format the hard disk using maintenance item U024, and execute initialization using maintenance item U021. For other errors occurred, turn main power switch off then on, and execute initialization using maintenance item U021.

Error codes
<table>
<tr><th>Codes</th><th>Description</th></tr>
<tr><td>ERROR 01</td><td>Configuration initialization error</td></tr>
<tr><td>ERROR 02</td><td>Counter initialization error</td></tr>
<tr><td>ERROR 03</td><td>One-touch initialization error</td></tr>
<tr><td>ERROR 04</td><td>Panel program initialization error</td></tr>
<tr><td>ERROR 05</td><td>Event log initialization error</td></tr>
<tr><td>ERROR 06</td><td>Account initialization error</td></tr>
<tr><td>ERROR 07</td><td>Address book initialization error</td></tr>
<tr><td>ERROR 08</td><td>Department initialization error</td></tr>
<tr><td>ERROR 09</td><td>Document box initialization error</td></tr>
<tr><td>ERROR 0a</td><td>Permissibility initialization error</td></tr>
<tr><td>ERROR 0b</td><td>Job log initialization error</td></tr>
<tr><td>ERROR 20</td><td>Engine initialization error</td></tr>
<tr><td>ERROR 40</td><td>Scanner initialization error</td></tr>
</table>
</td></tr>
<tr><td>U024</td><td>
HDD formatting
Description
Initializes the HDD.
In addition, the following settings are also initialized by initializing the HDD.
System menu (user login administration, job accounting, address book, one-touch keys and document box etc.), shortcuts and panel programs
Initializing the HDD will cause installed applications to be deleted. Reinstall applications as necessary after initializing the HDD.
Purpose
To initialize the HDD when replacing the HDD after shipping.

Method
1. Press the start key.
2. Press [EXECUTE] on the touch panel.
3. Press the start key to initialize the hard disk.
4. Turn the main power switch off and on.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U030</td><td>
Checking motor operation
Description
Drives each motor.
Purpose
To check the operation of each motor.

Method
1. Press the start key.
2. Select the motor to be operated.
3. Press the start key. The operation starts.
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>MAIN</td><td>Drive motor (DM) is turned ON</td></tr>
<tr><td>FEED</td><td>Paper feed motor (PFM) is turned ON</td></tr>
<tr><td>EJECT(FW)</td><td>Eject motor (EM) is turned on clockwise</td></tr>
<tr><td>EJECT(REV)</td><td>Eject motor (EM) is turned on counterclockwise</td></tr>
</table>
4. To stop operation, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U031</td><td>
Checking switches for paper conveying
Description
Displays the on-off status of each paper detection switch on the paper path.
Purpose
To check if the switches for paper conveying operate correctly.

Method
1. Press the start key.
2. Turn each switch on and off manually to check the status.
When a switch is detected to be in the ON position, the display for that switch will be highlighted.
<table>
<tr><th>Display</th><th>Switches</th></tr>
<tr><td>FEED1</td><td>Feed switch 1 (FSW1)</td></tr>
<tr><td>FEED2</td><td>Feed switch 2 (FSW2)</td></tr>
<tr><td>FEED3</td><td>Feed switch 3 (FSW3)</td></tr>
<tr><td>MP TRAY</td><td>MP feed switch (MPFSW)</td></tr>
<tr><td>REGIST</td><td>Registration switch (RSW)</td></tr>
<tr><td>EJECT</td><td>Eject switch (ESW)</td></tr>
<tr><td>BRANCH</td><td>Feedshift switch (FSSW)</td></tr>
<tr><td>DUPLEX</td><td>Duplex paper conveying switch (DUPPCSW)</td></tr>
<tr><td>JOB SEPARATOR</td><td>Job separator eject switch (JESW)*</td></tr>
</table>
*: Optional.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U032</td><td>
Checking clutch operation
Description
Turns each clutch on.
Purpose
To check the operation of each clutch.

Method
1. Press the start key.
2. Select the clutch to be operated.
3. Press the start key. The clutch turns on for 1 s.
<table>
<tr><th>Display</th><th>Clutches</th></tr>
<tr><td>PF1</td><td>Paper feed clutch 1 (PFCL1)</td></tr>
<tr><td>PF2</td><td>Paper feed clutch 2 (PFCL2)</td></tr>
<tr><td>PF MP TRAY</td><td>MP paper feed clutch (MPPFCL)</td></tr>
<tr><td>FEED1</td><td>Feed clutch 1 (FCL1)</td></tr>
<tr><td>FEED2</td><td>Feed clutch 2 (FCL2)</td></tr>
<tr><td>FEED3</td><td>Feed clutch 3 (FCL3)</td></tr>
<tr><td>FEED MP TRAY</td><td>MP feed clutch (MPFCL)</td></tr>
<tr><td>REGIST</td><td>Registration clutch (RCL)</td></tr>
<tr><td>DUPLEX</td><td>Duplex feed clutch (DUPFCL)</td></tr>
<tr><td>MOTOR ON</td><td>The drive motor (DM) and the paper feed motor (PFM) are turned ON.</td></tr>
</table>
4. To stop motor driving, press [MOTOR ON] again.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U033</td><td>
Checking solenoid operation
Description
Applies current to each solenoid in order to check its ON status.
Purpose
To check the operation of each solenoid.

Method
1. Press the start key.
2. Select the solenoid to be operated.
3. Press the start key. The solenoid turns on for 1 s.
<table>
<tr><th>Display</th><th>Solenoids</th></tr>
<tr><td>TONER</td><td>Toner feed solenoid (TNFSOL)</td></tr>
<tr><td>BRANCH1</td><td>Feedshift solenoid (FSSOL)</td></tr>
<tr><td>BRANCH2</td><td>Job feedshift solenoid (JFSSOL)*</td></tr>
<tr><td>MOTOR ON</td><td>The drive motor (DM) and the paper feed motor (PFM) are turned on.</td></tr>
</table>
*Optional.
4. To stop motor driving, press [MOTOR ON] again.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U034	**Adjusting the print start timing** **Description** Adjusts the leading edge registration or center line. **Purpose** Make the adjustment if there is a regular error between the leading edges of the copy image and original. Make the adjustment if there is a regular error between the center lines of the copy image and original. **Method** 1. Press the start key. 2. Select the item to be adjusted. The setting screen for the selected item is displayed.

Display	Description
LSU OUT TOP	Leading edge registration adjustment
LSU OUT LEFT	Center line adjustment

Adjustment: Leading edge registration adjustment

1. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
LSUOUT TOP MPT (L)	Paper feed from MP tray (when large size paper is used)	-10.0 to 10.0	0	0.1 mm
LSUOUT TOP CAS (L)	Paper feed from cassette (when large size paper is used)	-10.0 to 10.0	0	0.1 mm
LSUOUT TOP DUP (L)	Duplex mode (second) (when large size paper is used)	-10.0 to 10.0	0	0.1 mm
LSUOUT TOP MPT (S)	Paper feed from MP tray (when small size paper is used)	-10.0 to 10.0	0	0.1 mm
LSUOUT TOP CAS (S)	Paper feed from cassette (when small size paper is used)	-10.0 to 10.0	0	0.1 mm
LSUOUT TOP DUP (S)	Duplex mode (second) (when small size paper is used)	-10.0 to 10.0	0	0.1 mm

Large size: 218 mm or more in width of paper.

2. Press the system menu key.
3. Press the start key to output a test pattern.
4. Press the system menu key.
5. Change the setting value using the +/- or numeric keys.
   For output example 1, increase the value. For output example 2, decrease the value.

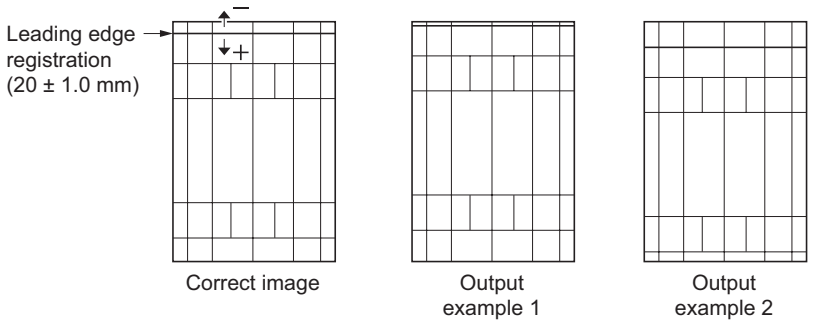


Figure 1-3-4

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

Remark
When changing the setting value of [Large] each item is modified, equal to amount of the value which is changed adds also the value of [Small] each item and is pulled.

Maintenance item No.	Description
U034	**Caution** Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. U034 → U066 (P.1-3-29) → U071 (P.1-3-34) **Adjustment: Center line adjustment** 1. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
LSUOUT LEFT (MPT)	Paper feed from MP tray	-10.0 to 10.0	0	0.1 mm
LSUOUT LEFT (CAS 1)	Paper feed from cassette 1	-10.0 to 10.0	0	0.1 mm
LSUOUT LEFT (CAS 2)	Paper feed from cassette 2	-10.0 to 10.0	0	0.1 mm
LSUOUT LEFT (CAS 3)	Paper feed from optional cassette 3	-10.0 to 10.0	0	0.1 mm
LSUOUT LEFT (CAS 4)	Paper feed from optional cassette 4	-10.0 to 10.0	0	0.1 mm
LSUOUT LEFT (DUP)	Duplex mode (second)	-10.0 to 10.0	0	0.1 mm

2. Press the system menu key.
3. Press the start key to output a test pattern.
4. Press the system menu key.
5. Change the setting value using the +/- or numeric keys.
   For output example 1, increase the value. For output example 2, decrease the value.

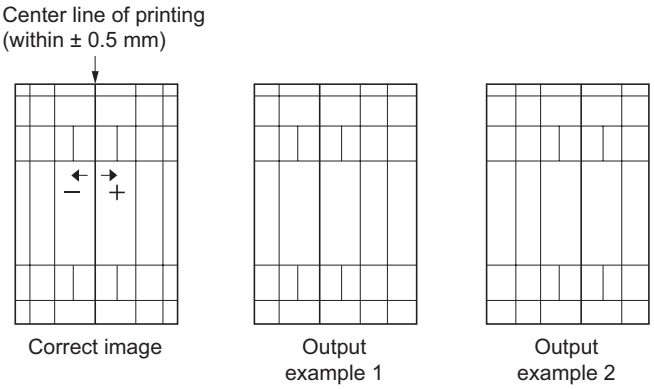
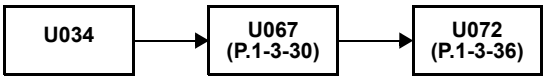


Figure 1-3-5

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

Remark
If the setting value for feeding from the MP tray is changed, the difference from the former value is added to or subtracted from the values of other items.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U034</td><td>
Caution
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.


Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U035</td><td>
Setting the printing area for folio paper
Description
Changes the printing area for copying on folio paper.
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.

Setting
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the +/- keys.
<table>
<tr><th>Display</th><th>Setting</th><th>Setting range</th><th>Initial setting</th></tr>
<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>
</table>
4. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U037</td><td>
Checking the operation of the fan motors
Description
Drives the fan motors.
Description
To check the operation of the fan motors.

Method
1. Press the start key.
2. Select the fan motor to be operated.
3. Press the start key. The operation starts.
<table>
<tr><th>Display</th><th>Operation</th></tr>
<tr><td>Fixing Fan</td><td>Fuser fan motor (FUFM) is turned on</td></tr>
<tr><td>Developing Fan</td><td>Developing fan motor (DEVFM) is turned on</td></tr>
<tr><td>Controller Box Fan</td><td>Controller fan motor (CONFM) is turned on</td></tr>
<tr><td>Internal Fan</td><td>LSU fan motor (LSUFM) is turned on</td></tr>
<tr><td>Conveying Fan</td><td>Paper conveying fan motor 1, 2, 3 (PCFM1, 2, 3) are turned on</td></tr>
<tr><td>Power Source Fan</td><td>Power source fan motor 1, 2 (PSFM1, 2) are turned on</td></tr>
<tr><td>Triple Fan</td><td>Duplex fan motor 1, 2, 3 (DUPFM1, 2, 3) are turned on</td></tr>
<tr><td>ISU Fan</td><td>Scanner fan motor (SFM) is turned on</td></tr>
<tr><td>ALL</td><td>All fan motor are turned on</td></tr>
</table>
4. To stop operation, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U051</td><td>
Adjusting the deflection in the paper
Description
Adjusts the deflection in the paper.
Purpose
Make the adjustment if the leading edge of the copy image is missing or varies randomly, or if the copy paper is Z-folded.

Adjustment
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>MPT</td><td>Paper feed from MP tray</td><td>-30 to 20</td><td>0</td></tr>
<tr><td>CASSETTE</td><td>Paper feed from cassette</td><td>-30 to 20</td><td>0</td></tr>
<tr><td>DUPLEX</td><td>Duplex mode (second)</td><td>-30 to 20</td><td>0</td></tr>
<tr><td>MPT (THICK)</td><td>Paper feed from MP tray (thick paper)</td><td>-30 to 20</td><td>0</td></tr>
</table>
3. Press the system menu key.
4. Place an original and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
For output example 1, increase the value. For output example 2, decrease the value.
The greater the value, the larger the deflection; the smaller the value, the smaller the deflection.

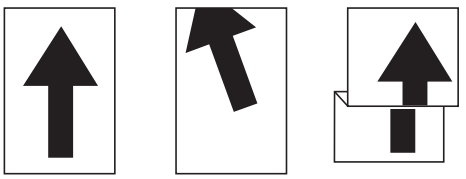
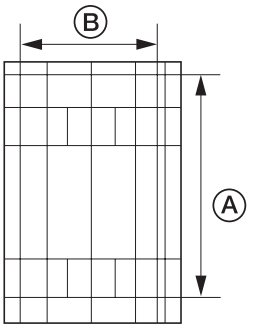


Figure 1-3-6
7. Press the start key. The value is set.

Completion
Press the stop key. The indication for selecting a maintenance item No. appears.
</td></tr>
<tr><td>U053</td><td>
Setting the adjustment of the motor speed
Description
Performs fine adjustment of the speeds of the motors.
Purpose
To adjust the speed of the respective motors when the magnification is not correct.

Method
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>MAIN MOTOR</td><td>Drive motor (DM) speed adjustment</td><td>-40 to 40</td><td>0</td></tr>
<tr><td>EJECT MOTOR</td><td>Eject motor (EM) speed adjustment</td><td>-7 to 15</td><td>0</td></tr>
<tr><td>POLYGON MOTOR</td><td>Polygon motor (PM) speed adjustment</td><td>-20 to 20</td><td>0</td></tr>
<tr><td>FEED MOTOR</td><td>Paper feed motor (PFM) speed adjustment</td><td>-40 to 40</td><td>0</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U053</td><td>
Adjustment
1. Press the system menu key.
2. Press the start key to output an A3/Ledger VTC pattern.


Correct values for an A3/Ledger output are:
A = 350 ± 1.4 mm
B = 250 ± 1.0 mm
Figure 1-3-7
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
A: Drive motor speed adjustment
Increasing the setting makes the image longer in the auxiliary scanning direction, and decreasing it makes the image shorter in the auxiliary scanning direction.
B: Polygon motor speed adjustment
Increasing the setting makes the image shorter in the main scanning direction, and decreasing it makes the image longer in the main scanning direction.
5. Press the start key. The value is set.

Completion
Press the stop key. The indication for selecting a maintenance item No. appears.
</td></tr>
<tr><td>U059</td><td>
Setting fan mode
Description
Specifies mode for paper conveying fan motors during conveying paper.
Purpose
To prevent contamination caused by paper conveying fan motors scattering toner, select MODE2.

Setting
1. Press the start key.
2. Select the mode.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE1</td><td>Paper conveying motors are not deactivated in printing on paper with a width of less than 220 mm or less</td></tr>
<tr><td>MODE2</td><td>Paper conveying motors are deactivated in printing on paper with a width of less than 220 mm or less</td></tr>
</table>
Initial setting: MODE1
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U061</td><td>
Turning the exposure lamp on
Description
Turns the exposure lamp on.
Purpose
To check the exposure lamp.

Method
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>The exposure lamp lights</td></tr>
<tr><td>CIS</td><td>The CIS lights (when dual scan DP is installed)</td></tr>
</table>
3. Press the start key. The lamp lights.
4. To turn the lamp off, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U063</td><td>
Adjusting the shading position
Description
Changes the shading position of the scanner.
Purpose
Used when white lines 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.

Method
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>SHADING POSITION</td><td>Shading position</td><td>0 to 24</td><td>0</td><td>0.11 mm</td></tr>
</table>
Increasing the setting moves the shading position toward the machine left, and decreasing it moves the position toward the machine right.
3. Press the start key. The value is set.

Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U065	**Adjusting the scanner magnification** **Description** Adjusts the magnification of the original scanning. **Purpose** Make the adjustment if the magnification in the main scanning direction is incorrect. Make the adjustment if the magnification in the auxiliary scanning direction is incorrect. **Caution** Adjust the magnification of the scanner in the following order. U053 (P.1-3-25) → U065 (main scanning direction) → U065 (auxiliary scanning direction) → U067 (P.1-3-30) → U070 (P.1-3-32) **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
Y SCAN ZOOM	Scanner magnification in the main scanning direction	-15 to 15	0	0.1 %
X SCAN ZOOM	Scanner magnification in the auxiliary scanning direction	-25 to 25	0	0.05 %

Adjustment: Main scanning direction

1. Press the system menu key.
2. Place an original and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

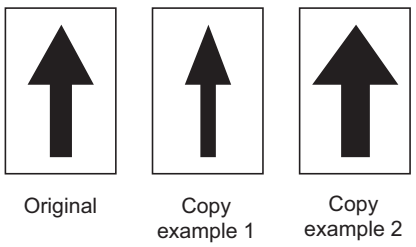


Figure 1-3-8

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

Adjustment: Auxiliary scanning direction

1. Press the system menu key.
2. Place an original and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

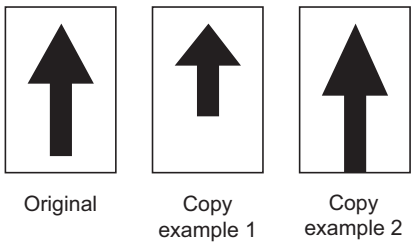


Figure 1-3-9

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U065</td><td>Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U066</td><td>
Adjusting the scanner leading edge registration
Description
Adjusts the scanner leading edge registration of the original scanning.
Purpose
Make the adjustment if there is a regular error between the leading edges of the copy image and original.

Adjustment
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>FRONT</td><td>Scanner leading edge registration</td><td>-45 to 45</td><td>0</td><td>0.11 mm</td></tr>
<tr><td>TAIL</td><td>Scanner leading edge registration (rotate copying)</td><td>-45 to 45</td><td>0</td><td>0.11 mm</td></tr>
</table>
3. Press the system menu key.
4. Place an original and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
For copy example 1, increase the value. For copy example 2, decrease the value.

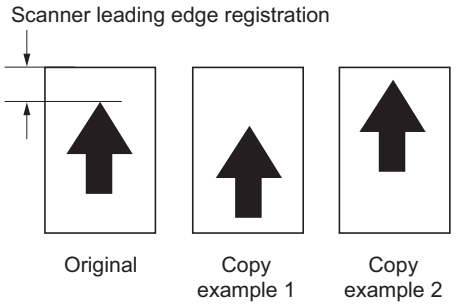


Figure 1-3-10

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

Caution
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.
U066 → U403 (P.1-3-82) → U071 (P.1-3-34) → U404 (P.1-3-83)

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U067	**Adjusting the scanner center line** **Description** Adjusts the scanner center line of the original scanning. **Purpose** Make the adjustment if there is a regular error between the center lines of the copy image and original. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
FRONT	Scanner center line	-40 to 40	0	0.08 mm
ROTATE	Scanner center line (rotate copying)	-40 to 40	0	0.08 mm

3. Press the system menu key.
4. Place an original and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

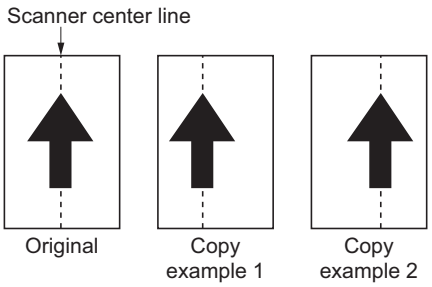
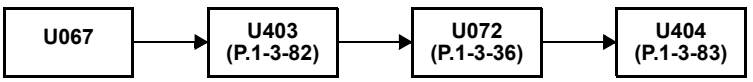


Figure 1-3-11

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

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



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

Maintenance item No.	Description
U068	**Adjusting the scanning position for originals from the DP** **Description** Adjusts the position for scanning originals from the DP. Performs the test copy at the four scanning positions after adjusting. **Purpose** Used when the image fogging occurs because the scanning position is not proper when the DP is used. Run U071 to adjust the timing of DP leading edge when the scanning position is changed. **Setting** 1. Press the start key.

Display	Description	Setting range	Initial setting	Change in value per step
DP READ	Starting position adjustment for scanning originals	-55 to 55	0	0.11 mm
BLACK LINE	Scanning position for the test copy originals	0 to 3	0	-

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

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

Maintenance item No.	Description
U070	**Adjusting the DP magnification** **Description** Adjusts the DP original scanning speed. **Purpose** Make the adjustment if the magnification is incorrect in the main scanning direction or auxiliary scanning direction when the DP is used. **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
MOTOR ADJ (FRONT)	Magnification in the auxiliary scanning direction of CCD (first side)	-25 to 25	0	0.05 %
MOTOR ADJ (BACK)	Magnification in the auxiliary scanning direction of CCD (second side)	-25 to 25	0	0.05 %
Y SCAN ZOOM (CIS)*	Magnification in the main scanning direction of CIS	-15 to 15	0	0.01 %
X SCAN ZOOM (CIS)*	Magnification in the auxiliary scanning direction of CIS	-50 to 50	0	0.05 %

*: Dual scan DP only.

Adjustment: Main scanning direction of CIS

1. Press the system menu key.
2. Place an original on the DP and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

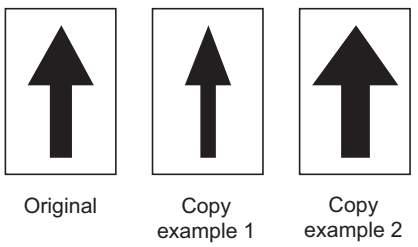
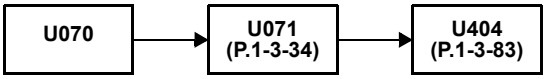


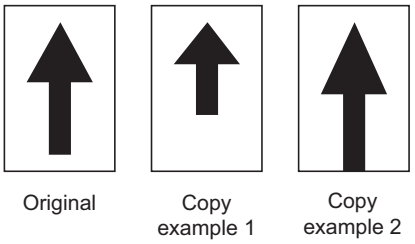
Figure 1-3-12

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

Caution

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



Maintenance item No.	Description
U070	**Adjustment: Auxiliary scanning direction of CCD/CIS** 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.  **Figure 1-3-13** 5. Press the start key. The value is set. **Caution** Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. **U070** → **U071 (P.1-3-34)** → **U404 (P.1-3-83)** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U071	**Adjusting the DP scanning timing** **Description** Adjusts the DP original scanning timing. **Purpose** Make the adjustment if there is a regular error between the leading or trailing edges of the original and the copy image when the DP is used. **Method** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
FRONT HEAD	Leading edge registration of CCD (first side)	-66 to 66	0	0.08 mm
FRONT TAIL	Trailing edge registration of CCD (first side)	-66 to 66	0	0.08 mm
BACK HEAD	Leading edge registration of CCD (second side)	-66 to 66	0	0.08 mm
BACK TAIL	Trailing edge registration of CCD (second side)	-66 to 66	0	0.08 mm
HEAD (CIS)*	Leading edge registration of CIS	-66 to 66	0	0.08 mm
TAIL (CIS)*	Trailing edge registration of CIS	-66 to 66	0	0.08 mm

*: Dual scan DP only.

Adjustment: Leading edge registration

1. Press the system menu key.
2. Place an original on the DP and press the start key to make a test copy.
3. Press the system menu key.
4. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

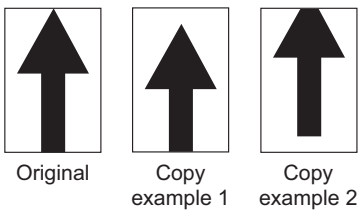


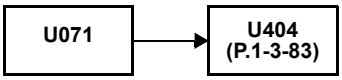
Figure 1-3-14

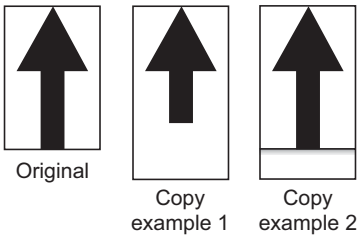
5. Press the start key. The value is set.

Caution

If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.

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



Maintenance item No.	Description
U071	**Adjustment: Trailing edge registration** 1. Press the system menu key. 2. Place an original on the DP and press the start key to make a test copy. 3. Press the system menu key. 4. Change the setting value using the +/- or numeric keys. For copy example 1, increase the value. For copy example 2, decrease the value.  **Figure 1-3-15** 5. Press the start key. The value is set. **Caution** If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment. Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode. **U071** → **U404 (P.1-3-83)** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U072	**Adjusting the DP center line** **Description** Adjusts the scanning start position for the DP original. **Purpose** Make the adjustment if there is a regular error between the centers of the original and the copy image when the DP is used. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
FRONT	DP center line of CCD (first side)	-40 to 40	0	0.08 mm
BACK	DP center line of CCD (second side)	-40 to 40	0	0.08 mm
CIS*	DP center line of CIS	-40 to 40	0	0.08 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   For copy example 1, increase the value. For copy example 2, decrease the value.

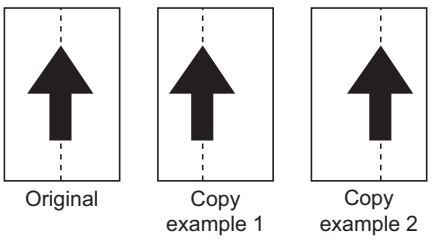
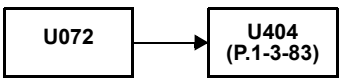


Figure 1-3-16

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

Caution
If the CCD first side is adjusted, check the CCD second side and if adjustment is required, carry out the adjustment.
Check the copy image after the adjustment. If the image is still incorrect, perform the following adjustments in maintenance mode.



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

Maintenance item No.	Description
U073	**Checking scanner operation** **Description** Simulates the scanner operation under arbitrary conditions. **Purpose** To check scanner operation. **Start** 1. Press the start key. 2. Select the item to be operated.

Display	Description
SCANNER MOTOR	Scanner operation
HOME POSITION	Home position operation
DUST CHECK	Dust adhesion check operation with lamp on
DP READING	DP scanning position operation

Setting: [SCANNER MOTOR]
1. Select [SCANNER MOTOR].
2. Select the item.
3. Change the setting using the +/- keys.

Display	Operating conditions	Setting range
ZOOM	Magnification	25 to 400 %
SIZE	Original size	See below.
LAMP	On and off of the exposure lamp	0 (off) or 1 (on)

Original sizes for each setting in SIZE

Setting	Paper size	Setting	Paper size
5000	A4	5000	A5R
4300	B5	7800	Folio
5100	11" x 8 1/2"	10200	11" x 17"
10000	A3	9000	11" x 15"
8600	B4	8400	8 1/2" x 14"
7100	A4R	6600	8 1/2" x 11"
6100	B5R	5100	5 1/2" x 8 1/2"

4. Press the start key. Scanning starts under the selected conditions.
5. To stop operation, press the stop key.

Method: [HOME POSITION]
1. Select [HOME POSITION].
2. Press the start key.
   The mirror frame of the scanner moves to the home position.

Method: [DUST CHECK]
1. Select [DUST CHECK].
2. Press the start key. The exposure lamp lights.
3. To turn the exposure lamp off, press the stop key.

Method: [DP READING]
1. Select [DP READING].
2. Press the start key.
   The mirror frame of the scanner moves to the reading position.

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U074</td><td>
Adjusting the DP input light luminosity
Description
Sets the luminosity correction for scanning originals from the DP.
Purpose
Modify the setting only if a spotted background appears when a bluish original is scanned from the DP.

Setting
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>INPUT DATA</td><td>DP input light luminosity correction</td><td>0 to 3</td><td>0</td></tr>
</table>
Settings 0: No correction / 1: Slight correction / 2: Medium correction / 3: Strong correction
3. Press the start key. The value is set.

Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U080</td><td>
Setting the economy mode
Description
Sets the level in the economy mode.
Purpose
To increase or decrease the image density in the eco-print mode.

Setting
1. Press the start key.
2. Change the setting value using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>ECO MODE</td><td>Exposure is toner economy mode</td><td>0 to 100</td><td>60</td></tr>
</table>
Increasing the setting makes the image darker; decreasing it makes the image lighter.
3. Press the start key. The value is set.

Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U081</td><td>
Adjusting the correct exposure
Description
Adjusts the correct exposure in text and photo mode, text mode or photo mode.
Purpose
To be executed as required.
Setting
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>MIX ADJ</td><td>Adjusts the correct exposure in text and photo mode</td><td>-3 to 3</td><td>0</td></tr>
<tr><td>TEXT ADJ</td><td>Adjusts the correct exposure in text mode</td><td>-3 to 3</td><td>0</td></tr>
<tr><td>PHOTO ADJ</td><td>Adjusts the correct exposure in photo mode</td><td>-3 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the image darker; decreasing it makes the image lighter.
4. Press the start key. The value is set.

Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

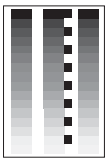
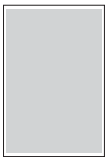
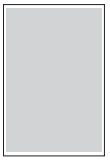
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U087</td><td>
Setting DP reading position modification operation
Description
The presence or absence of dust is determined by comparing the scan data of the original trailing edge and that taken after the original is conveyed past the DP original scanning position. If dust is identified, the DP original scanning position is adjusted for the following originals.
Purpose
When using DP, to solve the problem when black lines occurs due to the dust with respect to original reading position.

Method
1. Press the start key.
2. Select the item to be set. The setting screen for the selected item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CCD</td><td>Setting of standard data when dust is detected</td></tr>
<tr><td>BLACK LINE</td><td>Initialization of original reading position</td></tr>
</table>
Setting: Standard data when dust is detected
1. Select the item to be set.
2. Change the value using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>CCD R</td><td>Lowest density of the R regard as the dust</td><td>0 to 255</td><td>145</td></tr>
<tr><td>CCD G</td><td>Lowest density of the G regard as the dust</td><td>0 to 255</td><td>145</td></tr>
<tr><td>CCD B</td><td>Lowest density of the B regard as the dust</td><td>0 to 255</td><td>145</td></tr>
</table>
3. Press the start key. The value is set.

Setting: Initialization of original reading position
1. Select [CLEAR].
2. Press the start key. The setting is cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U089</td><td>
Outputting a MIP-PG pattern
Description
Selects and outputs the MIP-PG pattern created in the machine.
Purpose
To check copier status other than scanner when adjusting image printing, using MIP-PG pattern output (without scanning).

Method
1. Press the start key.
2. Select the MIP-PG pattern to be output and press the start key.
<table>
<tr><th>Display</th><th>PG pattern to be output</th><th>Purpose</th></tr>
<tr><td>GRAYSCALE</td><td>  </td><td>To check the laser scanner unit engine output characteristics</td></tr>
<tr><td>MONO1
(Output density: 0)</td><td>  </td><td>To check the drum quality</td></tr>
<tr><td>MONO4
(Output density: 70)</td><td>  </td><td>To check the drum quality</td></tr>
<tr><td>256-LEVEL</td><td>  </td><td>To check resolution reproducibility in printing</td></tr>
</table>
3. Press the system menu key.
4. Press the start key. A MIP-PG pattern is output.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U091	**Setting the white line correction** **Description** Sets the error detection threshold value for white line correction and displays the count result of abnormal pixels. **Purpose** To perform when replacing the CIS, DP driver PWB or CIS roller. **Method: white line correction** 1. Press the start key. 2. Press [EXECUTE]. 3. Press the start key. Holding of white reference data is started. 4. The count result of abnormal pixels is displayed.

Display	Description
Calculation(R)	Abnormal pixel count result for color R
Calculation(G)	Abnormal pixel count result for color G
Calculation(B)	Abnormal pixel count result for color B

5. Press the system menu key.
6. Place a gray original on the DP with the gray side down. Load paper in the cassette.
   The paper should be the same size as the original.
7. Press the start key.
   Two test pattern sheets will be printed. (1st sheet: blank sheet, 2nd sheet: Approx. 60 mm black band)
8. If no vertical lines appear on either sheet, the setting has been completed normally.
   If vertical black lines appear on the blank sheet and vertical white lines appear in the black band in the same position, clean the CIS roller and the CIS glass and then repeat white line correction.
   If vertical black lines or vertical white lines appear on both sheets, white line correction has been completed normally. However, the cause of the vertical lines lies in the engine, and thus the engine must be checked.

How to view test copies

blank sheet	black band	Causes	Corrective measures
No lines	No lines	-	Complete
Black lines	White lines	Dirty CIS roller or CIS glass	Clean CIS roller or CIS glass and then perform U091 again
Black lines	No lines	Engine side	U091 ends, check engine
No lines	White lines	Engine side	U091 ends, check engine

Setting: Threshold value setting

1. Select the item to be set.
2. Change the value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Threshold(R)	Displaying of abnormal pixel detection threshold value for color R	-	-
Threshold(G)	Displaying of abnormal pixel detection threshold value for color G	-	-
Threshold(Com)*	Setting of abnormal pixel detection threshold value for color	0 to 1023	112
Abnorm Pixel Threshold	Abnormal pixel threshold value setting	0 to 8191	75
MODE	Switching between white line correction mode ON/OFF	0: OFF/1: ON/ 2: Test mode	0

*: Normally the Threshold (Com) value should not be changed from 112, the initial setting.
If white lines appear even though the CIS roller and glass are not dirty, raise the set value.
If fine lines in some originals disappear, lower the set value.
Set within the range 50 to 200. (If set outside this range, the image may be affected.)

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U091</td><td>3. Press the start key. The value is set.
4. After changing the Threshold(Com) value, turn the main power switch off and on.
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U093</td><td>Setting the exposure density gradient
Description
Changes the exposure density gradient in the manual density mode, depending on respective image quality modes.
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.

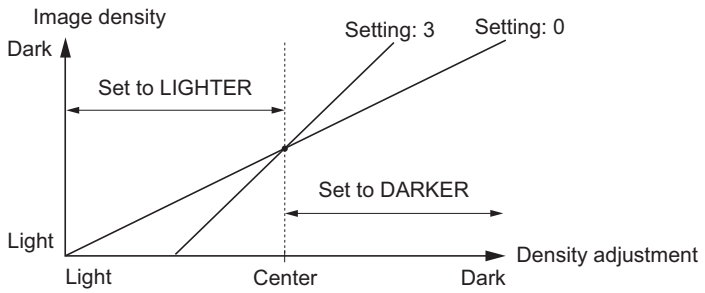
Method
1. Press the start key.
2. Select the image quality mode. The setting screen for the selected item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>TEXT</td><td>Density in the text mode</td></tr>
<tr><td>MIXED</td><td>Density in the text and photo mode</td></tr>
<tr><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>
</table>
Setting: [TEXT]
1. Select the item to be set.
2. Adjust the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>TEXT DARKER</td><td>Change in density when manual density is set dark</td><td>0 to 3</td><td>0</td></tr>
<tr><td>TEXT LIGHTER</td><td>Change in density when manual density is set light</td><td>0 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.


Figure 1-3-17

3. Press the start key. The value is set.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U093</td><td>
Setting: [MIXED]
1. Select the item to be set.
2. Adjust the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>MIXED DARKER</td><td>Change in density when manual density is set dark</td><td>0 to 3</td><td>0</td></tr>
<tr><td>MIXED LIGHTER</td><td>Change in density when manual density is set light</td><td>0 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.
3. Press the start key. The value is set.

Setting: [OTHER]
1. Select the item to be set.
2. Adjust the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>OTHER DARKER</td><td>Change in density when manual density is set dark</td><td>0 to 3</td><td>0</td></tr>
<tr><td>OTHER LIGTER</td><td>Change in density when manual density is set light</td><td>0 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.
3. Press the start key. The value is set.

Setting: [FAX TEXT]
1. Select the item to be set.
2. Adjust the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>FAX TEXT DARKER</td><td>Change in density when manual density is set dark</td><td>0 to 3</td><td>0</td></tr>
<tr><td>FAX TEXT LIGHTER</td><td>Change in density when manual density is set light</td><td>0 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.
3. Press the start key. The value is set.

Setting: [FAX PHOTO]
1. Select the item to be set.
2. Adjust the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>FAX PHOTO DARKER</td><td>Change in density when manual density is set dark</td><td>0 to 3</td><td>0</td></tr>
<tr><td>FAX PHOTO LIGHTER</td><td>Change in density when manual density is set light</td><td>0 to 3</td><td>0</td></tr>
</table>
Increasing the setting makes the change in density larger, and decreasing it makes the change smaller.
3. Press the start key. The value is set.

Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U099	**Adjusting original size detection** **Description** Checks the operation of the original size sensor and sets the sensing threshold value. **Purpose** To adjust the sensitiveness of the sensor and size judgement time if the original size sensor malfunctions frequently due to incident light or the like. **Method** 1. Press the start key. 2. Select the item. The screen for executing each item is displayed.

Display	Description
DATA1	Displaying original size sensor transmission data
B/W LEVEL1	B/W LEVEL setting original size sensor threshold value Setting original size judgment time
DATA2	Displaying original size sensor transmission data (when DP is installed)

Method: Display the data for the sensor

1. Place the original and close the original cover or DP. The detection sensor transmission data is displayed.

Display	Description
ORIGINAL AREA R	Detected original width size (R)
ORIGINAL AREA G	Detected original width size (G)
ORIGINAL AREA B	Detected original width size (B)
ORIGINAL AREA	Detected original width size
SIZE SW L	Displays the original size sensor (OSS) ON/OFF

2. To return to the screen for selecting an item, press the stop key.

Setting: Detection sensor threshold value

1. Select an item to be set.
2. Adjust the setting using the +/- or numeric keys.

Display	Description	Setting range	Initial setting	
			DP not installed	DP installed
ORIGINAL R1 - 3	Original threshold value for color R	0 to 255	40/30/20	50/50/50
ORIGINAL G1 - 3	Original threshold value for color G	0 to 255	40/30/20	50/50/50
ORIGINAL B1 - 3	Original threshold value for color B	0 to 255	40/30/20	50/50/50
LIGHT SOURCE R	Light source threshold value for color R	0 to 255	19	49
LIGHT SOURCE G	Light source threshold value for color G	0 to 255	19	49
LIGHT SOURCE B	Light source threshold value for color B	0 to 255	19	49
WAIT TIME	Time from activation of the original detection switch (ODSW) to original size judgment	0 to 255	150	150

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

Completion

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U100</td><td>
Setting the main high voltage
Description
Performs main charging.
Purpose
To check main charging.

Method
1. Press the start key.
2. Select the item to be operated.
3. Press the start key. The selected operation starts.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MC</td><td>Turning the main charger on</td></tr>
<tr><td>LASER</td><td>Turning the main charger on and the laser scanner unit on and off</td></tr>
</table>
4. To stop operation, press the stop key.

Completion
Press the stop key when main charger output stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U101</td><td>
Setting the other high voltages
Description
Sets the developing bias control voltage, the transfer control voltage, and the separation control voltage or checks the output of these voltages.
Purpose
To check the developing bias, the transfer voltage and the separation voltage or to take measures against drop of image density or background fog.

Setting
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>DEV BIAS</td><td>Developing bias AC component frequency at image formation</td><td>20 to 32</td><td>28</td></tr>
<tr><td>DEV SBIAS</td><td>Developing shift bias potential at image formation</td><td>0 to 3</td><td>1</td></tr>
<tr><td>DEV DUTY</td><td>Developing bias AC component duty at image formation</td><td>0 to 100</td><td>50</td></tr>
<tr><td>TC DATA</td><td>Transfer control voltage</td><td>0 to 300</td><td>130</td></tr>
<tr><td>SC DATA</td><td>Separation control voltage</td><td>0 to 60</td><td>20</td></tr>
</table>
Increasing the DEV BIAS setting makes the image darker; decreasing it makes the image lighter.
Increasing the DEV SBIAS setting makes the image darker.
Increasing the DEV DUTY setting makes the image lighter; decreasing it makes the image darker.
Increasing the TC DATA setting makes the transfer voltage higher, and decreasing it makes the voltage lower.
Increasing the SC DATA setting makes the separation voltage higher, and decreasing it makes the voltage lower.
4. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U102</td><td>
Setting the cleaning interval for the main charger
Description
Changes the intervals at which the main charger is cleaned.
Purpose
To change the setting when the background is visible.

Setting
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>IINTERVAL</td><td>Main charger cleaning operation intervals</td><td>0 to 20
(unit: 1000 sheets)</td><td>5</td></tr>
</table>
When set to 0, the cleaning for the main charger is not operated.
3. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U109</td><td>
Displaying the drum type
Description
Displays the drum surface potential set as EEPROM of the drum unit.
Purpose
To check the drum surface potential.

Method
1. Press the start key. Drum surface potential (V) is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U110</td><td>
Checking the drum count
Description
Displays the drum counts for checking.
Purpose
To check the drum status.

Method
1. Press the start key. The drum counter count is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U111</td><td>
Checking the drum drive time
Description
Displays the drum drive time for checking a figure, which is used as a reference when correcting the high voltage based on time.
Purpose
To check the drum status.

Method
1. Press the start key. The drum drive time is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U112</td><td>
Setting toner refresh operation
Description
Sets the toner refresh operation time and the developing bias on time at power on and after copying.
Purpose
To change the toner refresh operation time and the developing bias on time at power on and after copying if image flow level is low.

Setting
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the +/- keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>ON TIME(SEC)</td><td>Toner refresh operation time</td><td>50 to 150 (sec)</td><td>120</td></tr>
<tr><td>BIAS TIME(MSEC)</td><td>Developing bias on time</td><td>500 to 1000 (msec)</td><td>540</td></tr>
</table>
4. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U114</td><td>
Setting separation charger mode
Description
Sets the separation charger mode.
Purpose
To change the setting if the fuser offset or carrier leaking occurs.

Method
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>MODE</td><td>Separation charger mode</td><td>0 to 8 (0 to 3)*</td><td>3</td></tr>
</table>
*: Entering a value other than 0 to 3 will engage the MODE3 (value 3) separation mode.

Details on the modes
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE0 (Value 0)</td><td>Full page separation for both first and second pages</td></tr>
<tr><td>MODE1 (Value 1)</td><td>First page: Separation on leading and trailing edges
Second page: Full page separation</td></tr>
<tr><td>MODE2 (Value 2)</td><td>Full page separation is activated for both first and second pages provided the ambient temperature is less than 19°C/66.2°F.
First page: Separation is activated for both leading and trailing edges, second page: Full page separation, provided the ambient temperature is more than 20°C/68°F.</td></tr>
<tr><td>MODE3 (Value 3)</td><td>Separation is activated on both leading and trailing edges for both first and second pages</td></tr>
</table>
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U117</td><td>
Checking the drum number
Description
Displays the drum number.
Purpose
To check the drum number.

Method
1. Press the start key. The drum number is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U118</td><td>
Displaying the drum history
Description
Displays the past record of machine number and the drum counter.
Purpose
To check the count value of machine number and the drum counter.

Method
1. Press the start key. Past record of 5 cases is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MACHINE No.1 to 5</td><td>Past record of machine number</td></tr>
<tr><td>COUNT 1 to 5</td><td>Past record of drum counter</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U127</td><td>
Checking the transfer count
Description
Displays and clears the counts of the transfer counter.
Purpose
To check the fuser count after replacement of the transfer roller. Also to clear the counts after replacing roller.

Method
1. Press the start key. The current counts of the transfer counter is displayed.

Clearing
1. Select [CLEAR].
2. Press the start key. The count is cleared.

Setting
1. Change the count using the +/- or numeric keys.
2. Press the start key. The count is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U130</td><td>
Initial setting for the developing unit
Description
Replenishes toner to the developing unit to a certain level from the toner container that has been installed.
Purpose
To operate when installing the machine or replacing the developing unit.

Method
1. Press the start key. The screen for executing is displayed.
2. Press the start key.
Toner installation is started and the output value of the sensor and execution time are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>TONER SENSOR</td><td>Output value of the sensor</td></tr>
<tr><td>TIME(SEC)</td><td>Execution time</td></tr>
</table>
Completion
Press the stop key after initial setting is complete. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U136</td><td>
Setting toner near end mode
Description
Sets whether to restrict printing operation when the toner is empty.
Purpose
To set to ON to remove restrictions on printing operation when toner empty is detected.

Setting
1. Press the start key.
2. Select [ON] or [OFF].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Do not display an error or restrict printing operation when the toner is empty</td></tr>
<tr><td>OFF</td><td>Display an error and restrict printing operation when the toner is empty</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U139</td><td>
Displaying the temperature and humidity
Description
Displays the detected external temperature and humidity.
Purpose
To check the external temperature and humidity.

Method
1. Press the start key.
The detected external temperature (°C/°F) and humidity (%) are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Temperature</td><td>External temperature (°C/°F)</td></tr>
<tr><td>Humidity</td><td>External humidity (%)</td></tr>
<tr><td>Absolute Humidity</td><td>External absolute humidity (%)</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U144</td><td>
Setting toner disposal operation
Description
Sets toner disposal operation after completion of copying.
Purpose
To set whether or not toner is disposal on the drum after low density copying. Normally no change is necessary from the initial setting.

Setting
1. Press the start key.
2. Select the item to be set.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE0</td><td>Toner not disposal</td></tr>
<tr><td>MODE1</td><td>Toner disposal after simplex or duplex copying</td></tr>
<tr><td>MODE2</td><td>Toner disposal after simplex copying</td></tr>
<tr><td>MODE3</td><td>Executes toner disposal every after 52 pages of printing (simplex and duplex copying)</td></tr>
<tr><td>MODE4</td><td>Executes toner disposal every after 52 pages of printing (simplex only)</td></tr>
</table>
Initial setting: MODE2
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U155</td><td>
Checking sensors for toner
Description
Displays the on-off status of each sensor or switch related to toner.
Purpose
To check if the sensors and switches operate correctly.

Method
1. Press the start key.
2. Turn each switch on and off manually to check the status.
When the on-status of a switch is detected, that switch is displayed in reverse.
<table>
<tr><th>Display</th><th>Switches and sensors</th></tr>
<tr><td>DEVELOPER SENSOR</td><td>Toner sensor (TNS)</td></tr>
<tr><td>CONTAINER SET</td><td>Toner container detection switch (TCDSW)</td></tr>
<tr><td>CONTAINER SENSOR</td><td>Toner container sensor (TCS)</td></tr>
<tr><td>DISPOSAL TANK SET</td><td>Waste toner detection switch (WTDSW)</td></tr>
<tr><td>DISPOSAL TANK SENSOR</td><td>Overflow sensor (OFS)</td></tr>
<tr><td>MOTOR</td><td>The toner feed solenoid (TNFSOL) and the paper feed motor (PFM) are turned on</td></tr>
</table>
3. To stop motor driving, press [MOTOR ON] again.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U157</td><td>
Checking the developing drive time
Description
Displays the developing drive time for checking, which is used as a reference when correcting the toner control.
Purpose
To check the developing drive time after replacing the developing unit.

Method
1. Press the start key. The developing drive time is displayed in minutes.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U158</td><td>
Checking the developing count
Description
Displays the developing count for checking.
Purpose
To check the developing count after replacing the developing unit.

Method
1. Press the start key. The developing counter count is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U161</td><td>
Setting the fuser control temperature
Description
Changes the fuser control temperature.
Purpose
Normally no change is necessary. However, can be used to prevent curling or creasing of paper, or solve a fuser problem on thick paper. MODE changes printing speed control at over-heating on the fuser ends.

Method
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>DRIVE START TEMP</td><td>Driving start temperature when warm-up starts</td><td>0 to 255 (°C)</td><td>185</td></tr>
<tr><td>READY CONTROL T</td><td>Control temperature for displaying [Ready for printing.]</td><td>0 to 255 (°C)</td><td>200</td></tr>
<tr><td>PRINT CONTROL T</td><td>Control temperature during printing</td><td>0 to 255 (°C)</td><td>200</td></tr>
<tr><td>MODE</td><td>Printing speed control at over-hearing on the fuser ends</td><td>1/2</td><td>1</td></tr>
</table>
4. Press the start key. The value is set.

Setting: [MODE]
1. Press the start key.
2. Select the mode.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE1</td><td>Printing halts for approximately 24 s provided the temperature on the fuser ends reaches 235°C/455°F before printing is resumed</td></tr>
<tr><td>MODE2</td><td>Printing speed is decelerated by 75% with a fuser-end temperature greater than 228°C/442°F</td></tr>
</table>
Initial setting: MODE1
3. Press the start key. The setting is set.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U161</td><td>Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U163</td><td>Resetting the fuser problem data
Description
Resets the detection of a service call code indicating a problem in the fuser section.
Purpose
To prevent accidents due to an abnormally high fuser temperature.

Method
1. Press the start key.
2. Press [EXECUTE] on the touch panel.
3. Press the start key. The fuser problem data is initialized.
4. Turn the main power switch off and on.</td></tr>
<tr><td>U167</td><td>Checking/clearing the fuser counts
Description
Displays and clears the fuser counts for checking.
Purpose
To check the fuser count after replacement of the fuser unit. Also to clear the counts after replacing unit.

Method
1. Press the start key. The fuser counts is displayed.

Clearing
1. Select [CLEAR].
2. Press the start key. The count is cleared.

Setting
1. Change the count using the +/- or numeric keys.
2. Press the start key. The count is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U196</td><td>Turning the fuser heater on
Description
Turns the fuser heater 1 or 2 on.
Purpose
To check fuser heaters turning on.

Method
1. Press the start key.
2. Select the heater to be turned on.
3. Press the start key. The selected heater turns on for 2 s and then turns off.
<table><tr><th>Display</th><th>Description</th></tr><tr><td>MAIN</td><td>Fuser heater 1 (FH1)</td></tr><tr><td>SUB</td><td>Fuser heater 2 (FH2)</td></tr></table>
Completion
Press the stop key when fuser heaters 1 and 2 are off. The screen for selecting the maintenance item No. is displayed.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U198</td><td>
Setting the fuser phase control
Description
Enables or disables fuser-phase control.
Purpose
Turn to OFF to reduce the audible sound that may be generated by the power source PWB. Depending on the environment of installation, this may cause a voltage drop, potentially resulting in flickering fluorescent tubes, etc.

Setting
1. Press the start key.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Fuser phase control present</td></tr>
<tr><td>OFF</td><td>Fuser phase control absent</td></tr>
</table>
Initial setting: ON
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U199</td><td>
Checking the fuser temperature
Description
Displays the fuser temperature, the external temperature and the absolute humidity.
Purpose
To check the fuser temperature, the external temperature and the absolute humidity.

Method
1. Press the start key. The fuser temperature (°C/°F), external temperature (°C/°F) and the absolute humidity (%) are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FIX CENTER TEMP</td><td>Fuser center temperature (°C/°F)</td></tr>
<tr><td>FIX EDGE TEMP</td><td>Fuser edge temperature (°C/°F)</td></tr>
<tr><td>SURROUND TEMP</td><td>External temperature (°C/°F)</td></tr>
<tr><td>HUMIDITY</td><td>Absolute humidity (%)</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U200</td><td>
Turning all LEDs on
Description
Turns all the LEDs on the operation panel on.
Purpose
To check if all the LEDs on the operation panel light.

Method
1. Press the start key. All the LEDs on the operation panel light.
2. Press the stop key. The LEDs turns off.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U201</td><td>
Initializing the touch panel
Description
Automatically correct the positions of the X- and Y-axes of the touch panel.
Purpose
To automatically correct the display positions on the touch panel after it is replaced.

Method
1. Press the start key.
2. Select the [INITIALIZE] or [CHECK].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>INITIALIZE</td><td>Adjusts the display on the panel automatically.</td></tr>
<tr><td>CHECK</td><td>Checks the display on the touch panel.</td></tr>
</table>

Method: [INITIALIZE]
1. Press the start key.
2. Press the center of the + keys. Be sure to press three + keys displayed in order.
The touch panel is adjusted automatically.
3. Press the indicated three + keys, and then check the display.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.

Method: [CHECK]
1. Press the start key.
2. Press the indicated three + keys, and then check the display.
When adjusting the display, press [INITIALIZE] to execute the adjustment automatically.
3. Press the stop key. The screen for selecting a maintenance item No. is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U202</td><td>
Setting the KMAS host monitoring system
Description
Initializes or operates the KMAS host monitoring system.
This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U203</td><td>
Checking DP operation
Description
Simulates the original conveying operation separately in the DP.
Purpose
To check the DP operation.

Method
1. Press the start key.
2. Place an original in the DP if running this simulation with paper.
3. Select the item to be operated.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>CCD ADP (NON P)</td><td>Without paper, single-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD ADP</td><td>With paper, single-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP (NON P)</td><td>Without paper, double-sided original of CCD (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CCD RADP</td><td>With paper, double-sided original of CCD</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP (NON P)*</td><td>Without paper, double-sided original of CIS (continuous operation)</td><td>-</td><td>-</td></tr>
<tr><td>CIS RADP*</td><td>With paper, double-sided original of CIS</td><td>-</td><td>-</td></tr>
<tr><td>SPEED</td><td>Switching between normal reading (600 dpi) and high-speed reading</td><td>0 (Normal)/ 1 (High-speed)</td><td>0</td></tr>
</table>
*: Dual scan DP only.
4. Press the start key. The operation starts.
5. To stop continuous operation, press the stop key.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U204</td><td>
Setting the presence or absence of a key card or key counter
Description
Sets the presence or absence of the optional key card or key counter.
Purpose
To run this maintenance item if a key card or key counter is installed.

Method
1. Press the start key.
2. Select the item to be set. The setting screen for the selected item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>KEY-DEVICE</td><td>Sets the presence or absence of the key card or key counter</td></tr>
<tr><td>MESSAGE</td><td>Sets the message when optional equipment is not installed</td></tr>
</table>
Setting: [KEY-DEVICE]
1. Select the optional counter to be installed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>KEY-CARD</td><td>The key card is installed</td></tr>
<tr><td>KEY-COUNTER</td><td>The key counter is installed</td></tr>
<tr><td>OFF</td><td>Not installed</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set.
3. Turn the main power switch off and on.

Setting: [MESSAGE]
1. Select the [KEY-DEVICE] or [COIN VENDOR].
2. Press the start key. The setting is set.
3. Turn the main power switch off and on.
</td></tr>
<tr><td>U206</td><td>
Setting the presence or absence of the coin vender
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 specification machines, so no setting is necessary.
</td></tr>
</table>

Maintenance item No.	Description
U207	**Checking the operation panel keys** **Description** Checks operation of the operation panel keys. **Purpose** To check operation of all the keys and LEDs on the operation panel. **Method** 1. Press the start key. The screen for executing is displayed. 2. COUNT0 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. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.
U208	**Setting the paper size for the paper feeder** **Description** Sets the size of paper used in 3000-sheet paper feeder. **Purpose** To change the setting when the size of paper used in the paper feeder is changed. **Setting** 1. Press the start key. 2. Select the paper size (A4, B5 or Letter). Initial setting: Letter (Inch specifications)/A4 (Metric specifications) 3. Press the start key. The setting is set. 4. Turn the main power switch off and on.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U221</td><td>
Setting the USB host lock function
Description
Specifies ON/OFF the USB host lock function. Setting this to ON causes the machine to be unable to recognize the device connected to the USB host.
Purpose
Set according to the preference of the user.

Method
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>USB HOST LOCK</td><td>USB host lock function ON/OFF setting</td></tr>
</table>
Setting
1. Select [ON] or [OFF].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>USB host lock function ON</td></tr>
<tr><td>OFF</td><td>USB host lock function OFF</td></tr>
</table>
Initial setting: OFF
2. Press the start key. The setting is set.
3. Turn the main power switch off and on.
</td></tr>
<tr><td>U222</td><td>
Setting the IC card type
Description
Sets the IC card type.
This is an optional device which is currently supported only by Japanese specification machines, so no setting is necessary.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U223</td><td>
Operation panel lock
Description
Sets the operation panel lock function to ON or OFF.
Purpose
To restrict operation in the system menu on the operation panel.

Setting
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Unlock</td><td>Release the lock of the operation from the system menu.</td></tr>
<tr><td>Partial Lock</td><td>Partially lock the operation from the system menu.</td></tr>
<tr><td>Lock</td><td>Entirely lock the operation from the system menu.</td></tr>
</table>
Initial setting: Unlock
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U224</td><td>
Panel sheet extension
Description
Changes the image data and the message of the opening screen at the machine startup and the image data and the message of the service call screen to user specified data.
Purpose
Set according to the preference of the user.

Setting
1. Write the image data or the message data to the USB memory.
2. Insert USB memory in USB memory slot of the machine.
3. Turn the main power switch on.
4. Enter the maintenance item.
5. Press the start key.
6. Select the [Install] or [UnInstall].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Install</td><td>Installs the image data or the message data</td></tr>
<tr><td>UnInstall</td><td>Restores the original image data or message data</td></tr>
</table>
7. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Opening Img</td><td>Startup screen</td></tr>
<tr><td>Call Img</td><td>Service call image</td></tr>
<tr><td>Call Msg Top</td><td>Service call screen 1</td></tr>
<tr><td>Call Msg Detail</td><td>Service call screen 2</td></tr>
</table>
8. Press the start key. Installation or uninstallation is started.
9. When normally completed, [COMPLETE] is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U234</td><td>
Setting punch destination
Description
Sets the destination of punch unit of 3000-sheet document finisher.
Purpose
To be set when installing a different punch unit from the destination of the machine.

Setting
1. Press the start key.
2. Select the destination.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>AUTO</td><td>With no punch unit</td></tr>
<tr><td>JAPAN METRIC</td><td>Metric (Japan) specifications</td></tr>
<tr><td>INCH</td><td>Inch (North America) specifications</td></tr>
<tr><td>EUROPE METRIC</td><td>Metric (Europe) specifications</td></tr>
</table>
Initial setting: AUTO
3. Press the start key. The setting is set.
4. Turn the main power switch off and on.
</td></tr>
<tr><td>U236</td><td>
Setting the limit for the ejection section of the built-in finisher
Description
If the machine is equipped with an built-in finisher, this mode sets whether A5R/B5R/statement size paper is output to the machine top tray or not.
Purpose
If the machine is equipped with an built-in finisher and if paper jams occur due to curling of paper in the built-in ejection section when two-sided copying onto A5R/B5R/statement size paper is performed, this mode is used to change the setting to ON to disable ejection to the machine top tray.

Setting
1. Press the start key.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Does not eject to the machine top tray.</td></tr>
<tr><td>OFF</td><td>Eject to the machine top tray.</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U237	**Setting finisher stack quantity** **Description** Sets the number of sheets of each stack on the main tray and on the Inner tray in 3000-sheet document finisher. **Purpose** To change the setting when a stack malfunction has occurred. **Method** 1. Press the start key. 2. Select the item to be set. **Setting: [MAIN TRAY]** 1. Change the setting using the +/- or numeric keys. Initial setting: 0 2. Press the start key. The setting is set. 3. Turn the main power switch off and on. **Setting: [MIDDLE TRAY]** 1. Change the setting using the +/- or numeric keys. Initial setting: 0 Number of sheets of stack on the internal tray for non-staple copying: 10 sheets 2. Press the start key. The setting is set. 3. Turn the main power switch off and on.

Display	Description
MAIN TRAY	Number of sheets of stack on the main tray
MIDDLE TRAY	Number of sheets of stack on the internal tray for staple copying

Display	Description
0	Number of sheets of stack on the main tray: 3000 sheets
1	Number of sheets of stack on the main tray: 1500 sheets

Display	Description
0	Number of sheets of stack on the internal tray for staple copying: 50 sheets
1	Number of sheets of stack on the internal tray for staple copying: 30 sheets

Maintenance item No.	Description
U240	**Checking the operation of the finisher** **Description** Turns each motor and solenoid of the 3000-sheet document finisher ON. **Purpose** To check the operation of each motor and solenoid of the 3000-sheet document finisher. **Method** 1. Press the start key. 2. Select the item to be checked. The screen for executing each item is displayed.

Display	Description
FINISHER MOTOR	Checking the motor of the 3000-sheet document finisher
FINISHER SOL	Checking the solenoid of the 3000-sheet document finisher
MAIL BOX	Checking the motor and solenoid of the mailbox
BOOKLET	Checking the motor of the centerfold unit

Method: [FINISHER MOTOR]

1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Motor
FEED IN MOTOR M	Paper entry motor (PEM) is turned on at middle speed
FEED IN MOTOR L	Paper entry motor (PEM) is turned on at low speed
CONV MOTOR H	Paper conveying motor (PCM) is turned on at high speed
CONV MOTOR M	Paper conveying motor (PCM) is turned on at middle speed
CONV MOTOR L	Paper conveying motor (PCM) is turned on at low speed
EJECT MOTOR H	Eject motor (EJM) is turned on at high speed
EJECT MOTOR M	Eject motor (EJM) is turned on at middle speed
EJECT MOTOR L	Eject motor (EJM) is turned on at low speed
SUB PATH MOTOR H	Relief path motor (RPM) is turned on counterclockwise
SUB PATH MOTOR M	Relief path motor (RPM) is turned on clockwise
BUNDLE UP MOTOR	Paper conveying belt motor 1 (PCBM1) is turned on
BUNDLE DOWN MOTOR	Paper conveying belt motor 2 (PCBM2) is turned on
WIDTH TEST(A3)	Side registration motor 1/2 (SRM1/2) are turned on
WIDTH TEST(LD)	Side registration motor 1/2 (SRM1/2) are turned on
STAPLE FR MOTOR	Staple moving motor 1 (STMM1) is turned on
STAPLE S MOTOR	Staple moving motor 2 (STMM2) is turned on
STAPLE MOTOR	Staple motor (STM) is turned on
TRAY MOTOR	Main tray motor (MTM) is turned on
PUNCH MOTOR	Punch motor (PUNM) is turned on

3. To stop operation, press the stop key.

Maintenance item No.	Description
U240	**Method: [FINISHER SOL]** 1. Select the item to be operated. 2. Press the start key. The operation starts.

Display	Solenoid
FEED IN SOL	Paper entry solenoid (PESOL)
REAR DOWN SOL 1	Trailing edge holder solenoid 1 (TEHSOL1)
REAR DOWN SOL 2	Trailing edge holder solenoid 2 (TEHSOL2)
SUB PATH SOL	Relief path solenoid (RPSOL)
SUB TRAY R SOL	Feedshift solenoid 1 (FSSOL1)
SUB TRAY L SOL	Feedshift solenoid 2 (FSSOL2)
BOOKLET SOL	Centerfold feedshift solenoid (CFSSOL)
PADDLE SOL	Paddle solenoid (PDSOL)
HOLD DOWN SOL	Paper holder solenoid (PHSOL)
EJECT SOL	Pressure switching solenoid (PSWSOL)
PUNCH SOL	Punch pattern solenoid (PPSOL)

Method: [MAIL BOX]
1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Motor
CARRY ROLL	Mailbox drive motor (MBDM) is turned on at paper conveying
BRANCH ROLL	Mailbox drive motor (MBDM) is turned on at feedshift operation

Method: [BOOKLET]
1. Select the item to be operated.
2. Press the start key. The operation starts.

Display	Motor
CONV MOTOR	Centerfold main motor (CMM)
BLADE MOTOR	Blade motor (BLM)
BUNDLE UP MOTOR	Centerfold paper conveying belt motor 1 (CPCBM1)
BUNDLE DOWN MOTOR	Centerfold paper conveying belt motor 2 (CPCBM2)
WIDTH TEST(A3)	Centerfold side registration motor 1/2 (CSRM1/2)
WIDTH TEST(LD)	Centerfold side registration motor 1/2 (CSRM1/2)
STAPLE MOTOR	Centerfold staple motor (CSTM)

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

Maintenance item No.	Description
U241	**Checking the operation of the switches of the finisher** **Description** Displays the status of each switch of 3000-sheet document finisher. **Purpose** To check the operation of each switch of 3000-sheet document finisher. **Method** 1. Press the start key. 2. Select the item to be checked.

Display	Description
FINISHER	Checking the switch of the document finisher
MAIL BOX	Checking the switch of the mailbox
BOOKLET	Checking the switch of the center-folding unit

Method: [FINISHER]

1. Turn each switch or sensor on and off manually to check the status.
   When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.

Display	Switches and sensors
FRONT COVER SW	Front cover switch (FCSW)
TOP COVER SW	Top cover switch (TCSW)
RIGHT COVER SW	Sub tray right switch (STRSW)
SET SW	Joint switch (JSW)
BOOKLET SW	Centerfold set switch (CSSW)
PUNCH TANK SW	Punch waste box sensor (PWBS)
TRAY L-LIMIT SW	Main tray lower limit detection sensor (MTLLDS)
TRAY U-LIMIT SW	Main tray upper limit detection sensor (MTULDS)
TRAY MIDDLE SW	Main tray middle position detection sensor (MTMPDS)
PAPER HOLD DOWN SW	Paper holder home position sensor (PHHPS)
LOAD DET SW	Main tray paper upper surface detection sensor 1,2 (MTPUSDS1,2)
HP SW	Paper entry sensor (PES)
EJECT SW 1	Eject switch 1 (ESW1)
EJECT SW 2	Eject switch 2 (ESW2)
EJECT SW 3	Eject switch 3 (ESW3)
STAPLE HP SW 1	Staple home position switch 1 (STHPSW1)
STAPLE HP SW 2	Staple home position switch 2 (STHPSW2)
MIDDLE FEED SW1	Inner tray paper entry sensor 1 (ITPES1)
MIDDLE FEED SW2	Inner tray paper entry sensor 2 (ITPES2)
BUNDLE DET SW 1	Paper detection sensor 1 (PDS1)
BUNDLE DET SW 2	Paper detection sensor 2 (PDS2)
BUNDLE UP HP SW	Paper conveying belt home position sensor 1 (PCBHPS1)
BUNDLE DOWN HP SW	Paper conveying belt home position sensor 2 (PCBHPS2)
WIDTH HP SW 1	Side registration home position sensor 1 (SRHPS1)
WIDTH HP SW 2	Side registration home position sensor 2 (SRHPS2)

Maintenance item No.	Description
U241	**Method: [MAIL BOX]** 1. Turn each switch or sensor on and off manually to check the status. When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.

Display	Switches and sensors
HP SW	Mail paper entry switch (MPESW)
EJECT SW	Tray eject sensor (TEJS)
COVER SW	Mailbox cover open/close switch (MBCOSW)
OVER FLOW SW 1	Tray overflow switch 1 (TOFSW1)
OVER FLOW SW 2	Tray overflow switch 2 (TOFSW2)
OVER FLOW SW 3	Tray overflow switch 3 (TOFSW3)
OVER FLOW SW 4	Tray overflow switch 4 (TOFSW4)
OVER FLOW SW 5	Tray overflow switch 5 (TOFSW5)
OVER FLOW SW 6	Tray overflow switch 6 (TOFSW6)
OVER FLOW SW 7	Tray overflow switch 7 (TOFSW7)

Method: [BOOKLET]

1. Turn each switch or sensor on and off manually to check the status.
When the on-status of a switch or sensor is detected, that switch or sensor is displayed in reverse.

Display	Switches and sensors
BUNDLE UP HP SW	Centerfold paper conveying belt sensor 1 (CPCBS1)
BUNDLE DOWN HP SW	Centerfold paper conveying belt sensor 2 (CPCBS2)
BLADE HP SW	Blade home position sensor (BLHPS)
WIDTH HP SW U	Centerfold side registration sensor 2 (CSRS2)
WIDTH HP SW L	Centerfold side registration sensor 1 (CSRS1)
FEED IN SW	Centerfold paper entry sensor (CPES)
PAPER DET SW	Centerfold paper detection sensor (CPDS)
TRAY PAPER DET SW	Tray paper detection sensor (TPDS)
EJECT SW	Centerfold eject switch (CESW)
TRAY DET SW	Centerfold top cover switch (CTCSW)

Completion

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U243</td><td>
Checking the operation of the DP motors
Description
Turns the motors or solenoids in the DP on.
Purpose
To check the operation of the DP motors and solenoids.

Method
1. Press the start key.
2. Select the item to be operated.
3. Press the start key. The operation starts.
<table>
<tr><th>Display</th><th>Motor and solenoid</th><th>Operation</th></tr>
<tr><td>DP FEED MOT</td><td>Original feed motor (OFM)</td><td>In operation</td></tr>
<tr><td>DP CON MOT</td><td>Original conveying motor (OCM)</td><td>In operation</td></tr>
<tr><td>DP REV MOT</td><td>Original switchback motor (OSBM)</td><td>In operation</td></tr>
<tr><td>DP LIFT MOT</td><td>DP lift motor (DPLM)</td><td>In operation</td></tr>
<tr><td>DP REV PRS SOL</td><td>Switchback pressure solenoid (SBPSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>DP REV BRCH SOL</td><td>Switchback feedshift solenoid (SBFSSOL)</td><td>On for 0.5 s</td></tr>
<tr><td>CIS FAN*</td><td>DP fan motor (DPFM)</td><td>In operation</td></tr>
</table>
*: Dual scan DP only.
4. To turn each motor off, press the stop key.

Completion
Press the stop key when operation stops. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U244</td><td>
Checking the DP switches
Description
Displays the status of the respective switches in the DP.
Purpose
To check if respective switches in the DP operate correctly.

Method
1. Press the start key.
2. Turn the respective switches on and off manually to check the status.
If the on-status of a switch is detected, the corresponding switch is displayed in reverse.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FD SW</td><td>Original feed switch (OFSW)</td></tr>
<tr><td>REG SW</td><td>Original registration switch (ORSW)</td></tr>
<tr><td>TMG SW</td><td>DP timing switch 1 (DPTSW1)</td></tr>
<tr><td>EJT SW</td><td>Original eject switch (OESW)</td></tr>
<tr><td>TRY SW</td><td>Switchback tray switch (SBTSW)</td></tr>
<tr><td>SET SW</td><td>Original set switch (OSSW)</td></tr>
<tr><td>SZ SW A</td><td>Original size length switch (OSLSW)</td></tr>
<tr><td>L F U SW</td><td>Tray upper limit switch (TULSW)</td></tr>
<tr><td>L F L SW</td><td>Tray lower limit switch (TLLSW)</td></tr>
<tr><td>COV OP SW</td><td>DP interlock switch (DPILSW)</td></tr>
<tr><td>P OP SW</td><td>DP open/close switch (DPOCSW)</td></tr>
<tr><td>CIS SW*</td><td>DP timing switch 2 (DPTSW2)</td></tr>
</table>
*: Dual scan DP only.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U245</td><td>
Checking messages
Description
Displays a list of messages on the touch panel of the operation panel.
Purpose
To check the messages to be displayed.

Method
1. Press the start key.
2. Select the item to be displayed.
3. Displays the message one by one using cursor up/down keys. Switches the language on the touch panel using the cursor +/- keys.
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.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U246</td><td>
Setting the finisher
Description
Provides various settings for the 3000-sheet document finisher, if furnished.
Purpose
Adjustment of registration stop timing in punch mode
Adjust if skewed paper conveying occurs or if the copy paper is Z-folded in punch mode.
Adjustment of paper stop timing in the punch mode
To adjust this item when the position of a punch hole is different from the specified one.
Adjustment of front/rear side registration home position of Inner tray
Provides optimization when paper jam occurs due to an inferior fitting of the Inner tray adjuster guides to paper.
Adjusting of front and back/slanted stapling home position
Adjusts the stapling position in the staple mode if the position is not proper.
Provides adjustment of slanted stapling.
Adjustment of upper/lower side registration home position of center-folding unit
Provides optimization when paper jam occurs due to an inferior fitting of the centerfold adjuster guides to paper.
Adjustment of booklet stapling position
Adjusts the booklet stapling position in the stitching mode if the position is not proper.
Adjustment of center folding position
Adjusts the center folding position in the stitching mode if the position is not proper.

Method
1. Press the start key.
2. Select the item to be set. The screen for setting each item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FINISHER 3000</td><td>Adjustment of the 3000-sheet document finisher</td></tr>
<tr><td>BOOKLET FOLDER</td><td>Adjustment of the centerfold unit</td></tr>
<tr><td>FINISHER B’-IN</td><td>Adjustment of the built-in finisher</td></tr>
</table>
Setting: [FINISHER 3000]
1. Select the item to set. The screen for setting each item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>PUNCH REG ADJ</td><td>Adjustment of registration stop timing in punch mode</td></tr>
<tr><td>PUNCH POSITION ADJ</td><td>Adjustment of the paper stop timing in punch mode</td></tr>
<tr><td>WIDTH F HP ADJ</td><td>Adjustment of front side registration home position</td></tr>
<tr><td>WIDTH R HP ADJ</td><td>Adjustment of rear side registration home position</td></tr>
<tr><td>STAPLE HP ADJ</td><td>Adjustment of front and back stapling home position</td></tr>
<tr><td>TURNED STAPLE HP ADJ</td><td>Adjustment of slanted stapling home position</td></tr>
</table>
</td></tr>
</table>

Maintenance item No.	Description
U246	**Setting: Adjustment of registration stop timing** 1. Select [PUNCH REG ADJ]. 2. Change the setting value using the cursor up/down keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of registration stop timing	-20 to 20	0	1 ms

If skewed paper conveying occurs (sample 1), increase the preset value. If the copy paper is Z-folded (sample 2), decrease the preset value.

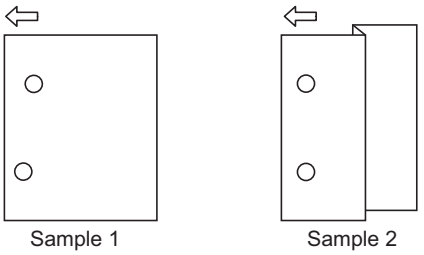


Figure 1-3-18

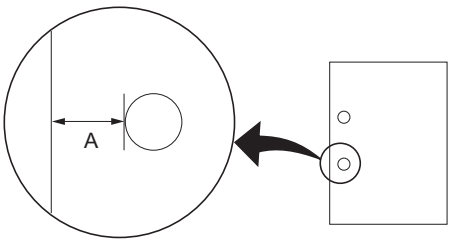
3. Press the start key. The value is set.

Setting: Adjustment of the paper stop timing

1. Select [PUNCH POSITION ADJ].
2. Change the setting value using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of the paper stop timing	-10 to 10	0	0.49 mm

If the distance of the position of a punch hole is smaller than the specified value A, increase the preset value. If the distance is larger than the value A, decrease the preset value.



Preset value A: 5.5 ± 2 mm (inch)
9.5 ± 2 mm (metric)

Figure 1-3-19

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

Setting: Adjustment of front/rear side registration home position

1. Select [WIDTH F HP ADJ] or [WIDTH R HP ADJ].
2. Change the setting value using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of front side registration home position	-10 to 10	0	0.31 mm
Adjustment of rear side registration home position	-10 to 10	0	0.31 mm

3. Press the start key. The value is set.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.
5. Enter maintenance mode U240 and select [FINISHER MOTOR], then [WIDTH TEST (A3)].
   The width guides of the Inner tray will move to A3-size position.
6. Pull the Inner tray, insert paper between the guides and check that paper is abut the guides.
7. Repeat the above adjustment until paper is properly in position.

Maintenance item No.	Description
U246	**Setting: Adjustment of front and back stapling home position** 1. Select [STAPLE HP ADJ]. 2. Change the setting using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of front and back stapling home position	-10 to 10	0	0.32 mm

When staple positions are off toward the front side of the machine (sample 1), increase the preset value. When staple positions are off toward the rear side of the machine (sample 2), decrease the preset value.

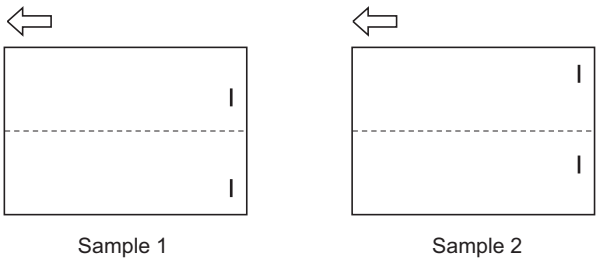


Figure 1-3-20

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

Setting: Adjustment of slanted stapling home position

1. Select [TURNED STAPLE HP ADJ].
2. Change the setting using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of slanted stapling home position	-10 to 10	0	0.99°

To increase the angle for slanted stapling (sample 1), decrease the preset value. To decrease the angle for slanted stapling (sample 2), increase the preset value.

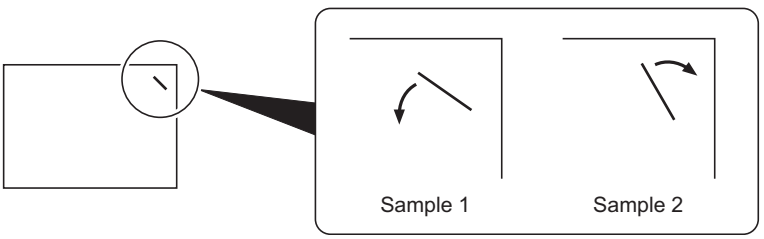


Figure 1-3-21

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

Maintenance item No.	Description
U246	**Setting: [BOOKLET FOLDER]** 1. Select the item to be set.

Display	Description
WIDTH U HP ADJ	Adjustment of upper side registration home position
WIDTH L HP ADJ	Adjustment of lower side registration home position
STAPLE POS ADJ (A4R/LTR)	Adjustment of booklet stapling position for A4/Letter size
STAPLE POS ADJ (B4R/LGR)	Adjustment of booklet stapling position for B4/Legal size
STAPLE POS ADJ (A3/LD)	Adjustment of booklet stapling position for A3/Ledger size
SADDLE POS ADJ (A4R/LTR)	Adjustment of center folding position for A4/Letter size
SADDLE POS ADJ (B4R/LGR)	Adjustment of center folding position for B4/Legal size
SADDLE POS ADJ (A3/LD)	Adjustment of center folding position for A3/Ledger size

Setting: Adjustment of upper/lower side registration home position

1. Select [WIDTH U HP ADJ] or [WIDTH L HP ADJ].
2. Change the setting using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of upper side registration home position	-20 to 20	0	0.104 mm
Adjustment of lower side registration home position	-46 to 46	0	0.104 mm

3. Press the start key. The value is set.
4. Press the stop key. The screen for selecting a maintenance item No. is displayed.
5. Enter maintenance mode U240 and select [BOOKLET], then [WIDTH TEST(A3)].
   The width guides of the centerfold unit will move to A3-size position.
6. Pull the centerfold unit, insert paper between the guides and check that paper is abut the guides.
7. Repeat the above adjustment until paper is properly in position.

Setting: Adjustment of booklet stapling position

1. Select [STAPLE POS ADJ (A4R/LTR)], [STAPLE POS ADJ (B4R/LGR)] or [STAPLE POS ADJ (A3/LD)].
2. Change the setting using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of booklet stapling position for A4/Letter size	-10 to 10	0	0.55 mm
Adjustment of booklet stapling position for B4/Legal size	-10 to 10	0	0.55 mm
Adjustment of booklet stapling position for A3/Ledger size	-10 to 10	0	0.55 mm

When staples are placed too far right (sample 1), decrease the preset value. When staples are placed too far left (sample 2), increase the preset value.
Reference value: within ± 2 mm

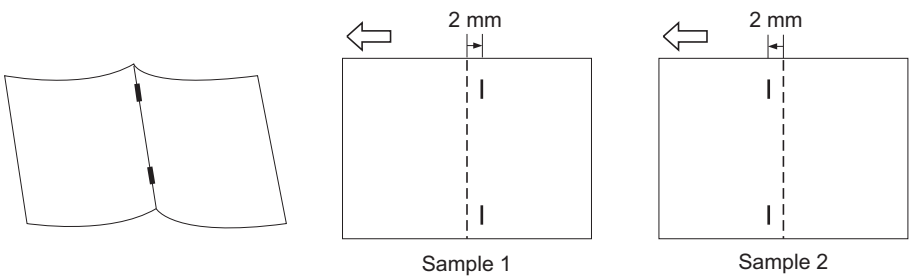


Figure 1-3-22

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

Maintenance item No.	Description
U246	**Setting: Adjustment of center folding position** 1. Select [SADDLE POS ADJ (A4R/LTR)], [SADDLE POS ADJ (B4R/LGR)] or [SADDLE POS ADJ (A3/LD)]. 2. Change the setting using the +/- or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Adjustment of center folding position for A4/Letter size	-10 to 10	0	0.55 mm
Adjustment of center folding position for B4/Legal size	-10 to 10	0	0.55 mm
Adjustment of center folding position for A3/Ledger size	-10 to 10	0	0.55 mm

When the centerfold position too far right (sample 1), increase the preset value. When the centerfold position too far left (sample 2), decrease the setting value.
Reference value: within ± 3 mm

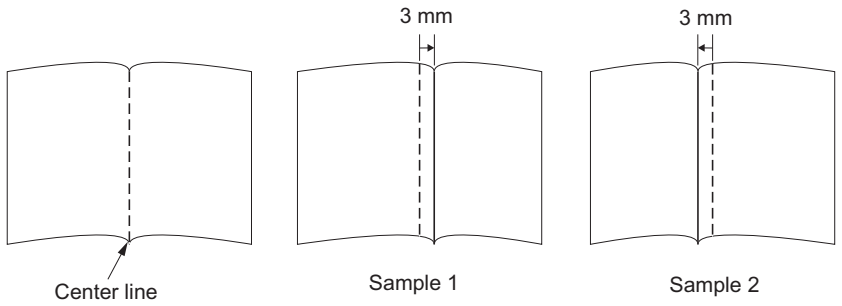


Figure 1-3-23

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

Setting: [FINISHER B'-IN]

1. Select the desired cursor position.
2. Change the setting using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
FRONT	Front side registration cursor stop position	-4 to +4	0
REAR	Rear side registration cursor stop position	-4 to +4	0
END	Trailing edge registration cursor stop position	-4 to +4	0

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

Completion

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

Maintenance item No.	Description
U247	**Setting the paper feed device** **Description** Turns on motors and clutches of 3000-sheet paper feeder or paper feeder. **Purpose** To check the operation of motors and clutches of paper feed device. **Method** 1. Press the start key. The value varies depending to the option furnished. 2. Select the item to be operated. 3. Press the start key. The operation starts. 3000-sheet paper feeder. **Display** | **Motor and clutches** | **Operation** LCF FEED | PF conveying motor (PFCM) | In operation CLUTCH B | PF conveying clutch (PFCCL) | On for 1 s CLUTCH P1 | PF paper feed clutch 1 (PFPFCL1) | On for 1 s CLUTCH P2 | PF paper feed clutch 2 (PFPFCL2) | On for 1 s Paper feeder **Display** | **Motor and clutches** | **Operation** DESK FEED | PF drive motor (PFDM) | In operation CLUTCH FEED | PF feed clutch (PFFCL) | On for 1 s CLUTCH U | PF paper feed clutch 1 (PFPFCL1) | On for 1 s CLUTCH L | PF paper feed clutch 2 (PFPFCL2) | On for 1 s 4. To turn each motor off, press the stop key. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U250</td><td>
Setting the maintenance cycle
Description
Changes preset values for maintenance cycle and automatic grayscale adjustment.
Purpose
Provides changing the time when the message to acknowledge to conduct maintenance and automatic grayscale adjustment is periodically displayed.

Setting
1. Press the start key. The current pre-set value is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th></tr>
<tr><td>Maintenance Count A</td><td>Preset values for maintenance cycle</td><td>0 to 9999999</td></tr>
<tr><td>COUNT GRAY ADJUST*100</td><td>Preset values for automatic grayscale adjustment</td><td>0 to 99900*</td></tr>
</table>
*: The setting can be changed by 100 per step.

Clearing
1. Select the item to be cleared. To clear all items, select [ALL CLEAR].
2. Press the clear key.
3. Press the start key. The setting value is cleared.

Setting
1. Select the item to be changed.
2. Enter the setting value using the +/- or numeric keys.
3. Press the start key. The setting value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U251</td><td>
Checking/clearing the maintenance count
Description
Displays and clears or changes the maintenance count and automatic grayscale adjustment count.
Purpose
To verify the maintenance counter count and automatic grayscale count. Also to clear the count during maintenance service.

Method
Press the start key. The maintenance count is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th></tr>
<tr><td>Maintenance Count A</td><td>Count value for maintenance cycle</td><td>0 to 9999999</td></tr>
<tr><td>COUNT GRAY ADJUST</td><td>Automatic grayscale adjustment count</td><td>0 to 9999999</td></tr>
</table>
Clearing
1. Select the item to be cleared. To clear all items, select [ALL CLEAR].
2. Press the clear key.
3. Press the start key. The count is cleared.

Setting
1. Select the item to be changed.
2. Enter the count using the numeric keys.
3. Press the start key. The count is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U252	**Setting the destination** **Description** Switches the operations and screens of the machine according to the destination. **Purpose** To be executed after initializing the backup RAM, in order to return the setting to the value before replacement or initialization. **Setting** 1. Press the start key. 2. Select the destination. **Display** / **Description** EUROPE METRIC — Metric (Europe) specifications INCH — Inch (North America) specifications ASIA PACIFIC — Metric (Asia Pacific) specifications AUSTRALIA — Australia specifications CHINA — China specifications KOREA — Korea specifications 3. Press the start key. The setting is set. 4. Turn the main power switch off and on. **Supplement** The specified initial settings are provided according to the destinations in the maintenance items below. To change the initial settings in those items, be sure to run maintenance item U021 after changing the destination. **Initial setting according to the destinations** **Maintenance No.** / **Title** / **Inch spec.** / **Europe/Asia Pacific spec.** 208 — Setting the paper size for the paper feeder — Letter — A4

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U253</td><td>
Switching between double and single counts
Description
Switches the count system for the total counter and other counters.
Purpose
Used to select, according to the preference of the user (copy service provider), if A3/Ledger paper is to be counted as one sheet (single count) or two sheets (double count).

Setting
1. Press the start key.
2. Select the count system.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ALL SINGLE</td><td>Single count for all size paper</td></tr>
<tr><td>DOUBLE COUNT(A3/LEDGER)</td><td>Double count for A3/Ledger size or larger</td></tr>
<tr><td>DOUBLE COUNT(B4)</td><td>Double count for B4 size or larger</td></tr>
<tr><td>DOUBLE COUNT(FOLIO/LEGAL)</td><td>Double count for FOLIO/Legal size or larger</td></tr>
</table>
Initial setting: DOUBLE COUNT(A3/LEDGER)
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U260</td><td>
Selecting the timing for copy counting
Description
Changes the copy count timing for the total counter and other counters.
Purpose
To be set according to user (copy service provider) request.
If a paper jam occurs frequently in the optional document finisher when the number of copies is counted at the time of paper ejection, copies are provided without copy counts. The copy service provider cannot charge for such copying. To prevent this, the copy timing should be made earlier.
If a paper jam occurs frequently in the paper conveying or fuser sections when the number of copies is counted before the paper reaches those sections, copying is charged without a copy being made. To prevent this, the copy timing should be made later.

Setting
1. Press the start key.
2. Select the copy count timing.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>FEED</td><td>When secondary paper feed starts</td></tr>
<tr><td>EJECT</td><td>When the paper is ejected</td></tr>
</table>
Initial setting: EJECT
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U265	**Setting OEM purchaser code** **Description** Sets the OEM purchaser code. **Purpose** Sets the code when replacing the main PWB and the like. **Setting** 1. Press the start key. 2. Change the preset value using the numeric keys. 3. Press the start key. The setting is set. 4. Turn the main power switch off and on.
U278	**Setting the delivery date** **Description** Enter delivery date in month, day, and year. **Purpose** To operate when installing the machine. Perform this to confirm the delivery date. **Method** 1. Press the start key. 2. Select [TODAY]. 3. Press the start key. The delivery date is set. **Clearing** 1. Select [CLEAR]. 2. Press the start key. The delivery date is cleared. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.
U285	**Setting service status page** **Description** Determines displaying the digital dot coverage report on reporting. **Purpose** According to user request, changes the setting. **Method** 1. Press the start key. 2. Press [COVERAGE]. Highlighted: ON, Non-highlighted: OFF Initial setting: ON 3. Press the start key. The setting is set. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U326	**Setting the black line cleaning indication** **Description** Sets whether to display the cleaning guidance when detecting the black line. **Purpose** Displays the cleaning guidance in order to make the call for service with the black line decrease by the rubbish on the contact glass when scanning from the DP. **Setting** 1. Press the start key. 2. Select the item to set. The screen for setting each item is displayed. **Setting: [BLACK LINE MODE]** 1. Select ON or OFF. Initial setting: ON Setting count value is displayed only if the setting is ON. 2. Press the start key. The setting is set. **Setting: [BLACK LINE COUNT]** 1. Change the setting value using the +/- or numeric keys. When setting is 0, the black line cleaning indication is displayed only if the black line is detected. 2. Press the start key. The value is set. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Display	Description
BLACK LINE MODE	Black line cleaning guidance ON/OFF setting
BLACK LINE COUNT	Setting counts of the cleaning guidance indication

Display	Description
ON	Displays the cleaning guidance
OFF	Not to display the cleaning guidance

Display	Description	Setting range	Initial setting
COUNT *1000	Setting counts of the cleaning guidance indication (x 1000 sheets)	0 to 255	8

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U328</td><td>
Side ejection setting
Description
Sets whether to eject to the side of the machine when an optional curl eliminator is installed.
Purpose
Set according to the preference of the user.

Setting
1. Press the start key.
2. Select [ON] or [OFF].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>To eject to the side of the machine</td></tr>
<tr><td>OFF</td><td>Not to eject to the side of the machine</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set.
4. Turn the main power switch off and on.
</td></tr>
<tr><td>U332</td><td>
Setting the size conversion factor
Description
Sets the coefficient of nonstandard sizes in relation to the A4/Letter size. The coefficient set here is used to convert the black ratio in relation to the A4/Letter size and to display the result in user simulation.
Purpose
To set the coefficient for converting the black ratio for nonstandard sizes in relation to the A4/Letter size.

Setting
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Calculation Rate</td><td>Size parameter</td><td>0.1 to 3.0</td><td>1.0</td></tr>
</table>
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U341</td><td>
Specific paper feed location setting for printing function
Description
Sets a paper feed location specified for printer output.
Purpose
To use a paper feed location only for printer output.
A paper feed location specified for printer output cannot be used for copy output.

Method
1. Press the start key.
2. Select the paper feed location for the printer.
Two or more cassette can be selected.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CASSETTE 1</td><td>Cassette 1</td></tr>
<tr><td>CASSETTE 2</td><td>Cassette 2</td></tr>
<tr><td>CASSETTE 3</td><td>Cassette 3 (optional paper feeder)</td></tr>
<tr><td>CASSETTE 4</td><td>Cassette 4 (optional paper feeder)</td></tr>
<tr><td>LCF</td><td>Optional 3000-sheet paper feeder</td></tr>
</table>
When an optional paper feed device is not installed, the corresponding count is not displayed.
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U342</td><td>
Setting the ejection restriction
Description
Sets or cancels the restriction on the number of sheets to be ejected continuously when the internal eject tray is selected as the eject location.
Purpose
According to user request, sets or cancels restriction on the number of sheets.

Setting
1. Press the start key.
2. Select [ON] or [OFF].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Sets restriction on the number of sheets</td></tr>
<tr><td>OFF</td><td>Cancels restriction on the number of sheets</td></tr>
</table>
Initial setting: ON

Details of restriction (number of sheets to be ejected continuously after the start key is pressed)
<table>
<tr><th>Condition</th><th>Number of sheets</th></tr>
<tr><td>When no optional ejection device is installed</td><td>250 sheets</td></tr>
<tr><td>When the job separator is installed</td><td>150 sheets</td></tr>
<tr><td>When the finisher is installed</td><td>100 sheets</td></tr>
</table>
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U343</td><td>
Switching between duplex/simplex copy mode
Description
Switches the initial setting between duplex and simplex copy.
Purpose
To be set according to frequency of use: set to the more frequently used mode.

Setting
1. Press the start key.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Duplex copy</td></tr>
<tr><td>OFF</td><td>Simplex copy</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U345</td><td>
Setting the value for maintenance due indication
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.
Purpose
To change the time for maintenance due indication.

Setting
1. Press the start key.
2. Change the setting using the +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th></tr>
<tr><td>COUNT</td><td>Time for maintenance due indication
(Remaining number of copies that can be made before the current maintenance cycle ends)</td><td>0 to 9999</td></tr>
</table>
3. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U402	**Adjusting margins of image printing** **Description** Adjusts margins for image printing. **Purpose** Make the adjustment if margins are incorrect. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
LEAD	Printer leading edge margin	0 to 10.0	4.0	0.1 mm
A	Printer left margin	0 to 10.0	3.0	0.1 mm
C	Printer right margin	0 to 10.0	3.0	0.1 mm
TRAIL	Printer trailing edge margin	0 to 10.0	3.9	0.1 mm
TRAIL(DUP)	Printer trailing edge margin (second side)	0 to 10.0	4.0	0.1 mm
TRAIL(MPT)	Printer trailing edge margin (MP tray)	0 to 10.0	4.0	0.1 mm

3. Press the system menu key.
4. Press the start key to output a test pattern.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

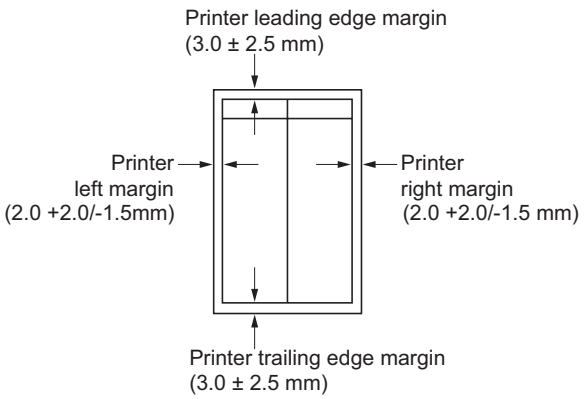
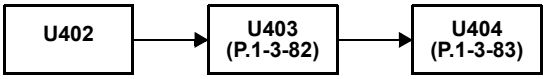


Figure 1-3-24

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

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



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

Maintenance item No.	Description
U403	**Adjusting margins for scanning an original on the platen** **Description** Adjusts margins for scanning the original on the contact glass. **Purpose** Make the adjustment if margins are incorrect. **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
A MARGIN	Scanner left margin	0 to 10.0	2.0	0.5 mm
B MARGIN	Scanner leading edge margin	0 to 10.0	2.0	0.5 mm
C MARGIN	Scanner right margin	0 to 10.0	2.0	0.5 mm
D MARGIN	Scanner trailing edge margin	0 to 10.0	2.0	0.5 mm

3. Press the system menu key.
4. Place an original and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

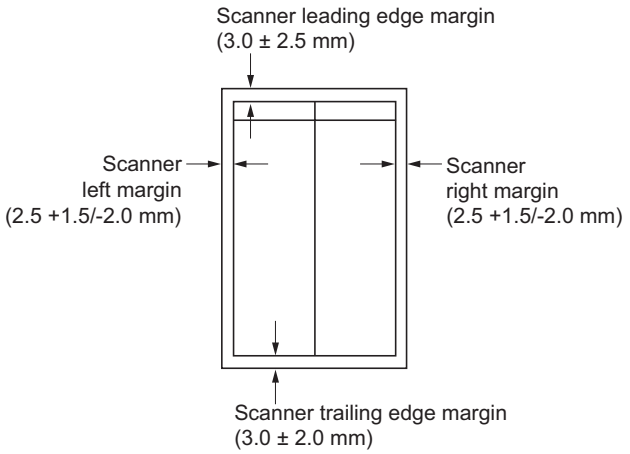
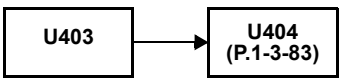


Figure 1-3-25

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

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



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

Maintenance item No.	Description
U404	**Adjusting margins for scanning an original from the DP** **Description** Adjusts margins for scanning the original from the DP. **Purpose** Make the adjustment if margins are incorrect when the DP is used. **Caution** Before making this adjustment, ensure that the following adjustments have been made in maintenance mode. U402 (P.1-3-81) → U403 (P.1-3-82) → U404 **Adjustment** 1. Press the start key. 2. Select the item to be adjusted.

Display	Description	Setting range	Initial setting	Change in value per step
A MARGIN	Left margin	0 to 10.0	3.0	0.5 mm
B MARGIN	Leading edge margin	0 to 10.0	2.5	0.5 mm
C MARGIN	Right margin	0 to 10.0	3.0	0.5 mm
D MARGIN	Trailing edge margin	0 to 10.0	4.0	0.5 mm
A MARGIN (BACK)*	Left margin (second side)	0 to 10.0	3.0	0.5 mm
B MARGIN (BACK)*	Leading edge margin (second side)	0 to 10.0	2.5	0.5 mm
C MARGIN (BACK)*	Right margin (second side)	0 to 10.0	3.0	0.5 mm
D MARGIN (BACK)*	Trailing edge margin (second side)	0 to 10.0	4.0	0.5 mm

*: Dual scan DP only.

3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- keys.
   Increasing the value makes the margin wider, and decreasing it makes the margin narrower.

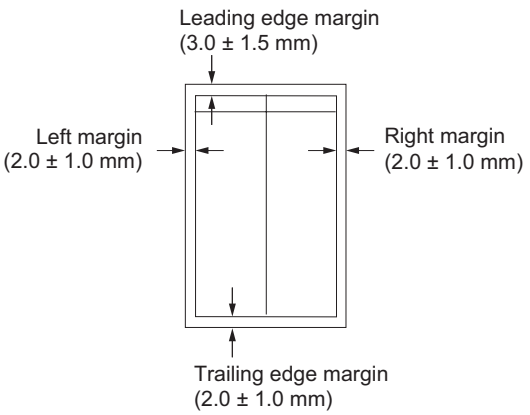


Figure 1-3-26

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

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

Maintenance item No.	Description
U407	**Adjusting the leading edge registration for memory image printing** **Description** Adjusts the leading edge registration during memory copying. **Purpose** 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 this adjustment, ensure that the following adjustments have been made in maintenance mode. U034 (P.1-3-22) → U402 (P.1-3-81) → U066 (P.1-3-29) → U403 (P.1-3-82) → U071 (P.1-3-34) → U404 (P.1-3-83) → U407 **Adjustment** 1. Press the start key.

Display	Description	Setting range	Initial setting	Change in value per step
ADJUST DATA	Leading edge registration for memory image printing	-47 to 47	0	0.1 mm

2. Press the system menu key.
3. Place an original and press the start key to make a test copy.
4. Press the system menu key.
5. Change the setting value using the +/- or numeric keys.
   For copy example 1, decrease the value.
   For copy example 2, increase the value.

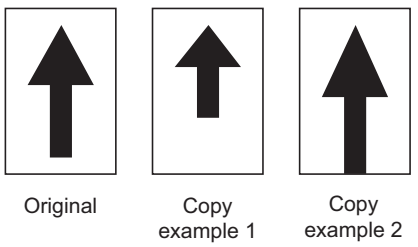
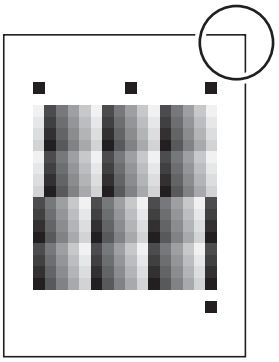


Figure 1-3-27

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

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

Maintenance item No.	Description
U410	**Adjusting the halftone automatically** **Description** Carries out processing for the data acquisition that is required in order to perform automatic adjustment of the halftone. **Purpose** Performed when the quality of reproduced halftones has dropped. **Method** 1. Press the start key. 2. Select [EXECUTE]. 3. Press the start key. A test pattern is outputted. 4. Place the output test pattern as the original. Align the corner inside the circle with the left inside corner of the original marker.  Test pattern **Figure 1-3-28** 5. Place approximately 20 sheets of white paper on the test pattern and set them. 6. Press the start key. Adjustment is made. 7. When normally completed, [ALL COMP.] is displayed. If a problem occurs during auto adjustment, error code is displayed. **Error codes** **Codes** / **Description** S01 — Patch not detected S02 — Original deviation in the main scanning direction S03 — Original deviation in the auxiliary scanning direction S04 — Original inclination error If [S**] appears, check the original. If [C**] appears, execute again maintenance item U410. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U411</td><td>
Adjusting the scanner automatically
Description
Uses a specified original and automatically adjusts the following items in the scanner and the DP scanning sections.
Purpose
To perform automatic adjustment of various items in the scanner and the DP scanning sections.

Method
1. Press the start key.
2. Select the item. The screen for executing is displayed.
<table>
<tr><th>Display</th><th>Description</th><th>Original to be used for adjustment (P/N)</th></tr>
<tr><td>SCANNER</td><td>Automatic adjustment in the scanner section</td><td>302FZ56990</td></tr>
<tr><td>DP(FACE UP)</td><td>Automatic adjustment in the DP scanning section (first page)</td><td>302AC68243</td></tr>
<tr><td>DP(FACE DOWN)*</td><td>Automatic adjustment in the DP scanning section (second page)</td><td>302AC68243/303JX57010/ 303JX57020</td></tr>
</table>
*: Dual scan DP only.

Method: [SCANNER]
1. Enter the target values which are shown on the specified original (P/N: 302FZ56990) executing maintenance item U425.
2. Set a specified original (P/N: 302FZ56990) on the platen.
3. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ALL</td><td>Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.</td></tr>
<tr><td>INPUT</td><td>Automatic adjustment using the platen for: original size magnification/ leading edge timing/center line.</td></tr>
<tr><td>C.A.</td><td>Automatic adjustment using the platen for: chromatic aberration filter.</td></tr>
<tr><td>MTF</td><td>Automatic adjustment using the platen for: MTF filter.</td></tr>
<tr><td>GAMMA</td><td>Automatic adjustment using the platen for: input gamma.</td></tr>
<tr><td>MATRIX</td><td>Automatic adjustment using the platen for: matrix.</td></tr>
</table>
4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [Complete] is displayed. If a problem occurs during auto adjustment, [ERROR 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.
</td></tr>
</table>

Maintenance item No.	Description
U411	**Method: [DP(FACE UP)]** 1. Measure the leading edge, main scanning, and auxiliary scanning of the specified original (P/N: 302AC68243) and enter the values by executing maintenance item U425. 2. Set a specified original (P/N: 302AC68243) in the DP. Cut the trailing edge of the original.

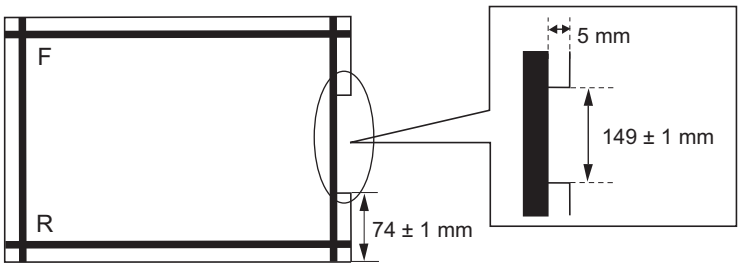


Figure 1-3-29

3. Press [INPUT].

Display	Description
INPUT	Automatic adjustment of first page using the DP for: original size magnification/leading edge timing/center line.

4. Press the start key. Auto adjustment starts.
When automatic adjustment has normally completed, [Complete] is displayed. If a problem occurs during auto adjustment, [ERROR 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.

Method: [DP(FACE DOWN)]

1. Select [ORIGINAL TARGET] and press the start key. The screen for executing is displayed.

Display	Description
NORMAL TARGET	Execution is not required.
ORIGINAL TARGET	Uses the specified original for acquiring data as the target data.

2. Place the specified original for acquiring gamma target data (P/N: 303JX57010) on the platen, and press the start key.
3. Place the specified original for acquiring matrix target data (P/N: 303JX57020) on the platen, and press the start key.
When normally completed, [Complete] is displayed.
4. Select the item (place all originals face down).

Display	Description	Original to be used for adjustment (P/N)
ALL	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line, input gamma, chromatic aberration filter, MTF filter and matrix.	302AC68243/303JX57010/ 303JX57020
INPUT	Automatic adjustment of second page using the DP for: original size magnification/leading edge timing/center line.	302AC68243
MTF/GAMMA	Automatic adjustment of second page using the DP for: MTF filter and input gamma.	303JX57010
MATRIX	Automatic adjustment of second page using the DP for: matrix.	303JX57020

Maintenance item No.	Description
U411	**[INPUT]** 1. Select [INPUT]. 2. Place a specified original (P/N: 302AC68243). 3. Press the start key. Auto adjustment starts. **[MTF/GAMMA]** 1. Select [MTF/GAMMA]. 2. Place a specified original (P/N: 303JX57010). 3. Press the start key. Auto adjustment starts. **[MATRIX]** 1. Select [MATRIX]. 2. Place a specified original (P/N: 303JX57020). 3. Press the start key. Auto adjustment starts. When [ALL] is selected, the adjustment of [INPUT], [MTF/GAMMA] and [MATRIX] can be executed at once. When adjusting, place the three specified originals, and then press the start key. Set the original 303JX57020, and then place 303JX57010 and 302AC68243 in order on the top of the original. When automatic adjustment has normally completed, [COMPLETE] is displayed. If a problem occurs during auto adjustment, [ERROR 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. **Completion** Press the stop key. The screen for selecting a maintenance item is displayed.

Maintenance item No.	Description
U411	**Error Codes**

Codes	Description
ERROR 01	Black band detection error (scanner leading edge registration)
ERROR 02	Black band detection error (scanner center line)
ERROR 03	Black band detection error (scanner main scanning direction magnification)
ERROR 04	Black band is not detected (scanner leading edge registration)
ERROR 05	Black band is not detected (scanner center line)
ERROR 06	Black band is not detected (scanner main scanning direction magnification)
ERROR 07	Black band is not detected (scanner auxiliary scanning direction magnification)
ERROR 08	Black band is not detected (DP main scanning direction magnification far end)
ERROR 09	Black band is not detected (DP main scanning direction magnification near end)
ERROR 0a	Black band is not detected (DP auxiliary scanning direction magnification leading edge)
ERROR 0b	Black band is not detected (DP auxiliary scanning direction magnification leading edge original check)
ERROR 0c	Black band is not detected (DP auxiliary scanning direction trailing edge)
ERROR 0d	Black band is not detected (DP auxiliary scanning direction trailing edge 2)
ERROR 0e	DMA time out
ERROR 0f	Auxiliary scanning direction magnification error
ERROR 10	Auxiliary scanning direction leading edge detection error
ERROR 11	Auxiliary scanning direction trailing edge detection error
ERROR 12	Auxiliary scanning direction skew 1.5 error
ERROR 13	Maintenance request error
ERROR 14	Main scanning direction center line error
ERROR 15	Main scanning direction skew 1.5 error
ERROR 16	Main scanning direction magnification error
ERROR 17	Service call error
ERROR 18	DP JAM error
ERROR 19	PWB error
ERROR 1a	Original error

Maintenance item No.	Description
U425	**Setting the target** **Description** Enters the lab values that is indicated on the back of the chart (P/N: 302FZ56990) used for adjustment. Also enters the measurement value of the chart (P/N: 302AC68243) used for adjustment. **Purpose** Performs data input in order to correct for differences in originals during automatic adjustment. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
CCD	Entering the target values of the chart (P/N: 302FZ56990) used for adjustment
DP	Entering the measurement value of the chart (P/N: 302AC68243) used for adjustment
CIS	Execution is not required

Setting: [CCD]

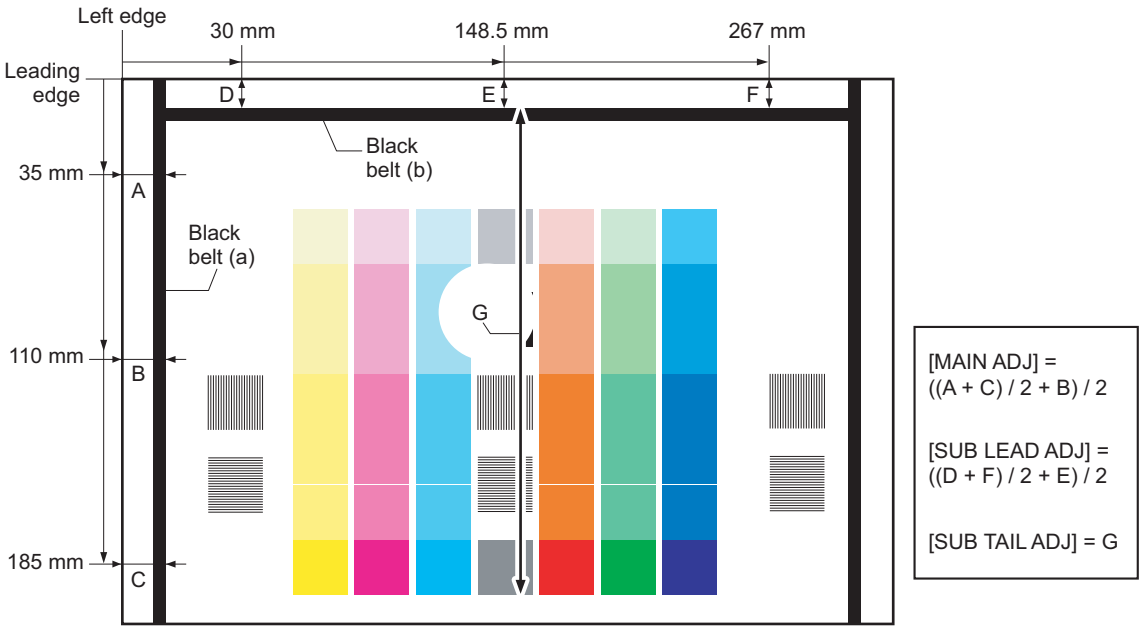
1. Select the item to be set.

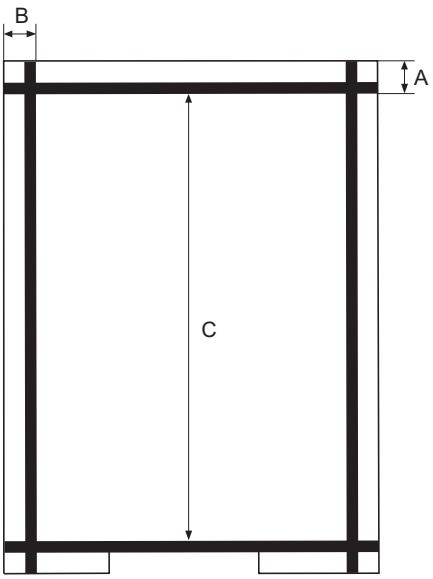
Display	Description
N875	Setting the N875 patch for the original for adjustment
N475	Setting the N475 patch for the original for adjustment
N125	Setting the N125 patch for the original for adjustment
CYAN	Setting the cyan patch for the original for adjustment
MAGENTA	Setting the magenta patch for the original for adjustment
YELLOW	Setting the yellow patch for the original for adjustment
RED	Setting the red patch for the original for adjustment
GREEN	Setting the green patch for the original for adjustment
BLUE	Setting the blue patch for the original for adjustment
ADJUST ORIGINAL	Setting the main and auxiliary scanning directions

2. Select the item to be set.

Display	Description	Setting range
L	Setting the L value	0.0 to 100.0
A	Setting the A value	-200.0 to 200.0
B	Setting the B value	-200.0 to 200.0

3. Enters the value that is indicated on the back of the chart using the +/- or numeric keys.
4. Press the start key. The value is set.

Maintenance item No.	Description
U425	**Setting: [ADJUST ORIGINAL]** 1. Measure the distance from the left edge to the black belt (a) of the original at A, B and C. Measurement procedure 1) Measure the distance from the edge to the black belt (a) of the original at A (35 mm from the leading edge), B (110 mm from the leading edge) and C (185 mm from the leading edge), respectively. 2) Apply the following formula for the values obtained: ((A + C) / 2 + B) / 2 2. Enter the values solved using the +/- keys in [MAIN ADJ]. 3. Press the start key. The value is set. 4. Measure the distance from the leading edge to the black belt (b) of the original at D, E and F. Measurement procedure 1) Measure the length from the edge to the black belt (b) of the original at D (30 mm from the left edge), E (148.5 mm from the left edge) and F (267 mm from the left edge), respectively. 2) Apply the following formula for the values obtained: ((D + F) / 2 + E) / 2 5. Enter the values solved using the +/- keys in [SUB LEAD ADJ]. 6. Press the start key. The value is set. 7. Measure the length (G) from the leading edge of the black belt (b) to the bottom of the N475 patch of the original. 8. Enter the measured value using the +/- keys in [SUB TAIL ADJ]. 9. Press the start key. The value is set. 10. To return to the screen for selecting an item, press the stop key.  Original for adjustment (P/N: 302FZ56990) **Figure 1-3-30**

Maintenance item No.	Description
U425	**Setting: [DP]** 1. Measure the distance from the leading edge to the black belt (inside) of the original at A. 2. Enter the measured value using the +/- keys in [LEAD]. 3. Measure the distance from the left edge to the black belt (inside) of the original at B. 4. Enter the measured value using the +/- keys in [MAIN SCAN]. 5. Measure the distance from the black belt of leading edge (inside) to the black belt of trailing edge (inside) of the original at C. 6. Enter the measured value using the +/- keys in [SUB SCAN]. 7. Press the start key. The value is set.  Original for adjustment (P/N: 302AC68243) **Figure 1-3-31** **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.

Maintenance item No.	Description
U470	**Setting the JPEG compression ratio** **Description** Sets the compression ratio for JPEG images in each image quality mode. **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. **Method** 1. Press the start key. 2. Select the item to be set. The setting screen for the selected item is displayed.

Display	Description
System	Compression ratio for temporary storage in system
Copy	Compression ratio for copying
Send	Compression ratio for sending

Setting: [System]
1. Select the item to be set.
2. Change the setting value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Y	Brightness	1 to 100	90
C	Color differential	1 to 100	90

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

Setting: [Copy]
1. Select the item to be set.
2. Change the setting value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Text Y	Brightness in the text mode	1 to 100	90
Text C	Color differential in the text mode	1 to 100	90
Photo Y	Brightness in the photo mode	1 to 100	90
Photo C	Color differential in the photo mode	1 to 100	90

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

Setting: [Send]
1. Select [Text], [Photo] or [HC-PDF].
2. Select the item to be set.
3. Change the setting value using the +/- or numeric keys.

Display	Description	Setting range	Initial setting
Text Y (1) to (5)	Brightness in the text mode	1 to 100	30/40/51/70/90
Text C (1) to (5)	Color differential in the text mode	1 to 100	30/40/51/70/90
Photo Y (1) to (5)	Brightness in the photo mode	1 to 100	30/40/51/70/90
Photo C (1) to (5)	Color differential in the photo mode	1 to 100	30/40/51/70/90
HC-PDF Y (1) to (3)	Brightness of high compression PDF	1 to 100	15/25/60
HC-PDF C (1) to (3)	Color differential of high compression PDF	1 to 100	15/25/60

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

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U470</td><td>
Supplement
While this maintenance item is being executed, copying from an original is available in interrupt copying mode (which is activated by pressing the system menu key).

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U473</td><td>
Adjusting laser power output
Description
Adjusts the laser output power
Purpose
Performed when the quality of dots, lines or low density has dropped.

Method
1. Press the start key.
2. Select [Set Density (EmitTime/Dot).
3. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>0 (100%)</td><td>LSU laser output (100%)</td></tr>
<tr><td>1 (90%)</td><td>LSU laser output (90%)</td></tr>
<tr><td>2 (80%)</td><td>LSU laser output (80%)</td></tr>
<tr><td>3 (70%)</td><td>LSU laser output (70%)</td></tr>
</table>
Initial setting: 0
4. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U485</td><td>
Setting the image processing mode
Description
Adjusts the sensitivity of scanning a confidential document.
Changes how to apply rotation to a PDF document.

Purpose
To change the detection level when the confidential document guard is not printed well for detection in scanning. Also, changes the process of how PDF images are rotated.

Method
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Conf. Doc. Detection</td><td>Confidential document guard detection level</td></tr>
<tr><td>PDF Rotate</td><td>Processing the rotation of PDF images</td></tr>
</table>
Setting: [Conf. Doc. Detection]
1. Change the setting value using +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Conf. Doc. Detection</td><td>Confidential document guard detection level</td><td>1 to 5</td><td>1</td></tr>
</table>
A smaller value raises the detection sensitivity but increases the possibility of false detection.
A larger value lowers the detection sensitivity but decreases the possibility of false detection.
2. Press the start key. The value is set.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U485</td><td>
Setting: [PDF Rotate]
1. Change the setting value using +/- or numeric keys.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>0</td><td>Applies rotation to the internal parameter</td></tr>
<tr><td>1</td><td>Applies rotation to the 'actual image' itself</td></tr>
</table>
Initial setting: 0
2. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U510</td><td>
Setting the enterprise mode
Description
Sets whether or not the application function is enabled.
Purpose
According to user request, changes the setting.

Setting
1. Press the start key.
2. Select [MODE1].
3. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Application function is enabled</td></tr>
<tr><td>OFF</td><td>Application function is disabled</td></tr>
<tr><td>INSTALL</td><td>Executing the install</td></tr>
<tr><td>UNINSTALL</td><td>Executing the uninstall</td></tr>
</table>
4. Press the start key. The setting is set.

Method: [INSTALL]
1. Insert the USB memory that contains the application into the USB memory slot on the machine.
2. Turn the main power switch on.
3. Enter the maintenance item.
4. Press the start key.
5. Select [INSTALL].
6. Press the start key. Installation of application is started.
7. When normally completed, [Complete] is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U901</td><td>
Checking/clearing copy counts by paper feed locations
Description
Displays or clears copy counts by paper feed locations.
Purpose
To check the time to replace consumable parts. Also to clear the counts after replacing the consumable parts.

Method
1. Press the start key. The counts by paper feed locations are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MP TRAY</td><td>MP tray</td></tr>
<tr><td>CASETTE 1</td><td>Cassette 1</td></tr>
<tr><td>CASETTE 2</td><td>Cassette 2</td></tr>
<tr><td>CASETTE 3</td><td>Cassette 3 (optional paper feeder)</td></tr>
<tr><td>CASETTE 4</td><td>Cassette 4 (optional paper feeder)</td></tr>
<tr><td>DUPLEX</td><td>Duplex unit</td></tr>
<tr><td>LCF</td><td>Optional 3000-sheet paper feeder</td></tr>
</table>
When an optional paper feed device is not installed, the corresponding count is not displayed.

Clearing
1. Select the counts to be cleared. CASETTE 3, CASETTE 4 and LCF cannot be cleared.
2. Select the counts for all and press [ALL CLEAR].
3. Press the start key. The counts is cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U902</td><td>
Checking/clearing the punch-hole scrap counter
Description
Sets the punch limit and displays and clears the punch-hole scrap count when 3000-sheet document finisher is installed.
Purpose
Sets the punch limit to notify the user of the time to collect punch-hole scrap. Also, used to manually clear the punch-hole scrap count if a message requiring collection of punch-hole scrap is shown on the touch panel after collection. If punch-hole scrap is collected with the machine power turned off, the punch-hole scrap count is not cleared and consequently this problem occurs.

Setting
1. Press the start key.
2. Select the item.
3. Change the value using the numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th></tr>
<tr><td>PUNCH LIMIT (*1000)</td><td>Punch limit (maximum number of punching times)</td><td>0 to 9999000</td></tr>
<tr><td>PUNCH WASTE COUNT</td><td>Punch-hole scrap count (current number of punching times)</td><td>0 to 9999999</td></tr>
</table>
The punch limit can be set in increments of 1000.
4. Press the start key. The value is set.

Clearing
1. Enter 0 using the numeric keys.
2. Press the start key. The count is cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U903</td><td>
Checking/clearing the paper jam counts
Description
Displays or clears the jam counts by jam locations.
Purpose
To check the paper jam status. Also to clear the jam counts after replacing consumable parts.

Method
1. Press the start key.
2. Select the item. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<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>
</table>
Method: [Count]
1. Select [Count]. The count of jam code by type is displayed.
Codes for which the count value is 0 are not displayed.
2. Change the screen using the cursor up/down keys.
3. Select the counts for all jam codes and press [ALL CLEAR].
The individual counter cannot be cleared.
4. Press the start key. The count is cleared.

Method: [Total Count]
1. Select [Total Count]. The total number of jam code by type is displayed.
2. Change the screen using the cursor up/down keys.
The total number of jam count cannot be cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U904</td><td>
Checking/clearing the service call counts
Description
Displays or clears the service call code counts by types.
Purpose
To check the service call code status by types. Also to clear the service call code counts after replacing consumable parts.

Method
1. Press the start key.
2. Press the start key. The screen for selecting an item is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<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>
</table>
Method: [Count]
1. Select [Count]. The count for service call detection by type is displayed.
Codes for which the count value is 0 are not displayed.
2. Change the screen using the cursor up/down keys.
3. Select the counts for all service call codes and press [ALL CLEAR].
The individual counter cannot be cleared.
4. Press the start key. The count is cleared.

Method: [Total Count]
1. Select [Total Count]. The total number of service call counts by type is displayed.
2. Change the screen using the cursor up/down keys.
The total number of service call count cannot be cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U905</td><td>
Checking/clearing counts by optional devices
Description
Displays the counts of DP or finisher.
Purpose
To check the use of DP and finisher.

Method
1. Press the start key.
2. Select the device, the count of which is to be checked.
3. Press the start key. The count of the selected device is displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DP</td><td>Counts of optional DP</td></tr>
<tr><td>FINISHER</td><td>Counts of optional document finisher, built-in finisher or 3000-sheet document finisher</td></tr>
</table>
DP
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ADP</td><td>No. of single-sided originals that has passed through the DP</td></tr>
<tr><td>RADP</td><td>No. of double-sided originals that has passed through the DP</td></tr>
<tr><td>CONCURRENT</td><td>No. of dual scan originals that has passed through the DP</td></tr>
</table>
Document finisher/Built-in finisher
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CP CNT</td><td>No. of copies that has passed</td></tr>
<tr><td>STAPLE</td><td>Frequency the stapler has been activated</td></tr>
</table>
3000-sheet document finisher
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>CP CNT</td><td>No. of copies that has passed</td></tr>
<tr><td>STAPLE</td><td>Frequency the stapler has been activated</td></tr>
<tr><td>PUNCH</td><td>Frequency the punch has been activated</td></tr>
<tr><td>STACK</td><td>Frequency the stacker has been activated</td></tr>
<tr><td>SADDLE</td><td>Frequency the center holding has been activated</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U906</td><td>
Resetting partial operation control
Description
Resets the service call code for partial operation control.
Purpose
To be reset after partial operation is performed due to problems in the cassettes or other sections, and the related parts are serviced.

Method
1. Press the start key.
2. Press [Execute].
3. Press the start key to reset partial operation control.
4. Turn the main power switch off and on.
</td></tr>
</table>

Maintenance item No.	Description
U908	**Checking the total counter value** **Description** Displays the total counter value. **Purpose** To check the total counter value. **Method** 1. Press the start key. The screen for total count value is displayed. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.
U910	**Clearing the black ratio data** **Description** Clears the accumulated black ratio data for A4 sheet. **Purpose** To clear data as required at times such as during maintenance service. **Method** 1. Press the start key. 2. Select [EXCUTE]. 3. Press the start key. The accumulated black ratio data is cleared. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed.
U911	**Checking copy counts by paper sizes** **Description** Displays the paper feed counts by paper sizes. **Purpose** To check the counts after replacing consumable parts. **Method** 1. Press the start key. The screen for the paper feed counts by paper size is displayed. **Completion** Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U917</td><td>
Setting backup data reading/writing
Description
Retrieves the backup data to a USB memory from the machine; or writes the data from the USB memory to the machine.
Purpose
To store and write data when replacing the HDD.

Method
1. Press the power key on the operation panel, and after verifying the main power indicator has gone off, switch off the main power switch.
2. Insert USB memory in USB memory slot.
3. Turn the main power switch on.
4. Enter the maintenance item.
5. Press the start key.
6. Select [Export] or [Import].
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Export</td><td>Retrieving from the machine to a USB memory</td></tr>
<tr><td>Import</td><td>Writing data from the USB memory to the machine</td></tr>
</table>
7. Select the item.
<table>
<tr><th>Display</th><th>Description</th><th>Depending data*1</th></tr>
<tr><td>Address Book</td><td>Address book</td><td>-</td></tr>
<tr><td>Job Accnt.</td><td>Job accounting</td><td>-</td></tr>
<tr><td>FAX Forward</td><td>FAX transfer information</td><td>Job accounting, user management and document box information</td></tr>
<tr><td>One Touch</td><td>Information on one-touch</td><td>Address book</td></tr>
<tr><td>User</td><td>User managements</td><td>Job accounting</td></tr>
<tr><td>Shortcut</td><td>Shortcut information</td><td>Job accountings, user managements and document box information</td></tr>
<tr><td>Document Box</td><td>Document box information</td><td>Job accountings and user managements</td></tr>
<tr><td>Program</td><td>Program information</td><td>Job accountings, user managements and document box information</td></tr>
<tr><td>ADDRESS BOOK ONE TOUCH*2</td><td>Address book and Information on one-touch</td><td>Address book and Information on one-touch</td></tr>
</table>
*1: Since data are dependent with each other, data other than those assigned are also retrieved or written in.
*2: When ADDRESS BOOK ONE TOUCH is selected, editing with the Set up tool is not possible, however, Import/Export in high speed mode is possible.
8. Press the start key. Starts reading or writing.
The progress of selected item is displayed in %.
When an error occurs, the operation is canceled and an error code is displayed (see page 1-3-101).
9. When normally completed, [Finished] is displayed.
10. Turn the main power switch off and on after completing writing when selecting [Import].

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Maintenance item No.	Description
U917	**Error Codes**

Codes	Description	Codes	Description
321e0001	Parameter error	321e002f	Box open error
321e0002	File write error	321e0030	Box close error
321e0003	File initialization error	321e0031	Box creation error
321e0004	File error	321e0032	Box creation error
321e0005	Processing error	321e0033	Box deletion error
321e0006	Address book clear error (contact)	321e0034	Box movement error
321e0007	Address book open error (contact)	321e0035	Fax memory directory creation error
321e0008	Address book list error (contact)	321e0036	Fax memory error in writing
321e0009	Address book list error (contact)	321e0037	Fax memory error in reading
321e000a	Address book clear error (group)	321e0038	Shortcut error in writing
321e000b	Address book open error (group)	321e0039	Shortcut error in reading
321e000c	Address book list error (group)	321e003a	Program error in writing
321e000d	Address book list error (group)	321e003b	Program error in reading
321e000e	One-touch open error	321e003c	Address/One Touch directory creation error
321e000f	One-touch list error	321e003d	Address/One Touch error in writing
321e0010	One-touch list error	321e003e	Address/One Touch error in reading
321e0011	Job accounting clear error	321e003f	File reading error
321e0012	Job accounting file open error	321e0040	File writing error
321e0013	Job accounting file open error	321e0041	Data mismatch
321e0014	Job accounting error in writing	321e0042	Log file open error
321e0015	Job accounting list error	321e0043	Log file error in writing
321e0016	Job accounting list error	321e0044	Directory open error
321e0017	User managements backup error	321e0045	Directory error in reading
321e0018	User managements clear error	321d0000	Unspecified error
321e0019	User managements file open error	321d0001	HDD unavailable
321e001a	User managements file open error	321d0002	USB memory is not inserted
321e001b	User managements file open error	321d0003	File for writing is not found in the USB
321e001c	User managements error in writing	321d0004	File for reading is not found in the HDD
321e001d	User managements list error	321d0005	USB error in writing
321e001e	User managements list error	321d0006	USB error in reading
321e001f	User managements list error	321d0007	USB unmount error
321e0020	User managements list error	321d0008	File rename error
321e0021	User managements file open error	321d0009	File open error
321e0022	User managements error	321d000a	File close error
321e0023	User managements error	321d000b	File reading error
321e0024	User managements file open error	321d000c	File writing error
321e0025	User managements error	321d000d	File copy error
321e0026	User managements file open error	321d000e	File compressed error
321e0027	User managements error	321d000f	File decompressed error
321e0028	Box file open error	321d0010	Directory open error
321e0029	Box error in writing	321d0011	Directory creation error
321e002a	Box error in reading	321d0012	File writing error
321e002b	Box list error	321d0013	File reading error
321e002c	Box list error	321d0014	File deletion error
321e002d	Box error	321d0015	Log file copy error to the USB
321e002e	Box error		

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U920</td><td>
Checking the copy counts
Description
Checks the copy counts.
Purpose
To check the copy counts.

Method
1. Press the start key. The current counts are displayed.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Copy Count</td><td>Count value of copy</td></tr>
<tr><td>Printer Count</td><td>Count value of printer</td></tr>
<tr><td>Fax Count</td><td>Count value of fax</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U927</td><td>
Clearing the all copy counts and machine life counts (one time only)
Description
Resets all of the counts back to zero.
Supplement
The total account counter and the machine life counter can be cleared only once if all count values are 1000 or less.

Method
1. Press the start key.
2. Press [EXECUTE].
3. Press the start key. All copy counts and machine life counts are cleared.
[CAN NOT EXECUTE] is displayed if the count cannot be cleared.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U928</td><td>
Checking machine life counts
Description
Displays the machine life counts.
Purpose
To check the machine life counts.

Method
1. Press the start key. The current machine life counts is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U931</td><td>
Setting the automatic toner install
Description
Sets automatic toner installation on or off when power is turned on.
Purpose
Changed to off when deactivating automatic toner installation.

Setting
1. Press the start key.
2. Select ON or OFF.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>ON</td><td>Automatic toner install function ON</td></tr>
<tr><td>OFF</td><td>Automatic toner install function OFF</td></tr>
</table>
Initial setting: OFF
3. Press the start key. The setting is set.
4. The machine automatically returns to the same status as when the power is turned on.
</td></tr>
<tr><td>U935</td><td>
Relay board maintenance
Description
Sets the mode when call for service (C0060) occurs.
Purpose
Sets the machine status temporarily when call for service (C0060) occurs. However, after the setting, call for service (C0060) occurs again when progress of period.

Setting
1. Press the start key.
2. Select the item.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MODE0</td><td>Setting mode: OFF</td></tr>
<tr><td>MODE1</td><td>Setting mode: ON (Usable up to three times of use)</td></tr>
</table>
Initial setting: MODE0
3. Press the start key. The setting is set.
4. Turn the main power switch off and on.

Supplement
After removing the cause of the problem, be sure to change the setting in OFF.
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U942</td><td>
Setting of deflection for feeding from DP
Description
Adjusts the deflection generated when the DP is used.
Purpose
Use this mode if an original non-feed jam, oblique feed or wrinkling of original occurs when the DP is used.

Setting
1. Press the start key.
2. Select the item to be adjusted.
<table>
<tr><th>Display</th><th>Description</th><th>Setting</th><th>Initial</th><th>Change in</th></tr>
<tr><td>REGIST TOP</td><td>Deflection of single-sided original</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
<tr><td>REGIST BACK</td><td>Deflection of double-sided original</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
<tr><td>REGIST MIX</td><td>Deflection of dual scanning</td><td>-31 to 31</td><td>0</td><td>0.18 mm</td></tr>
</table>
3. Press the system menu key.
4. Place an original on the DP and press the start key to make a test copy.
5. Press the system menu key.
6. Change the setting value using the +/- or numeric keys.
The greater the value, the larger the deflection; the smaller the value, the smaller the deflection.
If an original non-feed jam or oblique feed occurs, increase the setting value. If wrinkling of original occurs, decrease the value.
7. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U964</td><td>
Checking of log
Description
Sends a log file saved on the HDD to a USB memory.
Purpose
To transfer a log file saved on the HDD to a USB memory as a means of investigating malfunctions.

Method
1. Insert USB memory in USB memory slot.
2. Turn the main power switch on.
3. Enter the maintenance item.
4. Press the start key.
5. Select [Execute].
6. Press the start key.
Starts sending the log file saved on the HDD to the USB memory.
7. When normally completed, [Finished] is displayed.
When an error occurs, an error code is displayed.
8. Turn the main power switch off and on.

Error codes
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>No Usb Storage</td><td>USB memory is not inserted</td></tr>
<tr><td>No File</td><td>File is not found</td></tr>
<tr><td>Mount Error</td><td>USB memory mount error</td></tr>
<tr><td>File Delete Error</td><td>File deletion error</td></tr>
<tr><td>Copy Error</td><td>File copy error</td></tr>
<tr><td>Unmount Error</td><td>USB memory unmount error</td></tr>
<tr><td>Other Error</td><td>Other error</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U969</td><td>Checking of toner area code
Description
Displays the toner area code.
Purpose
To check the toner area code.

Method
1. Press the start key. The toner area code is displayed.

Completion
Press the stop/clear key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U977</td><td>Data capture mode
Description
Store the print data sent to the machine into USB memory.
Purpose
In case to occur the error at printing, check the print data sent to the machine.

Method
1. Insert USB memory in USB memory slot.
2. Turn the main power switch on.
3. Enter the maintenance item.
4. Press the start key.
5. Select [Execute].
6. Press the start key.
7. Send the print data to the machine.
Once the print data is stored into USB memory, [Complete] will be displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U984</td><td>Checking the developing unit number
Description
Displays the developing unit number.
Purpose
To check the developing unit number.

Method
1. Press the start key. The number is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
<tr><td>U985</td><td>Displaying the developing unit history
Description
Displays the past record of machine number and the developing counter.
Purpose
To check the count value machine number and the developing counter.

Method
1. Press the start key. Past record of 5 cases is displayed.
<table><tr><th>Display</th><th>Description</th></tr><tr><td>MACHINE No.
HISTORY1 to 5</td><td>Historical records of the machine number</td></tr><tr><td>DEVELOP COUNT
HISTORY1 to 5</td><td>Historical records of developing counter</td></tr></table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.</td></tr>
</table>

<table>
<tr><th>Maintenance item No.</th><th>Description</th></tr>
<tr><td>U989</td><td>
HDD scandisk
Description
Restores data in the hard disk by scanning the disk.
Purpose
If power is turned off while accessing to the hard disk is performed, the control information in the hard disk drive may be damaged. Use this mode to restore the data.

Method
1. Press the start key.
2. Press [EXECUTE].
3. Press the start key. When scanning of the disk is complete, the execution result is displayed.
4. Turn the main power switch off and on.
</td></tr>
<tr><td>U990</td><td>
Checking/clearing the time for the exposure lamp to light
Description
Displays, clears or changes the accumulated time for the CIS to light.
Purpose
To check duration of use of the CIS. Also to clear the accumulated time for the CIS after replacement.

Method
1. Press the start key.
The accumulated time of illumination for the CIS is displayed in minutes.
2. Clear the accumulated time using the +/- or numeric keys.
3. Press the start key. The time is set.

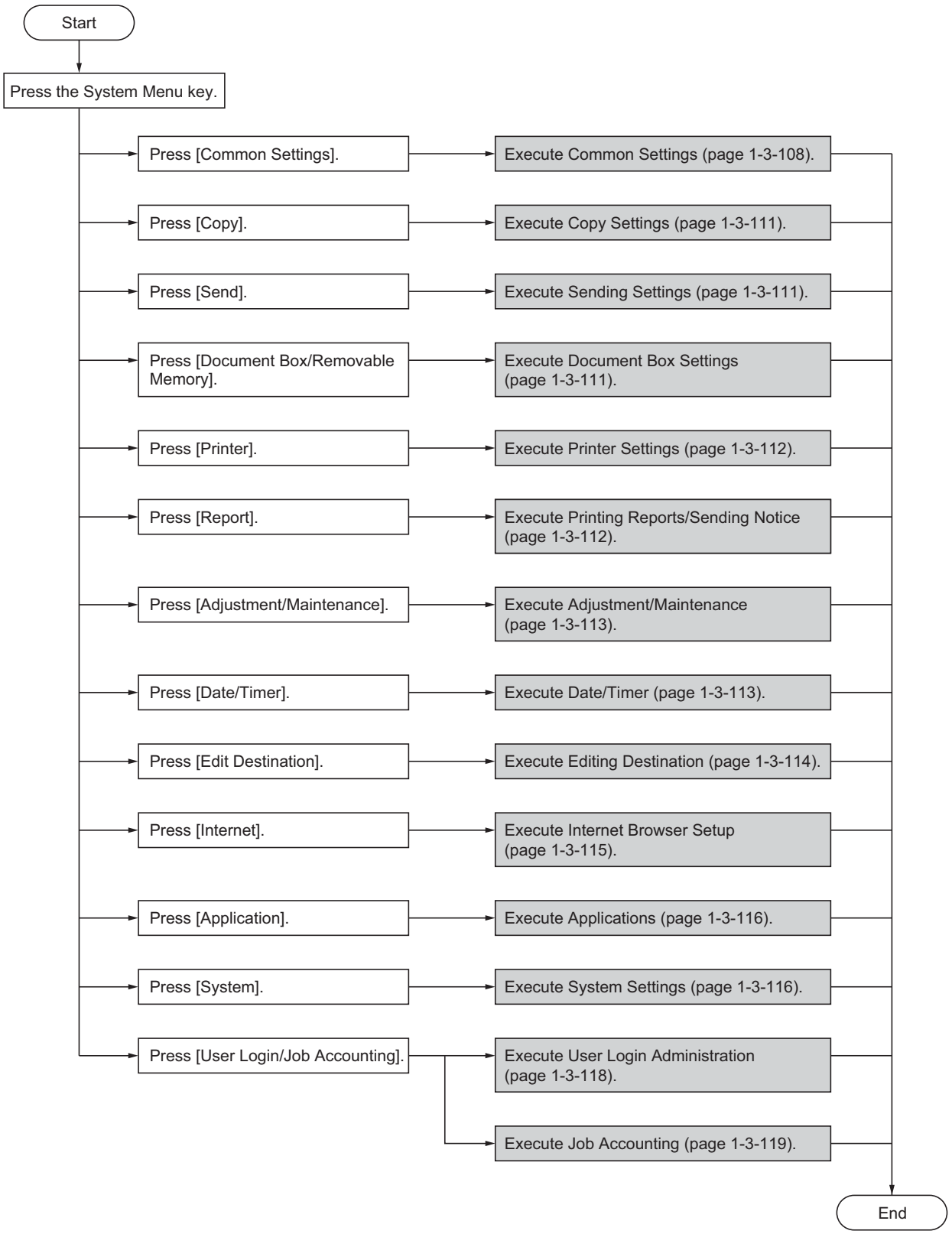
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U991</td><td>
Checking the scanner count
Description
Displays the scanner operation count.
Purpose
To check the status of use of the scanner.

Method
1. Press the start key.
<table>
<tr><th>Display</th><th>Description</th></tr>
<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>OTHER SCAN COUNT</td><td>Scanner operation count except for copying</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance No. item is displayed.
</td></tr>
</table>

1-3-2 Management mode

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

(1) Using the management mode



(2) Common Settings

Switching the Language for Display [Language]

1. Press [Change] of Language.
2. Press the key for the language you want to use.
3. Press [OK].
   The touch panel language will be changed.

Default Screen

1. Press [Change] of Default Screen.
2. Select the screen to be displayed as the default screen.
3. Press [OK].

Sound

1. Press [Next] of Sound and then [Next] of Buzzer.
2. Press [Change] of Volume, Key Confirmation, Job Finish, Ready, or Warning.
3. Select the buzzer volume level, or other sound options.

Original/Paper Settings

1. Press [Next] of Original/Paper Settings and then [Next] of Custom Original Size.
2. Press [Change] of any one of Custom 1 to Custom 4, on which you wish to register the size.
3. Press [On], and then press [+], [-] or numeric keys to enter X (horizontal) and Y (vertical) dimensions.
4. Press [OK].

Adding a Custom Size and Media Type for Paper to Print

1. Press [Next] of Original/Paper Settings and then [Next] of Custom Paper Size.
2. Press [Change] of any one of Custom 1 to Custom 4, on which you want to register the size.
3. Press [On], and then press [+], [-] or numeric keys to enter X (horizontal) and Y (vertical) dimensions. Press [Media Type] to select the type of paper and press [OK] if necessary.
4. Press [OK].

Paper Size and Media Type Setup for Cassettes

1. Press [Next] of Original/Paper Settings, [Next] of Cassette Setting, [Next] of Cassette 1 to Cassette 4, on which you want to register the size, and then [Change] of Paper Size.
2. To detect paper size automatically, press [Auto] and select Metric or Inch for Paper Size. To select paper size, press [Standard Sizes 1] or [Standard Sizes 2] for Paper Size.
3. Press [OK]. The previous screen reappears.
4. Press [Change] of Media Type to select media type and press [OK].

Paper Size and Media Type Setup for Multi Purpose Tray

1. Press [Next] of Original/Paper Settings, [Next] of MP Tray Setting and then [Change] of Paper Size.
2. To detect paper size automatically, press [Auto] and select Metric or Inch for Paper Size. To select paper size, press [Standard Sizes 1], [Standard Sizes 2], [Others] or [Size Entry] for Paper Size.
   If you select [Size Entry], press [+], [-] to enter X (horizontal) and Y (vertical) dimensions.
   Press [# keys] to enter the paper size using the numeric keys.
3. Press [OK]. The previous screen reappears.
4. Press [Change] of Media Type to select the media type and press [OK].

Paper Weight

1. Press [Next] of Original/Paper Settings and then [Next] of Media Type Setting.
2. Press [Next] for the media type whose weight you want to change.
3. Press [Change] of Paper Weight.
4. Select the weight and press [OK].
5. Press [Close]. The previous screen reappears.
6. To change the duplex printing settings for Custom 1 (-8), press [Next] of Custom 1(-8) and then [Change] of Duplex. Select [Prohibit] or [Permit] and press [OK]. The previous screen reappears.
7. Press [Close].
8. To change the name for Custom 1(-8), press [Next] of Custom 1(-8) and then [Change] of Name. Enter the name and press [OK].

Default Paper Source

1. Press [Next] of Original/Paper Settings and then [Change] of Default Paper Source.
2. Select a paper cassette for the default setting.
3. Press [OK].

Automatic Detection of Originals (Available for metric models only)

1. Press [Next] of Original/Paper Settings and then [Change] of Original Auto Detect.
2. Select [A6] or [Hagaki] of A6/Hagaki. Select [Off] to disable automatic detection or [On] to enable automatic detection of Folio and 11x15" respectively.
3. Press [OK].

Media for Auto Selection

1. Press [Next] of Original/Paper Settings and then [Change] of Media for Auto (B & W).
2. Select [All Media Types] or any media type for paper selection.
3. Press [OK].

Paper Source for Cover Paper

1. Press [Next] of Original/Paper Settings, cursor down key and then [Change] of Paper Source for Cover.
2. Select the paper source to load cover paper.
3. Press [OK].

Special Paper Action

1. Press [Next] of Original/Paper Settings, cursor down key and then [Change] of Special Paper Action.
2. Select [Adjust Print Direction] or [Speed Priority].
3. Press [OK].

Switching Unit of Measurement

1. Press [Change] of Measurement.
2. Select [mm] for metric or [inch] for inch.
3. Press [OK].

Error Handling

1. Press [Next] of Error Handling.
2. Press [Change] at the error you wish to change the handling.
3. Select the error handling method in the selection screen for each of the errors and then press [OK].
4. The previous screen appears. To set the handling for a different error, repeat steps 2 and 3.

Paper Output

1. Press [Next] of Paper Output.
2. Press [Change] of Copy/Custom Box, Printer, FAX Port 1 or FAX Port 2.
3. Select Output Tray.
   For [Finisher Tray], [Tray B], [Tray C] or [Tray 1] to [Tray 7], select [Face Up] (print surface up) or [Face Down] (print surface down) as the paper orientation at output.
4. Press [OK].

Orientation Confirmation

1. Press [Change] of Orientation Confirmation.
2. Select the default for [Off] or [On].
3. Press [OK].

Function Defaults

1. Press cursor down key, [Next] of Function Defaults and then [Change] of Original Orientation.
2. Select [Top Edge Top] or [Top Edge Left] for the default.
3. Press [OK].

Continuous Scan

1. Press cursor down key, [Next] of Function Defaults and then [Change] of Continuous Scan.
2. Select [Off] or [On] for the default. Use the procedure below to select the default quality setting for originals.
3. Press [OK].

Original Image

1. Press cursor down key, [Next] of Function Defaults and then [Change] of Original Image.
2. Select the [Text+Photo], [Photo], [Text], [for OCR] or [Printed Document] as the default.
3. Press [OK].

Scan Resolution

1. Press cursor down key, [Next] of Function Defaults and then [Change] of Scan Resolution.
2. Select the default resolution.
3. Press [OK].

Color Selection (Copy)

1. Press cursor down key, [Next] of Function Defaults and then [Change] of mode Color Selection(Copy).
2. Select the default color setting.
3. Press [OK].

Color Selection (Send/Store)

1. Press cursor down key, [Next] of Function Defaults and then [Change] of mode Color Sel. (Send/Store).
2. Select the default color mode.
3. Press [OK].

File Format

1. Press cursor down key, [Next] of Function Defaults and then [Change] of File Format.
2. Select the default file format.
3. Press [OK].

File Separation

1. Press cursor down key, [Next] of Function Defaults and then [Change] of File Separation.
2. Select the default for [Off] or [Each Page].
3. Press [OK].

Density

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Density.
2. Select the default density.
3. Press [OK].

Zoom

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Zoom.
2. Select the default zoom setting.
3. Press [OK].

File Name Entry

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of File Name Entry.
2. Press [File Name] to enter the file name in not more than 32 characters.
3. Press [OK].
4. Press [Date and Time] to add the date/time to the job, or press [Job No.] to add the job number to the job. The added information will be displayed in Additional Info.
5. Press [OK].

E-mail Subject/Body

1. Press cursor down key, [Next] of Function Defaults, cursor down key, and then [Change] of E-mail Subject/Body.
2. Press [Subject] to enter an E-mail subject not more than 60 characters.
3. Press [OK].
4. Press [Body] to enter an E-mail Body not more than 500 characters.
5. Press [OK].
6. Check that the entries are correct and press [OK].

Border Erase Default

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Border Erase Default.
2. Press [+] or [-] for the Border and Gutter width to erase.
   You can use the number keypad to enter the number directly.
3. Press [OK].

Border Erase to Back Page

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Border Erase to Back Page.
2. Press [Same as Front Page] or [Do Not Erase].
3. Press [OK].

Margin Default

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Margin Default.
2. Use the [+] or [-] to enter the margin widths for Left/Right and Top/Bottom(-0.75 - +0.75).
   You can use the number keypad to enter the number directly.
3. Press [OK].

Auto Image Rotation

1. Press cursor down key, [Next] of Function Defaults, cursor down key and then [Change] of Auto Image Rotation.
2. Select the default for [Off] or [On].
3. Press [OK].

EcoPrint

1. Press cursor down key, [Next] of Function Defaults, cursor down key twice, and then [Change] of Eco-Print.
2. Select [Off] or [On] for the default.
3. Press [OK].

PDF/TIFF/JPEG Image

1. Press cursor down key and [Next] of Function Defaults. Press cursor down key twice and then [Change] of PDF/TIFF/JPEG Image.
2. Select the default image quality from [1] (Low Quality) to [5] (High Quality).
3. Press [OK].

High Comp. PDF Image

1. Press cursor down key and [Next] of Function Defaults. Press cursor down key twice and [Change] of High Comp. PDF Image.
2. Select the default for [Compression Ratio Priority], [Standard], or [Quality Priority].
3. Press [OK].

Color TIFF Compression Settings

1. Press cursor down key and [Next] of Function Defaults. Press cursor down key twice and then [Change] of Color TIFF Compression.
2. Select [TIFF V6] or [TTN2].
3. Press [OK].

Repeat Copying

1. Press cursor down key and [Next] of Function Defaults. Press cursor down key twice and [Change] of Repeat Copy.
2. Select the default for [Off] or [On].
3. Press [OK].

Collate/Offset

1. Press cursor down key, [Next] of Function Defaults, cursor down key twice and then [Change] of Collate/Offset.
2. Select the defaults for Collate and Offset respectively.
3. Press [OK].

JPEG/TIFF Print

1. Press cursor down key, [Next] of Function Defaults, cursor down key twice and then [Change] of JPEG/TIFF Print.
2. Select the default for [Fit to Paper Size], [Image Resolution], or [Fit to Print Resolution].
3. Press [OK].

XPS Fit to Page

1. Press cursor down key, [Next] of Function Defaults, cursor down key twice and then [Change] of XPS Fit to Page.
2. Select [Off] or [On] for the default.
3. Press [OK].

(3) Copy Settings

Paper Selection

1. Press [Change] of Paper Selection.
2. Press [Auto] or [Default Paper Source].
3. Press [OK].

Auto Paper Selection

1. Press [Change] of Auto Paper Selection.
2. Press [Most Suitable Size] or [Same as Original Size].
3. Press [OK].

Auto % Priority

1. Press [Change] of Auto % Priority.
2. Select the default for [Off] or [On].
3. Press [OK].

Reserve Next Priority

1. Press [Change] of Reserve Next Priority.
2. Select the default for [Off] or [On].
3. Press [OK].

Preset Limit

1. Press [Change] of Preset Limit.
2. Press [+] or [-] or use the numeric keys to enter the limit for the number of copies.
3. Press [OK].

Quick Setup Registration

1. Press [Next] of Quick Setup Registration.
2. Press [Change] of the function to be registered in Quick Setup.
3. Select a key (1-6) allocated on the Quick Setup Registration screen. Press [Off] to delete a key from the Quick Setup.
4. Press [OK]. If you overwrite the setting, a confirmation screen appears. Press [Yes].

(4) Sending Settings

Quick Setup Registration

1. Press [Next] of Quick Setup Registration.
2. Press [Change] of the function to be registered in Quick Setup.
3. Select a key (1-6) allocated on the Quick Setup Registration screen. Press [Off] to delete a key from the Quick Setup.
4. Press [OK]. If you overwrite the setting, a confirmation screen appears. Press [Yes].

Destination Check before Send

1. Press [Change] of Dest. Check before Send.
2. Select [Off] or [On].
3. Press [OK].

Color Type

1. Press [Change] of Color Type.
2. Select [RGB] or [sRGB].
3. Press [OK].

Entry Check for New Destination

1. Press [Change] of Entry Check for New Dest.
2. Select [Off] or [On].
3. Press [OK].

Setting the Default Send Screen

1. Press [Change] of Default Screen.
2. Press [Destination] or [Address Book].
3. Press [OK].

(5) Document Box Settings

Quick Setup Registration

1. Press [Next] of Quick Setup Registration.
2. Press [Next] of Store File or Send.
3. Press [Change] of the function to be registered in Quick Setup.
4. Select a key (1-6) allocated on the Quick Setup screen. Press [Off] to delete a key from the Quick Setup.
5. Press [OK]. If you overwrite the setting, a confirmation screen appears. Press [Yes].

(6) Printer Settings

Emulation
1. Press [Change] of Emulation.
2. Select the desired emulation.
3. Press [OK].

Setting of Alternative Emulation
1. Press [Change] of Emulation, [KPDL(Auto)] and then [Alt Emulation].
2. Select the desired alternative emulation and then press [OK].
3. Press [OK].

Setting of KPDL error report
1. Press [Change] of Emulation, [KPDL] or [KPDL(Auto)] and then [KPDL Error Report].
2. Press [On] or [Off] and then press [OK].
3. Press [OK].

EcoPrint
1. Press [Change] of EcoPrint.
2. Press [Off] or [On].
3. Press [OK].

Override A4/Letter
1. Press [Change] of Override A4/Letter.
2. Press [Off] or [On].
3. Press [OK].

Duplex
1. Press [Change] of Duplex.
2. Press [1-sided], [2-sided Bind LongEdge], or [2-sided Bind ShortEdge].
3. Press [OK].

Copies
1. Press [Change] of Copies.
2. Press [+],[-] or the numeric keys to set the default number of copies.
3. Press [OK].

Orientation
1. Press [Change] of Orientation.
2. Press [Portrait] or [Landscape].
3. Press [OK].

Form Feed Timeout
1. Press cursor down key and [Change] of Form Feed Timeout.
2. Press [+] or [-] to set the Form Feed Timeout.
   You can set the timeout delay in seconds.
   You cannot use the number keypad to enter this value.
3. Press [OK].

LF Action
1. Press cursor down key and [Change] of LF Action.
2. Press [LF Only], [LF and CR] or [Ignore LF].
3. Press [OK].

CR Action
1. Press cursor down key and [Change] of CR Action.
2. Press [CR Only], [LF and CR] or [Ignore CR].
3. Press [OK].

Paper Feed Mode
1. Press cursor down key and [Change] of Paper Feed Mode.
2. Press [Auto] or [Fixed].
3. Press [OK].

(7) Printing Reports/Sending Notice

Printing Reports
1. Press [Next] of Print Report.
2. Press [Print] for the report you want to print. Printing starts.
   A confirmation screen appears. Press [Yes].

Send Result Report
1. Press [Next] of Result Report Setting, [Next] of Send Result Report and then [Change] of E-mail/Folder.
2. Press [Off], [On], or [Error Only].
3. Press [OK].

(8) Adjustment/Maintenance

Copy Density Adjustment
1. Press [Next] of Copy Density Adjustment.
2. Press [Change] of Auto or of Manual.
3. Press [-3] - [+3] (Lighter-Darker) to adjust density.
4. Press [OK].

Send/Box Density Adjust
1. Press and [Next] of Send/Box Density Adjust.
2. Press [Change] of Auto or of Manual.
3. Press [-3] - [+3] (Lighter-Darker) to adjust density.
4. Press [OK].

Print Density
1. Press [Change] of Print Density.
2. Press [1] - [5] (Lighter-Darker) to adjust density.
3. Press [OK].

Drum Refresh
1. Press [Next] of Drum Refresh.
2. Press [Execute] to Drum Refresh.
3. After Drum Refresh is completed, press [OK] to return to the Adjustment/Maintenance screen.

Correcting Fine Black Lines
1. Press [Change] of Correcting Black Line.
2. Press [Off], [On(Low)] or [On(High)].
3. Press [OK].

Display Brightness
1. Press [Change] of Display Brightness.
2. Press [1] - [4] (Darker- Lighter) to adjust brightness.
3. Press [OK].

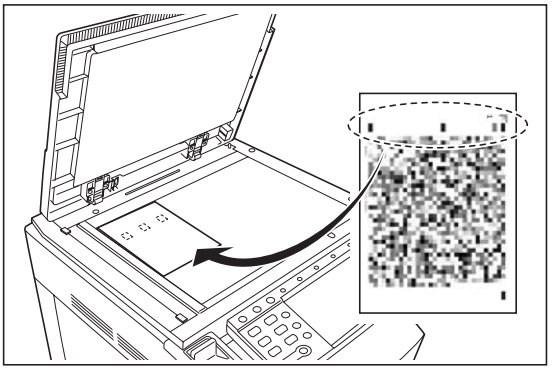
Silent Mode
1. Press [Change] of Silent Mode.
2. Press [Off] or [On].
3. Press [OK].

Charger Auto Cleaning
1. Press [Change] of Silent Mode.
2. Press [Off] or [On].
3. Press [OK].

Auto Color Correction
1. Press cursor down key and [Change] of Auto Color Correction.
2. Press one of keys [1] to [5] (Color - B & W) to set the detection level.
3. Press [OK].

Gray Adjustment

1. Press cursor down key and then [Next] of Gray Adjustment.
2. Press [Execute]. A color pattern is printed.
3. As shown in the illustration, place the printed side down on the platen with the three black boxes aligned to the top.



4. Press [Execute]. The color pattern is read and adjustment begins.
5. Press [OK] in the adjustment end confirmation screen.

System Initialization
1. Press [Execute] of System Initialization.
2. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
3. When the confirmation screen appears, press[Yes]. Initialization starts.
4. Once the initialization ends, the message Task is completed. Turn the main power switch off and on. appears. Turn the main power switch off.

(9) Date/Timer

Date/Time
1. Press [Change] of Date/Time.
2. Press [+] or [-] to enter the date and time respectively.
3. Press [OK].

Date Format
1. Press [Change] of Date Format.
2. Select [MM/DD/YYYY], [DD/MM/YYYY], or [YYYY/MM/DD] and press [OK].

Time Zone

1. Press [Change] of Time Zone.
2. Select the location.
3. Press [Off] or [On] of Summer Time and press [OK].

Auto Panel Reset

1. Press [Change] of Auto Panel Reset.
2. Press [Off] or [On].
3. Press [OK].

Panel Reset Timer

1. Press [Change] of Panel Reset Timer.
2. Press [+] or [-] to enter the time until Auto Panel Reset is turned on.
   You cannot use the number keypad to enter this value.
3. Press [OK].

Sleep Timer

1. Press [Change] of Sleep Timer.
2. Press [+], [-] or the numeric keys to enter the time until Auto Sleep is turned on.
3. Press [OK].

Auto Error Clear ON/OFF

1. Press [Change] of Auto Error Clear.
2. Press [Off] or [On].
3. Press [OK].

Error Clear Timer

1. Press cursor down key and then [Change] of Error Clear Timer.
2. Press [+] or [-] to enter the time until printing restarts.
   You cannot use the number keypad to enter this value.
3. Press [OK].

Interrupt Clear Timer

1. Press cursor down key and then [Change] of Interrupt Clear Timer.
2. Press [+] or [-] to enter the time for the interrupt clear timer.
3. Press [OK].

(10) Editing Destination (Address Book/Adding One Touch Keys)

Adding a Contact

1. Press [Register/Edit] of Address Book, [Add], [Contact] and then [Next].
2. To specify the address number, press [Change] in Address Number.
3. Press [+],[-] or numeric keys to enter a particular Address Number (1-2500).
   To have the number assigned automatically, enter "0000".
4. Press [OK]. The screen shown in step 2 reappears.
5. Press [Change] of Name.
6. Enter the destination name (up to 32 characters) to be displayed on the Address Book and press [OK]. The screen shown in step 2 reappears.
7. Press [E-mail] to add an e-mail address, [SMB] to add a folder on the computer, or [FTP] to add an FTP folder.
   The procedure differs depending on the transmission method selected.
   E-mail Address
   1. Press [Change] of E-mail Address, enter the E-mail address and press [OK].
      The table below explains the items to be entered.

   The Folder (FTP) Address
   1. Press [Change] of Host Name, Path, Login User Name and Login Password, enter the information for each item and press [OK].

   The Folder (SMB) Address
   1. Press [Change] of Host Name, Path, Login User Name and Login Password, enter the information for each item and press [OK].
8. Check if the destination entry is correct and press [Register]. The destination is added to the Address Book.

Adding a Group

1. Press [Register/Edit] of Address Book, [Add], [Group] and then [Next].
2. To specify the address number, press [Change] in Address Number.
3. Use [+], [-] or the numeric keys to enter an address number (1 to 2500).
   To have the number assigned automatically, set "0000".
4. Press [OK]. The Add Group screen reappears.
5. Press [Change] of Name.
6. Enter the group name displayed on the Address Book not more than 32 characters.
7. Press [Member].
8. Press [Add].
9. Select a destination (contacts) to add to the group.
10. Press [OK].
    If you have more destinations to add, repeat Steps 8 to 10.
11. Check if the selected destination was added to the group and press [Register]. Now the group is added to the Address Book.

Editing a Destination

1. Press [Register/Edit] of Address Book.
2. Select a destination or group to edit.
3. Press [Detail].
   The procedure differs depending on the details to be edited.
   Editing an Individual Destination
   1. Change Address Number, Name and destination type and address.
   2. After you have completed the changes, press [Register].
   3. Press [Yes] in the change confirmation screen to register the changed destination.
   Editing a Group
   1. Change Address Number and Name.
   2. Press [Member].
   3. To delete any destination from the group, select the destination and press [Delete].
      Press [Yes] on the screen to confirm the deletion.
   4. After you have completed the changes, press [Register].
   5. Press [Yes] in the change confirmation screen to register the changed group.
   Deleting an Individual Destination or Group
   1. Press [Delete]. Press [Yes] on the screen to confirm the deletion. Deletion is performed.

Adding a Destination on One Touch Key

1. Press [Register/Edit] of One touch Key.
2. Select a One Touch Key number (0001 to 1000) for the destination. Pressing Quick No. Search key or [No.] enables direct entry of a One Touch Key number.
   Select a One Touch Key with no registered destination.
3. Press [Register/Edit]. The address book appears.
4. Select a destination (individual or group) to add to the One Touch Key number. Pressing [Detail] shows the detailed information of the selected destination.
5. Press [OK]. The destination will be added to the One Touch Key.

Editing One Touch Key

1. Press [Register/Edit] of One Touch Key.
2. Select a One Touch Key number (0001 to 1000) for the destination. Pressing Quick No. Search key or [No.] enables direct entry of a One Touch Key number.
   The procedure differs depending on the details to be edited.
   Changing the Registered Information
   1. Press [Register/Edit].
   2. Select a new destination (individual or group). Pressing [Detail] shows the detailed information of the selected destination.
   3. Press [OK].
   4. Press [Yes] on the screen to add the destination to the One Touch Key.

   Deleting the Registered Information
   1. Press [Delete].
   2. Press [Yes] on the screen to confirm the deletion of the data registered in the One Touch Key.

Sort Settings

1. Press [Next] of Address Book Defaults and then [Change] of Sort.
2. Select [No.] or [Name].
3. Press [OK].

Narrow Down Settings

1. Press [Next] of Address Book Defaults and then [Change] of Narrow Down.
2. Select the type of destination filter.
3. Press [OK].

(11) Internet Browser Setup

Internet Browser Setting

1. Press [Change] of Internet Browser.
2. Press [On] or [Off].
3. Press [OK].

Browser Preferences

1. Press [Next] of Browser Environment.
2. To set your home page, press [Change] of Home Page, press [URL], enter the URL and then press [OK]. Press [OK] again.
3. To set the text size, press [Change] of Text Size, select [Large], [Medium] or [Small] as the text size and then press [OK].
4. To set the display mode, press [Change] of Display Mode, select [Normal], [Just-Fit Rendering] or [Smart-Fit Rendering] as the display mode and then press [OK].
5. To specify the settings for accepting cookies, press [Change] of Cookie, select [Accept All], [Reject All] or [Prompt before Accepting] as your cookie acceptance policy and then press [OK].

Proxy Settings

1. Press [Change] of Proxy and then press [On].
   To set a proxy server (HTTP)
   1. Press [Keyboard] of Proxy Server (HTTP), enter the proxy address and press [OK].
   2. Press [# Keys] and enter the port number.
   To set a proxy server (HTTPS)
   1. Press [Keyboard] of Proxy Server (HTTPS), enter the proxy address and press [OK].
   2. Press [# Keys] and enter the port number.
   To set domains for which no proxy is used
   1. Press [Keyboard] of Do Not Use Proxy for Following Domains, enter the domain name and press [OK].
2. Press [OK].

(12) Applications

Installing Applications

1. Insert the USB memory containing the application to be installed into the USB memory slot (A1).
2. Press [Add].
3. Select the application to be installed and press [Install].
   You can view detailed information on the selected application by pressing [Detail].
4. When the confirmation screen appears, press [Yes].
   Installation of the application begins. Depending on the application being installed, the installation may take some time. Once the installation ends, the original screen reappears.
5. To install another application, repeat steps 3 to 4.
6. To remove the USB memory, press [Remove Memory] and wait until the Removable Memory can be safely removed message appears. Then remove the USB memory.

Activating/Deactivating Application Use

1. Select the desired application and press [Activate].
   You can view detailed information on the selected application by pressing [Detail].
2. Enter the license key and press [Official]. Some applications do not require you to enter an license key. If the license key entry screen does not appear, go to Step 3.
   To use the application as a trial, press [Trial] without entering the license key.
3. When the confirmation screen appears, press [Yes].

Deleting Applications

1. Select the application to be deleted and press [Delete].
   You can view detailed information on the selected application by pressing [Detail].
2. When the deletion confirmation screen appears, press [Yes]. The application is deleted.

(13) System Settings

Restarting the System

1. Press [Execute] of Restart.
2. When the confirmation screen appears, press [Yes]. The system is restarted.

Network Setup

TCP/IP (IPv4) Setup

1. Press [Next] of Network and then [Next] of TCP/IP Setting.
2. Press [Change] of TCP/IP.
3. Press [On] and then press [OK].
4. Press [Change] of IPv4.
5. Press [DHCP].
6. Press [Off] of DHCP and then press [OK].
7. Press [Bonjour].
8. Press [Off] of Bonjour and then press [OK].
9. Press [IP Address] and enter the address using the numeric keys.
10. Press [Subnet Mask] and enter the address using the numeric keys.
11. Press [Default Gateway] and enter the address using the numeric keys.
12. Check if all the address entries are correct and press [OK].
13. After changing the setting, restart the system or turn the machine OFF and then ON again.

TCP/IP (IPv6) Setup

1. Press [Next] of Network and then [Next] of TCP/IP Setting.
2. Press [Change] of TCP/IP.
3. Press [On] and then press [OK].
4. Press [Next] of IPv6.
5. Press [Change] of IPv6.
6. Press [On].
7. Press [OK].
8. After changing the setting, restart the system or turn the machine OFF and then ON again.

Manual Setting (IPv6)

1. Press [Next] of Network and then [Next] of TCP/IP Setting.
2. Press [Next] of IPv6.
3. Press [Next] of Manual Setting.
4. Press [IP Address (Manual)] to enter IP address.
5. Press [OK].
   Press [# Keys] of Prefix Length (0 - 128) to enter the prefix length using the numeric keys.
6. Press [Default Gateway] to enter the default gateway.
7. Check that all the entries are correct and Press [OK].
8. After changing the setting, restart the system or turn the machine OFF and then ON again.

RA (Stateless) Settings

1. Press [Next] of Network and then [Next] of TCP/IP Setting.
2. Press [Next] of IPv6.
3. Press [Change] of RA(Stateless).
4. Press [On] or [Off] of RA (Stateless).
5. Press [OK].
6. After changing the setting, restart the system or turn the machine OFF and then ON again.

DHCP (IPv6) Settings

1. Press [Next] of Network and then [Next] of TCP/IP Setting.
2. Press [Next] of IPv6.
3. Press [Change] of DHCP.
4. Press [On] or [Off] of DHCP.
5. Press [OK].
6. After changing the setting, restart the system or turn the machine OFF and then ON again.

NetWare Setup

1. Press [Next] of Network and then [Change] of NetWare.
2. Press [On].
3. Press the key for the frame type you want to use.
4. Press [OK].
5. After changing the setting, restart the system or turn the machine OFF and then ON again.

AppleTalk Setup

1. Press [Next] of Network and then [Change] of AppleTalk.
2. Press [On] or [Off].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

WSD Scan Setup

1. Press [Next] of Network and then [Change] of WSD Scan.
2. Press [On] or [Off].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

WSD Print Setup

1. Press [Next] of Network and then [Change] of WSD Print.
2. Press [On] or [Off].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

SSL Setup

1. Press [Next] of Network, [Next] of Secure Protocol, and then [Next] of SSL.
2. Press [On] or [Off].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

IPP Security Setup

1. Press [Next] of Network, [Next] of Secure Protocol, and then [Change] of IPP Security.
2. Press [IPP over SSL Only] or [IPP or IPP over SSL].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

HTTP Security Setup

1. Press [Next] of Network, [Next] of Secure Protocol, and then [Change] of HTTPS Security.
2. Press [HTTP or HTTPS] or [HTTPS Only].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

LDAP Security Setup

1. Press [Next] of Network, [Next] of Secure Protocol, and then [Change] of LDAP Security.
2. Press [Off], [LDAP over SSL] or [LDAPv3/TLS].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

IPSec Setting

1. Press [Next] of Network, and then [Change] of IPSec.
2. Press [On].
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

LAN Interface Setup

1. Press [Next] of Network and then [Change] of LAN Interface.
2. Select [Auto], [10BASE-T Half], [10BASE-T Full], [100BASE-TX Half] or [100BASE-TX Full] as the LAN interface.
3. Press [OK].
4. After changing the setting, restart the system or turn the machine OFF and then ON again.

Interface Block Setting

USB Host (USB memory slot setting)

1. Press [Next] of Interface Block Setting and then [Change] of USB Host.
2. Press [Block].
3. Press [OK].

USB Device (USB interface setting)

1. Press [Next] of Interface Block Setting and then [Change] of USB Device.
2. Press [Block].
3. Press [OK].

Optional interface (Optional interface card setting)

1. Press [Next] of Interface Block Setting and then [Change] of Optional Interface 1 or Optional Interface 2.
2. Press [Block].
3. Press [OK].

Document Guard Setting

1. Press and then [Change] of Document Guard.
2. Press [On].
   To scan documents, press [Off].
3. Press [OK].

Optional Functions

Starting Application Use

1. Press [Next] of Optional Function.
2. Select the desired application and press [Activate].
   You can view detailed information on the selected application by pressing [Detail].
3. In the license key entry screen, press [Official].
   Some applications do not require you to enter an license key. If the license key entry screen does not appear, go to Step 4.
   To use the application as a trial, press [Trial] without entering the license key.
4. When the confirmation screen appears, press [Yes].

Checking Application Details

1. Press [Next] of Optional Function.
2. Select the application you want to check the details of and press [Detail].
   You can now view detailed information on the selected application.

(14) User Login Administration

Enabling/Disabling User Login Administration

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting and then [Change] of User Login.
3. Select [Local Authentication] or [Network Authentication]. Select [Off] to disable user login administration.
   If you select [Network Authentication], enter the host name (62 characters or less) and domain name (256 characters or less) for the Authentication Server. Select [NTLM] or [Kerberos] as the server type.
4. Press [OK].

Adding a User

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting, [Register/Edit] of Local User List, and then [Add].
3. Press [Change] of User Name.
4. Enter the user name and press [OK].
5. Enter the login user name and E-mail address following 3 and 4 above.
6. Press [Change] of Login Password and then [Password].
7. Enter the login password and press [OK].
8. Press [Confirm Password].
9. Enter the same login password to confirm and press [OK].
10. Press [OK].
11. Press [Change] of Access Level.
12. Select the user access privilege and press [OK].
13. Press [Change] of Account Name.
14. Select the account and press [OK].
15. Press [Register] to add a new user on the local user list.

Changing User Properties

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting and [Register/Edit] of Local User List.
3. Select the user whose properties you wish to change.
   The procedure differs depending on the details to be edited.
   Changing user information
   1. Press [Detail].
   2. Refer to steps 3 to 14 of Adding a User to change a user property.
   3. Press [Register].
   4. Press [Yes] in the registration confirmation screen. The user information is changed.

   Deleting a user
   1. Press [Delete].
   2. Press [Yes] on the screen to confirm deletion. The selected user will be deleted.

Unknown login user name Job

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Change] of Unknown ID Job.
3. Press [Reject] or [Permit].
4. Press [OK].

Group Authorization

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting, [Next] of Group Authorization Set., and then [Change] of Group Authorization.
3. Press [On].
4. Press [OK].

Group List

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting, [Next] of Group Authorization Set., [Register/Edit] of Group List, and then [Add].
3. Press [Change] of Group ID.
4. Enter the group ID and press [OK].
5. Press [Change] of Group Name.
6. Enter the group name and press [OK].
7. Press [Change] of Access Level.
8. Select the user access privilege and press [OK].
9. Press [Change] of Print Restriction.
10. Select [Reject Usage] or [Off] and press [OK].
11. Follow steps 9 and 10 above to set Copy Restriction, Send Restriction, FAX TX Restriction, Storing Restr. in Box, and Storing Restr. in Memory.
12. Press [Register] to add a new group on the group list.

Obtain Network User Property

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of User Login Setting, [Change] of Obtain NW User Property.
3. Press [On].
4. Press [Server Name].
5. Enter the LDAP server name or the IP address and press [OK].
6. Press [# keys] to enter the LDAP port number using the numeric keys.
7. Press [Name 1].
8. Enter the LDAP Attribute to obtain the user name to be displayed and press [OK].
9. 11 Follow steps 7 and 8 above to set Name 2.
10. Press [E-mail Address].
11. Enter the LDAP Attribute to obtain the e-mail address and press [OK].
12. Press [Search Timeout] to set the amount of time to wait before time-out.
13. Press [+], [-] or the numeric keys to enter the time.
14. Press [LDAP Security] to select the type of encryption according to the type of security employed by the LDAP server.
15. Select [Off], [LDAP over SSL], or [LDAPv3/TLS] and press [OK].

(15) Job accounting

Enabling/Disabling Job Accounting

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, and then [Change] of Job Accounting.
3. Press [On]. To disable job accounting, press [Off].
4. Press [OK].

Adding an Account

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Register/Edit] of Accounting List, and then [Add].
3. Press [Change] of Account Name.
4. Enter the account name and press [OK].
   The Account screen reappears.
5. Follow steps 3 and 4 above to enter the Account ID.
6. Activate or deactivate restriction.
7. Press [Register] to add a new account on the Account List.

Managing Accounts

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting and then [Register/Edit] of Accounting List.
3. Select an account to change or delete.

Changing account information

1. Press [Detail].
2. Refer to steps 3 to 5 of Adding an Account and steps 3 to 6 of Restricting Using the Machine to change account information.
3. Press [Register].
4. Press [Yes] in the registration confirmation screen. The account information is changed.

Deleting an account

1. Press [Delete].
2. Press [Yes]. To delete the account.

Managing the Copier/Printer Counts

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Next] of Default Setting and then [Change] of Copier/Printer Count.
3. Press [Total] or [Split].
4. Press [OK].

Applying Restriction

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Register/Edit] of Accounting List, and then [Add].
3. Press [Change] for the item to be restricted.
4. Select the restriction mode.
   If [Counter Limit] is selected, press [+],[-] or numeric keys to select the number of pages.
5. Press [OK].
6. Repeat steps 3 to 5 for other accounts to be restricted.
7. Press [Register]. The restricted account is added.

Applying Limit of Restriction

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Next] of Default Setting and then [Change] of Apply Limit.
3. Select [Immediately], [Subsequently], or [Alert Only].
4. Press [OK].

Default Counter Limit

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Next] of Default Setting and then [Next] of Default Counter Limit.
3. Press [Change] for the item you want to modify and then press [+] or [-] or use the numeric keys to enter the default restriction on the number of sheets.
4. Press [OK].
5. To set another default restriction, repeat steps 3 to 4.

Total Job Accounting/Resetting the Counter

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting and then [Next] of Total Job Accounting.
3. Press [Check] at the function to check the count. The results will be displayed.
4. Confirm the count and press [Close].
5. Press [Execute] of Counter Reset to reset the counter.
6. Press [Yes] on the screen to confirm the reset. The counter is reset.

Each Job Accounting/Resetting the Counter

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting and [Check] of Each Job Accounting.
3. Select the account to check the count.
4. Press [Detail].
5. Press [Check] at the function to check the count. The results will be displayed.
6. Confirm the count and press [Close].
7. Press [Execute] of Counter Reset to reset the counter.
8. Press [Yes] on the screen to confirm the reset. The counter will be reset.

Counting by Paper Size

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting, [Next] of Default Setting, [Change] of Count by Paper Size, [Change] of Paper Size 1 to 5 and then [On].
3. Select the paper size.
4. Press [Media Type] to specify media type.
5. Select the media type and press [OK].
6. Press [Close].

Printing an Accounting Report

1. If user login administration is disabled, the user authentication screen appears. Enter your login user name and password and then press [Login].
2. Press [Next] of Job Accounting Setting and then [Print] of Print Accounting Report.
3. Press [Yes] on the screen to confirm the printing.

1-4-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the machine 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 machine, open the front cover, left cover or pull the cassette out.
To remove original jammed in the optional DP, open the DP top cover.
To remove the jammed paper in optional document finisher, detach the finisher from the machine.
Paper misfeed detection can be reset by opening and closing the respective covers to turn safety switch off and on.

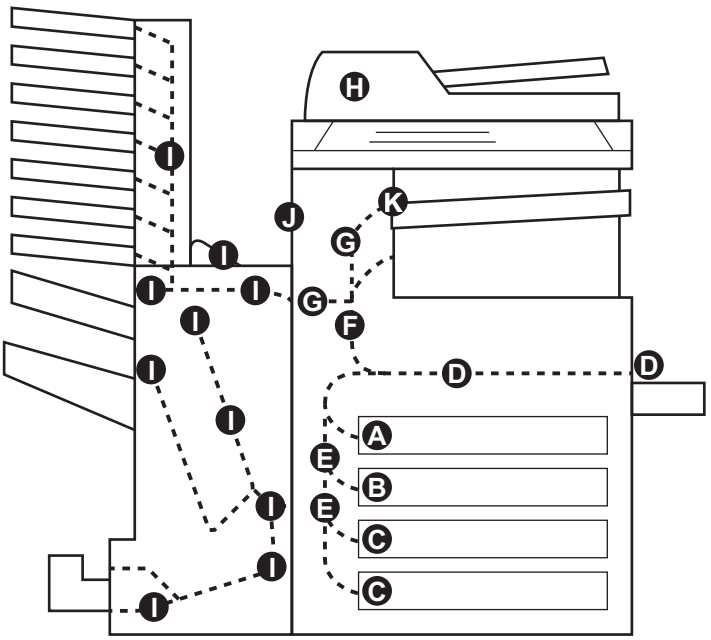


Figure 1-4-1

(A) Misfeed in cassette 1
(B) Misfeed in cassette 2
(C) Misfeed in optional cassette 3 or 4
(D) Misfeed in MP tray
(E) Misfeed in left cover 1, 2 or 3
(F) Misfeed in duplex section
(G) Misfeed in paper feed section
(H) Misfeed in optional DP
(I) Misfeed in optional document finisher
(J) Misfeed in optional built-in finisher
(K) Misfeed in optional job separator

(2) Paper misfeed detection conditions

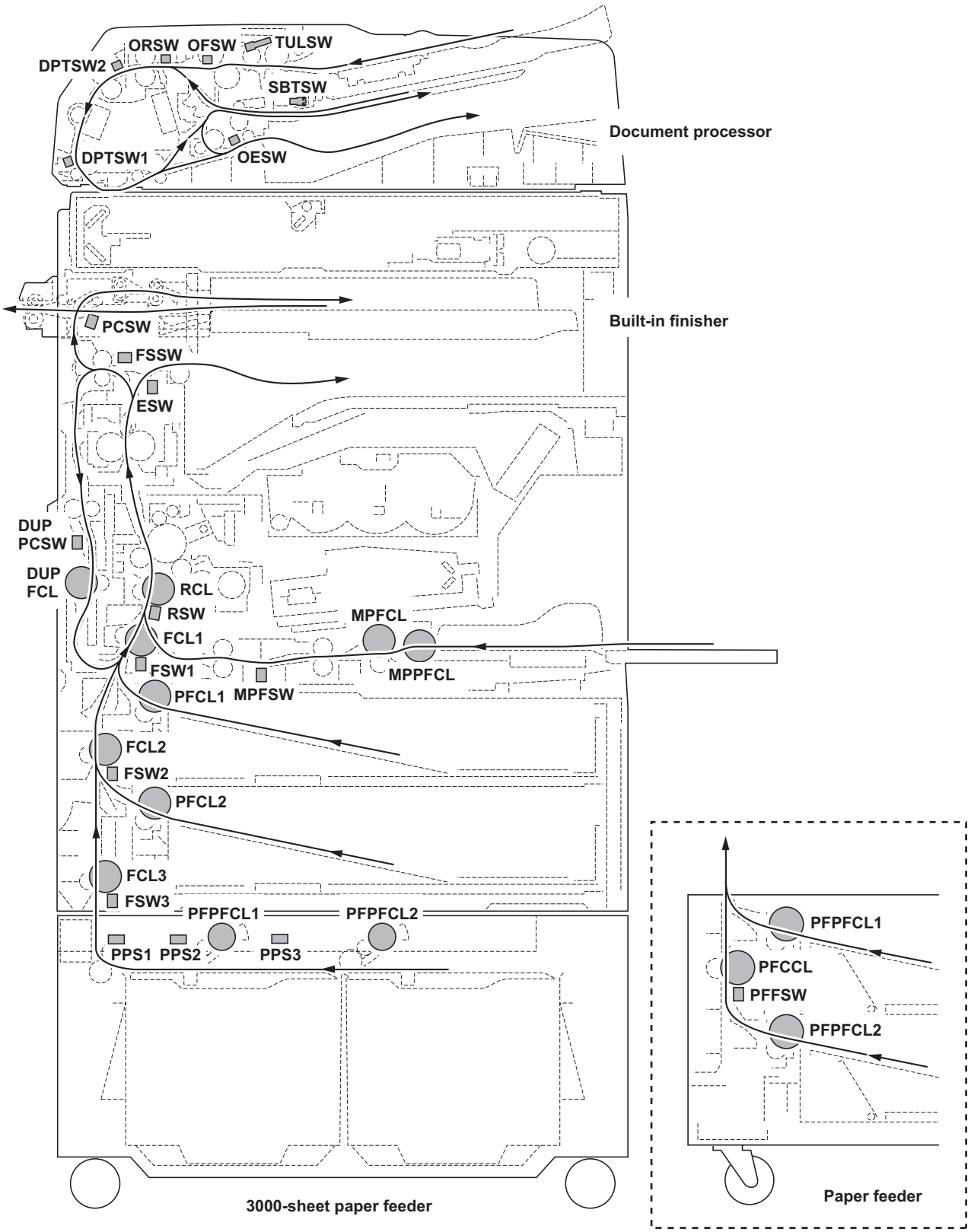


Figure 1-4-2

Section	Description	Conditions	Specified time
System	00 Initial JAM	The power is turned on when a sensor in the conveying system is on.	-
	04 Cover open	Cover is open during copying.	-
	05 Secondary paper feed does not start	Secondary paper feed does not start within specified time of arrival of paper at the registration section.	40 s
	09 Sequence error jam	A communication sequence error occurs between the machine and the 3000-sheet paper feeder.	-
Paper feed section	10 No paper feed from cassette 1	Feed switch 1 (FSW1) does not turn on within the specified time of paper feed clutch 1 (PFCL1) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within the specified time.	1152 ms
	11 No paper feed from cassette 2	Feed switch 2 (FSW2) does not turn on within the specified time of paper feed clutch 2 (PFCL2) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within the specified time.	1209 ms
	12 No paper feed from cassette 3	Feed switch 3 (FSW3) does not turn on within the specified time of PF paper feed clutch 1 (PFPFCL1) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within the specified time (paper feed from paper feeder).	1209 ms
		Feed switch 3 (FSW3) does not turn on within the specified time of PF paper feed clutch 1 (PFPFCL1) turning on (paper feed from 3000-sheet paper feeder).	780 ms
	13 No paper feed from cassette 4	The PF feed switch (PFFSW) does not turn on within the specified time of PF paper feed clutch 2 (PFPFCL2) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within the specified time (paper feed from paper feeder).	1209 ms
	14 No paper feed from MP tray	The MP feed switch (MPFSW) does not turn on within the specified time of the MP paper feed clutch (MPPFCL) turning on; the clutch is then successively turned off for 1 s and turned back on, but the switch again fails to turn on within the specified time.	3913 ms
	15 Jam in paper feeder horizontal paper conveying section 1	Paper path sensor 3 (PPS3) does not turn on within specified time of PF paper feed clutch 2 (PFPFCL2) turning on (paper feed from 3000-sheet paper feeder).	360 ms
	16 Jam in paper feeder horizontal paper conveying section 2	Paper path sensor 2 (PPS2) does not turn on within specified time of the paper path sensor 3 (PPS3) turning on (paper feed from 3000-sheet paper feeder).	380 ms
	17 Jam in paper feeder horizontal paper conveying section 3	Paper path sensor 1 (PPS1) does not turn on within specified time of the paper path sensor 2 (PPS2) turning on (paper feed from 3000-sheet paper feeder).	250 ms

Section	Description	Conditions	Specified time
Paper feed section	18 Misfeed in vertical paper conveying section	The registration switch (RSW) does not turn on within specified time of feed switch 1 (FSW1) turning on.	1283 ms
		Feed switch 1 (FSW1) does not turn on within specified time of feed switch 2 (FSW2) turning on.	1478 ms
		Feed switch 2 (FSW2) does not turn on within specified time of feed switch 3 (FSW3) turning on.	1474 ms
	19 Misfeed in paper feeder vertical paper conveying section	Feed switch 3 (FSW3) does not turn on within specified time of the PF feed switch (PFFSW) turning on.	1217 ms
	20 Misfeed in MP tray vertical paper conveying section	The registration switch (RSW) does not turn on within specified time of the MP feed switch (MPFSW) turning on.	3043 ms
	21 Multiple sheets in paper feed section	The feed switch 1 (FSW1) does not turn off within specified time of its turning on.	Paper length + 3357 ms
		The feed switch 2 (FSW2) does not turn off within specified time of its turning on.	Paper length + 3357 ms
		The feed switch 3 (FSW3) does not turn off within specified time of its turning on (paper feed from paper feeder).	Paper length + 3357 ms
		The feed switch 3 (FSW3) does not turn off within specified time of its turning on (paper feed from 3000-sheet paper feeder).	1050 ms
		The PF feed switch (PFFSW) does not turn off within specified time of its turning on.	Paper length + 3357 ms
		The MP feed switch (MPFSW) does not turn off within specified time of its turning on.	Paper length + 3357 ms
		The feed switch 1 (FSW1) does not turn off within specified time of the paper feed clutch 1 (PFCL1) turning on.	1152 ms
		The feed switch 2 (FSW2) does not turn off within specified time of the paper feed clutch 2 (PFCL2) turning on.	1209 ms
		The feed switch 3 (FSW3) does not turn off within specified time of the PF paper feed clutch 1 (PFPFCL1) turning on.	2643 ms
		The PF feed switch (PFFSW) does not turn off within specified time of the PF paper feed clutch 2 (PFPFCL2) turning on.	3913 ms
		The MP feed switch (MPFSW) does not turn off within specified time of the MP paper feed clutch (MPPFCL) turning on.	3913 ms
	22 Multiple sheets in vertical conveying section	The feed switch 1 (FSW1) does not turn off within specified time of the feed switch 2 (FSW2) turning off.	1478 ms
		The feed switch 2 (FSW2) does not turn off within specified time of the feed switch 3 (FSW3) turning off.	1539 ms
		The feed switch 1 (FSW1) does not turn off within specified time of the feed switch 2 (FSW2) turning on	1478 ms
		The feed switch 2 (FSW2) does not turn off within specified time of the feed switch 3 (FSW3) turning on.	1474 ms

Section	Description	Conditions	Specified time
Paper feed section	23 Multiple sheets in MP tray conveying section	The registration switch (RSW) does not turn off within specified time of the MP feed switch (MPFSW) turning off.	2739 ms
		The registration switch (RSW) does not turn off within specified time of the MP feed switch (MPFSW) turning on.	3043 ms
Paper conveying section	30 Misfeed in registration/ transfer section	The registration switch (RSW) does not turn off within specified time of the feed switch 1 (FSW1) turning off.	1170 ms
		The registration switch (RSW) does not turn off within specified time of the feed switch 1 (FSW1) turning on.	1278 ms
Fuser section	40 Misfeed in fuser section (MP tray)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	41 Misfeed in fuser section (cassette 1)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	42 Misfeed in fuser section (cassette 2)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	43 Misfeed in fuser section (cassette 3)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	44 Misfeed in fuser section (cassette 4)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	46 Misfeed in fuser section (3000-sheet paper feeder)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
	47 Misfeed in fuser section (duplex section)	The eject switch (ESW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
		The feedshift switch (FSSW) does not turn on within specified time of the registration clutch (RCL) turning on.	2243 ms
Eject section	50 Misfeed in eject section	The eject switch (ESW) does not turn off within specified time of the registration switch (RSW) turning off.	2243 ms
		The eject switch (ESW) does not turn off within specified time of the registration clutch (RCL) turning on.	2243 ms

Section	Description	Conditions	Specified time
Eject section	51 Misfeed in job separator eject section	The job eject switch (JESW) does not turn on within specified time of the feedshift switch (FSSW) turning on.	1587 ms
		The job eject switch (JESW) does not turn off within specified time of the feedshift switch (FSSW) turning off.	1587 ms
		The job eject switch (JESW) does not turn off within specified time of the feedshift switch (FSSW) turning on.	1587 ms
Feedshift section	52 Misfeed in feedshift section	The feedshift switch (FSSW) does not turn on within specified time of the start of eject motor (EM) reverse rotation.	1196 ms
		During paper switchback operation, the feedshift switch (FSSW) does not turn off within specified time of the its turning on.	2313 ms
		The feedshift switch (FSSW) does not turn off within specified time of the registration switch (RSW) turning off.	2243 ms
		The feedshift switch (FSSW) does not turn off within specified time of the registration clutch (RCL) turning on.	2243 ms
Duplex section	60 Duplex paper conveying section 1	The duplex paper conveying switch (DUPPCSW) does not turn on within specified time of the feedshift switch (FSSW) turning on.	2196 ms
		The duplex paper conveying switch (DUPPCSW) does not turn off within specified time of the feedshift switch (FSSW) turning off.	2196 ms
	61 Duplex paper conveying section 2	The feed switch 1 (FSW1) does not turn on within specified time of the duplex paper conveying switch (DUPPCSW) turning on.	1543 ms
		The feed switch 1 (FSW1) does not turn off within specified time of the duplex paper conveying switch (DUPPCSW) turning off.	1543 ms
DP	70 No original feed	The original feed switch (OFSW) does not turn on within specified time during the first sheet feeding (Retry 5 times).	1159 ms
		The original feed switch (OFSW) does not turn on within specified time during the second sheet feeding (Retry 5 times).	1159 ms
		During original tray ascent, the tray upper limit switch (TULSW) does not turn on within specified time.	2 s
	71 An original jam in the original feed section	The original registration switch (ORSW) does not turn on within specified time of the original feed switch (OFSW) turning on.	1013 ms
	72 An original jam in the original conveying section	DP timing switch 1 (DPTSW1) turns off within the specified time since the switch turns on.	914 ms

Section	Description	Conditions	Specified time
DP	73 An original jam in the original registration section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1774 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn on within specified time of the original registration switch (ORSW) turning on (Retry 5 times).	1014 ms
	74 An original jam in the original feed section	The original feed switch (OFSW) or original registration switch (ORSW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning on.	2084 ms
		Scanning of previous original is not complete when DP timing switch 1 (DPTSW1) turns on.	-
	75 An original jam in the original conveying section	During single scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms
		During duplex switchback scanning, the DP timing switch 1 (DPTSW1) does not turn off within specified time of the original registration switch (ORSW) turning off.	1416 ms
		During dual scanning, the DP timing switch 2 (DPTSW2) does not turn off within specified time of the original registration switch (ORSW) turning off.	656 ms
	76 An original jam in the original switchback section 1	During duplex switchback scanning, the switchback tray switch (SBTSW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	2318 ms
	77 An original jam in the original switchback section 2	During duplex switchback scanning, the original registration switch (ORSW) does not turn on within specified time since original switchback operation starts.	935 ms
	78 DP cover open JAM	The DP or DP top cover is opened during original feeding.	-
		When the power is turned on or original feeding starts, the original feed switch (OFSW), the original registration switch (ORSW) or DP timing switch 1, 2 (DPTSW1, 2) turning on.	-
	79 An original jam in the original eject section	During single scanning or dual scanning, the original eject switch (OESW) does not turn on within specified time of the DP timing switch 1 (DPTSW1) turning on.	1705 ms
		During duplex switchback scanning, the original eject switch (OESW) does not turn on within specified time since switchback ejection starts.	841 ms
		During single scanning or dual scanning, the original eject switch (OESW) does not turn off within specified time of the DP timing switch 1 (DPTSW1) turning off.	1705 ms

Section	Description	Conditions	Specified time
Finisher	80 Jam between the finisher and machine	Paper ejection is not output from the machine to the document finisher within specified time of the paper entry sensor (PES) turning on.	15 s
	81 Paper entry sensor non arrival jam	(3000-sheet document finisher) The paper entry sensor (PES) is not turned off even if a specified time has elapsed after the machine eject signal was received.	1052 ms
		(3000-sheet document finisher) The paper entry sensor (PES) is not turned on even if a specified time has elapsed after the machine eject signal was received.	1052 ms
		(3000-sheet document finisher) The paper entry sensor (PES) does not turn off within specified time of its turning on.	2313 ms
		(Document finisher) The paper entry sensor (PES) is not turned on even if a specified time has elapsed after the machine eject signal was received.	733 ms
		(Built-in finisher) The paper conveying switch (PCSW) is not turned on even if a specified time has elapsed after the machine eject signal was received.	1217 ms
		(Built-in finisher) The paper conveying switch (PCSW) does not turn off within specified time of its turning on when paper is conveyed to the intermediate tray from the paper conveying unit.	Paper length + 869 ms
	82 Jam in stapler	(3000-sheet document finisher) The home position is not detected within the specified time when driving the staple motor.	600 ms
		(Document finisher) The staple home position sensor (STSPS) is not turned on within the specified time when driving the staple motor (STM).	-
		(Built-in finisher) The staple home position sensor (STHPS) is not turned on within the specified time when driving the staple motor (STM).	600 ms
	83 Eject sensor stay jam	(3000-sheet document finisher) Eject switch 1 (ESW1) is not turned off within specified time of its turning on.	1182 ms
		(Document finisher) In the straight mode, the exit sensor (EPS) is not turned off within specified time of its turning on.	-
		(Document finisher) In the bundle discharge mode or the staple mode, bundle discharge operation does not turn off within specified time since the operation starts.	902 ms
		(Built-in finisher) The paper conveying switch (PCSW) does not turn off within specified time of its turning on when paper is ejected to the finisher tray from the intermediate tray.	Paper length + 869 ms

Section	Description	Conditions	Specified time
Finisher	84 Jam in eject section of right sub tray (3000-sheet document finisher only)	Eject switch 2 (ESW2) is not turned off even if a specified time has elapsed after the machine eject signal was received.	1209 ms
		Eject switch 2 (ESW2) is not turned on even if a specified time has elapsed after the machine eject signal was received.	1209 ms
		Eject switch 2 (ESW2) is not turned off within specified time of its turning on.	2313 ms
	85 Jam in eject section of left sub tray (3000-sheet document finisher only)	Eject switch 3 (ESW3) does not turn off within specified time of paper entry sensor (PES) turning on.	1426 ms
		Eject switch 3 (ESW3) does not turn on within specified time of paper entry sensor (PES) turning on.	1426 ms
		Eject switch 3 (ESW3) is not turned off within specified time of its turning on.	2313 ms
	86 Jam in eject section of internal tray 1 (3000-sheet document finisher only)	Internal tray entry sensor 1 (ITPES1) is not turned on even if a specified time has elapsed after the eject signal was received.	2070 ms
	87 Jam in eject section of inner tray 2 (3000-sheet document finisher only)	Inner tray entry sensor 2 (ITPES2) does not turn on within specified time of the paper entry sensor (PES) turning on.	1322 ms
		Inner tray entry sensor 2 (ITPES2) does not turn off within specified time of the paper entry sensor (PES) turning off.	676 ms
	88 Jam in eject section of main tray (3000-sheet document finisher only)	Eject switch 1 (ESW1) is not turned on within specified time.	1324 ms
		At the time of bundle up initial operation, paper conveying belt home position sensor 1 (PCBHPS1) does not turn on.	-
		At the time of bundle down initial operation, paper conveying belt home position sensor 2 (PCBHPS2) does not turn on.	-
		At the time of side registration standby operation, side registration home position sensor 1 (SRHPS1) does not turn off within specified time.	500 ms
		At the time of side registration standby operation, side registration home position sensor 2 (SRHPS2) does not turn off within specified time.	500 ms

Section	Description	Conditions	Specified time
Finisher	89 Jam in center-folding unit (3000-sheet document finisher only)	The centerfold paper entry sensor (CPES) does not turn off within specified time of centerfold paper conveying sensor (CPCS) turning on.	5373 ms
		The centerfold paper entry sensor (CPES) does not turn on within specified time of centerfold paper conveying sensor (CPCS) turning on.	5373 ms
		The centerfold paper entry sensor (CPES) is not turned off within specified time of its turning on.	2313 ms
		The centerfold eject switch (CESW) is not turned on within specified time.	4080 ms
		The centerfold eject switch (CESW) is not turned off within specified time of its turning on.	8200 ms
		Centerfold side registration sensor 1 (CSRS1) is not turned on within specified time.	600 ms
		Centerfold side registration sensor 2 (CSRS2) is not turned on within specified time.	600 ms
		The home position is not detected within the specified time after driving the centerfold staple motor (CSTM).	1000 ms
		The centerfold paper conveying sensor (CPCS) is not turned off within specified time.	1370 ms
		The centerfold paper conveying sensor (CPCS) is not turned on within specified time.	1370 ms
		The centerfold paper conveying sensor (CPCS) is not turned off within specified time of its turning on.	2313 ms
	90 Jam in mailbox (3000-sheet document finisher only)	The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 1).	5120 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 2).	4633 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 3).	4147 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 4).	3660 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 5).	3173 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 6).	2687 ms
		The tray eject sensor (TEJS) does not turn on within specified time from start of paper eject (tray 7).	2200 ms
		The tray eject sensor (TEJS) is not turned off within specified time of its turning on.	Depends on paper size

Section	Description	Conditions	Specified time
Finisher	91 Finisher cover open	(3000-sheet document finisher) The front cover, top cover or right sub tray is opened when starting the finisher operation. The centerfold unit top cover is opened when starting the center-fold operation. The mailbox cover is opened when starting the operation.	-
		(Document finisher) The finisher cover becomes open during paper is running. Paper is remaining in paths at power on.	-
	92 Eject paper sensor non-arrival jam (document finisher only)	In the straight mode, the eject paper sensor (EPS) is not turned on even if a specified time has elapsed after the paper entry sensor (PES) was turned on.	-
	93 Reverse sensor jam (document finisher only)	The reverse sensor (SBS) does not turn on within specified time of paper entry sensor (PES) turning on (unfinished reversing canceled).	437 ms
		The reverse sensor (SBS) is not turned on within specified time (unfinished reversing set).	431 ms
		The reverse sensor (SBS) is not turned off within specified time its turning on (resident reversing canceled).	1826 ms
		The reverse sensor (SBS) is not turned off within specified time its turning on (resident reversing set).	700 ms
	94 Paper entry sensor stay/remaining jam (document finisher only)	The paper entry sensor (PES) is not turned off within specified time its turning on.	1370 ms
	95 Paper conveying sensor jam (document finisher only)	The paper conveying sensor (PCS) is not turned off within specified time its turning on (reversing canceled).	1370 ms
		The paper conveying sensor (PCS) is not turned off within specified time its turning on (reversing set).	656 ms
	96 Jam between the built-in finisher and machine (built-in finisher only)	Paper ejection is not output from the machine to the document finisher within specified time of the intermediate tray sensor (ITS) turning on.	1217 ms

(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 power switch is turned on.	A piece of paper torn from copy paper is caught around feed switch 1/2/3, registration switch, eject switch or feedshift switch.	Check visually and remove it, if any.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feed switch 1/2/3, registration switch, eject switch, feedshift switch
(2) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 1). Jam code 10	Paper is extremely curled.	Replace the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the cassette 1 are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 1 actuator.	Check visually and replace switch.
	Defective feed switch 1.	Run maintenance item U031 and turn feed switch 1 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 paper feed clutch 1 malfunctions.	Run maintenance item U032 and select the paper feed clutch 1 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch 1.	Check (see page 1-4-57).
(3) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 2). Jam code 11	Paper is extremely curled.	Replace the paper.
	Check if the paper feed pulley, separation pulley or forwarding pulley of the cassette 2 are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 2 actuator.	Check visually and replace switch.
	Defective feed switch 2.	Run maintenance item U031 and turn feed switch 2 on and off manually. Replace feed switch 2 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the paper feed clutch 2 malfunctions.	Run maintenance item U032 and select the paper feed clutch 2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the paper feed clutch 2.	Check (see page 1-4-57).

Problem	Causes/check procedures	Corrective measures
(4) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 3). Jam code 12	Paper feeder	
	Paper is extremely curled.	Replace the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 3 are deformed.	Check visually and replace any deformed pulleys.
	Broken feed switch 3 actuator.	Check visually and replace switch.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if PF paper feed clutch 1 malfunctions.	Run maintenance item U247 and select PF paper feed clutch 1 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper feed clutch 1.	Check (see service manual of paper feeder).
	3000-sheet paper feeder	
	Paper is extremely curled.	Replace the paper.
	Broken feed switch 3 actuator.	Check visually and replace switch.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace feed switch 3 if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Check if the clutch malfunctions.	Run maintenance item U247 and select following clutch on the touch panel to be turned on and off. Check the status and remedy if necessary. PF paper feed clutch 1/2, PF paper conveying clutch
	Electrical problem with clutch.	Check (see service manual of 3000-sheet paper feeder).
(5) A paper jam in the paper feed section is indicated during copying (no paper feed from cassette 4). Jam code 13	Paper is extremely curled.	Replace the paper.
	Check if the paper feed pulley, forwarding pulley and separation pulley of cassette 4 are deformed.	Check visually and replace any deformed pulleys.
	Broken paper feeder feed switch actuator.	Check visually and replace switch.
	Defective PF feed switch.	With 5 V DC present at YC3-7 on the PF main PWB, check if YC3-5 on the PF main PWB remains low or high when the PF feed switch is turned on and off. If it does, replace the PF feed switch.
	Check if PF paper feed clutch 2 malfunctions.	Run maintenance item U247 and select PF paper feed clutch 2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper feed clutch 2.	Check (see service manual of paper feeder).

Problem	Causes/check procedures	Corrective measures
(6) A paper jam in the paper feed section is indicated during copying (no paper feed from MP tray). Jam code 14	Paper is extremely curled.	Replace the paper.
	Check if the MP paper feed pulley, MP forwarding pulley and MP separation pulley are deformed.	Check visually and replace any deformed pulleys.
	Broken MP feed switch actuator.	Check visually and replace switch.
	Defective MP feed switch.	Run maintenance item U031 and turn MP 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 MP paper feed clutch malfunctions.	Run maintenance item U032 and select MP paper feed clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the MP paper feed clutch.	Check (see page 1-4-57).
(7) A paper jam in the paper feed section is indicated during copying (jam in 3000-sheet paper feeder horizontal paper conveying section). Jam code 15	Paper is extremely curled.	Replace the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 3.	With 5 V DC present at CN6-12 on the PF main PWB, check if CN6-11 on the PF main PWB remains low or high when paper path sensor 3 is turned on and off. If it does, replace paper path sensor 3.
	Check if PF paper feed clutch 2 malfunctions.	Run maintenance item U247 and select PF paper feed clutch 2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper feed clutch 2.	Check (see service manual of 3000-sheet paper feeder).
(8) A paper jam in the paper feed section is indicated during copying (jam in 3000-sheet paper feeder horizontal paper conveying section). Jam code 16	Paper is extremely curled.	Replace the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 2.	With 5 V DC present at CN6-9 on the PF main PWB, check if CN6-8 on the PF main PWB remains low or high when paper path sensor 2 is turned on and off. If it does, replace paper path sensor 2.
	Check if PF paper feed clutch 1 malfunctions.	Run maintenance item U247 and select PF paper feed clutch 1 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper feed clutch 1.	Check (see service manual of 3000-sheet paper feeder).

Problem	Causes/check procedures	Corrective measures
(9) A paper jam in the paper feed section is indicated during copying (jam in 3000-sheet paper feeder horizontal paper conveying section). Jam code 17	Paper is extremely curled.	Replace the paper.
	Check if the paper side guides are deformed.	Check visually and replace.
	Defective paper path sensor 1.	With 5 V DC present at CN6-6 on the PF main PWB, check if CN6-5 on the PF main PWB remains low or high when paper path sensor 1 is turned on and off. If it does, replace paper path sensor 1.
	Check if PF paper conveying clutch malfunctions.	Run maintenance item U247 and select PF paper conveying clutch on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper conveying clutch.	Check (see service manual of 3000-sheet paper feeder).
(10) A paper jam in the paper feed section is indicated during copying (jam in vertical paper conveying section). Jam code 18	Broken feed switch 1/2/3 actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feed switch 1/2/3, registration switch
	Defective feed pulleys or feed rollers.	Check visually and replace.
(11) A paper jam in the paper feed section is indicated during copying (jam in paper feeder vertical paper conveying section). Jam code 19	Broken feed switch 3 actuator.	Check visually and replace switch.
	Defective feed switch 3.	Run maintenance item U031 and turn feed switch 3 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Broken PF feed switch actuator.	Check visually and replace switch.
	Defective PF feed switch.	With 5 V DC present at YC3-7 on the PF main PWB, check if YC3-5 on the PF main PWB remains low or high when the PF feed switch is turned on and off. If it does, replace the PF feed switch.
(12) A paper jam in the paper feed section is indicated during copying (jam in MP tray vertical paper conveying section). Jam code 20	Broken MP feed switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. MP feed switch, registration switch

Problem	Causes/check procedures	Corrective measures
(13) A paper jam in the paper feed section is indicated during copying (multiple sheets in paper feed section). Jam code 21	Broken feed switch 1/2/3 or MP feed switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feed switch 1/2/3, MP feed switch
	Broken PF feed switch actuator.	Check visually and replace switch.
	Defective PF feed switch.	With 5 V DC present at YC3-7 on the PF main PWB, check if YC3-5 on the PF main PWB remains low or high when the PF feed switch is turned on and off. If it does, replace the PF feed switch.
	Check if the clutch malfunctions.	Run maintenance item U032 and select following clutch on the touch panel to be turned on and off. Check the status and remedy if necessary. Paper feed clutch 1/2, MP paper conveying clutch
	Electrical problem with clutch.	Check (see page 1-4-57).
	Check if PF paper feed clutch 1/2 malfunctions.	Run maintenance item U247 and select PF paper feed clutch 1/2 on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with PF paper feed clutch 1/2.	Check (see service manual of 3000-sheet paper feeder).
	Defective feed pulleys or feed rollers.	Check visually and replace.
(14) A paper jam in the paper feed section is indicated during copying (multiple sheets in vertical conveying section). Jam code 22	Broken feed switch 1/2/3 actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feed switch 1/2/3
	Defective feed pulleys or feed rollers.	Check visually and replace.
(15) A paper jam in the paper feed section is indicated during copying (multiple sheets in MP tray conveying section). Jam code 23	Broken MP feed switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. MP feed switch, registration switch
(16) A paper jam in the paper conveying section is indicated during copying (jam in registration/transfer section). Jam code 30	Broken feed switch 1 actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feed switch 1, registration switch
	The contact between the right and left registration rollers is not correct.	Check visually and replace.

Problem	Causes/check procedures	Corrective measures
(17) A paper jam in the fuser section is indicated during copying (jam in fuser section). Jam codes 40 to 44, 46 and 47	Broken eject switch or feedshift switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Eject switch, feedshift switch
	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 1-4-57).
(18) A paper jam in the eject section is indicated during copying (jam in eject section). Jam code 50	Broken eject switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Registration switch, eject switch
	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 1-4-57).
(19) A paper jam in the eject section is indicated during copying (jam in job separator eject section). Jam code 51	Broken feedshift switch or job eject switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feedshift switch, job eject switch
(20) A paper jam in the feedshift section is indicated during copying (jam in feedshift section). Jam code 52	Check if the feedshift solenoid malfunctions.	Run maintenance item U033 and select the feedshift solenoid on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Electrical problem with the feedshift solenoid.	Check (see page 1-4-57).
	Broken feedshift switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feedshift switch, registration switch
	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 1-4-57).

Problem	Causes/check procedures	Corrective measures
(21) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 1). Jam code 60	Broken feedshift switch or duplex paper conveying switch actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Feedshift switch, duplex paper conveying switch
(22) A paper jam in the duplex section is indicated during copying (jam in duplex paper conveying section 2). Jam code 61	Broken duplex paper conveying switch or feed switch 1 actuator.	Check visually and replace switch.
	Defective switch.	Run maintenance item U031 and turn switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Duplex paper conveying switch, feed switch 1
(23) An original jams in 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.
	Defective original feed motor.	Run maintenance item U243 and select original feed motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
	Defective tray upper limit switch.	Run maintenance item U244 and turn the tray upper limit 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 lift motor.	Run maintenance item U243 and select original lift motor on the touch panel to be turned on and off. Check the status and remedy if necessary.
(24) An original jams in DP is indicated during copying (jam in the original feed section). Jam code 71	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(25) An original jams in DP is indicated during copying (jam in the original conveying section). Jam code 72	Defective DP timing switch 1.	Run maintenance item U244 and turn the DP timing switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(26) An original jams in DP is indicated during copying (jam in the original registration section). Jam code 73	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original registration switch, DP timing switch 1/2
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor

Problem	Causes/check procedures	Corrective measures
(27) An original jams in DP is indicated during copying (jam in the original feed section). Jam code 74	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch1, original feed switch, original registration switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(28) An original jams in DP is indicated during copying (jam in the original conveying section). Jam code 75	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original registration switch, DP timing switch 1/2
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original conveying motor
(29) An original jams in DP is indicated during copying (jam in the original switchback section 1). Jam code 76	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch 1, switchback tray switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original conveying motor, original switchback motor
(30) An original jams in DP is indicated during copying (jam in the original switchback section 2). Jam code 77	Defective original registration switch.	Run maintenance item U244 and turn the original registration switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original switchback motor, original feed motor
(31) A original jam in the DP is indicated as soon as the main power switch is turned on. (DP cover open JAM). Jam code 78	A piece of paper torn from original is caught around original feed switch, original registration switch or DP timing switch 1/2.	Check visually and remove it, if any.
	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Original feed switch, original registration switch, DP timing switch 1/2
(32) An original jams in DP is indicated during copying (jam in the original eject section). Jam code 79	Defective switch.	Run maintenance item U244 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. DP timing switch 1, original eject switch
	Defective motor.	Run maintenance item U243 and select the following motor on the touch panel to be turned on and off. Check the status and remedy if necessary. Original feed motor, original switchback motor

Problem	Causes/check procedures	Corrective measures
(33) A paper jam in finisher is indicated during copying (jam between finisher and machine). Jam code 80	Defective paper entry sensor.	(3000-sheet document finisher) Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
(34) A paper jam in finisher is indicated during copying (paper jam during paper insertion to the finisher). Jam code 81	3000-sheet document finisher	
	Extremely curled paper.	Change the paper.
	Defective paper entry sensor.	Run maintenance item U241 and turn the paper entry sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Document finisher	
	Extremely curled paper.	Change the paper.
	Defective paper entry sensor.	With 5 V DC present at CN3-1 and CN3-3 on the finisher main PWB, check if CN3-2and CN3-4 on the finisher main PWB remains low or high when the paper entry sensor is turned on and off. If it does, replace the paper entry sensor.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Built-in finisher	
	Extremely curled paper.	Replace the paper.
	Defective paper conveying switch.	With 5 V DC present at YC2-23 on the finisher control PWB, check if YC2-21 on the finisher control PWB remains low or high when the paper conveying switch is turned on and off. If it does, replace the paper conveying switch.
	Check if the feedshift roller or feedshift pulley is deformed.	Check and remedy.
(35) A paper jam in finisher is indicated during copying (finisher stapler jam). Jam code 82	3000-sheet document finisher/Document finisher	
	Defective staple home position sensor.	Run maintenance item U241 and turn the staple home position sensor on and off manually. Replace the sensor if indication of the corresponding sensor on the touch panel is not displayed in reverse.
	Built-in finisher	
	The stapler is blocked with a staple.	Remove the stapler cartridge, and check the cartridge and the stapling section of the stapler. Remove the staple if any.
	Defective stapler section.	With 5 V DC present at YC2-24 on the finisher control PWB, check if YC2-19 on the finisher control PWB remains low or high. If it does, replace the stapler section.

Problem	Causes/check procedures	Corrective measures
(36) A paper jam in finisher is indicated during copying (eject sensor stay jam). Jam code 83	3000-sheet document finisher	
	Defective eject switch 1.	Run maintenance item U241 and turn eject switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
	Document finisher	
	Defective eject paper sensor.	With 5 V DC present at CN7-1 on the finisher main PWB, check if CN7-3 on the finisher main PWB remains low or high when the eject paper sensor is turned on and off. If it does, replace the eject paper sensor.
	Check if the paper conveying motor malfunctions.	Check and remedy.
	Check if the eject roller and eject pulley contact each other.	Check and remedy.
	Check if the eject guide is deformed.	Check and remedy.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Built-in finisher	
	Defective paper conveying switch.	With 5 V DC present at YC2-23 on the finisher control PWB, check if YC2-21 on the finisher control PWB remains low when the paper conveying switch is turned on and off. If it does, replace the paper conveying switch.
	Check if the feedshift roller or feedshift pulley is deformed.	Check and remedy.
(37) A paper jam in finisher is indicated during copying (right sub tray eject jam). Jam code 84	Defective eject switch 2.	Run maintenance item U241 and turn eject switch 2 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(38) A paper jam in finisher is indicated during copying (left sub tray eject jam). Jam code 85	Defective eject switch 3.	Run maintenance item U241 and turn eject switch 3 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(39) A paper jam in finisher is indicated during copying (internal tray paper entry sensor 1 jam). Jam code 86	Defective internal tray paper entry sensor 1.	Run maintenance item U241 and turn internal tray paper entry sensor 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(40) A paper jam in finisher is indicated during copying (inner tray paper entry sensor 2 jam). Jam code 87	Defective inner tray paper entry sensor 2.	Run maintenance item U241 and turn inner tray paper entry sensor 2 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.

Problem	Causes/check procedures	Corrective measures
(41) A paper jam in finisher is indicated during copying (main tray eject jam). Jam code 88	Defective eject switch 1.	Run maintenance item U241 and turn eject switch 1 on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(42) A paper jam in finisher is indicated during copying (centerfolding unit jam). Jam code 89	Defective sensor/switch.	Run maintenance item U241 and turn the following switch on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse. Centerfold paper entry sensor, centerfold eject switch, centerfold paper conveying sensor
(43) A paper jam in finisher is indicated during copying (mailbox jam). Jam code 90	Defective tray eject sensor.	Run maintenance item U241 and turn tray eject sensor on and off manually. Replace the switch if indication of the corresponding switch on the touch panel is not displayed in reverse.
(44) A paper jam in finisher is indicated during copying (switchback sensor jam). Jam code 93	Defective switchback sensor.	With 5 V DC present at CN3-5 on the finisher main PWB, check if CN3-7 on the finisher main PWB remains low or high when the switchback sensor is turned on and off. If it does, replace the switchback sensor.
	Check if the switchback motor malfunctions.	Check.
	Check if the switchback roller and switchback pulley contact each other.	Check and remedy.
	Check if the switchback guide is deformed.	Check and remedy.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
(45) A paper jam in finisher is indicated during copying (paper entry sensor stay jam). Jam code 94	Extremely curled paper.	Change the paper.
	Defective paper entry sensor.	With 5 V DC present at CN3-1and CN3-3 on the finisher main PWB, check if CN3-2 and CN3-4 on the main PCB remains low or high when the paper entry sensor is turned on and off. If it does, replace the paper entry sensor.
	Check if the paper entry guide is deformed.	Check and remedy.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Problem	Causes/check procedures	Corrective measures
(46) A paper jam in finisher is indicated during copying (paper conveying sensor jam). Jam code 95	Defective paper conveying sensor.	With 5 V DC present at CN9-1 on the finisher main PWB, check if CN9-3 on the finisher main PWB remains low or high when the paper conveying sensor is turned on and off. If it does, replace the paper conveying sensor.
	Check if the paper conveying motor malfunctions.	Check.
	Check if the paper conveying roller and paper conveying pulley contact each other.	Check and remedy.
	Check if the paper conveying guide is deformed.	Check and remedy.
	Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
(47) A paper jam in built-in finisher is indicated during copying (jam between finisher and machine). Jam code 96	Defective intermediate tray sensor.	With 5 V DC present at YC3-1 on the finisher control PWB, check if YC3-2 on the finisher control PWB remains low or high when the intermediate tray sensor is turned on and off. If it does, replace the intermediate tray sensor.

1-4-2 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, 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 safety switches off and back on.

List of system errors
When an unexpected error is detected for some reason, a system error will be indicated. (When 0800 error is detected, JAM05 is indicated.) After a system error is indicated, the error can be cleared by turning the power switch off and then on. If the error is detected continuously, however, perform the operation shown in Table 1-4-1. 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
0800	Image processing problem	Repetition of JAM05 → System error → JAM05
1800	Paper feeder communication error (optional paper feeder)	System error → service call → partial operation
4100	BD initialization problem	System error → Normal service call processing
8800	Document finisher communication error (optional 3000-sheet document finisher)	System error → service call → partial operation
9000	DP communication problem (optional DP)	System error → service call → partial operation

Table 1-4-1

In addition, it is a system error if the following error code is displayed. When an error has occurred, clear the error by turning the main power switch off then on.
CF1XX, CF2XX, CF3XX, CF4XX, CF5XX, CF6XX, CF7XX, CFAXX, CFBXX, 0xFBXX

Partial operation control
If one of the following service codes is detected, partial operation control will be activated. Take actions to clear the cause of the trouble and perform maintenance item U906 to reset partial operation control.

Code	Contents
C0840	Faults of RTC
C1010	Lift motor 1 error
C1020	Lift motor 2 error
C1030	PF lift motor 1 error (optional paper feeder)
C1040	PF lift motor 2 error (optional paper feeder)
C1100	PF lift motor 1 error (optional 3000-sheet paper feeder)
C1110	PF lift motor 2 error (optional 3000-sheet paper feeder)
C1120	PF left lift position problem (optional 3000-sheet paper feeder)
C1130	PF right lift position problem (optional 3000-sheet paper feeder)
C2600	PF paper conveying/drive motor error (optional 3000-sheet paper feeder/paper feeder)
C3210	CIS lamp problem
C3310	CIS AGC problem
C8020	Punch motor problem (optional 3000-sheet document finisher)
C8030	Tray upper limit detection problem (optional document finisher)
C8040	Belt problem (optional document finisher)
C8050	Paper conveying belt motor 1 problem (optional 3000-sheet document finisher)
C8060	Paper conveying belt motor 2 problem (optional 3000-sheet document finisher)
C8070	Inner tray communication error (optional 3000-sheet document finisher)

Code	Contents
C8140	Main tray problem (optional 3000-sheet document finisher)
	Tray elevation motor problem (optional document finisher)
C8170	Side registration motor 1 problem (optional 3000-sheet document finisher)
	Finisher front side registration motor problem (optional built-in finisher)
C8180	Side registration motor 2 problem (optional 3000-sheet document finisher)
	Finisher rear side registration motor problem (optional built-in finisher)
C8190	Finisher trailing edge registration motor problem (optional built-in finisher)
C8210	Stapler moving motor 1 error (optional 3000-sheet document finisher)
	Stapler problem (optional document finisher)
	Finisher stapler problem (optional built-in finisher)
C8220	Stapler moving motor 2 error (optional 3000-sheet document finisher)
C8230	Stapler motor problem (optional 3000-sheet document finisher)
C8300	Center-folding unit communication error (optional center-folding unit of 3000-sheet document finisher)
C8310	Centerfold side registration motor 2 problem (optional center-folding unit of 3000-sheet document finisher)
C8320	Centerfold paper conveying belt motor problem (optional center-folding unit of 3000-sheet document finisher)
	Adjustment motor 2 problem (optional document finisher)
C8330	Blade motor problem (optional center-folding unit of 3000-sheet document finisher)
	Adjustment motor 1 problem (optional document finisher)
C8340	Centerfold staple motor problem (optional center-folding unit of 3000-sheet document finisher)
C8350	Centerfold side registration motor 1 problem (optional center-folding unit of 3000-sheet document finisher)
	Roller motor problem (optional document finisher)
C8360	Centerfold main motor problem (optional center-folding unit of 3000-sheet document finisher)
	Slide motor problem (optional document finisher)
C8440	Sensor adjusting problem (optional document finisher)
C8460	EEPROM problem (optional document finisher)
C8500	Mailbox communication error (optional mailbox of 3000-sheet document finisher)
C8510	Mailbox drive motor problem (optional mailbox of 3000-sheet document finisher)
C9040	DP lift motor going up error (optional DP)
C9050	DP lift motor going down error (optional DP)
C9060	DP EEPROM error (optional DP)
C9070	Communication problem between DP and SHD (optional DP)
C9080	Communication problem between DP and CIS (optional DP)

Measures against the service codes detecting fuser problems

If one of the following service codes is detected, take actions to clear the cause of the trouble and perform maintenance item U163 to reset the service code.

Code	Contents
C6000	Fuser heater break
C6020	Abnormally high fuser thermistor temperature
C6030	Fuser thermistor break error
C6040	Fuser thermistor 1 detection error
C6050	Abnormally low fuser thermistor temperature
C6400	Zero-cross signal error

(2) Self diagnostic codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0030	**Fax control PWB system problem** Processing with the fax software was disabled due to a hardware or software problem.	Defective fax control PWB.	Replace the fax control PWB and verify the operation.
C0060	**Main PWB type mismatch error**	Defective PWB.	Run maintenance item U935 to contact the Service Administrative Division.
C0070	**Abnormal detection of fax control PWB incompatibility** In the initial communication with the fax control PWB, any normal communication command is not transmitted.	Defective fax software.	Install the fax software.
		Defective fax control PWB.	Replace the fax control PWB and verify the operation.
C0100	**Backup memory (EEPROM) device problem (Main PWB)** Reading from or writing to EEPROM cannot be performed.	Defective main PWB.	Replace the main PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C0120	**MAC address data error** For data in which the MAC address is invalid.	Defective main PWB.	Replace the main PWB and check for correct operation.
C0150	**Backup memory (EEPROM) device problem (Engine PWB)** No response is issued from the device in reading/writing for 5 ms or more and this problem is repeated five times successively. Mismatch of reading data from two locations occurs eight times successively. Mismatch between writing data and reading data occurs eight times successively.	Defective engine PWB.	Replace the engine PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C0160	**Backup memory (EEPROM) data problem (Engine PWB)** Reading data from EEPROM is abnormal.	Data damage of EEPROM.	Contact the Service Administrative Division.
C0170	**Copy counts problem** A checksum error is detected in the main and engine backup memories for the copy counters.	Data damage of EEPROM.	Contact the Service Administrative Division.
		Defective PWB.	Replace the main PWB or engine PWB and check for correct operation.
C0180	**Machine number mismatch error** Machine number of main PWB and engine PWB does not match.	Data damage of EEPROM.	Contact the Service Administrative Division.
C0620	**FAX image DIMM problem** DIMM is not installed correctly. DIMM cannot be accessed.	DIMM installed incorrectly.	Check if the DIMM is inserted into the socket on the main PWB correctly.
		Defective main PWB.	Replace the main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C0630	**DMA problem** DMA transmission of image data does not complete within the specified period of time.	Poor contact in the connector terminals.	Check the connection the signal cable for CIS and the main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main PWB.	Replace the main PWB and check for correct operation.
C0640	**Hard disk drive problem** The hard disk cannot be accessed.	Poor contact in the connector terminals.	Check the connection of connector YC49 on the main PWB and the connector on the hard disk. Repair or replace if necessary.
		Defective hard disk.	Run U024 (HDD formatting) without turning the power off to initialize the hard disk. Replace the hard disk drive and check for correct operation if the problem is still detected after initialization.
		Defective main PWB.	Replace the main PWB and check for correct operation.
C0650	**FAX image DIMM check problem** Improper DIMM is installed.	DIMM installed incorrectly.	Check if the DIMM is inserted into the socket on the main PWB correctly.
		DIMM of another machine is installed.	Perform maintenance mode U671 (RECOVERY FAX DIMM).
		Defective main PWB.	Replace the main PWB and check for correct operation.
C0800	**Image processing problem** JAM05 is detected twice.	Defective main PWB.	Replace the main PWB and check for correct operation.
C0830	**Fax control PWB flash program area checksum error** A checksum error occurred with the program of the fax control PWB.	Defective fax software.	Install the fax software.
		Defective fax control PWB.	Replace the fax control PWB and verify the operation.
C0840	**Faults of RTC** 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 main PWB.	Replace the main PWB and check for correct operation.
		The battery is disconnected from the main PWB.	Check visually and remedy if necessary.
C0870	**Fax control PWB to main PWB high capacity data transfer problem** High-capacity data transfer between the fax control PWB and the scanner MIP PWB was not normally performed even if the data transfer was retried 10 times.	Poor contact in the connector terminals.	Check the connection of connector on the interface PWB and the connector on the fax control PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the fax control PWB or main PWB and check for correct operation.
C0920	**Fax file system error** The backup data is not retained for file system abnormality of flash memory of the fax control PWB.	Defective fax control PWB.	Replace the fax control PWB and verify the operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1010	**Lift motor 1 error** After cassette 1 is inserted, lift switch 1 does not turn on within 12 s. This error is detected four times successively.	Poor contact in the connector terminals.	Check the connection of connector of lift motor 1 and the connector YC8 on the engine PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Broken gears or couplings of lift motor 1.	Replace lift motor 1.
		Defective lift motor 1.	Check for continuity across the coil. If none, replace lift motor 1.
		Poor contact in the connector terminals.	Check the connection of connector of lift switch 1 and the connector YC8 on the engine PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective lift switch 1.	Check if YC8-B9 on the engine PWB goes low when lift switch 1 is turned off. If not, replace lift switch 1.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C1020	**Lift motor 2 error** After cassette 2 is inserted, lift switch 2 does not turn on within 12 s. This error is detected four times successively.	Poor contact in the connector terminals.	Check the connection of connector of lift motor 2 and the connector YC8 on the engine PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Broken gears or couplings of lift motor 2.	Replace lift motor 2.
		Defective lift motor 2.	Check for continuity across the coil. If none, replace lift motor 2.
		Poor contact in the connector terminals.	Check the connection of connector of lift switch 2 and the connector YC8 on the engine PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective lift switch 2.	Check if YC8-B15 on the engine PWB goes low when lift switch 2 is turned off. If not, replace lift switch 2.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1030	**PF lift motor 1 error (optional paper feeder)** After cassette 3 is inserted, PF lift switch 1 does not turn on within 12 s. This error is detected two times successively. During driving the motor, the lift overcurrent protective monitor signal is detected for 500 ms or more two times successively. However, the first 1 s after PF lift motor 1 is turned on is excluded from detection.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Broken gears or couplings of PF lift motor 1.	Replace PF lift motor 1.
		Defective PF lift motor 1.	Check for continuity across the coil. If none, replace PF lift motor 1.
		Defective PF lift switch 1.	Check if YC1-7 on the PF main PWB goes low when PF lift switch 1 is turned off. If not, replace PF lift switch 1.
C1040	**PF lift motor 2 error (optional paper feeder)** After cassette 4 is inserted, PF lift switch 2 does not turn on within 12 s. This error is detected two times successively. During driving the motor, the lift overcurrent protective monitor signal is detected for 500 ms or more two times successively. However, the first 1 s after PF lift motor 2 is turned on is excluded from detection.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Broken gears or couplings of PF lift motor 2.	Replace PF lift motor 2.
		Defective PF lift motor 2.	Check for continuity across the coil. If none, replace PF lift motor 2.
		Defective PF lift switch 2.	Check if YC1-9 on the PF main PWB goes low when PF lift switch 2 is turned off. If not, replace PF lift switch 2.
C1100	**PF lift motor 1 error (optional 3000-sheet paper feeder)** A motor over-current signal is detected continuously for 1 s or longer.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		PF lift motor 1 does not rotate correctly (the motor is overloaded).	Check the gears and remedy if necessary.
C1110	**PF lift motor 2 error (optional 3000-sheet paper feeder)** A motor over-current signal is detected continuously for 1 s or longer.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		PF lift motor 2 does not rotate correctly (the motor is overloaded).	Check the gears and remedy if necessary.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C1120	**PF left lift position problem (optional 3000-sheet paper feeder)** Level switch 1 does not turn on within 30 s of PF lift motor 1 turning on.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective level switch 1.	Check if YC5-4 on the PF main PWB goes low when level switch 1 is turned off. If not, replace level switch 1.
		Defective PF lift motor 1.	Check for continuity across the coil. If none, replace PF lift motor 1.
		The PF left lift does not rise properly.	Check the gears and belts, and remedy if necessary.
C1130	**PF right lift position problem (optional 3000-sheet paper feeder)** Level switch 2 does not turn on within 30 s of PF lift motor 2 turning on.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective level switch 2.	Check if YC5-7 on the PF main PWB goes low when level switch 2 is turned off. If not, replace level switch 2.
		Defective PF lift motor 2.	Check for continuity across the coil. If none, replace PF lift motor 2.
		The PF right lift does not rise properly.	Check the gears and belts, and remedy if necessary.
C1800	**Paper feeder communication error (optional paper feeder)** A communication error from paper feeder is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the PF main PWB or engine PWB and check for correct operation.
C1900	**Paper feeder EEPROM error (optional paper feeder)** When writing the data, the write data and the read data is not continuously in agreement three times.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
		Defective paper feeder.	Replace the paper feeder with another unit and check the operation. If the operation is normal, replace or repair optional paper feeder.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2000	**Drive motor problem** Stable OFF is detected for 1 s continuously after drive motor stability. The drive motor is not stabilized in 6 s since the motor is activated.	Poor contact in the connector terminals.	Check the connection of connector YC11 on the engine PWB and the connector on the drive motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
		Defective drive motor.	Replace the drive motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C2250	**Main charger cleaning motor error** A locking error has been detected three times in a row during a reciprocating cleaning motion.	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine PWB and the connector on the main charger cleaning motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
		Defective main charger cleaning motor.	Replace the main charger cleaning motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C2500	**Paper feed motor error** Stable OFF is detected for 1 s continuously after paper feed motor stability. The paper feed motor is not stabilized in 6 s since the motor is activated.	Poor contact in the connector terminals.	Check the connection of connector YC11 on the engine PWB and the connector on the paper feed motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
		Defective paper feed motor.	Replace the paper feed motor.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C2600	**PF paper conveying/drive motor error (optional 3000-sheet paper feeder/ paper feeder)** The lock signal of the motor is detected above 450 ms.	Poor contact in the connector terminals.	Check the connection of connector YC15 on the engine PWB and the connector on the PF main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
		Defective PF paper conveying/drive motor.	Replace the PF paper conveying/drive motor.
		Defective PWB.	Replace the PF main PWB or engine PWB and check for correct operation.
C3100	**Scanner carriage problem** The home position is not correct when the power is turned on or at the start of copying using the table.	Poor contact in the connector terminals.	Check the connection of connector YC8 on the ISM PWB and the connector of the home position switch, and the connection of connector YC7 on the ISM PWB and the connector on the scanner motor and the continuity across the connector terminals. Repair or replace if necessary.
		Defective home position switch.	Replace the scanner home position switch.
		Defective scanner motor.	Replace the scanner motor.
		The mirror frame, exposure lamp, or scanner wire is defective.	Check if the mirror flames and exposure lamp are on the rail. And check the scanner wire winds correctly.
		Defective PWB.	Replace the ISM PWB or ISC PWB and check for correct operation.
C3200	**Exposure lamp problem** When input value at the time of exposure lamp illumination does not exceed the threshold value between 5 s.	Poor contact in the connector terminals.	Check the connection of connector YC5 on the ISM PWB and the connector on the inverter PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective exposure lamp or inverter PWB.	Replace the exposure lamp or inverter PWB.
		Incorrect shading position.	Adjust the position of the contact glass (shading plate). If the problem still occurs, replace the home position switch.
		Defective PWB.	Replace the ISM PWB, ISC PWB or CCD PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C3210	**CIS lamp problem** When input value at the time of CIS illumination does not exceed the threshold value between 5 s.	Poor contact in the connector terminals.	Check the connection of connector on the ISM PWB and the connector on the DP driver PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
		Defective CIS.	Replace the CIS and check for correct operation.
C3300	**Optical system (AGC) problem** After AGC, correct input is not obtained at CCD.	Poor contact in the connector terminals.	Check the connection of connector YC5 on the ISM PWB and the connector on the inverter PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective exposure lamp or inverter PWB.	Replace the exposure lamp or inverter PWB.
		Defective PWB.	Replace the ISM PWB, ISC PWB or CCD PWB and check for correct operation.
C3310	**CIS AGC problem** After AGC, correct input is not obtained at CIS.	Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
		CIS output problem.	Replace the CIS and check for correct operation.
		Defective DP inverter PWB.	Replace the DP inverter PWB and check for correct operation.
C3500	**Communication error between scanner and SHD** An error code is detected.	Poor contact in the connector terminals.	Check the connection of connector YC2 on the CCD PWB and the connector YC2 on the ISC PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the CCD PWB or ISC PWB and check for correct operation.
C3900	**Backup memory read/write problem (ISC PWB)** Read and write data does not match.	Defective backup RAM or PWB.	Replace the ISC PWB or ISM PWB and check for correct operation.
C3910	**Backup memory data problem (ISC PWB)** Data in the specified area of the backup memory does not match the specified values.	Defective backup RAM or PWB.	Replace the ISC PWB or ISM PWB and check for correct operation.
C4000	**Polygon motor synchronization problem** The polygon motor does not reach the stable speed within 20 s of the START signal turning on.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine PWB and laser scanner unit, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective polygon motor.	Replace the laser scanner unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C4010	**Polygon motor steady-state problem** Stable OFF is detected for 20 s continuously after polygon motor stability.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine PWB and laser scanner unit, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective polygon motor.	Replace the laser scanner unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C4100	**BD initialization problem** 5 consecutive BD errors were detected during an 800 ms interval after the polygon motor stabilized.	Poor contact in the connector terminals.	Check the connection of connector YC3 on the engine PWB and laser scanner unit, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective polygon motor.	Replace the laser scanner unit.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C6000	**Fuser heater break** Fuser thermistor 1 detected less than 70°C/158°F for 10 s during warm-up and ready in. During warm-up, the temperature at the fuser unit thermistor 1 does not rise by 1°C/1.8°F continuously for 5 s. Fuser thermistor 2 detected less than 40°C/104°F for 10 s during warm-up and ready in. During warm-up, the temperature at the fuser unit thermistor 2 does not rise by 1°C/1.8°F continuously for 5 s.	Defective fuser heater 1 or 2.	Replace the fuser heater 1 or 2.
		Installation defectiveness on fuser thermistor 1 or 2.	Check the mounting state of the fuser thermistor 1. If any problem is found, repair it.
		Defective fuser thermostat.	Replace the fuser thermostat.
		Defective PWB.	Replace the power source PWB or engine PWB and check for correct operation.
C6020	**Abnormally high fuser thermistor temperature** Fuser thermistor 1 or 2 is detected 250°C/482°F or more for 40 ms.	Installation defectiveness on fuser thermistor 1 or 2.	Check the mounting state of the fuser thermistor 1 or 2. If any problem is found, repair it.
		Defective fuser thermistor unit 1 or 2.	Replace the fuser thermistor 1 or 2.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C6030	**Fuser thermistor break error** The fuser thermistor break signal is detected continuously for 1 s.	Installation defectiveness on fuser thermistor 1 or 2.	Check the mounting state of the fuser thermistor 1 or 2. If any problem is found, repair it.
		Defective fuser thermistor 1 or 2.	Replace the fuser thermistor 1 or 2.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C6040	**Fuser thermistor 1 detection error** Fuser thermistor 1 detected an abnormal value for at least 1 s.	Installation defectiveness on fuser thermistor 1.	Check the mounting state of the fuser thermistor 1. If any problem is found, repair it.
		Defective fuser thermistor 1.	Replace the fuser thermistor 1.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
C6050	**Abnormally low fuser thermistor temperature** Fuser thermistor 1 is detected 80°C/176°F less than 1 s continuously during copying.	Defective fuser heater 1 or 2.	Replace the fuser heater 1 or 2.
		Installation defectiveness on fuser thermistor 1.	Check the mounting state of the fuser thermistor 1. If any problem is found, repair it.
		Defective PWB.	Replace the power source PWB or engine PWB and check for correct operation.
C6400	**Zero-cross signal error** While fuser heater ON/OFF control is performed, the zero-cross signal is not input within 3 s.	Defective PWB.	Replace the power source PWB or engine PWB and check for correct operation.
C6410	**Fuser unit connector insertion problem** Absence of the fuser unit is detected.	Fuser unit connector inserted incorrectly.	Reinsert the fuser unit connector if necessary.
		Defective fuser unit connector.	Replace the fuser unit.
C7300	**Toner container problem** Toner level is not detected when toner empty is detected.	Poor contact in the connector terminals.	Check the connection of connector YC5 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective toner container sensor.	Replace the toner container sensor.
C7400	**Developing unit connector insertion problem** Absence of the developing unit is detected.	Developing unit connector inserted incorrectly.	Reinsert the developing unit connector if necessary.
		Defective developing unit connector.	Replace the developing unit.
C7410	**Drum unit connector insertion problem** Absence of the drum unit is detected.	Drum unit connector inserted incorrectly.	Reinsert the drum unit connector if necessary.
		Defective drum unit connector.	Replace the drum unit.
C7800	**Broken external thermistor wire** The thermistor output value is 4.5 V or more.	Poor contact in the connector terminals.	Check the connection of connector YC10 on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective humidity sensor.	Replace the humidity sensor.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C7900	**Drum EEPROM error** Reading from or writing to EEPROM cannot be performed.	Poor contact in the connector terminals.	Check the connection of connector on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective drum unit.	Replace the drum unit.
C7910	**Developing unit EEPROM error** Reading from or writing to EEPROM cannot be performed.	Poor contact in the connector terminals.	Check the connection of connector on the engine PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective developing unit.	Replace the developing unit.
C8020	**Punch motor problem (optional 3000-sheet document finisher)** The error signal of the punch motor is detected for more than 500 ms while the punch motor is operating.	Poor contact in the connector terminals.	Check the connection of connector on the punch PWB and the continuity across the connector terminals. Repair or replace if necessary.
		Defective punch motor.	Replace the punch motor.
		Defective PWB.	Replace the punch PWB or finisher main PWB and check for correct operation.
C8030	**Tray upper limit detection problem (optional document finisher)** When the tray elevation motor raises a tray, the ON status of the tray upper limit sensor is detected.	The tray upper limit sensor, paper surface sensor 1/2 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective tray upper limit sensor, paper surface sensor 1/2.	Replace the sensor.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8040	**Belt problem (optional document finisher)** The belt sensor does not turn on/off within specified time of the belt solenoid turning on.	The belt sensor, belt solenoid connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective belt sensor.	Replace the belt sensor.
		Defective belt solenoid.	Replace the belt solenoid.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8050	**Paper conveying belt motor 1 problem (optional 3000-sheet document finisher)** Paper conveying belt home position sensor 1 does not turn off within 1.5 s. Paper conveying belt home position sensor 1 does not turn on within 2.5 s. Jam 88 is indicated.	Poor contact in the connector terminals.	Check the connection of connector YC2 on the inner tray PWB and the connector on paper conveying belt motor 1, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective paper conveying belt home position sensor 1.	Replace paper conveying belt home position sensor 1.
		Defective paper conveying belt motor 1.	Replace paper conveying belt motor 1.
		Defective PWB.	Replace the inner tray PWB or finisher main PWB and check for correct operation.
C8060	**Paper conveying belt motor 2 problem (optional 3000-sheet document finisher)** Paper conveying belt home position sensor 2 does not turn off within 1.5 s. Paper conveying belt home position sensor 2 does not turn on within 1.5 s.	Poor contact in the connector terminals.	Check the connection of connector YC6 on the inner tray PWB and the connector on paper conveying belt motor 2, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective paper conveying belt home position sensor 2.	Replace paper conveying belt home position sensor 2.
		Defective paper conveying belt motor 2.	Replace paper conveying belt motor 2.
		Defective PWB.	Replace the inner tray PWB or finisher main PWB and check for correct operation.
C8070	**Inner tray communication error (optional 3000-sheet document finisher)** Communication with the inner tray is not possible although the connection is detected.	Poor contact in the connector terminals.	Check the connection of connector YC6 and YC24 on the finisher main PWB and the connector YC1 and YC4 on the inner tray PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the inner tray PWB or finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8140	**Main tray problem (optional 3000-sheet document finisher)** The main tray is not detected by the main tray upper limit detection sensor or the main tray paper upper surface detection sensor within 20 s since the tray has started ascending. The main tray upper limit detection sensor or the main tray paper upper surface detection sensor is not detected to be turned off in 20 s after the main tray has descended. The main tray low limit detection sensor is not detected to be turned on in 20 s after the main tray has descended. During main tray ascent, the main tray upper limit detection sensor or the main tray paper upper surface detection sensor stays on for more than 2 s.	Poor contact in the connector terminals.	Check the connection of connector YC11 on the finisher main PWB and the connector on the main tray motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective main tray motor.	Replace the main tray motor.
		Defective main tray upper limit detection sensor/main tray paper upper surface detection sensor/main tray lower limit detection sensor.	Replace the sensor.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Tray elevation motor problem (optional document finisher) The tray low limit sensor or paper surface sensor 1/2 cannot be detected to be on within 10 s since the tray elevation motor is activated.	The tray elevation motor connector makes poor contact.	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.
		The tray lower limit sensor, paper surface sensor 1/2 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective tray lower limit sensor, paper surface sensor 1/2.	Replace the sensor.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8170	**Side registration motor 1 problem (optional 3000-sheet document finisher)** When operation returned to a home position is performed at the time of initial operation and a home position is not detected even if 3 s passed. Jam 88 is indicated.	Poor contact in the connector terminals.	Check the connection of connector YC2 on the inner tray PWB and the connector on side registration motor 1, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective side registration motor 1.	Replace side registration motor 1.
		Defective PWB.	Replace the inner tray PWB or finisher main PWB and check for correct operation.
	Finisher front side registration motor problem (optional built-in finisher) When the front-side registration home-position sensor is turned on during initialization, the sensor did not turn on while it has moved by 106 pulses. When the front-side registration home-position sensor is turned off during initialization, the sensor did not turn on in 3 s.	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.
		Defective front side registration motor.	Replace front side registration motor.
		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.
		Defective front side registration home position sensor.	Replace the front side registration home position sensor.
		Defective finisher control PWB.	Replace the finisher control PWB and check for correct operation.
C8180	**Side registration motor 2 problem (optional 3000-sheet document finisher)** When operation returned to a home position is performed at the time of initial operation and a home position is not detected even if 3 s passed. Jam 88 is indicated.	Poor contact in the connector terminals.	Check the connection of connector YC8 on the inner tray PWB and the connector of side registration motor 2, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective side registration motor 2.	Replace side registration motor 2.
		Defective PWB.	Replace the inner tray PWB or finisher main PWB and check for correct operation.
	Finisher rear side registration motor problem (optional built-in finisher) When the rear-side registration home-position sensor is turned on during initialization, the sensor did not turn on while it has moved by 106 pulses. When the rear-side registration home-position sensor is turned off during initialization, the sensor did not turn on in 3 s.	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.
		Defective rear side registration motor.	Replace rear side registration motor.
		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.
		Defective rear side registration home position sensor.	Replace the rear side registration home position sensor.
		Defective finisher control PWB.	Replace the finisher control PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8190	**Finisher trailing edge registration motor problem (optional built-in finisher)** When the trailing edge registration home-position sensor is turned on during initialization, the sensor did not turn on while it has moved by 106 pulses. When the trailing edge registration home-position sensor is turned off during initialization, the sensor did not turn on in 3 s.	The trailing edge registration motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective trailing edge registration motor.	Replace trailing edge registration motor.
		The trailing edge 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.
		Defective trailing edge registration home position sensor.	Replace the trailing edge registration home position sensor.
		Defective finisher control PWB.	Replace the finisher control PWB and check for correct operation.
C8210	**Stapler moving motor 1 error (optional 3000-sheet document finisher)** When operation returned to a home position is performed at the time of initial operation and a home position is not detected even if 1.5 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC9 on the finisher main PWB and the connector of stapler moving motor 1, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective stapler moving motor 1.	Replace stapler moving motor 1.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Stapler problem (optional document finisher) Jam 82 is indicated.	The stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The stapler is blocked with a staple.	Remove the stapler cartridge, and check the cartridge and the stapling section of the stapler.
		The stapler is broken.	Replace the stapler and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
	Finisher stapler problem (optional built-in finisher) The stapler home position sensor does not change state from nondetection to detection within 200 ms of the start of stapler motor counterclockwise (forward) rotation. During initialization, the stapler home position sensor does not change state from non-detection to detection within 600 ms of the start of stapler motor clockwise (reverse) rotation.	The stapler connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		The stapler is blocked with a staple.	Remove the stapler cartridge, and check the cartridge and the stapling section of the stapler.
		The stapler is broken.	Replace the front stapler and check for correct operation.
		Defective finisher control PWB.	Replace the finisher control PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8220	**Stapler moving motor 2 error (optional 3000-sheet document finisher)** When operation returned to a home position is performed at the time of initial operation and a home position is not detected even if 3.5 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC10 on the finisher main PWB and the connector of staple relay PWB and stapler moving motor 2, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective stapler moving motor 2.	Replace stapler moving motor 2.
		Defective staple relay PWB.	Replace the staple relay PWB and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8230	**Stapler motor problem (optional 3000-sheet document finisher)** Jam 82 is indicated.	Poor contact in the connector terminals.	Check the connection of connector YC10 on the finisher main PWB and the connector of staple relay PWB and stapler motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective stapler motor.	Replace the stapler motor.
		Defective staple relay PWB.	Replace the staple relay PWB and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8300	**Center-folding unit communication error (optional center-folding unit of 3000-sheet document finisher)** Communication with the center-folding unit is not possible although the connection is detected.	Poor contact in the connector terminals.	Check the connection of connector YC5 and YC20 on the finisher main PWB and the connector YC1 and YC2 on the centerfold main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold set switch.	Replace the centerfold set switch.
		Defective centerfold main PWB.	Replace the centerfold main PWB and check for correct operation.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8310	**Centerfold side registration motor 2 problem (optional center-folding unit of 3000-sheet document finisher)** The home position is not detected when initial operation even if 1 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC6 on the centerfold main PWB and the connector of centerfold side registration motor 2, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold side registration motor 2.	Replace centerfold side registration motor 2.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8320	**Centerfold paper conveying belt motor problem (optional center-folding unit of 3000-sheet document finisher)** The home position is not detected when initial operation even if 2.5 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC6, YC7 on the centerfold main PWB and the connector of centerfold paper conveying belt motor 1/2, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold paper conveying belt motor 1/2.	Replace centerfold paper conveying belt motor 1/2.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.
	Adjustment motor 2 problem (optional document finisher) The adjustment sensor 2 does not turn on/off within specified time of the adjustment motor 2 turning on.	The adjustment sensor 2, adjustment motor 2 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective adjustment sensor 2.	Replace the adjustment sensor 2.
		Defective adjustment motor 2.	Replace the adjustment motor 2.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8330	**Blade motor problem (optional center-folding unit of 3000-sheet document finisher)** The home position is not detected when initial operation even if 1.5 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC8 on the centerfold main PWB and the connector of the blade motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective blade motor.	Replace the blade motor.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.
	Adjustment motor 1 problem (optional document finisher) The adjustment sensor 1 does not turn on/off within specified time of the adjustment motor 1 turning on.	The adjustment sensor 1, adjustment motor 1 connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective adjustment sensor 1.	Replace the adjustment sensor 1.
		Defective adjustment motor 1.	Replace the adjustment motor 1.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8340	**Centerfold staple motor problem (optional center-folding unit of 3000-sheet document finisher)** Jam 89 is indicated.	Poor contact in the connector terminals.	Check the connection of connector YC9 on the centerfold main PWB and the connector of the centerfold staple motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold staple motor.	Replace the centerfold staple motor.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.
C8350	**Centerfold side registration motor 1 problem (optional center-folding unit of 3000-sheet document finisher)** The home position is not detected when initial operation even if 1 s passed.	Poor contact in the connector terminals.	Check the connection of connector YC7 on the centerfold main PWB and the connector of centerfold side registration motor 1, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold side registration motor 1.	Replace centerfold side registration motor 1.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.
	Roller motor problem (optional document finisher) The roller sensor does not turn on/off within specified time of the roller motor turning on.	The roller sensor, roller motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective roller sensor.	Replace the roller sensor.
		Defective roller motor.	Replace the roller motor.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8360	**Centerfold main motor problem (optional center-folding unit of 3000-sheet document finisher)** The motor lock signal is detected above 1 s during driving the centerfold main motor.	Poor contact in the connector terminals.	Check the connection of connector YC12 on the centerfold main PWB and the connector of the centerfold main motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective centerfold main motor.	Replace the centerfold main motor.
		Defective PWB.	Replace the centerfold main PWB or finisher main PWB and check for correct operation.
	Slide motor problem (optional document finisher) The slide sensor does not turn on/off within specified time of the slide motor turning on.	The slide sensor, slide motor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective slide sensor.	Replace the slide sensor.
		Defective slide motor.	Replace the slide motor.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8440	**Sensor adjusting problem (optional document finisher)** The sensor cannot be adjusted within the specified range.	The paper entry sensor connector makes poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective paper entry sensor.	Replace the paper entry sensor and check for correct operation.
		The optical path of the paper entry sensor is blocked by foreign matter.	Remove the foreign matter.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8460	**EEPROM problem (optional document finisher)** Reading from or writing to EEPROM cannot be performed.	Defective EEPROM or finisher main PWB.	Replace the finisher main PWB and check for correct operation.
C8500	**Mailbox communication error (optional mailbox of 3000-sheet document finisher)** Communication with the mailbox is not possible although the connection is detected.	Poor contact in the connector terminals.	Check the connection of the connector of the mailbox and the connector YC7 on the finisher main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the mailbox main PWB or finisher main PWB and check for correct operation.
C8510	**Mailbox drive motor problem (optional mailbox of 3000-sheet document finisher)** The motor lock signal is detected above 500 ms during driving the mailbox drive motor.	Poor contact in the connector terminals.	Check the connection of connector YC5 on the mailbox main PWB and the connector of the mailbox drive motor, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective mailbox drive motor.	Replace the mailbox drive motor.
		Defective PWB.	Replace the mailbox main PWB or finisher main PWB and check for correct operation.
C8800	**Document finisher communication error (optional 3000-sheet document finisher)** A communication error from document finisher is detected 10 times in succession.	Poor contact in the connector terminals.	Check the connection of connector on the engine PWB and the connector on the finisher main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the finisher main PWB or engine PWB and check for correct operation.
C8900	**Finisher backup problem (optional 3000-sheet document finisher)** Read and write data does not match 3 times in succession.	Poor contact in the connector terminals.	Check the connection of connector on the finisher main PWB and the connector of the machine, and the continuity across the connector terminals. Repair or replace if necessary.
		EEPROM installed incorrectly.	Install EEPROM correctly.
		Defective finisher main PWB.	Replace the finisher main PWB and check for correct operation.

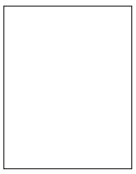
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C8910	**Punch backup problem (optional of 3000-sheet document finisher)** Read and write data does not match 3 times in succession.	Poor contact in the connector terminals.	Check the connection of connector on the punch PWB and the connector YC4 on the finisher main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective punch PWB.	Replace the punch PWB and check for correct operation.
C8920	**Mailbox backup problem (optional mailbox of 3000-sheet document finisher)** Read and write data does not match.	Poor contact in the connector terminals.	Check the connection of connector on the mailbox main PWB and the connector YC7 on the finisher main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective mailbox main PWB.	Replace the mailbox main PWB and check for correct operation.
C8930	**Center-folding backup problem (optional center-folding unit of 3000-sheet document finisher)** Read and write data does not match 3 times in succession.	Poor contact in the connector terminals.	Check the connection of connector on the centerfold main PWB and the connector YC5 on the finisher main PWB, and the continuity across the connector terminals. Repair or replace if necessary.
		EEPROM installed incorrectly.	Install EEPROM correctly.
		Defective centerfold main PWB.	Replace the centerfold main PWB and check for correct operation.
C9000	**DP communication problem (optional DP)** A communication error is detected.	Poor contact in the connector terminals.	Check the connection of connector YC6 on the ISM PWB and the connector of the DP, and the continuity across the connector terminals. Repair or replace if necessary.
		Defective PWB.	Replace the DP driver PWB or ISM PWB and check for correct operation.
C9040	**DP lift motor going up error (optional DP)** The tray upper limit switch does not turn on within 2 s of DP lift motor turning on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Loose connection of the tray upper limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the tray upper limit switch.	Replace the tray upper limit switch and check for correct operation.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
C9050	**DP lift motor going down error (optional DP)** The tray lower limit switch does not turn on within 2 s of DP lift motor turning on.	Loose connection of the DP lift motor connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the DP lift motor.	Replace the DP lift motor and check for correct operation.
		Loose connection of the tray lower limit switch connector.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Malfunction of the tray lower limit switch.	Replace the tray lower limit switch and check for correct operation.
		Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
C9060	**DP EEPROM error (optional DP)** Read and write data does not match. Data in the specified area of the backup memory does not match the specified values.	Defective DP driver PWB.	Replace the DP driver PWB and check for correct operation.
		Device damage of EEPROM.	Contact the Service Administrative Division.
C9070	**Communication problem between DP and SHD (optional DP)** A communication error is detected.	Loose connection of the SHD PWB.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective SHD PWB.	Replace the SHD PWB and check for correct operation.
C9080	**Communication problem between DP and CIS (optional DP)** A communication error is detected.	Loose connection of CIS.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective CIS.	Replace CIS and check for correct operation.
C9500			Contact the Service Administrative Division.
C9510			Contact the Service Administrative Division.
C9520			Contact the Service Administrative Division.
F000	**Operation panel PWB communication error**	Defective main PWB.	Replace the main PWB and check for correct operation.
		Defective operation panel PWB.	Replace the operation panel PWB and check for correct operation.
F040	**Engine PWB communication error**	Defective main PWB.	Replace the main PWB and check for correct operation.
		Defective engine PWB.	Replace the engine PWB and check for correct operation.
F041	**Scanner PWB communication error**	Defective main PWB.	Replace the main PWB and check for correct operation.
		Defective ISM PWB.	Replace the ISM PWB and check for correct operation.
F050	**Engine ROM checksum error**	Defective engine PWB.	Replace the engine PWB and check for correct operation.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
F090	**Fax control PWB communication error**	Defective main PWB.	Replace the main PWB and check for correct operation.
F278	**Power supply in drive system error**	Main power switch was turned off without using the power key, or a power failure has occurred.	Turn on power. (To switch off power, first press the power key until the main power indicator goes off, then turn the main power switch off.)

1-4-3 Image formation problems

(1)No image appears (entirely white).



See page 1-4-49.

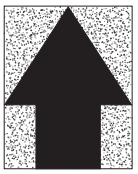
(2)No image appears (entirely black).

See page 1-4-49.

(3)Image is too light.

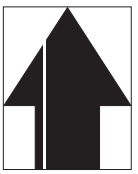
See page 1-4-50.

(4)Background is visible.



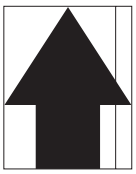
See page 1-4-50.

(5)A white line appears longitudinally.



See page 1-4-50.

(6)A black line appears longitudinally.

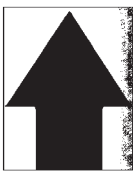


See page 1-4-51.

(7)A black line appears laterally.

See page 1-4-51.

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

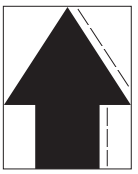


See page 1-4-51.

(9)Black dots appear on the image.

See page 1-4-51.

(10)Image is blurred.



See page 1-4-52.

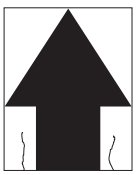
(11)The leading edge of the image is consistently misaligned with the original.

See page 1-4-52.

(12)The leading edge of the image is sporadically misaligned with the original.

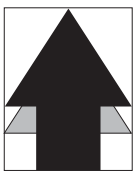
See page 1-4-52.

(13)Paper creases.



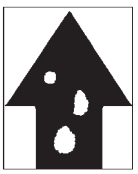
See page 1-4-52.

(14)Offset occurs.



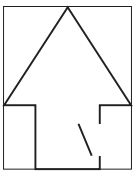
See page 1-4-53.

(15)Image is partly missing.



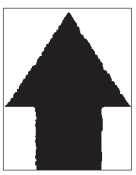
See page 1-4-53.

(16)Fusing is poor.



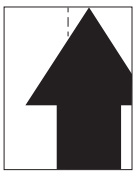
See page 1-4-53.

(17)Image is out of focus.



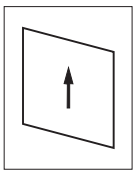
See page 1-4-53.

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



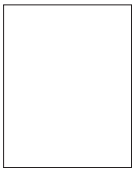
See page 1-4-54.

(19)Image is not square.



See page 1-4-54.

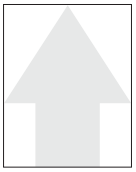
(1) No image appears (entirely white).

Copy example	Causes		Check procedures/corrective measures
	No transfer charging.	The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective engine PWB.	Check if YC13-10 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
		Defective high voltage PWB.	Check if transfer charging takes place when CN1-10 on the high voltage PWB goes low while maintenance item U101 is run. If not, replace the high voltage PWB.
	No LSU laser is output.	Defective laser scanner unit.	Replace the laser scanner unit (see page 1-5-22).
		Defective main PWB.	Check if YC3-11 on the main PWB goes low when maintenance item U100 is run. If not, replace the main PWB.
	No developing bias output.	The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective engine PWB.	Check if YC13-1 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
		Defective high voltage PWB.	Check if developing bias is output when CN1-1 on the high voltage PWB goes low while maintenance item U101 is run. If not, replace the high voltage PWB.

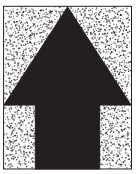
(2) No image appears (entirely black).

Copy example	Causes		Check procedures/corrective measures
	No main charging.	Broken main charger wire.	Replace the main charger unit (see page 1-5-26).
		Leaking main charger housing.	Clean the main charger wire and grid.
		The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective engine PWB.	Check if YC13-4 on the engine PWB goes low when maintenance item U100 is run. If not, replace the engine PWB.
		Defective high voltage PWB.	Check if main charging takes place when CN1-4 on the high voltage PWB goes low while maintenance item U100 is run. If not, replace the high voltage PWB.
	Exposure lamp fails to light.	Poor contact in the exposure lamp connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective inverter PWB.	Check if the exposure lamp lights when the terminal on the inverter PWB goes low while maintenance item U061 is run. If not, replace the inverter PWB.
		Defective ISM PWB.	Run maintenance item U061 and check if YC5-4 on the ISM PWB goes low. If not, replace the ISM PWB.

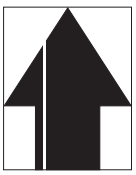
(3) Image is too light.

Copy example	Causes		Check procedures/corrective measures
	Insufficient toner.		If the display shows the message requesting toner replenishment, replace the container.
	Deteriorated toner.		Perform the drum refresh operation.
	Defective transfer charging output.	The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
		Defective engine PWB.	Check if YC13-10 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
		Defective high voltage PWB.	Check if transfer charging takes place when CN1-10 on the high voltage PWB goes low while maintenance item U101 is run. If not, replace the high voltage PWB.

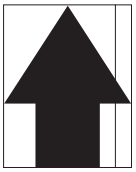
(4) Background is visible.

Copy example	Causes	Check procedures/corrective measures
	Deteriorated toner.	Perform the drum refresh operation.
	Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it (see page 1-5-26).

(5) A white line appears longitudinally.

Copy example	Causes	Check procedures/corrective measures
	Foreign matter in the developing unit.	Check if the magnetic brush is formed uniformly. Replace the developing unit if any foreign matter (see page 1-5-28).
	Dirty shading plate.	Clean the shading plate.

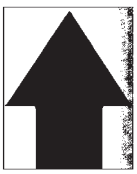
(6) A black line appears longitudinally.

Copy example	Causes	Check procedures/corrective measures
	Dirty contact glass.	Clean the contact glass.
	Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-5-25).
	Deformed or worn cleaning blade.	Replace the drum unit (see page 1-5-25).
	Dirty scanner mirror.	Clean the scanner mirror.
	Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it (see page 1-5-26).

(7) A black line appears laterally.

Copy example	Causes	Check procedures/corrective measures
	Flawed drum.	Replace the drum unit (see page 1-5-25).
	Dirty developing section.	Clean any part contaminated with toner in the developing section.
	Leaking main charger housing.	Clean the main charger wire and grid.
	Leaking separation electrode.	Clean the separation electrode.

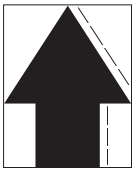
(8) One side of the copy image is darker than the other.

Copy example	Causes	Check procedures/corrective measures
	Dirty main charger wire.	Clean the wire or, if it is extremely dirty, replace it (see page 1-5-26).
	Defective exposure lamp.	Check if the exposure lamp light is distributed evenly to run maintenance item U061. If not, replace the exposure lamp (see page 1-3-27 and page 1-5-12).

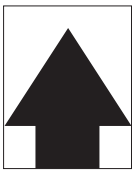
(9) Black dots appear on the image.

Copy example	Causes	Check procedures/corrective measures
	Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-5-25).
	Dirty contact glass.	Clean the contact glass.
	Deformed or worn cleaning blade.	Replace the drum unit (see page 1-5-25).
	Dirty drum separation claws.	Clean the drum separation claws.
	Dirty the heat roller separation claws.	Clean the heat roller separation claws.

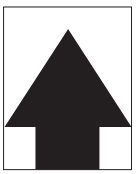
(10) Image is blurred.

Copy example	Causes	Check procedures/corrective measures
	Scanner moves erratically.	Check if there is any foreign matter on the front and rear scanner rails. If any, remove it.
	Deformed press roller.	Replace the press roller (see page 1-5-32).
	Paper conveying section drive problem.	Check the gears and belts and, if necessary, grease them.

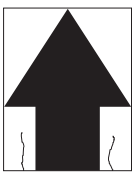
(11) The leading edge of the image is consistently misaligned with the original.

Copy example	Causes	Check procedures/corrective measures
	Misadjusted leading edge registration.	Run maintenance mode U034 to readjust the leading edge registration (see page 1-3-22).
	Misadjusted scanner leading edge registration.	Run maintenance mode U066 to readjust the scanner leading edge registration (see page 1-3-29).

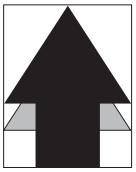
(12) The leading edge of the image is sporadically misaligned with the original.

Copy example	Causes	Check procedures/corrective measures
	Feed clutch, paper feed clutch, MP paper feed clutch or registration clutch installed or operating incorrectly.	Check the installation position and operation of each clutch. If any of them operates incorrectly, replace it.

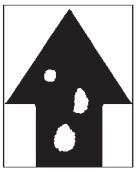
(13) Paper creases.

Copy example	Causes	Check procedures/corrective measures
	Paper curled.	Check the paper storage conditions.
	Paper damp.	Check the paper storage conditions.
	Defective pressure springs.	Replace the pressure springs.
	Defective separation.	Check the drum separation claws and heat roller separation claws.

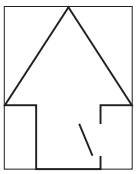
(14) Offset occurs.

Copy example	Causes	Check procedures/corrective measures
	Defective cleaning blade.	Replace the drum unit (see page 1-5-25).
	Defective fuser unit.	Check the heat roller and press roller.
	Wrong types of paper.	Check if the paper meets specifications. Replace paper.

(15) Image is partly missing.

Copy example	Causes	Check procedures/corrective measures
	Paper damp.	Check the paper storage conditions.
	Paper creased.	Replace the paper.
	Drum condensation.	Perform the drum refresh operation.
	Dirty or flawed drum.	Perform the drum refresh operation. If the drum is flawed, replace the drum unit (see page 1-5-25).

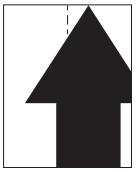
(16) Fusing is poor.

Copy example	Causes	Check procedures/corrective measures
	Wrong types of paper.	Check if the paper meets specifications. Replace paper.
	Defective pressure springs.	Replace the pressure springs.
	Flawed press roller.	Replace the press roller (see page 1-5-32).
	Flawed fuser heater.	Replace the fuser heaters (see page 1-5-33).

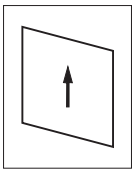
(17) Image is out of focus.

Copy example	Causes	Check procedures/corrective measures
	Defective image scanning unit.	Replace the image scanning unit (see page 1-5-20).
	Drum condensation.	Perform the drum refresh operation.

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

Copy example	Causes	Check procedures/corrective measures
	Misadjusted image center line.	Run maintenance item U034 to readjust the center line of image printing (see page 1-3-23).
	Misadjusted scanner center line.	Run maintenance item U067 to readjust the scanner leading edge registration (see page 1-3-30).
	Original is not placed correctly.	Place the original correctly.

(19) Image is not square.

Copy example	Causes	Check procedures/corrective measures
	Laser scanner unit positioned incorrectly.	Adjust the installation position of the laser scanner unit (see page 1-5-24).

1-4-4 Electric problems

Troubleshooting to each failure must be in the order of the numbered symptoms.

Problem	Causes	Check procedures/corrective measures
(1) The machine does not operate when the main power switch is turned on.	1. The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	2. No electricity at the power outlet.	Measure the input voltage.
	3. Broken power cord.	Check for continuity. If none, replace the cord.
	4. Defective main power switch.	Check for continuity across the contacts. If none, replace the main power switch.
	5. Defective power source PWB.	With AC present, check for 24 V DC at YC1-1 on the power source PWB, 5 V DC at YC1-6 and 3.3 V DC at YC1-5. If none, replace the power source PWB.
(2) The eject motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective drive transmission system.	Check if the rollers and gears rotate smoothly. If not, grease the bushings and gears. Check for broken gears and replace if any.
	3. Defective eject motor.	Run maintenance item U030 and check if the eject motor operates. If not, replace the eject motor.
	4. Defective engine PWB.	Run maintenance item U030 and check if the eject motor operates. If not, replace the engine PWB.
(3) The scanner motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken motor coil.	Check for continuity across the coil. If none, replace the motor.
(4) Power source fan motor 1/2 does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken motor coil.	Check for continuity across the coil. If none, replace the motor.
	3. Defective motor.	Run maintenance item U037 and check if the motor operates when the following terminals on the PWB goes low. If not, replace the corresponding motor. Power source fan motor 1/2: YC4-1 on the power source PWB
	4. Defective power source PWB.	Run maintenance item U037 and check if following terminals on the PWB goes low. If not, replace the power source PWB. Power source fan motor 1/2: YC4-1 on the power source PWB

Problem	Causes	Check procedures/corrective measures
(5) Fuser fan motor, developing fan motor, LSU fan motor, paper conveying fan motor 1/2/3 or duplex fan motor 1/2/3 does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken motor coil.	Check for continuity across the coil. If none, replace the motor.
	3. Defective motor.	Run maintenance item U037 and check if the motor operates when the following terminals on the PWB goes low. If not, replace the corresponding motor. Fuser fan motor: YC10-A14 on the engine PWB Developing fan motor: YC12-B12 on the engine PWB LSU fan motor: YC12-B3 on the engine PWB Paper conveying fan motor 1/2/3: YC4-B7 on the engine PWB Duplex fan motor 1/2/3: YC4-B10 on the engine PWB
	4. Defective engine PWB.	Run maintenance item U037 and check if following terminals on the PWB goes low. If not, replace the engine PWB. Fuser fan motor: YC10-A14 on the engine PWB Developing fan motor: YC12-B12 on the engine PWB LSU fan motor: YC12-B3 on the engine PWB Paper conveying fan motor 1/2/3: YC4-B7 on the engine PWB Duplex fan motor 1/2/3: YC4-B10 on the engine PWB
(6) Controller fan motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken motor coil.	Check for continuity across the coil. If none, replace the motor.
	3. Defective motor.	Run maintenance item U037 and check if the motor operates when the following terminals on the PWB goes low. If not, replace the corresponding motor. Controller fan motor: YC23-1 on the main PWB
	4. Defective main PWB.	Run maintenance item U037 and check if following terminals on the PWB goes low. If not, replace the main PWB. Controller fan motor: YC23-1 on the main PWB
(7) Scanner fan motor does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken motor coil.	Check for continuity across the coil. If none, replace the motor.
	3. Defective motor.	Run maintenance item U037 and check if the motor operates when the following terminals on the PWB goes low. If not, replace the corresponding motor. Scanner fan motor: YC3-2 on the ISM PWB
	4. Defective ISM PWB.	Run maintenance item U037 and check if following terminals on the ISM PWB goes low. If not, replace the ISM PWB. Scanner fan motor: YC3-2 on the ISM PWB
	5. Defective ISC PWB.	Run maintenance item U037 and check if following terminals on the ISC PWB goes high. If not, replace the ISC PWB. Scanner fan motor: YC3-24 on the ISC PWB

Problem	Causes	Check procedures/corrective measures
(8) Paper feed clutch 1/2, feed clutch 1/2/3, MP paper feed clutch, MP feed clutch, registration clutch, duplex feed clutch or developing clutch does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken clutch coil.	Check for continuity across the coil. If none, replace the clutch.
	3. Defective engine PWB.	Run maintenance item U032 and check if following terminals on the engine PWB goes low. If not, replace the engine PWB. Paper feed clutch 1: YC10-B1 on the engine PWB Paper feed clutch 2: YC10-B4 on the engine PWB Feed clutch 1: YC23-2 on the engine PWB Feed clutch 2: YC8-A12 on the engine PWB Feed clutch 3: YC8-A5 on the engine PWB MP paper feed clutch: YC12-A9 on the engine PWB MP feed clutch: YC12-A11 on the engine PWB Registration clutch: YC10-B6 on the engine PWB Duplex feed clutch: YC4-B2 on the engine PWB Developing clutch: YC7-1 on the engine PWB
(9) The feedshift solenoid or toner feed solenoid does not operate.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Broken solenoid coil.	Check for continuity across the coil. If none, replace the solenoid.
	3. Defective engine PWB.	Run maintenance item U033 and check if the solenoid operates. If not, replace the engine PWB.
(10) The exposure lamp does not turn on or off.	1. Poor contact in the connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective inverter PWB.	Run maintenance item U061 and check if the exposure lamp turns on with the inverter PWB go low. If not, replace the inverter PWB.
	3. Defective ISC PWB.	Run maintenance item U061 and check if YC3-23 on the ISC PWB goes high. If not, replace the ISC PWB.
	4. Defective ISM PWB.	Run maintenance item U061 and check if YC5-4 on the ISM PWB goes low. If not, replace the ISM PWB.
(11) Main charging is not performed.	1. Broken main charger wire.	Replace the main charger unit (see page 1-5-26).
	2. Leaking main charger housing.	Clean the main charger wire and grid.
	3. The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	4. Defective engine PWB.	Check if YC13-4 on the engine PWB goes low when maintenance item U100 is run. If not, replace the engine PWB.
	5. Defective high voltage PWB.	Check if main charging takes place when CN1-4 on the high voltage PWB goes low while maintenance item U100 is run. If not, replace the high voltage PWB.
(12) No developing bias is output.	1. The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective engine PWB.	Check if YC13-1 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
	3. Defective high voltage PWB.	Check if developing bias is output when CN1-1 on the high voltage PWB goes low while maintenance item U101 is run. If not, replace the high voltage PWB.

Problem	Causes	Check procedures/corrective measures
(13) Transfer charging is not performed.	1. The connector terminals of the high voltage PWB make poor contact.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective engine PWB.	Check if YC13-10 on the engine PWB goes low when maintenance item U101 is run. If not, replace the engine PWB.
	3. Defective high voltage PWB.	Check if transfer charging takes place when CN1-10 on the high voltage PWB goes low while maintenance item U101 is run. If not, replace the high voltage PWB.
(14) The original size is not detected correctly.	1. Original is not placed correctly.	Check the original and correct if necessary.
	2. Poor contact in the original detection switch or original size sensor connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	3. Defective original detection switch.	If the level of YC4-2 on the ISM PWB does not go low when the original detection switch is turned on and off, replace the original detection switch.
	4. Defective original size sensor.	Check if sensor operates correctly. If not, replace it.
(15) The touch panel keys do not work.	1. Poor contact in the touch panel connector terminals.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective touch panel or main operation PWB.	If any keys do not work after running the maintenance item U201 to initialize the touch panel, replace the touch panel or main operation unit PWB.
(16) The message requesting paper to be loaded is shown when paper is present on the cassette 1/2 or MP tray.	1. Poor contact in the connector terminals of paper switch 1/2 or MP paper switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective paper switch 1/2 or MP paper switch.	If the level of following terminal on PWB does not change when the switch is turned on and off, replace the switch. Paper switch 1: YC8-B12 on the feed PWB Paper switch 2: YC8-B18 on the feed PWB MP paper switch: YC12-A6 on the engine PWB
(17) The size of paper on the cassette 1/2 or MP tray is not displayed correctly.	1. Poor contact in the connector terminals of paper size length switch 1/2, paper size width switch 1/2, MP paper size length switch or MP paper size width switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective paper size length switch 1/2 or MP paper size length switch.	If the level of following terminal on PWB does not change when the switch is turned on and off, replace the switch. Paper size length switch 1: YC8-B2 on the engine PWB Paper size length switch 2: YC8-A19 on the engine PWB MP paper size length switch: YC12-B14 on the engine PWB
	3. Defective paper size width switch 1/2 or MP paper size width switch.	If the level of following terminal on PWB does not change when the width guide in the cassette 1/2 or insert guide on the MP tray is moved, replace the switch. Paper size width switch 1: YC9-3, 4, 5 on the engine PWB Paper size width switch 2: YC9-9, 10, 11 on the engine PWB MP paper size width switch: YC12-A1, A2, A3 on the engine PWB

Problem	Causes	Check procedures/corrective measures
(18) A paper jam in the paper feed, paper conveying, fuser, eject or duplex section is indicated when the main power switch is turned on.	1. A piece of paper torn from copy paper is caught around feed switch 1/2/3, registration switch, feedshift switch, eject switch or duplex paper conveying switch.	Check visually and remove it, if any.
	2. Defective feed switch 1/2/3, registration switch, feedshift switch, eject switch or duplex paper conveying switch.	Run maintenance item U031 and turn each switch on and off manually. Replace the switch if indication of the corresponding switch is not displayed in reverse.
(19) The message requesting cover to be closed is displayed when the front cover or left cover 1/2 is closed.	1. Poor contact in the connector terminals of front cover switch, left cover 1/2 switch.	Reinsert the connector. Also check for continuity within the connector cable. If none, remedy or replace the cable.
	2. Defective front cover switch, left cover 1 switch or left cover 2 switch.	Check for continuity across each switch. If there is no continuity when the switch is on, replace it.
(20) Others.	1. Wiring is broken, shorted or makes poor contact.	Check for continuity. If none, repair.

1-4-5 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, feed roller, registration roller, MP forwarding pulley, MP paper feed pulley and MP separation pulley	Clean with isopropyl alcohol.
	Check if the forwarding pulley, paper feed pulley or separation pulley is deformed.	Replace the pulley if it is deformed (see page 1-5-3).
	Check if the MP forwarding pulley, MP paper feed pulley or MP separation pulley is deformed.	Replace the pulley if it is deformed (see page 1-5-5).
	Electrical problem with the following clutches: Paper feed clutch 1/2, feed clutch 1/2/3, MP paper feed clutch and MP feed clutch	See page 1-4-57.
(2) No secondary paper feed.	Check if the surfaces of the right and left registration rollers are dirty with paper powder.	Clean with isopropyl alcohol.
	Electrical problem with the registration clutch.	See page 1-4-57.
(3) Skewed paper feed.	Width guide in a cassette installed incorrectly.	Check the width guide visually and correct or replace if necessary.
	Deformed width guide in a cassette.	Check visually and replace any deformed guide.
	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 1-5-16).
	The scanner motor malfunctions.	See page 1-4-55.
(5) Multiple sheets of paper are fed at one time.	Paper is extremely curled.	Replace the paper.
	Check if the separation pulley is worn.	Replace the separation pulley if it is worn (see page 1-5-3).
	Check if the MP separation pulley is worn.	Replace the MP separation pulley if it is worn (see page 1-5-5).

Problem	Causes/check procedures	Corrective measures
(6) Paper jams.	Paper is extremely curled.	Replace the paper.
	Deformed guides along the paper conveying path.	Check visually and replace any deformed guides.
	Check if the contact between the right and left registration rollers is correct.	Check visually and remedy if necessary.
	Check if the contact between the feed roller and feed pulley is correct.	Check visually and remedy if necessary.
	Check if the press roller is extremely dirty or deformed.	Clean or replace the press roller.
	Check if the contact between the heat roller and its separation claws is correct.	Repair if any springs are off the separation claws.
	Check if the contact between the eject roller and pulley is correct.	Check visually and remedy if necessary.
	The feedshift solenoid malfunctions.	See page 1-4-57.
	Check if the duplex feed pulley, upper duplex feed roller or lower duplex feed roller is deformed.	Check visually and replace the pulley or roller if deformed.
(7) Toner drops on the paper conveying path.	Check if the developing unit is extremely dirty.	Clean the developing unit.
(8) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following clutches are installed correctly: Paper feed clutch 1/2, feed clutch 1/2/3, MP paper feed clutch and MP feed clutch	Correct.

1-4-6 Send error code

(1) Scan to SMB error codes

Code	Display	Remarks	
		Causes	Check procedures/corrective measures
1102	**Error: User/Password or Shared Name/Folder Name**	Domain name is not entered.	Enter the user name with the form of either [Domain¥User], [Domain/User] or [Domain@User].
		Assign disable user/password.	Enter the correct user name/password.
		Assign the user who is not allowed to access to folder.	Enter correct user name/password. Check the access limit of destination folder.
		Assign disable shared name.	Enter the correct shared name. Check if the prohibited letters below are used to shared name. @( )!&#$%^~[ ]`
		Host name error.	Check if the prohibited letters are used to shared name. “&’( )|`;<>
1103	**Error: Pathname or File Name**	Domain name is not enter	Enter the user name with the form of either [Domain¥User], [Domain/User] or [Domain@User].
		Connect to the folder which is not permitted for reference/ writing.	Enter correct user name/password. Check the access limit of destination folder.
		Assign disable folder path.	Enter correct folder path.
1105	**Error: Not support protocol**	SMB Protocol is set to OFF.	Check ON in the [Scanner]-[SMB] screen in COMMAND CENTER.
2101	**Error: Can not connect**	Enter the disable host name/ IP address.	Enter the correct host name or IP address.
		Assign the wrong port number.	Enter the correct port number.
		Network is not connected.	Check if the server is operating properly. Check the network connection (cable. network condition within LAN, etc.).
2103	**Error: Response wait with timeout**	The server is unable to communicate.	Check if the server is operating properly.
2201	**Error: Network transfer**	Error occurs on the network.	Check the network connection (cable. network condition within LAN, etc.).
2203	**Error: Response wait with timeout**	Response is not returned from the server above specified time.	Check the network connection (cable. network condition within LAN, etc.).
9181	**Error: Page max count over**	The number of pages of a send file exceeded 999 pages.	Set the number of pages as 999 or less.

(2) Scan to FTP error codes

Code	Display	Remarks	
		Causes	Check procedures/corrective measures
1101	**Error: Host name**	Enter the disable host name/ IP address.	Enter the correct host name or IP address.
1102	**Error: User/Password**	Domain name is not entered.	Enter the user name with the form of either [Domain¥User] or [Domain/User].
		Assign disable user/password.	Enter the correct user name/password.
1103	**Error: Pathname or File Name**	Connect to the folder which is not permitted for reference/ writing.	Enter correct user name/password. Check the access limit of destination folder.
		Assign disable folder path.	Enter correct folder path.
1105	**Error: Not support protocol**	FTP Protocol is set to OFF.	Check ON in the [Scanner]-[FTP] screen in COMMAND CENTER.
2101	**Error: Can not connect**	Enter the disable host name/ IP address.	Enter the correct host name or IP address.
		Assign the wrong port number.	Enter the correct port number.
		Network is not connected.	Check if the server is operating properly. Check the network connection (cable. network condition within LAN, etc.).
2102	**Error: Can not connect with timeout**	The server is unable to communicate.	Check if the server is operating properly.
		Send the server which does not support FTP server.	Enter the correct host name or IP address.
2103	**Error: Response wait with timeout**	The server is unable to communicate.	Check if the server is operating properly.
2201	**Error: Network transfer**	Error occurs on the network.	Check the network connection (cable. network condition within LAN, etc.).
2202	**Error: Network transfer with timeout**	Error occurs on the network.	Check the network connection (cable. network condition within LAN, etc.).
2203	**Error: Response wait with timeout**	Response is not returned from the server above specified time.	Check the network connection (cable. network condition within LAN, etc.).
3101	**Error: Server response**	The server is error status.	Check if the server is working properly.
9181	**Error: Page max count over**	The number of pages of a send file exceeded 999 pages.	Set the number of pages as 999 or less.

(3) Scan to E-mail error codes

Code	Display	Remarks	
		Causes	Check procedures/corrective measures
1101	**Error: Host name**	SMTP sever name is not set. Error SMTP server name.	Register [SMTP Server Name] in [Advanced]-[SMTP] -[General] in COMMAND CENTER.
1102	**Error: User/Password**	User ID for the authentication is not entered or entered wrongly. Wrong authentication password is entered.	Enter the correct user ID/password for authentication at [Advance] in COMMAND CENTER. Enter the password of [Login User Name] of the [POP3] page or the [SMTP] page correctly.
1104	**Error: No Recipient address**	The destination address is not specified.	Specify the destination address.
1105	**Error: Not support protocol**	SMTP Protocol is set to OFF.	Check ON [SMTP] in [Advanced]-[SMTP] -[General] in COMMAND CENTER.
1106	**Error: No Sender Info**	Sender address is not enter	Enter the correct [Sender Address] in [Advanced]-[SMTP] -[General] in COMMAND CENTER.
2101	**Error: Can not connect**	Select [Other authenticate] when authenticating POP before SMTP.	Select valid POP3 user other than [Other].
		The specified server is not SMTP server.	Enter the correct [SMTP Server Name] in [Advanced]-[SMTP] -[General] in COMMAND CENTER.
		Network is not connected.	Check if the server is operating properly. Check the network connection (cable. network condition within LAN, etc.).
2102	**Error: Can not connect with timeout**	The server is unable to communicate.	Check if the server is operating properly.
2103	**Error: Response wait with timeout**	The server is unable to communicate.	Check if the server is operating properly.
2201	**Error: Network transfer**	Error occurs on the network.	Check the network connection (cable. network condition within LAN, etc.).
2202	**Error: Network transfer with timeout**	Error occurs on the network.	Check the network connection (cable. network condition within LAN, etc.).
2203	**Error: Response wait with timeout**	Response is not returned from the server above specified time.	Check the network connection (cable. network condition within LAN, etc.).
2204	**Error: E-Mail Size limit**	The size of E-mail exceeds its limit.	Change the [E-mail Size Limit] in [Advanced]-[SMTP] -[General]-[E-mail Setting] in COMMAND CENTER.
3101	**Error: Server response**	The server is error status.	Check if the server is working properly.
		Server setting is not authenticated normally.	Check the settings for client/server authentication.
3201	**Error: Not Found Authentication Mechanism**	Unsupported SMTP Authentication Mechanism is found.	Check the settings for client/server Authentication Mechanism.
9181	**Error: Page max count over**	The number of pages of a send file exceeded 999 pages.	Set the number of pages as 999 or less.

(4) Network Twain error codes

Code	Display	Remarks	
		Causes	Check procedures/corrective measures
2202	**Error: Network transfer with timeout**	Response is not returned from the server above specified time.	Check the network connection (cable. network condition within LAN, etc.).
9181	**Error: Page max count over**	The number of pages of a send file exceeded 999 pages.	Set the number of pages as 999 or less.

(5) Software trouble error codes

Code	Display	Remarks	
		Causes	Check procedures/corrective measures
5101	**Error: Not yet connected**	Operation handle error. Error for stored status in the operation handle.	Turn the main power switch off and on.
5102	**Error: Already connected**	Operation handle error. Error for stored status in the operation handle.	Turn the main power switch off and on.
5103	**Error: Not yet opened**	Error for stored status in the operation handle.	Turn the main power switch off and on.
5104	**Error: Already opened**	Error for stored status in the operation handle.	Turn the main power switch off and on.
7101	**Error: Memory Allocation**	Insufficient memory space.	Turn the main power switch off and on.
7102	**Error: Socket Create**	Unable to create a communication socket.	Turn the main power switch off and on.
720f	**Error: Unknown error**	Unable to determine the cause.	Turn the main power switch off and on.

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1-5-1 Precautions for assembly and disassembly

(1) Precautions

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

(2) Drum

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°C/-4°F and 40°C/104°F and at a relative humidity not higher than 90% 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.

(3) Toner

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

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

As a means of brand protection, the Kyocera Mita toner container utilizes an optical security technology to enable visual validation. A validation viewer is required to accomplish this.

Hold the validation viewer over the left side part of the brand protection seal on the toner container. Through each window of the validation viewer, the left side part of the seal should be seen as follows:

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

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

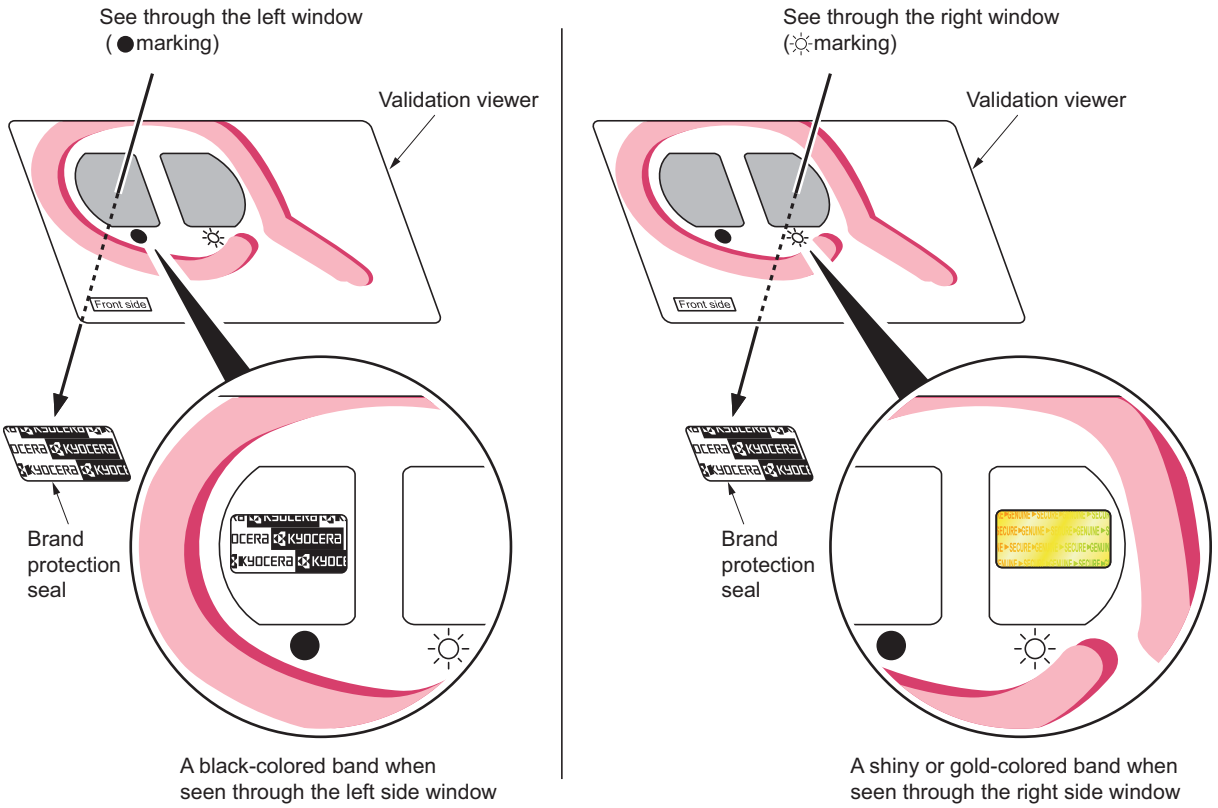


Figure 1-5-1

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

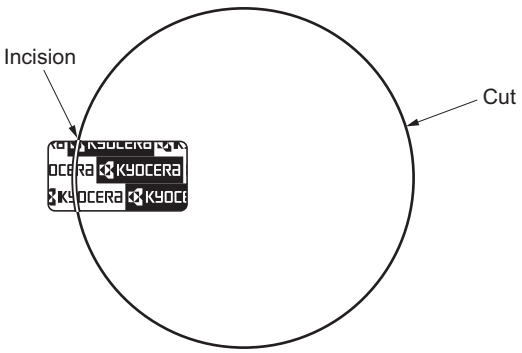


Figure 1-5-2

1-5-2 Paper feed section

(1) Detaching and refitting the forwarding, paper feed and separation pulleys

Follow the procedure below to replace the forwarding, paper feed and separation pulleys.

Procedure

Removing the primary paper feed units

1. Open the front cover and pull out the cassettes 1 and 2.
2. Remove the screw and remove the primary paper feed unit.

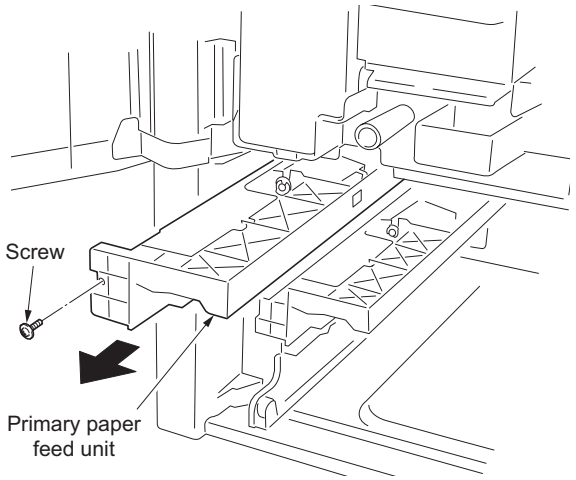


Figure 1-5-3

Removing the forwarding pulley

3. Remove the stopper and spring from the primary paper feed unit.
4. Raise the forwarding pulley retainer in the direction the arrow, and remove from the primary paper feed unit.

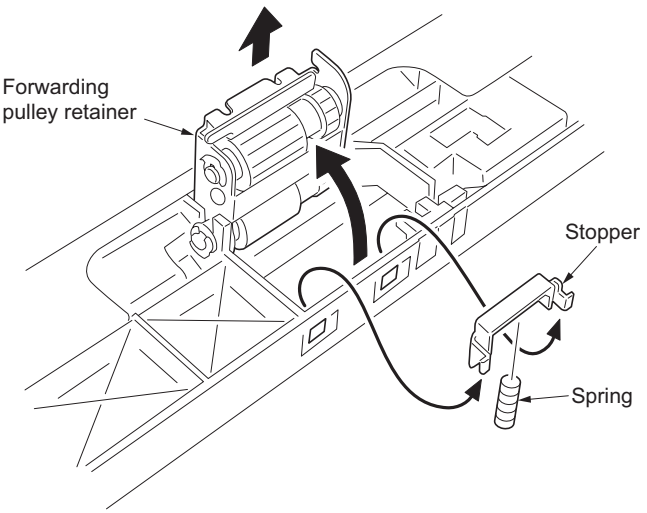


Figure 1-5-4

5. Remove the stop ring from the forwarding pulley retainer.
6. Remove the forwarding pulley from the forwarding pulley shaft.

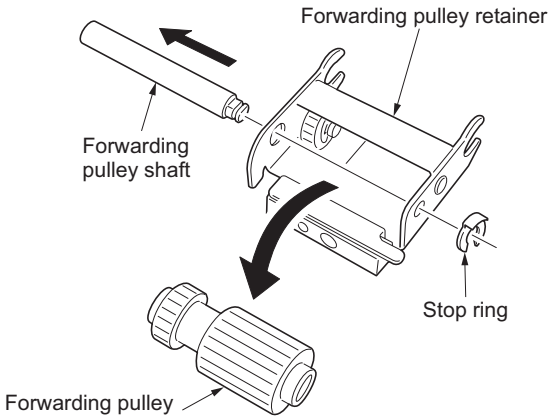


Figure 1-5-5

Removing the paper feed pulley

7. Remove two stop rings from the primary paper feed unit.
8. Pull the paper feed pulley shaft in the direction of the arrow and remove the paper feed pulley.

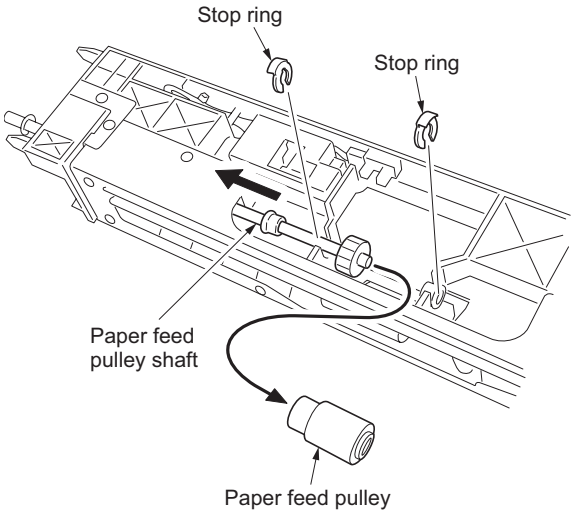


Figure 1-5-6

Removing the separation pulley

9. Remove the stop ring from the primary paper feed unit.
10. Pull the separation pulley shaft in the direction of the arrow and remove the separation pulley.

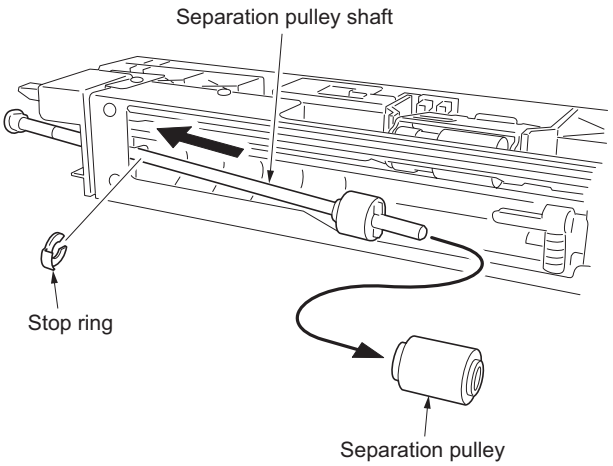


Figure 1-5-7

11. Replace the forwarding, paper feed and separation pulleys.
12. Install the separation and paper feed pulleys to the primary paper feed unit.
13. Install the forwarding pulley to the forwarding pulley retainer.
    When refitting the forwarding pulley, orient it correctly as shown in Figure 1-5-8.
14. Refit the forwarding pulley retainer to the primary paper feed unit.
15. Refit the primary paper feed unit.

16. When the forwarding pulley, paper feed pulley, separation pulley or the primary paper feed unit is replaced, perform maintenance mode U901 to clear the counter value (see page 1-3-96).

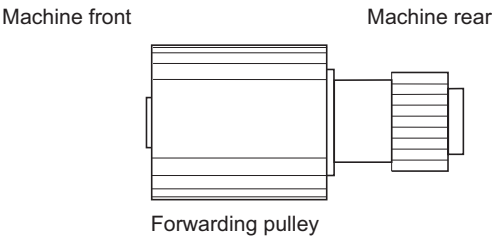


Figure 1-5-8

(2) Detaching and refitting the MP separation, MP paper feed and MP forwarding pulleys

Follow the procedure below to replace the MP separation, MP paper feed and MP forwarding pulleys.

Procedure

Removing the MP unit

1. Remove four screws and remove the right lower cover.

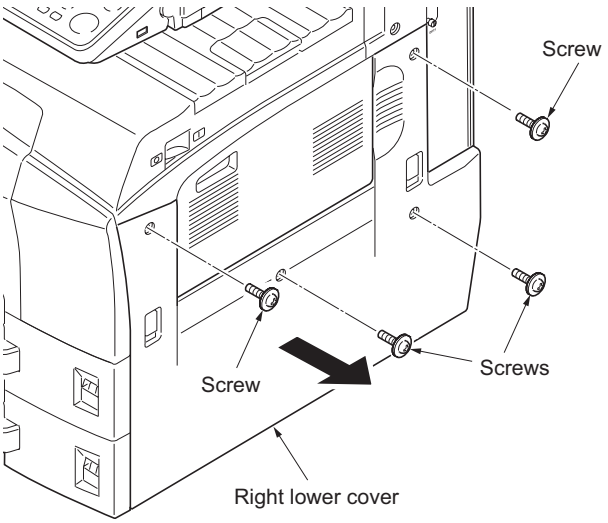


Figure 1-5-9

2. Remove two screws and two MP holder plates.
3. Remove two pins, two screws and two connectors, and then remove the MP unit.

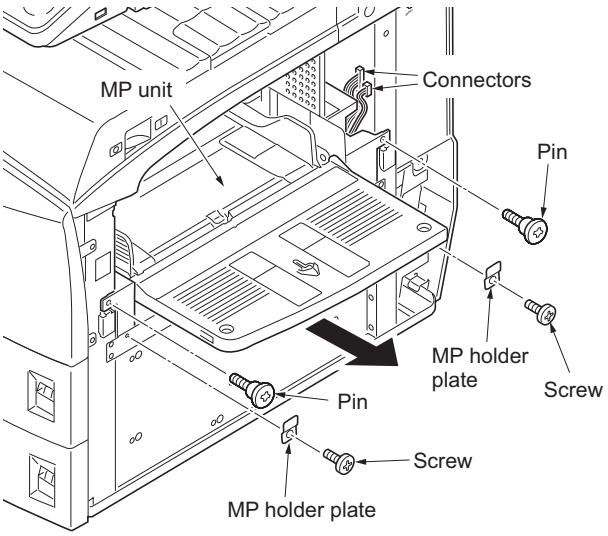


Figure 1-5-10

Removing the MP separation pulley

4. Reverse the MP unit and remove the spring and stop ring from the MP separation pulley shaft and move the bushing inside.

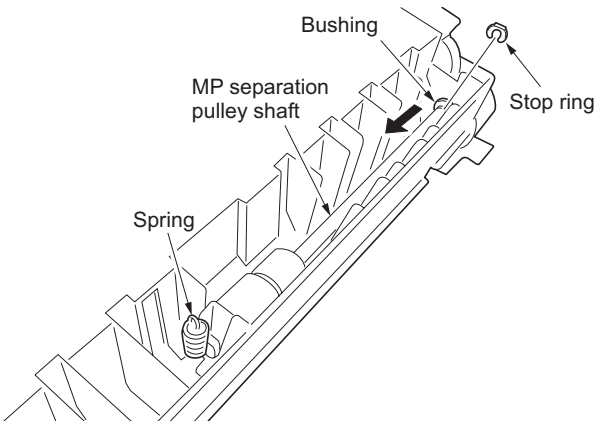


Figure 1-5-11

5. Raise the MP separation shaft as shown in the figure, remove the holder plate and the bushing, and then remove the MP separation pulley.
   Take care not to remove the spring pin of the gear at the rear of the MP separation pulley shaft. If it is removed, refit it to its original position.

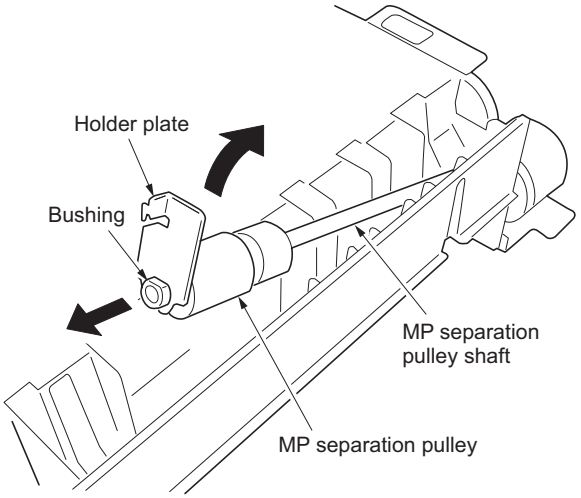


Figure 1-5-12

Removing the MP paper feed pulley

6. Remove the connector of the MP paper switch and remove the wire from the three clamps.
7. Remove the screw and remove the MP unit cover.

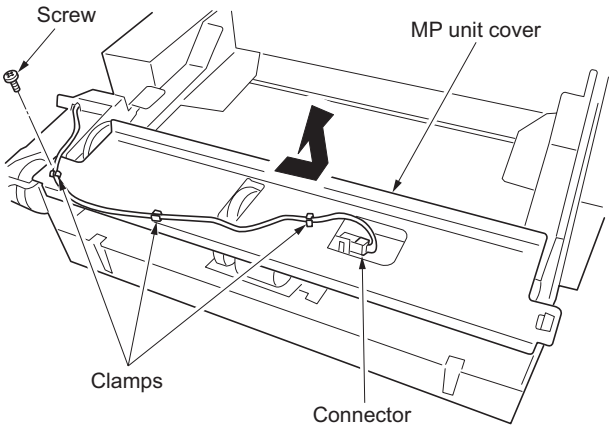


Figure 1-5-13

8. Remove the stop ring and bushing on the front of the MP paper feed pulley shaft.

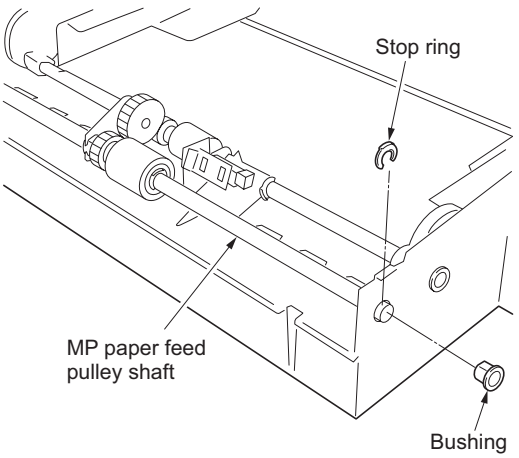


Figure 1-5-14

9. Raise the MP paper feed pulley shaft as shown in the figure, remove the stop ring, and then remove the MP paper feed pulley.

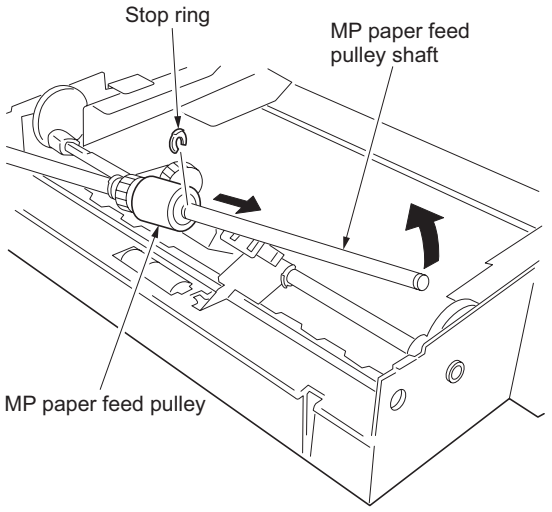


Figure 1-5-15

Removing the MP forwarding pulley

10. Remove the sponge.
11. Remove the stop ring and MP paper feed clutch.
    When refitting, insert the cutout in the MP paper feed clutch over the stopper on the machine.

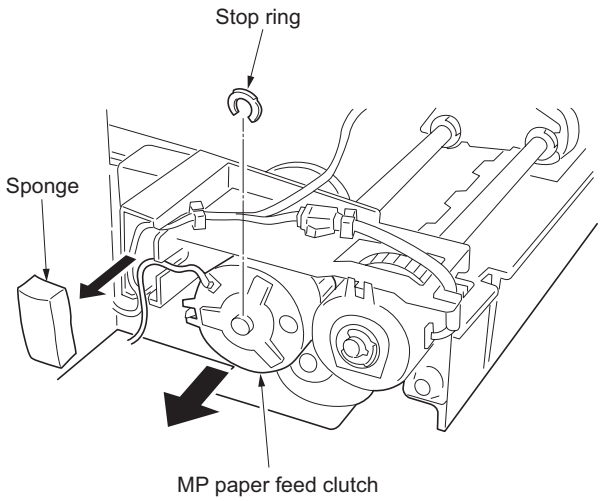


Figure 1-5-16

12. Remove the screw from the cam at the rear of the MP forwarding pulley shaft and move the cam and the bushing toward the inner side.

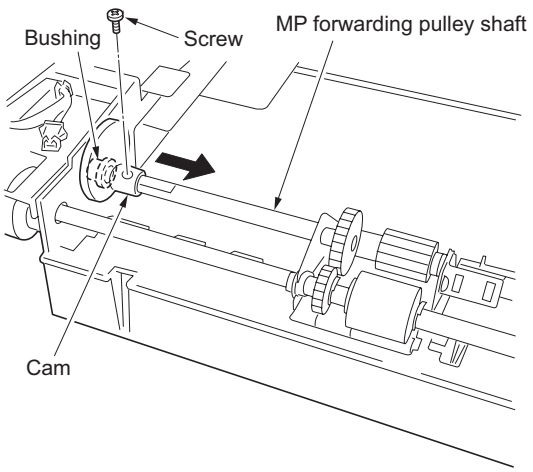


Figure 1-5-17

13. Remove the stop ring of the MP paper feed pulley shaft and slide the bushing in the direction of the arrow.

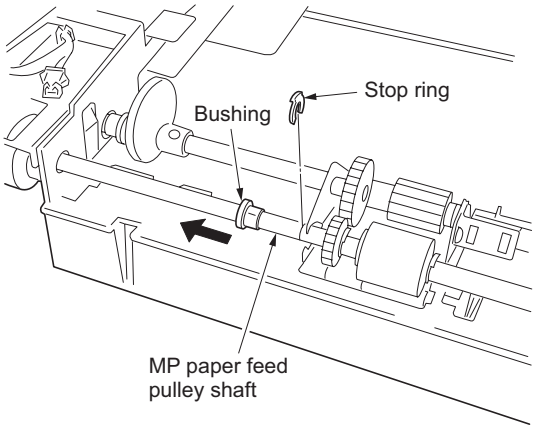


Figure 1-5-18

14. Slide the MP forwarding pulley shaft temporarily toward the rear side and then raise it to remove from the MP unit.
Remove the shaft while raising the actuator of the MP paper switch.

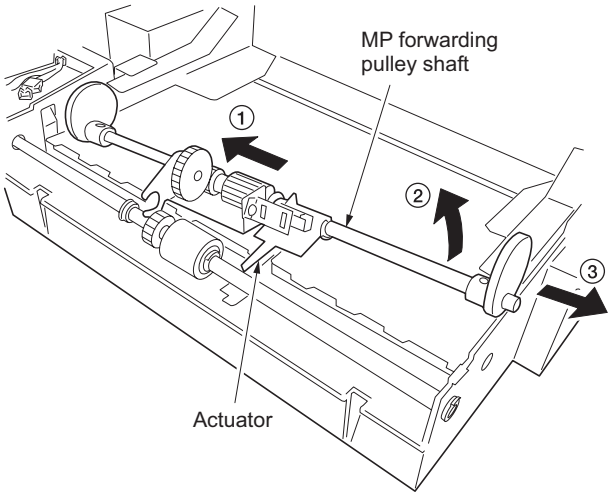


Figure 1-5-19

15. Remove the bushing and cam on the rear of the MP forwarding pulley shaft.

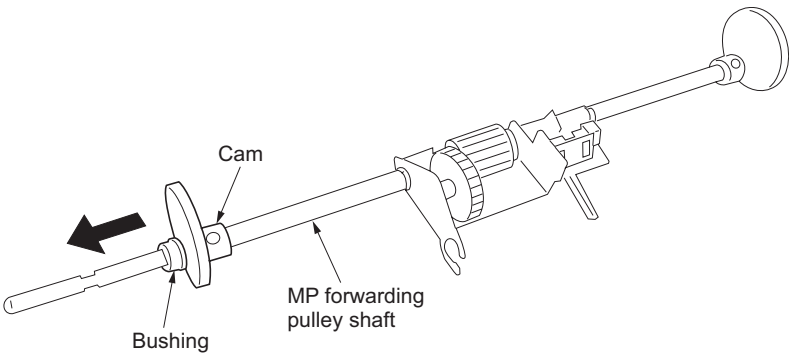


Figure 1-5-20

16. Remove the stop ring and slide the MP forwarding pulley with the forwarding pulley retainer from the shaft to remove it.
17. Replace the MP separation, MP paper feed and MP forwarding pulleys.

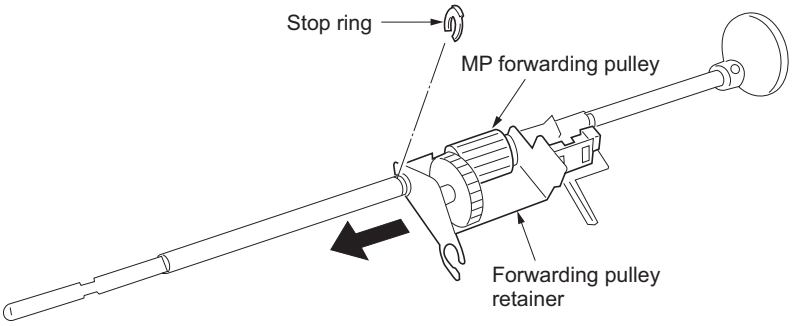


Figure 1-5-21

18. Install the MP forwarding pulley to the MP forwarding pulley shaft.
19. Refit the MP forwarding pulley shaft to the MP unit.
20. Install the MP paper feed pulley to the MP unit.
21. Refit the MP unit cover to the MP unit. When refitting the MP unit cover, the films on the cover are positioned under the MP paper feed pulley shaft.
22. Install the MP separation pulley to the MP unit.
23. Refit the MP unit.

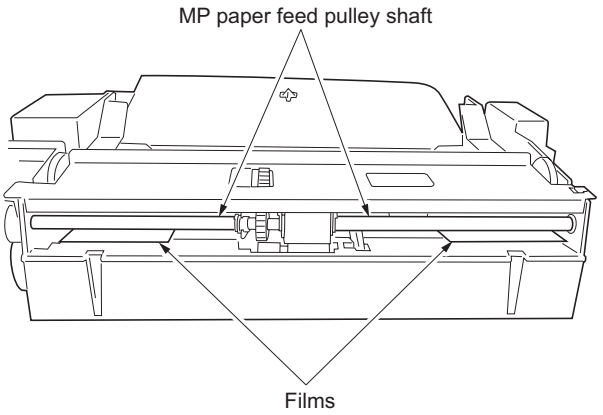


Figure 1-5-22

24. When the MP forwarding pulley, MP paper feed pulley or the MP separation pulley is replaced, perform maintenance mode U901 to clear the counter value (see page 1-3-96).

(3) Detaching and refitting the left and right registration cleaner

Take the following procedure when the left or right registration cleaner is to be replaced.

Procedure

Removing the left registration cleaner

1. Open the left cover 1 and remove the transfer roller unit. (see page 1-5-29).
2. Remove two roller stoppers and remove the left registration roller.
3. Remove two registration guides.

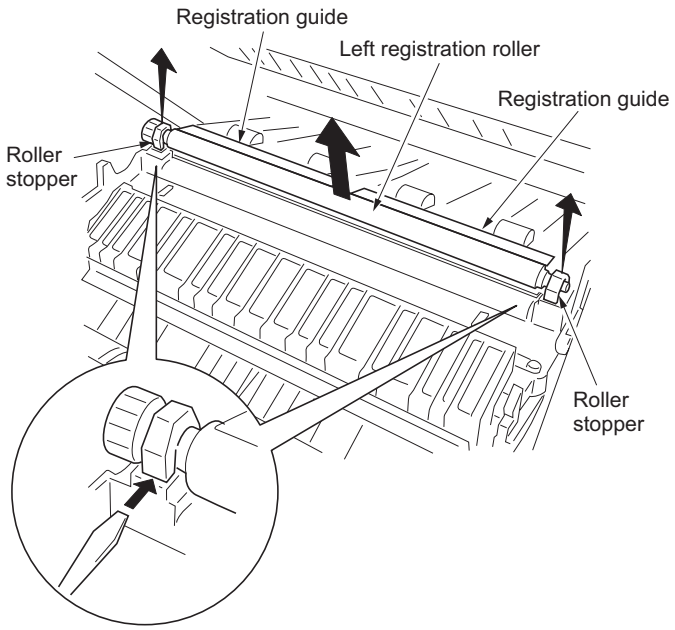


Figure 1-5-23

4. Remove the left registration cleaner.
5. Replace the left registration cleaner and registration guides.
   Install the left registration cleaner and registration guides.
6. Refit the left registration roller, roller stoppers and transfer roller unit.

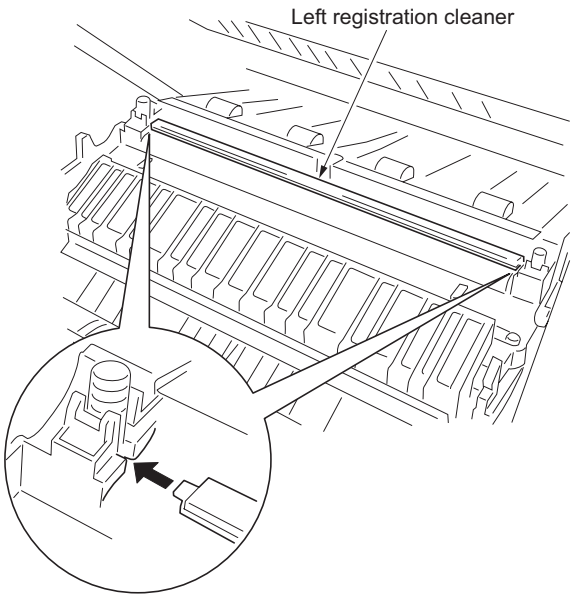


Figure 1-5-24

Removing the right registration cleaner

1. Remove the developing unit and drum unit. (see pages 1-5-28 and 1-5-25).
2. Remove the right registration cleaner.
3. Replace the right registration cleaner and Install the cleaner.
4. Refit the drum unit and developing unit.

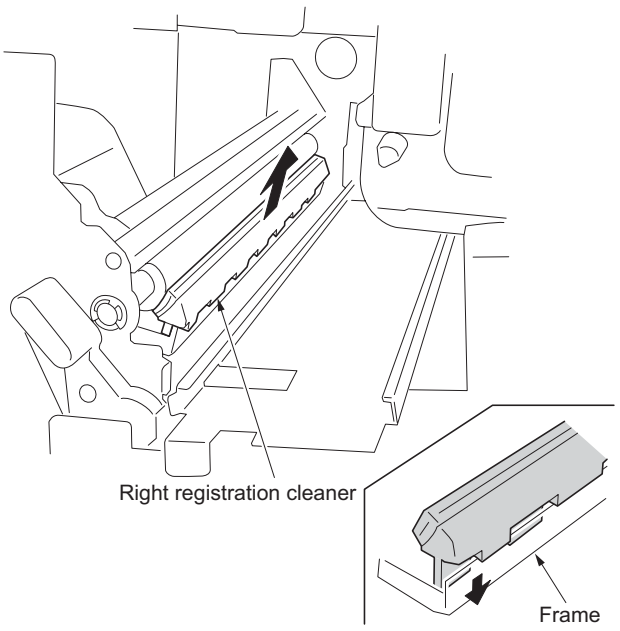


Figure 1-5-25

1-5-3 Optical section

(1) Detaching and refitting the exposure lamp

Replace the exposure lamp as follows.

Procedure

1. Remove the original cover or the DP.
2. Remove the ISU filter cover.
3. Remove ten screws and then remove the rear cover.

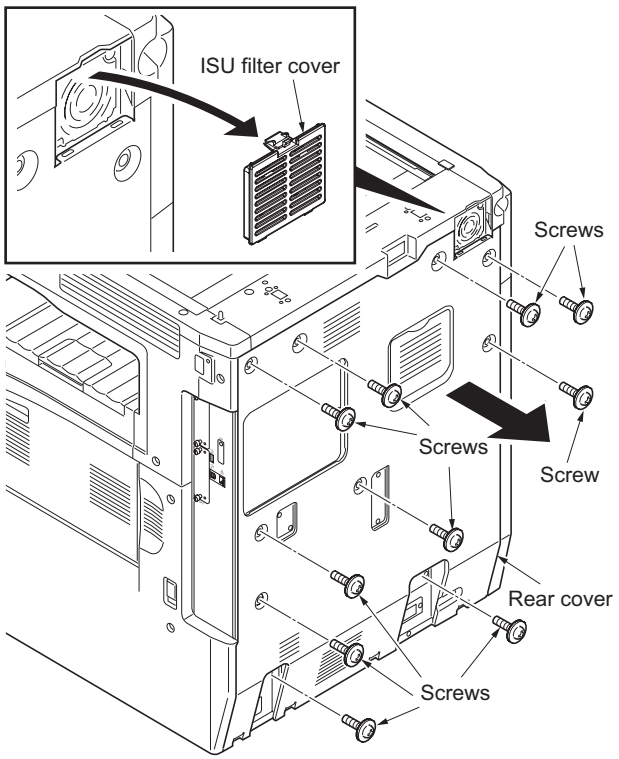


Figure 1-5-26

4. Remove the clip holder.
5. Open the front cover and left cover 1.
6. Remove four screws and remove front left cover.

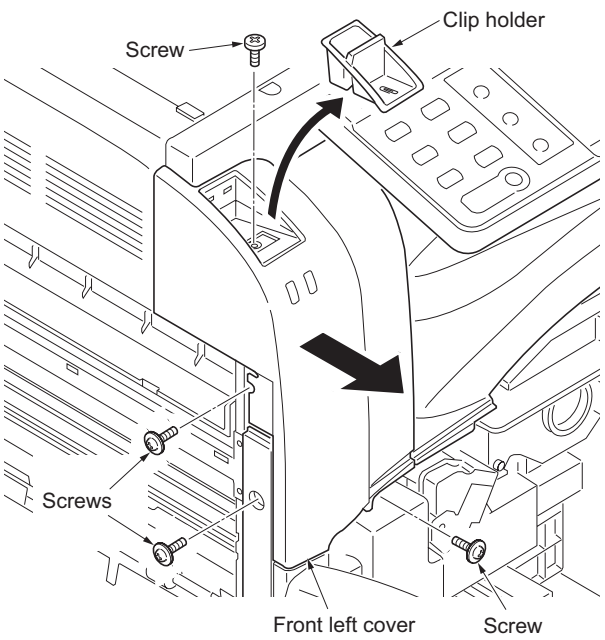


Figure 1-5-27

7. Remove the screw and pin.
8. Remove the left upper cover.

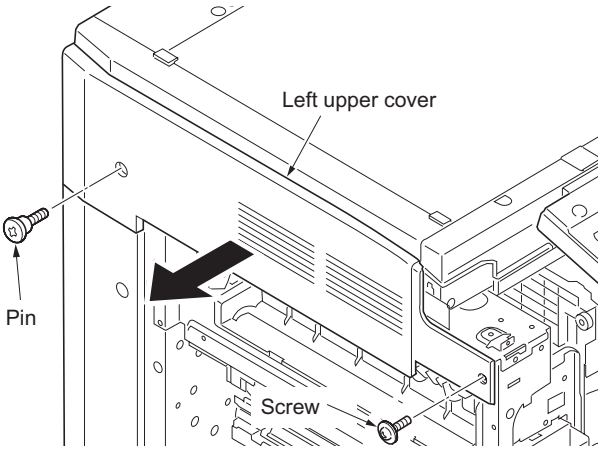


Figure 1-5-28

9. Remove two screws and then remove the scanner left cover.

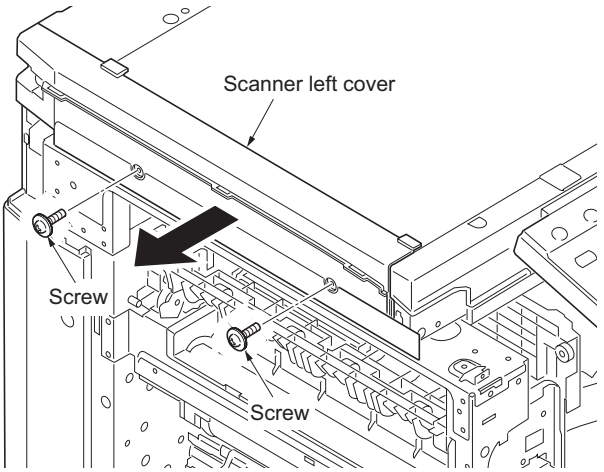


Figure 1-5-29

10. Remove two screws and then remove the scanner right cover.
11. Remove the contact glass.

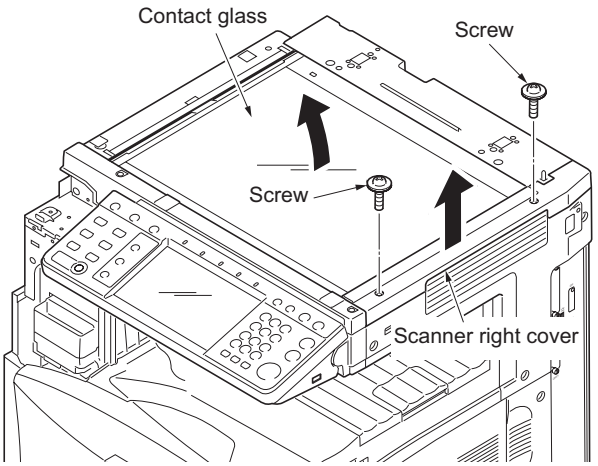


Figure 1-5-30

12. Remove the connector from the inverter PWB.
13. Draw the connector into the machine inside from opening.

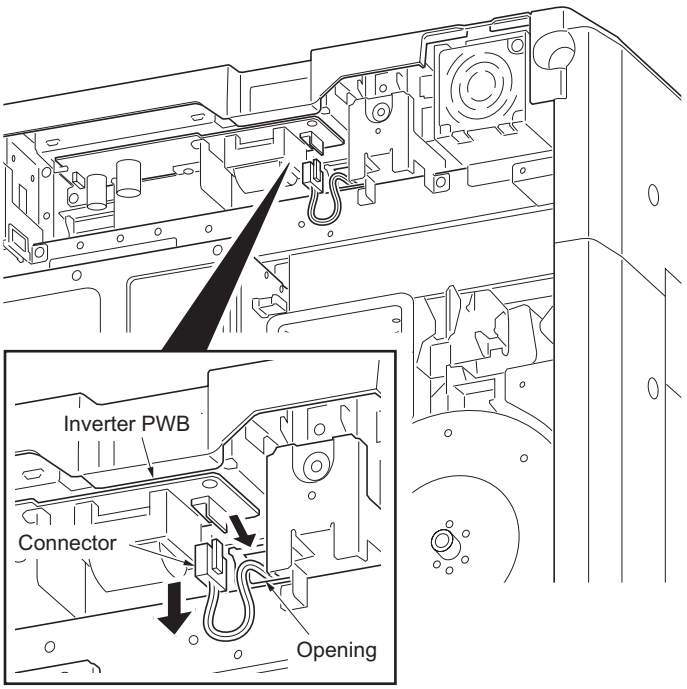


Figure 1-5-31

14. Remove the sponge from the wire guide and release the wire.
15. Move the mirror 1 frame to notch position.
16. Release the wire holder and then remove the wire.

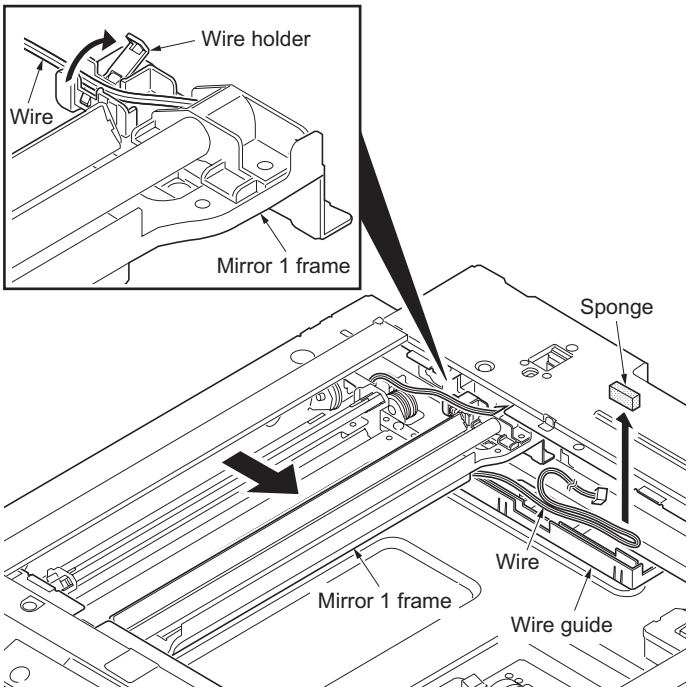


Figure 1-5-32

17. Remove the screw and then remove the exposure lamp from mirror 1 frame.
18. Check or replace the exposure lamp and then install the lamp.
19. Refit all the removed parts.

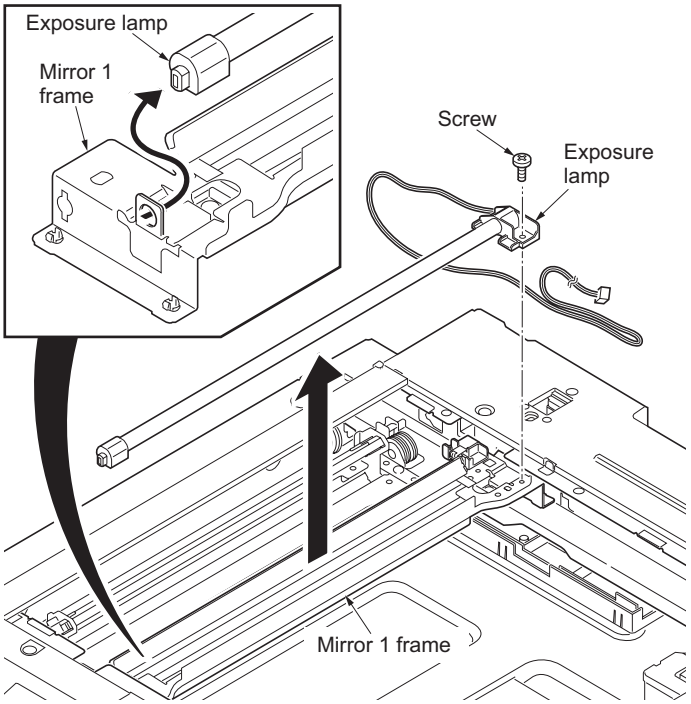


Figure 1-5-33

(2) Detaching and refitting the scanner wires

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

NOTE
When fitting the wires, be sure to use those specified below.
Machine front: (P/N: 302H717380), black
Machine rear: (P/N: 302H717390), gray

Fitting requires the following tools
Two frame securing tools (P/N 302FZ17100)
Two scanner wire stoppers (P/N 3596811)

Procedure

Detaching the scanner wires

1. Remove the exposure lamp (see page 1-5-12).
2. Remove each screw and then remove front and rear wire holder plates from mirror 1 frame.
3. Remove the mirror 1 frame.

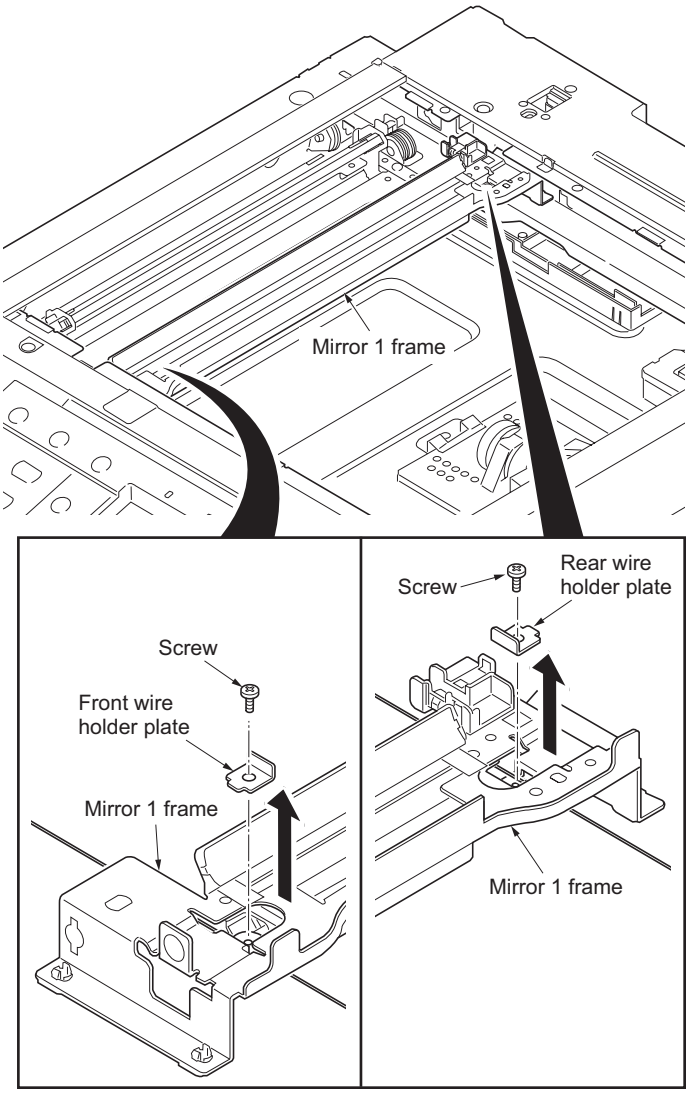


Figure 1-5-34

4. Remove the round terminals from the scanner wire springs on scanner unit left side.
5. Remove the scanner wire.

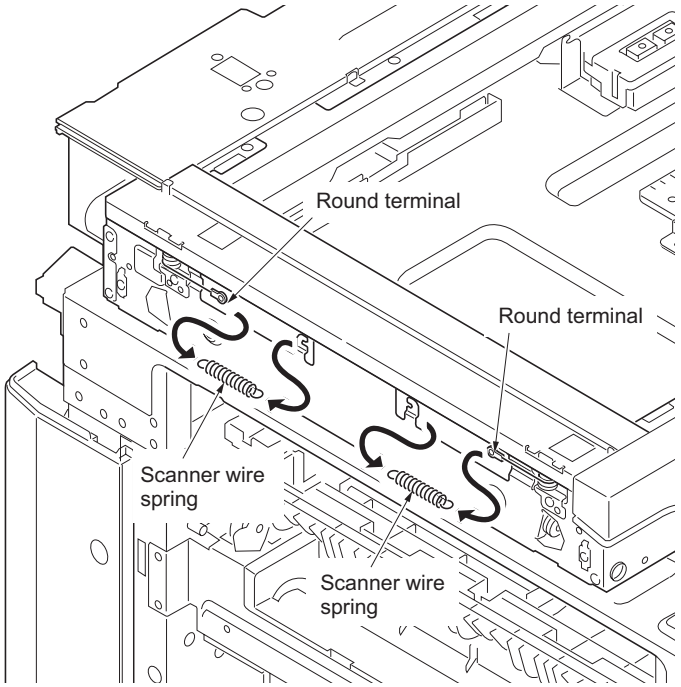


Figure 1-5-35

Fitting the scanner wires

6. Move the mirror 2 frame as shown in the figure and insert two frame securing tools into the positioning holes at the front and rear of the machine center to fix the mirror 2 frame in position.

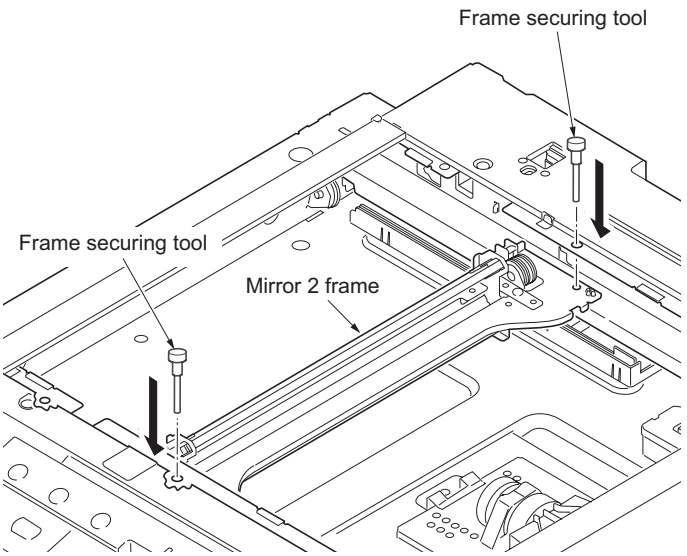


Figure 1-5-36

7. Hook the round terminals onto the catches inside of the scanner unit. . . . . (1)
8. Loop the scanner wires around the outer grooves in the pulleys on the mirror 2 frame, winding from below to above. . . . . (2)
9. Loop the scanner wire around the groove in the scanner wire pulley at the scanner unit right, winding from above to below. . . . . (3)
10. Wind the scanner wires around the scanner wire drum five turns from the rear toward the hole in the drum. . . . . (4)
11. Insert the locating ball on the scanner wire into the hole in the scanner wire drum. . . . . (5)
12. Wind the scanner wires three turns from the inner toward the hole in the drum. . . . . (6)
13. Install the scanner wire stoppers to the scanner wire drum to fix the wires. . . . . (7)
14. Loop the scanner wire around the groove in the scanner wire pulley at the scanner unit left, winding from below to above. . . . . (8)
15. Loop the scanner wires around the inner grooves in the pulleys on the mirror 2 frame, winding from below to above. . . . . (9)
16. Hook the scanner wires around the scanner wire guides at the machine left. . . . . (10)
17. Hook the round terminal onto the scanner wire spring. . . . . (11)

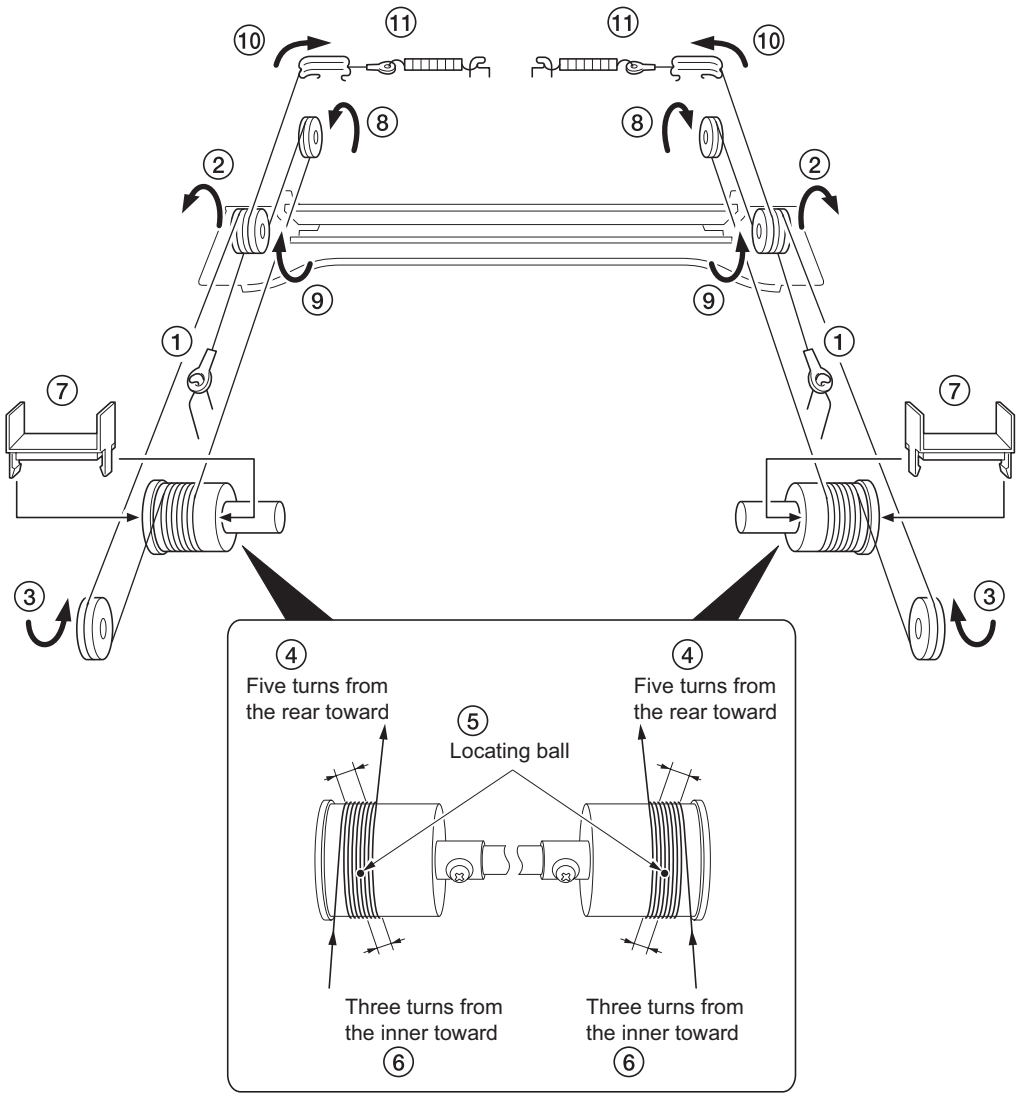


Figure 1-5-37

18. Remove the two scanner wire stoppers and frame securing tools.
19. Focusing on the locating ball of the wire drum, move aside the wires to inside.
20. Move the mirror 2 frame from side to side to correctly locate the wires in position.
21. Refit the mirror 1 frame.
22. Move the mirror 1 and 2 frames to the machine left, and insert the two frame securing tools into the positioning holes at the front and rear of the scanner unit to secure the frames in position.
23. Hold the wires and fix each front and rear wire holder plate to mirror 1 frame with the screw.
24. Remove the two frame securing tools.
25. Refit the exposure lamp.

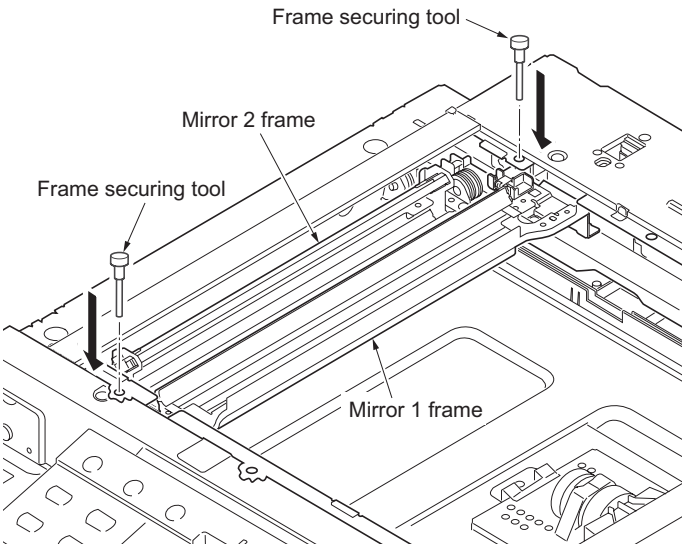


Figure 1-5-38

(3) Detaching and refitting the ISU (reference)

Follow the procedure below to replace the ISU.

Fitting requires the following tools
Two positions pins (P/N 18568120)

Procedure

Detaching the ISU

1. Remove the contact glass (see page 1-5-12).
2. Remove seven screws and then remove the ISU cover.

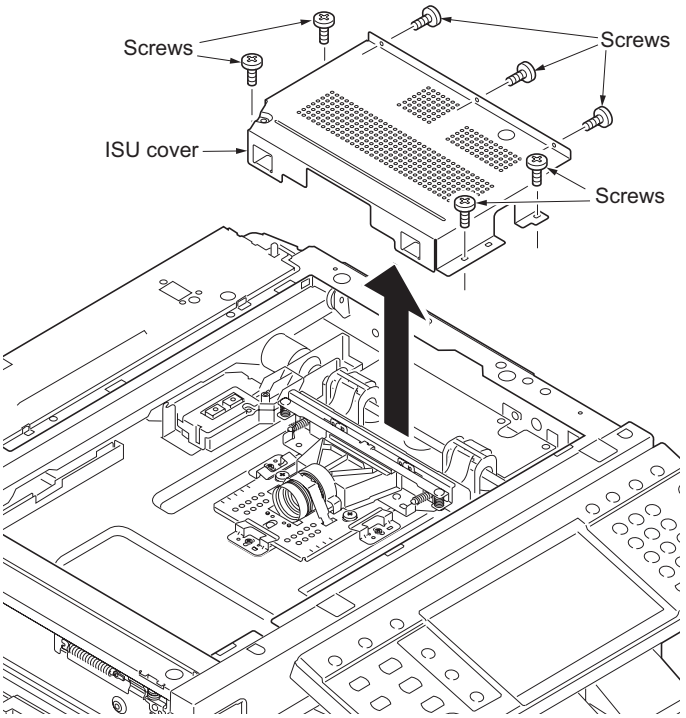


Figure 1-5-39

3. Remove three screws and two connectors, and then remove the ISU.
4. Check or replace the ISU.

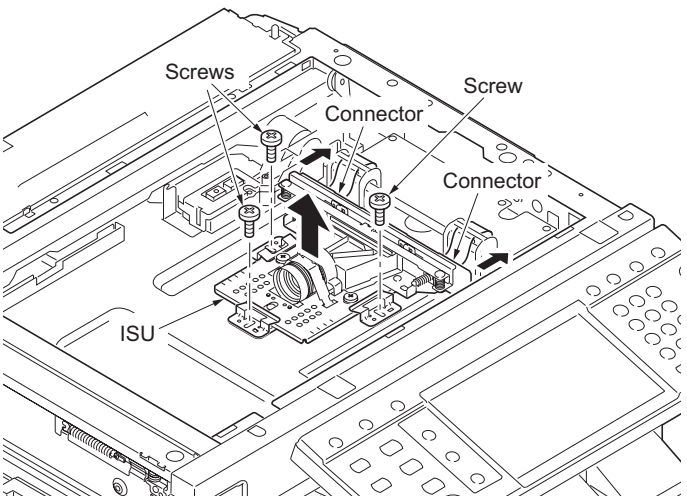
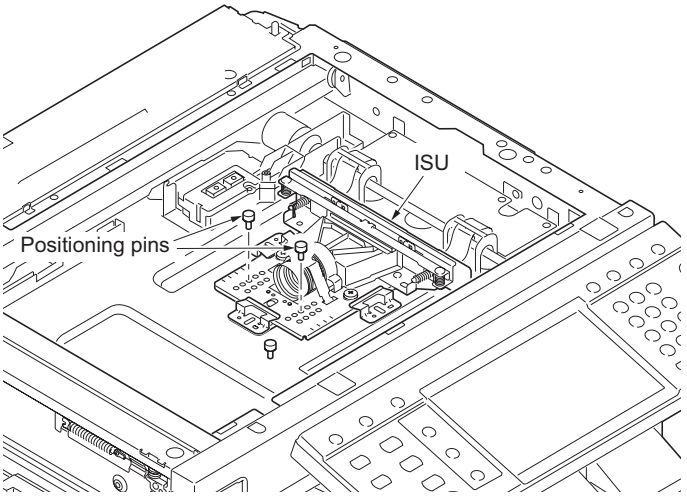


Figure 1-5-40

Refitting the ISU

5. Adjust the position of ISU to the frame hole of number and the same number which are recorded in the lens of ISU and then insert two positioning pins.
   Example: When a lens number is 5, move ISU so that the positioning hole of 5 of the number stamped in the scanner unit suit and insert two pins.
6. Remove two positioning pins after fixing ISU with three screws.



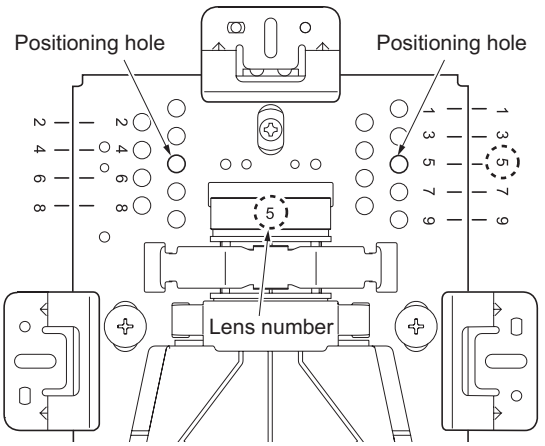


Figure 1-5-41

7. Refit two connectors.
8. Refit the ISU cover.
   Screw tightening order
   1) Three screws A
   2) Four screws B
9. Refit the contact glass.

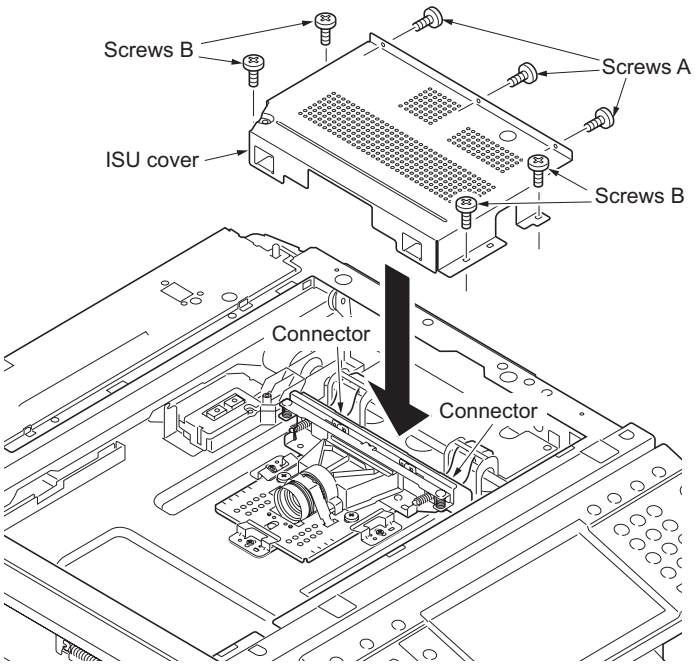


Figure 1-5-42

(4) Detaching and refitting the laser scanner unit

Take the following procedure when the laser scanner unit is to be replaced.

Procedure

1. Remove the developing unit and drum unit (see pages 1-5-28 and 1-5-25).
2. Remove the right lower cover and front left cover (see pages 1-5-5 and 1-5-12).
3. Remove four screws and remove the front right cover.

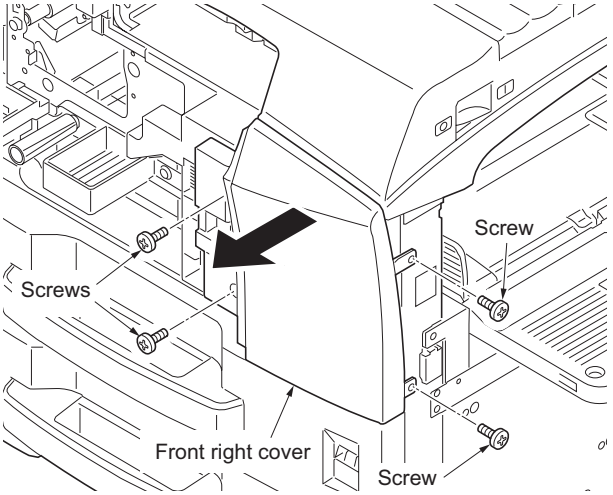


Figure 1-5-43

4. Remove three screws and remove the top tray.

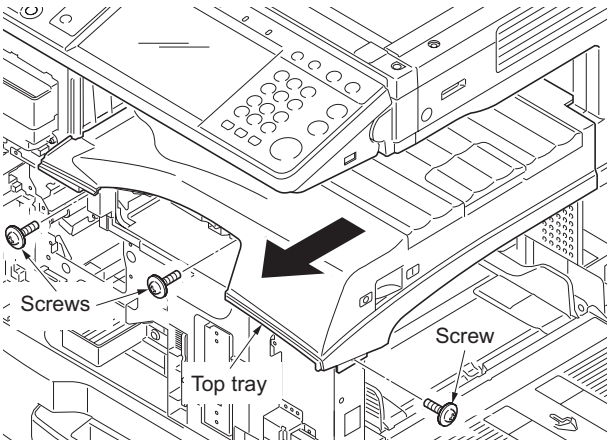


Figure 1-5-44

5. Remove five screws and remove the inner cover.

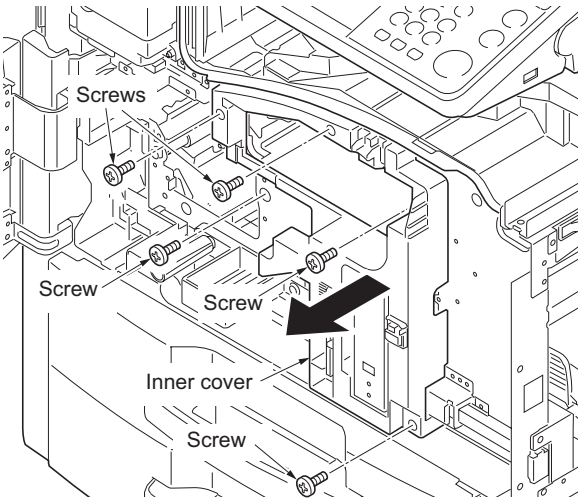


Figure 1-5-45

6. Remove two screws and two connectors, and then remove the fan duct.

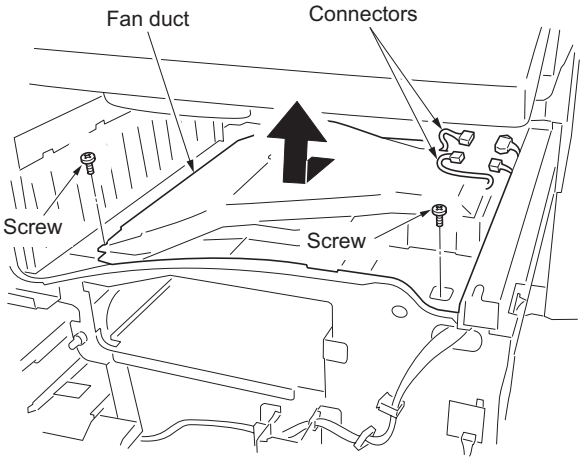


Figure 1-5-46

7. Remove six screws and remove the toner container retainer.

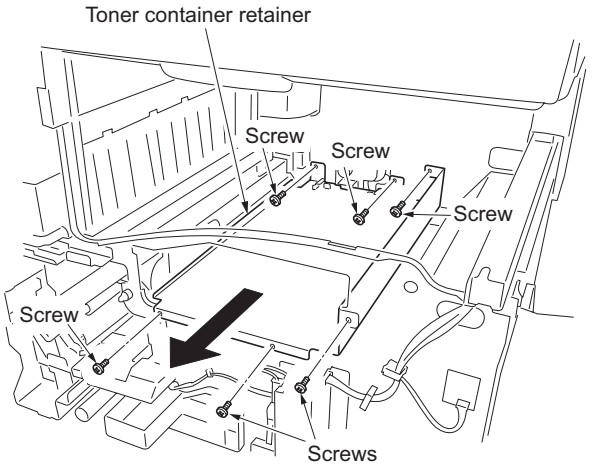


Figure 1-5-47

8. Remove two pins, two springs, one screw and one connector.
9. Remove the laser scanner unit.
10. Replace the laser scanner unit and install the unit.
11. Refit the toner container retainer, fan duct and inner cover.
12. Refit the top tray, front right cover, right lower cover and front left cover.
13. Refit the drum unit and the developing unit.

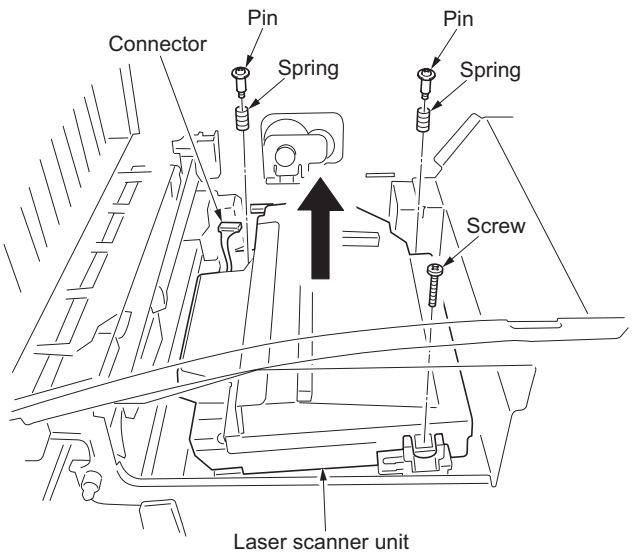


Figure 1-5-48

(5) Adjusting the skew of the laser scanner unit (reference)

Perform the following adjustment if the leading and trailing edges of the copy image are laterally skewed (lateral squareness not obtained).

Procedure

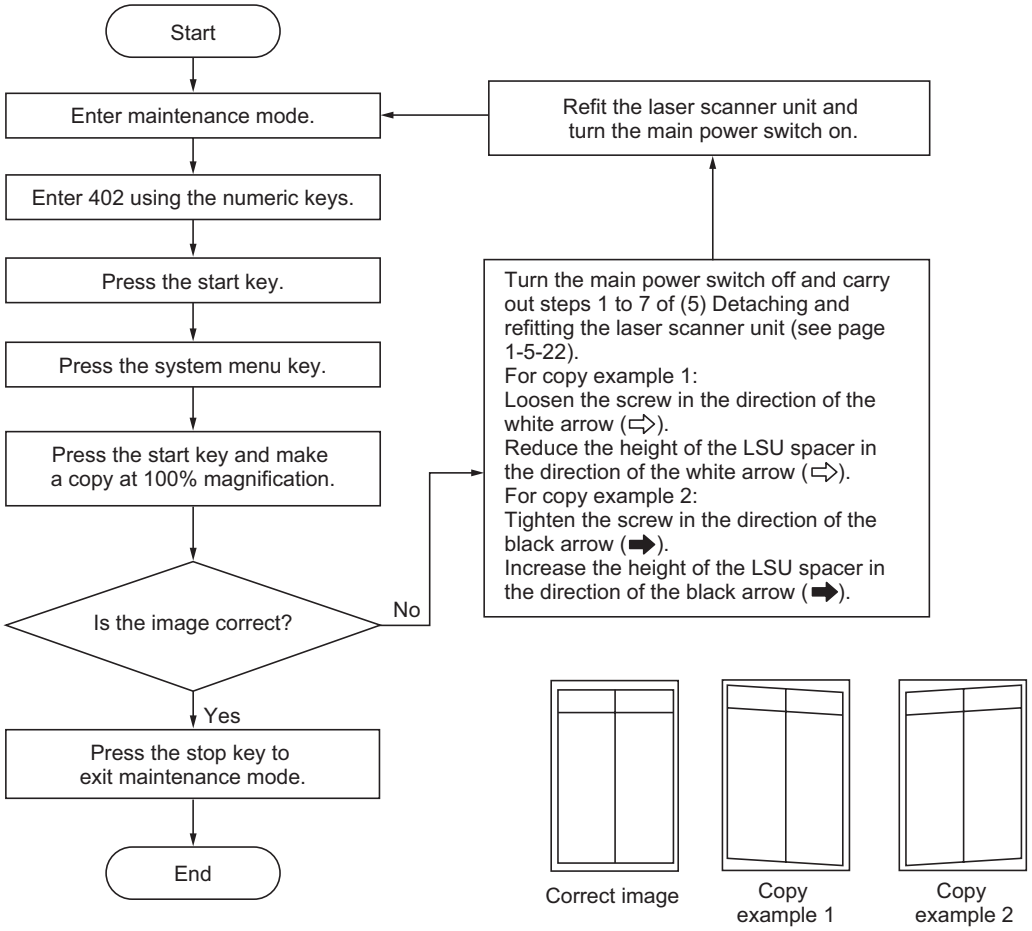


Figure 1-5-49

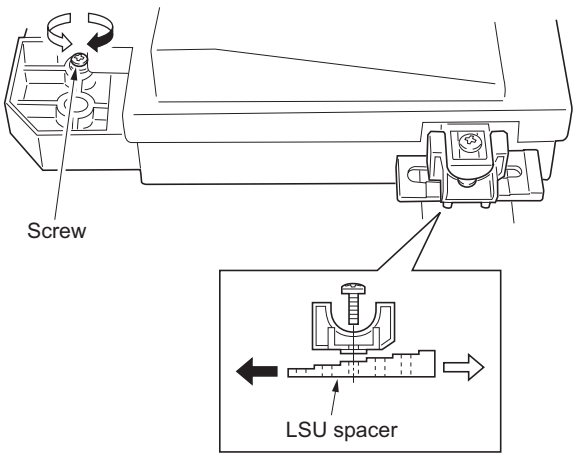


Figure 1-5-50

1-5-4 Drum section

(1) Detaching and refitting the drum unit

Follow the procedure below to replace the drum unit.

Cautions:
Avoid direct sunlight or strong light when detaching and refitting the drum unit.
Never touch the drum surface when holding the drum unit.

Procedure

1. Remove the developing unit (see page 1-5-28).
2. Remove the main charger unit (see page 1-5-26).
3. Remove the screw and the drum unit.
4. Replace the drum unit and install the unit.

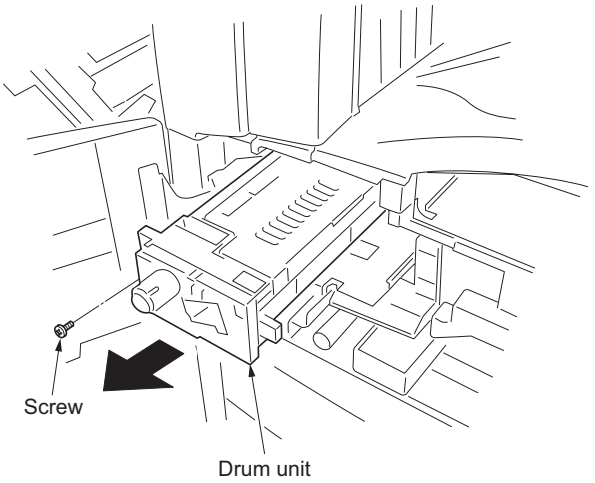


Figure 1-5-51

(2) Detaching and refitting the main charger unit

Follow the procedure below to replace the main charger unit.

Procedure

1. Remove the developing unit (see page 1-5-28).
2. Release the inserted part and remove the connector cover.
3. Remove the connector.

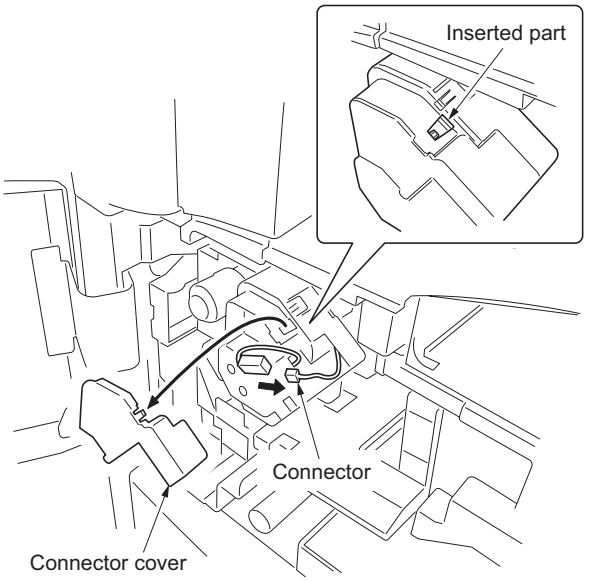


Figure 1-5-52

4. Remove the screw.
5. While pushing the hole with a sharp-pointed object, remove the main charger unit.

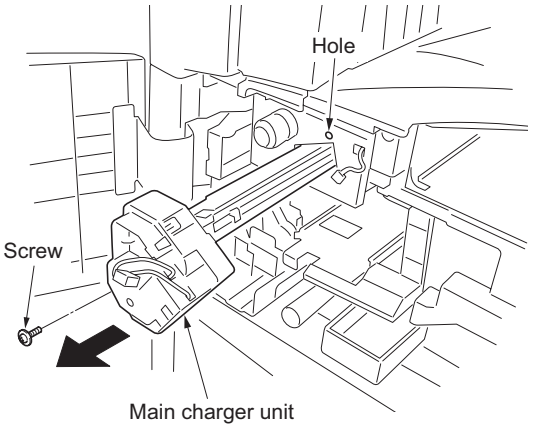


Figure 1-5-53

6. Release the inserted part and remove the cleaning motor unit from the main charger unit.
7. Replace the main charger unit.
8. Refit the cleaning motor unit to the main charger unit.
9. Install the main charger unit.

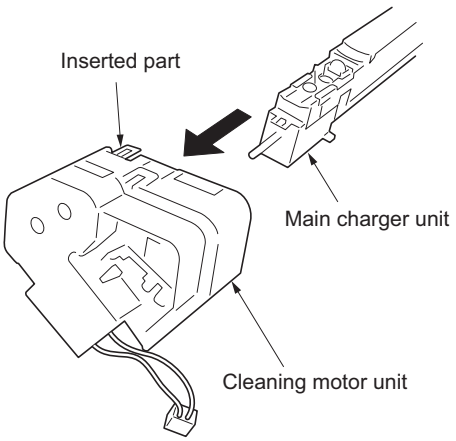


Figure 1-5-54

(3) Detaching and refitting the drum separation claws

Follow the procedure below to replace the drum separation claws.

Procedure

1. Remove the developing unit (see page 1-5-28).
2. Remove the drum unit (see page 1-5-25).
3. Remove two screws and remove the lower cleaning seal.

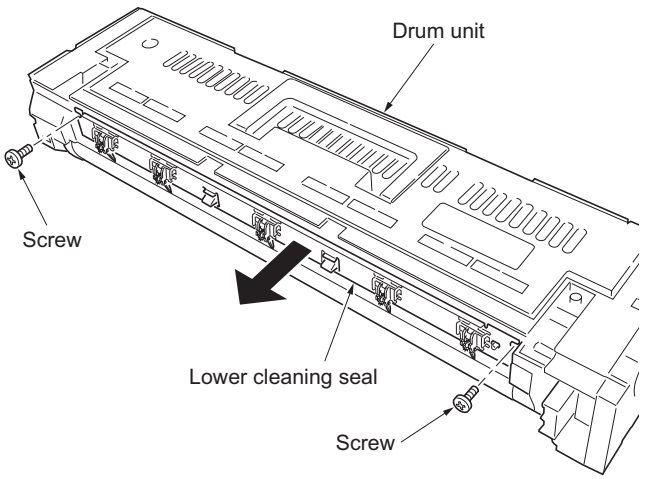


Figure 1-5-55

4. Release the inserted part and remove the drum separation claws from the lower cleaning seal.
5. Replace the drum separation claws and Install the claws.
6. Refit the lower cleaning seal to the drum unit.
7. Refit the drum unit and developing unit.

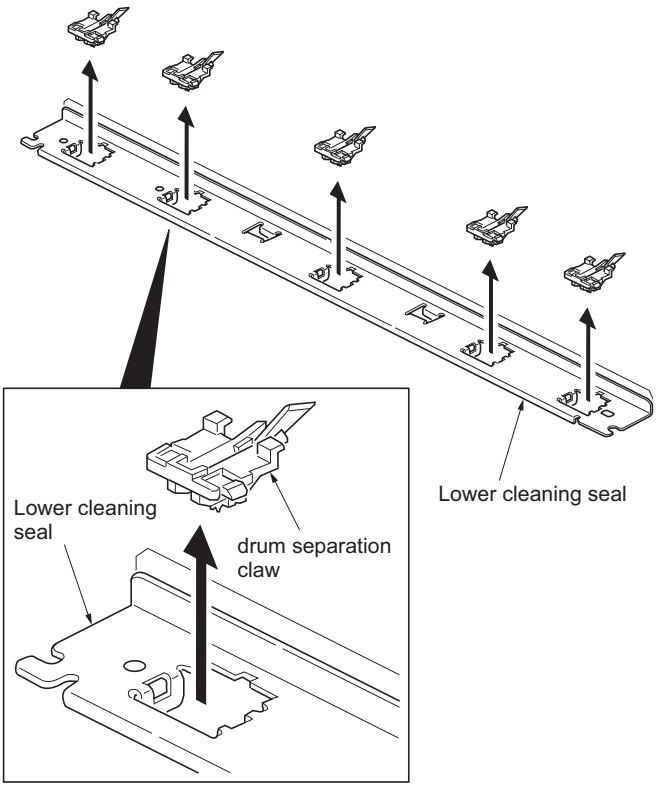


Figure 1-5-56

1-5-5 Developing section

(1) Detaching and refitting the developing unit

Follow the procedure below to replace the developing unit.

Procedure

1. Open the front cover.
2. Remove the toner container and waste toner box.
3. Remove the pin and turn the developing release lever in the direction of the arrow.

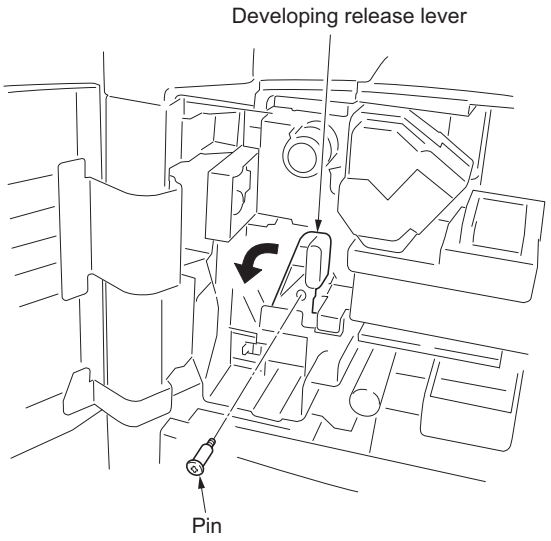


Figure 1-5-57

4. Remove the developing unit.
5. Replace the developing unit and install the unit.
6. Perform maintenance mode U130 (see page 1-3-49).

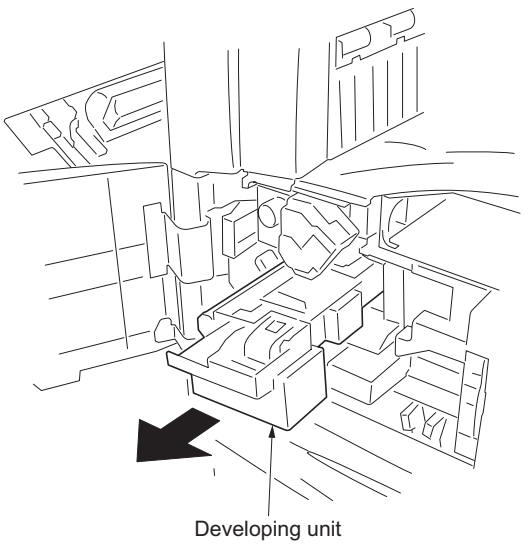


Figure 1-5-58

1-5-6 Transfer section

(1) Detaching and refitting the transfer roller unit

Follow the procedure below to replace the transfer roller unit.

Procedure

1. Open the left cover 1.
2. While holding down the projection, slide the transfer roller unit toward the front to remove it.
3. Replace the transfer roller unit and install the unit.
4. Perform maintenance mode U127 to clear the counter value (see page 1-3-48).

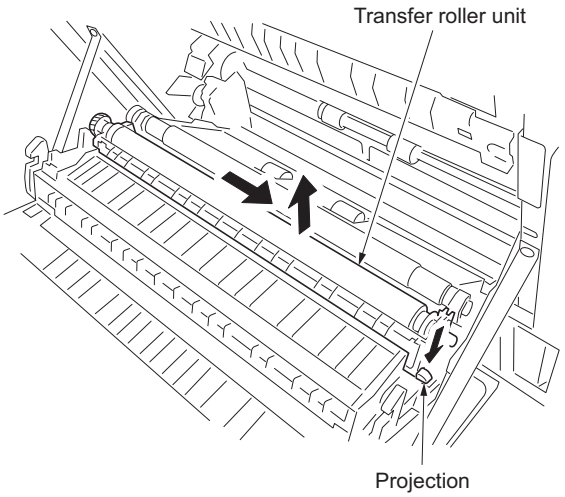


Figure 1-5-59

1-5-7 Fuser section

(1) Detaching and refitting the fuser unit

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

Procedure

1. Remove the clip holder.
2. Open the front cover and left cover 1.
3. Remove four screws and remove front left cover.

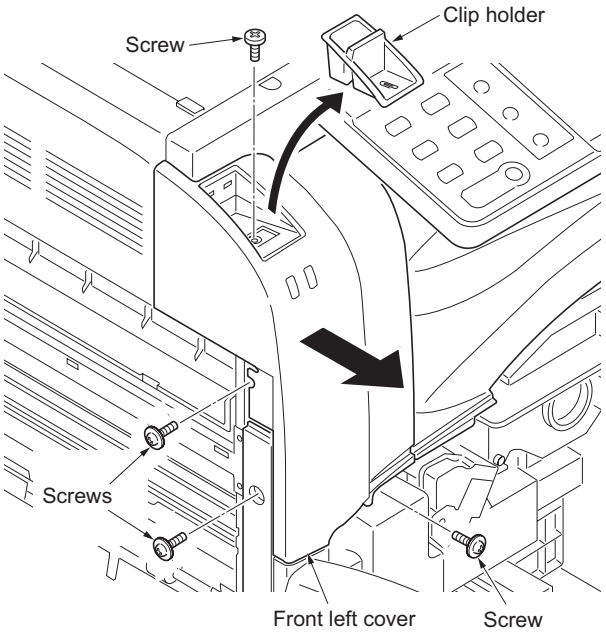


Figure 1-5-60

4. Remove the screw and remove the fuser unit.
5. Check or replace the fuser unit and install the unit.
6. Perform maintenance mode U167 to clear the counter value (see page 1-3-52).

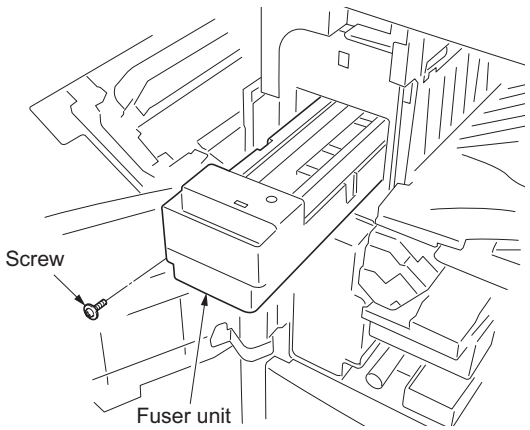


Figure 1-5-61

(2) Detaching and refitting the heat roller separation claws

Follow the procedure below to replace the heat roller separation claws.

Procedure

1. Remove the fuser unit (see page 1-5-30).
2. Remove the two pins and remove the upper fuser cover while holding the four claws.

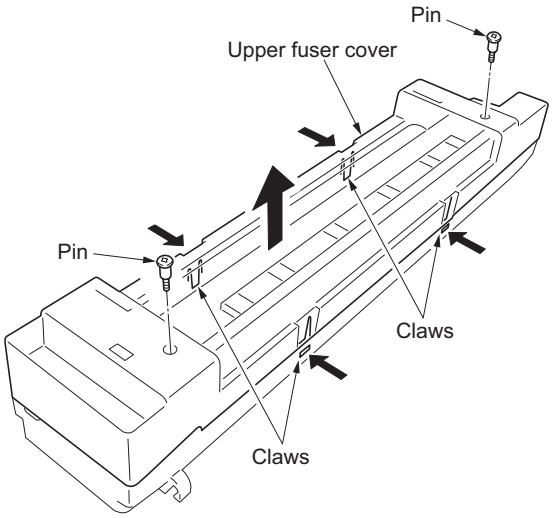


Figure 1-5-62

3. Remove the heat roller separation claws from the upper fuser cover.
4. Replace the heat roller separation claws and install the claws to upper fuser cover.
5. Refit the upper fuser cover.
6. Refit the fuser unit.

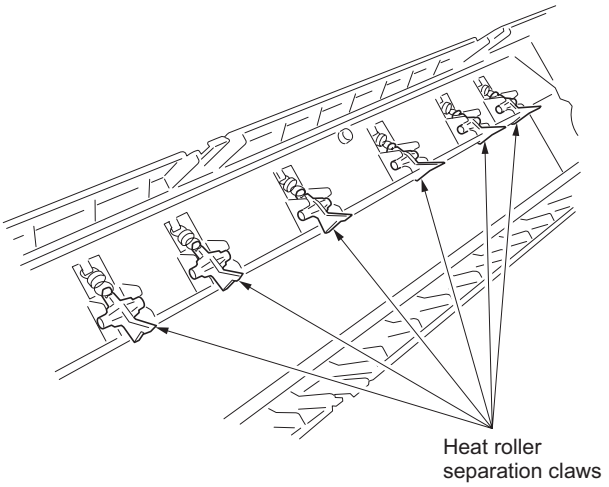


Figure 1-5-63

(3) Detaching and refitting the press roller

Follow the procedure below to replace the press roller.

Procedure

1. Remove the fuser unit (see page 1-5-30).
2. Remove the upper fuser cover (see page 1-5-31).
3. Remove the front and rear press springs.

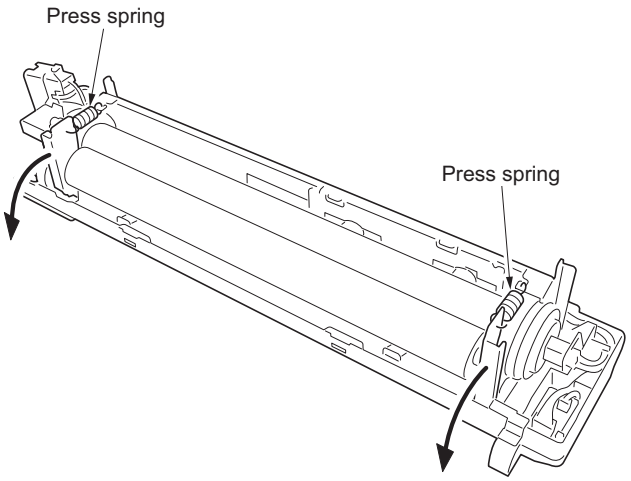


Figure 1-5-64

4. Remove the press roller from the fuser unit.
5. Replace the press roller and install the roller to fuser unit.
6. Refit the upper fuser cover.
7. Refit the fuser unit.

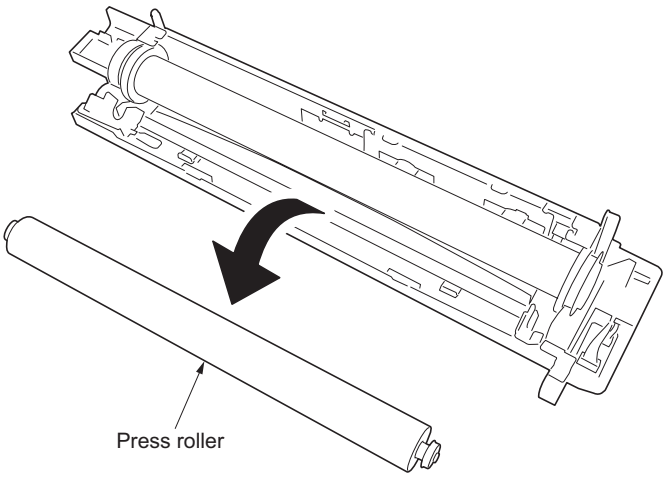


Figure 1-5-65

(4) Detaching and refitting the fuser heater

Follow the procedure below to replace the fuser heater.

Procedure

1. Remove the fuser unit (see page 1-5-30).
2. Remove the upper fuser cover (see page 1-5-31).
3. Remove two screws and the connector.

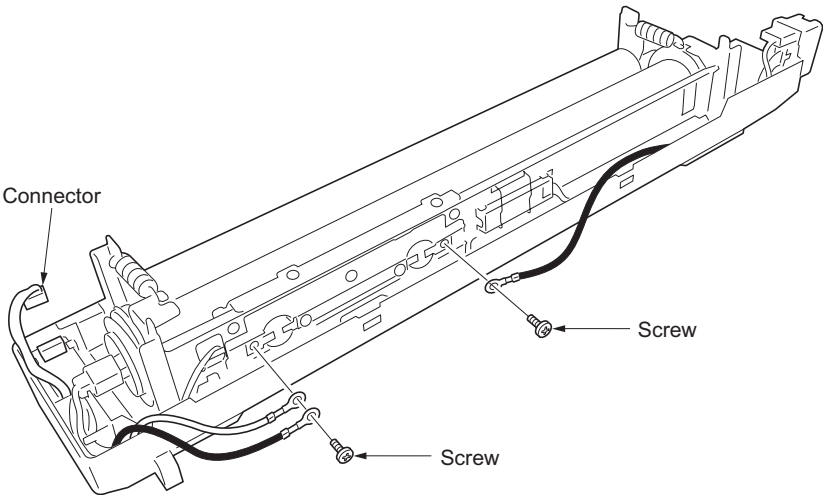


Figure 1-5-66

4. Pull out the fuser heater from the fuser unit.

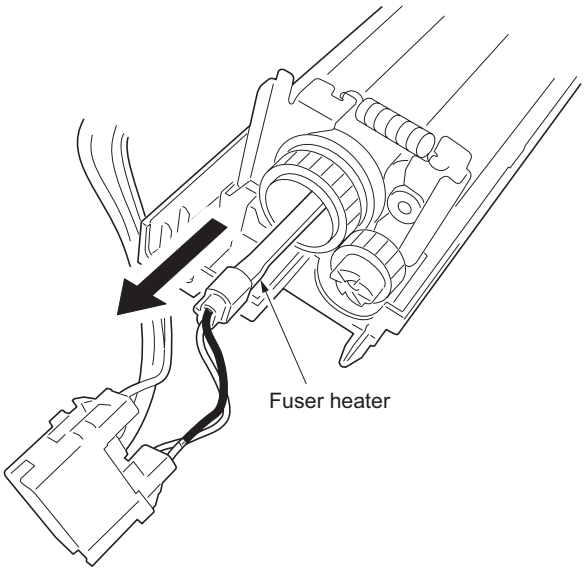


Figure 1-5-67

5. Replace the fuser heater and install the heater to fuser unit.
6. Refit the upper fuser cover.
7. Refit the fuser unit.

(5) Detaching and refitting the heat roller

Follow the procedure below to replace the heat roller.

Procedure

1. Remove the fuser unit (see page 1-5-30).
2. Remove the upper fuser cover (see page 1-5-31).
3. Remove the press roller and fuser heater (see page 1-5-32 and 1-5-33).
4. Remove the fuser gear.

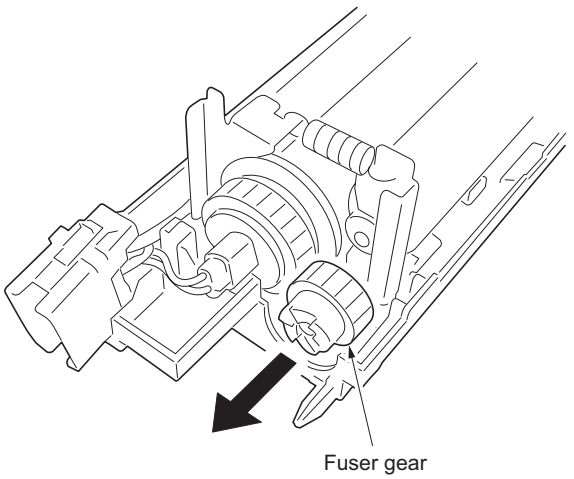


Figure 1-5-68

5. Remove the heat roller from the fuser unit. Remove the C ring, gear, bearing and bushing on the rear side of the heat roller and remove the C ring, ground plate, bearing and bushing on the front side.
6. Replace the heat roller and install the roller to the fuser unit.

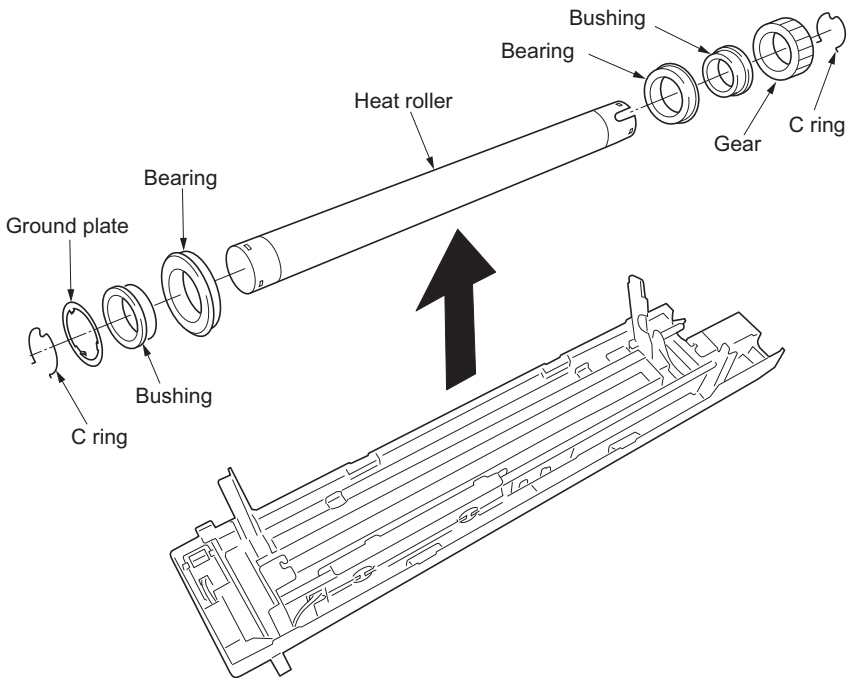


Figure 1-5-69

7. Refit the fuser gear.
8. Refit the fuser heater, press roller and upper fuser cover.
9. Refit the fuser unit.

(6) Detaching and refitting the fuser thermistor 1 and 2

Follow the procedure below to replace the fuser thermistor 1 and 2.

Procedure

1. Remove the fuser unit (see page 1-5-30).
2. Remove the upper fuser cover (see page 1-5-31).
3. Release the stopper of the fuser thermistor 2.
4. Remove the connector and remove the fuser thermistor 2.
5. Replace the fuser thermistor 2 and install the thermistor to fuser unit.

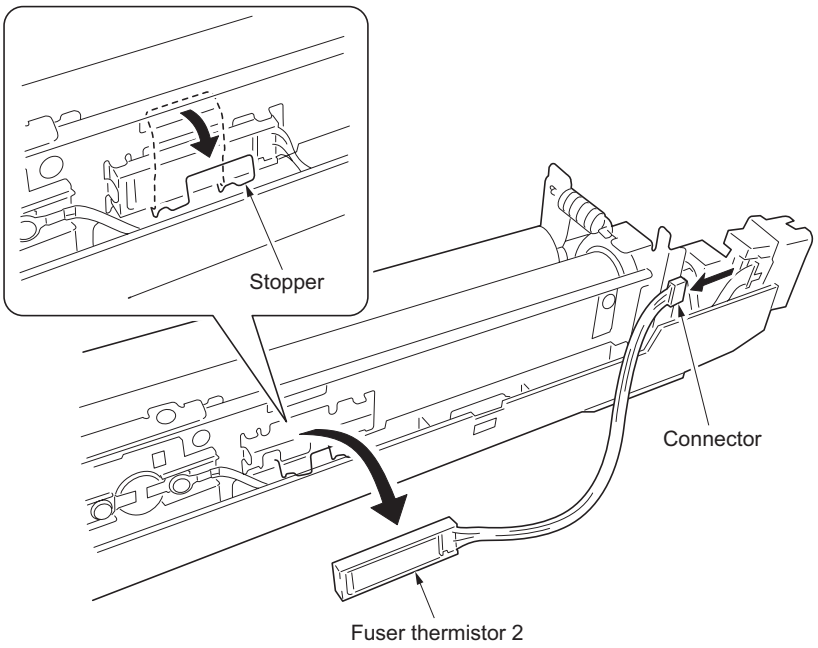


Figure 1-5-70

6. Remove the press roller and fuser heater (see page 1-5-32 and 1-5-33).
7. Remove the heat roller (see page 1-5-34).
8. Remove the screw and the connector, and then remove the fuser thermistor 1.
9. Replace the fuser thermistor 1 and install the thermistor to fuser unit.
10. Refit the heat roller, fuser heater, press roller and upper fuser cover.
11. Refit the fuser unit.

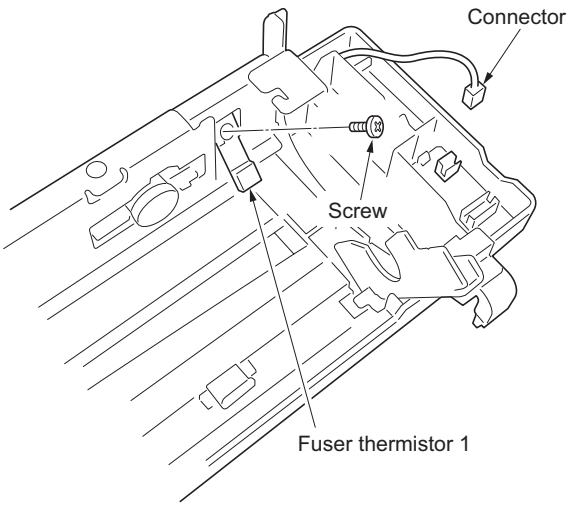


Figure 1-5-71

(7) Adjusting front position of the fuser unit (adjusting lateral squareness)

Follow the procedure below if the drum is not parallel to the fuser unit and therefore paper is not fed straight to the fuser section and the trailing edge of image on either the front or rear side becomes longer.

Procedure

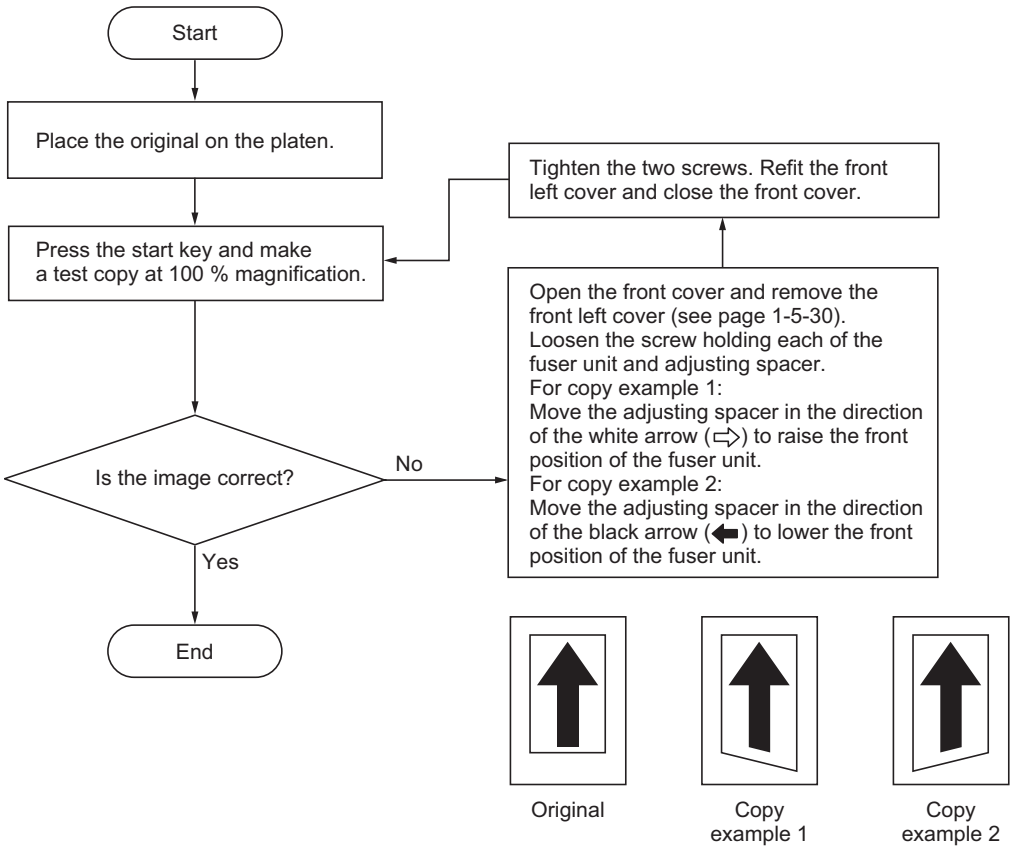


Figure 1-5-72

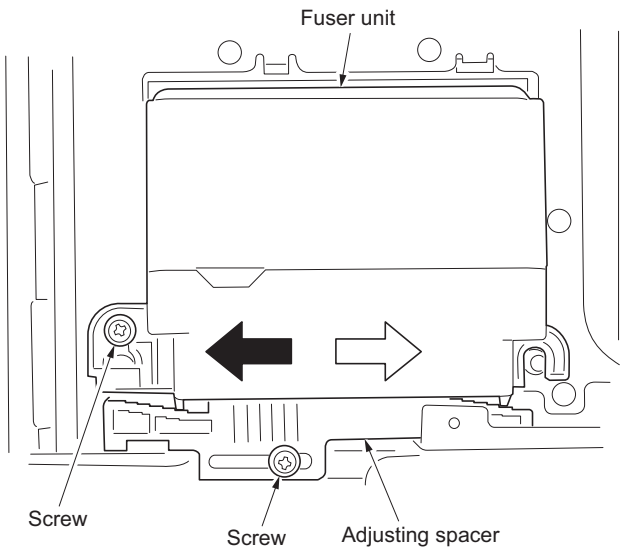


Figure 1-5-73

1-5-8 Others

(1) Detaching and refitting the ozone filter 1 and 2

Follow the procedure below to replace the ozone filter 1 and 2.

Procedure

1. Remove the ozone filter 1 from the machine left side.

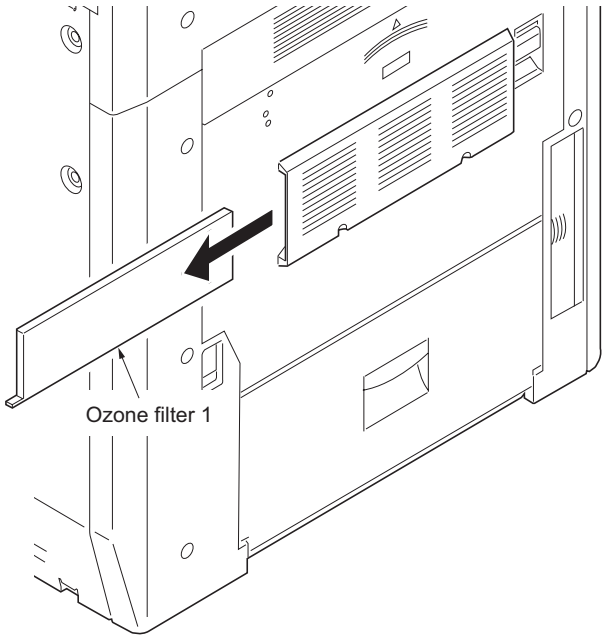


Figure 1-5-74

2. Open the filter cover of the machine rear side and remove the ozone filter 2.
3. Replace the ozone filter 1 and 2 and install the filters.

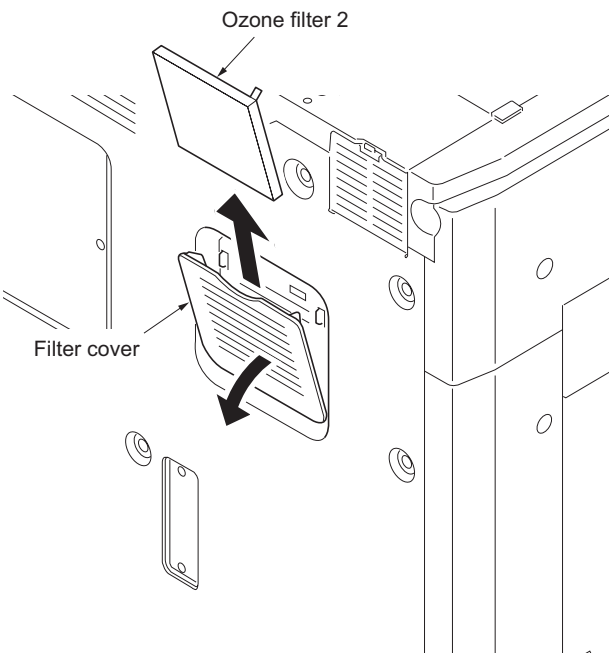


Figure 1-5-75

(2) Detaching and refitting the dust filter 1 and 2

Follow the procedure below to replace the dust filter 1 and 2.

Procedure

1. Open the MP tray.
2. Remove the dust filter 1 and 2 from the machine.
3. Replace the dust filter 1 and 2 and install the filters.

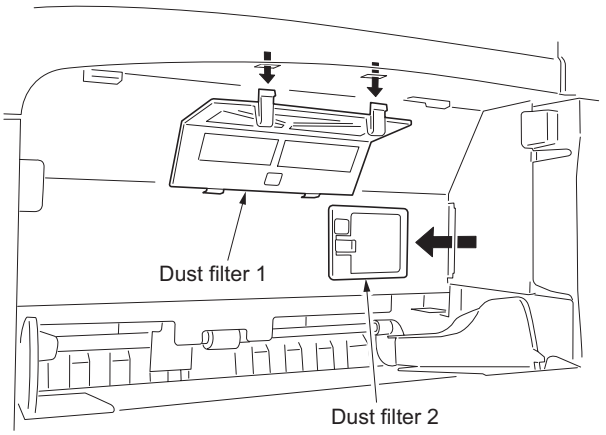


Figure 1-5-76

(3) Detaching and refitting the ISU filter

Follow the procedure below to replace the ISU filter.

Procedure

1. Remove the ISU filter cover.
2. Replace the ISU filter and install the filter to the ISU filter cover.

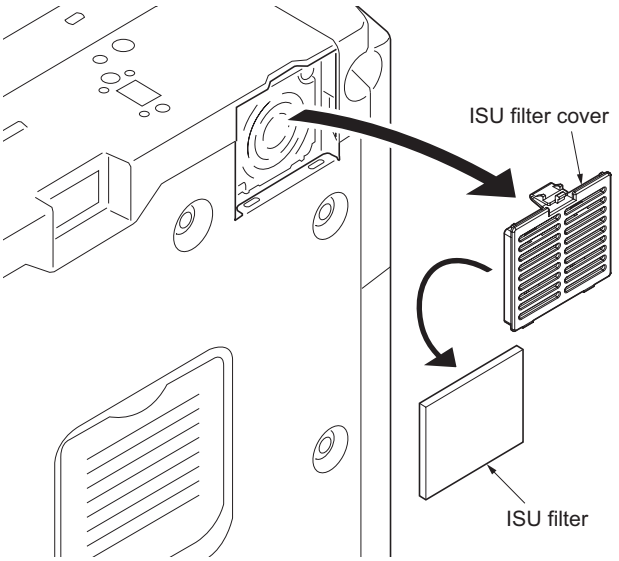


Figure 1-5-77

(4) Detaching and refitting the hard disk

Follow the procedure below to replace the hard disk.

Procedure

1. Remove the ISU filter cover.
2. Remove ten screws and then remove the rear cover.

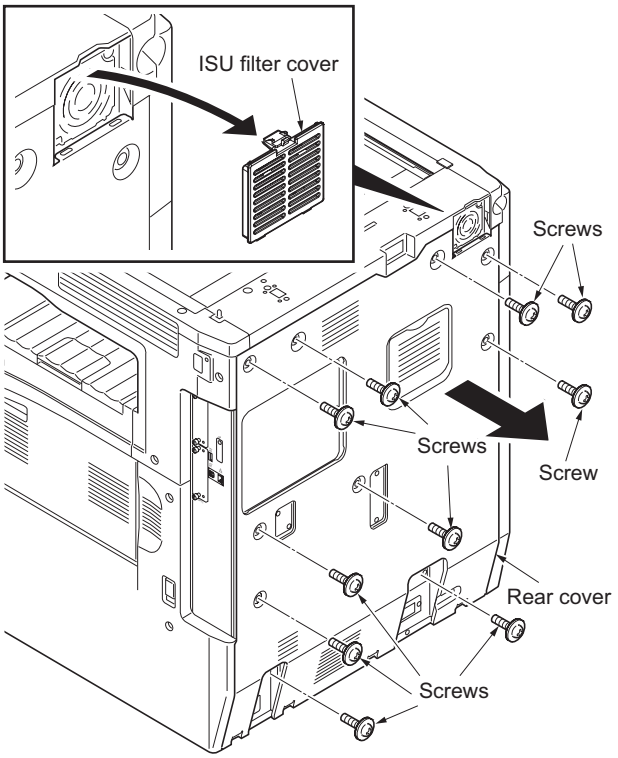


Figure 1-5-78

3. Remove the screw and then remove the main PWB lid.
4. Remove the fifteen screws and then remove the shield lid.

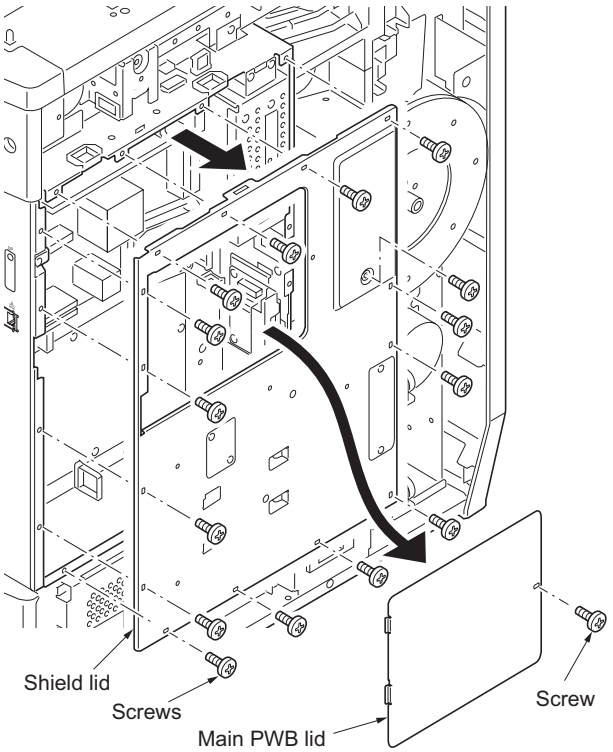


Figure 1-5-79

5. Remove two cable clamps.
6. Pressing the lock lever and remove the following connectors.
   Connector (Blue)
   Connector (Black)
7. Remove the power source connector.

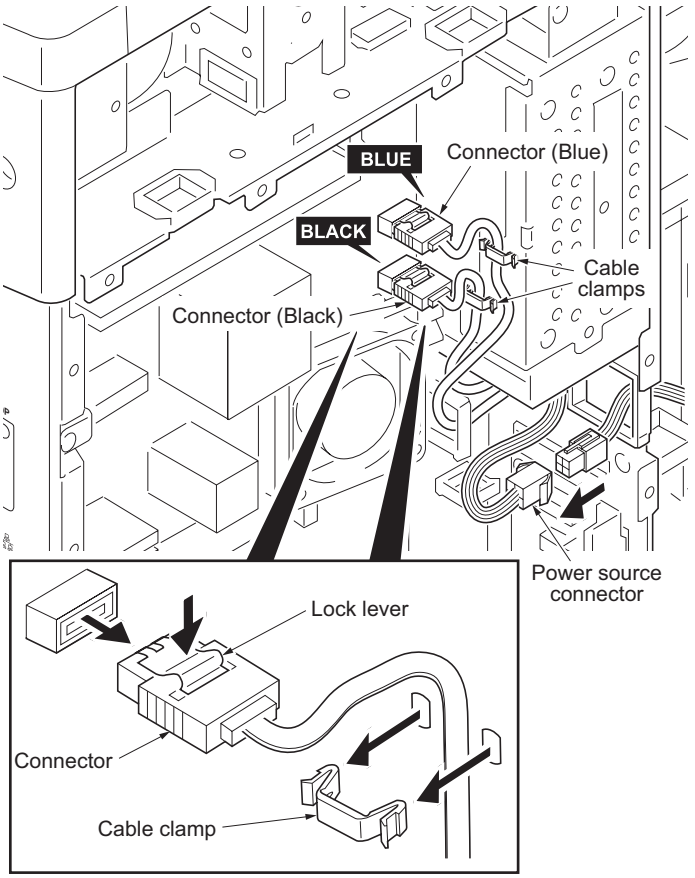


Figure 1-5-80

8. Remove two screws and then remove the hard disk mount assembly.

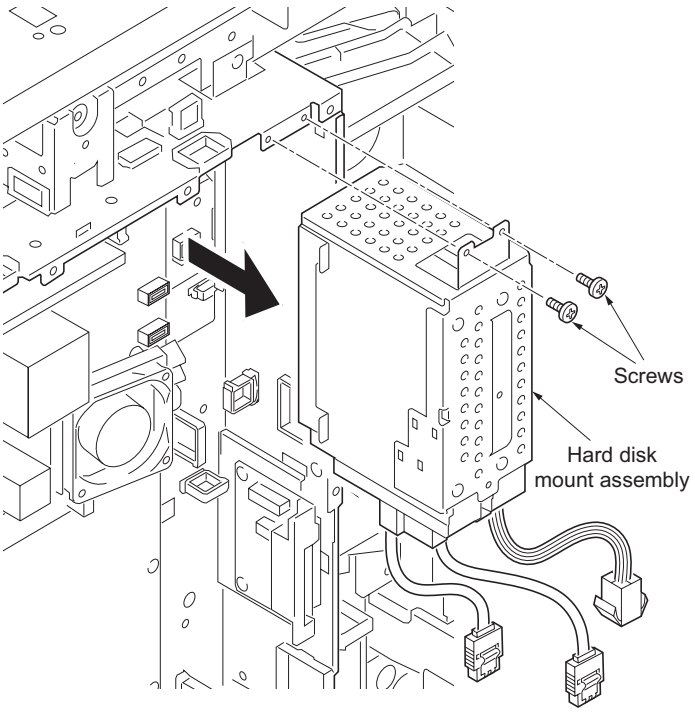


Figure 1-5-81

9. Pressing the lock lever and remove the following connectors.
   Connector (Blue)
   Connector (Black)
   Two power source connectors
10. Replace the hard disk mount assembly and refit all the removed parts.
11. Perform maintenance mode U024 (HDD initializing) (see page 1-3-19).
    Reinstall applications as necessary after initializing the HDD.
12. Perform maintenance mode U917 (backup data writing) (see page 1-3-100).

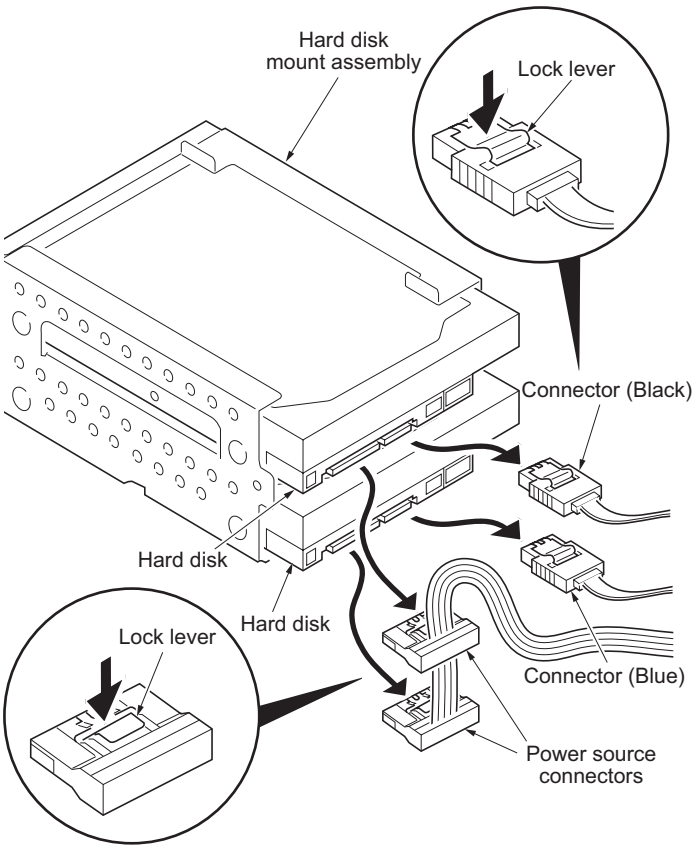


Figure 1-5-82

(5) Direction of installing the principal fan motors

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

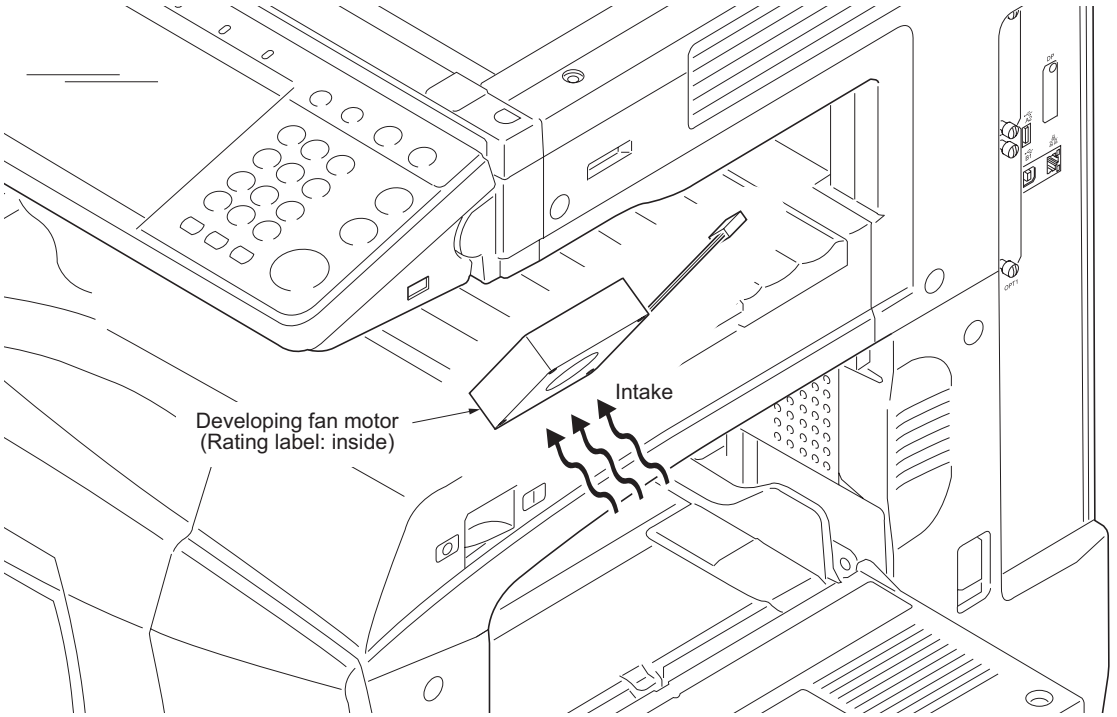


Figure 1-5-83Machine right

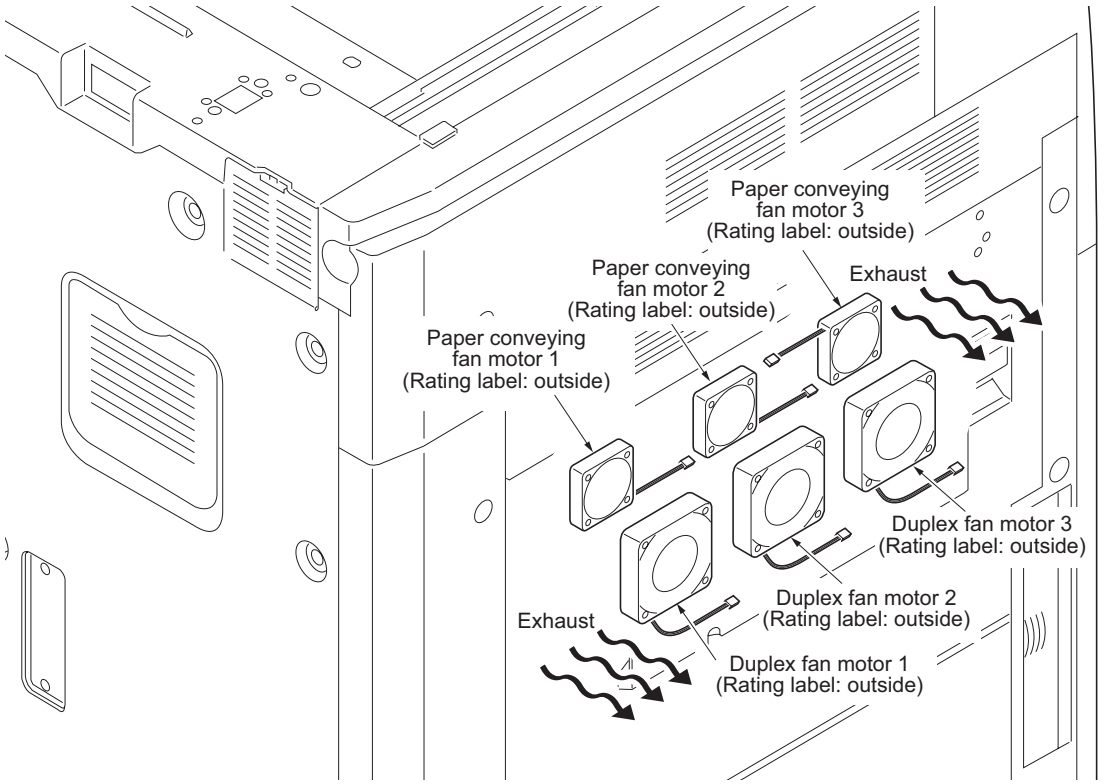


Figure 1-5-84Machine left

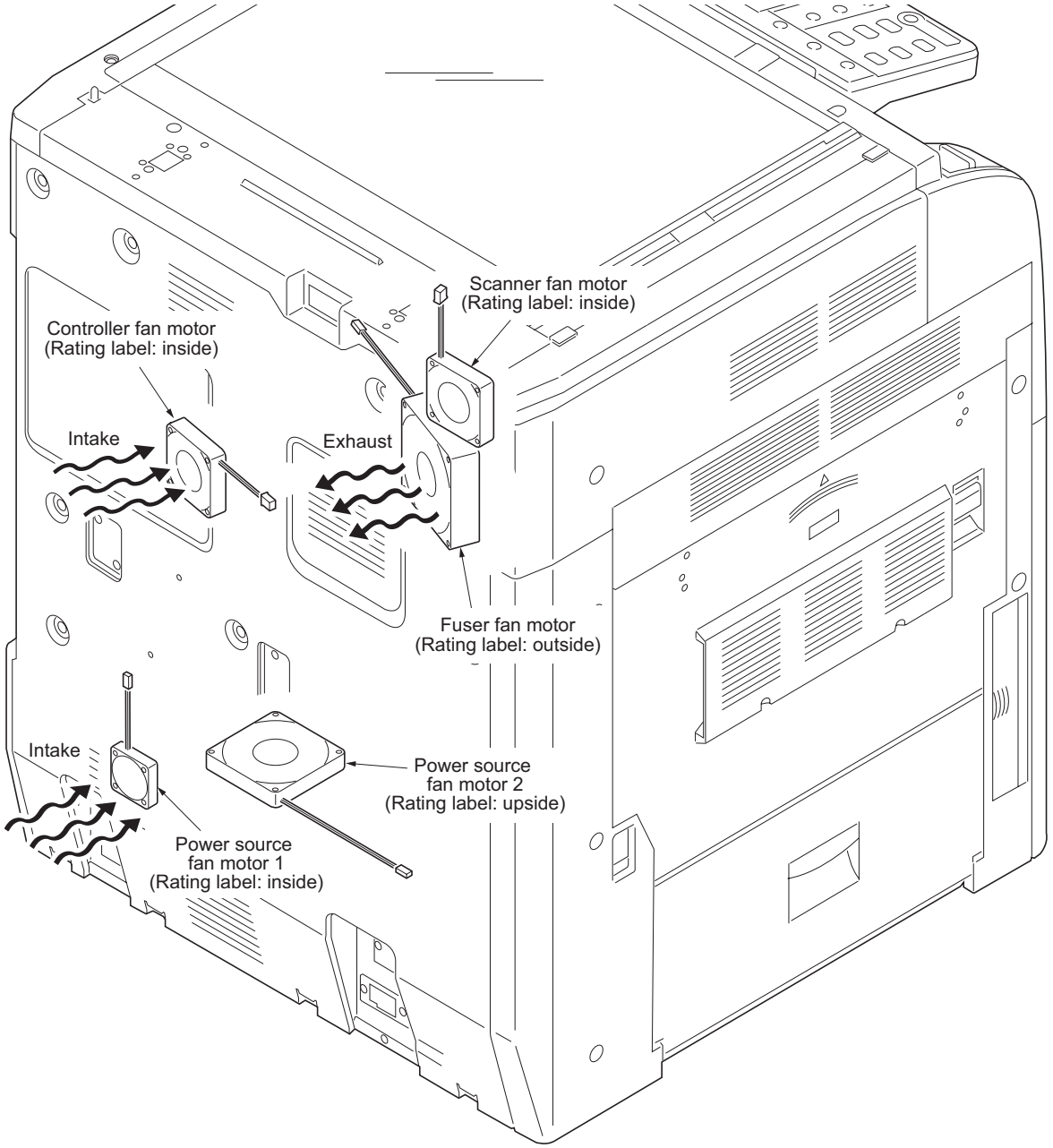


Figure 1-5-85Machine rear

1-6-1 Upgrading the firmware

Follow the procedure below to upgrade the firmware of main PWB, engine PWB, scanner and panel.

Procedure

1. Perform maintenance item U000 (maintenance report output) and check U019 ROM version.
2. Press the power key on the operation panel to off. Make sure that the main power indicator and the memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.
3. Insert USB memory in a notch hole of the machine.
4. Insert the power plug and turn the main power switch on. Upgrading firmware starts.
   Caution:
   Never turn the main power switch off during upgrading.

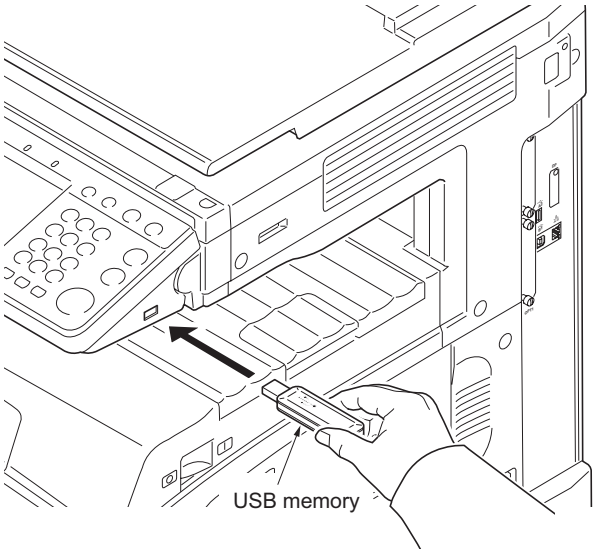


Figure 1-6-1

5. [100% Completed] is displayed on the touch panel when upgrading is complete.
6. Turn the main power switch off and unplug the power cable from the wall outlet.
7. Remove USB memory from the machine.
8. Insert the power plug and turn the main power switch on.
9. Perform maintenance item U000 (maintenance report output) and check that U019 ROM version has been upgraded.

1-6-2 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.
High voltage PWB: VR2, VR42, VR201, VR204

1-6-3 Remarks on main PWB replacement

When replacing the main PWB, remove EEPROM (YC14) from the main PWB that has been removed and then reattach it to the new main PWB.

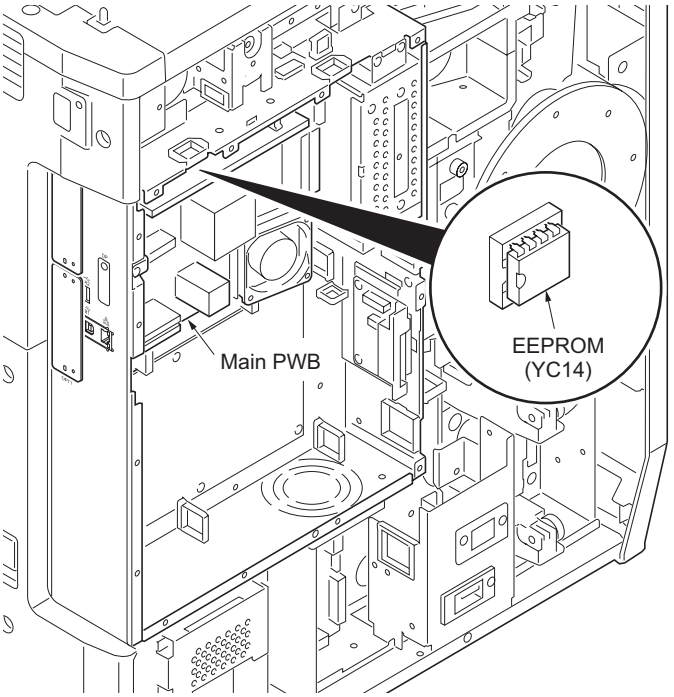


Figure 1-6-2

1-6-4 Remarks on engine PWB replacement

When replacing the engine PWB, remove the EEPROM (U3) from the engine PWB that has been removed and then reattach it to the new engine PWB.

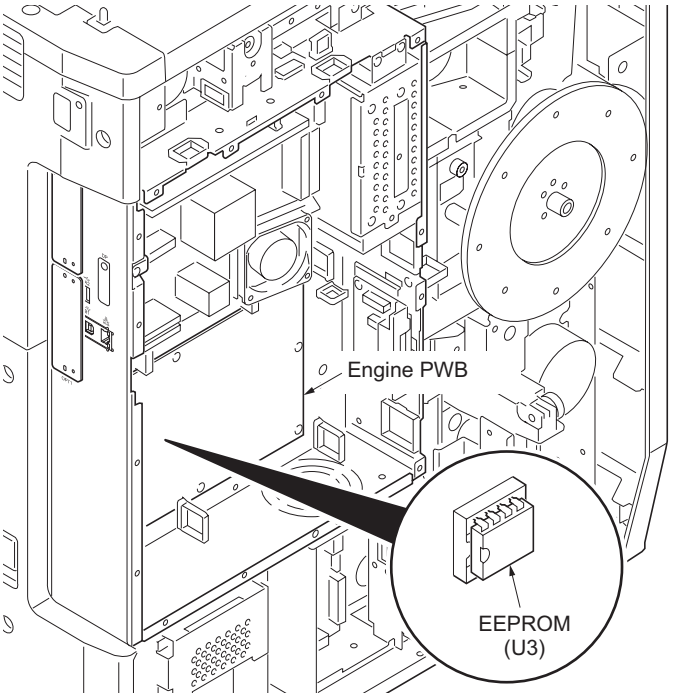


Figure 1-6-3

When removing YC1, YC2, YC3, YC4, YC8, YC9, YC11 from the main PWB and YC2 from the engine PWB, press the lock lever.
When connecting the hard disk cables (YC1, YC2) to the PWB, match "BLACK" and "BLUE" marked on the PWB with the connector colors.

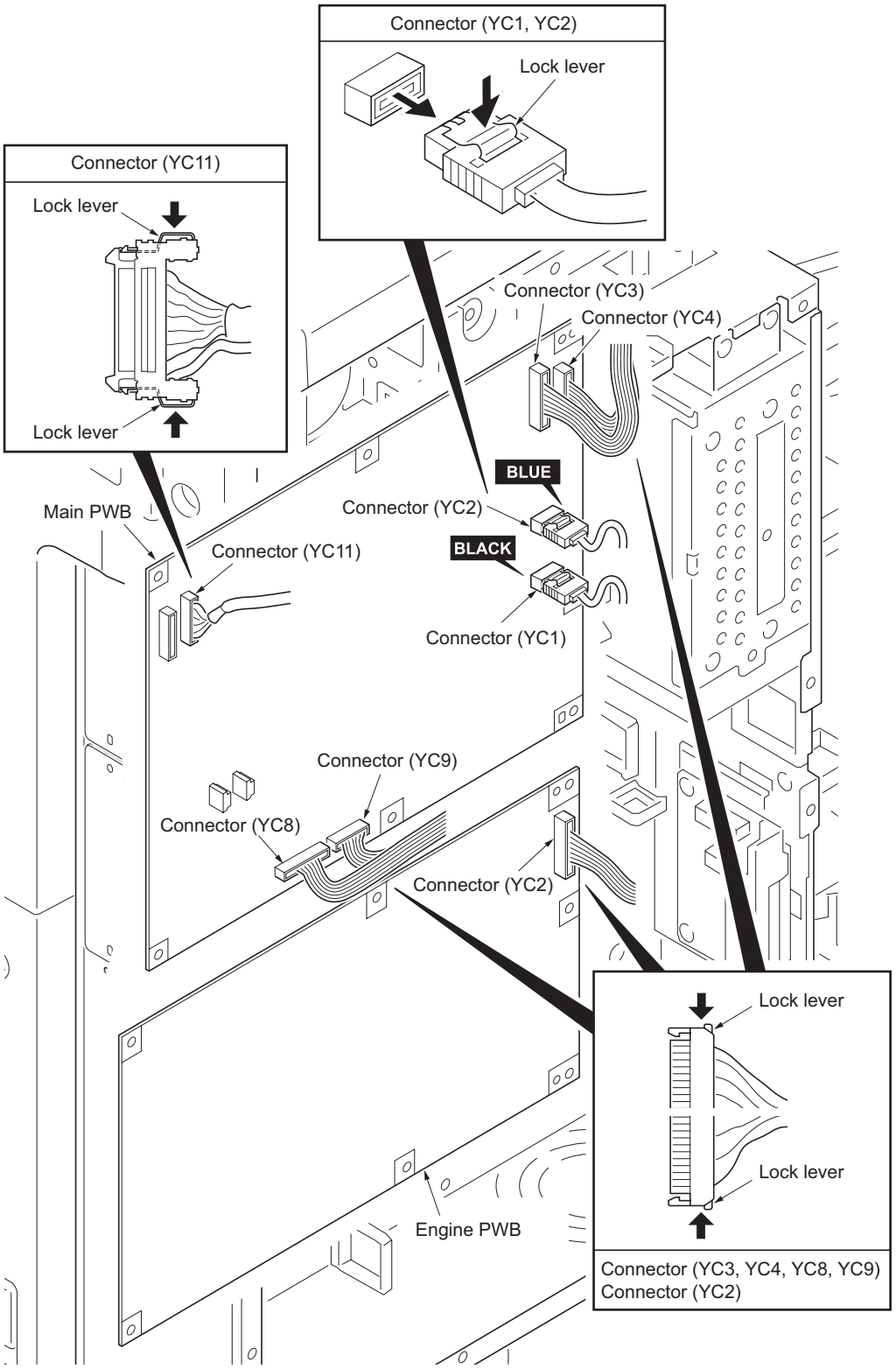


Figure 1-6-4

2-1-1 Paper feed section

The paper feed section consists of the primary feed and secondary feed subsections. Primary feed conveys paper from the cassettes 1, 2 or MP tray to the left and right registration rollers, at which point secondary feed takes place and the paper travels to the transfer section in sync with the printing timing.

(1) Cassette paper feed section

Each cassette consists of a lift driven by the lift motor and other components. Each cassette can hold up to 500 sheets of paper. Paper is fed from the cassette by the rotation of the forwarding pulley and paper feed pulley. The separation pulley prevents multiple sheets from being fed at one time, via the torque limiter.

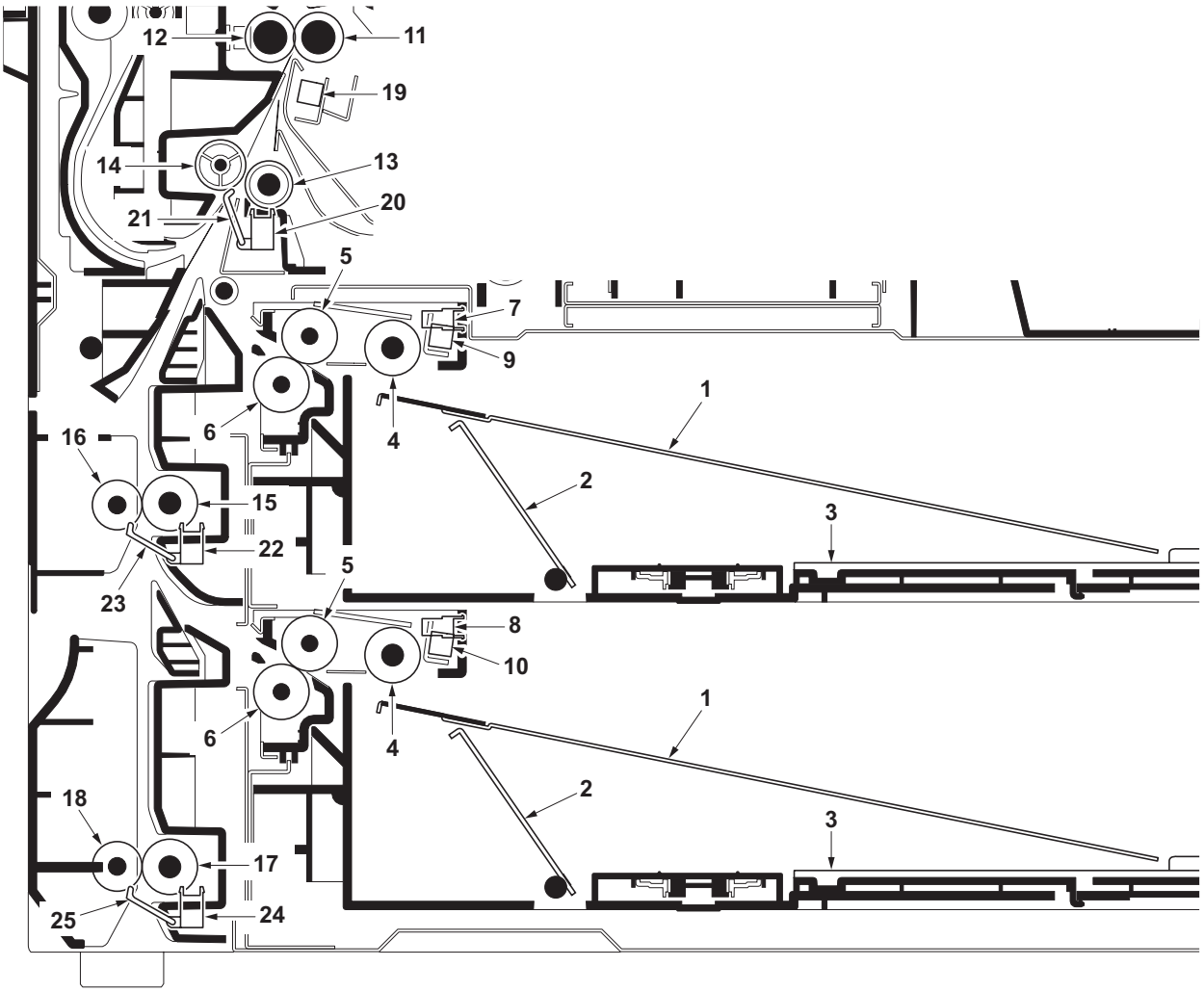


Figure 2-1-1 Cassette paper feed section

(1) Cassette base
(2) Cassette lift
(3) Cassette
(4) Forwarding pulley
(5) Paper feed pulley
(6) Separation pulley
(7) Paper switch 1 (PSW1)
(8) Paper switch 2 (PSW2)
(9) Lift switch 1 (LSW1)
(10) Lift switch 2 (LSW2)
(11) Right registration roller
(12) Left registration roller
(13) Feed roller 1
(14) Feed pulley
(15) Feed roller 2
(16) Feed pulley
(17) Feed roller 3
(18) Feed pulley
(19) Registration switch (RSW)
(20) Feed switch 1 (FSW1)
(21) Actuator (Feed switch 1)
(22) Feed switch 2 (FSW2)
(23) Actuator (Feed switch 2)
(24) Feed switch 3 (FSW3)
(25) Actuator (Feed switch 3)

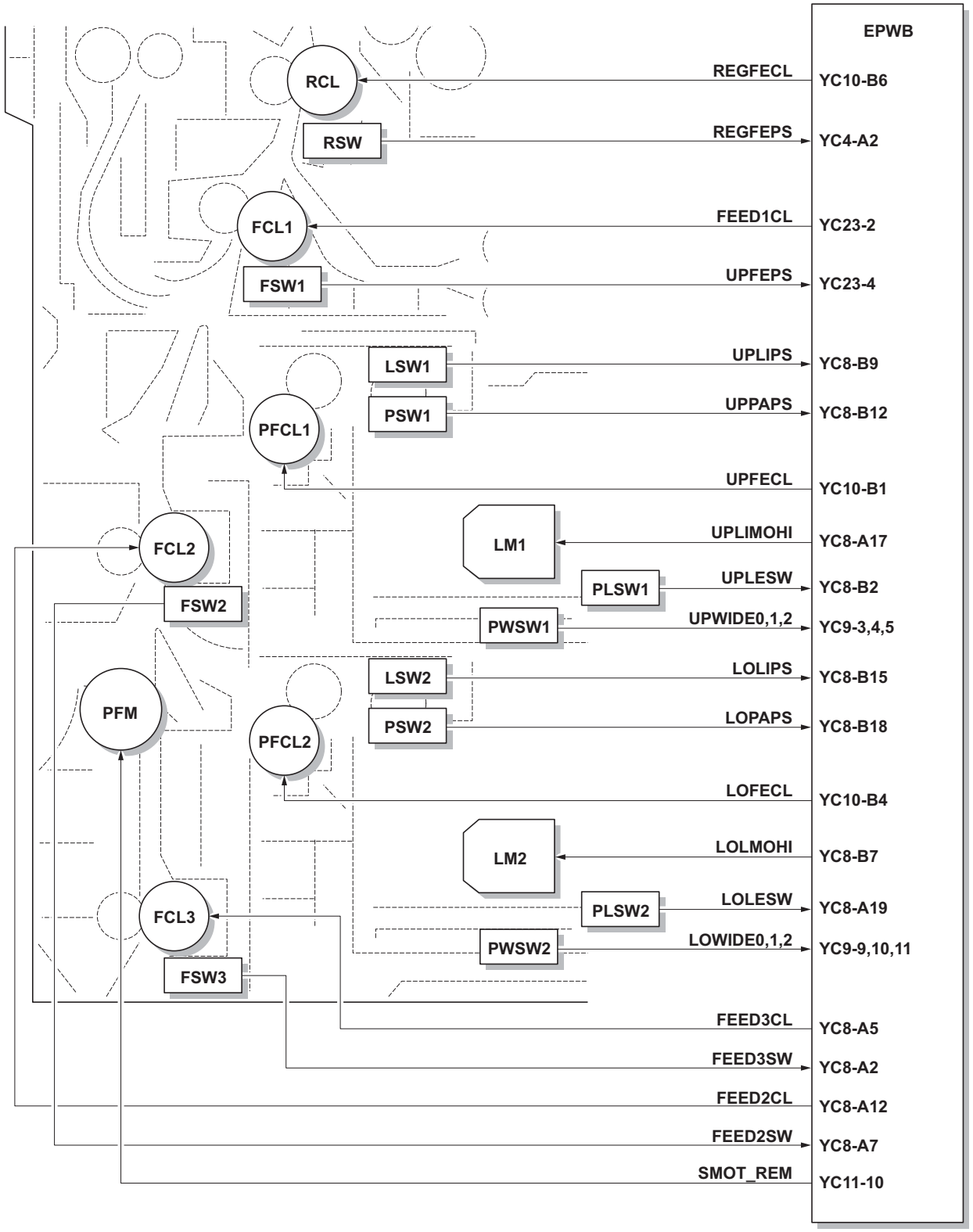


Figure 2-1-2 Cassette paper feed section block diagram

(2) MP tray paper feed section

The MP tray can be hold up to 200 sheets of paper at one time. Paper is fed from the MP tray by the rotation of the MP forwarding pulley and MP paper feed pulley. Also during paper feed, the MP separation pulley prevents multiple sheets from being fed at one time by the torque limiter.

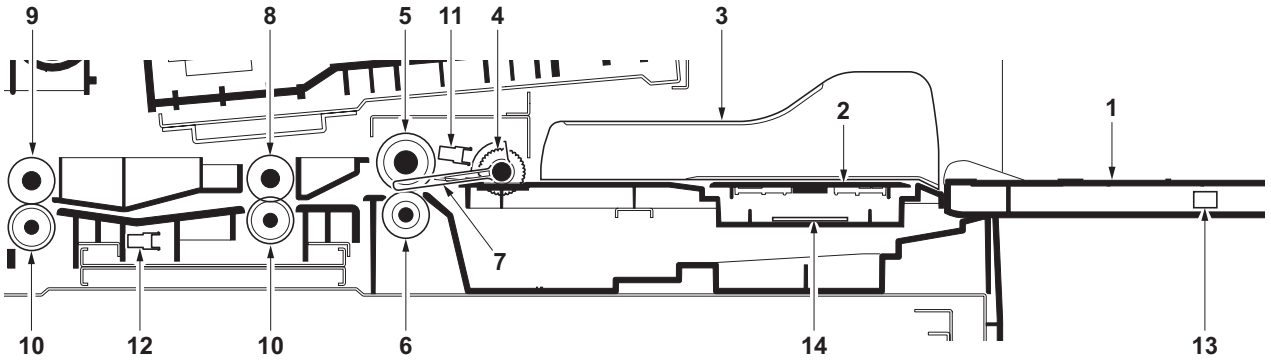


Figure 2-1-3 MP tray paper feed section

(1) MP tray
(2) MP lift guide
(3) Paper width guide
(4) MP forwarding pulley
(5) MP paper feed pulley
(6) MP separation pulley
(7) Paper stopper
(8) MP feed roller 1
(9) MP feed roller 2
(10) MP feed pulley
(11) MP paper switch (MPPSW)
(12) MP feed switch (MPFSW)
(13) MP paper size length switch (MPPLSW)
(14) MP paper size width switch (MPPWSW)

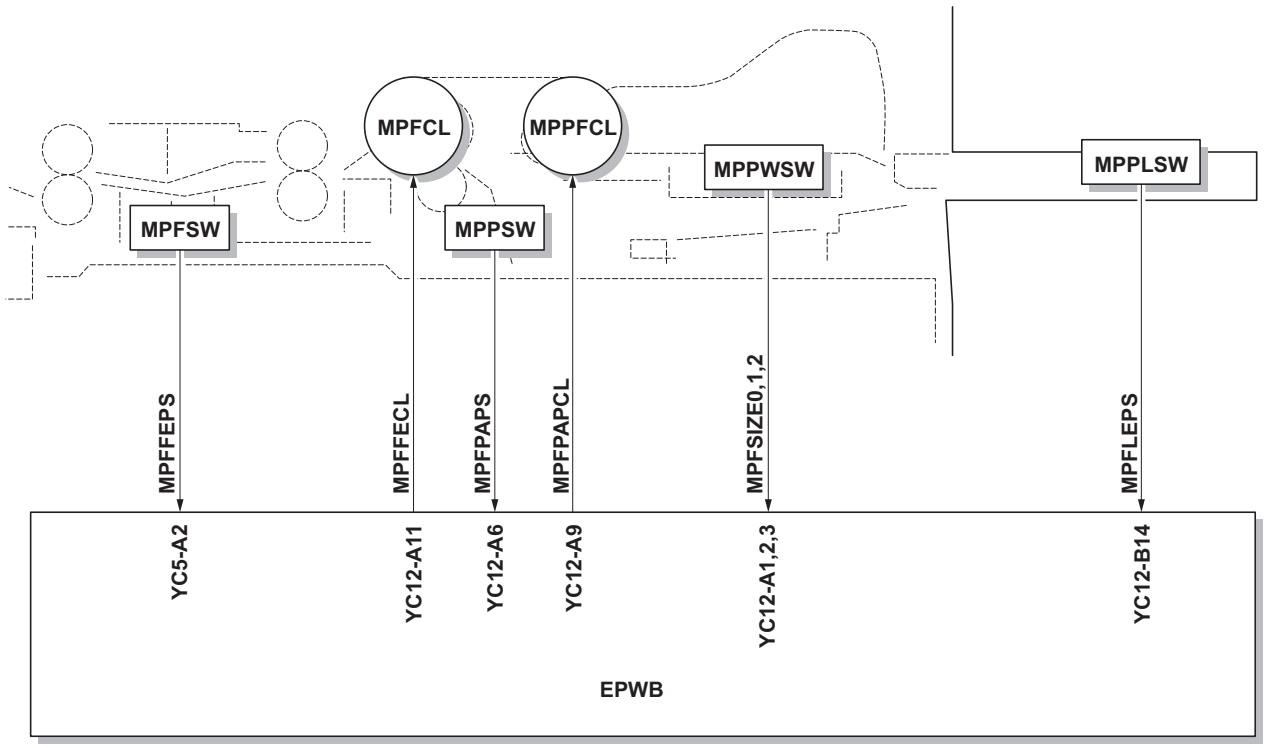


Figure 2-1-4 MP tray paper feed section block diagram

2-1-2 Optical section

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

(1) Image scanner section

The original image is illuminated by the exposure lamp (EL) and scanned by the CCD in the CCD PWB (CCDPWB) via the three mirrors and lens, the reflected light being converted to an electrical signal. The mirror 1 and 2 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 2 frame is half the speed of the mirror 1 frame.

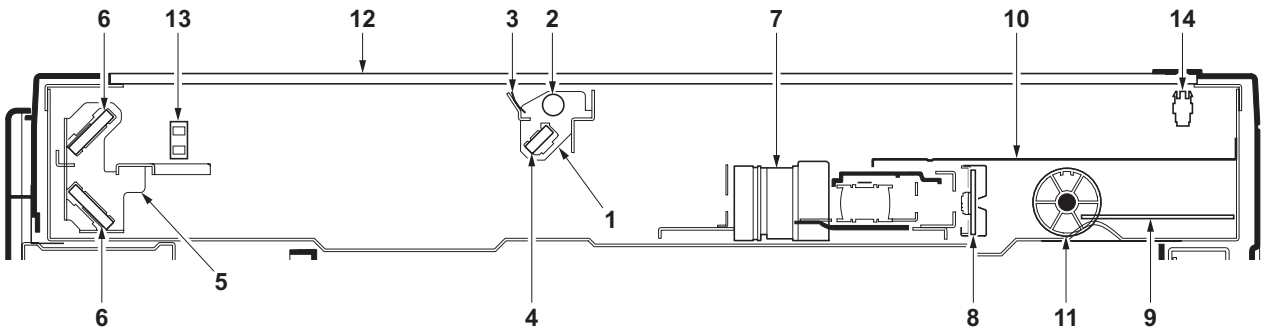


Figure 2-1-5 Image scanner section

(1) Mirror 1 frame
(2) Exposure lamp (EL)
(3) Scanner reflector
(4) Mirror A
(5) Mirror 2 frame
(6) Mirror B
(7) ISU lens
(8) CCD PWB (CCDPWB)
(9) ISC PWB (ISCPWB)
(10) ISU cover
(11) Scanner wire drum
(12) Contact glass
(13) Home position switch (HPSW)
(14) Original detection switch (ODSW)

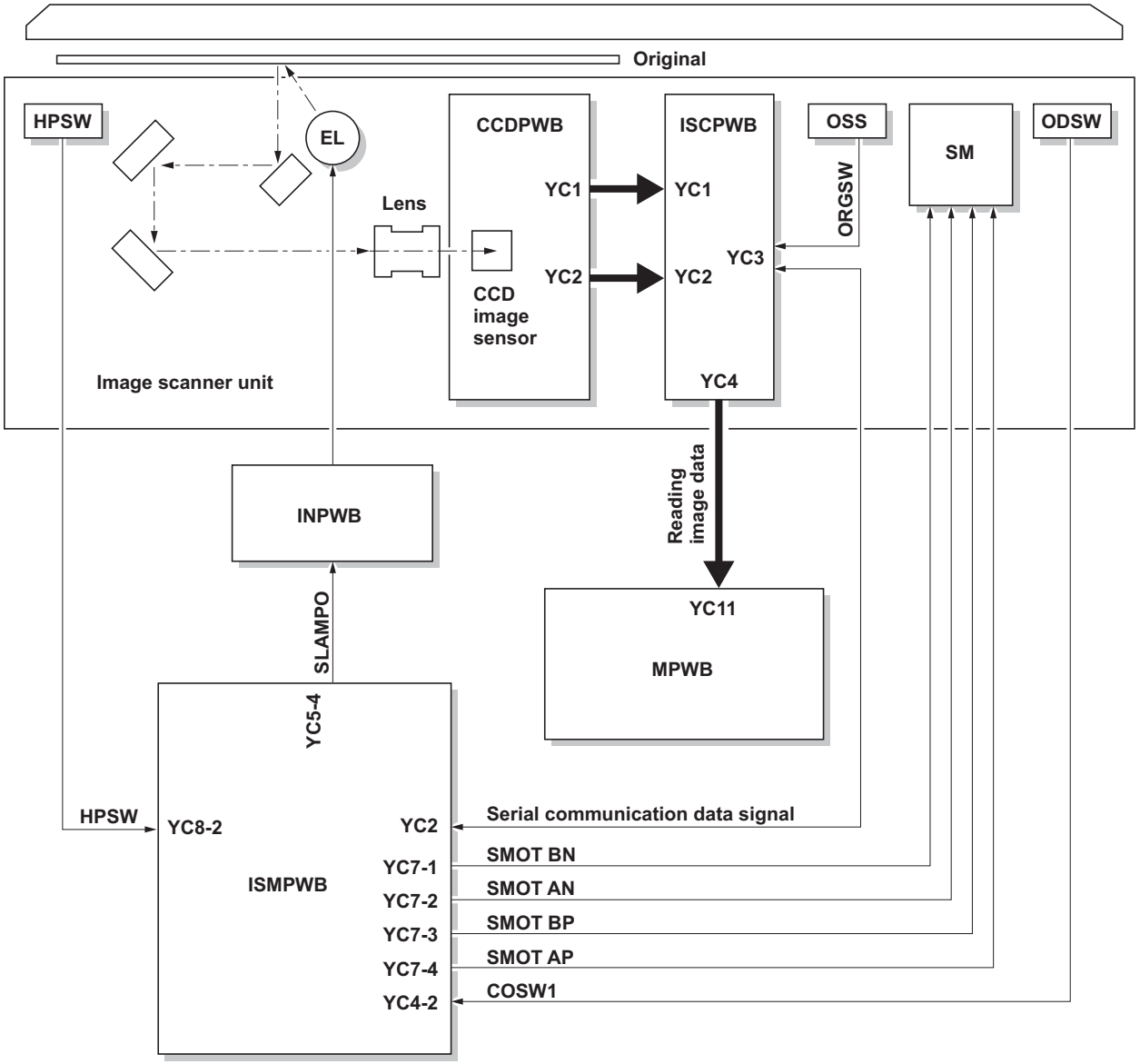


Figure 2-1-6 Image scanner section block diagram

(2) Laser scanner section

The image data scanned by the CCD PWB (CCDPWB) is processed on the main PWB (MPWB) and transmitted from engine PWB (EPWB) as image printing data to the laser scanner unit (LSU). By repeatedly turning the laser on and off, the laser scanner unit forms a latent image on the drum surface.

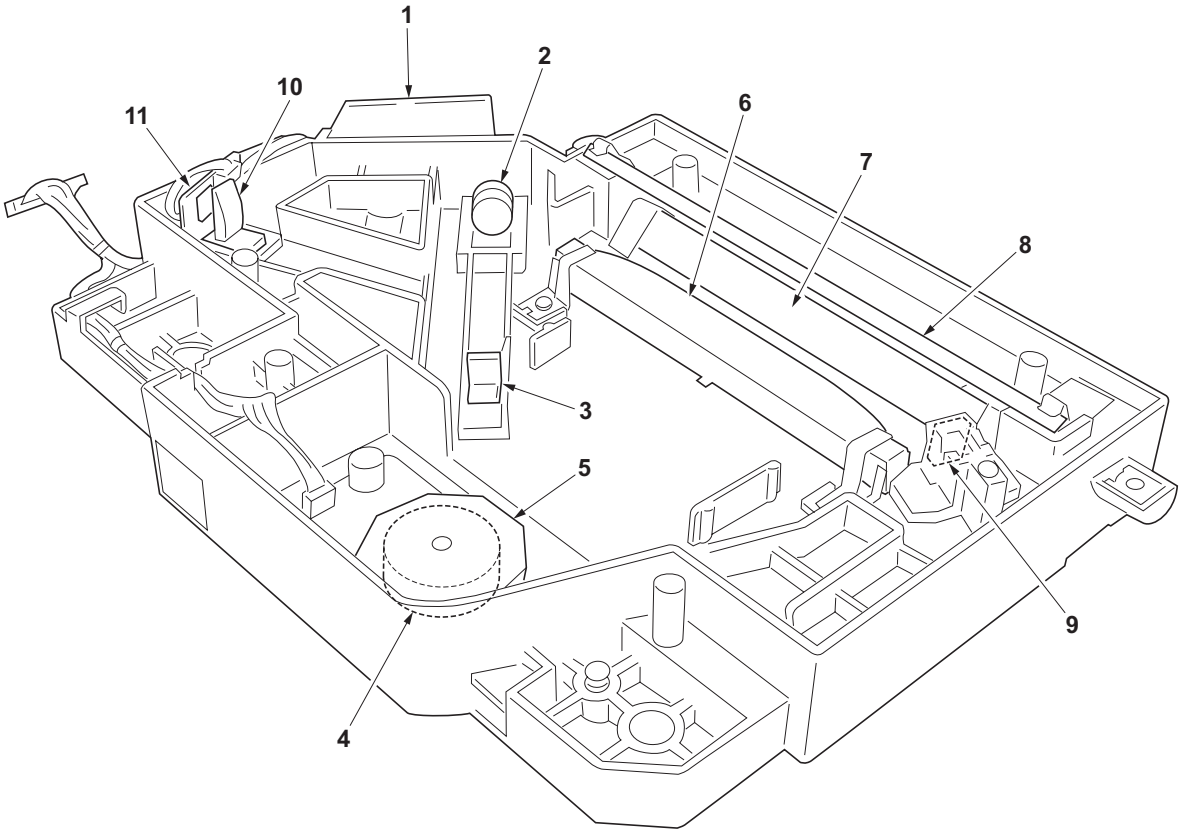


Figure 2-1-7 Laser scanner section

(1) APC PWB (APCPWB)
(2) Collimator lens
(3) Cylindrical lens
(4) Polygon motor (PM)
(5) Polygon mirror
(6) fθ lens
(7) Mirror
(8) Mirror
(9) PD sensor mirror
(10) Cylindrical correcting lens
(11) PD PWB (PDPWB)

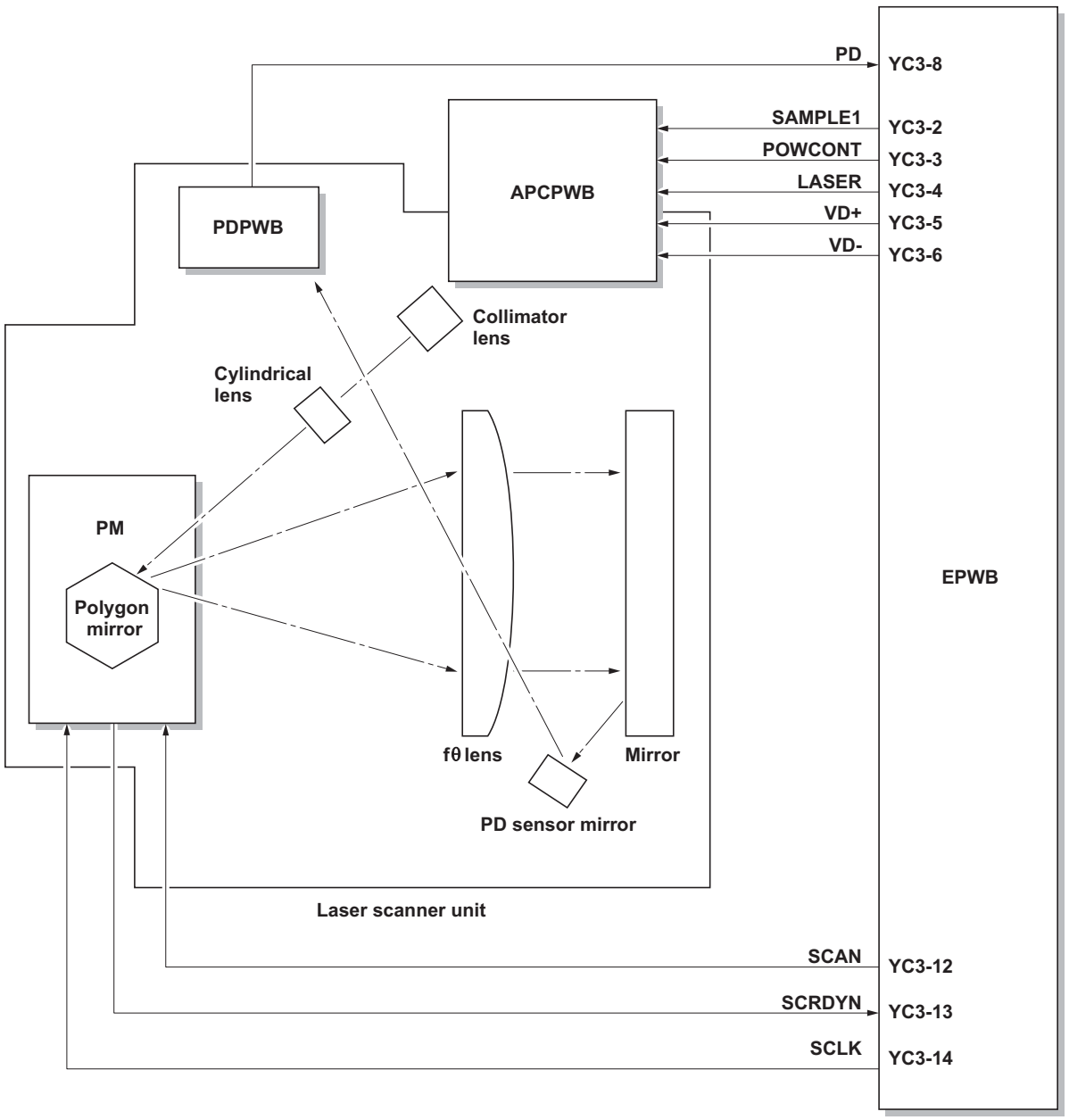


Figure 2-1-8 Laser scanner section block diagram

2-1-3 Drum section

The drum section consists of the drum, main charger unit and cleaning section.
The drum is electrically charged uniformly by means of a main charger unit to form a latent image on the surface. In addition, the main charger unit is equipped with the main charger cleaning motor, and it is cleaning automatically.
The cleaning section consists of the cleaning blade that removes residual toner from the drum surface after the transfer process, and the cleaning spiral that carries the residual toner back to the waste toner box.
The cleaning lamp (CL) consists of LEDs and removes residual charge on the drum before main charging.
.

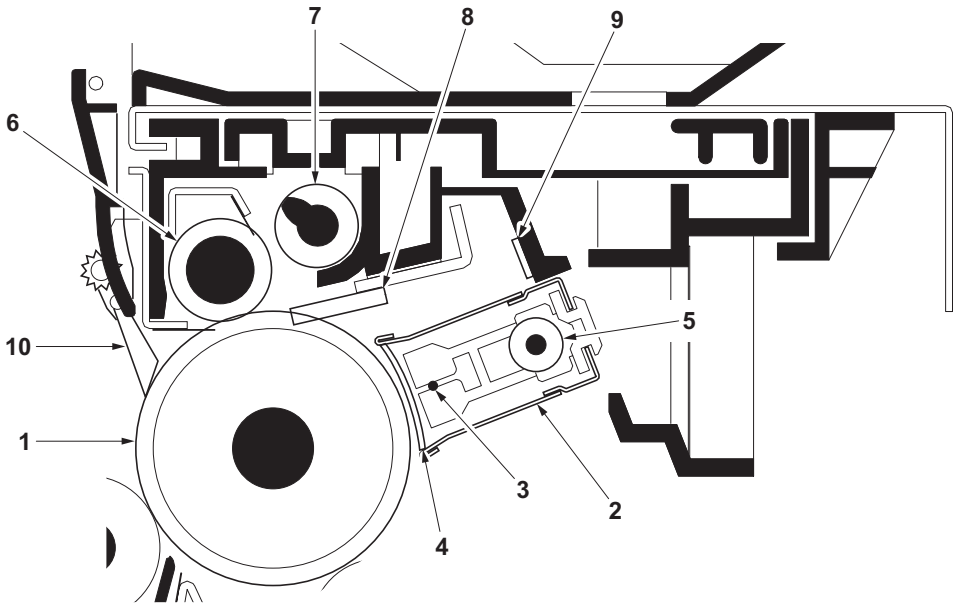


Figure 2-1-9 Drum section

(1) Drum
(2) Main charger unit
(3) Main charger wire
(4) Main charger grid
(5) Main charger spiral
(6) Cleaning roller
(7) Cleaning spiral
(8) Cleaning blade
(9) Cleaning lamp (CL)
(10) Drum separation claws

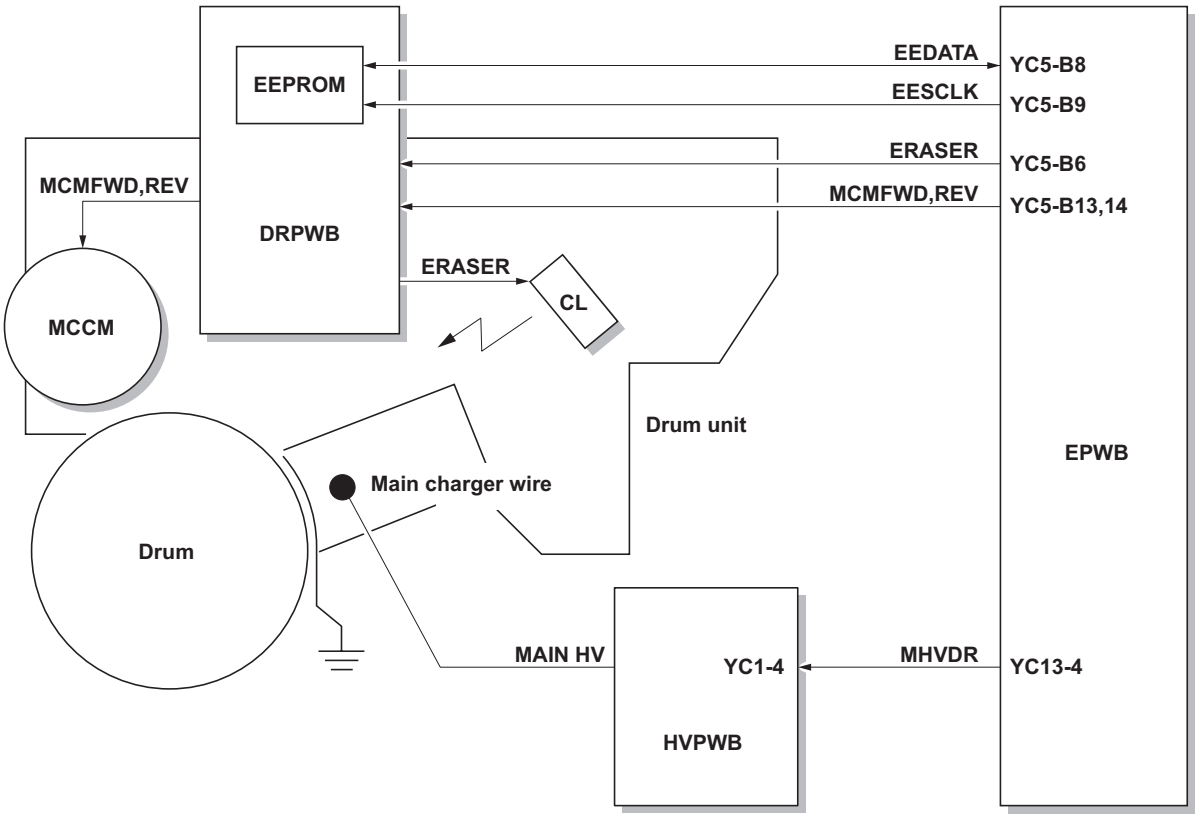


Figure 2-1-10 Drum section block diagram

2-1-4 Developing section

The developing section consists of the developing unit and the toner container.
The developing unit consists of the developing sleeve where a magnetic toner blade is formed, the doctor blade and the developing spirals that agitate the toner. When the toner sensor (TNS) detects a low toner level in the developing unit, the toner replenishment signal is output to the engine PWB (EPWB). The engine PWB (EPWB) that has received the signal turns on the toner replenishment solenoid (TNFSOL) and replenishes toner from the toner container to the developing unit. Also, the toner container sensor (TCS) checks whether or not toner remains in the toner container.

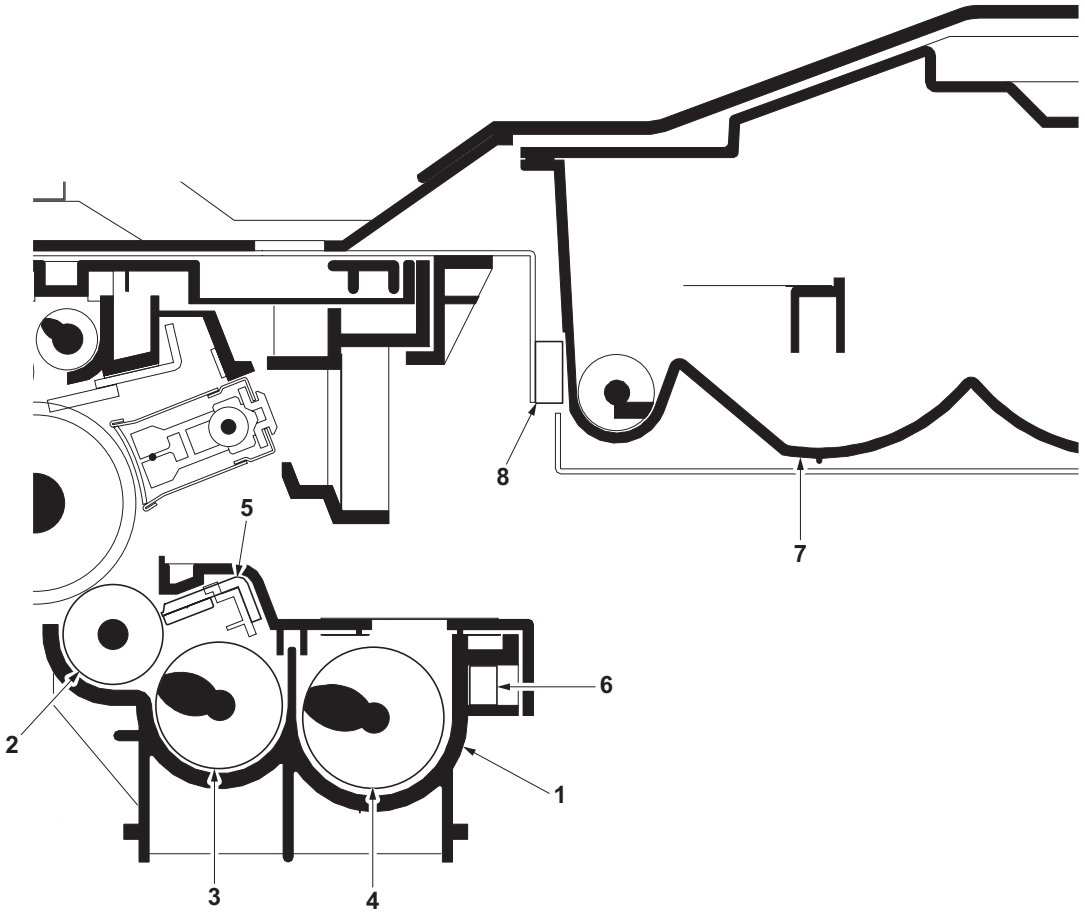


Figure 2-1-11 Developing section

(1) Developing unit
(2) Developing sleeve
(3) Left developing spiral
(4) Right developing spiral
(5) Magnetic toner blade
(6) Toner sensor (TNS)
(7) Toner container
(8) Toner container sensor (TCS)

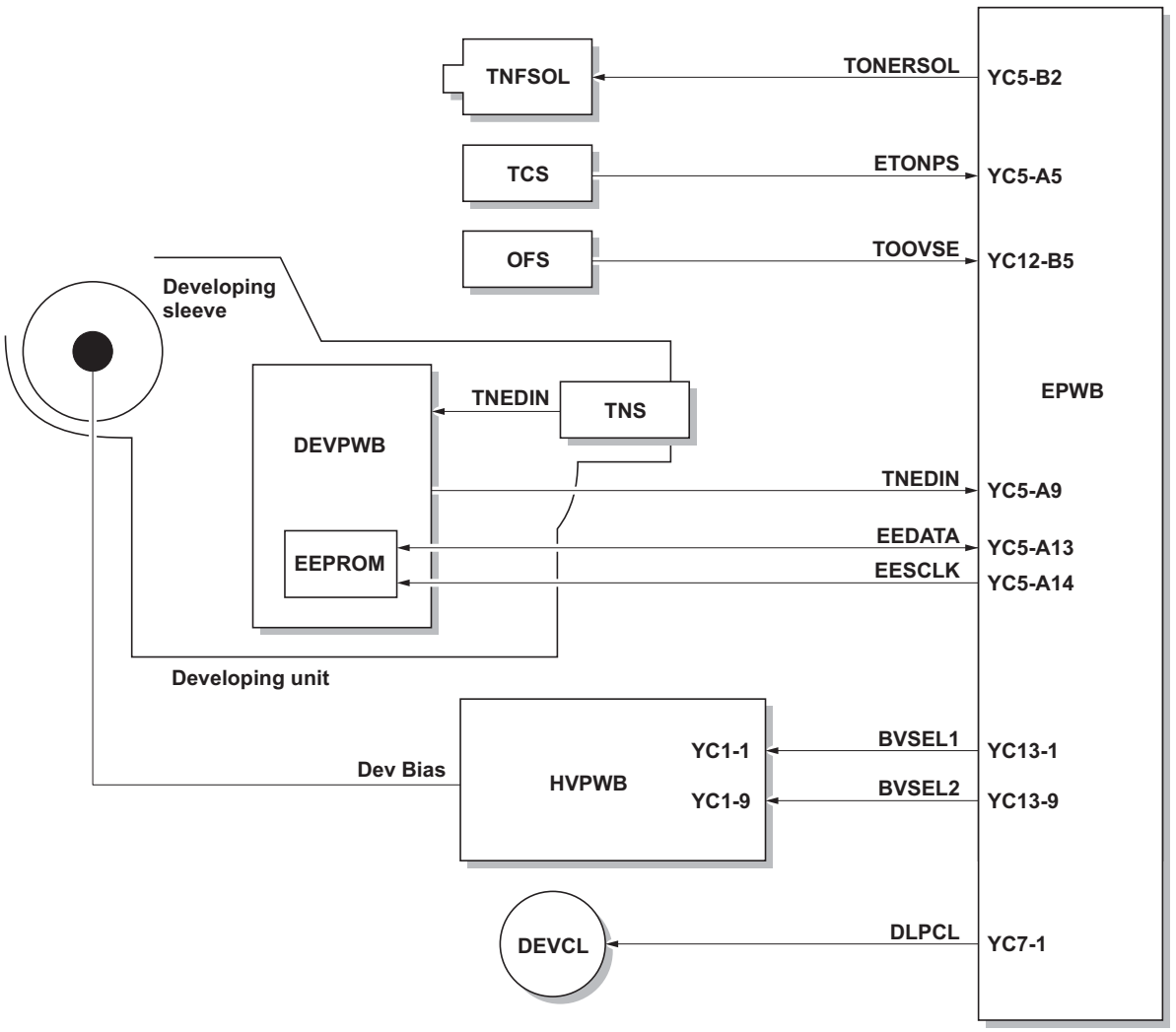


Figure 2-1-12 Developing section block diagram

(1) Single component developing system

This machine uses the single component developing system, and reversal processing is performed with a + charged drum and a + charged magnetic toner.
With the single component developing system, toner is electrically charged by friction with the developing sleeve and + charged when it passes through the magnetic toner blade. The toner that has passed through the magnetic toner blade forms a uniform layer on the developing sleeve. When the toner layer comes to the location where the developing sleeve is the nearest to the drum, toner moves between the drum and the developing sleeve by an electric field of the magnetic pole. Then, when the developing sleeve rotates and passes through the nearest location to the drum, on the portion of the drum that has been exposed to light, toner is attracted toward the drum by potential difference between the developing bias and the drum surface and development is performed. On the other hand, on the portion of the drum that has not been exposed to light, toner is attracted toward the sleeve and development is not performed. When toner comes to an area where the gap between the drum and the developing sleeve is large, an electric field disappears and toner does not leave the developing sleeve. Development is complete.

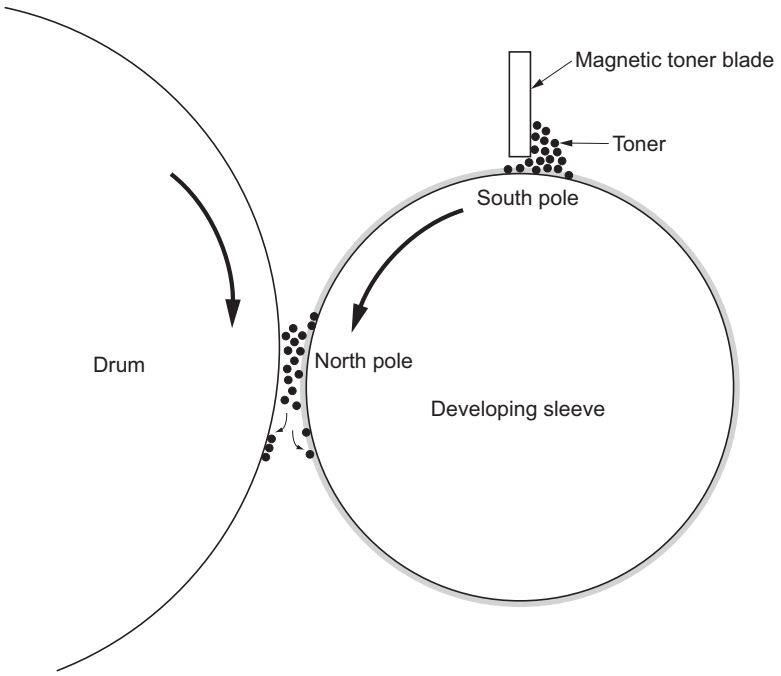


Figure 2-1-13 Single component developing system

2-1-5 Transfer and separation sections

The transfer and separation section consists mainly of the transfer roller, separation electrode and drum separation claws. A high voltage generated by the high-voltage PWB (HVPWB) is applied to the transfer roller for transfer charging. Paper after transfer is separated from the drum by applying separation bias that is output from the high-voltage PWB (HVPWB) to the separation electrode.

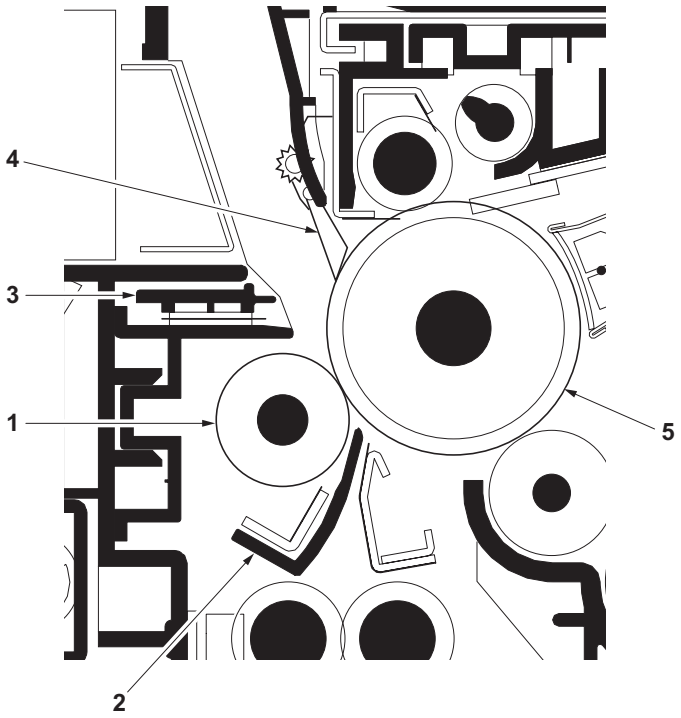


Figure 2-1-14 Transfer and separation sections

(1) Transfer roller
(2) Transfer guide
(3) Separation electrode
(4) Drum separation claws
(5) Drum

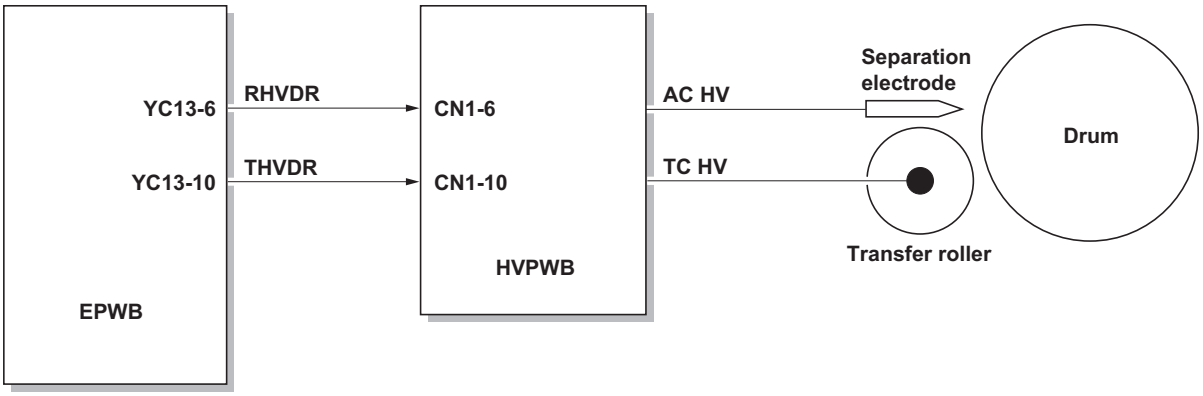


Figure 2-1-15 Transfer and separation sections block diagram

2-1-6 Fuser section

The fuser section consists of the parts shown in Figure. When paper reaches the fuser section after the transfer process, it passes between the press roller and heat roller, which is heated by fuser heaters 1 or 2 (FH1 or FH2). Pressure is applied by the fuser pressure springs so that the toner on the paper is melted, fused and fixed onto the paper. The heat roller is heated by fuser heaters 1 or 2 (FH1 or FH2) inside it; its surface temperature is detected by the fuser thermistor 1 and 2 (FTH1/2), and is regulated by the fuser heaters turning on and off.
If the fuser section becomes abnormally hot, fuser thermostat 1 and 2 (FTS1/2) operates shutting the power to the fuser heaters off. When the fusing process is completed, the paper is separated from the heat roller by its separation claws and is conveyed from the machine to eject and switchback section.

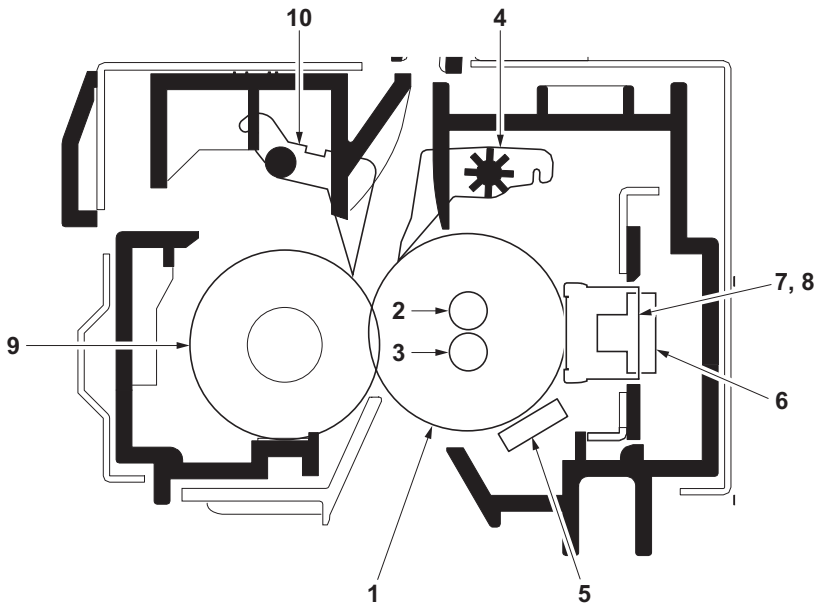


Figure 2-1-16 Fuser section

(1) Heat roller
(2) Fuser heater 1 (FH1)
(3) Fuser heater 2 (FH2)
(4) Heat roller separation claws
(5) Fuser thermistor 1 (FTH1)
(6) Fuser thermistor 2 (FTH2)
(7) Fuser thermostat 1 (FTS1)
(8) Fuser thermostat 2 (FTS2)
(9) Press roller
(10) Press roller separation claws

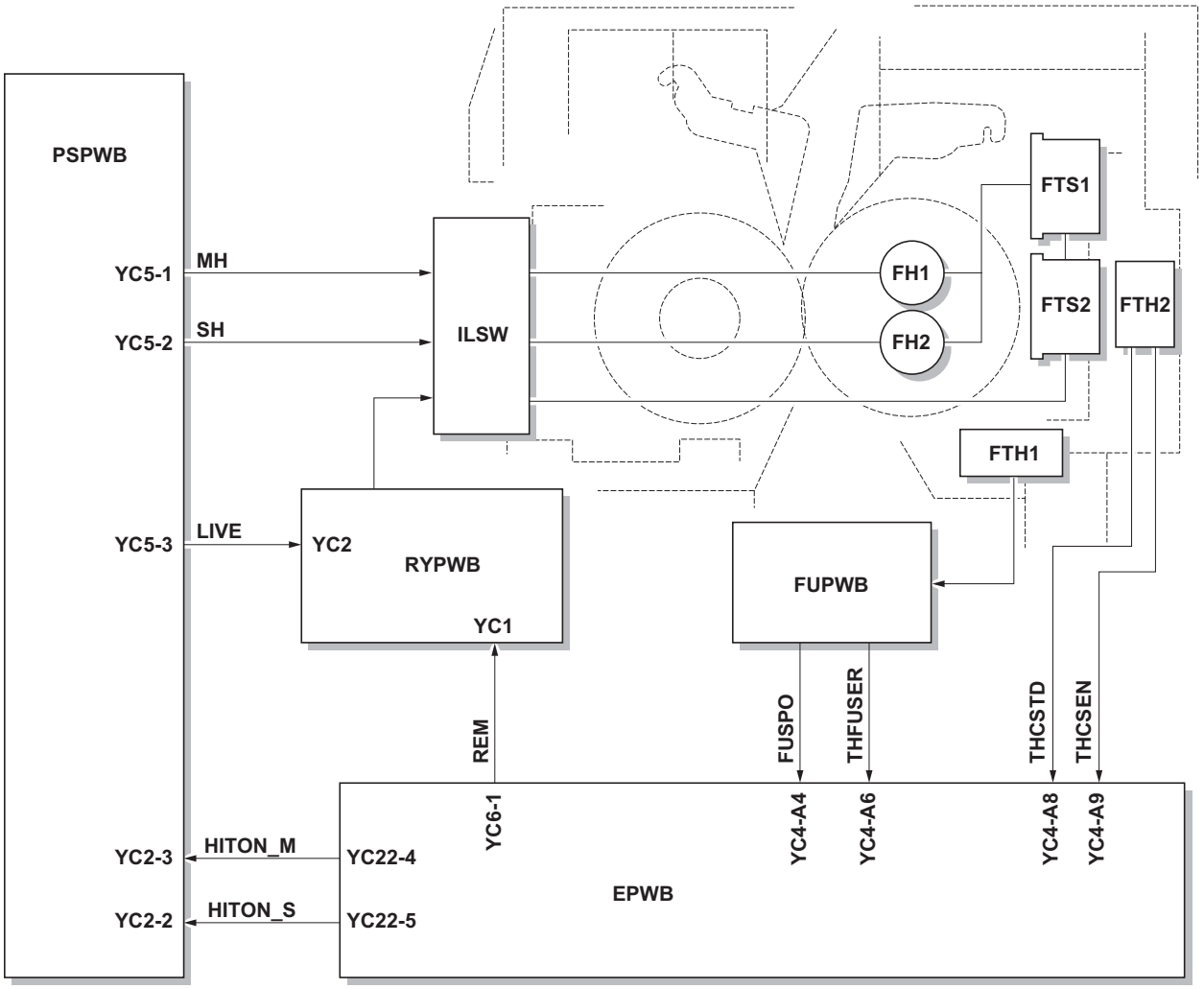


Figure 2-1-17 Fuser section block diagram

2-1-7 Eject and switchback sections

The eject and switchback sections eject paper on which fixing has ended with the eject roller that is rotated by forward rotation of the eject motor.
In duplex copying, paper is turned over by reverse rotation of the eject motor. When paper is transferred to the job separator or the internal finisher, the feedshift solenoid (FSSOL) is turned on to activate the feedshift guide to switch the paper transfer path.

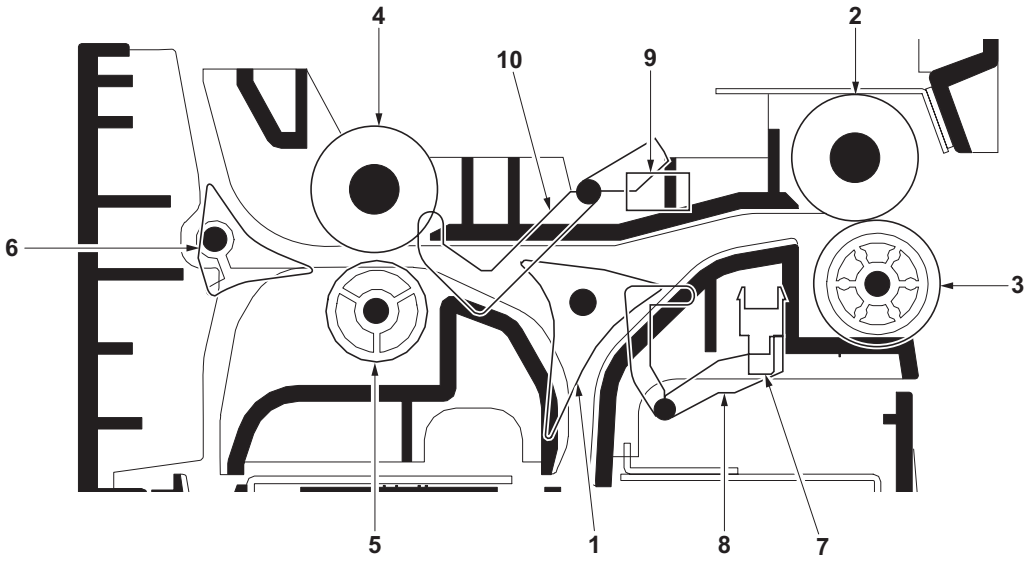


Figure 2-1-18 Eject and switchback sections

(1) Feedshift guide
(2) Eject roller
(3) Eject pulley
(4) Switchback roller
(5) Switchback pulley
(6) Feedshift guide
(7) Eject switch (ESW)
(8) Actuator (Eject switch)
(9) Feedshift switch (FSSW)
(10) Actuator (Feedshift switch)

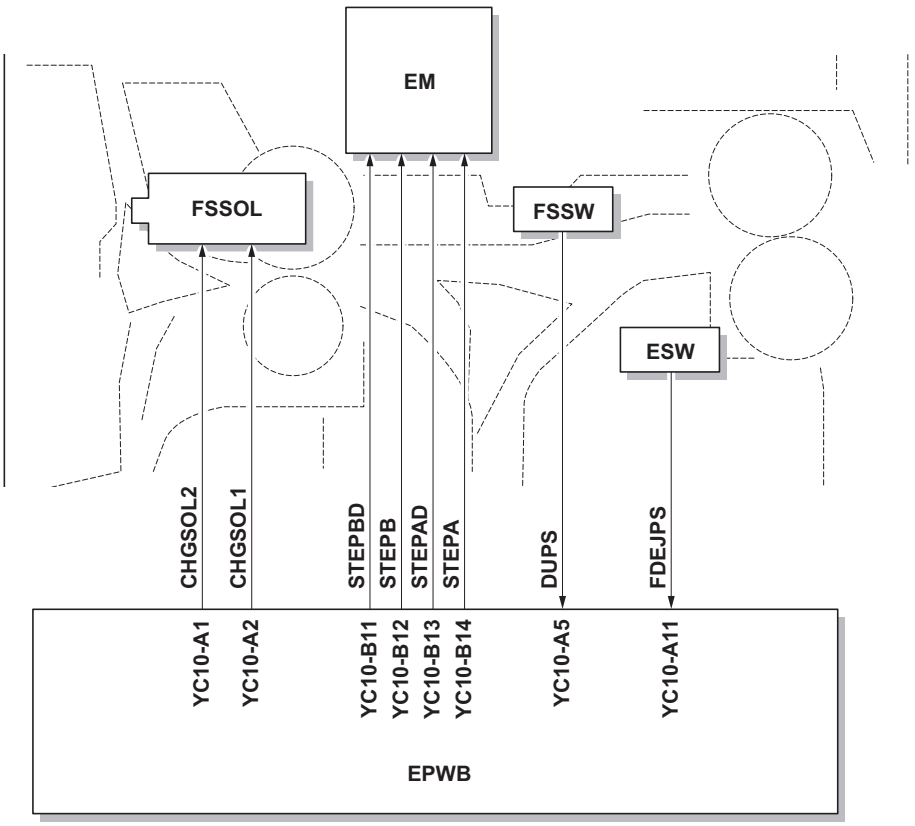


Figure 2-1-19 Eject and switchback sections block diagram

2-1-8 Duplex section

The duplex section consists of the components shown in figure. In duplex mode, after copying on to the reverse face of the paper, the paper is reversed in the switchback section and conveyed to the duplex section. The paper is then conveyed to the paper feed section by the upper and lower duplex feed rollers.

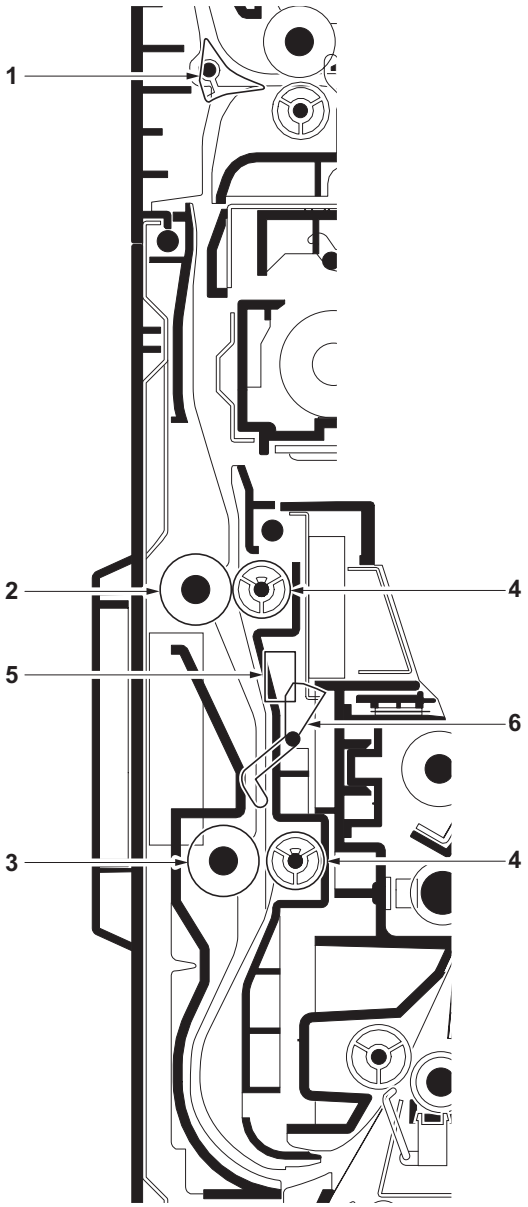


Figure 2-1-20 Duplex section

(1) Feedshift guide
(2) Upper duplex feed roller
(3) Lower duplex feed roller
(4) Duplex feed pulley
(5) Duplex paper conveying switch (DUPPCSW)
(6) Actuator (Duplex paper conveying switch)

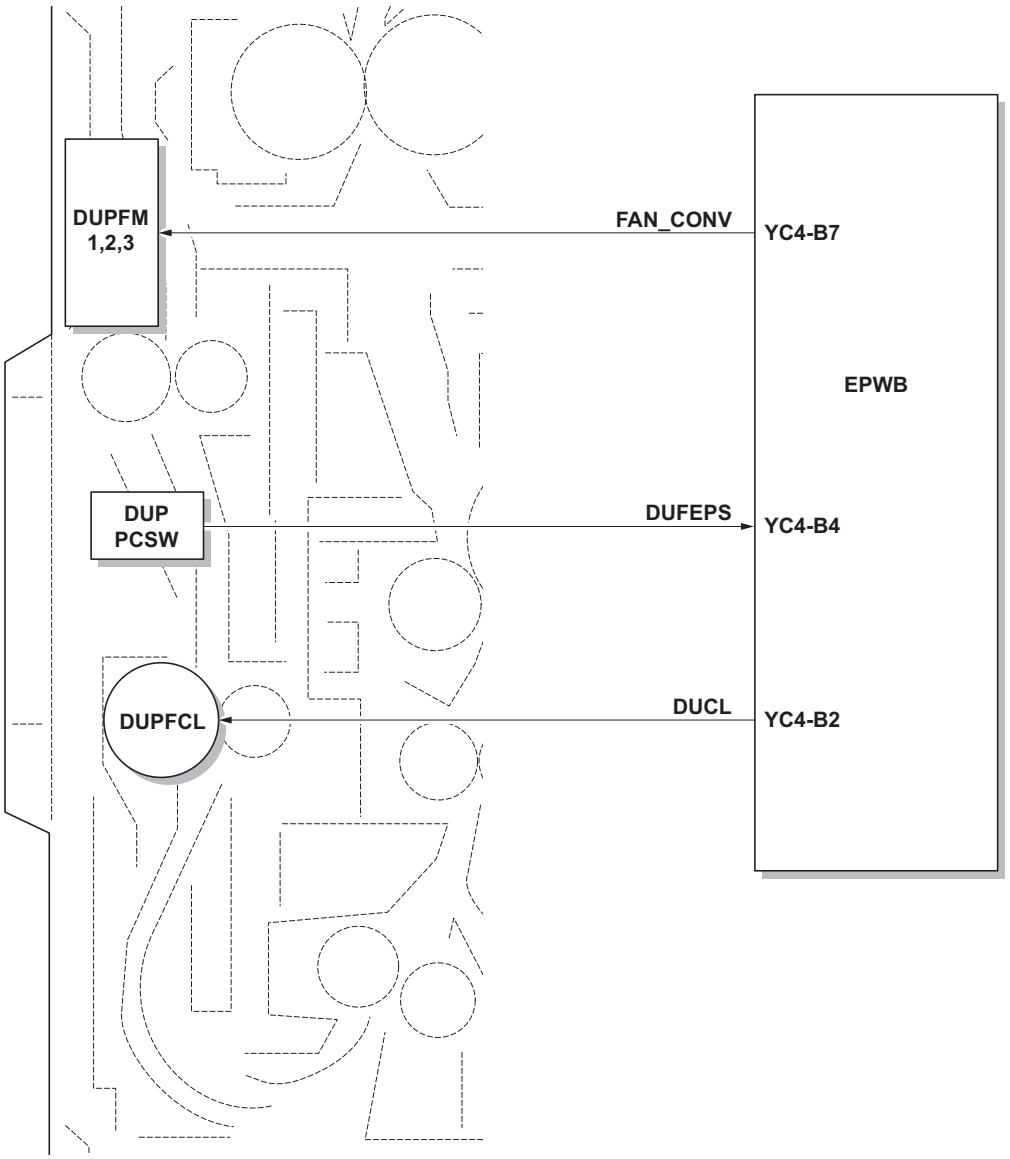


Figure 2-1-21 Duplex section block diagram

2-2-1 Electrical parts layout

(1) PWBs

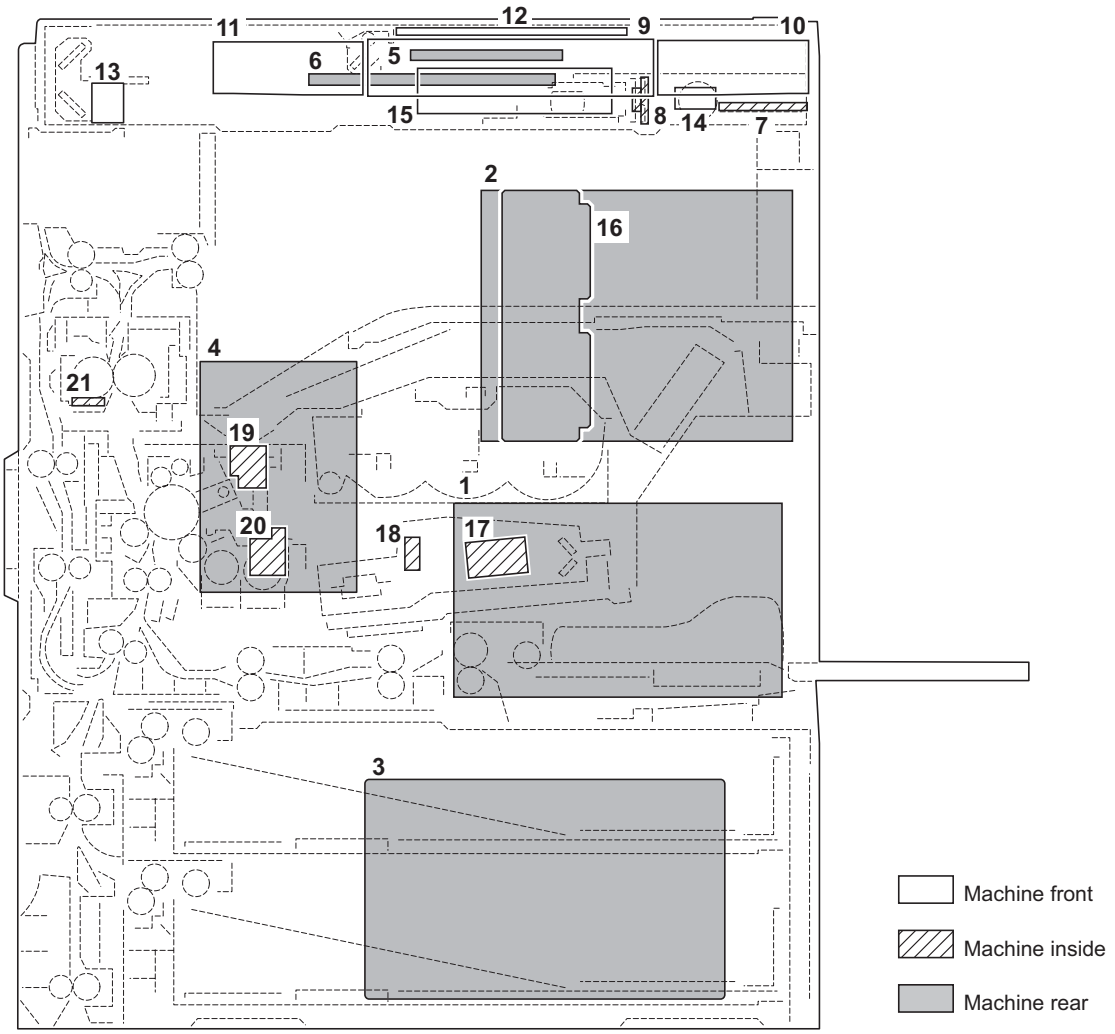


Figure 2-2-1 PWBs

1. Engine PWB (EPWB)..... Controls the other PWBs, electrical components and optional devices.
2. Main PWB (MPWB) ..... Controls the image processing and operation panel.
3. Power source PWB (PSPWB) ..... Generates +24 V DC, 5 V DC and 3.3 V DC; controls the fuser heaters.
4. High voltage PWB (HVPWB) ..... Main charging. Generates developing bias and high voltages for transfer.
5. ISM PWB (ISMPWB) ..... Controls the scanner section.
6. Inverter PWB (INPWB) ..... Controls the exposure lamp.
7. ISC PWB (ISCPWB) ..... Controls the shading correction and AGC of CCD.
8. CCD PWB (CCDPWB)..... Reads the image of originals.
9. Main operation PWB (OPWB-M) ..... Controls touch panel and LCD indication.
10. Right operation PWB (OPWB-R) ..... Consists of the operation keys and display LEDs.
11. Left operation PWB (OPWB-L) ..... Consists of the operation keys and display LEDs.
12. Upper operation PWB (OPWB-U)..... Consists of the operation keys and display LEDs.
13. Front operation PWB (OPWB-F)..... Consists of the display LEDs.
14. LCD inverter PWB (LINPWB) ..... Controls LCD back light.
15. LCD PWB (LCDPWB)..... Controls LCD indication.
16. Interface PWB (INPWB)..... Consists of wiring relay circuits.
17. APC PWB (APCPWB) ..... Generates and controls the laser beam.
18. PD PWB (LDPWB)..... Detects horizontal synchronizing timing of laser beam.

19. Drum PWB (DRPWB) ..... Controls the drum section.
20. Developing PWB (DEVPWB)..... Controls the developing section.
21. Fuser PWB (FUPWB) ..... Controls the fuser section.

List of correspondences of PWB names

No.	Name used in service manual	Name used in parts list
1	Engine PWB (EPWB)	PARTS PWB ENGINE SP
2	Main PWB (MPWB)	PARTS MAIN PWB ASSY SP
3	Power source PWB (PSPWB)	LVU 100/LVU 200
4	High voltage PWB (HVPWB)	HVU
5	ISM PWB (ISMPWB)	PARTS PWB ISM ASSY SP
6	Inverter PWB (INPWB)	PARTS UNIT LAMP INVERTER
7	ISC PWB (ISCPWB)	PARTS PWB ISC SP
8	CCD PWB (CCDPWB)	-
9	Main operation PWB (OPWB-M)	PARTS PWB PANEL MAIN SP
10	Right operation PWB (OPWB-R)	PARTS PWB PANEL RIGHT ASSY SP
11	Left operation PWB (OPWB-L)	PARTS PWB PANEL LEFT ASSY SP
12	Upper operation PWB (OPWB-U)	OPERATION UPPER PWB ASS'Y
13	Front operation PWB (OPWB-F)	OPERATION FRONT PWB ASS'Y
14	LCD inverter PWB (LINPWB)	LCD INVERTER
15	LCD PWB (LCDPWB)	LCD OPERATION
16	Interface PWB (IFPWB)	PARTS PWB KUIO IF ASSY SP
17	APC PWB (APCPWB)	-
18	PD PWB (PDPWB)	-
19	Drum PWB (DRPWB)	-
20	Developing PWB (DEVPWB)	-
21	Fuser PWB (FUPWB)	-

(2) Switches and sensors

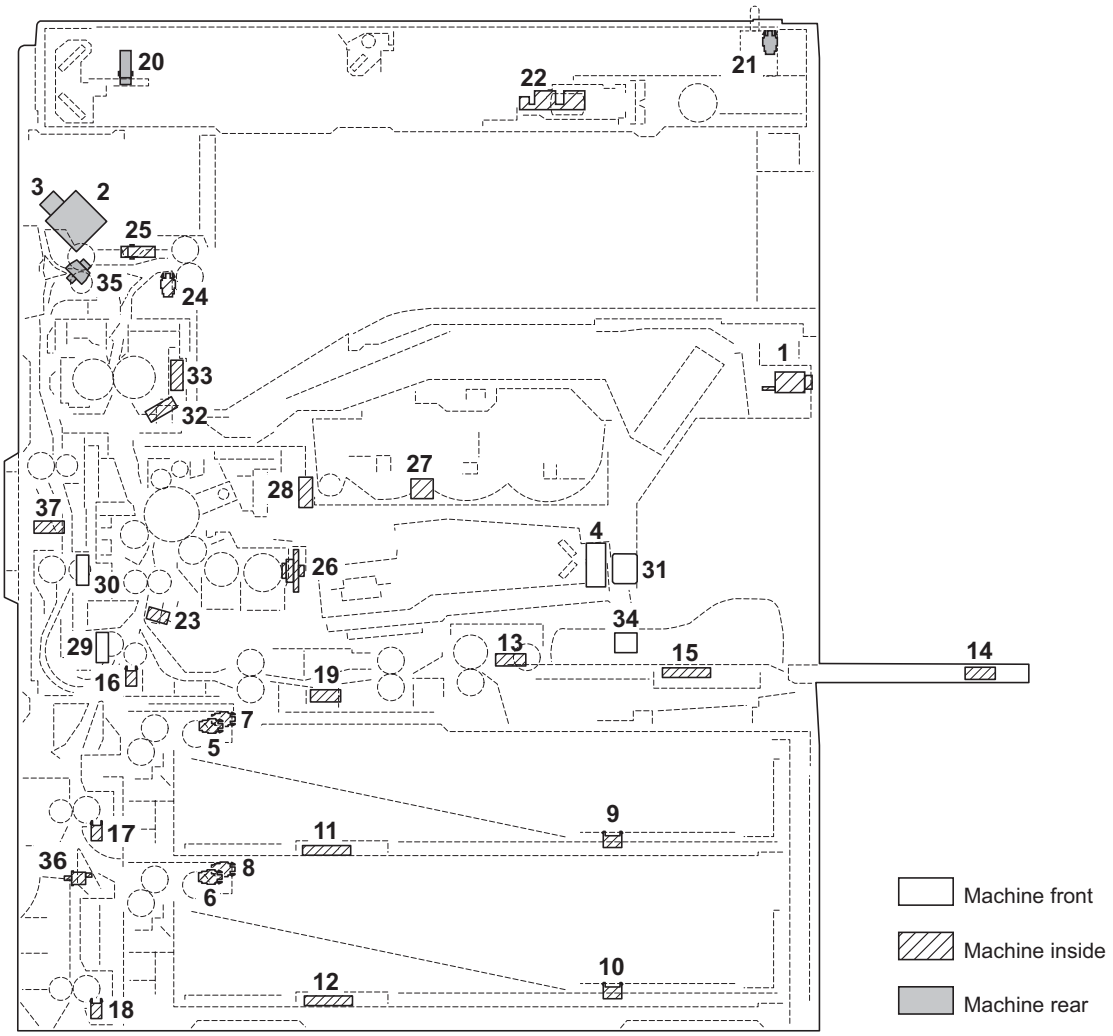


Figure 2-2-2 Switches and sensors

1. Main power switch (MSW) ..... Turns the AC power on and off.
2. Interlock switch (ILSW) ..... Turns the AC power for the fuser heaters on and off.
3. Safety switch 1 (SSW1) ..... Breaks the safety circuit when the left cover 1 is opened.
4. Safety switch 2 (SSW2) ..... Breaks the safety circuit when the front cover is opened.
5. Paper switch 1 (PSW1)..... Detects the presence of paper in cassette 1.
6. Paper switch 2 (PSW2)..... Detects the presence of paper in cassette 2.
7. Lift switch 1 (LSW1) ..... Detects lift reaching the upper limit in cassette 1.
8. Lift switch 2 (LSW2) ..... Detects lift reaching the upper limit in cassette 2.
9. Paper size length switch 1 (PLSW1) ..... Detects the length of paper in the cassette 1.
10. Paper size length switch 2 (PLSW2)..... Detects the length of paper in the cassette 2.
11. Paper size width switch 1 (PWSW1)..... Detects the width of paper in the cassette 1.
12. Paper size width switch 2 (PWSW2)..... Detects the width of paper in the cassette 2.
13. MP paper switch (MPPSW) ..... Detects the presence of paper on the MP tray.
14. MP paper size length switch (MPPLSW) ..... Detects the length of paper on the MP tray.
15. MP paper size width switch (MPPWSW) ..... Detects the width of paper on the MP tray.
16. Feed switch 1 (FSW1) ..... Detects a paper misfeed in the paper cassette paper feed section.
17. Feed switch 2 (FSW2) ..... Detects a paper misfeed in the paper cassette paper feed section.
18. Feed switch 3 (FSW3) ..... Detects a paper misfeed in the paper cassette paper feed section.
19. MP feed switch (MPFSW)..... Detects a paper misfeed in the MP tray paper feed section.
20. Home position switch (HPSW)..... Detects the optical system in the home position.

21. Original detection switch (ODSW) ..... Detects the opening/closing of the original platen.
22. Original size sensor (OSS) ..... Detects the size of the original.
23. Registration switch (RSW) ..... Controls the secondary paper feed start timing.
24. Eject switch (ESW) ..... Detects a paper misfeed in the fuser section.
25. Feedshift switch (FSSW) ..... Detects a paper misfeed in the switchback section in a duplex copy.
26. Toner sensor (TNS)..... Detects the toner density in the developing unit.
27. Toner container detection switch
    (TCDSW) ..... Detects the presence of the toner container.
28. Toner container sensor (TCS)..... Detects the quantity of toner in a toner container.
29. Waste toner box detection switch
    (WTDSW)..... Detects the presence of the waste toner box.
30. Overflow sensor (OFS) ..... Detects when the waste toner box is full.
31. Humidity sensor (HUMS) ..... Detects absolute humidity.
32. Fuser thermistor 1 (FTH1) ..... Detects the heat roller temperature.
33. Fuser thermistor 2 (FTH2) ..... Detects the heat roller temperature.
34. Front cover switch (FRCSW) ..... Detects the opening and closing of the front cover.
35. Left cover 1 switch (LC1SW) ..... Detects the opening and closing of the left cover 1.
36. Left cover 2 switch (LC2SW) ..... Detects the opening and closing of the left cover 2.
37. Duplex paper conveying switch
    (DUPPCSW) ..... Detects a paper jam in the duplex section.

(3) Motors

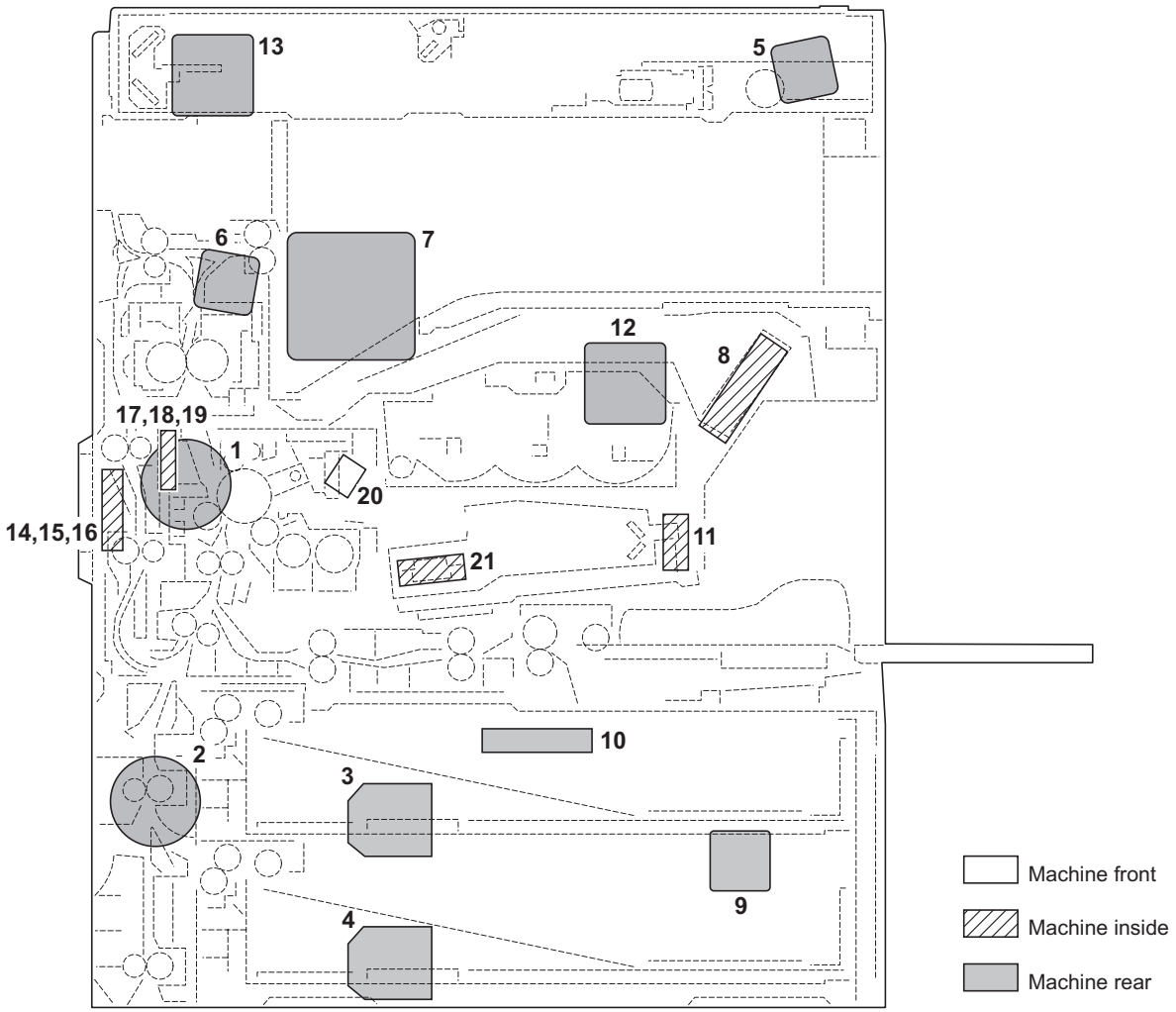


Figure 2-2-3 Motors

1. Drive motor (DM) ..... Drives the machine.
2. Paper feed motor (PFM) ..... Drives paper feed section.
3. Lift motor 1 (LM1)..... Drives cassette 1 lift.
4. Lift motor 2 (LM2)..... Drives cassette 2 lift.
5. Scanner motor (SM)..... Drives the scanner section.
6. Eject motor (EM)..... Drives the eject section.
7. Fuser fan motor (FUFM) ..... Cools the fuser section.
8. Developing fan motor (DEVFM)..... Cools the developing section.
9. Power source fan motor 1 (PSFM1) ..... Cools the power source PWB.
10. Power source fan motor 2 (PSFM2) ..... Cools the power source PWB.
11. LSU fan motor (LSUFM) ..... Cools the LSU.
12. Controller fan motor (CONFM)..... Cools the controller box.
13. Scanner fan motor (SFM) ..... Cools the scanner section.
14. Duplex fan motor 1 (DUPFM1)..... Cools the machine interior and supports paper transfer for duplex copying.
15. Duplex fan motor 2 (DUPFM2)..... Cools the machine interior and supports paper transfer for duplex copying.
16. Duplex fan motor 4 (DUPFM3)..... Cools the machine interior and supports paper transfer for duplex copying.
17. Paper conveying fan motor 1 (PCFM1) ..... Cools the machine interior (around the paper conveying).
18. Paper conveying fan motor 2 (PCFM2) ..... Cools the machine interior (around the paper conveying).
19. Paper conveying fan motor 3 (PCFM3) ..... Cools the machine interior (around the paper conveying).
20. Main charger cleaning motor (MCCM)..... Drives the main charger auto cleaning.
21. Polygon motor (PM)..... Drives the polygon mirror.

(4) Others

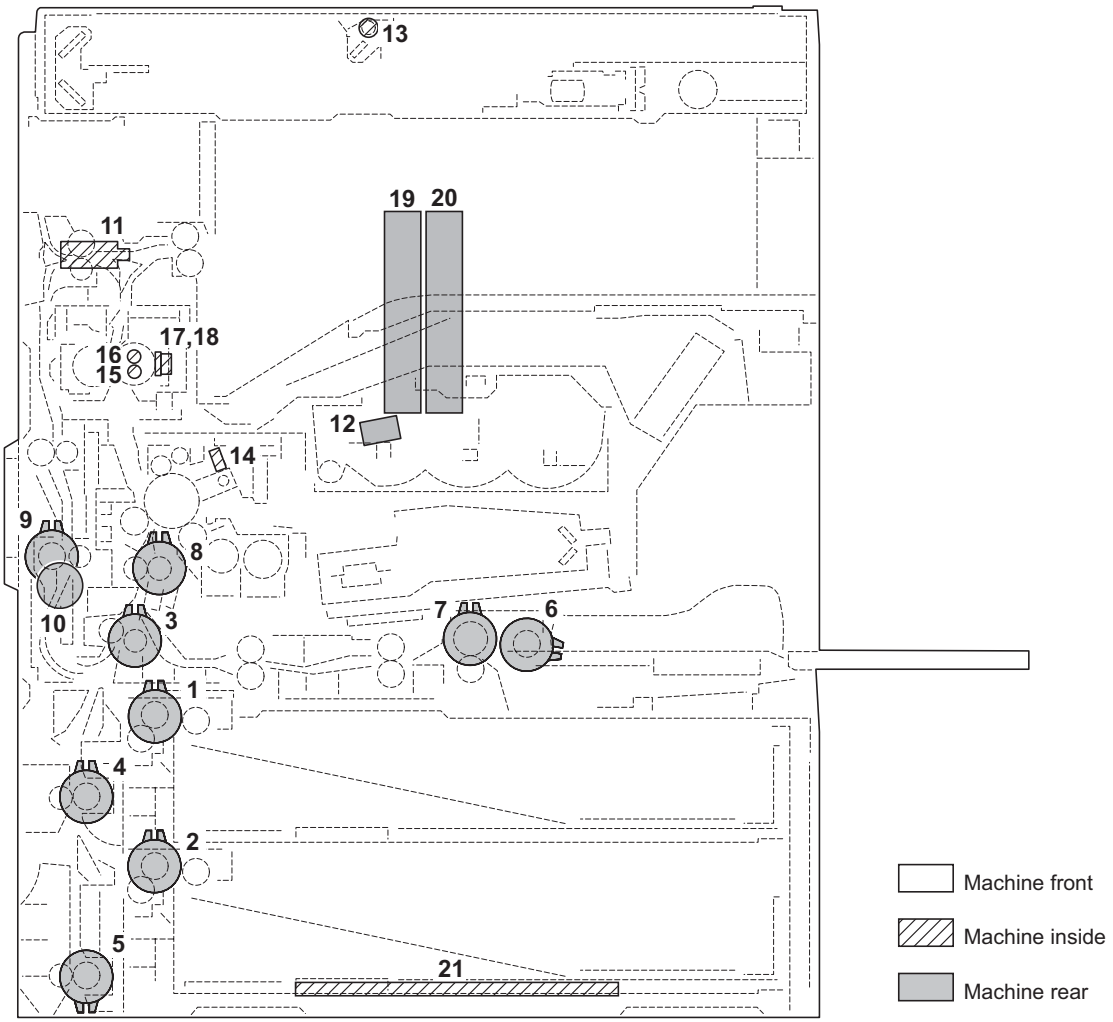


Figure 2-2-4 Others

1. Paper feed clutch 1 (PFCL1) ..... Primary paper feed from the cassette 1.
2. Paper feed clutch 2 (PFCL2) ..... Primary paper feed from the cassette 2.
3. Feed clutch 1 (FCL1) ..... Controls the drive of feed roller.
4. Feed clutch 2 (FCL2) ..... Controls the drive of feed roller.
5. Feed clutch 3 (FCL3) ..... Controls the drive of feed roller.
6. MP paper feed clutch (MPPFCL) ..... Primary paper feed from the MP tray.
7. MP feed clutch (MPFCL)..... Controls the drive of MP feed roller.
8. Registration clutch (RCL)..... Secondary paper feed.
9. Duplex feed clutch (DUPFCL)..... Controls the drive of the duplex feed roller.
10. Developing clutch (DEVCL) ..... Controls the drive of the developing section.
11. Feedshift solenoid (FSSOL)..... Operates the feedshift guide.
12. Toner feed solenoid (TNFSOL) ..... Replenishes toner.
13. Exposure lamp (EL) ..... Exposes originals.
14. Cleaning lamp (CL) ..... Removes residual charge from the drum surface.
15. Fuser heater 1 (FH1) ..... Heats the heat roller.
16. Fuser heater 2 (FH2) ..... Heats the heat roller.
17. Fuser thermostat 1 (FTS1)..... Prevents overheating in the fuser section.
18. Fuser thermostat 2 (FTS2)..... Prevents overheating in the fuser section.
19. Hard disk unit 1 (HDD1)..... Storages the image data and information of job accounting mode.
20. Hard disk unit 2 (HDD2)..... Storages the image data and information of job accounting mode.
21. Cassette heater (CH) ..... Dehumidifies the cassette section.

2-3-1 Power source PWB

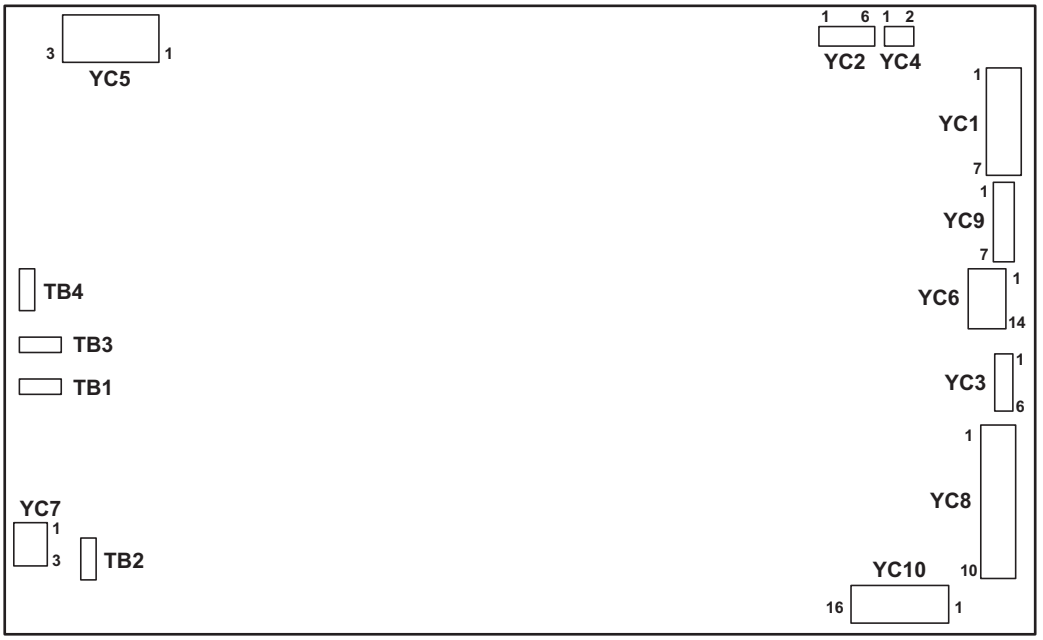


Figure 2-3-1 Power source PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
TB	TB1	LIVE	I	120 V AC 220-240 V AC	AC power input
Connected to the inlet and main power switch	TB2	COM	I	120 V AC 220-240 V AC	AC power input
	TB3	LIVE	O	120 V AC 220-240 V AC	AC power output to MSW
	TB4	LIVE	I	120 V AC 220-240 V AC	AC power input from MSW
YC1	1	+24VD	O	24 V DC	24 V DC power output to EPWB
Connected to the engine PWB and DP	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+3.3VD	O	3.3 V DC	3.3 V DC power output to EPWB
	6	+5VD	O	5 V DC	5 V DC power output to EPWB
	7	+24VDF	O	24 V DC	24 V DC power output to EPWB and DPDPWB
YC2	1	GND	-	-	Ground
Connected to the engine PWB	2	HITON_S	I	0/3.3 V DC	FH2: On/Off
	3	HITON_M	I	0/3.3 V DC	FH1: On/Off
	4	+5VD	O	5 V DC	5 V DC power output to EPWB
	5	ZCROSS	O	0/3.3 V DC (pulse)	Zero-cross signal
	6	FANREM	I	0/24 V DC	PSFM1,2: On/Off
YC3	1	SGND	-	-	Ground
Connected to the document finisher	2	SGND	-	-	Ground
	3	SGND	-	-	Ground
	4	SGND	-	-	Ground
	5	SGND	-	-	Ground
	6	SGND	-	-	Ground
YC4	1	FANREM	O	0/24 V DC	PSFM1,2: On/Off
Connected to the power source fan motor 1/2	2	+24VD	O	24 V DC	24 V DC power output
YC5	1	MH	O	120/0 V AC 220-240/0 V AC	FH1: On/Off
Connected to the relay PWB and interlock switch	2	SH	O	120/0 V AC 220-240/0 V AC	FH2: On/Off
	3	LIVE	O	120 V AC 220-240 V AC	AC power output to RYPWB

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6	1	+24VD	O	24 V DC	24 V DC power output to ISM PWB
Connected to the ISM PWB	2	+24VD	O	24 V DC	24 V DC power output to ISM PWB
	3	+24VD	O	24 V DC	24 V DC power output to ISM PWB
	4	PGND	-	-	Ground
	5	PGND	-	-	Ground
	6	PGND	-	-	Ground
	7	SGND	-	-	Ground
	8	SGND	-	-	Ground
	9	SGND	-	-	Ground
	10	SGND	-	-	Ground
	11	+12VD	O	12 V DC	12 V DC power output to ISM PWB
	12	+5VD	-	-	Not used
	13	+3.3VD	-	-	Not used
	14	+3.3VD	-	-	Not used
YC7	1	LIVE	O	120 V AC 220-240 V AC	AC power output to CH
Connected to the cassette heater	2	NC	-	-	Not used
	3	NEUTRAL	O	120 V AC 220-240 V AC	AC power output to CH
YC8	1	+24VDF	O	24 V DC	24 V DC power output to paper feeder
Connected to the paper feeder, document finisher and hard disk	2	+24VDF	O	24 V DC	24 V DC power output to document finisher
	3	+5VDF	O	5 V DC	5 V DC power output to document finisher
	4	P.GND	-	-	Ground
	5	F.GND	-	-	Ground
	6	P.GND	-	-	Ground
	7	+12V	O	12 V DC	12 V DC power output to hard disk
	8	GND	-	-	Ground
	9	GND	-	-	Ground
	10	+5VD	O	5 V DC	5 V DC power output to hard disk
YC9	1	+12VD	O	12 V DC	12 V DC power output to OPWB-M
Connected to the main operation PWB	2	+5V	O	5 V DC	5 V DC power output to OPWB-M
	3	+5V	O	5 V DC	5 V DC power output to OPWB-M
	4	GND	-	-	Ground
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	NC	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	1	SLEEP_N	I	0/5 V DC	SLEEP signal
Connected to the main PWB, DP and engine PWB	2	+5VDF	O	5 V DC	5 V DC power output to DPDPWB
	3	5V	O	5 V DC	5 V DC power output to MPWB
	4	5V	O	5 V DC	5 V DC power output to MPWB
	5	5V	O	5 V DC	5 V DC power output to MPWB
	6	5V	O	5 V DC	5 V DC power output to MPWB
	7	NC	-	-	Not used
	8	NC	-	-	Not used
	9	NC	-	-	Not used
	10	NC	-	-	Not used
	11	GND	-	-	Ground
	12	NC	-	-	Not used
	13	GND	-	-	Ground
	14	GND	-	-	Ground
	15	GND	-	-	Ground
	16	GND	-	-	Ground

2-3-2 Engine PWB

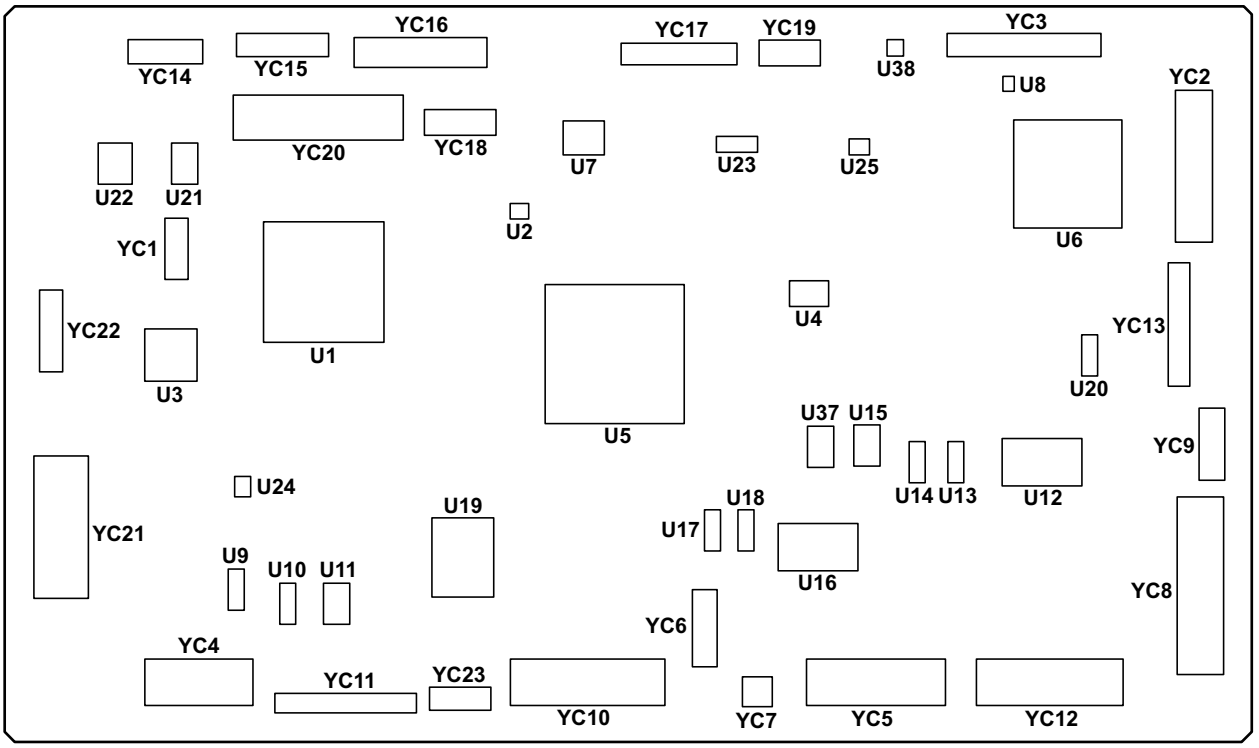


Figure 2-3-2 Engine PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	1	MAIN_SCL	I	0/3.3 V DC (pulse)	MPWB clock signal
Connected to the main PWB	2	HLD_ENG	I	0/3.3 V DC	MPWB hold signal
	3	MAIN_SI	I	0/3.3 V DC (pulse)	MPWB serial communication data signal
	4	EG_SLEEPG	I	0/3.3 V DC	MPWB sleep signal: On/Off
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	VMRE_P	I	0/3.3 V DC (pulse)	Image control signal
	9	GND	-	-	Ground
	10	VMRE_N	I	0/3.3 V DC (pulse)	Image control signal
	11	VCLK_P	I	0/3.3 V DC (pulse)	Video data clock signal
	12	VD_D0_P	I	0/3.3 V DC (pulse)	Video data control signal
	13	VCLK_N	I	0/3.3 V DC (pulse)	Video data clock signal
	14	VD_D0_N	I	0/3.3 V DC (pulse)	Video data control signal
	15	GND	-	-	Ground
	16	VD_D1_P	I	0/3.3 V DC (pulse)	Video data control signal
	17	GND	-	-	Ground
	18	VD_D1_N	I	0/3.3 V DC (pulse)	Video data control signal
	19	GND	-	-	Ground
	20	VD_D2_P	I	0/3.3 V DC (pulse)	Video data control signal
	21	GND	-	-	Ground
	22	VD_D2_N	I	0/3.3 V DC (pulse)	Video data control signal
	23	GND	-	-	Ground
	24	VD_D3_P	I	0/3.3 V DC (pulse)	Video data control signal
	25	GND	-	-	Ground
	26	VD_D3_N	I	0/3.3 V DC (pulse)	Video data control signal
	27	HSYNC_DP	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	28	VSYNC_DP	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	29	HSYNC_DN	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	30	VSYNC_DN	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	31	HSYNC_CP	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	32	VSYNC_CP	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	33	HSYNC_CN	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	34	VSYNC_CN	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	35	HSYNC_BP	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	36	VSYNC_BP	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	37	HSYNC_BN	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	38	VSYNC_BN	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	39	HSYNC_AP	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	40	VSYNC_AP	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	41	HSYNC_AN	O	0/3.3 V DC (pulse)	Horizontal synchronization signal
	42	VSYNC_AN	O	0/3.3 V DC (pulse)	Vertical synchronization signal
	43	GND	-	-	Ground
	44	GND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2	45	GND	-	-	Ground
Connected to the main PWB	46	MAIN_EGIRN	I	0/3.3 V DC	MPWB interrupt signal
	47	MAIN_SO	O	0/3.3 V DC (pulse)	MPWB serial communication data signal
	48	MAIN_SDIR	I	0/3.3 V DC	MPWB communication direction signal
	49	MAIN_SBSY	I	0/3.3 V DC	MPWB busy signal
	50	24V_OFF	I	0/3.3 V DC	MPWB 24 V down signal
YC3	1	5VSAFE	I	5 V DC	5 V DC power output to APCPWB
Connected to the laser scanner unit	2	SAMPLE1	O	0/3.3 V DC	APCPWB sample/hold signal
	3	POWCONT	O	Analog	APCPWB power control signal
	4	LASER	O	0/3.3 V DC	Laser diode output signal
	5	VD+	O	0/3.3 V DC (pulse)	Video data signal
	6	VD-	O	0/3.3 V DC (pulse)	Video data signal
	7	GND	-	-	Ground
	8	PD	I	0/3.3 V DC	Laser sync signal
	9	GND	-	-	Ground
	10	R24V	O	24 V DC	24 V DC power output to PM
	11	GND	-	-	Ground
	12	SCAN	O	0/24 V DC	PM: On/Off
	13	SCRDYN	I	0/3.3 V DC	PM ready signal
	14	SCCLK	O	0/3.3 V DC (pulse)	PM clock signal
YC4	A1	GND	-	-	Ground
Connected to the registration switch, fuser unit, duplex feed clutch, duplex paper conveying switch, paper conveying fan motor 1/2/3 and duplex fan motor 1/2/3	A2	RGFEPS	I	0/3.3 V DC	RSW: On/Off
	A3	+5V	O	5 V DC	5 V DC power output to RSW
	A4	FUSP0	I	0/3.3 V DC	Fuser unit distinction signal
	A5	+3.3V	O	3.3 V DC	3.3 V DC power output to FUPWB
	A6	THFUSER	I	Analog	FTH1 detection voltage signal
	A7	GND	-	-	Ground
	A8	THCSTD	I	Analog	FTH2 detection voltage signal
	A9	THCSEN	I	Analog	FTH2 detection voltage signal
	A10	OPEN	-	-	Not used
	B1	R24V	O	24 V DC	24 V DC power output to DUPFCL
	B2	DUCL	O	0/24 V DC	DUPFCL: On/Off
	B3	GND	-	-	Ground
	B4	DUFEPS	I	0/3.3 V DC	DUPPCSW: On/Off
	B5	+5V	O	5 V DC	5 V DC power output to DUPPCSW
	B6	+24V2	O	24 V DC	24 V DC power output to PCFM1,2,3
	B7	FAN_CONV	O	0/24 V DC	PCFM1,2,3: On/Off
	B8	DUSET	I	0/3.3 V DC	Duplex unit distinction signal
	B9	+24V2	O	24 V DC	24 V DC power output to DUPFM1,2,3
	B10	FAN5	O	0/24 V DC	DUPFM1,2,3: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5	A1	GND	-	-	Ground
Connected to the MP feed switch, toner container sensor, developing PWB, toner feed solenoid, toner container detection switch and drum PWB	A2	MPFFEPS	I	0/3.3 V DC	MPFSW: On/Off
	A3	+5V	O	5 V DC	5 V DC power output to MPFSW
	A4	+5V	O	5 V DC	5 V DC power output to TCS
	A5	ETONPS	I	0/3.3 V DC	TCS detection signal
	A6	GND	-	-	Ground
	A7	DEVEP0	I	0/3.3 V DC	Developing unit distinction signal
	A8	+5VD	O	5 V DC	5 V DC power output to DEVPWB
	A9	TNEDIN	I	0/3.3 V DC	TNS detection signal
	A10	GND	-	-	Ground
	A11	DVUNITN	I	0/3.3 V DC	Developing unit detection signal
	A12	DVHIT	O	0/3.3 V DC	DEVPWB FUSE CUT signal
	A13	EEDATA	I/O	0/5 V DC (pulse)	DEVPWB EEPROM DATA signal
	A14	EESCLK	O	0/5 V DC (pulse)	DEVPWB EEPROM clock signal
	B1	R24V	O	24 V DC	24 V DC power output to TNFSOL
	B2	TONERSOL	O	0/24 V DC	TNFSOL: On/Off
	B3	TOBOSW	I	0/3.3 V DC	TCDSW: On/Off
	B4	GND	-	-	Ground
	B5	DRUMP0	I	0/3.3 V DC	Drum unit distinction signal
	B6	ERASER	O	0/24 V DC	CL: On/Off
	B7	+24V2	O	24 V DC	24 V DC power output to CL
	B8	EEDATA	I/O	0/5 V DC (pulse)	DRPWB EEPROM DATA signal
	B9	EESCLK	O	0/5 V DC (pulse)	DRPWB EEPROM clock signal
	B10	GND	-	-	Ground
	B11	DRUNIT	I	0/3.3 V DC	Drum unit detection signal
	B12	+5V	O	5 V DC	5 V DC power output to DRPWB
	B13	MCMFWD	O	0/24 V DC	MCCM: On/Off (forward)
	B14	MCMREV	O	0/24 V DC	MCCM: On/Off (reverse)
YC7	1	DLPCL	O	0/24 V DC	DEVCL: On/Off
Connected to the developing clutch	2	+24V2	O	24 V DC	24 V DC power output to DEVCL
YC8	A1	GND	-	-	Ground
Connected to the feed switch 2/3, feed clutch 2/3, left cover 2 switch, lift motor 1/2, paper size length switch 1/2, lift switch 1/2 and paper switch 1/2	A2	FEED2SW	I	0/3.3 V DC	FSW3: On/Off
	A3	+5V2	O	5 V DC	5 V DC power output to FSW3
	A4	R24V	O	24 V DC	24 V DC power output to FCL3
	A5	FEED3CL	O	0/24 V DC	FCL3: On/Off
	A6	GND	-	-	Ground
	A7	FEED2SW	I	0/3.3 V DC	FSW2: On/Off
	A8	+5V2	O	5 V DC	5 V DC power output to FSW2
	A9	GND	-	-	Ground
	A10	FECOSW	I	0/3.3 V DC	LC2SW: On/Off
	A11	R24V	O	24 V DC	24 V DC power output to FCL2
	A12	FEED2CL	O	0/24 V DC	FCL2: On/Off
	A13	UPLIFSW2	I	0/3.3 V DC	LM1 paper gauge signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8	A14	GND	-	-	Ground
Connected to the feed switch 2/3, feed clutch 2/3, left cover 2 switch, lift motor 1/2, paper size length switch 1/2, lift switch 1/2 and paper switche1/2	A15	UPLIFSW1	I	0/3.3 V DC	LM1 paper gauge signal
	A16	GND	-	-	Ground
	A17	UPLIMOHI	O	0/24 V DC	LM1: On/Off
	A18	GND	-	-	Ground
	A19	LOLESW	I	0/3.3 V DC	PLSW2: On/Off
	B1	GND	-	-	Ground
	B2	UPLESW	I	0/3.3 V DC	PLSW1: On/Off
	B3	LOLIFSW2	I	0/3.3 V DC	LM2 paper gauge signal
	B4	GND	-	-	Ground
	B5	LOLIFSW1	I	0/3.3 V DC	LM2 paper gauge signal
	B6	GND	-	-	Ground
	B7	LOLIMOHI	O	0/24 V DC	LM2: On/Off
	B8	GND	-	-	Ground
	B9	UPLIPS	I	0/3.3 V DC	LSW1: On/Off
	B10	+5V	O	5 V DC	5 V DC power output to LSW1
	B11	GND	-	-	Ground
	B12	UPPAPS	I	0/3.3 V DC	PSW1: On/Off
	B13	+5V2	O	5 V DC	5 V DC power output to PSW1
	B14	GND	-	-	Ground
	B15	LOLIPS	I	0/3.3 V DC	LSW2: On/Off
	B16	+5V	O	5 V DC	5 V DC power output to LSW2
	B17	GND	-	-	Ground
	B18	LOPAPS	I	0/3.3 V DC	PSW2: On/Off
	B19	+5V2	O	5 V DC	5 V DC power output to PSW2
YC9	1	R24V	O	24 V DC	24 V DC power output to PWSW1
Connected to the paper size width switch 1/2	2	UP24V	I	24 V DC	24 V DC power input from PWSW1
	3	UPWIDE0	I	0/3.3 V DC	PWSW1: On/Off
	4	UPWIDE1	I	0/3.3 V DC	PWSW1: On/Off
	5	UPWIDE2	I	0/3.3 V DC	PWSW1: On/Off
	6	GND	-	-	Ground
	7	R24V	O	24 V DC	24 V DC power output to PWSW2
	8	LO24V	I	24 V DC	24 V DC power input from PWSW2
	9	LOWIDE0	I	0/3.3 V DC	PWSW2: On/Off
	10	LOWIDE1	I	0/3.3 V DC	PWSW2: On/Off
	11	LOWIDE2	I	0/3.3 V DC	PWSW2: On/Off
	12	GND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	A1	CHGSOL2	O	0/24 V DC	FSSOL: On/Off (return)
Connected to the feed-shift sole-noid, feedshift switch, eject switch, fuser fan motor, left cover 1 switch, paper feed clutch 1/2, humidity sensor and eject motor	A2	CHGSOL1	O	0/24 V DC	FSSOL: On/Off (activate)
	A3	+24V2	O	24 V DC	24 V DC power output to FSSOL
	A4	GND	-	-	Ground
	A5	DUPS	I	0/3.3 V DC	FSSW: On/Off
	A6	+5V	O	5 V DC	5 V DC power output to FSSW
	A7	GND	-	-	Ground
	A8	FDFULPS	-	-	Not used
	A9	+5V	-	-	Not used
	A10	GND	-	-	Ground
	A11	FDEJPS	I	0/3.3 V DC	ESW: On/Off
	A12	+5V	O	5 V DC	5 V DC power output to ESW
	A13	24V1	O	24 V DC	5 V DC power output to FUFM
	A14	FAN1	O	0/24 V DC	FUFM: On/Off
	A15	GND	-	-	Ground
	A16	SIDCOSW	I	0/3.3 V DC	LC1SW: On/Off
	B1	UPFECL	O	0/24 V DC	PFCL1: On/Off
	B2	UP24V	O	24 V DC	24 V DC power output to PFCL1
	B3	LO24V	O	24 V DC	24 V DC power output to PFCL2
	B4	LOFECL	O	0/24 V DC	PFCL2: On/Off
	B5	+24V2	O	24 V DC	24 V DC power output to RCL
	B6	REGFECL	O	0/24 V DC	RCL: On/Off
	B7	+3.3V	O	3.3 V DC	3.3 V DC power output to HUMS
	B8	SDA	I	Analog	HUMS detection voltage signal
	B9	GND	-	-	Ground
	B10	SCL	I	Analog	Thermistor detection voltage signal
	B11	STEPBD	O	0/24 V DC (pulse)	EM drive control signal
	B12	STEPB	O	0/24 V DC (pulse)	EM drive control signal
	B13	STEPAD	O	0/24 V DC (pulse)	EM drive control signal
	B14	STEPA	O	0/24 V DC (pulse)	EM drive control signal
	B15	OPEN	-	-	Not used
	B16	OPEN	-	-	Not used
YC11	1	+24V2	O	24 V DC	24 V DC power output to DM
Connected to the drive motor and paper feed motor	2	PGND	-	-	Ground
	3	MMOT_RDY	I	0/3.3 V DC	DM ready signal
	4	MMOT_CLK	O	0/3.3 V DC (pulse)	DM clock signal
	5	MMOT_REM	O	0/24 V DC	DM: On/Off
	6	+24V2	O	24 V DC	24 V DC power output to PFM
	7	PGND	-	-	Ground
	8	SMOT_RDY	I	0/3.3 V DC	PFM ready signal
	9	SMOT_CLK	O	0/3.3 V DC (pulse)	PFM clock signal
	10	SMOT_REM	O	0/24 V DC	PFM: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC12	A1	MPFSIZE0	I	0/3.3 V DC	MPPWSW: On/Off
Connected to the MP unit, waste toner box detection switch, over-flow sensor, front cover switch, LSU fan motor and devel-oping fan motor	A2	MPFSIZE1	I	0/3.3 V DC	MPPWSW: On/Off
	A3	MPFSIZE2	I	0/3.3 V DC	MPPWSW: On/Off
	A4	GND	-	-	Ground
	A5	+5VD	O	5 V DC	5 V DC power output
	A6	MPFPAPS	I	0/3.3 V DC	MPPSW: On/Off
	A7	GND	-	-	Ground
	A8	R24V	O	24 V DC	24 V DC power output
	A9	MPFPAPCL	O	0/24 V DC	MPPFCL: On/Off
	A10	R24V	O	24 V DC	24 V DC power output
	A11	MPFFECL	O	0/24 V DC	MPFCL: On/Off
	B1	NC	-	-	Not used
	B2	+24V1	-	-	Ground
	B3	DEVFAN	O	0/24 V DC	CFM2: On/Off
	B4	+5VD	O	5 V DC	5 V DC power output
	B5	TOOVSE	I	0/3.3 V DC	WTDSW: On/Off
	B6	GND	-	-	Ground
	B7	OVFLSW	I	0/3.3 V DC	OFS: On/Off
	B8	GND	-	-	Ground
	B9	FRTCOSW	I	0/3.3 V DC	FRCSW: On/Off
	B10	GND	-	-	Ground
	B11	+24V1	O	0/24 V DC	CFM1: On/Off
	B12	FAN4	-	-	Ground
	B13	+5VDPI	O	5 V DC	5 V DC power output
	B14	MPFLEPS	I	0/3.3 V DC	MPPLSW: On/Off
	B15	GND	-	-	Ground
YC13	1	BVSEL1	O	Analog	Developing bias control voltage
Connected to the high-voltage PWB	2	R24V	O	24 V DC	24 V DC power output to HVPWB
	3	GND	-	-	Ground
	4	MHVDR	O	0/3.3 V DC	Main charging: On/Off
	5	HVCLK	O	0/3.3 V DC (pulse)	Developing bias clock signal
	6	RHVDR	O	0/3.3 V DC	Separation charging: On/Off
	7	RICTL	O	Analog	Separation charging control voltage
	8	TICTL	O	Analog	Transfer charging control voltage
	9	BVSEL2	O	Analog	Developing bias control voltage
	10	THVDR	O	0/3.3 V DC	Transfer charging: On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC14	1	DET	I	0/5 V DC	Document finisher connection signal
Connected to the document finisher	2	DFSDO	O	0/5 V DC (pulse)	Document finisher serial communication data signal
	3	DFSDI	I	0/5 V DC (pulse)	Document finisher serial communication data signal
	4	DFSCLK	O	0/5 V DC (pulse)	Document finisher clock signal
	5	DFSEL	O	0/5 V DC	Document finisher select signal
	6	SISEL	-	-	Not used
	7	DFRDY	I	0/5 V DC	Document finisher ready signal
	8	SIRDY	-	-	Not used
YC15	1	GND	-	-	Ground
Connected to the paper feeder	2	+5V	O	5 V DC	5 V DC power output to paper feeder
	3	PFSEL	O	0/5 V DC	Paper feeder select signal
	4	PFSCLK	O	0/5 V DC (pulse)	Paper feeder clock signal
	5	PFSDI	I	0/5 V DC (pulse)	Paper feeder serial communication data signal
	6	PFSDO	O	0/5 V DC (pulse)	Paper feeder serial communication data signal
	7	PFREADY	I	0/5 V DC	Paper feeder ready signal
	8	PFFEED	O	0/5 V DC	Paper feeder feed signal
YC16	1	+24V	O	24 V DC	24 V DC power output to built-in finisher
Connected to the built-in finisher	2	+24V	O	24 V DC	24 V DC power output to built-in finisher
	3	PGND	-	-	Ground
	4	PGND	-	-	Ground
	5	+5VD	O	5 V DC	5 V DC power output to built-in finisher
	6	SGND	-	-	Ground
	7	DFSEL	O	0/5 V DC	Built-in finisher select signal
	8	DFRDY	I	0/5 V DC	Built-in finisher ready signal
	9	SDI	I	0/5 V DC (pulse)	Built-in finisher serial communication data signal
	10	SDO	O	0/5 V DC (pulse)	Built-in finisher serial communication data signal
	11	SCLK	O	0/5 V DC (pulse)	Built-in finisher clock signal
	12	OPEN	-	-	Not used
YC17	1	JOB_EJT_SIG	I	0/3.3 V DC	JESW: On/Off
Connected to the job separator	2	+5VD	O	5 V DC	5 V DC power output to JESW
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	SET SIG	I	0/3.3 V DC	Job separator connection signal
	6	GND	-	-	Ground
	7	EPDSW	I	0/3.3 V DC	EPDSW: On/Off
	8	+5VD	O	5 V DC	5 V DC power output to EPDSW
	9	LED REM	O	0/3.3 V DC	LED: On/Off
	10	+5VD LED	O	5 V DC	5 V DC power output to LEDPWB
	11	FSSOL2	O	0/24 V DC	JFSSOL: On/Off (return)
	12	FSSOL1	O	0/24 V DC	JFSSOL: On/Off (activate)
	13	+24VDR	O	24 V DC	24 V DC power output to JFSSOL

Connector	Pin No.	Signal	I/O	Voltage	Description
YC19	1	+24V2	O	24 V DC	24 V DC power output to total counter
Connected to the total counter, key card and key counter	2	T_CNT_REM1	O	0/24 V DC	Total counter signal
	3	GND	-	-	Ground
	4	SET_MS_SIG	I	0/3.3 V DC	Connection signal
	5	GND	-	-	Ground
	6	KEY_SET_SIG	I	0/3.3 V DC	Key counter connection signal
	7	+24V3	O	24 V DC	24 V DC power output to key counter
	8	KEY_CNT_REM	O	0/24 V DC	Key counter signal
	9	SET_KT_SIG	I	0/3.3 V DC	Connection signal
	10	GND	-	-	Ground
YC21	1	+24VDR	I	24 V DC	24 V DC power input from PSPWB
Connected to the power source PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+3.3V	I	3.3 V DC	3.3 V DC power input from PSPWB
	6	+5VD	I	5 V DC	5 V DC power input from PSPWB
	7	+24VDR	I	24 V DC	24 V DC power input from PSPWB
YC22	1	FAN3N	O	0/24 V DC	PSFM1,2: On/Off
Connected to the power source PWB	2	ZCROSS	I	0/3.3 V DC (pulse)	Zero-cross signal
	3	+5VD	I	5 V DC	5 V DC power input from PSPWB
	4	_HITON_M	O	0/3.3 V DC	FH1: On/Off
	5	_HITON_S	O	0/3.3 V DC	FH2: On/Off
	6	GND	-	-	Ground
	7	SLEEP	O	0/3.3 V DC	Sleep signal
YC23	1	+24V2	O	24 V DC	24 V DC power output
Connected to the feed clutch 1 and feed switch 1	2	FEED1CL	O	0/24 V DC	FCL1: On/Off
	3	SGND	-	-	Ground
	4	UPFEPS	-	0/3.3 V DC	FSW1: On/Off
	5	+5VD	O	5 V DC	5 V DC power output to FSW1

2-3-3 Main PWB

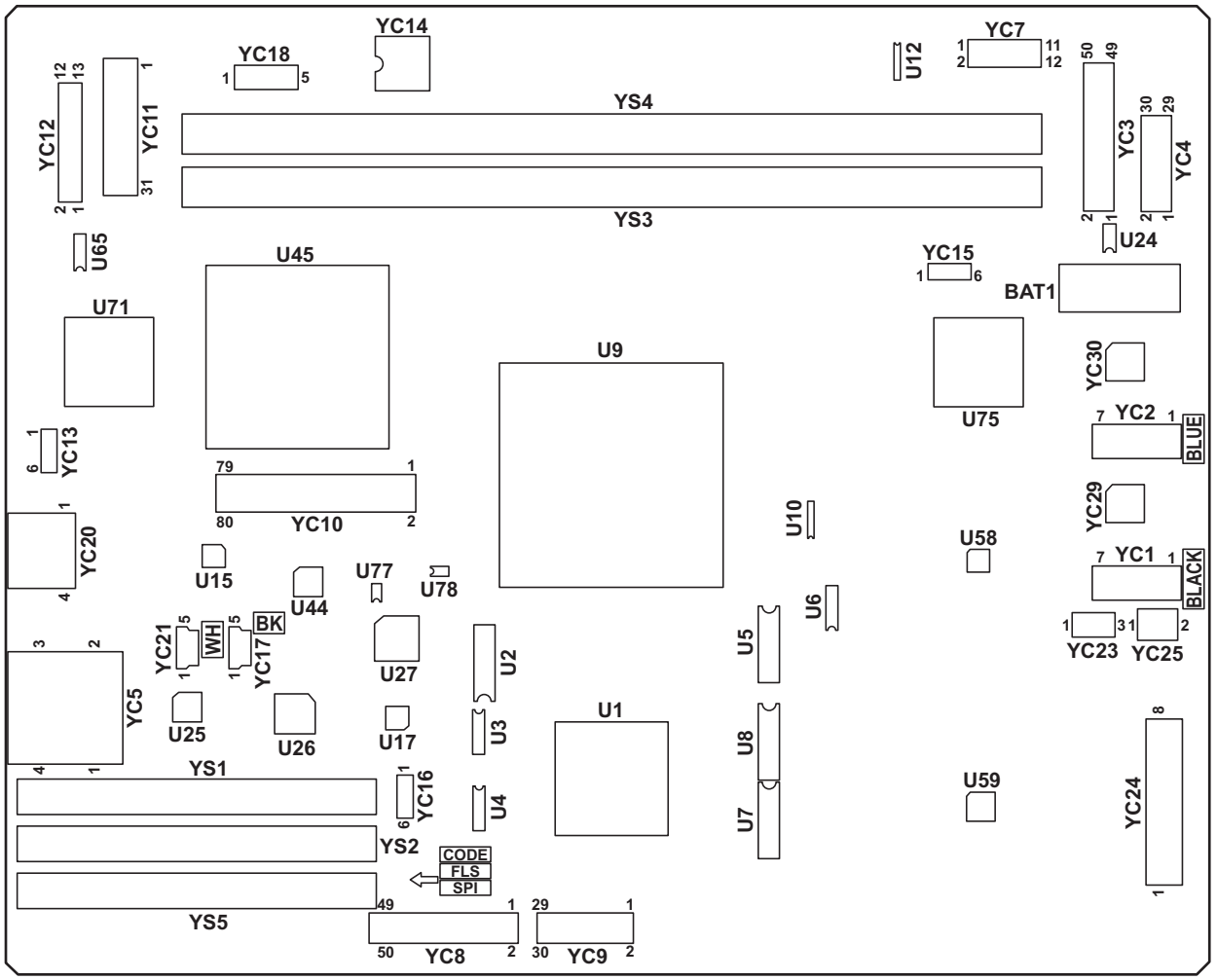


Figure 2-3-3 Main PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	GND	-	-	Ground
Connected to the hard disk 1	2	TXP	O	0/3.3 V DC (pulse)	Transmission data
	3	TXN	O	0/3.3 V DC (pulse)	Transmission data
	4	GND	-	-	Ground
	5	RXN	I	0/3.3 V DC (pulse)	Received data
	6	RXP	I	0/3.3 V DC (pulse)	Received data
	7	GND	-	-	Ground
YC2	1	GND	-	-	Ground
Connected to the hard disk 2	2	TXP	O	0/3.3 V DC (pulse)	Transmission data
	3	TXN	O	0/3.3 V DC (pulse)	Transmission data
	4	GND	-	-	Ground
	5	RXN	I	0/3.3 V DC (pulse)	Received data
	6	RXP	I	0/3.3 V DC (pulse)	Received data
	7	GND	-	-	Ground
YC3	1	EG_SCLK	O	0/3.3 V DC (pulse)	EPWB clock signal
Connected to the engine PWB	2	HLD_ENG	O	0/3.3 V DC	EPWB hold signal
	3	EG_SI	O	0/3.3 V DC (pulse)	EPWB serial communication data signal
	4	SLEEP	O	0/3.3 V DC	EPWB sleep signal: On/Off
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	VMREA P	-	-	Not used
	8	VMRED P	O	0/3.3 V DC (pulse)	Image control signal
	9	VMREA N	-	-	Not used
	10	VMRED N	O	0/3.3 V DC (pulse)	Image control signal
	11	VD A0 P	-	-	Not used
	12	VD D0 P	O	0/3.3 V DC (pulse)	Video data control signal
	13	VD A0 N	-	-	Not used
	14	VD D0 N	O	0/3.3 V DC (pulse)	Video data control signal
	15	VD A1 P	-	-	Not used
	16	VD D1 P	O	0/3.3 V DC (pulse)	Video data control signal
	17	VD A1 N	-	-	Not used
	18	VD D1 N	O	0/3.3 V DC (pulse)	Video data control signal
	19	VD A2 P	-	-	Not used
	20	VD D2 P	O	0/3.3 V DC (pulse)	Video data control signal
	21	VD A2 N	-	-	Not used
	22	VD D2 N	O	0/3.3 V DC (pulse)	Video data control signal
	23	VD A3 P	-	-	Not used
	24	VD D3 P	O	0/3.3 V DC (pulse)	Video data control signal
	25	VD A3 N	-	-	Not used
	26	VD D3 N	O	0/3.3 V DC (pulse)	Video data control signal
	27	VMREB P	-	-	Not used
	28	VMREC P	-	-	Not used
	29	VMREB N	-	-	Not used
	30	VMREC N	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	31	VD B0 P	-	-	Not used
Connected to the engine PWB	32	VD C0 P	-	-	Not used
	33	VD B0 N	-	-	Not used
	34	VD C0 N	-	-	Not used
	35	VD B1 P	-	-	Not used
	36	VD C1 P	-	-	Not used
	37	VD B1 N	-	-	Not used
	38	VD C1 N	-	-	Not used
	39	VD B2 P	-	-	Not used
	40	VD C2 P	-	-	Not used
	41	VD B2 N	-	-	Not used
	42	VD C2 N	-	-	Not used
	43	VD B3 P	-	-	Not used
	44	VD C3 P	-	-	Not used
	45	VD B3 N	-	-	Not used
	46	VD C3 N	-	-	Not used
	47	VCLKOUT P	O	0/3.3 V DC (pulse)	Video data clock signal
	48	GND	-	-	Ground
	49	VCLKOUT N	O	0/3.3 V DC (pulse)	Video data clock signal
	50	GND	-	-	Ground
YC4	1	GND	-	-	Ground
Connected to the engine PWB	2	GND	-	-	Ground
	3	HSYNCDN P	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	4	VSYNCD P	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	5	HSYNCDN N	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	6	VSYNCD N	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	7	HSYNCCN P	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	8	VSYNCC P	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	9	HSYNCCN N	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	10	VSYNCC N	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	11	HSYNCBN P	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	12	VSYNCB P	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	13	HSYNCBN N	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	14	VSYNCB N	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	15	HSYNCAN P	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	16	VSYNCA P	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	17	HSYNCAN N	I	0/3.3 V DC (pulse)	Horizontal synchronization signal
	18	VSYNCA N	I	0/3.3 V DC (pulse)	Vertical synchronization signal
	19	GND	-	-	Ground
	20	GND	-	-	Ground
	21	EG_IRN	O	0/3.3 V DC	EPWB interrupt signal
	22	NC	-	-	Not used
	23	EG_SO	I	0/3.3 V DC (pulse)	EPWB serial communication data signal
	24	NC	-	-	Not used

Connector	Pin No.	Signal	I/O	Voltage	Description
YC4	25	EG_SDIR	O	0/3.3 V DC	EPWB communication direction signal
Connected to the engine PWB	26	NC	-	-	Not used
	27	EG_SBSY	O	0/3.3 V DC	EPWB busy signal
	28	NC	-	-	Not used
	29	+24V DOWN	O	0/3.3 V DC	EPWB 24 V down signal
	30	NC	-	-	Not used
YC5-1	1	CT	O	3.3 V DC	3.3 V DC power output
Connected to the ether-net	2	TD+	O	0/3.3 V DC (pulse)	Transmission data
	3	TD-	O	0/3.3 V DC (pulse)	Transmission data
	4	RD+	I	0/3.3 V DC (pulse)	Received data
	5	RD-	I	0/3.3 V DC (pulse)	Received data
	6	CT	O	3.3 V DC	3.3 V DC power output
	7	CAT PHY	O	0/3.3 V DC	Control signal
	8	ANO PHY	O	3.3 V DC	3.3 V DC power output
	9	CAT MAC	-	-	Ground
	10	ANO MAC	O	0/3.3 V DC	Control signal
YC5-2	U1	VBUS	I	5 V DC	5 V DC power input
Connected to the USB	U2	DATA-	I/O	-	USB data signal
	U3	DATA+	I/O	-	USB data signal
	U4	GND	-	-	Ground
YC8	1	GND	-	-	Ground
Connected to the inter-face PWB	2	AUDIO	I	Analog	AUDIO signal
	3	SEL AUDIO0	O	0/3.3 V DC	SEL AUDIO0 signal
	4	SEL AUDIO1	O	0/3.3 V DC	SEL AUDIO1 signal
	5	_REG	I	0/3.3 V DC	REG signal
	6	A8	O	0/3.3 V DC (pulse)	Address bus signal
	7	A15	O	0/3.3 V DC (pulse)	Address bus signal
	8	A7	O	0/3.3 V DC (pulse)	Address bus signal
	9	A14	O	0/3.3 V DC (pulse)	Address bus signal
	10	A6	O	0/3.3 V DC (pulse)	Address bus signal
	11	A13	O	0/3.3 V DC (pulse)	Address bus signal
	12	A5	O	0/3.3 V DC (pulse)	Address bus signal
	13	A12	O	0/3.3 V DC (pulse)	Address bus signal
	14	A4	O	0/3.3 V DC (pulse)	Address bus signal
	15	A11	O	0/3.3 V DC (pulse)	Address bus signal
	16	A3	O	0/3.3 V DC (pulse)	Address bus signal
	17	A10	O	0/3.3 V DC (pulse)	Address bus signal
	18	A2	O	0/3.3 V DC (pulse)	Address bus signal
	19	A9	O	0/3.3 V DC (pulse)	Address bus signal
	20	A1	O	0/3.3 V DC (pulse)	Address bus signal
	21	GND	-	-	Ground
	22	GND	-	-	Ground
	23	D8	I/O	0/3.3 V DC (pulse)	Data bus signal
	24	D0	I/O	0/3.3 V DC (pulse)	Data bus signal
	25	D9	I/O	0/3.3 V DC (pulse)	Data bus signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8	26	D1	I/O	0/3.3 V DC (pulse)	Data bus signal
Connected to the interface PWB	27	D10	I/O	0/3.3 V DC (pulse)	Data bus signal
	28	D2	I/O	0/3.3 V DC (pulse)	Data bus signal
	29	D11	I/O	0/3.3 V DC (pulse)	Data bus signal
	30	D3	I/O	0/3.3 V DC (pulse)	Data bus signal
	31	GND	-	-	Ground
	32	GND	-	-	Ground
	33	D12	I/O	0/3.3 V DC (pulse)	Data bus signal
	34	D4	I/O	0/3.3 V DC (pulse)	Data bus signal
	35	D13	I/O	0/3.3 V DC (pulse)	Data bus signal
	36	D5	I/O	0/3.3 V DC (pulse)	Data bus signal
	37	D14	I/O	0/3.3 V DC (pulse)	Data bus signal
	38	D6	I/O	0/3.3 V DC (pulse)	Data bus signal
	39	D15	I/O	0/3.3 V DC (pulse)	Data bus signal
	40	D7	I/O	0/3.3 V DC (pulse)	Data bus signal
	41	GND	-	-	Ground
	42	GND	-	-	Ground
	43	KUIODREQT0	I	0/3.3 V DC (pulse)	KUIODREQT0 signal
	44	KUIODREQT1	I	0/3.3 V DC (pulse)	KUIODREQT1 signal
	45	KUIODREQR0	I	0/3.3 V DC (pulse)	KUIODREQR0 signal
	46	KUIODREQR1	I	0/3.3 V DC (pulse)	KUIODREQR1 signal
	47	KUIOIORN0	O	0/3.3 V DC (pulse)	KUIOIORN0 signal
	48	KUIOIORN1	O	0/3.3 V DC (pulse)	KUIOIORN1 signal
	49	KUIOIOWN0	O	0/3.3 V DC (pulse)	KUIOIOWN0 signal
	50	KUIOIOWN1	O	0/3.3 V DC (pulse)	KUIOIOWN1 signal
YC9	1	KUIOCSN0	O	0/3.3 V DC (pulse)	KUIOCSN0 signal
Connected to the interface PWB	2	KUIOCSN1	O	0/3.3 V DC (pulse)	KUIOCSN1 signal
	3	KUIOACKN0	I	0/3.3 V DC (pulse)	KUIOACKN0 signal
	4	KUIOACKN1	I	0/3.3 V DC (pulse)	KUIOACKN1 signal
	5	KUIOIRN0	I	0/3.3 V DC	KUIOIRN0 signal
	6	KUIOIRN1	I	0/3.3 V DC	KUIOIRN1 signal
	7	KUIORDY0	O	0/3.3 V DC	KUIORDY0 signal
	8	KUIORDY1	O	0/3.3 V DC	KUIORDY1 signal
	9	GND	-	-	Ground
	10	GND	-	-	Ground
	11	KUIODACKRN0	O	0/3.3 V DC (pulse)	KUIODACKRN0 signal
	12	KUIODACKRN1	O	0/3.3 V DC (pulse)	KUIODACKRN1 signal
	13	KUIODACKTN0	O	0/3.3 V DC (pulse)	KUIODACKTN0 signal
	14	KUIODACKTN1	O	0/3.3 V DC (pulse)	KUIODACKTN1 signal
	15	KUIORSTN0	O	0/3.3 V DC	KUIORSTN0 signal
	16	KUIORSTN1	O	0/3.3 V DC	KUIORSTN1 signal
	17	GND	-	-	Ground
	18	GND	-	-	Ground
	19	SLEEP	O	0/3.3 V DC	SLEEP signal
	20	CFOEN0	O	0/3.3 V DC (pulse)	CFOEN0 signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC9	21	EXTBOEN	O	0/3.3 V DC (pulse)	EXTBOEN signal
Connected to the inter-face PWB	22	CFWEN0	O	0/3.3 V DC (pulse)	CFWEN0 signal
	23	EXTBDIR	O	0/3.3 V DC (pulse)	EXTBDIR signal
	24	CFRST0	O	0/3.3 V DC	CFRST0 signal
	25	CF0CSN0	O	0/3.3 V DC (pulse)	CF0CSN0 signal
	26	CFWAITN0	I	0/3.3 V DC	CFWAITN0 signal
	27	CF0CSN1	O	0/3.3 V DC (pulse)	CF0CSN1 signal
	28	CF0CDET1	I	0/3.3 V DC	CF0CDET1 signal
	29	GND	-	-	Ground
	30	CF0CDET2	I	0/3.3 V DC	CF0CDET2 signal
YC10	1	GND	-	-	Ground
Connected to the DP	2	GND	-	-	Ground
	3	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	4	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	5	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	6	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	7	VCLKB	I	0/3.3 V DC (pulse)	DPRPWB clock signal
	8	VSYNCB	I	0/3.3 V DC (pulse)	DPRPWB VSYNCB signal
	9	HSYNCB	I	0/3.3 V DC (pulse)	DPRPWB HSYNCB signal
	10	MREB	I	0/3.3 V DC (pulse)	DPRPWB MREB signal
	11	GND	-	-	Ground
	12	DRB0	I	0/3.3 V DC (pulse)	Image data signal
	13	DRB1	I	0/3.3 V DC (pulse)	Image data signal
	14	DRB2	I	0/3.3 V DC (pulse)	Image data signal
	15	DRB3	I	0/3.3 V DC (pulse)	Image data signal
	16	DRB4	I	0/3.3 V DC (pulse)	Image data signal
	17	DRB5	I	0/3.3 V DC (pulse)	Image data signal
	18	DRB6	I	0/3.3 V DC (pulse)	Image data signal
	19	DRB7	I	0/3.3 V DC (pulse)	Image data signal
	20	GND	-	-	Ground
	21	DGB0	I	0/3.3 V DC (pulse)	Image data signal
	22	DGB1	I	0/3.3 V DC (pulse)	Image data signal
	23	DGB2	I	0/3.3 V DC (pulse)	Image data signal
	24	DGB3	I	0/3.3 V DC (pulse)	Image data signal
	25	DGB4	I	0/3.3 V DC (pulse)	Image data signal
	26	DGB5	I	0/3.3 V DC (pulse)	Image data signal
	27	DGB6	I	0/3.3 V DC (pulse)	Image data signal
	28	DGB7	I	0/3.3 V DC (pulse)	Image data signal
	29	GND	-	-	Ground
	30	DBB0	I	0/3.3 V DC (pulse)	Image data signal
	31	DBB1	I	0/3.3 V DC (pulse)	Image data signal
	32	DBB2	I	0/3.3 V DC (pulse)	Image data signal
	33	DBB3	I	0/3.3 V DC (pulse)	Image data signal
	34	DBB4	I	0/3.3 V DC (pulse)	Image data signal
	35	DBB5	I	0/3.3 V DC (pulse)	Image data signal

Connector	Pin No.	Signal	I/O	Voltage	Description
YC10	36	DBB6	I	0/3.3 V DC (pulse)	Image data signal
Connected to the optional DP	37	DBB7	I	0/3.3 V DC (pulse)	Image data signal
	38	TWS_SCM_HALF	O	0/3.3 V DC	DPRPWB control signal
	39	RES_SLEEP	O	0/3.3 V DC	DPRPWB control signal
	40	TWS_DET1	I	0/3.3 V DC	DPRPWB control signal
	41	GND	-	-	Ground
	42	LA2	O	0/3.3 V DC (pulse)	Address bus signal
	43	LA3	O	0/3.3 V DC (pulse)	Address bus signal
	44	LA4	O	0/3.3 V DC (pulse)	Address bus signal
	45	LA5	O	0/3.3 V DC (pulse)	Address bus signal
	46	LA6	O	0/3.3 V DC (pulse)	Address bus signal
	47	LA7	O	0/3.3 V DC (pulse)	Address bus signal
	48	LA8	O	0/3.3 V DC (pulse)	Address bus signal
	49	LA9	O	0/3.3 V DC (pulse)	Address bus signal
	50	LA10	O	0/3.3 V DC (pulse)	Address bus signal
	51	LA11	O	0/3.3 V DC (pulse)	Address bus signal
	52	LA12	O	0/3.3 V DC (pulse)	Address bus signal
	53	LA13	O	0/3.3 V DC (pulse)	Address bus signal
	54	LA14	O	0/3.3 V DC (pulse)	Address bus signal
	55	LA15	O	0/3.3 V DC (pulse)	Address bus signal
	56	LA16	O	0/3.3 V DC (pulse)	Address bus signal
	57	LA17	O	0/3.3 V DC (pulse)	Address bus signal
	58	GND	-	-	Ground
	59	LD0	I/O	0/3.3 V DC (pulse)	Data bus signal
	60	LD1	I/O	0/3.3 V DC (pulse)	Data bus signal
	61	LD2	I/O	0/3.3 V DC (pulse)	Data bus signal
	62	LD3	I/O	0/3.3 V DC (pulse)	Data bus signal
	63	LD4	I/O	0/3.3 V DC (pulse)	Data bus signal
	64	LD5	I/O	0/3.3 V DC (pulse)	Data bus signal
	65	LD6	I/O	0/3.3 V DC (pulse)	Data bus signal
	66	LD7	I/O	0/3.3 V DC (pulse)	Data bus signal
	67	GND	-	-	Ground
	68	INT	I	0/3.3 V DC	DPRPWB control signal
	69	RESETZ	O	0/3.3 V DC	DPRPWB control signal
	70	GND	-	-	Ground
	71	CEZ	O	0/3.3 V DC (pulse)	DPRPWB control signal
	72	WEZ	O	0/3.3 V DC (pulse)	DPRPWB control signal
	73	OEZ	O	0/3.3 V DC (pulse)	DPRPWB control signal
	74	SCLKIN	O	0/3.3 V DC (pulse)	DPRPWB clock signal
	75	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	76	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	77	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	78	3.3V	O	3.3 V DC	3.3 V DC power output to DPRPWB
	79	GND	-	-	Ground
	80	GND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC11	1	GND	-	-	Ground
Connected to the ISC PWB	2	G6_SC_SCLK	O	0/3.3 V DC (pulse)	ISCPWB clock signal
	3	GND	-	-	Ground
	4	G6_SC_SI	O	0/3.3 V DC (pulse)	ISCPWB serial communication data signal
	5	GND	-	-	Ground
	6	G6_SC_SO	I	0/3.3 V DC (pulse)	ISCPWB serial communication data signal
	7	G6_SC_SBSY	I	0/3.3 V DC	ISCPWB busy signal
	8	G6_SC_SDIR	I	0/3.3 V DC	ISCPWB communication direction signal
	9	G6_SC_IRN	I	0/3.3 V DC	ISCPWB interrupt signal
	10	HLD_SCN	O	0/3.3 V DC	ISCPWB scanner hold signal
	11	GND	-	-	Ground
	12	GND	-	-	Ground
	13	GND	-	-	Ground
	14	IS_SAD4N	I	0/3.3 V DC (pulse)	Image data signal
	15	IS_SAD4P	I	0/3.3 V DC (pulse)	Image data signal
	16	GND	-	-	Ground
	17	IS_SACKN	I	0/3.3 V DC (pulse)	ISCPWB clock signal
	18	IS_SACKP	I	0/3.3 V DC (pulse)	ISCPWB clock signal
	19	GND	-	-	Ground
	20	IS_SAD3N	I	0/3.3 V DC (pulse)	Image data signal
	21	IS_SAD3P	I	0/3.3 V DC (pulse)	Image data signal
	22	GND	-	-	Ground
	23	IS_SAD2N	I	0/3.3 V DC (pulse)	Image data signal
	24	IS_SAD2P	I	0/3.3 V DC (pulse)	Image data signal
	25	GND	-	-	Ground
	26	IS_SAD1N	I	0/3.3 V DC (pulse)	Image data signal
	27	IS_SAD1P	I	0/3.3 V DC (pulse)	Image data signal
	28	GND	-	-	Ground
	29	GND	-	-	Ground
	30	GND	-	-	Ground
	31	GND	-	-	Ground
YC12	1	FPSTAT	I	0/3.3 V DC	Operation panel status signal
Connected to the main operation PWB	2	S LED0	O	0/3.3 V DC	Operation panel LED display signal
	3	S LED1	O	0/3.3 V DC	Operation panel LED display signal
	4	PANEL RESET	O	0/3.3 V DC	OPWB-M reset signal
	5	HLD PANEL	O	0/3.3 V DC	Operation panel displaying enable signal
	6	SW FOOTN	-	-	Not used
	7	+24V DOWN	O	0/3.3 V DC	24 V DC down signal
	8	SUPND ENTER	O	0/3.3 V DC	Energy save mode control signal
	9	AUDIO	O	Analog	Audio output signal
	10	SGND	-	-	Ground
	11	PH KEY	I	0/3.3 V DC	Power key: On/Off
	12	SGND	-	-	Ground
	13	SUPND POWER	O	5 V DC	5 V DC power to OPWB-M

Connector	Pin No.	Signal	I/O	Voltage	Description
YC17	1	VBUS	I	5 V DC	5 V DC power input
Connected to the main operation PWB	2	DATA-	I/O	-	USB data signal
	3	DATA+	I/O	-	USB data signal
	4	NC	-	-	Not used
	5	GND	-	-	Ground
YC20	U1	VBUS	O	5 V DC	5 V DC power output
Connected to the USB	U2	DATA-	I/O	-	USB data signal
	U3	DATA+	I/O	-	USB data signal
	U4	GND	-	-	Ground
YC21	1	VBUS	O	5 V DC	5 V DC power output
Connected to the USB	2	DATA-	I/O	-	USB data signal
	3	DATA+	I/O	-	USB data signal
	4	NC	-	-	Not used
	5	GND	-	-	Ground
YC23	1	CLT FAN	O	0/5 V DC	CONFM: On/Off
Connected to the controller fan motor	2	GND	-	-	Ground
	3	+5V	O	5 V DC	5 V DC power output to CONFM
YC24	1	5V	I	5 V DC	5 V DC power input from PSPWB
Connected to the power source PWB	2	5V	I	5 V DC	5 V DC power input from PSPWB
	3	5V	I	5 V DC	5 V DC power input from PSPWB
	4	5V	I	5 V DC	5 V DC power input from PSPWB
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	GND	-	-	Ground
	8	GND	-	-	Ground
YC25	1	5V	O	5 V DC	5 V DC power output to IFPWB
Connected to the interface PWB	2	GND	-	-	Ground

2-3-4 ISM PWB

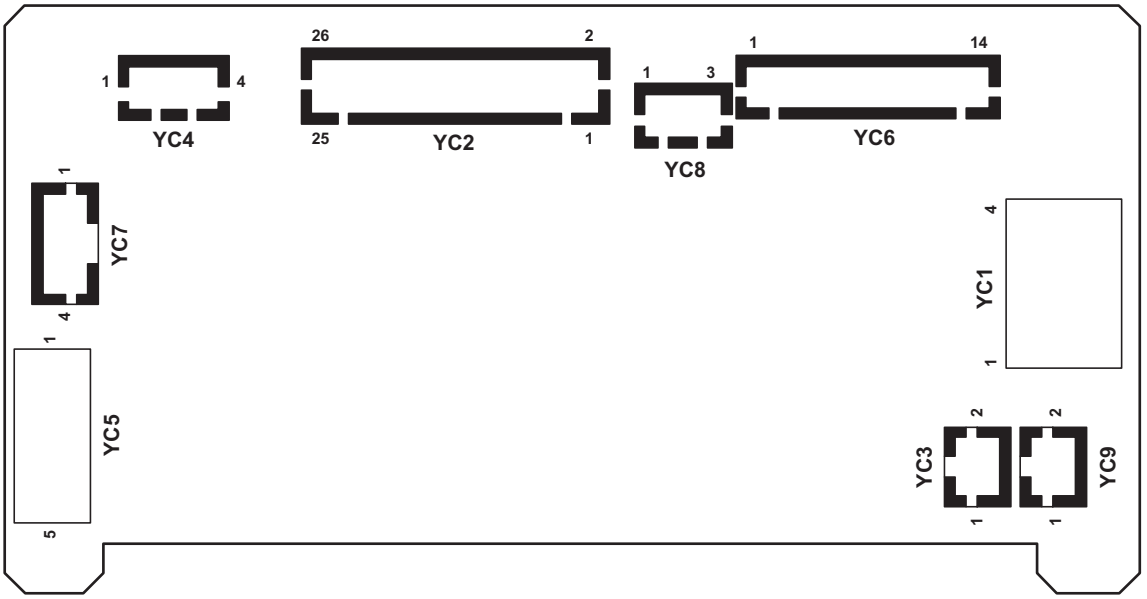


Figure 2-3-4 ISM PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	24V1	I	24 V DC	24 V DC power input from PSPWB
Connected to the power source PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	12V1	I	12 V DC	12 V DC power input from PSPWB
YC2	1	DPTMG	O	0/3.3 V DC	DP timing signal
Connected to the ISC PWB	2	DPRDY	O	0/3.3 V DC	DP ready signal
	3	HPSW	O	0/3.3 V DC	HPSW: On/Off
	4	DPEND	O	0/3.3 V DC	DP end signal
	5	+12V	O	12 V DC	12 V DC power output to ISCPWB
	6	DPSEL	I	0/3.3 V DC	DP select signal
	7	+12V	O	12 V DC	12 V DC power output to ISCPWB
	8	DPSDI	I	0/3.3 V DC (pulse)	Serial communication data signal
	9	+5V	I	5 V DC	5 V DC power input from ISCPWB
	10	DPCLK	I	0/3.3 V DC (pulse)	DP clock signal
	11	FANREM	I	0/3.3 V DC	SFM: On/Off
	12	DPSDO	O	0/3.3 V DC (pulse)	Serial communication data signal
	13	SM_FR	I	0/3.3 V DC (pulse)	SM control signal
	14	DP_CO	O	0/3.3 V DC	DP open signal
	15	GND	-	-	Ground
	16	GND	-	-	Ground
	17	SMTVREF	I	0/3.3 V DC (pulse)	SM control signal
	18	GND	-	-	Ground
	19	SM_STP	I	0/3.3 V DC (pulse)	SM control signal
	20	INV_CLK	I	0/3.3 V DC (pulse)	INPWB clock signal
	21	SM_STB	I	0/3.3 V DC (pulse)	SM control signal
	22	COSW1	O	0/3.3 V DC	ODSW: On/Off
	23	MON24V	O	0/3.3 V DC	Control signal
	24	INVTH	O	0/3.3 V DC	EL control signal
	25	SLAMP	I	0/3.3 V DC	EL: On/Off
	26	NC	-	-	Not used
YC3	1	+24V	O	24 V DC	24 V DC power output to SFM
Connected to the scanner fan motor	2	FANREM	O	0/24 V DC	SFM: On/Off
YC4	1	SGND	-	-	Ground
Connected to the original detection switch	2	COSW1	I	0/3.3 V DC	ODSW: On/Off
	3	+5V	O	5 V DC	24 V DC power output to ODSW
	4	NC	-	-	Not used
YC5	1	INV_CL	O	0/3.3 V DC (pulse)	INPWB clock signal
Connected to the inverter PWB	2	INVTH	I	0/3.3 V DC	EL control signal
	3	PGND	-	-	Ground
	4	SLAMPO	O	0/3.3 V DC	EL: On/Off
	5	+24V	O	24 V DC	24 V DC power output to INPWB

Connector	Pin No.	Signal	I/O	Voltage	Description
YC6	1	DPCLK	O	0/3.3 V DC (pulse)	DP clock signal
Connected to the DP	2	DPSDO	I	0/3.3 V DC (pulse)	Serial communication data signal
	3	DPSDI	O	0/3.3 V DC (pulse)	Serial communication data signal
	4	DPSEL	O	0/3.3 V DC	DP select signal
	5	DPEND	I	0/3.3 V DC	DP end signal
	6	DPRDY	I	0/3.3 V DC	DP ready signal
	7	DPTMG	I	0/3.3 V DC	DP timing signal
	8	DP CO	I	0/3.3 V DC	DP open signal
	9	NC	-	-	Not used
	10	NC	-	-	Not used
	11	GND	-	-	Ground
	12	GND	-	-	Ground
	13	GND	-	-	Ground
	14	GND	-	-	Ground
YC7	1	SMOT BN	O	0/24 V DC (pulse)	SM drive control signal
Connected to the scanner motor	2	SMOT AN	O	0/24 V DC (pulse)	SM drive control signal
	3	SMOT BP	O	0/24 V DC (pulse)	SM drive control signal
	4	SMOT AP	O	0/24 V DC (pulse)	SM drive control signal
YC8	1	SGND	-	-	Ground
Connected to the home position switch	2	HPSW	I	0/3.3 V DC	HPSW: On/Off
	3	+5V	O	5 V DC	5 V DC power output to HPSW

2-3-5 Main operation PWB

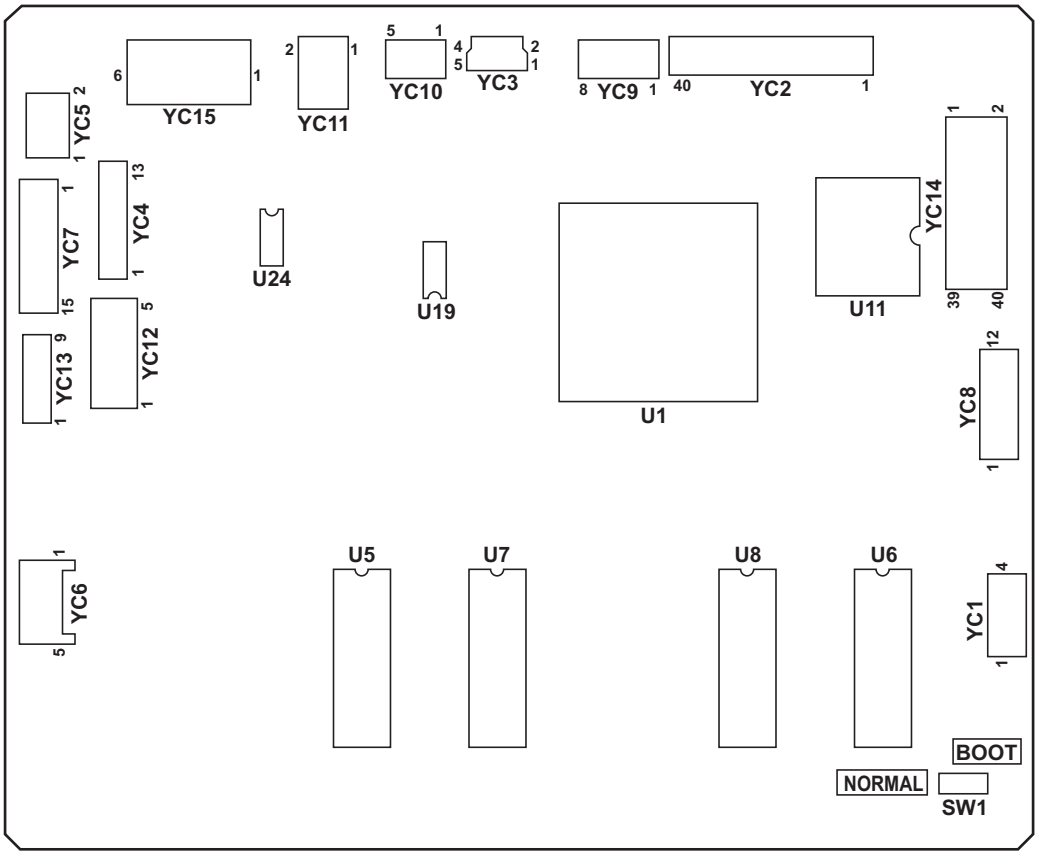


Figure 2-3-5 Main operation PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
YC1	1	TOP Y+	I	Analog	Touch panel Y+ position signal
Connected to the touch panel	2	LEFT X+	I	Analog	Touch panel X+ position signal
	3	BOT Y-	I	Analog	Touch panel Y- position signal
	4	RIGHT X-	I	Analog	Touch panel X- position signal
YC2	1	SGND	-	-	Ground
Connected to the LCD	2	SGND	-	-	Ground
	3	B5(MSB)	O	0/3.3 V DC	LCD control signal
	4	B4	O	0/3.3 V DC	LCD control signal
	5	B3	O	0/3.3 V DC	LCD control signal
	6	SGND	-	-	Ground
	7	B2	O	0/3.3 V DC	LCD control signal
	8	B1	O	0/3.3 V DC	LCD control signal
	9	B0(LSB)	O	0/3.3 V DC	LCD control signal
	10	SGND	-	-	Ground
	11	G5(MSB)	O	0/3.3 V DC	LCD control signal
	12	G4	O	0/3.3 V DC	LCD control signal
	13	G3	O	0/3.3 V DC	LCD control signal
	14	SGND	-	-	Ground
	15	G2	O	0/3.3 V DC	LCD control signal
	16	G1	O	0/3.3 V DC	LCD control signal
	17	G0(LSB)	O	0/3.3 V DC	LCD control signal
	18	SGND	-	-	Ground
	19	R5(MSB)	O	0/3.3 V DC	LCD control signal
	20	R4	O	0/3.3 V DC	LCD control signal
	21	R3	O	0/3.3 V DC	LCD control signal
	22	SGND	-	-	Ground
	23	R2	O	0/3.3 V DC	LCD control signal
	24	R1	O	0/3.3 V DC	LCD control signal
	25	R0(LSB)	O	0/3.3 V DC	LCD control signal
	26	SGND	-	-	Ground
	27	DE	O	0/3.3 V DC	LCD control signal
	28	SGND	-	-	Ground
	29	L_R	O	0/3.3 V DC	LCD control signal
	30	U_D	O	0/3.3 V DC	LCD control signal
	31	SGND	-	-	Ground
	32	DCLK	O	0/3.3 V DC (pulse)	LCD clock signal
	33	NC	-	-	Not used
	34	SGND	-	-	Ground
	35	+5V	O	5 V DC	5 V DC power output to LCD
	36	+5V	O	5 V DC	5 V DC power output to LCD
	37	+5V	O	5 V DC	5 V DC power output to LCD
	38	+5V	O	5 V DC	5 V DC power output to LCD
	39	SGND	-	-	Ground
	40	SGND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3	1	VBUS	I	5 V DC	5 V DC power input
Connected to the main PWB	2	DN	I/O	-	USB data signal
	3	DP	I/O	-	USB data signal
	4	ID	-	-	Not used
	5	GND	-	-	Ground
YC4	1	SUPND POWER	I	5 V DC	5 V DC power input from MPWB
Connected to the main PWB	2	GND	-	-	Ground
	3	PH KEY	O	0/5 V DC	Power key: On/Off
	4	GND	-	-	Ground
	5	AUDIO	I	Analog	Audio output signal
	6	SUPND_ENTR	I	0/3.3 V DC	Energy save mode control signal
	7	+24V_DOWN	I	0/3.3 V DC	24 V DC down signal
	8	SW_FOOTN	-	-	Not used
	9	HOLDPANEL	I	0/3.3 V DC	Operation panel displaying enable signal
	10	PANEL_RESET	I	0/3.3 V DC	MPWB reset signal
	11	S_LED1	I	0/3.3 V DC	Operation panel LED display signal
	12	S_LED0	I	0/3.3 V DC	Operation panel LED display signal
	13	PANEL_STATUS	O	0/3.3 V DC	Operation panel status signal
YC6	1	GND	-	-	Ground
Connected to the LCD inverter PWB	2	+12V	O	12 V DC	12 V DC power output to LINPWB
	3	LCDBKLT	O	0/3.3 V DC	LCD back light: On/Off
	4	ADJUST	O	Analog	LCD back light brightness adjustment signal
	5	GND	-	-	Ground
YC7	1	KEY0	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 0
Connected to the right operation PWB	2	KEY1	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 1
	3	KEY2	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 2
	4	KEY3	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 3
	5	KEY4	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 4
	6	SCAN0	O	0/3.3 V DC (pulse)	Scan signal 0
	7	SCAN1	O	0/3.3 V DC (pulse)	Scan signal 1
	8	SCAN2	O	0/3.3 V DC (pulse)	Scan signal 2
	9	SCAN3	O	0/3.3 V DC (pulse)	Scan signal 3
	10	SCAN6	O	0/3.3 V DC (pulse)	Scan signal 6
	11	LED0	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 0
	12	LED1	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 1
	13	PH KEY	I	0/5 V DC	Power key: On/Off
	14	SUPND POWER	O	5 V DC	5 V DC power output to OPWB-R
	15	GND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8	1	SCAN6	O	0/3.3 V DC (pulse)	Scan signal 6
Connected to the left operation PWB	2	KEY5	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 5
	3	KEY6	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 6
	4	KEY7	I	0/3.3 V DC (pulse)	Operation panel key scan return signal 7
	5	SCAN0	O	0/3.3 V DC (pulse)	Scan signal 0
	6	SCAN1	O	0/3.3 V DC (pulse)	Scan signal 1
	7	SCAN2	O	0/3.3 V DC (pulse)	Scan signal 2
	8	SCAN3	O	0/3.3 V DC (pulse)	Scan signal 3
	9	LED2	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 2
	10	LED3	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 3
	11	LED4	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 4
	12	GND	-	-	Ground
YC9	1	SCAN4	O	0/3.3 V DC (pulse)	Scan signal 4
Connected to the upper operation PWB	2	SCAN5	O	0/3.3 V DC (pulse)	Scan signal 5
	3	LED5	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 5
	4	LED6	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 6
	5	LED7	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 7
	6	S_LED0	O	0/5 V DC	Operation panel LED display drive signal 0
	7	S_LED1	O	0/5 V DC	Operation panel LED display drive signal 1
	8	GND	-	-	Ground
YC10	1	SCAN5	O	0/3.3 V DC (pulse)	Scan signal 5
Connected to the front operation PWB	2	LED5	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 5
	3	LED6	O	0/3.3 V DC (pulse)	Operation panel LED display drive signal 6
	4	S_LED1	O	0/5 V DC	Operation panel LED display drive signal 1
	5	GND	-	-	Ground
YC11	1	VO2	O	Analog	Speaker sound signal (+)
Connected to the speaker	2	VO1	O	Analog	Speaker sound signal (-)
YC15	1	GND	-	-	Ground
Connected to the power source PWB	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	+5V	I	5 V DC	5 V DC power input from PSPWB
	5	+5V	I	5 V DC	5 V DC power input from PSPWB
	6	+12V	I	12 V DC	12 V DC power input from PSPWB

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Maintenance parts list

Maintenance part name		Part No.	Alternative part No.
Name used in service manual	Name used in parts list		
Paper feed pulley	PULLEY,PAPER FEED	2AR07220	-
Separation pulley	PULLEY,SEPARATION	2AR07230	-
Forwarding pulley	PULLEY FEED A	2BJ06010	-
MP paper feed pulley	UPPER PULLEY,BYPASS	61706770	-
MP separation pulley	PULLEY,SEPARATION	2AR07230	-
MP forwarding pulley	PULLEY FEED A	2BJ06010	-
MP feed roller 1	PARTS ROLLER2 BYPASSFEED SP	302KS94160	2KS94160
MP feed roller 2	PARTS ROLLER4 BYPASSFEED SP	302KS94170	2KS94170
MP feed pulley	RIGHT PULLEY,FEED	33906660	-
Left registration roller	UPPER ROLLER REGIST	302KS06010	2KS06010
Right registration roller	RIGHT ROLLER REGIST	302FG06211	2FG06211
Feed pulley	PULLEY FEED	2BL16080	-
Feed roller 1	PULLEY MIDDLE FEED A	302GR06010	2GR06010
Feed roller 1	PULLEY MIDDLE FEED B	302GR06020	2GR06020
Feed roller 2	PARTS ROLLER B FEED SP	302KS94140	2KS94140
Feed roller 3	PARTS ROLLER C FEED SP	302KS94150	2KS94150
Registration switch	SWITCH REGISTRATION	2FG27110	-
Left registration cleaner	UNDER CLEANER REGIST	2BL07950	-
Registration guide	GUIDE REGIST F	2BL16130	-
Right registration cleaner	PARTS,REGISTRATION CLEAN	2BL93450	-
Transfer guide	PARTS,GUIDE TRANSFER	302GR94480	2GR94480
Laser scanner unit	PARTS LSU	302KS93040	2KS93040
Slit glass	PARTS CONTACT GLASS ADF ASSY	302H793480	2H793480
Contact glass	PARTS CONTACT GLASS (M) ASSY SP	302KS94250	2KS94250
	PARTS CONTACT GLASS (I) ASSY SP	302KS94260	2KS94260
Mirror 1	MIRROR A	2FB12140	-
Mirror 2 and mirror 3	MIRROR B	2FB12180	-
Lens	-	-	-
Reflector	REFRECTOR SCANNER	302GR17250	2GR17250
Exposure lamp	PARTS LAMP SCANNER	302H794260	2H794260
Optical rail F	-	-	-
Optical rail R	-	-	-
Original size sensor	SENSOR ORIGINAL	2C927090	-
Transfer roller unit	TR-710	302GR93281	2GR93281
Developing unit	DV-715	302GR93034	2GR93034
Drum unit	DK-716	302GR93042	2GR93042
Main charger unit	MC-710	302GR93071	2GR93071
Drum separation claw	PARTS CLAW SEPARATION ASSY	302GR93190	2GR93190
Fuser unit	PARTS FUSER 120 UNIT	302KS93010	2KS93010
Fuser unit	PARTS FUSER 230 UNIT	302KS93020	2KS93020
Heat roller	PARTS,ROLLER HEAT SP	302GR94270	2GR94270
Heat roller separation claw	CLAW HEAT ROLLER	2BL20080	-
Press roller	PARTS,ROLLER PRESS SP	302GR94280	2GR94280
Press roller separation claw	CLAW PRESS ROLLER	302BL20351	2BL20351

Maintenance part name		Part No.	Alternative part No.
Name used in service manual	Name used in parts list		
Upper duplex feed roller	ROLLER DU FEED UP	2BL07020	-
Lower duplex feed roller	ROLLER DU FEED LOW	2BL07030	-
Duplex feed pulley	PULLEY DU	2BL07040	-
Eject roller	PARTS ROLLER EXIT SP	302KS94180	2KS94180
Switchback roller	PARTS ROLLER FEED SHIFT SP	302KS94200	2KS94200
Eject pulley	PULLEY EXIT C	2BL21520	-
Eject pulley	PULLEY EXIT	302GR28060	2GR28060
Switchback pulley	PULLEY FEED SHIFT	302GR28150	2GR28150
Dust filter 1	PARTS FILTER DUST F1 ASSY	302GR94431	2GR94431
Dust filter 2	PARTS FILTER DUST F2 ASSY	302GR94441	2GR94441

Maintenance kits

Maintenance part name		Part No.	Alternative part No.
Name used in service manual	Name used in parts list		
Maintenance kit	MK-726 (120 V specifications)	1702KR7US0	072KR7US
	MK-726 (220 - 240 V specifications)	1702KR8NL0	072KR8NL
Paper feed pulley	PULLEY,PAPER FEED	-	-
Separation pulley	PULLEY,SEPARATION	-	-
Forwarding pulley	PULLEY FEED A	-	-
Left registration cleaner	UNDER CLEANER REGIST	-	-
Registration guide	GUIDE REGIST F	-	-
Right registration cleaner	PARTS,REGISTRATION CLEAN	-	-
Transfer roller unit	TR-710	-	-
Transfer guide	PARTS,GUIDE TRANSFER	-	-
Developing unit	DLP UNIT	-	-
Drum unit	DK-716	-	-
Fuser unit	PARTS FUSER 120 UNIT	-	-
	PARTS FUSER 230 UNIT	-	-
MP paper feed pulley	UPPER PULLEY,BYPASS	-	-
Cassette pad	PAD,CASSETTE	-	-

Periodic maintenance procedures

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Test copy and test print	Perform at the maximum copy size	Test copy	Test copy		

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Paper feed section	Paper feed pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-3
	Separation pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-3
	Forwarding pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-3
	MP paper feed pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-5
	MP separation pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-5
	MP forwarding pulley	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	P.1-5-5
	MP feed roller 1	Check Clean	Clean	Clean with alcohol.	
	MP feed pulley	Check Clean	Clean	Clean with alcohol.	
	MP feed roller 2	Check Clean	Clean	Clean with alcohol.	
	Left registration roller	Check Clean	Clean	Clean with alcohol.	
	Right registration roller	Check Clean	Clean	Clean with alcohol.	
	Feed pulley	Check Clean	Clean	Clean with alcohol.	
	Feed roller 1	Check Clean	Clean	Clean with alcohol.	
	Feed roller 2	Check Clean	Clean	Clean with alcohol.	
	Feed roller 3	Check Clean	Clean	Clean with alcohol.	
	Registration switch	Check Clean	Clean	Clean with a dry cloth.	
	Left registration cleaner	Clean	Replace	Vacuum. Replace after feeding 500,000 sheets.	P.1-5-10
	Registration guide	-	Replace	Replace after feeding 500,000 sheets.	
	Right registration cleaner	Clean	Replace	Vacuum. Replace after feeding 500,000 sheets.	P.1-5-10
	Transfer guide	Check Clean	Replace	Clean with alcohol. Replace after feeding 500,000 sheets.	

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Optical section	Laser scanner unit	Check Clean	-	Clean the shield glass with a dry cloth.	P.1-5-22
	Contact glass	Clean	Clean	Clean with alcohol and then a dry cloth.	
	Slit glass	Clean	Clean	Clean with a dry cloth or alcohol (do not clean with a wet cloth).	
	Mirror 1	Clean	-	Clean with alcohol and then a dry cloth only if vertical black lines appear on the copy image.	
	Mirror 2 and mirror 3	Clean	-	Clean with alcohol and then a dry cloth only if vertical black lines appear on the copy image.	
	Lens	Clean	-	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Reflector	Clean	-	Clean with a dry cloth only if vertical black lines appear on the copy image.	
	Exposure lamp	Check Replace	-	Replace if an image problem occurs.	P.1-5-12
	Optical rail	Grease	-	Check noise and shifting and then apply scanner rail grease EM-50L.	
	Original size sensor	Check Clean	-	Clean the sensor emitter and sensor receiver with alcohol or a dry cloth only if there is a problem.	

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Transfer/ separation sections	Transfer roller unit	Clean Replace	Replace	Clean with a cleaning brush or alcohol. Replace after feeding 500,000 sheets.	P.1-5-29

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Developing section	Developing unit	Check Replace	Replace	Replace after feeding 500,000 sheets.	P.1-5-28

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Drum section	Drum unit	Check Replace	Replace	Replace after feeding 500,000 sheets.	P.1-5-25
	Main charger unit	Clean	-	Clean with a wet cloth and then a dry cloth.	P.1-5-26
	Drum separation claw	Check Replace	-	Replace if the leading edge of the claws are damaged.	P.1-5-27

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Fuser section	Fuser unit	Check Replace	Replace	Replace after feeding 500,000 sheets.	P.1-5-30
	Heat roller	Check Replace	-	Check and replace when user call occurs.	P.1-5-34
	Heat roller separation claw	Check Replace	Clean	Clean with alcohol. Check and replace when user call occurs.	P.1-5-31
	Press roller	Check Replace	-	Check and replace when user call occurs.	P.1-5-32
	Press roller separation claw	Check Replace	Clean	Clean with alcohol. Check and replace when user call occurs.	

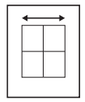
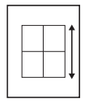
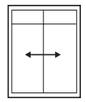
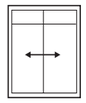
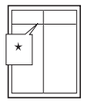
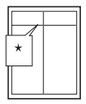
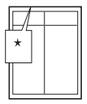
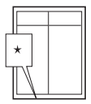
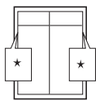
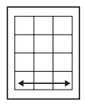
Section	Maintenance part/location	User call	500K	Points and cautions	Page
Duplex section	Upper duplex feed roller	Check Clean	Clean	Clean with alcohol.	
	Lower duplex feed roller	Check Clean	Clean	Clean with alcohol.	
	Duplex feed pulley	Check	Clean	Clean with alcohol.	

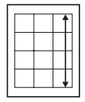
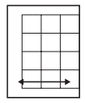
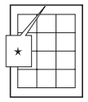
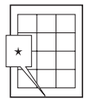
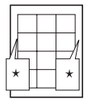
Section	Maintenance part/location	User call	500K	Points and cautions	Page
Eject section	Eject roller	Check Clean	Clean	Clean with alcohol.	
	Eject pulley	Check Clean	Clean	Clean with alcohol.	
	Switchback roller	Check Clean	Clean	Clean with alcohol.	
	Switchback pulley	Check Clean	Clean	Clean with alcohol.	

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Covers	Covers	Clean	Clean	Clean with alcohol or a dry cloth.	
	Original platen	Clean	Clean	Clean with alcohol or a dry cloth.	

Section	Maintenance part/location	User call	500K	Points and cautions	Page
Other	Dust filter 1	Clean	Clean	Vacuum.	P.1-5-38
	Dust filter 2	Clean	Clean	Vacuum.	P.1-5-38
	Gears	-	Check Clean	Check noise and then apply grease EM-50L.	
	Bushes	-	Check Clean	Check noise and then apply grease EM-50L.	
	Paper conveying section	Clean	Clean	Clean with alcohol or a dry cloth.	
	Image quality	Check Adjust	Check Adjust		

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	P.1-3-25	
2	Adjusting the magnification in the auxiliary scanning direction (printing adjustment)		Drive motor speed adjustment	U053	TMAIN MOTOR	U053 test pattern	P.1-3-25	
3	Adjusting the center line of the MP tray (printing adjustment)		Adjusting the LSU print start timing	U034	LSUOUT LEFT (MPT)	U034 test pattern	P.1-3-23	To make an adjustment for duplex copying, select LSUOUT LEFT (DUP).
4	Adjusting the center line of the cassettes (printing adjustment)		Adjusting the LSU print start timing	U034	LSUOUT LEFT (CAS 1) LSUOUT LEFT (CAS 2) LSUOUT LEFT (CAS 3) LSUOUT LEFT (CAS 4)	U034 test pattern	P.1-3-23	Cassette 1: select Center (Feed 1) Cassette 2: select Center (Feed 2) Cassette 3: select Center (Feed 3) Cassette 4: select Center (Feed 4)
5	Adjusting the leading edge registration of the MP tray (printing adjustment)		Registration motor turning on timing (secondary paper feed start timing)	U034	LSUOUT TOP MPT	U034 test pattern	P.1-3-22	To make an adjustment for duplex copying, select LSUOUT TOP DUP.
6	Adjusting the leading edge registration of the cassette (printing adjustment)		Registration motor turning on timing (secondary paper feed start timing)	U034	LSUOUT TOP CAS	U034 test pattern	P.1-3-22	
7	Adjusting the leading edge margin (printing adjustment)		LSU illumination start timing	U402	LESD	U402 test pattern	P.1-3-81	
8	Adjusting the trailing edge margin (printing adjustment)		LSU illumination end timing	U402	TRAIL	U402 test pattern	P.1-3-81	
9	Adjusting the left and right margins (printing adjustment)		LSU illumination start/end timing	U402	A/C	U402 test pattern	P.1-3-81	
10	Adjusting magnification of the scanner in the main scanning direction (scanning adjustment)		Data processing	U065	Y SCAN ZOOM	Test chart	P.1-3-28	No adjustment for copying using the DP.

Adjusting order	Item	Image	Description	Maintenance mode		Original	Page	Remarks
				Item No.	Mode			
11	Adjusting magnification of the scanner in the auxiliary scanning direction (scanning adjustment)		Original scanning speed	U065 U070	X SCAN ZOOM MOTOR ADJ (FRONT) MOTOR ADJ (BACK) X SCAN ZOOM (CIS)	Test chart	P.1-3-28 P.1-3-32	U065: For copying an original placed on the contact glass U070: For copying originals from the DP. To make an adjustment for duplex copying, select MOTOR ADJ (BACK) or X SCAN ZOOM (CIS).
12	Adjusting the center line (scanning adjustment)		Adjusting the original scan data (image adjustment)	U067 U072	FRONT ROTATE FRONT BACK CIS	Test chart	P.1-3-30 P.1-3-36	U067: For copying an original placed on the contact glass To make an adjustment for rotate copying, select ROTATE. U072: For copying originals from the DP. To make an adjustment for duplex copying, select BACK or CIS.
13	Adjusting the leading edge registration (scanning adjustment)		Original scan start timing	U066 U071	FRONT TAIL FRONT HEAD BACK HEAD HEAD (CIS)	Test chart	P.1-3-29 P.1-3-34	U066: For copying an original placed on the contact glass To make an adjustment for trailing edge registration, select TAIL. U071: For copying originals from the DP. To make an adjustment for duplex copying, select BACK HEAD or HEAD (CIS).
14	Adjusting the leading edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	B MARGIN B MARGIN	Test chart	P.1-3-82 P.1-3-83	U403: For copying an original placed on the contact glass U404: For copying originals from the DP.
15	Adjusting the trailing edge margin (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	D MARGIN D MARGIN	Test chart	P.1-3-82 P.1-3-83	U403: For copying an original placed on the contact glass U404: For copying originals from the DP.
16	Adjusting the left and right margins (scanning adjustment)		Adjusting the original scan data (image adjustment)	U403 U404	A MARGIN C MARGIN A MARGIN C MARGIN	Test chart	P.1-3-82 P.1-3-83	U403: For copying an original placed on the contact glass U404: For copying originals from the DP.

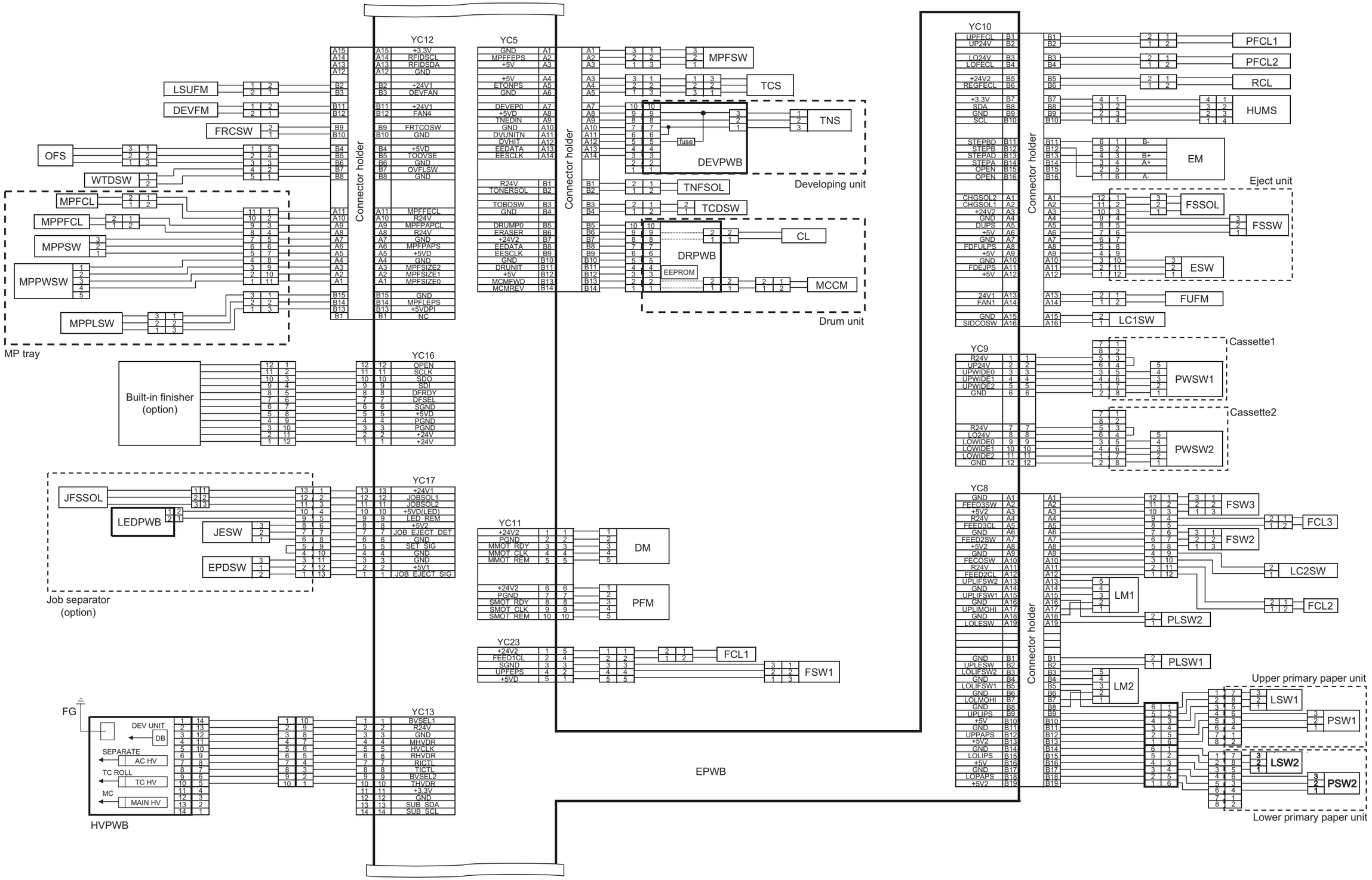
When maintenance item U411 (Automatic adjustment in the scanner) is run using the specified original (P/N 302FZ56990), the following adjustments are automatically made:
Adjusting the scanner magnification (U065)
Adjusting the scanner leading edge registration (U066)
Adjusting the scanner center line (U067)

When maintenance item U411 (Automatic adjustment in the DP) is run using the specified original (P/N 302AC68243), the following adjustments are automatically made:
Adjusting the DP magnification (U070)
Adjusting the DP leading edge registration (U071)
Adjusting the DP center line (U072)

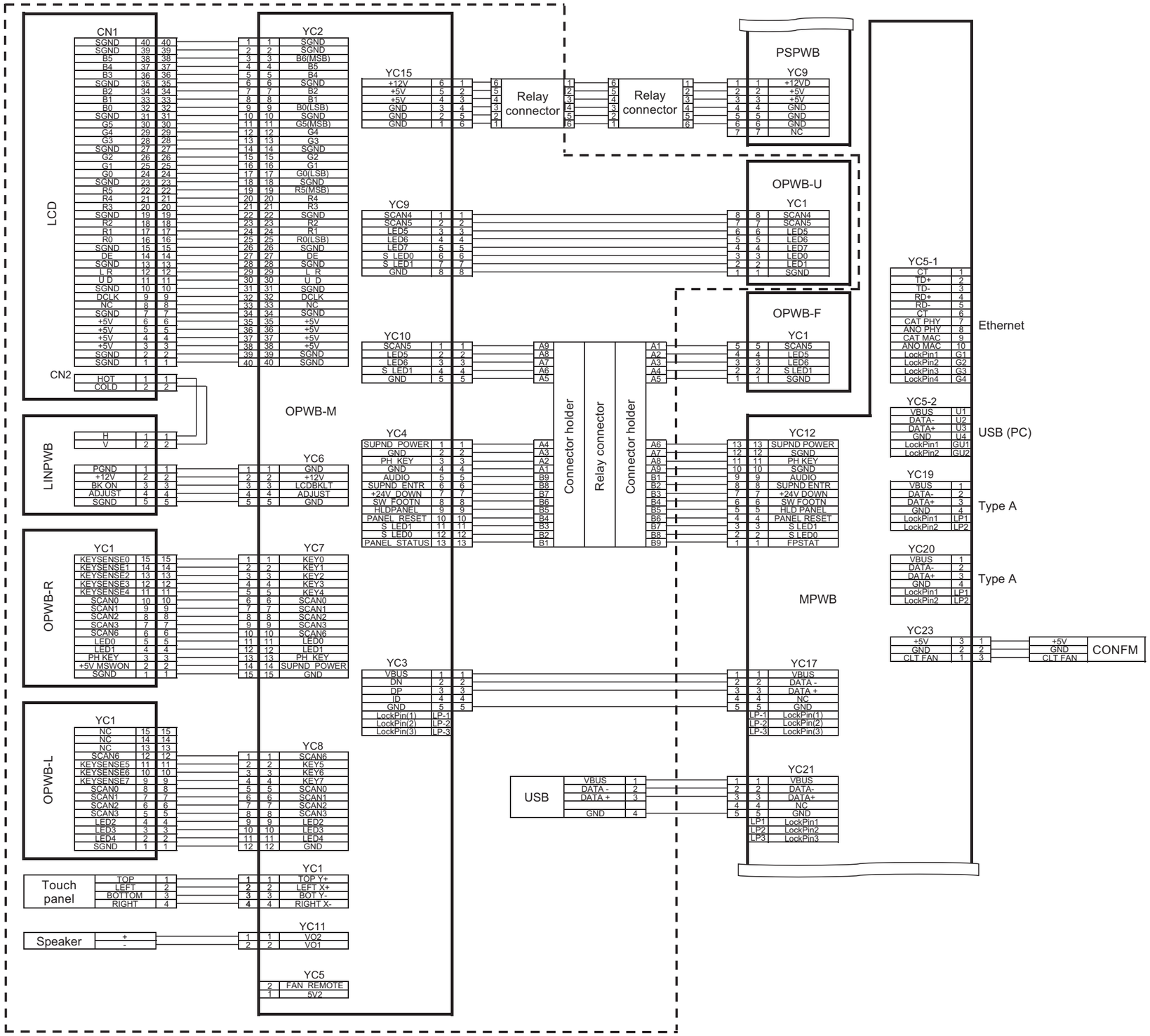
Image quality

Item	Specifications
100% magnification	Machine: ±0.8% Using DP: ±1.5%
Enlargement/reduction	Machine: ±1.0% Using DP: ±1.5%
Lateral squareness	Machine: ±1.5 mm/375 mm Using DP: ±3.0 mm/375 mm
Leading edge registration	Cassette: ±2.5 mm MP tray: ±2.5 mm Duplex: ±2.5 mm
Skewed paper feed (left-right difference)	Cassette: 1.5 mm or less MP tray: 1.5 mm or less Duplex: 2.0 mm or less
Lateral image shifting	Cassette: ±2.0 mm MP tray: ±2.0 mm Duplex: ±3.0 mm

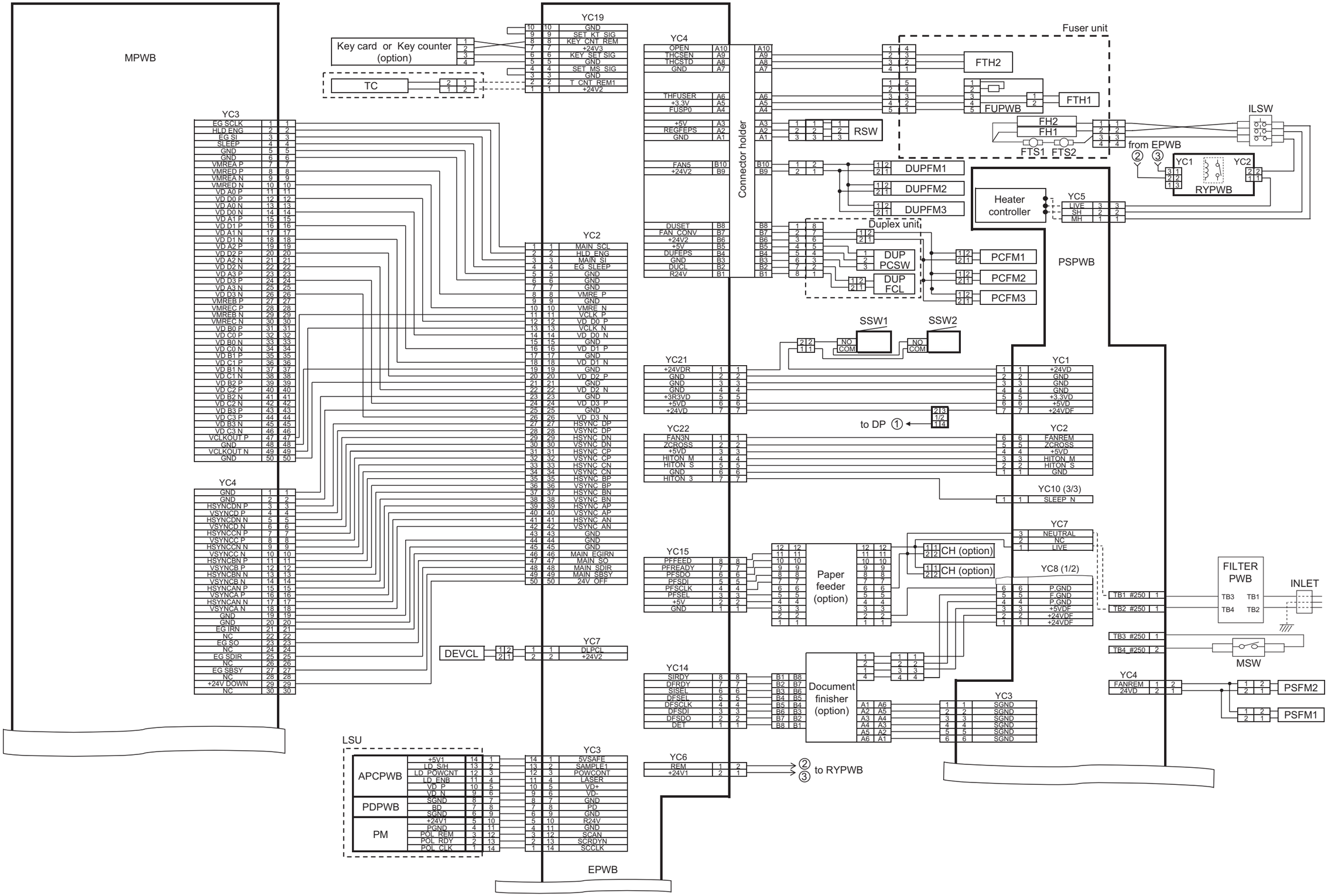
Wiring diagram No.1



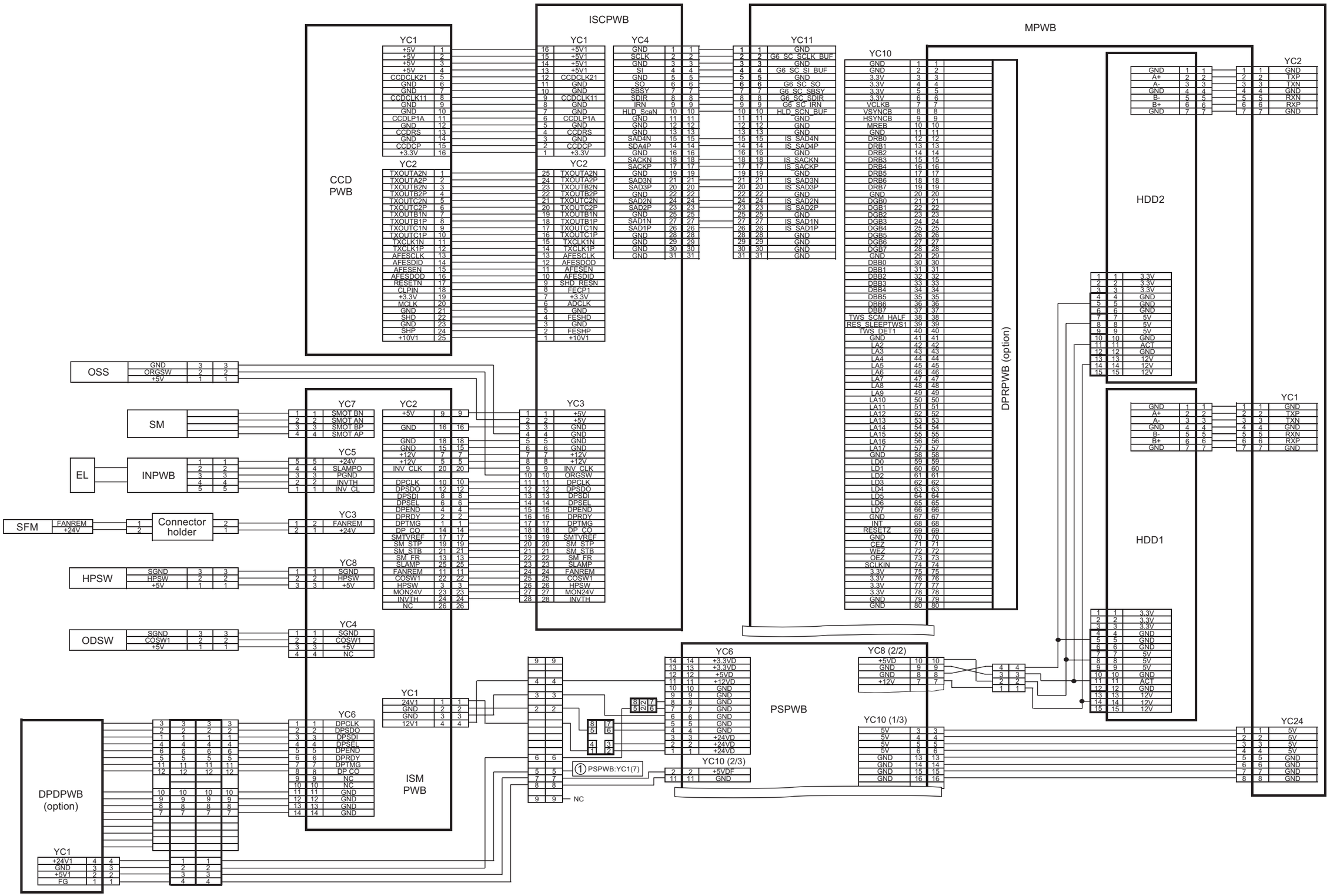
Wiring diagram No.2



Wiring diagram No.3



Wiring diagram No.4



Wiring diagram No.5